



JASON E. MUMPOWER  
Comptroller

Agenda  
Water and Wastewater Financing Board  
April 29, 2021  
10:00 AM

- I. Call to Order
- II. Approval of Minutes
- III. Missing Questionnaires
  - a. Adamsville
  - b. Englewood
  - c. Lynnville
  - d. Marshall County
  - e. Red Boiling Springs
  - f. Saint Joseph
  - g. Tennessee Ridge
  - h. Tiptonville
- IV. Update Cycle
  - a. Benton
  - b. Cowan
  - c. Harriman
  - d. Lauderdale County
  - e. Millersville
  - f. Spring City
  - g. Woodland Mills
- V. Financial Distress
  - a. Bethel Springs
  - b. Clifton
  - c. Copperhill
  - d. Goodlettsville
  - e. Kingsport
  - f. Linden
  - g. Lobelville
  - h. Parrottsville
  - i. Sunbright and Wartburg
  - j. Watertown
- VI. Board Discussion

# Approval of Minutes

**MINUTES**  
**WATER and WASTEWATER FINANCING BOARD MEETING**  
**November 19, 2020**  
**10:00 am**

Chair Betsy Knotts detected a quorum and called to order the meeting of the Water and Wastewater Financing Board (“the Board”) in the IT Training Room in the Cordell Hull Building in Nashville, TN at 10:00 am.

**Board Members Present**

Betsy Knotts, Chair, Comptroller Designee  
Tom Moss, Department of Environment and Conservation (“TDEC”), Commissioner Designee  
Rick Graham, representing municipalities  
Eugene Hampton, representing government finance  
Drexel Heidel, active employee of a water utility district  
Jim Redwine, representing environmental interests  
Nick Newman, active employee of municipal water system  
Mike Adams, representing utility districts  
Mike Goodman, representing manufacturing interests

**Members Absent**

All Members Present

**Staff Present**

John Greer, Comptroller’s Office  
Ross Colona, Comptroller’s Office

**Counsel Present**

Rachel Buckley, Comptroller’s Office

**Others Present & Addressing the Board**

**Electronic Meeting Resolution**

Chairman Knotts read the electronic meeting executive order in order to conduct the meeting electronically. Mr. Graham moved to conduct the meeting electronically. Mr. Newman seconded the motion which passed with the following roll call vote:

Mr. Adams- Yes  
Mr. Goodman- Yes  
Mr. Graham- Yes  
Mr. Hampton- Yes  
Mr. Heidel- Yes  
Mr. Newman- Yes  
Mr. Redwine- Yes  
Vice-Chair Moss- Yes  
Chairman Knotts- Yes

### **Approval of Minutes**

Ms. Knotts presented the September 20, 2020 minutes for approval. Mr. Graham moved to approve the minutes. Mr. Heidel seconded, and the motion passed unanimously.

### **Financial Distress**

#### **Alamo**

Mr. Greer explained the staff recommendations that the Board order the following:

1. The Town is officially released from the Board's oversight.
2. Staff and Counsel shall close the case.

Mr. Hampton made a motion to adopt Staff's recommendations. Mr. Newman seconded the motion which passed with the following roll call vote:

Mr. Adams- Yes  
 Mr. Goodman- Yes  
 Mr. Graham- Yes  
 Mr. Hampton- Yes  
 Mr. Heidel- Yes  
 Mr. Newman- Yes  
 Mr. Redwine- Yes  
 Vice-Chair Moss- Yes  
 Chairman Knotts- Yes

#### **Atoka**

Mr. Greer explained the staff recommendations that the Board order the following:

1. The Town shall have the Tennessee Association of Utility Districts, or another qualified expert as approved by Board staff, perform a rate study that includes the following:
  - a. a review of the capitalization policy, including any recommended modifications;
  - b. creation of a five-year capital asset budget to be taken from the current capital asset list and to include future anticipated needs;
  - c. a review of all water and sewer fees, including any recommended modifications;

- d. a justification for the differing fee classes, or if no justification is possible, recommendations for an appropriate fee structure;
  - e. a justification for the differing tap fees, or if no justification is possible, recommendations for an appropriate tap fee structure;
  - f. a review of the leak adjustment policy, including any recommended modifications; and
  - g. a cost justification for the Town starting a water treatment plant as opposed to continuing to buy water.
2. By December 31, 2020, the Town shall send Board staff a copy of the contract between the Town and the qualified expert who is to perform the tasks in paragraph 1.
  3. By December 31, 2020, the Town shall send Board staff proof that all members of the utility system's governing body have complied with the training requirements set out in Tenn. Code Ann. § 7-34-115(j).
  4. By April 1, 2021, the Town shall provide Board staff with the completed rate study, and either proof of implementation of the resulting recommendations or a proposed plan of implementation.
  5. Board staff is given the authority to grant one extension of up to six months of the foregoing deadlines upon a show of good cause by the Town.

Mr. Moss mentioned that he finds a problem with Atoka building a new water plant and wells considering they are financially distressed and purchased water at \$2.00 per thousand gallons.

Mr. Moss made a motion to adopt Staff's recommendations. Mr. Redwine seconded the motion which passed with the following roll call vote:

Mr. Adams- Yes  
Mr. Goodman- Yes  
Mr. Graham- Yes

Mr. Hampton- Yes  
Mr. Heidel- Yes  
Mr. Newman- Yes  
Mr. Redwine- Yes  
Vice-Chair Moss- Yes  
Chairman Knotts- Yes

### **Bruceton**

Mr. Greer explained the staff recommendations that the Board order the following:

1. The Town shall have the Tennessee Association of Utility Districts, or another qualified expert as approved by Board staff, perform a rate study that includes the following:
  - a. a justification for the differing rate classes, or if no justification is possible, recommendations for an appropriate rate structure;
  - b. a review of all water and sewer fees, including any recommended modifications;
  - c. a justification for the differing fee classes, or if no justification is possible, recommendations for an appropriate fee structure;
  - d. a review of unbilled customers, including any recommended modifications;
  - e. creation of a capitalization policy;
  - f. creation of a five-year capital asset budget to be taken from the current capital asset list and to include future anticipated needs; and
  - g. a review of the leak adjustment policy, including any recommended modifications.

2. By December 31, 2020, the Town shall send Board staff a copy of the contract between the Town and the qualified expert who is to perform the tasks in paragraph 1.
3. By December 31, 2020, the Town shall send Board staff proof that all members of the utility system's governing body have complied with the training requirements set out in Tenn. Code Ann. § 7-34-115(j).
4. By April 1, 2021, the Town shall provide Board staff with the completed rate study, and either proof of implementation of the resulting recommendations or a proposed plan of implementation.
5. Board staff is given the authority to grant one extension of up to six months of the foregoing deadlines upon a showing of good cause by the Town.

Mr. Adams mentioned that their water loss is over 50%, and he requested that a water loss corrective plan be added to the order to Bruceton.

Mr. Adams made a motion to adopt Staff's recommendations. Mr. Newman seconded the motion which passed with the following roll call vote:

Mr. Adams- Yes  
 Mr. Goodman- Yes  
 Mr. Graham- Yes  
 Mr. Hampton- Yes  
 Mr. Heidel- Yes  
 Mr. Newman- Yes  
 Mr. Redwine- Yes  
 Vice-Chair Moss- Yes  
 Chairman Knotts- Yes

### **Collinwood**

Mr. Greer explained the staff recommendations that the Board order the following:

1. The City shall have the Tennessee Association of Utility Districts, or another qualified expert as approved by Board staff, perform a water and sewer rate study that includes the following:

- a. a review of the capitalization policy, including any recommended modifications;
  - b. a review of the debt management policy, including any recommended modifications;
  - c. a justification for the differing rate classes, or if no justification is possible, recommendations for an appropriate rate structure;
  - d. a review of all water and sewer fees, including any recommended modifications;
  - e. a review of the cost to produce 1,000 gallons of water;
  - f. creation of a rate ordinance;
  - g. creation of a five-year capital asset budget to be taken from the current capital asset list and to include future anticipated needs;
  - h. creation of a written leak adjustment policy; and
  - i. a justification for the City's refusal to accept the water line from Wayne County.
2. By December 31, 2020, the City shall send Board staff a copy of the contract between the City and the qualified expert who is to perform the tasks in paragraph 1.
  3. By December 31, 2020, the City shall send Board staff proof that all members of the utility system's governing body have complied with the training requirements set out in Tenn. Code Ann. § 7-34-115(j).
  4. By April 1, 2021, the City shall provide Board staff with the completed rate study, and either proof of implementation of the resulting recommendations or a proposed plan of implementation.



5. Board staff is given the authority to grant one extension of up to six months of the foregoing deadlines upon a showing of good cause by the City.

Mr. Heidel made a motion to adopt Staff's recommendations. Mr. Hampton seconded the motion which passed with the following roll call vote:

Mr. Adams- Yes  
 Mr. Goodman- Yes  
 Mr. Graham- Yes  
 Mr. Hampton- Yes  
 Mr. Heidel- Yes  
 Mr. Newman- Yes  
 Mr. Redwine- Yes  
 Vice-Chair Moss- Yes  
 Chairman Knotts- Yes

### **Erin**

Mr. Greer explained the staff recommendations that the Board order the following:

1. By December 31, 2020, the City shall send Board staff proof that all members of the utility system's governing body have complied with the training requirements set out in Tenn. Code Ann. § 7-34-115(j).
2. By April 1, 2021, the City shall provide Board staff with the completed rate study, and either proof of implementation of the resulting recommendations or a proposed plan of implementation.
3. Board staff is given the authority to grant one extension of up to six months of the foregoing deadlines upon a showing of good cause by the City.

Mr. Adams mentioned that their water loss is over 50%, and he requested that a water loss corrective plan be added to the order to Erin.

Mr. Adams made a motion to adopt Staff's recommendations. Mr. Graham seconded the motion which passed with the following roll call vote:

Mr. Adams- Yes  
 Mr. Goodman- Yes  
 Mr. Graham- Yes  
 Mr. Hampton- Yes

Mr. Heidel- Yes  
 Mr. Newman- Yes  
 Mr. Redwine- Yes  
 Vice-Chair Moss- Yes  
 Chairman Knotts- Yes

### **Grundy County**

Mr. Greer explained the staff recommendations that the Board order the following:

1. By December 31, 2020, the County shall provide Board staff proof of implementation of the recommendations in the report completed by Joslyn and TAUD.
2. The County shall send financial updates to Board staff by March 1st and September 1st of each year, beginning March 1, 2021, until the Board releases the County from its oversight.

Mr. Newman made a motion to adopt Staff's recommendations. Mr. Redwine seconded the motion which passed with the following roll call vote:

Mr. Adams- Yes  
 Mr. Goodman- Yes  
 Mr. Graham- Yes  
 Mr. Hampton- Yes  
 Mr. Heidel- Yes  
 Mr. Newman- Yes  
 Mr. Redwine- Yes  
 Vice-Chair Moss- Yes  
 Chairman Knotts- Yes

### **Newbern**

Mr. Greer explained the staff recommendations that the Board order the following:

1. The Town shall have the Tennessee Association of Utility Districts, or another qualified expert as approved by Board staff, perform a rate study that includes the following:

- a. a review of the capitalization policy, including any recommended modifications;
  - b. a review of the Town's debt management policy, including any recommended modifications;
  - c. a review of all water and sewer fees, including any recommended modifications;
  - d. a justification for the differing rate classes, or if no justification is possible, recommendations for an appropriate rate structure;
  - e. creation of a five-year capital asset budget to be taken from the current capital asset list and to include future anticipated needs; and
  - f. a review of the leak adjustment policy, including any recommended modifications.
2. By December 31, 2020, the Town shall send Board staff a copy of the contract between the Town and the qualified expert who is to perform the tasks in paragraph 1.
  3. By April 1, 2021, the Town shall provide Board staff with the completed rate study, and either proof of implementation of the resulting recommendations or a proposed plan of implementation.
  4. Board staff is given the authority to grant one extension of up to six months of the foregoing deadlines upon a showing of good cause by the Town.

Mr. Moss made a motion to adopt Staff's recommendations. Mr. Heidel seconded the motion which passed with the following roll call vote:

Mr. Adams- Yes  
Mr. Goodman- Yes  
Mr. Graham- Yes  
Mr. Hampton- Yes

Mr. Heidel- Yes  
 Mr. Newman- Yes  
 Mr. Redwine- Yes  
 Vice-Chair Moss- Yes  
 Chairman Knotts- Yes

### **New Johnsonville**

Mr. Greer explained the staff recommendations that the Board order the following:

1. The City shall send financial updates to Board staff by March 1st and September 1st of each year, beginning March 1, 2021, until the Board releases the City from its oversight.

Mr. Goodman made a motion to adopt Staff's recommendations. Mr. Newman seconded the motion which passed with the following roll call vote:

Mr. Adams- Yes  
 Mr. Goodman- Yes  
 Mr. Graham- Yes  
 Mr. Hampton- Yes  
 Mr. Heidel- Yes  
 Mr. Newman- Yes  
 Mr. Redwine- Yes  
 Vice-Chair Moss- Yes  
 Chairman Knotts- Yes

### **Rutledge**

Mr. Greer explained the staff recommendations that the Board order the following:

1. The City shall have the Tennessee Association of Utility Districts, or another qualified expert as approved by Board staff, perform a rate study that includes the following:
  - a. creation of a capitalization policy;
  - b. a review of all utility fees, including any recommended modifications;
  - c. a review of the new customer contract, including any recommended modifications;

- d. a review of the capital asset list, including any recommended modifications; and
  - e. creation of a five-year capital asset budget to be taken from the current capital asset list and to include future anticipated needs.
2. By December 31, 2020, the City shall send Board staff a copy of the contract between the City and the qualified expert who is to perform the tasks in paragraph 1.
  3. By December 31, 2020, the City shall send Board staff proof that all members of the utility system's governing body have complied with the training requirements set out in Tenn. Code Ann. § 7-34-115(j).
  4. By April 1, 2021, the City shall provide Board staff with the completed rate study, and either proof of implementation of the resulting recommendations or a proposed plan of implementation.
  5. Board staff is given the authority to grant one extension of up to six months of the foregoing deadlines upon a showing of good cause by the City.

Mr. Newman made a motion to adopt Staff's recommendations. Mr. Hampton seconded the motion which passed with the following roll call vote:

Mr. Adams- Yes  
 Mr. Goodman- Yes  
 Mr. Graham- Yes  
 Mr. Hampton- Yes  
 Mr. Heidel- Yes  
 Mr. Newman- Yes  
 Mr. Redwine- Yes  
 Vice-Chair Moss- Yes  
 Chairman Knotts- Yes

### **Smithville**

Mr. Greer explained the staff recommendations that the Board order the following:

1. The City shall send financial updates to Board staff by March 1st and September 1st of each year, beginning March 1, 2021, until the Board releases the City from its oversight.

Mr. Moss made a motion to adopt Staff's recommendations. Mr. Graham seconded the motion which passed with the following roll call vote:

Mr. Adams- Yes  
 Mr. Goodman- Yes  
 Mr. Graham- Yes  
 Mr. Hampton- Yes  
 Mr. Heidel- Yes  
 Mr. Newman- Yes  
 Mr. Redwine- Yes  
 Vice-Chair Moss- Yes  
 Chairman Knotts- Yes

### **Sunbright**

Mr. Greer explained the staff recommendations that the Board order the following:

1. The City shall send financial updates to Board staff by March 1st and September 1st of each year, beginning March 1, 2021, until the Board releases the City from its oversight.

Mr. Knotts made a motion to adopt Staff's recommendations. Mr. Graham seconded the motion which passed with the following roll call vote:

Mr. Adams- Yes  
 Mr. Goodman- Yes  
 Mr. Graham- Yes  
 Mr. Hampton- Yes  
 Mr. Heidel- Yes  
 Mr. Newman- Yes  
 Mr. Redwine- Yes  
 Vice-Chair Moss- Yes  
 Chairman Knotts- Yes

### **Trezevant**

Mr. Greer explained the staff recommendations that the Board order the following:

1. The Town shall have the Tennessee Association of Utility Districts, or another qualified expert as approved by Board staff, perform a rate study that includes the following:
  - a. a review of the capitalization policy, including any recommended modifications;
  - b. a review of the debt management policy, including any recommended modifications;
  - c. a review of the capital asset list, including any recommended modifications;
  - d. a review of all utility fees, including any recommended modifications;
  - e. creation of a five-year capital asset budget to be taken from the current capital asset list and to include future anticipated needs; and
  - f. a review of the leak adjustment policy, including any recommended modifications.
2. By December 31, 2020, the Town shall send Board staff a copy of the contract between the Town and the qualified expert who is to perform the tasks in paragraph 1.
3. By December 31, 2020, the Town shall send Board staff proof that all members of the utility system's governing body have complied with the training requirements set out in Tenn. Code Ann. § 7-34-115(j).
4. By April 1, 2021, the Town shall provide Board staff with the completed rate study, and either proof of implementation of the resulting recommendations or a proposed plan of implementation.

5. Board staff is given the authority to grant one extension of up to six months of the foregoing deadlines upon a showing of good cause by the Town.

Mr. Moss made a motion to adopt Staff's recommendations. Mr. Newman seconded the motion which passed with the following roll call vote:

Mr. Adams- Yes  
 Mr. Goodman- Yes  
 Mr. Graham- Yes  
 Mr. Hampton- Yes  
 Mr. Heidel- Yes  
 Mr. Newman- Yes  
 Mr. Redwine- Yes  
 Vice-Chair Moss- Yes  
 Chairman Knotts- Yes

### **Wartburg**

Mr. Greer explained the staff recommendations that the Board order the following:

1. The City shall send financial updates to Board staff by March 1st and September 1st of each year, beginning March 1, 2021, until the Board releases the City from its oversight.

Ms. Knotts made a motion to adopt Staff's recommendations. Mr. Moss seconded the motion which passed with the following roll call vote:

Mr. Adams- Yes  
 Mr. Goodman- Yes  
 Mr. Graham- Yes  
 Mr. Hampton- Yes  
 Mr. Heidel- Yes  
 Mr. Newman- Yes  
 Mr. Redwine- Yes  
 Vice-Chair Moss- Yes  
 Chairman Knotts- Yes

### **Lincoln County**

Mr. Greer explained the staff recommendations that the Board order the following:



1. The BPU shall have the Tennessee Association of Utility Districts, or another qualified expert as approved by Board staff, perform a rate study that includes the following:
  - a. a review of all water and sewer fees, including any recommended modifications;
  - b. a review of unbilled customers, including any recommended modifications;
  - c. a review of the capitalization policy, including any recommended modifications;
  - d. a creation of a five-year capital asset budget to be taken from the current capital asset list and to include future anticipated needs; and
  - e. a review of the leak adjustment policy, including any recommended modifications.
2. By December 31, 2020, the BPU shall send Board staff a copy of the contract between the BPU and the qualified expert who is to perform the tasks in paragraph 1.
3. By December 31, 2020, the BPU shall send Board staff proof that all members of the utility system's governing body have complied with the training requirements set out in Tenn. Code Ann. § 7-34-115(j).
4. By April 1, 2021, the BPU shall provide Board staff with the completed rate study, and either proof of implementation of the resulting recommendations or a proposed plan of implementation.
5. The BPU shall consult with legal counsel on its options regarding terminating the contract with FPU or renegotiating said contract.

6. By January 31, 2021, the BPU shall provide an update from counsel regarding the BPU's exercise of its viable legal options and remedies pursuant paragraph 5.
7. Board staff is given the authority to grant one extension of up to six months of the foregoing deadlines upon a showing of good cause by the BPU.

Mr. Redwine made a motion to adopt Staff's recommendations. Mr. Graham seconded the motion which passed with the following roll call vote:

Mr. Adams- Yes  
 Mr. Goodman- Yes  
 Mr. Graham- Yes  
 Mr. Hampton- Yes  
 Mr. Heidel- Yes  
 Mr. Newman- Yes  
 Mr. Redwine- Yes  
 Vice-Chair Moss- Yes  
 Chairman Knotts- Yes

### **Annual Information Report**

Mr. Greer explained the staff recommendations that the Board order the following:

Ms. Knotts made a motion to adopt Staff's recommendations. Mr. Moss seconded the motion which passed with the following roll call vote:

Mr. Adams- Yes  
 Mr. Goodman- Yes  
 Mr. Graham- Yes  
 Mr. Hampton- Yes  
 Mr. Heidel- Yes  
 Mr. Newman- Yes  
 Mr. Redwine- Yes  
 Vice-Chair Moss- Yes  
 Chairman Knotts- Yes

### **2021 Board Meeting Dates**

Mr. Greer presented the following dates to the Board for 2021 meetings:

April 29  
 September 16  
 December 9

Ms. Knotts made a motion to adopt Staff's recommendations. Mr. Newman seconded the motion which passed with the following roll call vote:

Mr. Adams- Yes  
Mr. Goodman- Yes  
Mr. Graham- Yes  
Mr. Hampton- Yes  
Mr. Heidel- Yes  
Mr. Newman- Yes  
Mr. Redwine- Yes  
Vice-Chair Moss- Yes  
Chairman Knotts- Yes

### **Adjournment**

Chairman Knotts adjourned the meeting at 11:44 AM.

# Questionnaires



JASON E. MUMPOWER  
*Comptroller*

Entity Referred: **City of Adamsville**

Referral Reason: **Negative Change in Net Position**

Utility Type Referred: **Water and Sewer**

**Staff Summary:**

In January of 2021, Board staff sent the financial questionnaire and asked that the City complete and return it by April 2, 2021. Board staff has not received the questionnaire.

**Staff Recommendation:**

Order the following:

1. The City shall have the Tennessee Association of Utility Districts, or another qualified expert as approved by Board staff, assist in completing the financial questionnaire previously sent by Board staff.
2. By June 4, 2021, the City shall send Board staff a copy of the contract between the City and the qualified expert who is to perform the tasks in paragraph 1.
3. By August 6, 2021, the City shall send the completed financial questionnaire and all supporting documentation to Board staff.
4. Board staff is given the authority to grant one extension of up to six months of the foregoing deadlines upon a showing of good cause by the City.



JASON E. MUMPOWER  
Comptroller

Thursday, January 21, 2021

Mayor David Leckner  
City of Adamsville  
231 East Main Street  
P.O. Box 301  
Adamsville, TN 38310

Dear Mayor Leckner,

The Tennessee Comptroller of the Treasury has referred the City of Adamsville to the Water & Wastewater Financing Board (hereinafter "Board") for financial distress pursuant to Tennessee Code Annotated § 68-221-1010(a).

Please fill out the enclosed questionnaire and return it and all supporting documentation to our office no later than **April 2, 2021**. Please submit this to either [utilities@cot.tn.gov](mailto:utilities@cot.tn.gov) and/or the following mailing address:

TN Comptroller of the Treasury  
Attention: John Greer/Ross Colona  
Cordell Hull Building  
425 Rep. John Lewis Way North  
Nashville, TN 37243

If you wish to submit this information via mail, **do not send stapled documents.**

While we recognize that this questionnaire may be difficult to fill out, it is necessary to determine how we can help you achieve long-term financial success. If you are having trouble filling this out, please contact our office for additional assistance. After we receive your information, we will decide whether it is necessary for the City to meet with our staff or go directly before the Board.

If you need further assistance or have any questions, please feel free to contact us at (615) 747-5260 or [utilities@cot.tn.gov](mailto:utilities@cot.tn.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "John Greer".

John Greer  
Technical Secretary

*Ross Colona*

Ross Colona  
Financial Analyst



JASON E. MUMPOWER  
*Comptroller*

Entity Referred: **City of Englewood**

Referral Reason: **Negative Change in Net Position**

Utility Type Referred: **Water and Sewer**

**Staff Summary:**

In January of 2021, Board staff sent the financial questionnaire and asked that the City complete and return it by April 2, 2021. Board staff has not received the questionnaire.

**Staff Recommendation:**

Order the following:

1. The City shall have the Tennessee Association of Utility Districts, or another qualified expert as approved by Board staff, assist in completing the financial questionnaire previously sent by Board staff.
2. By June 4, 2021, the City shall send Board staff a copy of the contract between the City and the qualified expert who is to perform the tasks in paragraph 1.
3. By August 6, 2021, the City shall send the completed financial questionnaire and all supporting documentation to Board staff.
4. Board staff is given the authority to grant one extension of up to six months of the foregoing deadlines upon a showing of good cause by the City.



JASON E. MUMPOWER  
Comptroller

Thursday, January 21, 2021

Mayor Tony Hawn  
Town of Englewood  
111 So. Niota Road  
P.O. Box 150  
Englewood, TN 37329

Dear Mayor Hawn,

The Tennessee Comptroller of the Treasury has referred the Town of Englewood to the Water & Wastewater Financing Board (hereinafter "Board") for financial distress pursuant to Tennessee Code Annotated § 68-221-1010(a).

Please fill out the enclosed questionnaire and return it and all supporting documentation to our office no later than **April 2, 2021**. Please submit this to either [utilities@cot.tn.gov](mailto:utilities@cot.tn.gov) and/or the following mailing address:

TN Comptroller of the Treasury  
Attention: John Greer/Ross Colona  
Cordell Hull Building  
425 Rep. John Lewis Way North  
Nashville, TN 37243

If you wish to submit this information via mail, **do not send stapled documents.**

While we recognize that this questionnaire may be difficult to fill out, it is necessary to determine how we can help you achieve long-term financial success. If you are having trouble filling this out, please contact our office for additional assistance. After we receive your information, we will decide whether it is necessary for the Town to meet with our staff or go directly before the Board.

If you need further assistance or have any questions, please feel free to contact us at (615) 747-5260 or [utilities@cot.tn.gov](mailto:utilities@cot.tn.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "J Greer".

John Greer  
Technical Secretary

*Ross Colona*

Ross Colona  
Financial Analyst





JASON E. MUMPOWER  
*Comptroller*

Entity Referred: **City of Lynnville**

Referral Reason: **Negative Change in Net Position**

Utility Type Referred: **Water and Sewer**

**Staff Summary:**

In January of 2021, Board staff sent the financial questionnaire and asked that the City complete and return it by April 2, 2021. Board staff has not received the questionnaire.

**Staff Recommendation:**

Order the following:

1. The City shall have the Tennessee Association of Utility Districts, or another qualified expert as approved by Board staff, assist in completing the financial questionnaire previously sent by Board staff.
2. By June 4, 2021, the City shall send Board staff a copy of the contract between the City and the qualified expert who is to perform the tasks in paragraph 1.
3. By August 6, 2021, the City shall send the completed financial questionnaire and all supporting documentation to Board staff.
4. Board staff is given the authority to grant one extension of up to six months of the foregoing deadlines upon a showing of good cause by the City.



JASON E. MUMPOWER  
*Comptroller*

Thursday, January 21, 2021

Mayor Robert E. White  
Town of Lynnville  
151 Mill Street  
P.O. Box 158  
Lynnville, TN 38472

Dear Mayor White,

The Tennessee Comptroller of the Treasury has referred the Town of Lynnville to the Water & Wastewater Financing Board (hereinafter "Board") for financial distress pursuant to Tennessee Code Annotated § 68-221-1010(a).

Please fill out the enclosed questionnaire and return it and all supporting documentation to our office no later than **April 2, 2021**. Please submit this to either [utilities@cot.tn.gov](mailto:utilities@cot.tn.gov) and/or the following mailing address:

TN Comptroller of the Treasury  
Attention: John Greer/Ross Colona  
Cordell Hull Building  
425 Rep. John Lewis Way North  
Nashville, TN 37243

If you wish to submit this information via mail, **do not send stapled documents.**

While we recognize that this questionnaire may be difficult to fill out, it is necessary to determine how we can help you achieve long-term financial success. If you are having trouble filling this out, please contact our office for additional assistance. After we receive your information, we will decide whether it is necessary for the Town to meet with our staff or go directly before the Board.

If you need further assistance or have any questions, please feel free to contact us at (615) 747-5260 or [utilities@cot.tn.gov](mailto:utilities@cot.tn.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "J Greer".

John Greer  
Technical Secretary

A handwritten signature in black ink, appearing to read "Ross Colona".

Ross Colona  
Financial Analyst



JASON E. MUMPOWER  
*Comptroller*

Entity Referred: **Marshall County**

Referral Reason: **Negative Change in Net Position**

Utility Type Referred: **Water and Sewer**

**Staff Summary:**

In January of 2021, Board staff sent the financial questionnaire and asked that the County complete and return it by April 2, 2021. Board staff has not received the questionnaire.

**Staff Recommendation:**

Order the following:

1. The County shall have the Tennessee Association of Utility Districts, or another qualified expert as approved by Board staff, assist in completing the financial questionnaire previously sent by Board staff.
2. By June 4, 2021, the County shall send Board staff a copy of the contract between the County and the qualified expert who is to perform the tasks in paragraph 1.
3. By August 6, 2021, the County shall send the completed financial questionnaire and all supporting documentation to Board staff.
4. Board staff is given the authority to grant one extension of up to six months of the foregoing deadlines upon a showing of good cause by the County.



JASON E. MUMPOWER  
Comptroller

Thursday, January 21, 2021

Jessie T. (Tommy) Whaley, Jr.  
Marshall County Board of Public Utilities  
624 West Commerce Street  
Lewisburg, TN 37091

Mr. Whaley, Jr.,

The Tennessee Comptroller of the Treasury has referred Marshall County to the Water & Wastewater Financing Board (hereinafter "Board") for financial distress pursuant to Tennessee Code Annotated § 68-221-1010(a).

Please fill out the enclosed questionnaire and return it and all supporting documentation to our office no later than **April 2, 2021**. Please submit this to either [utilities@cot.tn.gov](mailto:utilities@cot.tn.gov) and/or the following mailing address:

TN Comptroller of the Treasury  
Attention: John Greer/Ross Colona  
Cordell Hull Building  
425 Rep. John Lewis Way North  
Nashville, TN 37243

If you wish to submit this information via mail, **do not send stapled documents.**

While we recognize that this questionnaire may be difficult to fill out, it is necessary to determine how we can help you achieve long-term financial success. If you are having trouble filling this out, please contact our office for additional assistance. After we receive your information, we will decide whether it is necessary for the County to meet with our staff or go directly before the Board.

If you need further assistance or have any questions, please feel free to contact us at (615) 747-5260 or [utilities@cot.tn.gov](mailto:utilities@cot.tn.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "John Greer".

John Greer  
Technical Secretary

A handwritten signature in black ink, appearing to read "Ross Colona".

Ross Colona  
Financial Analyst



JASON E. MUMPOWER  
*Comptroller*

Entity Referred: **City of Red Boiling Springs**

Referral Reason: **Negative Change in Net Position**

Utility Type Referred: **Water and Sewer**

**Staff Summary:**

In January of 2021, Board staff sent the financial questionnaire and asked that the City complete and return it by April 2, 2021. Board staff has not received the questionnaire.

**Staff Recommendation:**

Order the following:

1. The City shall have the Tennessee Association of Utility Districts, or another qualified expert as approved by Board staff, assist in completing the financial questionnaire previously sent by Board staff.
2. By June 4, 2021, the City shall send Board staff a copy of the contract between the City and the qualified expert who is to perform the tasks in paragraph 1.
3. By August 6, 2021, the City shall send the completed financial questionnaire and all supporting documentation to Board staff.
4. Board staff is given the authority to grant one extension of up to six months of the foregoing deadlines upon a showing of good cause by the City.



JASON E. MUMPOWER  
Comptroller

Thursday, January 21, 2021

Mayor Kenneth Hollis  
City of Red Boiling Springs  
361 Lafayette Road  
Red Boiling Springs, TN 37083

Dear Mayor Hollis,

The Tennessee Comptroller of the Treasury has referred the City of Red Boiling Springs to the Water & Wastewater Financing Board (hereinafter "Board") for financial distress pursuant to Tennessee Code Annotated § 68-221-1010(a).

Please fill out the enclosed questionnaire and return it and all supporting documentation to our office no later than **April 2, 2021**. Please submit this to either [utilities@cot.tn.gov](mailto:utilities@cot.tn.gov) and/or the following mailing address:

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Attention: John Greer/Ross Colona  
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John Greer  
Technical Secretary

A handwritten signature in black ink, appearing to read "Ross Colona".

Ross Colona  
Financial Analyst



JASON E. MUMPOWER  
*Comptroller*

Entity Referred: **City of Saint Joseph**

Referral Reason: **Negative Change in Net Position**

Utility Type Referred: **Water and Sewer**

**Staff Summary:**

In January of 2021, Board staff sent the financial questionnaire and asked that the City complete and return it by April 2, 2021. Board staff has not received the questionnaire.

**Staff Recommendation:**

Order the following:

1. The City shall have the Tennessee Association of Utility Districts, or another qualified expert as approved by Board staff, assist in completing the financial questionnaire previously sent by Board staff.
2. By June 4, 2021, the City shall send Board staff a copy of the contract between the City and the qualified expert who is to perform the tasks in paragraph 1.
3. By August 6, 2021, the City shall send the completed financial questionnaire and all supporting documentation to Board staff.
4. Board staff is given the authority to grant one extension of up to six months of the foregoing deadlines upon a showing of good cause by the City.



JASON E. MUMPOWER  
Comptroller

Thursday, January 21, 2021

Mayor Bubba Carter,  
City of Saint Joseph  
409 North Main Street  
P.O. Box 37  
St. Joseph, TN 38481

Dear Mayor Carter,

The Tennessee Comptroller of the Treasury has referred the City of Saint Joseph to the Water & Wastewater Financing Board (hereinafter "Board") for financial distress pursuant to Tennessee Code Annotated § 68-221-1010(a).

Please fill out the enclosed questionnaire and return it and all supporting documentation to our office no later than **April 2, 2021**. Please submit this to either [utilities@cot.tn.gov](mailto:utilities@cot.tn.gov) and/or the following mailing address:

TN Comptroller of the Treasury  
Attention: John Greer/Ross Colona  
Cordell Hull Building  
425 Rep. John Lewis Way North  
Nashville, TN 37243

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Sincerely,

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John Greer  
Technical Secretary

*Ross Colona*

Ross Colona  
Financial Analyst





JASON E. MUMPOWER  
*Comptroller*

Entity Referred: **City of Tennessee Ridge**

Referral Reason: **Negative Change in Net Position**

Utility Type Referred: **Water and Sewer**

**Staff Summary:**

In January of 2021, Board staff sent the financial questionnaire and asked that the City complete and return it by April 2, 2021. Board staff has not received the questionnaire.

**Staff Recommendation:**

Order the following:

1. The City shall have the Tennessee Association of Utility Districts, or another qualified expert as approved by Board staff, assist in completing the financial questionnaire previously sent by Board staff.
2. By June 4, 2021, the City shall send Board staff a copy of the contract between the City and the qualified expert who is to perform the tasks in paragraph 1.
3. By August 6, 2021, the City shall send the completed financial questionnaire and all supporting documentation to Board staff.
4. Board staff is given the authority to grant one extension of up to six months of the foregoing deadlines upon a showing of good cause by the City.



JASON E. MUMPOWER  
Comptroller

Thursday, January 21, 2021

Mayor Stony Odom  
Town of Tennessee Ridge  
2300 South Main Street  
P.O. Box 207  
Tennessee Ridge, TN 37178

Dear Mayor Odom,

The Tennessee Comptroller of the Treasury has referred the Town of Tennessee Ridge to the Water & Wastewater Financing Board (hereinafter "Board") for financial distress pursuant to Tennessee Code Annotated § 68-221-1010(a).

Please fill out the enclosed questionnaire and return it and all supporting documentation to our office no later than **April 2, 2021**. Please submit this to either [utilities@cot.tn.gov](mailto:utilities@cot.tn.gov) and/or the following mailing address:

TN Comptroller of the Treasury  
Attention: John Greer/Ross Colona  
Cordell Hull Building  
425 Rep. John Lewis Way North  
Nashville, TN 37243

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John Greer  
Technical Secretary

A handwritten signature in black ink, appearing to read "Ross Colona".

Ross Colona  
Financial Analyst



JASON E. MUMPOWER  
*Comptroller*

Entity Referred: **City of Tiptonville**

Referral Reason: **Negative Change in Net Position**

Utility Type Referred: **Water and Sewer**

**Staff Summary:**

In January of 2021, Board staff sent the financial questionnaire to the City and asked that it be completed and returned by April 2, 2021. Board staff has not received the questionnaire.

**Staff Recommendation:**

Order the following:

1. The City shall have the Tennessee Association of Utility Districts, or another qualified expert as approved by Board staff, assist in completing the financial questionnaire previously sent by Board staff.
2. By June 4, 2021, the City shall send Board staff a copy of the contract between the City and the qualified expert who is to perform the tasks in paragraph 1.
3. By August 6, 2021, the City shall send the completed financial questionnaire and all supporting documentation to Board staff.
4. Board staff is given the authority to grant one extension of up to six months of the foregoing deadlines upon a showing of good cause by the City.



JASON E. MUMPOWER  
Comptroller

Thursday, January 21, 2021

Mayor Cliff Berry, Jr.,  
Town of Tiptonville  
130 South Court Street  
Tiptonville, TN 38079

Dear Mayor Berry,

The Tennessee Comptroller of the Treasury has referred the Town of Tiptonville to the Water & Wastewater Financing Board (hereinafter "Board") for financial distress pursuant to Tennessee Code Annotated § 68-221-1010(a).

Please fill out the enclosed questionnaire and return it and all supporting documentation to our office no later than **April 2, 2021**. Please submit this to either [utilities@cot.tn.gov](mailto:utilities@cot.tn.gov) and/or the following mailing address:

TN Comptroller of the Treasury  
Attention: John Greer/Ross Colona  
Cordell Hull Building  
425 Rep. John Lewis Way North  
Nashville, TN 37243

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John Greer  
Technical Secretary

*Ross Colona*  
Ross Colona  
Financial Analyst

# Update Cycle



JASON E. MUMPOWER  
*Comptroller*

Entity Referred: **City of Benton**

Referral Reason: **Negative Change in Net Position**

Utility Type Referred: **Water**

**Staff Summary:**

The City contracted with TAUD to perform a rate study pursuant to the Board's previous order. TAUD has completed the rate and submitted its resulting report and recommendations to the City and to Board staff. If the City implements TAUD's recommendations, it will be compliant with all Board directives.

**Staff Recommendation:**

Order the following:

1. By June 30, 2021, the City shall send Board staff proof of the City's implementation of the recommendations contained in its March 2021 TAUD Report.
2. The City shall send financial updates to Board staff by March 1st and September 1st of each year, beginning September 1, 2021, until the Board releases the City from its oversight.



Tennessee Utility Assistance, LLC  
840 Commercial Court  
Murfreesboro, TN 37129  
Voice (615) 896-9022  
Fax (615) 898-8283

## **REPORT FOR CITY OF BENTON, TENNESSEE**

### **WATER AND WASTEWATER FINANCING BOARD ORDER DATED SEPTEMBER 30, 2019**

**March 15, 2021**

## INTRODUCTION

### Description of the Benton Water System and Sewer System

The City of Benton, Tennessee (City or Benton) is the county seat of Polk County. The governing board of the City's water and sewer system is its Board of Mayor and Commissioners. As of June 30, 2020, the City provided water service to 1,080 customers and provided sewer service to 402 customers. The City's raw water supply comes from a well which is treated at the City's water treatment plant which has a design capacity of 1.5 MGD. The City operates a wastewater treatment plant with a design capacity of 0.4 MGD which discharges into Four Mile Creek.

As of June 30, 2020, the City had the following rate classes for water service and the following numbers of customers in each water rate class:

|                       |     |
|-----------------------|-----|
| Residential – Inside  | 488 |
| Residential – Outside | 491 |
| Commercial - Inside   | 82  |
| Commercial - Outside  | 19  |

As of June 30, 2020, the City had the following rate classes for sewer service and the following numbers of customers in each water rate class:

|                       |     |
|-----------------------|-----|
| Residential – Inside  | 212 |
| Residential – Outside | 92  |
| Commercial - Inside   | 56  |
| Commercial - Outside  | 42  |

The City was referred to the Water and Wastewater Financing Board (WWFB) upon the submission of its audit for its fiscal year ending June 30, 2017, because it met the statutory definition for a financially distressed municipal water and sewer system. The system had a negative change in net position for two consecutive years without regard to any grants or capital contributions for its fiscal years ending June 30, 2016 and June 30, 2017.

### History of Rates and Existing Rate Structure

Since the City was referred to the WWFB, the City has implemented two increases in water rates and one increase in sewer rates. The City's current schedule of monthly water and sewer rates is set forth in **Exhibit 1** attached to this Report.

Despite these rate increases, the City's water and sewer fund has continued to have substantial negative changes in net position each year since it was referred to the WWFB:

|               |             |
|---------------|-------------|
| June 30, 2018 | (\$ 98,678) |
| June 30, 2019 | (\$163,694) |
| June 30, 2020 | (\$280,858) |



The balance of the Cash and Investments accounts of the water and sewer fund as of July 1, 2020, was \$55,566.

### **Water and Wastewater Financing Board Order**

On September 30, 2019, the Water and Wastewater Financing Board (WWFB) issued an order directing the City of Benton to do the following items.

- 1) The City shall have the Tennessee Association of Utility Districts, or another qualified expert as approved by the Board staff, perform a rate study that includes the following:
  - a) The creation of a comprehensive rate and fee policy or ordinance;
  - b) A justification of the varying rate classes or the creation of one rate structure for all customers;
  - c) A review of the tap and customer fees;
  - d) The creation of a capitalization policy;
  - e) The creation of a water loss policy to address the 59% loss by volume as reported on the City's 2018 American Water Works Association worksheet;
  - f) The creation of a meter reading policy, including guidelines on adjusting errors on readings;
  - g) The creation of a five-year capital asset budget, to be taken from the current capital asset list and to include future anticipated needs; and
  - h) The creation of a leak adjustment policy.
- 2) By October 31, 2019, the City shall send Board staff a copy of the contract between the City and the qualified expert who is to perform the tasks in paragraph 1.
- 3) By February 28, 2020, the City shall provide Board staff with the completed rate study and either proof of implementation of the resulting recommendations or a proposed plan of implementation.

## **RECOMMENDATIONS**

### **Recommendation #1**

Capital Asset Plan - The City needs to adopt the Five-Year Capital Asset Plan attached as **Exhibit 2**.

### **Recommendation #2**

Water and Sewer Rates - TUA recommends the City adopt the water and sewer rates set forth in attached **Exhibit 3** to become effective on July 1<sup>st</sup> of 2021, 2022, 2023 and 2024.

### **Recommendation # 3**

Water Loss:

- The City should proceed to use a CDBG grant and its matching funds to replace water lines identified by Rye Engineering, PLC as causing substantial water loss when the cost of such line replacements are justified.
- The City should continue to repair leaks identified by Rye leak survey.
- The City should begin a meter replacement program to replace its existing meters with AMR meters.

### **Recommendation #4**

Capitalization Policy - The City should adopt a resolution to establish a capitalization policy which incorporates the capitalization cost thresholds and service lives the City currently uses for all capital assets except its water and sewer system assets. The City's capitalization policy should adopt the service lives for its water and sewer system using the recommended service lives adopted by the WWFB for municipal water and sewer systems. TUA prepared a suggested resolution which the City can adopt to establish the recommended capitalization policy.

### **Recommendation #5**

Leak Adjustment - The City should adopt the leak adjustment ordinance recommended by TUA.

### **Recommendation #6**

Tap Fees - TUA recommends that the City use the tap fee worksheets prepared by TAUD to track its actual costs incurred in setting taps from the date of the WWFB order through June 30, 2022. TUA will review the worksheets and make a recommendation on any changes to existing tap fees which are justified based upon the actual costs incurred to install new water and sewer taps.

**Recommendation #7**

Rate and Fee Policy or Ordinance - TUA suggests that the City amend each section of Title 18, Chapters 1 and 2 of its Municipal Code which states a fee to include an accurate description of the fee and reference an Appendix to Title 18 for the actual amount of the fee described in each section.

**Recommendation # 8**

The City has outstanding water and sewer bonds which have interest rates ranging from 5% to 3.25%. The City will need to borrow \$105,000 for the match for the CDBG grant and \$180,000 for a meter change out program. The City may want to consider issuing new debt to finance the CDBG match and meter change out program and to refinance its current debt at a lower interest rate at the same time. New debt should not be issued until new rates as recommended have been adopted.

## **FIVE YEAR CAPITAL ASSET PLAN**

On February 9, 2021, John Hall met with Debbie Swigerd, City Recorder, Joe Jenkins, Water and Wastewater Manager, and Jerry Stephens, Mayor, and various members of the City Council to develop a five-year capital assets plan. They discussed capital improvements to the City's water and sewer system which the City has planned to make or should consider making within the next five years. These discussions included water line replacements to reduce the City's current level of water loss. They discussed the purchase of other capital assets the City needs to make over the next five years. Options for funding these capital expenditures were reviewed. Mr. Hall prepared a Five-Year Capital Asset Plan based upon these discussions which was used in the TUA financial projections.

The City should adopt the Five-Year Capital Asset Plan attached to this Report as **Exhibit 2**.

## **RATE STUDY AND PROPOSED PLAN OF ACTION**

To determine whether existing rates will produce sufficient revenues to make the City's water and sewer system self-supporting, TUA first projected a Statement of Revenues and Expenses and Changes in Net Position for the City's water and sewer fund for its fiscal year ending June 30, 2021, to use as its test year. TUA projected the revenues for the system using existing rates. TUA projected operation and maintenance expenses and debt service payments by reviewing: (1) the City's budget for the water and sewer fund for its fiscal year ending June 30, 2021; (2) historical information on the City's water and sewer from the five previous years; and (3) the unaudited revenues and expenses of the City's water and sewer fund for the fiscal year ending June 30, 2020.

Then, TUA projected Statements of Revenues and Expenses and Changes in Net Position for the City's water and sewer fund for its fiscal years ending June 30 of 2022, 2023, 2024, and 2025. See **Exhibit 4** attached to this Report.

### **Revenue Projections:**

- Water sales for the fiscal year ending June 30, 2021, are projected by taking the City's actual water usage reports for all rate classes for the year ending June 30, 2020, and applying the City's existing water rates to this actual usage. Since 2016 the City has experienced minimal annual growth in water customers and does not plan to expand its existing water system in the near future. Therefore, the water sales after the test year do not include any revenue increases based annual customer growth.
- Sewer service for the fiscal year ending June 30, 2021, are projected by taking the City's actual water usage reports for all rate classes for the year ending June 30, 2020, and applying the City's existing sewer rates to this actual usage. This projection includes sewer service revenues for Benton customers which are water customers of Ocoee Utility District which sewer revenues were not included in the City's fiscal year ending June 30, 2020.

Other than the new sewer customers which are water customers of Ocoee Utility District, the City has experienced minimal annual growth in sewer customers since 2016, and does not plan to expand its existing sewer system in the near future. Therefore, the sewer service charges after the test year do not include any revenue increases based annual customer growth.

- Water tap fees for the test year are based upon the City's budget for its fiscal year ending June 30, 2021, which are consistent with its average water tap fees for its past two fiscal years.
- Penalties for the test year are based upon the City's budget for its fiscal year ending June 30, 2021, which is consistent with the actual penalties amount for its fiscal year ending June 30, 2020.
- Installation fees (sewer tap and connection fees) are based upon the average of the City's installation fees for its last two fiscal years ending June 30<sup>th</sup> of 2019 and 2020.

#### **Expense Projections:**

- Except for depreciation, death benefits, and hospitalization and health – General and Administrative, all operating expenses for the test year ending June 30, 2021 are projected based upon the City's budget for its water and sewer fund. See the Revenues and Expenses - Test Year schedule attached as **Exhibit 5**.
- Death benefits for the test year is based upon a two-year average.
- Hospital and health insurance – General and Administrative for the test year is based upon the actual expense for this account for the fiscal year ending June 30, 2020.
- Depreciation for the test year is projected based upon the City's existing fixed asset schedule and the useful service lives used on this schedule for depreciation as of June 30, 2020, plus the depreciation attributable to the new capital assets in the proposed Five-Year Capital Asset Plan for the City's fiscal year ending June 30, 2021.
- Interest expense for the test year and the remaining years in the projection period was based on current debt amortization schedules.
- For the remaining fiscal years in the five-year projection, all operating expenses, except depreciation, capital outlay and interest expense, are increased by 2% annually over the projected amount for the test year.
- The capital outlay expense includes equipment purchases which are below the capitalization threshold. For the remaining fiscal years in the five-year projection, the annual capital outlay expenses are based on anticipated equipment purchases during each fiscal year.

- Annual depreciation expenses after the test year were projected based upon the City's existing fixed asset schedule and the service lives used on this schedule for depreciation. Depreciation on new capital assets included in the capital asset plan after the test year are based upon the City's current capitalization policy and the service lives recommended in the City's new suggested capitalization policy.

### Revenue Sufficiency and Rate Modifications Required

Based upon the projected Statements, the City's water and sewer fund will have a negative change in net position each year at current rates beginning with the City's current fiscal year which begins June 30, 2021. The rate increases required by the City to give the City's water and sewer fund a positive change in net position are substantial. TUA recommends that the City adopt the rates needed over a four-year period beginning July 1, 2021 as set forth in **Exhibit 3** attached to this Report. TUA projects that the City will achieve a positive change in net position with the rates set forth in **Exhibit 4** during its fiscal year beginning July 1, 2024.

Even though TUA recommends spreading out the needed rate increases over a period of four years, the annual rate increases are still substantial. Based upon usage of 4,000 gallons per month, residential customers will experience the follow monthly bill increases under the recommended rates:

|                     | <u>Current<br/>FY 20-21</u> | <u>FY 21-22</u> | <u>FY 22-23</u> | <u>FY 23-24</u> | <u>FY 24-25</u> |
|---------------------|-----------------------------|-----------------|-----------------|-----------------|-----------------|
| Inside Residential  | \$15.55                     | \$17.00         | \$17.50         | \$17.70         | \$17.90         |
| % Increase          |                             | 9.32%           | 2.94%           | 1.14%           | 1.13%           |
| Outside Residential | \$16.75                     | \$18.50         | \$18.50         | \$18.75         | \$18.95         |
| % Increase          |                             | 10.45%          | 0%              | 1.35%           | 1.07%           |

The rate recommendations in **Exhibit 3** are based upon revenue and expense projections which are subject to change. Therefore, these rate recommendations should be reviewed as a part of the budgetary process for the City's fiscal year beginning July 1, 2022, to ensure that rates recommended will continue to produce the revenues projected and to confirm the projected expenses. If the revenues and expenses anticipated in the budgeting process are different than those projected, the City may need to alter the annual rate increases needed beginning July 1<sup>st</sup> of each year during the five-year projection period.

### Projected Cash and Investments Schedule

The Water and Sewer Fund – Projected Cash and Investments Schedule is attached as **Exhibit 6**. If the Town adopts the rate increases recommended by TUA and funds its capital improvements as set forth in the Five-Year Capital Asset Plan, the water and sewer fund should have a cash balance of \$163,677 as of June 30, 2025.

## **JUSTIFICATION OF OUTSIDE RATE DIFFERENTIAL IN WATER RATES**

### **Water System:**

TUA allocated the projected water revenue and sewer revenue for the City's fiscal year ending June 30, 2020, between inside-city customers and outside-city customers. The allocation of water revenues shows that inside-city water customers produce approximately 55% of the City's total water revenue and outside-city water customers produce approximately 45% of the City's total water revenue.

TUA allocated the expenses of the water system between inside-city and outside-city water customers for the fiscal year ending June 30, 2020, based upon information provided by the City which is as set forth in **Exhibit 7** attached to this Report. Based upon the expense allocations, inside-city customers are currently generating 57% of the cost of the operation of the water system and outside-city customers are generating 43% of the cost. The rate differential between inside-city and outside-city rates appears to be justified.

For the City's fiscal year ending June 30, 2025, TUA projects that its recommended rate changes will result in inside-city water revenue producing 56% of the City's total water revenue and outside-city water customers producing approximately 44% of the City's total water revenue which brings the water revenue differential even closer to the expense differential.

### **Sewer System:**

The allocation of sewer revenues shows that inside-city sewer customers produce approximately 65% of the City's total sewer revenue and outside-city sewer customers produce approximately 35% of the City's total sewer revenue.

TUA allocated the expenses of the sewer system between inside-city and outside-city sewer customers for the fiscal year ending June 30, 2020, based upon information provided by the City which is as set forth in **Exhibit 7** attached to this Report. Based upon the expense allocations, inside-city customers are currently generating 75% of the cost of the operation of the sewer system and outside-city customers are generating 25% of the cost. Therefore, the current outside-city sewer rate is recovering more of its cost than the inside-city sewer rate. TUA's rate recommendations equalize the usage sewer rates for inside-city and outside-city customers by July 1, 2024. However, the outside-city customers will still be recovering more of its cost than the inside-city customers. TUA encourages the City to look at making changes to the minimum sewer bill for inside-city and outside-city customers to continue to reduce this over-recovery with rate changes beginning July 1, 2025.

## **WATER LOSS**

In its Order the WWFB directed the City to create of a water loss policy to address the 59% loss by volume as reported on the City's AWWA Water Audit in its 2018 audit. The City obtained a \$45,000 infrastructure planning grant from the Department of Economic and Community



Development to assist it in assessing its water loss issues. The City hired Rye Engineering, PLC (Rye) to perform a water loss study and water system mapping with this grant. On July 24, 2020, Rye sent the City the results of its acoustic leak survey which identified 16 water loss locations and an estimate of the water loss per day at each location. A copy of this letter is attached as **Exhibit 8** to this Report. Rye has completed the master meter testing, flow-based leak detection and mapping for the City's water system.

The City has been approved for a CDGB grant of \$525,000 with a match by the City of \$105,000 which funds will be used to replace water lines which Rye has identified as contributing to the City's excessive water loss. The City will need to borrow its match funds. The City anticipates beginning this water line replacement project in its fiscal year beginning July 1, 2022.

To address the City's water loss, TUA recommends the following:

- The City should proceed to use the CDBG grant and its matching funds to replace water lines identified by Rye as causing substantial water loss when the cost is justified.
- The City should continue to repair leaks identified by Rye leak survey.
- The City should begin a meter replacement program to replace its existing meters with AMR meters. TUA anticipates the cost to implement a new AMR system and to replace all of the City's 1,000 meters will be approximately \$160,000. The City indicated that it would prefer to replace the meters over two fiscal years beginning July 1, 2022 and ending June 30, 2024, and will need to obtain funding for the replacements. If the City's existing meters are reading 5% slow, it is losing revenue of \$35,000 a year at present rates. This means the City would recoup the cost of the new meters in 5 years from increased water and sewer revenue from the newer, accurate meters. TUA thinks the current meters are reading closer to 10% slow. If this is true, the payback will be faster. Moreover, the City uses about 32-man hours per month to read its existing meters. The installation of the AMR meters will significantly reduce the City's meter reading man hours which can be used to meet other system requirements

### **CITY'S CAPITALIZATION POLICY**

The City was not able to locate a resolution or other action which set forth its capitalization policy. The City should adopt a resolution which incorporates the capitalization cost thresholds and service lives the City currently uses for all capital assets except its water and sewer system assets. The City's capitalization policy should include the service lives for its water and sewer system using the recommended service lives adopted by the WWFB for municipal water and sewer systems. TUA prepared a suggested resolution which the City can adopt to establish this recommended capitalization policy which is attached as **Exhibit 9** to this Report.

## NEW LEAK ADJUSTMENT POLICY

Currently, the City adjusts water and sewer bills for high usage caused by a water leak on the customer side of the meter by reducing the customer's water bill by 40% for two consecutive months in a 12-month period. Leak adjustments are only made for customers which have been a customer for at least one year. The City has no threshold for what constitutes excessive water usage from a leak.

TUA believes the City is losing too much revenue from its current leak adjustments. TUA recommends that only one bill adjustment be made every 12 months. TUA suggests the City adopt a leak adjustment ordinance attached as **Exhibit 10**.

In the alternative, the City may want to address its significant revenue loss by obtaining leak protection insurance coverage for its customers.

## CUSTOMER FEES

|  |                                 |
|--|---------------------------------|
| Non-Refundable Customer connection fees: | Owner-\$45.00<br>Renter-\$75.00 |
| Meter non-payment lock fee:              | \$40.00                         |
| After hours service charge               | \$80.00                         |

At a minimum, connection fees should cover the cost of establishing new service for a customer. These costs should attempt to cover a customer service employee meeting with the applicant or talking with the applicant by phone, reviewing the application for service, and processing the connection fee payment and tap fee payment, if applicable. A field employee must travel to the service address to verify the initial meter reading for the new account and to turn on the meter. The \$45 connection should cover the labor and equipment costs incurred to sign up a new customer for service.

The City charges rental customers a \$75 non-refundable deposit or connection fee. The \$75 deposit covers slightly more than two months average water and sewage usage for the City's customers. The City experiences significantly higher uncollectible accounts for rental customers than non-rental customers due to having a higher number of uncollectible accounts for rental customers than property owner customers and experiencing higher delinquent balances from rental customers whose move away without making final payments. The deposit is designed to cover approximately two months of service and is justified in light of the higher uncollectible amounts the City experiences from its rental customers.

## TAP FEES

The City's current tap fees are:

|  |               |          |
|--|---------------|----------|
| Water  |               | \$ 900   |
| Gravity sewer tap residential                  |               | \$ 520   |
| Grinder sewer system                           |               | \$4,500  |
| Step system (high pressure) 1000 Gal.          | Inside City:  | \$7,700  |
|  | Outside City: | \$8,200  |
| Commercial Step system 1500 Gal.               |               | \$10,500 |
| Restaurants, etc. (w/grease and holding tanks) |               | \$15,850 |

The City does not track the expenses it incurs in setting water and sewer taps. Therefore, TUA was not able to verify the cost the City incurs to set the above taps

For a water and sewer utility which does not have substantial growth each year, TUA recommends that tap fees be set to essentially cover the cost of making the taps.

TUA has developed a Cost of Tap Installation Worksheet which the City can use to track and record the actual materials, equipment and labor it spends on making its water and sewer taps. Rather than render an opinion on the reasonableness of the City's tap fees now, TUA recommends that the WWFB order the City to use these worksheets to track its actual costs incurred in setting taps from the date of the WWFB order through June 30, 2022. TAUD will review the worksheets and make a recommendation on any changes to existing tap fees which are justified based upon the actual costs incurred to install new water and sewer taps. A copy of the Cost of Tap Installation Worksheets is attached as **Exhibit 11**.

## RATE AND FEE POLICY OR ORDINANCE

The City's current Municipal Code has separate chapters for general regulations on water and sewer service, Title 18, Chapters 1 and 2. The City has certain fees described and the amount stated in separate sections of Chapters 1 and 2. See **Exhibit 12** attached. The fees described in the sections these Chapters are different from what the City is actually charging its water and sewer customers. TUA suggests that the City amend each section which states a fee and reference an Appendix to Title 18 for the amount of the fee described in each section. TUA believes the following sections will need to be amended:

- Section 18-104. Application and contract for service. This section requires the payment of a deposit of \$25. TUA believes this is a reference to its non-refundable customer connection fees of \$45 for owners and \$75 for renters.
- Section 18-106. Connection charges. This section seems to be referencing the cost to connect to the City's water system and requires a deposit equal to the estimated cost of the tap to the City's water main. Currently, the City charges a water tap fee of \$900, not the estimated cost of a water tap connection.
- Section 18-110. Meter tests. This section establishes a meter testing charge of \$10. This charge was not listed in the City's response to the WWFB's questionnaire.
- Section 18-115. Re-connection charge. The City's current charges for reconnection after nonpayment is \$40 during regular business hours and \$80 after regular business hours. This section has different charges for re-connection depending on how many times a customer has been disconnected of \$25, \$30, and \$100. This section provides that a customer may no longer receive water service after the customer has been discontinued three times. TUA doubts such a provision is enforceable.
- Section 18-220. Schedule of fees and charges. The connection fees for sewer are not the same as listed above. The monthly sewer rates are not the same as the City is currently charging.

### METER READING POLICY

The City reads its water meters at the beginning of each month. The utility billing clerk prints the meter reading list of all active meters from the billing software system by routes. Field employees then read their assigned routes and return readings to the billing clerk. The billing clerk enters the readings into the billing system. Readings of high, low or no consumption are checked by both field employees and the billing clerk and corrections are made when needed. The City's meter reading policy and procedures are acceptable. In the past, the City has had an inordinate number of overreads and underreads. The employee responsible most of these misreads is no longer employed by the City, and the number of misreads had been significantly reduced as a result.

**CITY OF BENTON – CURRENT WATER AND SEWER RATES****Water****Inside-City**

## Residential

|                              |                           |
|------------------------------|---------------------------|
| Minimum bill (2,000 gallons) | \$15.55                   |
| Over 2,000 gallons           | \$ 4.27 per 1,000 gallons |

## Commercial

|                              |                           |
|------------------------------|---------------------------|
| Minimum bill (2,000 gallons) | \$20.41                   |
| Over 2,000 gallons           | \$ 4.89 per 1,000 gallons |

**Outside-City**

## Residential

|                              |                           |
|------------------------------|---------------------------|
| Minimum bill (2,000 gallons) | \$16.75                   |
| Over 2,000 gallons           | \$ 4.89 per 1,000 gallons |

## Commercial

|                              |                           |
|------------------------------|---------------------------|
| Minimum bill (2,000 gallons) | \$21.62                   |
| Over 2,000 gallons           | \$ 5.49 per 1,000 gallons |

**Sewer****Inside-City**

## Residential

|                              |                           |
|------------------------------|---------------------------|
| Minimum bill (2,000 gallons) | \$ 7.32                   |
| Over 2,000 gallons           | \$ 3.67 per 1,000 gallons |

## Commercial

|                              |                           |
|------------------------------|---------------------------|
| Minimum bill (2,000 gallons) | \$10.97                   |
| Over 2,000 gallons           | \$ 4.26 per 1,000 gallons |

Outside-City

## Residential

|                              |                           |
|------------------------------|---------------------------|
| Minimum bill (2,000 gallons) | \$10.97                   |
| Over 2,000 gallons           | \$ 4.27 per 1,000 gallons |

## Commercial

|                              |                           |
|------------------------------|---------------------------|
| Minimum bill (2,000 gallons) | \$38.07                   |
| Over 2,000 gallons           | \$ 4.27 per 1,000 gallons |

**Benton, Tennessee**  
**Five Year Capital Asset Plan**

|  | <b>Estimated Cost</b>   |                         |                         |                         |                         |                         |
|--|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
|  | <b><u>6/30/2021</u></b> | <b><u>6/30/2022</u></b> | <b><u>6/30/2023</u></b> | <b><u>6/30/2024</u></b> | <b><u>6/30/2025</u></b> | <b><u>6/30/2026</u></b> |
| Ford Ranger or Similar Trucks                  |                         |                         | 30,000                  |                         |                         |                         |
| UV and Samplers WTP                            |                         |                         |                         | 10,000                  |                         |                         |
| Flow Meters WWTP                               |                         |                         |                         | 5,000                   |                         |                         |
| Billing Software                               |                         | 15,000                  |                         |                         |                         |                         |
| Folding Machine                                |                         | 5,000                   |                         |                         |                         |                         |
| Roof Wastewater Plant/Remodel                  |                         | 10,000                  |                         |                         |                         |                         |
| New Bleach System at Water Plant               |                         | 10,000                  |                         |                         |                         |                         |
| AMR Meters Installation 50%                    |                         | 80,000                  | 80,000                  |                         |                         |                         |
| Inline Turbidimeters 2 WTP                     |                         |                         | 15,000                  |                         |                         |                         |
| Continues Chlorine Monitors WTP                |                         |                         | 5,000                   |                         |                         |                         |
| Bar Screen Replacement WTP                     |                         |                         | 20,000                  |                         |                         |                         |
| Mountain Water Tank - Repair & Repaint         |                         |                         |                         |                         | 50,000                  |                         |
| WWTP Paddle Wheels                             |                         |                         |                         |                         | 25,000                  |                         |
| Lab Equipment WTP                              |                         |                         |                         |                         | 10,000                  |                         |
| Backhoe  | 9,600                   |                         |                         |                         |                         |                         |
| Water Line Improvements                        |                         | 630,000                 |                         |                         |                         |                         |
| Standby Generator WTP                          |                         |                         |                         |                         |                         | 50,000                  |
| Boring Machine                                 |                         |                         |                         |                         |                         | 20,000                  |
| Deep Well Pump WTP                             |                         |                         |                         |                         |                         | 5,000                   |
| <b>Total</b>                                   | <b>9,600</b>            | <b>750,000</b>          | <b>150,000</b>          | <b>15,000</b>           | <b>85,000</b>           | <b>75,000</b>           |
| Cumulative Depreciation                        | 960                     | 28,877                  | 44,043                  | 45,543                  | 484,718                 | 51,752                  |
| <b>Total Capital Outlay &amp; Depreciation</b> | <b>10,560</b>           | <b>778,877</b>          | <b>194,043</b>          | <b>60,543</b>           | <b>569,718</b>          | <b>126,752</b>          |
| <b>Source of Funds</b>                         |                         |                         |                         |                         |                         |                         |
| Loans  | -                       | 100,000                 | -                       | -                       | -                       | -                       |
| Grants   | -                       | 525,000                 | -                       | -                       | -                       | -                       |
| Cash   | 9,600                   | 125,000                 | 150,000                 | 15,000                  | 85,000                  | 75,000                  |
| <b>Total Funding Sources</b>                   | <b>9,600</b>            | <b>750,000</b>          | <b>150,000</b>          | <b>15,000</b>           | <b>85,000</b>           | <b>75,000</b>           |

**Benton, TN - Recommended Rate Increases**

| <b>Recommended Rate Increases</b> | FY 21-22                  | FY 22-23                  | FY 23-24                  | FY 24-25                  |
|-----------------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| <b>WATER</b>                      | <i>start July 1, 2021</i> | <i>start July 1, 2022</i> | <i>start July 1, 2023</i> | <i>start July 1, 2024</i> |
| <b>Inside:</b>                    |                           |                           |                           |                           |
| Residential                       |                           |                           |                           |                           |
| Minimum Billing                   | \$17.00                   | \$17.50                   | \$17.70                   | \$17.90                   |
| Over 2,000 gallons                | \$7.75 / 1,000            | \$8.00 / 1,000            | \$8.20 / 1,000            | \$8.30 / 1,000            |
| Commercial                        |                           |                           |                           |                           |
| Minimum Billing                   | \$22.50                   | \$22.50                   | \$22.70                   | \$22.90                   |
| Over 2,000 gallons                | \$8.00 / 1,000            | \$8.30 / 1,000            | \$8.50 / 1,000            | \$8.60 / 1,000            |
| <b>Outside:</b>                   |                           |                           |                           |                           |
| Residential                       |                           |                           |                           |                           |
| Minimum Billing                   | \$18.50                   | \$18.50                   | \$18.75                   | \$18.95                   |
| Over 2,000 gallons                | \$8.25 / 1,000            | \$8.25 / 1,000            | \$8.35 / 1,000            | \$8.55 / 1,000            |
| Commercial                        |                           |                           |                           |                           |
| Minimum Billing                   | \$24.50                   | \$24.50                   | \$24.75                   | \$24.95                   |
| Over 2,000 gallons                | \$9.25 / 1,000            | \$9.25 / 1,000            | \$9.35 / 1,000            | \$9.55 / 1,000            |

| <b>Recommended Rate Increases</b> | FY 21-22                  | FY 22-23                  | FY 23-24                  | FY 24-25                  |
|-----------------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| <b>SEWER</b>                      | <i>start July 1, 2021</i> | <i>start July 1, 2022</i> | <i>start July 1, 2023</i> | <i>start July 1, 2024</i> |
| <b>Inside:</b>                    |                           |                           |                           |                           |
| Residential                       |                           |                           |                           |                           |
| Minimum Billing                   | \$8.50                    | \$9.75                    | \$11.25                   | \$13.00                   |
| Over 2,000 gallons                | \$4.25 / 1,000            | \$5.00 / 1,000            | \$5.75 / 1,000            | \$6.75 / 1,000            |
| Commercial                        |                           |                           |                           |                           |
| Minimum Billing                   | \$12.30                   | \$13.75                   | \$15.50                   | \$17.35                   |
| Over 2,000 gallons                | \$4.80 / 1,000            | \$5.30 / 1,000            | \$6.00 / 1,000            | \$6.75 / 1,000            |
| <b>Outside:</b>                   |                           |                           |                           |                           |
| Residential                       |                           |                           |                           |                           |
| Minimum Billing                   | \$13.10                   | \$14.50                   | \$16.50                   | \$19.80                   |
| Over 2,000 gallons                | \$5.00 / 1,000            | \$5.50 / 1,000            | \$6.00 / 1,000            | \$6.75 / 1,000            |
| Commercial                        |                           |                           |                           |                           |
| Minimum Billing                   | \$41.90                   | \$46.00                   | \$51.00                   | \$56.10                   |
| Over 2,000 gallons                | \$4.80 / 1,000            | \$5.50 / 1,000            | \$6.00 / 1,000            | \$6.75 / 1,000            |



**Benton, TN - Projected Statements of Revenues and Expenses and Changes in Net Position**

|                                       | Projected<br><u>6/30/2021</u> | Projected<br><u>6/30/2022</u> | Projected<br><u>6/30/2023</u> | Projected<br><u>6/20/2024</u> | Projected<br><u>6/20/2025</u> |
|---------------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| <b>Operating Revenues:</b>            |                               |                               |                               |                               |                               |
| Water Sales                           | 410,968                       | 410,968                       | 410,968                       | 410,968                       | 410,968                       |
| Water Tap Fees                        | 7,000                         | 7,000                         | 7,000                         | 7,000                         | 7,000                         |
| Sewer Service Charges                 | 170,000                       | 170,000                       | 170,000                       | 170,000                       | 170,000                       |
| Penalties                             | 15,000                        | 15,000                        | 15,000                        | 15,000                        | 15,000                        |
| Installation Fees                     | 54,000                        | 54,000                        | 54,000                        | 54,000                        | 54,000                        |
| Miscellaneous                         | 2,000                         | 2,000                         | 2,000                         | 2,000                         | 2,000                         |
| <b>Total Operating Revenue</b>        | <b>658,968</b>                | <b>658,968</b>                | <b>658,968</b>                | <b>658,968</b>                | <b>658,968</b>                |
| <b>Operating Expenses:</b>            |                               |                               |                               |                               |                               |
| <b><u>Water &amp; Sewer Plant</u></b> |                               |                               |                               |                               |                               |
| Salaries                              | 179,200                       | 180,992                       | 182,802                       | 184,630                       | 186,476                       |
| OASDI Employer's Share                | 14,000                        | 14,140                        | 14,281                        | 14,424                        | 14,568                        |
| Hospital and Health Insurance         | 65,000                        | 65,650                        | 66,307                        | 66,970                        | 67,639                        |
| Retirement                            | 16,500                        | 16,665                        | 16,832                        | 17,000                        | 17,170                        |
| Death Benefits                        | 700                           | 707                           | 714                           | 721                           | 728                           |
| Worker's Compensation                 | 6,500                         | 6,565                         | 6,631                         | 6,697                         | 6,764                         |
| Unemployment Insurance                | 300                           | 303                           | 306                           | 309                           | 312                           |
| Insurance                             | 6,800                         | 6,868                         | 6,937                         | 7,006                         | 7,076                         |
| Installation                          | 18,000                        | 18,180                        | 18,362                        | 18,545                        | 18,731                        |
| Fees                                  | 2,500                         | 2,525                         | 2,550                         | 2,576                         | 2,602                         |
| Contracted Services                   | 45,000                        | 45,450                        | 45,905                        | 46,364                        | 46,827                        |
| Electricity                           | 55,000                        | 55,550                        | 56,106                        | 56,667                        | 57,233                        |
| Operating Supplies                    | 35,000                        | 35,350                        | 35,704                        | 36,061                        | 36,421                        |
| Chemicals                             | 7,000                         | 7,070                         | 7,141                         | 7,212                         | 7,284                         |
| Clothing and Uniforms                 | 1,000                         | 1,010                         | 1,020                         | 1,030                         | 1,041                         |
| Miscellaneous                         | 900                           | 909                           | 918                           | 927                           | 937                           |
| Gas and Oil                           | 8,000                         | 8,080                         | 8,161                         | 8,242                         | 8,325                         |
| Machinery and Equipment Parts         | 13,000                        | 13,130                        | 13,261                        | 13,394                        | 13,528                        |
| Repairs and Maintenance               | 49,000                        | 49,490                        | 49,985                        | 50,485                        | 50,990                        |
| Capital Outlay                        | 7,500                         | 13,510                        | 6,080                         | 6,270                         | 9,600                         |
| General & Administration:             | -                             | -                             | -                             | -                             | -                             |
| Salaries & Taxes                      | 47,850                        | 48,329                        | 48,812                        | 49,300                        | 49,793                        |
| Hospital and Health Insurance         | 40,000                        | 40,400                        | 40,804                        | 41,212                        | 41,624                        |
| Death Benefit Plan                    | 650                           | 657                           | 663                           | 670                           | 676                           |
| Fees of Officials                     | 12,600                        | 12,726                        | 12,853                        | 12,982                        | 13,112                        |
| Unemployment Insurance                | 100                           | 101                           | 102                           | 103                           | 104                           |
| Contractual Services                  | 1,500                         | 1,515                         | 1,530                         | 1,545                         | 1,561                         |
| Postage                               | 9,000                         | 9,090                         | 9,181                         | 9,273                         | 9,365                         |
| Printing                              | 500                           | 505                           | 510                           | 515                           | 520                           |
| Publicity                             | 500                           | 505                           | 510                           | 515                           | 520                           |
| Rental                                | 7,882                         | 7,961                         | 8,040                         | 8,121                         | 8,202                         |
| Membership and Registration Fees      | 1,000                         | 1,010                         | 1,020                         | 1,030                         | 1,041                         |
| Electrical                            | 3,500                         | 3,535                         | 3,570                         | 3,606                         | 3,642                         |
| Telephone                             | 8,000                         | 8,080                         | 8,161                         | 8,242                         | 8,325                         |
| Legal Services                        | 1,000                         | 1,010                         | 1,020                         | 1,030                         | 1,041                         |
| Auditor                               | 12,000                        | 12,120                        | 12,241                        | 12,364                        | 12,487                        |
| Data Processing                       | 1,600                         | 1,616                         | 1,632                         | 1,648                         | 1,665                         |
| Insurance                             | 8,250                         | 8,333                         | 8,416                         | 8,500                         | 8,585                         |
| Office Supplies                       | 2,500                         | 2,525                         | 2,550                         | 2,576                         | 2,602                         |
| Pension Expense                       | 3,700                         | 3,737                         | 3,774                         | 3,812                         | 3,850                         |
| Miscellaneous                         | 1,300                         | 1,313                         | 1,326                         | 1,339                         | 1,353                         |

|  |           |           |           |           |           |
|--|-----------|-----------|-----------|-----------|-----------|
| Depreciation   | 153,073   | 180,990   | 196,156   | 197,656   | 200,531   |
| Leak Detection Work                                  | 45,000    | -         | -         | -         | -         |
| Total Operating Expenses                             | 892,405   | 888,200   | 902,874   | 911,570   | 924,851   |
| Operating Income (Loss)                              | (233,437) | (229,232) | (243,906) | (252,602) | (265,883) |
| Nonoperating Revenues (Expenses)                     |           |           |           |           |           |
| Interest Income                                      | 55        | 55        | 55        | 55        | 55        |
| Interest Expenses                                    | (20,049)  | (19,047)  | (18,001)  | (16,916)  | (15,766)  |
| Total Nonoperating Revenues (Expenses)               | (19,994)  | (18,992)  | (17,946)  | (16,861)  | (15,711)  |
| Change in Net Position                               | (253,431) | (248,224) | (261,852) | (269,463) | (281,594) |
| Revenue Generated from Suggested Rate Increase       | -         | 181,016   | 212,926   | 248,262   | 288,012   |
| Change in Net Position after Suggested Rate Increase | (253,431) | (67,208)  | (48,926)  | (21,201)  | 6,418     |
| Contributed Capital & Grants                         | 74,000    | 525,000   | -         | -         | -         |

**Benton, TN - Test Year Ending June 30, 2021**

|                                  | Budget<br><u>20-21</u> | 6/30/18 & 6/30/19<br><u>Average</u> | 6/30/2020<br><u>Unaudited</u> | Estimated for<br><u>For FY 20-21</u> | <u>Explanation</u>   |
|----------------------------------|------------------------|-------------------------------------|-------------------------------|--------------------------------------|--|
| <b>Operating Revenues:</b>       |                        |                                     |                               |                                      |  |
| Water Sales                      | 432,000                | 399,724                             | 389,641                       | 410,968                              | Calculated with rates in force   |
| Water Tap Fees                   | 7,000                  | 7,383                               | 12,000                        | 7,000                                | Used City budget, it is similar to last 2 year average                               |
| Sewer Service Charges            | 170,000                | 167,306                             | 157,190                       | 170,000                              | Calculated with rates in force plus additional customers per City                    |
| Penalties                        | 15,000                 | 17,613                              | 15,013                        | 15,000                               | Used City budget, it is similar to actual  |
| Installation Fees                | 36,000                 | 53,595                              | 79,996                        | 54,000                               | Used last 2 year average as this seems reasonable                                    |
| Miscellaneous                    | 4,738                  | 1,965                               | 24,681                        | 2,000                                | Used last 2 year average as this seems reasonable                                    |
| <b>Total Operating Revenue</b>   | <b>664,738</b>         | <b>647,585</b>                      | <b>678,521</b>                | <b>658,968</b>                       |  |
| <b>Operating Expenses:</b>       |                        |                                     |                               |                                      |  |
| <u>Water &amp; Sewer Plant</u>   |                        |                                     |                               |                                      |  |
| Salaries                         | 179,200                | 174,601                             | 164,867                       | 179,200                              | Used City budget, which is a little higher than actual                               |
| OASDI Employer's Share           | 14,000                 | 15,907                              | 15,596                        | 14,000                               | Used City budget, payroll taxes are 7.65% of wages.                                  |
| Hospital and Health Insurance    | 65,000                 | 65,237                              | 56,659                        | 65,000                               | Used City budget, it is very similar to last 2 year average                          |
| Retirement                       | 16,500                 | 19,378                              | 15,778                        | 16,500                               | Used City budget, it is very similar to actual                                       |
| Death Benefits                   | 900                    | 712                                 | 637                           | 700                                  | Used last 2 year average, this has never been much higher than \$700                 |
| Worker's Compensation            | 6,500                  | 6,429                               | 5,875                         | 6,500                                | Used City budget, it is very similar to last 2 year average                          |
| Unemployment Insurance           | 300                    | 316                                 | 168                           | 300                                  | Used City budget, it is very similar to last 2 year average                          |
| Insurance                        | 6,800                  | 5,416                               | 5,821                         | 6,800                                | Used City budget, it is very similar to last 2 year average                          |
| Installation                     | 18,000                 | 30,574                              | 67,620                        | 18,000                               | Used City budget, install costs were high last few years but will decr per mnngt     |
| Fees                             | 2,500                  | 2,264                               | 2,245                         | 2,500                                | Used City budget, it is very similar to last 2 year average                          |
| Contracted Services              | 45,000                 | 24,672                              | 58,461                        | 45,000                               | Used City budget, which is higher than actual but less than last 2 year avg          |
| Electricity                      | 55,000                 | 55,177                              | 55,382                        | 55,000                               | Used City budget, it is very similar to last 2 year average                          |
| Operating Supplies               | 35,000                 | 33,091                              | 43,707                        | 35,000                               | Used City budget, it is very similar to last 2 year average                          |
| Chemicals                        | 7,000                  | 7,084                               | 5,908                         | 7,000                                | Used City budget, it is very similar to last 2 year average                          |
| Clothing and Uniforms            | 1,000                  | 850                                 | 887                           | 1,000                                | Used City budget, it is very similar to last 2 year average                          |
| Miscellaneous                    | 900                    | 2,098                               | 100                           | 900                                  | Used City budget, as this seems reasonable.  |
| Gas and Oil                      | 8,000                  | 6,506                               | 8,488                         | 8,000                                | Used City budget, it is very similar to actual                                       |
| Machinery and Equipment Parts    | 13,000                 | 5,978                               | 91,800                        | 13,000                               | Used City budget, as actual and last 2 year average are very different               |
| Repairs and Maintenance          | 49,000                 | 15,715                              | 26,758                        | 49,000                               | Used City budget, as City has repairs planned.                                       |
| Capital Outlay                   | 9,600                  | -                                   | -                             | 7,500                                | From capital asset planning information provided by City, backhoe budgeted           |
| General & Administration:        | -                      | -                                   | -                             | -                                    | will be depreciated.   |
| Salaries & Taxes                 | 47,850                 | 39,093                              | 40,371                        | 47,850                               | Used City budget, this included payroll taxes  |
| Hospital and Health Insurance    | 47,300                 | 28,665                              | 41,619                        | 40,000                               | Used actual, as it is similar to current year, this didn't increase in water & sewer |
| Death Benefit Plan               | 650                    | 485                                 | 637                           | 650                                  | Used City budget, as it is similar to actual   |
| Fees of Officials                | 12,600                 | 12,025                              | 12,700                        | 12,600                               | Used City budget, as it is similar to actual   |
| Unemployment Insurance           | 100                    | 144                                 | 42                            | 100                                  | Used City budget, as it is similar to actual   |
| Contractual Services             | 1,500                  | 12,788                              | 2,225                         | 1,500                                | Used City budget, as it similar to actual  |
| Postage                          | 9,000                  | 8,062                               | 9,298                         | 9,000                                | Used City budget, as it similar to actual  |
| Printing                         | 900                    | 516                                 | 420                           | 500                                  | Used last 2 year average, this has never been much higher than \$500                 |
| Publicity                        | 500                    | 573                                 | -                             | 500                                  | Used City budget, as it is similar to last 2 year average                            |
| Rental                           | 7,882                  | 7,882                               | 7,882                         | 7,882                                | Used City budget, as it identical to last 2 years and actual                         |
| Membership and Registration Fees | 1,000                  | 1,016                               | 514                           | 1,000                                | Used City budget, as it is similar to last 2 year average                            |
| Electrical                       | 3,500                  | 3,353                               | 2,913                         | 3,500                                | Used City budget, as it is similar to last 2 year average                            |

|   |                 |                  |                  |                  |   |
|---|-----------------|------------------|------------------|------------------|---|
| Telephone   | 8,700           | 6,850            | 7,849            | 8,000            | Used actual, as it is similar to current year                                       |
| Legal Services  | 500             | 1,001            | 1,012            | 1,000            | Used actual and 2 year average, same  |
| Auditor   | 12,000          | -                | 10,875           | 12,000           | Used City budget, as auditor's fees generally increase each year                    |
| Data Processing   | 1,600           | 2,306            | 1,598            | 1,600            | Used City budget, as it is similar to actual  |
| Insurance   | 8,250           | 6,819            | 6,377            | 8,250            | Used City budget, as insurance generally increases each year.                       |
| Office Supplies   | 2,500           | 2,236            | 1,749            | 2,500            | Used City budget, as expenses office supplies may increase each year.               |
| Pension Expense   | 3,700           | -                | -                | 3,700            | Used City budget, as pension expenses are included.                                 |
| Miscellaneous   | 1,300           | 250              | 4,700            | 1,300            | Used City budget, seems reasonable  |
| Depreciation  | -               | 152,465          | 152,113          | 153,073          | City had not budgeted for depreciation, we used last year plus new additions.       |
| Leak Detection Work   | -               | -                | -                | 45,000           | Rye Engineering is working on leak detections now.                                  |
| <b>Total Operating Expenses</b>   | <b>704,532</b>  | <b>762,736</b>   | <b>931,651</b>   | <b>892,405</b>   |   |
| <b>Operating Income (Loss)</b>  | <b>(39,794)</b> | <b>(115,151)</b> | <b>(253,130)</b> | <b>(233,437)</b> |   |
| <b>Nonoperating Revenues (Expenses)</b>                                   |                 |                  |                  |                  |   |
| Interest Income   | -               | 54               | 1,025            | 55               | Used last 2 year average, seems reasonable  |
| Interest Expenses   | (33,430)        | (16,224)         | (28,753)         | (20,049)         | From amortization tables on debt schedule   |
| <b>Total Nonoperating Revenues (Expenses)</b>                             | <b>(33,430)</b> | <b>(16,170)</b>  | <b>(27,728)</b>  | <b>(19,994)</b>  |   |
| <b>Change in Net Position before<br/>Contributed Capital &amp; Grants</b> | <b>(73,224)</b> | <b>(131,321)</b> | <b>(280,858)</b> | <b>(253,431)</b> |   |
| <b>Contributed Capital &amp; Grants</b>                                   | <b>74,000</b>   | <b>23,940</b>    | <b>-</b>         | <b>74,000</b>    | City budgeted for \$29,000 covid, \$45,000 RD leak detection, both grants received. |
| <b>Change in Net Position</b>   | <b>776</b>      | <b>(107,382)</b> | <b>(280,858)</b> | <b>(179,431)</b> |   |

**Benton, TN - Projected Cash Balance Schedule**

|                               | Projected<br><u>6/30/2021</u> | Projected<br><u>6/30/2022</u> | Projected<br><u>6/30/2023</u> | Projected<br><u>6/30/2024</u> | Projected<br><u>6/30/2025</u> |
|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| <b>Beginning Balance</b>      | <b>55,566</b>                 | <b>(3,373)</b>                | <b>(38,569)</b>               | <b>(66,341)</b>               | <b>68,966</b>                 |
| Sources of Funds              |                               |                               |                               |                               |                               |
| Water & Sewer Charges ***     | 580,968                       | 761,984                       | 793,894                       | 829,230                       | 868,980                       |
| Other Revenue                 | 78,000                        | 78,000                        | 78,000                        | 78,000                        | 78,000                        |
| Interest Revenue              | 55                            | 55                            | 55                            | 55                            | 55                            |
| Loan                          | -                             | 100,000                       | -                             | -                             | -                             |
| Grants                        | 74,000                        | 525,000                       | -                             | -                             | -                             |
| <b>Total Sources of Funds</b> | <b>733,023</b>                | <b>1,465,039</b>              | <b>871,949</b>                | <b>907,285</b>                | <b>947,035</b>                |
| Uses of Funds                 |                               |                               |                               |                               |                               |
| Operating Expenses            | 892,405                       | 888,200                       | 902,874                       | 911,570                       | 924,851                       |
| Depreciation                  | (153,073)                     | (180,990)                     | (196,156)                     | (197,656)                     | (200,531)                     |
| Debt Service - Principal      | 22,981                        | 23,978                        | 25,002                        | 26,148                        | 27,238                        |
| Debt Service - Interest       | 20,049                        | 19,047                        | 18,001                        | 16,916                        | 15,766                        |
| Capital Outlay over \$5,000   | 9,600                         | 750,000                       | 150,000                       | 15,000                        | 85,000                        |
| <b>Total Uses of Funds</b>    | <b>791,962</b>                | <b>1,500,235</b>              | <b>899,720</b>                | <b>771,978</b>                | <b>852,324</b>                |
| <b>Ending Balance</b>         | <b>(3,373)</b>                | <b>(38,569)</b>               | <b>(66,341)</b>               | <b>68,966</b>                 | <b>163,677</b>                |

NOTE: This synopsis from beginning funds to ending funds does not include accounts receivable, accounts payable, fixed asset or any other adjustments made to the balance sheet. This is a "cash basis" summary.

## Benton, Tennessee - Inside / Outside Analysis

|                                      | 6/30/2020      | WATER          |                | SEWER          |               | Total          | Allocation Explained      |
|--------------------------------------|----------------|----------------|----------------|----------------|---------------|----------------|---------------------------|
|                                      |                | Inside         | Outside        | Inside         | Outside       |                |                           |
| <b>Operating Revenues:</b>           |                |                |                |                |               |                |                           |
| Water Sales                          | 389,641        | 213,187        | 176,454        | -              | -             | 389,641        | % Based on Revenues       |
| Water Tap Fees                       | 12,000         | 6,566          | 5,434          | -              | -             | 12,000         | % Based on Revenues       |
| Sewer Service Charges                | 157,190        | -              | -              | 102,158        | 55,032        | 157,190        | % Based on Revenues       |
| Penalties                            | 15,013         | 5,937          | 4,914          | 2,705          | 1,457         | 15,013         | % Based on Revenues       |
| Installation Fees                    | 79,996         | 31,633         | 26,182         | 14,415         | 7,765         | 79,996         | % Based on Revenues       |
| Miscellaneous                        | 24,681         | 9,760          | 8,078          | 4,448          | 2,396         | 24,681         | % Based on Revenues       |
| <b>Total Operating Revenue</b>       | <b>678,521</b> | <b>267,082</b> | <b>221,062</b> | <b>123,727</b> | <b>66,650</b> | <b>678,521</b> |                           |
| <b>Operating Expenses:</b>           |                |                |                |                |               |                |                           |
| <u>Water &amp; Sewer Plant</u>       |                |                |                |                |               |                |                           |
| Salaries                             | 164,867        | 63,861         | 45,468         | 42,131         | 13,407        | 164,867        | % Based on Gallons Sold   |
| OASDI Employer's Share               | 15,596         | 6,041          | 4,301          | 3,985          | 1,268         | 15,596         | % Based on Gallons Sold   |
| Hospital and Health Insurance        | 56,659         | 21,947         | 15,626         | 14,479         | 4,607         | 56,659         | % Based on Gallons Sold   |
| Retirement                           | 15,778         | 6,112          | 4,351          | 4,032          | 1,283         | 15,778         | % Based on Gallons Sold   |
| Death Benefits                       | 637            | 247            | 176            | 163            | 52            | 637            | % Based on Gallons Sold   |
| Worker's Compensation                | 5,875          | 2,276          | 1,620          | 1,501          | 478           | 5,875          | % Based on Gallons Sold   |
| Unemployment Insurance               | 168            | 65             | 46             | 43             | 14            | 168            | % Based on Gallons Sold   |
| Insurance                            | 5,821          | 2,255          | 1,605          | 1,488          | 473           | 5,821          | % Based on Gallons Sold   |
| Installation                         | 67,620         | 26,193         | 18,648         | 17,280         | 5,499         | 67,620         | % Based on Gallons Sold   |
| Fees                                 | 2,245          | 870            | 619            | 574            | 183           | 2,245          | % Based on Gallons Sold   |
| Contracted Services                  | 58,461         | 22,645         | 16,123         | 14,939         | 4,754         | 58,461         | % Based on Gallons Sold   |
| Electricity                          | 55,382         | 21,452         | 15,273         | 14,153         | 4,504         | 55,382         | % Based on Gallons Sold   |
| Operating Supplies                   | 43,707         | 16,930         | 12,054         | 11,169         | 3,554         | 43,707         | % Based on Gallons Sold   |
| Chemicals                            | 5,908          | 2,288          | 1,629          | 1,510          | 480           | 5,908          | % Based on Gallons Sold   |
| Clothing and Uniforms                | 887            | 344            | 245            | 227            | 72            | 887            | % Based on Gallons Sold   |
| Miscellaneous                        | 100            | 39             | 28             | 26             | 8             | 100            | % Based on Gallons Sold   |
| Gas and Oil                          | 8,488          | 3,288          | 2,341          | 2,169          | 690           | 8,488          | % Based on Gallons Sold   |
| Machinery and Equipment Parts        | 91,800         | 35,559         | 25,317         | 23,459         | 7,465         | 91,800         | % Based on Gallons Sold   |
| Repairs and Maintenance              | 26,758         | 10,365         | 7,379          | 6,838          | 2,176         | 26,758         | % Based on Gallons Sold   |
| <b>General &amp; Administration:</b> | -              | -              | -              | -              | -             | -              |                           |
| Salaries & Taxes                     | 40,371         | 15,527         | 13,893         | 7,301          | 3,650         | 40,371         | % Based on # of Customers |
| Hospital and Health Insurance        | 41,619         | 16,007         | 14,322         | 7,526          | 3,763         | 41,619         | % Based on # of Customers |
| Death Benefit Plan                   | 637            | 245            | 219            | 115            | 58            | 637            | % Based on # of Customers |
| Fees of Officials                    | 12,700         | 4,885          | 4,370          | 2,297          | 1,148         | 12,700         | % Based on # of Customers |

|  |           |           |          |           |          |           |                           |
|--|-----------|-----------|----------|-----------|----------|-----------|---------------------------|
| Unemployment Insurance                                     | 42        | 16        | 14       | 8         | 4        | 42        | % Based on # of Customers |
| Contractual Services                                       | 2,225     | 856       | 766      | 402       | 201      | 2,225     | % Based on # of Customers |
| Postage  | 9,298     | 3,576     | 3,200    | 1,681     | 841      | 9,298     | % Based on # of Customers |
| Printing   | 420       | 162       | 145      | 76        | 38       | 420       | % Based on # of Customers |
| Rental   | 7,882     | 3,032     | 2,712    | 1,425     | 713      | 7,882     | % Based on # of Customers |
| Membership and Registration Fees                           | 514       | 198       | 177      | 93        | 46       | 514       | % Based on # of Customers |
| Electrical   | 2,913     | 1,120     | 1,002    | 527       | 263      | 2,913     | % Based on # of Customers |
| Telephone  | 7,849     | 3,019     | 2,701    | 1,419     | 710      | 7,849     | % Based on # of Customers |
| Legal Services   | 1,012     | 389       | 348      | 183       | 92       | 1,012     | % Based on # of Customers |
| Auditor  | 10,875    | 4,183     | 3,742    | 1,967     | 983      | 10,875    | % Based on # of Customers |
| Data Processing  | 1,598     | 615       | 550      | 289       | 144      | 1,598     | % Based on # of Customers |
| Insurance  | 6,377     | 2,453     | 2,195    | 1,153     | 577      | 6,377     | % Based on # of Customers |
| Office Supplies  | 1,749     | 673       | 602      | 316       | 158      | 1,749     | % Based on # of Customers |
| Miscellaneous  | 4,700     | 1,808     | 1,617    | 850       | 425      | 4,700     | % Based on # of Customers |
| Depreciation   | 152,113   | 58,921    | 41,950   | 38,872    | 12,370   | 152,113   | % Based on Gallons Sold   |
| Total Operating Expenses                                   | 931,651   | 360,458   | 267,376  | 226,666   | 77,152   | 931,651   |                           |
| Operating Income (Loss)                                    | (253,130) | (93,376)  | (46,314) | (102,939) | (10,501) | (253,130) |                           |
| Nonoperating Revenues (Expenses)                           |           |           |          |           |          |           |                           |
| Interest Income  | 1,025     | 405       | 335      | 185       | 99       | 1,025     | % Based on Revenues       |
| Interest Expenses  | (28,753)  | (11,059)  | (9,895)  | (5,200)   | (2,600)  | (28,753)  | % Based on # of Customers |
| Total Nonoperating Revenues (Expenses)                     | (27,728)  | (10,654)  | (9,559)  | (5,015)   | (2,500)  | (27,728)  |                           |
| Change in Net Position before Contributed Capital & Grants | (280,858) | (104,029) | (55,873) | (107,954) | (13,002) | (280,858) |                           |
| Contributed Capital & Grants                               | -         |           |          |           |          |           |                           |
| Change in Net Position                                     | (280,858) | (104,029) | (55,873) | (107,954) | (13,002) | (280,858) |                           |

| <u>Allocations based on % of Revenue Calculated</u> |            |         |        |            |
|---|------------|---------|--------|------------|
| Water Sales - Inside                                | \$ 224,856 | 39.54%  | 54.71% | just water |
| Water Sales - Outside                               | \$ 186,112 | 32.73%  | 45.29% |            |
| Sewer Sales - Inside                                | \$ 102,469 | 18.02%  | 64.99% | just sewer |
| Sewer Sales - Outside                               | \$ 55,199  | 9.71%   | 35.01% |            |
|   | \$ 568,636 | 100.00% |        |            |

| <u>Allocations based on % of customers</u> |      |         |
|--|------|---------|
| Water - Inside                             | 570  | 38.46%  |
| Water - Outside                            | 510  | 34.41%  |
| Sewer - Inside                             | 268  | 18.08%  |
| Sewer - Outside                            | 134  | 9.04%   |
|  | 1482 | 100.00% |

| <u>Allocations based on gallons sold</u> |            |         |
|--|------------|---------|
| Water - Inside                           | 37,053,779 | 38.74%  |
| Water - Outside                          | 26,381,300 | 27.58%  |
| Sewer - Inside                           | 24,445,400 | 25.55%  |
| Sewer - Outside                          | 7,779,000  | 8.13%   |
|  | 95,659,479 | 100.00% |

| <u>Allocation of Expenses</u> |         |         |
|-------------------------------|---------|---------|
| Water - Inside                | 360,458 | 38.69%  |
| Water - Outside               | 267,376 | 28.70%  |
| Sewer - Inside                | 226,666 | 24.33%  |
| Sewer - Outside               | 77,152  | 8.28%   |
|                               | 931,651 | 100.00% |



July 24, 2020



Mayor Jerry Stephens  
 Town of Benton  
 P.O. Box 687  
 Benton, TN 37307

RE: Acoustic Leak Survey - Grant Project

Dear Mayor Stephens:

Thank you for the opportunity to provide Benton with acoustic leak detection services on July 13<sup>th</sup> through July 16<sup>th</sup>, 2020. We found 16 water loss issues resulting in an estimated 1.8 million gallons per month of leakage. Please see the table below which lists the location of the leak, and the estimated flow rate of the detected leak. Appendix A contains a copy of the leak reports for your further information.

| Leak No. | Location   | Est. Gallons Lost Per Day | Est. Gallons Lost Per Month |
|----------|--|---------------------------|-----------------------------|
| 1        | 251 McLure Road                                    | 400                       | 12,400                      |
| 2        | Pleasant Grove Church                              | 8,000                     | 248,000                     |
| 3        | 119 Bentville Road                                 | 8,000                     | 248,000                     |
| 4        | 123 Ward Street                                    | 400                       | 12,400                      |
| 5        | School House Hill & Town Creek Intersection        | 400                       | 12,400                      |
| 6        | Across from 442 Town Creek Road                    | 8,000                     | 248,000                     |
| 7        | 1791 Benton Station Road                           | 400                       | 12,400                      |
| 8        | 1725 Benton Station Road (Benton Church of Christ) | 20,000                    | 620,000                     |
| 9        | 204 Hunt Lane                                      | 400                       | 12,400                      |
| 10       | 260 Sweeney Drive                                  | 400                       | 12,400                      |
| 11       | Corner of Pankey Lane and Welcome Valley           | 400                       | 12,400                      |
| 12       | 248 Crowe Hill Circle                              | 400                       | 12,400                      |
| 13       | 990 Oak Grove Road                                 | 8,000                     | 248,000                     |
| 14       | 651 Oak Grove Road                                 | 3,000                     | 93,000                      |
| 15       | Corner of Campbell Drive & 314 Parkville Road      | 400                       | 12,400                      |
| 16       | Close to 255 Main Street                           | 400                       | 12,400                      |
|          | <b>Total Estimated Leakage</b>                     | <b>59,000</b>             | <b>1,829,000</b>            |

Rye recommends that the utility repair all leaks, then reevaluate water loss after one billing cycle.

Enclosed is an invoice for services. This includes only the leak detection portion of the grant project. We will be scheduling the other activities such as meter testing, flow-based leak detection, and mapping shortly and will bill for those items separately once that work is complete. Please let us know if you have any questions. Thank you.

Sincerely,  
Rye Engineering PLC  
Seth W. Rye, P.E., Esq.

## APPENDIX A

City/Utility: Benton Water Works



**LEAK REPORT**

Date: 7/13/2020

Crew Chief:  Sheppard  Simmons

Leak #: 1

Spears  Moody

Street Address: 251 McIure Rd

| Type of Leak:                                  | Size:                                    | Material:                             |
|--|--|---------------------------------------|
| Meter <input type="checkbox"/>                 | 5/8" <input type="checkbox"/>            | Poly <input type="checkbox"/>         |
| Meter Yoke <input checked="" type="checkbox"/> | 8" <input type="checkbox"/>              | Copper <input type="checkbox"/>       |
| Service Line <input type="checkbox"/>          | 3/4" <input checked="" type="checkbox"/> | Galvanized <input type="checkbox"/>   |
| Valve <input type="checkbox"/>                 | 10" <input type="checkbox"/>             | PVC <input type="checkbox"/>          |
| Fire Hydrant <input type="checkbox"/>          | 12" <input type="checkbox"/>             | A/C <input type="checkbox"/>          |
| Main Line <input type="checkbox"/>             | 16" <input type="checkbox"/>             | Cast Iron <input type="checkbox"/>    |
| Other: _____                                   | 18" <input type="checkbox"/>             | Ductile Iron <input type="checkbox"/> |
|  | 20" <input type="checkbox"/>             | Other: _____                          |
|  | 24" <input type="checkbox"/>             |                                       |
|  | Other <input type="checkbox"/>           |                                       |

Rating (1-5): 1

Blue Dot on Box

Blue X on Leak Location

Notes: Leaking in box

This is calculated at 60 PSI:

Leak Location Sketch:

| Rating | Pipe Leak Size   | Gallons Lost/Day |
|--------|--|------------------|
| 1      | •  | 400              |
| 2      | ●  | 3,000            |
| 3      | ●  | 8,000            |
| 4      | ●  | 15,000           |
| 5      | Severe Leak - Repair as soon as possible (20,000+ per day) |                  |

City/Utility: Benton Water Works



**LEAK REPORT**

Date: 7/13/2020

Crew Chief:  Sheppard

Simmons

Leak #: 2

Spears

Moody

Street Address: Pleasant @ Grace Church

| Type of Leak:                                    | Size:                                    | Material:                    |                                |  |
|--|--|------------------------------|--------------------------------|--|
| Meter <input type="checkbox"/>                   | 5/8" <input type="checkbox"/>            | 8" <input type="checkbox"/>  | 30" <input type="checkbox"/>   | Poly <input type="checkbox"/>              |
| Meter Yoke <input type="checkbox"/>              | 3/4" <input checked="" type="checkbox"/> | 10" <input type="checkbox"/> | 36" <input type="checkbox"/>   | Copper <input checked="" type="checkbox"/> |
| Service Line <input checked="" type="checkbox"/> | 1" <input type="checkbox"/>              | 12" <input type="checkbox"/> | Other <input type="checkbox"/> | Galvanized <input type="checkbox"/>        |
| Valve <input type="checkbox"/>                   | 2" <input type="checkbox"/>              | 16" <input type="checkbox"/> |                                | PVC <input type="checkbox"/>               |
| Fire Hydrant <input type="checkbox"/>            | 3" <input type="checkbox"/>              | 18" <input type="checkbox"/> |                                | A/C <input type="checkbox"/>               |
| Main Line <input type="checkbox"/>               | 4" <input type="checkbox"/>              | 20" <input type="checkbox"/> |                                | Cast Iron <input type="checkbox"/>         |
| Other: _____                                     | 6" <input type="checkbox"/>              | 24" <input type="checkbox"/> |                                | Ductile Iron <input type="checkbox"/>      |
|  |  |                              |                                | Other: _____                               |

Rating (1-5): 3

Blue Dot on Box

Blue X on Leak Location

Notes: Has pin holes in service inside of box

This is calculated at 60 PSI:

Leak Location Sketch:

| Rating | Pipe Leak Size   | Gallons Lost/Day |
|--------|--|------------------|
| 1      | •  | 400              |
| 2      | ●  | 3,000            |
| 3      | ●  | 8,000            |
| 4      | ●  | 15,000           |
| 5      | Severe Leak - Repair as soon as possible (20,000+ per day) |                  |

City/Utility: Benton Water Works



**LEAK REPORT**

Date: 7/13/2020

Crew Chief:  Sheppard  Simmons  
 Spears  Moody

Leak #: 3

Street Address: 119 Dentville Rd

| Type of Leak:                                    | Size:                                    | Material:                                |
|--|--|--|
| Meter <input type="checkbox"/>                   | 5/8" <input type="checkbox"/>            | Poly <input checked="" type="checkbox"/> |
| Meter Yoke <input type="checkbox"/>              | 3/4" <input checked="" type="checkbox"/> | Copper <input type="checkbox"/>          |
| Service Line <input checked="" type="checkbox"/> | 1" <input type="checkbox"/>              | Galvanized <input type="checkbox"/>      |
| Valve <input type="checkbox"/>                   | 2" <input type="checkbox"/>              | PVC <input type="checkbox"/>             |
| Fire Hydrant <input type="checkbox"/>            | 3" <input type="checkbox"/>              | A/C <input type="checkbox"/>             |
| Main Line <input type="checkbox"/>               | 4" <input type="checkbox"/>              | Cast Iron <input type="checkbox"/>       |
| Other: _____                                     | 6" <input type="checkbox"/>              | Ductile Iron <input type="checkbox"/>    |
|  | 8" <input type="checkbox"/>              | Other: _____                             |
|  | 10" <input type="checkbox"/>             |  |
|  | 12" <input type="checkbox"/>             |  |
|  | 16" <input type="checkbox"/>             |  |
|  | 18" <input type="checkbox"/>             |  |
|  | 20" <input type="checkbox"/>             |  |
|  | 24" <input type="checkbox"/>             |  |
|  | 30" <input type="checkbox"/>             |  |
|  | 36" <input type="checkbox"/>             |  |
|  | Other <input type="checkbox"/>           |  |

Rating (1-5): 3

Blue Dot on Box  Blue X on Leak Location

Notes: Leaking at Main Connection

This is calculated at 60 PSI:

Leak Location Sketch:

| Rating | Pipe Leak Size   | Gallons Lost/Day |
|--------|--|------------------|
| 1      | •  | 400              |
| 2      | ●  | 3,000            |
| 3      | ●  | 8,000            |
| 4      | ●  | 15,000           |
| 5      | Severe Leak - Repair as soon as possible (20,000+ per day) |                  |

City/Utility: Benton Water Works



**LEAK REPORT**

Date: 7/14/2020

Crew Chief:  Sheppard

Simmons

Leak #: 4

Spears

Moody

Street Address: 123 Ward St

| Type of Leak:                                  | Size:                         |                              |                                | Material:                             |
|--|-------------------------------|------------------------------|--------------------------------|---------------------------------------|
| Meter <input type="checkbox"/>                 | 5/8" <input type="checkbox"/> | 8" <input type="checkbox"/>  | 30" <input type="checkbox"/>   | Poly <input type="checkbox"/>         |
| Meter Yoke <input checked="" type="checkbox"/> | 3/4" <input type="checkbox"/> | 10" <input type="checkbox"/> | 36" <input type="checkbox"/>   | Copper <input type="checkbox"/>       |
| Service Line <input type="checkbox"/>          | 1" <input type="checkbox"/>   | 12" <input type="checkbox"/> | Other <input type="checkbox"/> | Galvanized <input type="checkbox"/>   |
| Valve <input type="checkbox"/>                 | 2" <input type="checkbox"/>   | 16" <input type="checkbox"/> |                                | PVC <input type="checkbox"/>          |
| Fire Hydrant <input type="checkbox"/>          | 3" <input type="checkbox"/>   | 18" <input type="checkbox"/> |                                | A/C <input type="checkbox"/>          |
| Main Line <input type="checkbox"/>             | 4" <input type="checkbox"/>   | 20" <input type="checkbox"/> |                                | Cast Iron <input type="checkbox"/>    |
| Other: _____                                   | 6" <input type="checkbox"/>   | 24" <input type="checkbox"/> |                                | Ductile Iron <input type="checkbox"/> |
|  |                               |                              |                                | Other: _____                          |

Rating (1-5): 1

Blue Dot on Box

Blue X on Leak Location

Notes: Leaking in box

This is calculated at 60 PSI:

Leak Location Sketch:

| Rating | Pipe Leak Size   | Gallons Lost/Day |
|--------|--|------------------|
| 1      | •  | 400              |
| 2      | ●  | 3,000            |
| 3      | ●  | 8,000            |
| 4      | ●  | 15,000           |
| 5      | Severe Leak - Repair as soon as possible (20,000+ per day) |                  |

City/Utility: Benton Water Works



**LEAK REPORT**

Date: 7/17/2020

Crew Chief:  Sheppard  Simmons  
 Spears  Moody

Leak #: 5

Street Address: School House Hill & Town Creek Intersection

| Type of Leak:                                    | Size:                         | Material:                    |                                |                                       |
|--|-------------------------------|------------------------------|--------------------------------|---------------------------------------|
| Meter <input type="checkbox"/>                   | 5/8" <input type="checkbox"/> | 8" <input type="checkbox"/>  | 30" <input type="checkbox"/>   | Poly <input type="checkbox"/>         |
| Meter Yoke <input type="checkbox"/>              | 3/4" <input type="checkbox"/> | 10" <input type="checkbox"/> | 36" <input type="checkbox"/>   | Copper <input type="checkbox"/>       |
| Service Line <input type="checkbox"/>            | 1" <input type="checkbox"/>   | 12" <input type="checkbox"/> | Other <input type="checkbox"/> | Galvanized <input type="checkbox"/>   |
| Valve <input type="checkbox"/>                   | 2" <input type="checkbox"/>   | 16" <input type="checkbox"/> |                                | PVC <input type="checkbox"/>          |
| Fire Hydrant <input checked="" type="checkbox"/> | 3" <input type="checkbox"/>   | 18" <input type="checkbox"/> |                                | A/C <input type="checkbox"/>          |
| Main Line <input type="checkbox"/>               | 4" <input type="checkbox"/>   | 20" <input type="checkbox"/> |                                | Cast Iron <input type="checkbox"/>    |
| Other: _____                                     | 6" <input type="checkbox"/>   | 24" <input type="checkbox"/> |                                | Ductile Iron <input type="checkbox"/> |
|  |                               |                              |                                | Other: _____                          |

Rating (1-5): 1

Blue Dot on <sup>Hydrant</sup> ~~Box~~  Blue X on Leak Location

Notes: Hydrant needs repairs. Will not shut off. Hard to turn operating nut

This is calculated at 60 PSI:

Leak Location Sketch:

| Rating | Pipe Leak Size   | Gallons Lost/Day |
|--------|--|------------------|
| 1      | •  | 400              |
| 2      | ●  | 3,000            |
| 3      | ●  | 8,000            |
| 4      | ●  | 15,000           |
| 5      | Severe Leak - Repair as soon as possible (20,000+ per day) |                  |



City/Utility: Beaton Water Works



**LEAK REPORT**

Date: 7/14/2020

Crew Chief:  Sheppard  Simmons  
 Spears  Moody

Leak #: 6

Street Address: Across from 442 Town Creek Rd

| Type of Leak:                                    | Size:                                    | Material:                                |
|--|--|--|
| Meter <input type="checkbox"/>                   | 5/8" <input type="checkbox"/>            | Poly <input checked="" type="checkbox"/> |
| Meter Yoke <input type="checkbox"/>              | 3/4" <input checked="" type="checkbox"/> | Copper <input type="checkbox"/>          |
| Service Line <input checked="" type="checkbox"/> | 1" <input type="checkbox"/>              | Galvanized <input type="checkbox"/>      |
| Valve <input type="checkbox"/>                   | 2" <input type="checkbox"/>              | PVC <input type="checkbox"/>             |
| Fire Hydrant <input type="checkbox"/>            | 3" <input type="checkbox"/>              | A/C <input type="checkbox"/>             |
| Main Line <input type="checkbox"/>               | 4" <input type="checkbox"/>              | Cast Iron <input type="checkbox"/>       |
| Other: _____                                     | 6" <input type="checkbox"/>              | Ductile Iron <input type="checkbox"/>    |
|  | 8" <input type="checkbox"/>              | Other: _____                             |
|  | 10" <input type="checkbox"/>             |  |
|  | 12" <input type="checkbox"/>             |  |
|  | 16" <input type="checkbox"/>             |  |
|  | 18" <input type="checkbox"/>             |  |
|  | 20" <input type="checkbox"/>             |  |
|  | 24" <input type="checkbox"/>             |  |
|  | 30" <input type="checkbox"/>             |  |
|  | 36" <input type="checkbox"/>             |  |
|  | Other <input type="checkbox"/>           |  |

Rating (1-5): 3

Blue Dot on Box  Blue X on Leak Location

Notes: Recommend replacing service

This is calculated at 60 PSI:

Leak Location Sketch:

| Rating | Pipe Leak Size   | Gallons Lost/Day |
|--------|--|------------------|
| 1      | •  | 400              |
| 2      | ●  | 3,000            |
| 3      | ●  | 8,000            |
| 4      | ●  | 15,000           |
| 5      | Severe Leak - Repair as soon as possible (20,000+ per day) |                  |

City/Utility: Benton Water Works



**LEAK REPORT**

Date: 7/14/2020

Crew Chief:  Sheppard  Simmons  
 Spears  Moody

Leak #: 7

Street Address: 1791 Benton Station Rd

| Type of Leak:                                  | Size:                         |                              |                                | Material:                             |
|--|-------------------------------|------------------------------|--------------------------------|---------------------------------------|
| Meter <input type="checkbox"/>                 | 5/8" <input type="checkbox"/> | 8" <input type="checkbox"/>  | 30" <input type="checkbox"/>   | Poly <input type="checkbox"/>         |
| Meter Yoke <input checked="" type="checkbox"/> | 3/4" <input type="checkbox"/> | 10" <input type="checkbox"/> | 36" <input type="checkbox"/>   | Copper <input type="checkbox"/>       |
| Service Line <input type="checkbox"/>          | 1" <input type="checkbox"/>   | 12" <input type="checkbox"/> | Other <input type="checkbox"/> | Galvanized <input type="checkbox"/>   |
| Valve <input type="checkbox"/>                 | 2" <input type="checkbox"/>   | 16" <input type="checkbox"/> |                                | PVC <input type="checkbox"/>          |
| Fire Hydrant <input type="checkbox"/>          | 3" <input type="checkbox"/>   | 18" <input type="checkbox"/> |                                | A/C <input type="checkbox"/>          |
| Main Line <input type="checkbox"/>             | 4" <input type="checkbox"/>   | 20" <input type="checkbox"/> |                                | Cast Iron <input type="checkbox"/>    |
| Other: _____                                   | 6" <input type="checkbox"/>   | 24" <input type="checkbox"/> |                                | Ductile Iron <input type="checkbox"/> |
|  |                               |                              |                                | Other: _____                          |

Rating (1-5): 1

Blue Dot on Box  Blue X on Leak Location

Notes: Leaking under cut-off

This is calculated at 60 PSI:

Leak Location Sketch:

| Rating | Pipe Leak Size   | Gallons Lost/Day |
|--------|--|------------------|
| 1      | •  | 400              |
| 2      | ●  | 3,000            |
| 3      | ●  | 8,000            |
| 4      | ●  | 15,000           |
| 5      | Severe Leak - Repair as soon as possible (20,000+ per day) |                  |

City/Utility: Benton Water Works



**LEAK REPORT**

Date: 7/14/2020

Crew Chief:  Sheppard

Simmons

Leak #: 8

Spears

Moody

Street Address: 1725 Benton Station Rd (Benton Church of Christ)

| Type of Leak:                                    | Size:                                    |                              |                                | Material:                                 |
|--|--|------------------------------|--------------------------------|---|
| Meter <input type="checkbox"/>                   | 5/8" <input type="checkbox"/>            | 8" <input type="checkbox"/>  | 30" <input type="checkbox"/>   | Poly <input checked="" type="checkbox"/>  |
| Meter Yoke <input type="checkbox"/>              | 3/4" <input checked="" type="checkbox"/> | 10" <input type="checkbox"/> | 36" <input type="checkbox"/>   | Copper <input type="checkbox"/>           |
| Service Line <input checked="" type="checkbox"/> | 1" <input type="checkbox"/>              | 12" <input type="checkbox"/> | Other <input type="checkbox"/> | Galvanized <input type="checkbox"/>       |
| Valve <input type="checkbox"/>                   | 2" <input type="checkbox"/>              | 16" <input type="checkbox"/> |                                | PVC <input checked="" type="checkbox"/> ? |
| Fire Hydrant <input type="checkbox"/>            | 3" <input type="checkbox"/>              | 18" <input type="checkbox"/> |                                | A/C <input type="checkbox"/>              |
| Main Line <input checked="" type="checkbox"/> ?  | 4" <input type="checkbox"/>              | 20" <input type="checkbox"/> |                                | Cast Iron <input type="checkbox"/>        |
| Other: _____                                     | 6" <input checked="" type="checkbox"/> ? | 24" <input type="checkbox"/> |                                | Ductile Iron <input type="checkbox"/>     |
|  |  |                              |                                | Other: _____                              |

Rating (1-5): 5

Blue Dot on Box

Blue X on Leak Location

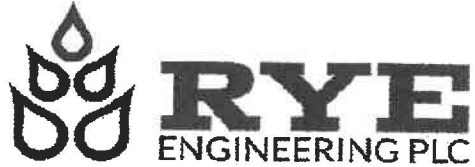
Notes: Looking at Main connection possible Main line leak

This is calculated at 60 PSI:

Leak Location Sketch:

| Rating | Pipe Leak Size   | Gallons Lost/Day |
|--------|--|------------------|
| 1      | •  | 400              |
| 2      | ●  | 3,000            |
| 3      | ●  | 8,000            |
| 4      | ●  | 15,000           |
| 5      | Severe Leak - Repair as soon as possible (20,000+ per day) |                  |

City/Utility: Benton Water Works



**LEAK REPORT**

Date: 7/14/2020

Crew Chief:  Sheppard  Simmons  
 Spears  Moody

Leak #: 9

Street Address: 204 Hunt ~~Ln~~ Ln

| Type of Leak:                                  | Size:                                    |                              |                                | Material:                                |
|--|--|------------------------------|--------------------------------|--|
| Meter <input type="checkbox"/>                 | 5/8" <input type="checkbox"/>            | 8" <input type="checkbox"/>  | 30" <input type="checkbox"/>   | Poly <input checked="" type="checkbox"/> |
| Meter Yoke <input checked="" type="checkbox"/> | 3/4" <input checked="" type="checkbox"/> | 10" <input type="checkbox"/> | 36" <input type="checkbox"/>   | Copper <input type="checkbox"/>          |
| Service Line <input type="checkbox"/>          | 1" <input type="checkbox"/>              | 12" <input type="checkbox"/> | Other <input type="checkbox"/> | Galvanized <input type="checkbox"/>      |
| Valve <input type="checkbox"/>                 | 2" <input type="checkbox"/>              | 16" <input type="checkbox"/> |                                | PVC <input type="checkbox"/>             |
| Fire Hydrant <input type="checkbox"/>          | 3" <input type="checkbox"/>              | 18" <input type="checkbox"/> |                                | A/C <input type="checkbox"/>             |
| Main Line <input type="checkbox"/>             | 4" <input type="checkbox"/>              | 20" <input type="checkbox"/> |                                | Cast Iron <input type="checkbox"/>       |
| Other: _____                                   | 6" <input type="checkbox"/>              | 24" <input type="checkbox"/> |                                | Ductile Iron <input type="checkbox"/>    |
|  |  |                              |                                | Other: _____                             |

Rating (1-5): 1

Blue Dot on Box

Blue X on Leak Location

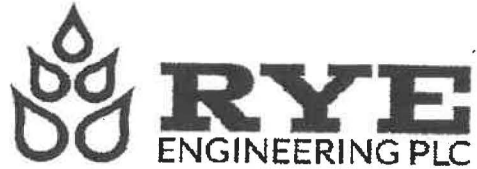
Notes: Leaking in box

This is calculated at 60 PSI:

Leak Location Sketch:

| Rating | Pipe Leak Size   | Gallons Lost/Day |
|--------|--|------------------|
| 1      | •  | 400              |
| 2      | ●  | 3,000            |
| 3      | ●  | 8,000            |
| 4      | ●  | 15,000           |
| 5      | Severe Leak - Repair as soon as possible (20,000+ per day) |                  |

City/Utility: Benton Water Works



**LEAK REPORT**

Date: 7/15/2020

Crew Chief:  Sheppard  Simmons  
 Spears  Moody

Leak #: 10

Street Address: 260 Sweeney Dr

| Type of Leak:                                    | Size:                                    | Material:                    |                                |  |
|--|--|------------------------------|--------------------------------|--|
| Meter <input type="checkbox"/>                   | 5/8" <input type="checkbox"/>            | 8" <input type="checkbox"/>  | 30" <input type="checkbox"/>   | Poly <input checked="" type="checkbox"/> |
| Meter Yoke <input type="checkbox"/>              | 3/4" <input checked="" type="checkbox"/> | 10" <input type="checkbox"/> | 36" <input type="checkbox"/>   | Copper <input type="checkbox"/>          |
| Service Line <input checked="" type="checkbox"/> | 1" <input type="checkbox"/>              | 12" <input type="checkbox"/> | Other <input type="checkbox"/> | Galvanized <input type="checkbox"/>      |
| Valve <input type="checkbox"/>                   | 2" <input type="checkbox"/>              | 16" <input type="checkbox"/> |                                | PVC <input type="checkbox"/>             |
| Fire Hydrant <input type="checkbox"/>            | 3" <input type="checkbox"/>              | 18" <input type="checkbox"/> |                                | A/C <input type="checkbox"/>             |
| Main Line <input type="checkbox"/>               | 4" <input type="checkbox"/>              | 20" <input type="checkbox"/> |                                | Cast Iron <input type="checkbox"/>       |
| Other: _____                                     | 6" <input type="checkbox"/>              | 24" <input type="checkbox"/> |                                | Ductile Iron <input type="checkbox"/>    |
|  |  |                              |                                | Other: _____                             |

Rating (1-5): 1

Blue Dot on Box  Blue X on Leak Location

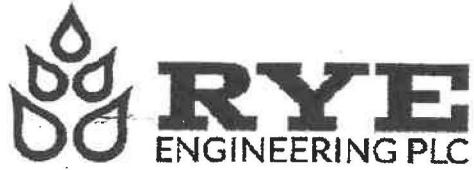
Notes: Leaking close to meter

This is calculated at 60 PSI:

Leak Location Sketch:

| Rating | Pipe Leak Size   | Gallons Lost/Day |
|--------|--|------------------|
| 1      | •  | 400              |
| 2      | ●  | 3,000            |
| 3      | ●  | 8,000            |
| 4      | ●  | 15,000           |
| 5      | Severe Leak - Repair as soon as possible (20,000+ per day) |                  |

City/Utility: Benton Water Works



**LEAK REPORT**

Date: 7/15/2020

Crew Chief:  Sheppard  Simmons  
 Spears  Moody

Leak #: 11

Street Address: Corner of Pankey Ln and Welcome Valley

| Type of Leak:                                  | Size:                         | Material:                    |                                |                                       |
|--|-------------------------------|------------------------------|--------------------------------|---------------------------------------|
| Meter <input type="checkbox"/>                 | 5/8" <input type="checkbox"/> | 8" <input type="checkbox"/>  | 30" <input type="checkbox"/>   | Poly <input type="checkbox"/>         |
| Meter Yoke <input checked="" type="checkbox"/> | 3/4" <input type="checkbox"/> | 10" <input type="checkbox"/> | 36" <input type="checkbox"/>   | Copper <input type="checkbox"/>       |
| Service Line <input type="checkbox"/>          | 1" <input type="checkbox"/>   | 12" <input type="checkbox"/> | Other <input type="checkbox"/> | Galvanized <input type="checkbox"/>   |
| Valve <input type="checkbox"/>                 | 2" <input type="checkbox"/>   | 16" <input type="checkbox"/> |                                | PVC <input type="checkbox"/>          |
| Fire Hydrant <input type="checkbox"/>          | 3" <input type="checkbox"/>   | 18" <input type="checkbox"/> |                                | A/C <input type="checkbox"/>          |
| Main Line <input type="checkbox"/>             | 4" <input type="checkbox"/>   | 20" <input type="checkbox"/> |                                | Cast Iron <input type="checkbox"/>    |
| Other: _____                                   | 6" <input type="checkbox"/>   | 24" <input type="checkbox"/> |                                | Ductile Iron <input type="checkbox"/> |
|  |                               |                              |                                | Other: _____                          |

Rating (1-5): 1

Blue Dot on Box

Blue X on Leak Location

Notes: Leaking in box

This is calculated at 60 PSI:

Leak Location Sketch:

| Rating | Pipe Leak Size   | Gallons Lost/Day |
|--------|--|------------------|
| 1      | •  | 400              |
| 2      | ●  | 3,000            |
| 3      | ●  | 8,000            |
| 4      | ●  | 15,000           |
| 5      | Severe Leak - Repair as soon as possible (20,000+ per day) |                  |

City/Utility: Benton Water Works



**LEAK REPORT**

Date: 7/15/2020

Crew Chief:  Sheppard  Simmons  
 Spears  Moody

Leak #: 12

Street Address: 248 Crowe Hill Circle

| Type of Leak:                                  | Size:                          | Material:                             |
|--|--------------------------------|---------------------------------------|
| Meter <input type="checkbox"/>                 | 5/8" <input type="checkbox"/>  | Poly <input type="checkbox"/>         |
| Meter Yoke <input checked="" type="checkbox"/> | 8" <input type="checkbox"/>    | Copper <input type="checkbox"/>       |
| Service Line <input type="checkbox"/>          | 3/4" <input type="checkbox"/>  | Galvanized <input type="checkbox"/>   |
| Valve <input type="checkbox"/>                 | 1" <input type="checkbox"/>    | PVC <input type="checkbox"/>          |
| Fire Hydrant <input type="checkbox"/>          | 12" <input type="checkbox"/>   | A/C <input type="checkbox"/>          |
| Main Line <input type="checkbox"/>             | 2" <input type="checkbox"/>    | Cast Iron <input type="checkbox"/>    |
| Other: _____                                   | 3" <input type="checkbox"/>    | Ductile Iron <input type="checkbox"/> |
|  | 4" <input type="checkbox"/>    | Other: _____                          |
|  | 6" <input type="checkbox"/>    |                                       |
|  | 16" <input type="checkbox"/>   |                                       |
|  | 18" <input type="checkbox"/>   |                                       |
|  | 20" <input type="checkbox"/>   |                                       |
|  | 24" <input type="checkbox"/>   |                                       |
|  | 30" <input type="checkbox"/>   |                                       |
|  | 36" <input type="checkbox"/>   |                                       |
|  | Other <input type="checkbox"/> |                                       |

Rating (1-5): 1

Blue Dot on Box  Blue X on Leak Location

Notes: cut-off is not holding. Meter has already been removed

This is calculated at 60 PSI:

Leak Location Sketch:

| Rating | Pipe Leak Size   | Gallons Lost/Day |
|--------|--|------------------|
| 1      | •  | 400              |
| 2      | ●  | 3,000            |
| 3      | ●  | 8,000            |
| 4      | ●  | 15,000           |
| 5      | Severe Leak - Repair as soon as possible (20,000+ per day) |                  |

City/Utility: Benton Water Works



**LEAK REPORT**

Date: 7/15/2020

Crew Chief:  Sheppard  Simmons  
 Spears  Moody

Leak #: 13

Street Address: 990 Oak Grove Rd

| Type of Leak:                                    | Size:                                    | Material:                    |                                |                                       |
|--|--|------------------------------|--------------------------------|---------------------------------------|
| Meter <input type="checkbox"/>                   | 5/8" <input type="checkbox"/>            | 8" <input type="checkbox"/>  | 30" <input type="checkbox"/>   | Poly <input type="checkbox"/>         |
| Meter Yoke <input type="checkbox"/>              | 3/4" <input checked="" type="checkbox"/> | 10" <input type="checkbox"/> | 36" <input type="checkbox"/>   | Copper <input type="checkbox"/>       |
| Service Line <input checked="" type="checkbox"/> | 1" <input type="checkbox"/>              | 12" <input type="checkbox"/> | Other <input type="checkbox"/> | Galvanized <input type="checkbox"/>   |
| Valve <input type="checkbox"/>                   | 2" <input type="checkbox"/>              | 16" <input type="checkbox"/> |                                | PVC <input type="checkbox"/>          |
| Fire Hydrant <input type="checkbox"/>            | 3" <input type="checkbox"/>              | 18" <input type="checkbox"/> |                                | A/C <input type="checkbox"/>          |
| Main Line <input type="checkbox"/>               | 4" <input type="checkbox"/>              | 20" <input type="checkbox"/> |                                | Cast Iron <input type="checkbox"/>    |
| Other: _____                                     | 6" <input type="checkbox"/>              | 24" <input type="checkbox"/> |                                | Ductile Iron <input type="checkbox"/> |
|  |  |                              |                                | Other: _____                          |

Rating (1-5): 3

Blue Dot on Box  Blue X on Leak Location

Notes: Leaking at main connection

This is calculated at 60 PSI:

Leak Location Sketch:

| Rating | Pipe Leak Size   | Gallons Lost/Day |
|--------|--|------------------|
| 1      | •  | 400              |
| 2      | ●  | 3,000            |
| 3      | ●  | 8,000            |
| 4      | ●  | 15,000           |
| 5      | Severe Leak - Repair as soon as possible (20,000+ per day) |                  |



City/Utility: Benton Water Works



**LEAK REPORT**

Date: 7/15/2020

Crew Chief:  Sheppard  Simmons  
 Spears  Moody

Leak #: 14

Street Address: 651 Oak Grove Rd

| Type of Leak:                                    | Size:                                    | Material:                    |                                    |  |
|--|--|------------------------------|------------------------------------|--|
| Meter <input type="checkbox"/>                   | 5/8" <input type="checkbox"/>            | 8" <input type="checkbox"/>  | 30" <input type="checkbox"/>       | Poly <input checked="" type="checkbox"/> |
| Meter Yoke <input type="checkbox"/>              | 3/4" <input checked="" type="checkbox"/> | 10" <input type="checkbox"/> | 36" <input type="checkbox"/>       | Copper <input type="checkbox"/>          |
| Service Line <input checked="" type="checkbox"/> | 1" <input type="checkbox"/>              | 12" <input type="checkbox"/> | Other <input type="checkbox"/>     | Galvanized <input type="checkbox"/>      |
| Valve <input type="checkbox"/>                   | 2" <input type="checkbox"/>              | 16" <input type="checkbox"/> | PVC <input type="checkbox"/>       | A/C <input type="checkbox"/>             |
| Fire Hydrant <input type="checkbox"/>            | 3" <input type="checkbox"/>              | 18" <input type="checkbox"/> | Cast Iron <input type="checkbox"/> | Ductile Iron <input type="checkbox"/>    |
| Main Line <input type="checkbox"/>               | 4" <input type="checkbox"/>              | 20" <input type="checkbox"/> | Other: _____                       |  |
| Other: _____                                     | 6" <input type="checkbox"/>              | 24" <input type="checkbox"/> |                                    |  |

Rating (1-5): 2

Blue Dot on Box

Blue X on Leak Location

Notes: Recommend replacing service

This is calculated at 60 PSI:

Leak Location Sketch:

| Rating | Pipe Leak Size   | Gallons Lost/Day |
|--------|--|------------------|
| 1      | •  | 400              |
| 2      | ●  | 3,000            |
| 3      | ●  | 8,000            |
| 4      | ●  | 15,000           |
| 5      | Severe Leak - Repair as soon as possible (20,000+ per day) |                  |

City/Utility: Benton Water Works



**LEAK REPORT**

Date: 7/16/2020

Crew Chief:  Sheppard  Simmons  
 Spears  Moody

Leak #: 15

Street Address: Corner of Campbell Dr + 314 Parkville Rd

| Type of Leak:                                    | Size:                         | Material:                    |                                    |                                       |
|--|-------------------------------|------------------------------|------------------------------------|---------------------------------------|
| Meter <input type="checkbox"/>                   | 5/8" <input type="checkbox"/> | 8" <input type="checkbox"/>  | 30" <input type="checkbox"/>       | Poly <input type="checkbox"/>         |
| Meter Yoke <input type="checkbox"/>              | 3/4" <input type="checkbox"/> | 10" <input type="checkbox"/> | 36" <input type="checkbox"/>       | Copper <input type="checkbox"/>       |
| Service Line <input type="checkbox"/>            | 1" <input type="checkbox"/>   | 12" <input type="checkbox"/> | Other <input type="checkbox"/>     | Galvanized <input type="checkbox"/>   |
| Valve <input type="checkbox"/>                   | 2" <input type="checkbox"/>   | 16" <input type="checkbox"/> | PVC <input type="checkbox"/>       | A/C <input type="checkbox"/>          |
| Fire Hydrant <input checked="" type="checkbox"/> | 3" <input type="checkbox"/>   | 18" <input type="checkbox"/> | Cast Iron <input type="checkbox"/> | Ductile Iron <input type="checkbox"/> |
| Main Line <input type="checkbox"/>               | 4" <input type="checkbox"/>   | 20" <input type="checkbox"/> | Other: _____                       |                                       |
| Other: _____                                     | 6" <input type="checkbox"/>   | 24" <input type="checkbox"/> |                                    |                                       |

Rating (1-5): 4

Blue Dot on Hydrant  Blue X on Leak Location

Notes: will not shut off

This is calculated at 60 PSI:

Leak Location Sketch:

| Rating | Pipe Leak Size   | Gallons Lost/Day |
|--------|--|------------------|
| 1      | •  | 400              |
| 2      | ●  | 3,000            |
| 3      | ●  | 8,000            |
| 4      | ●  | 15,000           |
| 5      | Severe Leak - Repair as soon as possible (20,000+ per day) |                  |

City/Utility: Benton Water Works



**LEAK REPORT**

Date: 7/16/2020

Crew Chief:  Sheppard  Simmons  
 Spears  Moody

Leak #: 16

Street Address: Close to 255 Main Street

| Type of Leak:                                    | Size:                         |                              |                                | Material:                             |
|--|-------------------------------|------------------------------|--------------------------------|---------------------------------------|
| Meter <input type="checkbox"/>                   | 5/8" <input type="checkbox"/> | 8" <input type="checkbox"/>  | 30" <input type="checkbox"/>   | Poly <input type="checkbox"/>         |
| Meter Yoke <input type="checkbox"/>              | 3/4" <input type="checkbox"/> | 10" <input type="checkbox"/> | 36" <input type="checkbox"/>   | Copper <input type="checkbox"/>       |
| Service Line <input type="checkbox"/>            | 1" <input type="checkbox"/>   | 12" <input type="checkbox"/> | Other <input type="checkbox"/> | Galvanized <input type="checkbox"/>   |
| Valve <input type="checkbox"/>                   | 2" <input type="checkbox"/>   | 16" <input type="checkbox"/> |                                | PVC <input type="checkbox"/>          |
| Fire Hydrant <input checked="" type="checkbox"/> | 3" <input type="checkbox"/>   | 18" <input type="checkbox"/> |                                | A/C <input type="checkbox"/>          |
| Main Line <input type="checkbox"/>               | 4" <input type="checkbox"/>   | 20" <input type="checkbox"/> |                                | Cast Iron <input type="checkbox"/>    |
| Other: _____                                     | 6" <input type="checkbox"/>   | 24" <input type="checkbox"/> |                                | Ductile Iron <input type="checkbox"/> |
|  |                               |                              |                                | Other: _____                          |

Rating (1-5): 1

Blue Dot on Hydrant  Blue X on Leak Location

Notes: Stem is broke inside of barrel

This is calculated at 60 PSI:

Leak Location Sketch:

| Rating | Pipe Leak Size   | Gallons Lost/Day |
|--------|--|------------------|
| 1      | •  | 400              |
| 2      | ●  | 3,000            |
| 3      | ●  | 8,000            |
| 4      | ●  | 15,000           |
| 5      | Severe Leak - Repair as soon as possible (20,000+ per day) |                  |

**RESOLUTION NO. 2021-\_\_\_\_\_**

**A RESOLUTION TO ESTABLISH CAPITALIZATION THRESHOLDS FOR ASSETS TO BE RECORDED AS CAPITAL ASSETS IN THE CITY'S FINANCIAL STATEMENTS**

WHEREAS, the City of Benton, Tennessee (the City) desires to formally adopt the capitalization thresholds at which its assets have historically been capitalized and recorded as capital assets in the City's financial statements; and

WHEREAS, the City desires to establish appropriate capitalization thresholds and service lives for its water system assets which are consistent with the directives of the Water and Wastewater Financing Board for municipal water and sewer systems.

NOW, THEREFORE, BE IT RESOLVED by the Board of Mayor and Commissioners that:

(a) **Capitalization Thresholds.** The capitalization thresholds for the City's assets are a cost of \$5,000.00 and an estimated useful life of two years. Land and Construction in Progress are capitalized but not depreciated. The costs of normal maintenance and repairs that do not add to the value of the asset or materially extend asset lives are not capitalized.

(b) **Asset Cost Basis.** Capital assets shall be recorded at historical cost when the cost is reasonably determinable. If historical cost data is not determinable, an estimated historical cost will be used.

- (1) Actual Cost – This cost will include the purchase or construction cost (which can be obtained through invoice, purchase order, and paid check files) and charges necessary to place the asset into service at its intended location. Such necessary costs may include costs such as freight and transportation, site preparation expenditures, interest costs, professional fees, and legal claims directly attributable to asset acquisition.
- (2) Estimated Cost – This cost will be based on as much documentary evidence as can be found to support the cost, such as interviews with vendors selling such assets engineers, or other personnel and price level adjustments based on the Consumer Price Index for each asset.
- (3) Donated Cost – These assets will be based on their estimated fair market value at time of acquisition. A determination as to the fair market value basis will be included with property records.
- (4) Interest on Debt Issued – Interest on debt issued for the construction of an asset will be capitalized as part of the asset's cost to the extent of the interest that was incurred during the construction period only.

(c) **Depreciation.**

- (1) Depreciation is a method for allocating the cost of capital assets over their useful lives. Generally accepted accounting principles dictate that the value of the capital asset must be written off as an expense over the useful life of the asset.
- (2) Annual depreciation expense will be calculated using the straight-line method.
- (3) When the asset is disposed of, the actual date of disposal is disregarded, and the disposal date is the end of the month prior to the month of disposal (i.e. no depreciation is taken for the month of disposal).
- (4) The salvage value of an asset is an estimate made by management of what the value of an asset will be at the end of its useful life. If the City intends to utilize a capital asset until it is literally worthless, a salvage value of zero (0) will be assigned.

(d) **Useful Lives of Capital Assets**

| <u>Asset Type</u>                                    | <u>Useful Life in Years</u> |
|--|-----------------------------|
| Land and Easements                                   | No depreciation             |
| Infrastructure (other than water and sewer)          | 50                          |
| Landfill   | 30                          |
| Buildings (other than water and sewer)               | 5 - 40                      |
| Machinery and Equipment (other than water and sewer) | 3 - 20                      |
| Vehicles (other than water and sewer)                | 5 - 15                      |
| Water System:  |                             |
| Buildings (Office and Plant)                         | 30 - 50                     |
| Equipment and Tools                                  | 10 - 15                     |
| Furniture and Fixtures                               | 5 - 10                      |
| Machinery, Equipment and Service Vehicles            | 5 - 15                      |
| Pumps and Treatment Equipment                        | 15 - 20                     |
| Transportation Equipment                             | 5 - 10                      |
| Water Lines and Storage                              | 40 - 50                     |
| Well / Dam   | Engineer's Estimate         |

Sewer System:

|   |         |
|---|---------|
| Buildings (Office and Plant)              | 30 - 50 |
| Equipment and Tools                       | 10 - 15 |
| Furniture and Fixtures                    | 5 - 10  |
| Machinery, Equipment and Service Vehicles | 5 - 15  |
| Pumps and Treatment Equipment             | 15 - 20 |
| Transportation Equipment                  | 5 - 10  |
| Wastewater (Sewer) System                 | 40 - 50 |

Adopted this \_\_\_\_ day of \_\_\_\_\_, 2020

\_\_\_\_\_  
Mayor

Attest: \_\_\_\_\_  
City Recorder

**Ordinance No. \_\_\_\_\_**

**An Ordinance Authorizing Leak Adjustments for Water and Sewer Customers of the City of Benton, Tennessee**

Whereas, the Mayor and Board of Commissioners desires to have a fair, consistent and equitable procedure to adjust high water and sewer bills caused by leak on the customer's side of the City's water meter.

Be It Ordained by the Mayor and Board of Commissioners of the City of Benton, Tennessee, that the following policy be adopted for the adjustment of high water and sewer bills caused by a leak on the customer's side of the meter as a new Section \_\_\_\_\_ to the Benton Municipal Code.

Section \_\_\_\_\_. Leak Adjustments

(1) The customer is responsible for paying for all metered water usage at the customer's service address and for paying all sewer charges based upon metered water usage. Customers are responsible for keeping their plumbing repaired and in good working order.

(2) The City will adjust a high monthly water bill caused by a water leak in the customer's service line or plumbing when the following conditions are met.

(a) The water usage in the high monthly water bill must be more than 1.5 times the customer's average monthly water usage for the preceding three months. The month in which the leak occurred shall be excluded in calculating the customer's average monthly water usage for the preceding three-month period. When a customer does not have three months of water usage history with the City, the customer's average water usage will be based upon the customer's water usage for the number of full months the customer has actually received water service at the service address.

(b) The customer must locate and timely repair the water leak which must be verified by the City. The repair may be verified one of the following methods.

(i) The customer must present the City with an affidavit or written statement from a plumber that the leak has been located and repaired.

(ii) The customer verifies that the customer fixed the leak and provides a copy of an invoice for the materials used to fix the leak.

(iii) A City employee is able to verify that the customer was able to repair the leak.

(c) A leak must be repaired within 30 days of the due date of the bill which shows the customer has a water leak. When a customer is notified of a leak by the City, the

leak must be repaired within 30 days of receiving such notice. The customer must submit a leak adjustment request form to the City.

(d) When the customer has a chronic leak, the City may require the replacement of the pipe before a leak adjustment is made.

(e) The leak must have been concealed and not readily detectable by a reasonable person such as a leak in an underground water service line between the meter and the exterior of a building or within walls or under the floors of a building.

(f) No leak adjustment will be made for leaks which are readily detectable by the customer. These include the following:

- (i) Leaking faucets and toilets;
- (ii) Faucets, hoses and other water outlets left running;
- (iii) Leaks from frozen pipes;
- (iv) Water used for filling swimming pools, washing cars and irrigating lawns or gardens; or
- (v) Leaks from swimming pool systems and from irrigation systems.

(g) Only one bill will be adjusted for a qualifying leak in any consecutive twelve-month period. The leak adjustment will only be made in the billing cycle in which the leak is repaired.

(4) The leak adjustment for the water bill will be calculated as follows:

STEP 1: Determine the customer's average monthly water usage from the customer's three preceding monthly bills, excluding the month in which the leak occurred. When a customer does not have three months of water usage history with the City, the customer's average monthly water usage will be based upon the customer's average water usage for the number of full months the customer has actually received water service at the service address.

STEP 2: The customer's high water bill will be reduced by 40%.

STEP 3: If the reduction in STEP 2 makes the adjusted water bill less than the customer's average bill calculated in STEP 1, the customer will pay his average water bill amount.

(5) When the City determines that the water from the leak did not enter the City's sewer system, the City will adjust the customer's sewer bill to the customer's average sewer bill using the customer's average monthly water usage as defined in section 4.

(6) When a high sewer bill is caused by a water leak which does not qualify for a water leak adjustment under section (2) and the City determines the water from the non-qualifying leak did



not enter the City's sewer system, the City will adjust the customer's high sewer bill to the customer's average sewer bill using the customer's average monthly water usage as defined in section 4.

(7) In hardship cases the City's Mayor and Board of Commissioners may approve monthly installment payments for the adjusted bill not to exceed twelve (12) consecutive monthly installments.

### Cost of Tap Installation

Name of Utility \_\_\_\_\_

Prepared By: \_\_\_\_\_ Title : \_\_\_\_\_

Date Prepared: \_\_\_\_\_

Type of Tap \_\_\_\_\_ Example \_\_\_\_\_

| Quantity     | Itemized Description                                 | Cost             | Total Cost      |
|--------------|--|------------------|-----------------|
| 1            | Water Meter @  | \$150.00 each    | \$150.00        |
| 1            | Meter Box @  | \$25.00 each     | \$25.00         |
| 1            | Meter setter/Check Valve @                           | \$35.00 each     | \$35.00         |
| 1            | Corporation Stop @                                   | \$8.70 each      | \$8.70          |
| 30           | Feet of Service Line @                               | \$3.00 per foot  | \$90.00         |
| 30           | Feet of Location Wire/Tape @                         | \$0.05 per foot  | \$1.50          |
| 1            | connection meter fitting @                           | \$11.00 each     | \$11.00         |
| 1            | Saddle @   | \$16.00 each     | \$16.00         |
|              | Air Compressors @                                    | \$40.00 each     | \$0.00          |
|              | Valve or Valve Parts @                               | each             | \$0.00          |
| 2            | Backhoe Hours @                                      | \$55.00 per hour | \$110.00        |
| 30           | Boring @   | \$5.00 per foot  | \$150.00        |
| 30           | Truck and Trailer Hours @                            | \$0.50 per mile  | \$15.00         |
| 1            | Locate Cost @  | \$25.00 per hour | \$25.00         |
|              | Miscellaneous  | \$12.00          | \$12.00         |
|              | Seed Straw@  | \$15.00          | \$15.00         |
| 0.2          | 1000 Gallons Flushing @                              | \$1.00 per 1000  | \$1.00          |
| 1            | Administrative Hours @                               | \$25.00 per hour | \$25.00         |
|              | Final clean -up/&inspection                          | \$50.00          | \$50.00         |
|              | Installation Labor for _____ 2 men x _____ 2 hours @ | \$25.00 per hour | \$100.00        |
|              | Overhead   | 20%              | \$158.04        |
| <b>Total</b> |  |                  | <b>\$998.24</b> |

## Cost of Tap Installation

Name of Utility Benton Water Works

Prepared By: \_\_\_\_\_ Title : \_\_\_\_\_

Date Prepared: \_\_\_\_\_

Type of Tap Gravity Sewer Tap Residential

| Quantity         | Itemized Description                             | Cost           | Total Cost |
|------------------|--|----------------|------------|
| <b>MATERIALS</b> |  |                |            |
| _____            | Tap into main @                                  | _____ each     | #VALUE!    |
| _____            | Feet of Service Line @                           | _____ per foot | #VALUE!    |
| _____            | Feet of Location Wire/Tape @                     | _____ per foot | #VALUE!    |
| _____            | connection sewer main fitting @                  | _____ each     | #VALUE!    |
| _____            | Saddle @   | _____ each     | #VALUE!    |
| _____            | Air Compressors @                                | _____ each     | #VALUE!    |
| _____            | Valve or Valve Parts (if used) @                 | _____ each     | #VALUE!    |
| _____            | Backhoe Hours @                                  | _____ per hour | #VALUE!    |
| _____            | Boring @   | _____ per foot | #VALUE!    |
| _____            | Truck and Trailer Hours @                        | _____ per hour | \$0.00     |
| _____            | Locate Cost @                                    | _____ per hour | #VALUE!    |
| _____            | Seed Straw@                                      | _____ per hour | #VALUE!    |
| _____            | Administrative Hours @                           | _____ per hour | #VALUE!    |
| _____            | Clean out at customer connection point @         | _____ each     | #VALUE!    |
| _____            | Cavel in protection if over 5' deep              | _____ each     |            |
| _____            | Miscellaneous                                    |                | #VALUE!    |
| _____            | Final clean -up/&inspection                      | _____ per hour |            |
| _____            | Installation Labor for _____ men x _____ hours @ | _____ per hour | #VALUE!    |
| _____            | Overhead   | _____ each     | #VALUE!    |
|                  | <b>Total</b>                                     | _____ per hour | #VALUE!    |

x: Labor can vary significantly depending on soil conditions (rock) and depth of main line.

## Cost of Tap Installation

**Name of Utility** Benton Water Works

**Prepared By:** \_\_\_\_\_ **Title :** \_\_\_\_\_

**Date Prepared:** \_\_\_\_\_

**Type of Tap** Grinder Sewer System

| Quantity         | Itemized Description                             | Cost           | Total Cost |
|------------------|--|----------------|------------|
| <b>MATERIALS</b> |  |                |            |
| _____            | Tap into main @                                  | _____ each     | #VALUE!    |
| _____            | Feet of Service Line @                           | _____ per foot | #VALUE!    |
| _____            | Feet of Location Wire/Tape @                     | _____ per foot | #VALUE!    |
| _____            | connection sewer main fitting @                  | _____ each     | #VALUE!    |
| _____            | Saddle @   | _____ each     | #VALUE!    |
| _____            | Air Compressors @                                | _____ each     | #VALUE!    |
| _____            | Valve or Valve Parts (if used) @                 | _____ each     | #VALUE!    |
| _____            | Backhoe Hours @                                  | _____ per hour | #VALUE!    |
| _____            | Boring @   | _____ per foot | #VALUE!    |
| _____            | Truck and Trailer Hours @                        | _____ per hour | \$0.00     |
| _____            | Locate Cost @                                    | _____ per hour | #VALUE!    |
| _____            | Seed Straw@                                      | _____ per hour | #VALUE!    |
| _____            | Administrative Hours @                           | _____ per hour | #VALUE!    |
| _____            | Clean out at customer connection point @         | _____ each     | #VALUE!    |
| _____            | Cavel in protection if over 5' deep              | _____ each     | #VALUE!    |
| _____            | Grinder pump (if provided by system)             | _____ each     | \$0.00     |
| _____            | rock excavation                                  | _____ per foot | \$0.00     |
| _____            |  |                | \$0.00     |
| _____            |  |                | #VALUE!    |
| _____            | Miscellaneous                                    |                | #VALUE!    |
| _____            | Final clean -up/&inspection                      | _____ per hour |            |
| _____            | Installation Labor for _____ men x _____ hours @ | _____ per hour | #VALUE!    |
| _____            | Overhead   |                | #VALUE!    |
|                  |  | <b>Total</b>   | #VALUE!    |
| _____            |  |                |            |
| _____            |  |                |            |

## Cost of Tap Installation

Name of Utility Benton Water Works

Prepared By: \_\_\_\_\_ Title : \_\_\_\_\_

Date Prepared: \_\_\_\_\_

Type of Tap Step Sytem High Pressure (1,000 gallons)

| Quantity         | Itemized Description                             | Cost           | Total Cost |
|------------------|--|----------------|------------|
| <b>MATERIALS</b> |  |                |            |
| _____            | Tap into main @                                  | _____ each     | #VALUE!    |
| _____            | Feet of Service Line @                           | _____ per foot | #VALUE!    |
| _____            | Feet of Location Wire/Tape @                     | _____ per foot | #VALUE!    |
| _____            | connection sewer main fitting @                  | _____ each     | #VALUE!    |
| _____            | Saddle @   | _____ each     | #VALUE!    |
| _____            | Air Compressors @                                | _____ each     | #VALUE!    |
| _____            | Valve or Valve Parts (if used) @                 | _____ each     | #VALUE!    |
| _____            | Backhoe Hours @                                  | _____ per hour | #VALUE!    |
| _____            | Boring @   | _____ per foot | #VALUE!    |
| _____            | Truck and Trailer Hours @                        | _____ per hour | \$0.00     |
| _____            | Locate Cost @                                    | _____ per hour | #VALUE!    |
| _____            | Seed Straw@                                      | _____ per hour | #VALUE!    |
| _____            | Administrative Hours @                           | _____ per hour | #VALUE!    |
| _____            | Clean out at customer connection point @         | _____ each     | #VALUE!    |
| _____            | Cavel in protection if over 5' deep              | _____ each     |            |
| _____            | Step pump if provided by system                  | _____ each     |            |
| _____            | rock excavation                                  | _____ per foot |            |
| _____            | Septic Tank                                      | _____ each     |            |
| _____            | Tank for STEP pump                               | _____ each     |            |
| _____            | Miscellaneous                                    | _____ each     | #VALUE!    |
| _____            | Final clean -up/&inspection                      | _____ per hour |            |
| _____            | Installation Labor for _____ men x _____ hours @ | _____ per hour | #VALUE!    |
| _____            | Overhead   |                | #VALUE!    |
|                  |  | <b>Total</b>   | #VALUE!    |
| _____            |  | _____          |            |
| _____            |  | _____          |            |

**Total**

94

#VALUE!

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Note: Labor can vary significantly depending on soil conditions (rock) and depth of main line.

## Cost of Tap Installation

**Name of Utility** Benton Water Works

**Prepared By:** \_\_\_\_\_ **Title :** \_\_\_\_\_

**Date Prepared:** \_\_\_\_\_

**Type of Tap** Commercial Step Sytem (1,500 gallons)

| Quantity                | Itemized Description                             | Cost           | Total Cost |
|-------------------------|--|----------------|------------|
| <b><u>MATERIALS</u></b> |  |                |            |
| _____                   | Tap into main @                                  | _____ each     | #VALUE!    |
| _____                   | Feet of Service Line @                           | _____ per foot | #VALUE!    |
| _____                   | Feet of Location Wire/Tape @                     | _____ per foot | #VALUE!    |
| _____                   | connection sewer main fitting @                  | _____ each     | #VALUE!    |
| _____                   | Saddle @   | _____ each     | #VALUE!    |
| _____                   | Air Compressors @                                | _____ each     | #VALUE!    |
| _____                   | Valve or Valve Parts (if used) @                 | _____ each     | #VALUE!    |
| _____                   | Backhoe Hours @                                  | _____ per hour | #VALUE!    |
| _____                   | Boring @   | _____ per foot | #VALUE!    |
| _____                   | Truck and Trailer Hours @                        | _____ per hour | \$0.00     |
| _____                   | Locate Cost @                                    | _____ per hour | #VALUE!    |
| _____                   | Seed Straw@                                      | _____ per hour | #VALUE!    |
| _____                   | Administrative Hours @                           | _____ per hour | #VALUE!    |
| _____                   | Clean out at customer connection point @         | _____ each     | #VALUE!    |
| _____                   | Cavel in protection if over 5' deep              | _____ each     |            |
| _____                   | Step pump if provided by system                  | _____ each     |            |
| _____                   | rock excavation                                  | _____ per foot |            |
| _____                   | Septic Tank                                      | _____ each     |            |
| _____                   | Tank for STEP pump                               | _____ each     |            |
| _____                   | Miscellaneous                                    | _____ each     | #VALUE!    |
| _____                   | Final clean -up/&inspection                      | _____ per hour |            |
| _____                   | Installation Labor for _____ men x _____ hours @ | _____ per hour | #VALUE!    |
| _____                   | Overhead   |                | #VALUE!    |
|                         |  | <b>Total</b>   | #VALUE!    |
| _____                   |  |                |            |
| _____                   |  |                |            |





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Note: Labor can vary significantly depending on soil conditions (rock) and depth of main line.

### Cost of Tap Installation

Name of Utility \_\_\_\_\_

Prepared By: \_\_\_\_\_ Title : \_\_\_\_\_

Date Prepared: \_\_\_\_\_

Type of Tap \_\_\_\_\_ Water \_\_\_\_\_

| Quantity     | Itemized Description                             | Cost           | Total Cost    |
|--------------|--|----------------|---------------|
| _____        | Water Meter @                                    | _____ each     | \$0.00        |
| _____        | Meter Box @                                      | _____ each     | \$0.00        |
| _____        | Meter setter/Check Valve @                       | _____ each     | \$0.00        |
| _____        | Corporation Stop @                               | _____ each     | \$0.00        |
| _____        | Feet of Service Line @                           | _____ per foot | \$0.00        |
| _____        | Feet of Location Wire/Tape @                     | _____ per foot | \$0.00        |
| _____        | connection meter fitting @                       | _____ each     | \$0.00        |
| _____        | Saddle @   | _____ each     | \$0.00        |
| _____        | Air Compressors @                                | _____ each     | \$0.00        |
| _____        | Valve or Valve Parts @                           | _____ each     | \$0.00        |
| _____        | Backhoe Hours @                                  | _____ per hour | \$0.00        |
| _____        | Boring @   | _____ per foot | \$0.00        |
| _____        | Truck and Trailer Hours @                        | _____ per mile | \$0.00        |
| _____        | Locate Cost @                                    | _____ per hour | \$0.00        |
| _____        | Miscellaneous                                    | _____          | \$0.00        |
| _____        | Seed Straw@                                      | _____          | \$0.00        |
| _____        | 1000 Gallons Flushing @                          | _____ per 1000 | \$0.00        |
| _____        | Administrative Hours @                           | _____ per hour | \$0.00        |
| _____        | Final clean -up/&inspection                      | _____          | \$0.00        |
| _____        | Installation Labor for _____ men x _____ hours @ | _____ per hour | \$0.00        |
| _____        | Overhead   | _____          | \$0.00        |
| <b>Total</b> |  |                | <b>\$0.00</b> |

- 18-124. Damages to property due to water pressure.
- 18-125. Liability for cutoff failures.
- 18-126. Restricted use of water.
- 18-127. Interruption of service.

18-101. Application and scope. The provisions of this chapter are a part of all contracts for receiving water service from the town and shall apply whether the service is based upon contract, agreement, signed application, or otherwise. (1990 Code, § 13-101)

18-102. Definitions. (1) "Customer" means any person, firm, or corporation who receives water service from the town under either an express or implied contract.

(2) "Service line" shall consist of the pipe line extending from any water main of the town to private property. Where a meter and meter box are located on private property, the service line shall be construed to include the pipe line extending from the town's water main to and including the meter and meter box.

(3) "Discount date" shall mean the 27th day of each month, except when some other date is provided by contract. The discount date is the last date upon which water bills can be paid at net rates.

(4) "Dwelling" means any single residential unit or house occupied for residential purposes. Each separate apartment unit, duplex unit or other multiple dwelling unit shall be considered a separate dwelling.

(5) "Premise" means any structure or group of structures operated as a single business or enterprise, provided, however, the term "premise" shall not include more than one (1) dwelling. (1990 Code, § 13-102, modified)

18-103. Obtaining service. A request for either original or additional service must be made and be approved by the town before connection or meter installation orders will be issued and work performed. (1990 Code, § 13-103)

18-104. Application and contract for service. Each prospective customer desiring water service will be required to request service and pay a \$25.00 deposit before service is supplied. If, for any reason, a customer, after requesting service, does not take such service by reason of not occupying the premises or otherwise, he shall reimburse the town for the expense incurred by reason of its endeavor to furnish said service.

The receipt of a prospective customer's application for service, regardless of whether or not accompanied by a deposit, shall not obligate the town to render the service applied for. If the service applied for cannot be supplied in accordance with the provisions of this chapter and general practice, the liability of the town to the applicant shall be limited to the return of any deposit made by such applicant. (1990 Code, § 13-104)

18-3

**18-105. Service charges for temporary service.** Customers requiring temporary service shall pay all costs for connection and disconnection incidental to the supplying and removing of service in addition to the regular charge for water service. (1990 Code, § 13-105)

**18-106. Connection charges.** Service lines will be laid by the town from its mains to the property line at the expense of the applicant for service. The location of such lines will be determined by the town.

Before a new water service line will be laid by the town, the applicant shall make a deposit equal to the estimated cost of the installation.

This deposit shall be used to pay the cost of laying such new service line and appurtenant equipment. If such cost exceeds the amount of the deposit, the applicant shall pay to the town the amount of such excess cost when billed therefor. If such cost is less than the amount of the deposit, the amount by which the deposit exceeds such cost shall be refunded to the applicant.

When a service line is completed, the town shall be responsible for the maintenance and upkeep of such service line from the main to and including the meter and meter box, and such portion of the service line shall belong to the town. The remaining portion of the service line beyond the meter box shall belong to and be the responsibility of the customer. (1990 Code, § 13-106)

**18-107. Water main extensions.** Persons desiring water main extensions must pay all of the cost of making such extensions.

For water main extensions cement-lined cast iron pipe, class 150 American Water Works Association Standard (or other construction approved by the board of commissioners), not less than six (6) inches in diameter shall be used to the dead end of any line and to form loops or continuous lines, so that fire hydrants may be placed on such lines at locations no farther than 1,000 feet from the most distant part of any dwelling structure and no farther than 600 feet from the most distant part of any commercial, industrial, or public building, such measurements to be based on road or street distances. Cement-lined cast iron pipe (or other construction approved by the board of commissioners) two (2) inches in diameter, to supply dwellings only, may be used to supplement such lines.

All such extensions shall be installed either by municipal forces or by other forces working directly under the supervision of the town in accordance with plans and specifications prepared by an engineer registered with the State of Tennessee.

Upon completion of such extensions and their approval by the town, such water mains shall become the property of the town. The persons paying the cost of constructing such mains shall execute any written instruments requested by the town to provide evidence of the town's title to such mains. In consideration of such mains being transferred to it, the town shall incorporate said mains as an integral part of the municipal water system and shall furnish water service

18-4

therefrom in accordance with these rules and regulations, subject always to such limitations as may exist because of the size and elevation of said mains. (1990 Code, § 13-107)

**18-108. Variances from and effect of preceding section as to extensions.** Whenever the board of commissioners is of the opinion that it is to the best interest of the town and its inhabitants to construct a water main extension without requiring strict compliance with the preceding section, such extension may be constructed upon such terms and conditions as shall be approved by the board of commissioners.

The authority to make water main extensions under the preceding section is permissive only and nothing contained therein shall be construed as requiring the town to make such extensions or to furnish service to any person or persons. (1990 Code, § 13-108)

**18-109. Meters.** All meters shall be installed, tested, repaired, and removed only by the town.

No one shall do anything which will in any way interfere with or prevent the operation of a meter. No one shall tamper with or work on a water meter without the written permission of the town. No one shall install any pipe or other device which will cause water to pass through or around a meter without the passage of such water being registered fully by the meter. (1990 Code, § 13-109)

**18-110. Meter tests.** The town will, at its own expense, make routine tests of meters when it considers such tests desirable.

In testing meters, the water passing through a meter will be weighed or measured at various rates of discharge and under varying pressures. To be considered accurate, the meter registration shall check with the weighed or measured amounts of water within the percentage shown in the following table:

| <u>Meter Size</u>  | <u>Percentage</u> |
|--------------------|-------------------|
| 5/8", 3/4", 1", 2" | 2%                |
| 3"                 | 3%                |
| 4"                 | 4%                |
| 6"                 | 5%                |

The town will also make tests or inspections of its meters at the request of the customer. However, if a test requested by a customer shows a meter to be accurate within the limits stated above, the customer shall pay a meter testing charge in the amount of ten dollars (\$10.00).

If such test shows a meter not to be accurate within such limits, the cost of such meter test shall be borne by the town. (1990 Code, § 13-110)

18-6

If a meter fails to register properly, or if a meter is removed to be tested or repaired, or if water is received other than through a meter, the town reserves the right to render an estimated bill based on the best information available. (1990 Code, § 13-113)

**18-114. Discontinuance or refusal of service.** The town shall have the right to discontinue water service or to refuse to connect service for a violation of, or a failure to comply with, any of the following:

- (1) These rules and regulations.
- (2) The customer's application for service.
- (3) The customer's contract for service.

Such right to discontinue service shall apply to all service received through a single connection or service, even though more than one (1) customer or tenant is furnished service therefrom, and even though the delinquency or violation is limited to only one such customer or tenant.

Discontinuance of service by the town for any cause stated in these rules and regulations shall not release the customer from liability for service already received or from liability for payments that thereafter become due under other provisions of the customer's contract.

No service shall be discontinued unless the customer is given reasonable notice in advance of such impending action and the reason therefor. The customer shall also be notified of his right to a hearing prior to such disconnection if he disputes the reason therefor and requests such hearing by the date specified in the notice. When a hearing is requested, the customer shall have the right to have a representative at such hearing and shall be entitled to testify and to present witnesses on his behalf. Also, when such hearing has been requested, the customer's service shall not be terminated until a final decision is reached by the hearing officer and the customer is notified of that decision. (1990 Code, § 13-114)

**18-115. Re-connection charge.** Whenever service has been discontinued as provided for above, a re-connection charge of twenty-five dollars (\$25.00) shall be collected by the town before service is restored. For the second and third re-connections, a charge of thirty dollars (\$30.00) and one hundred dollars (\$100) respectively shall be made. After a customer's water has been cut off as provided above for three times, he may no longer receive water service from the town. (1990 Code, § 13-115)

**18-116. Termination of service by customer.** Customers who have fulfilled their contract terms and wish to disconnect service must give at least three (3) days notice to that effect unless the contract specifies otherwise. Notice to discontinue service prior to the expiration of a contract term will not relieve the customer from any minimum or guaranteed payment under such contract or applicable rate schedule.

18-26

These fees relate solely to the matters covered by this chapter and are separate from all other fees chargeable by the town. (1990 Code, § 13-206.02)

**18-220. Schedule of fees and charges.** (1) Sewer Service Charges.

(a) Minimum Charge for First 2,000 Gallons, \$5.80

(b) All Consumption Over 2,000 Gallons, \$2.90/1,000 gallons

(2) Surcharges for Excessive Loadings. (a) BOD = \$50/1,000 pounds BOD in excess of 300 mg/l BOD.

(b) Suspended Solids (SS) = \$50/1,000 pounds SS in excess of 400 mg/l SS.

(3) Industrial User Permit Fees. \$10 per application.

(4) Building Sewer Fee.

|                            |                    |
|----------------------------|--------------------|
| Permit and Inspection Fees | \$20/Connection    |
| Residential Connection Fee | \$250/Connection   |
| Commercial Connection Fee  | \$500/Connection   |
| Public Connection Fee      | \$500/Connection   |
| Industrial Connection Fee  | \$1,000 Connection |

(5) Septic Tank Disposal Fee.

From Inside Town Limits \$20/1,000 gallons

From Outside Town Limits \$30/1,000 gallons

(1990 Code, title 13, chapter 2, appendix A)

**18-221. Wastewater dischargers.** It shall be unlawful to discharge without a wastewater permit to any natural outlet within the Town of Benton, Tennessee, or in any area under the jurisdiction of Benton and/or to the POTW any wastewater except as authorized by the superintendent in accordance with the provisions of this chapter. (1990 Code, § 13-207.01)

**18-222. Wastewater discharge permits.** Requirements of industrial users--all significant users proposing to connect to or to contribute to the POTW shall obtain a wastewater discharge permit before connecting to or contributing to the POTW. (1990 Code, § 13-207.02)

**18-223. Permit application.** Users required to obtain a wastewater discharge permit shall complete and file with the town, an application in the form prescribed by the town, and accompanied by a fee of ten dollars (\$10.00). Proposed new users shall apply at least ninety (90) days prior to connecting to or contributing to the POTW. In support of the application the user shall submit, in units and terms appropriate for evaluation, the following information:

(1) Name, address, and location (if different from the address).

(2) SIC number according to the Standard Industrial Classification Manual, Bureau of the Budget, 1972, as amended.

(3) Wastewater constituents and characteristics including but not limited to those mentioned in §§ 18-211--18-217 of this chapter as determined



JASON E. MUMPOWER  
*Comptroller*

Entity Referred: **City of Cowan**

Referral Reason: **Negative Change in Net Position**

Utility Type Referred: **Water and Sewer**

**Staff Summary:**

The City has complied with all prior Board directives, as evidenced in the accompanying documentation.

**Staff Recommendation:**

Order the following:

1. The City shall send financial updates to Board staff by March 1st and September 1st of each year, beginning September 1, 2021, until the Board releases the City from its oversight.





**REPORT FOR CITY OF COWAN,  
TENNESSEE**

**WATER AND WASTEWATER  
FINANCING BOARD  
ORDER DATED SEPTEMBER 19, 2020**

**February 17, 2021**

## INTRODUCTION

### Description of the Cowan Water System and Sewer System

The City of Cowan, Tennessee (City or Cowan) is located in Franklin County. The governing board of the City's water and sewer system is its Mayor and City Council. The City gets its raw water supply from an underground spring located within the Cowan city limits and operates a water treatment plant with a design capacity of 1.5 MGD. The City operates a wastewater treatment plant with a design capacity of 0.4 MGD which discharges into Boiling Fork Creek.

As of June 30, 2020, the City had the following rate classes for water service and the following numbers of customers in each water rate class:

|              |     |
|--------------|-----|
| Inside- City | 775 |
| Outside-City | 176 |

As of June 30, 2020, the City had 763 sewer customers all located inside its city limits. The City has one rate for all sewer customers.

The City was referred to the Water and Wastewater Financing Board (WWFB) upon the submission of its audit for its fiscal year ending June 30, 2019, because it met the statutory definition for a financially distressed municipal water and sewer system. The system had a negative change in net position for two consecutive years without regard to any grants, capital contributions, or excluded non-cash items for its fiscal years ending June 30, 2018 and June 30, 2019.

### Existing Rates and Future Rates Already Approved

On May 14, 2019, the City passed Ordinance 19-03-03 which adopted new rates for water and sewer service to become effective July 1, 2019. This Ordinance implemented annual water and sewer rate increases of 3% to become effective on July 1 of 2020, 2021, and 2022. A copy of Ordinance 19-03-03 is attached as **Exhibit 1** to this Report.

The balance of the Cash and Cash Equivalents and Certificate of Deposits accounts of the Water and Sewer Fund as of July 1, 2020, was \$1,253,267.

### Water and Wastewater Financing Board Order

On September 19, 2020, the Water and Wastewater Financing Board (WWFB) issued an order directing the City of Cowan do the following items.

- (1) The City shall have the Tennessee Association of Utility Districts, or another qualified expert as approved by Board staff, perform a rate study that includes the following:

- a. creation of a capitalization policy;
- b. a review of the City's purchasing policy, including any recommended modifications;
- c. creation of a five-year capital asset budget, to be taken from the current capital asset list and to include future anticipated needs;
- d. a justification for the differing rate classes, or if no justification is possible, recommendations for an appropriate rate structure;
- e. a review of connection fees, including any recommended modifications; and
- f. a justification for the differing tap fees, or if no justification is possible, recommendations for an appropriate fee structure.

(2) By October 31, 2020, the City shall send Board staff a copy of the contract between the City and the qualified expert who is to perform the tasks in paragraph 1.

(3) By February 28, 2021, the City shall provide Board staff with the completed rate study, and either proof of implementation of the resulting recommendations or a proposed plan of implementation.

## RECOMMENDATIONS

### **Recommendation #1**

The City needs to adopt the Five-Year Capital Asset Plan attached as **Exhibit 2**.

### **Recommendation #2**

The City should adopt a resolution to establish a capitalization policy which incorporates the capitalization cost thresholds and service lives the City currently uses for all capital assets except its water and sewer system assets. The City's capitalization policy should adopt the service lives for its water and sewer system using the recommended service lives adopted by the WWFB for municipal water and sewer systems. TUA prepared a suggested resolution which the City can adopt to establish the recommended capitalization policy.

### **Recommendation #3**

Historically, the City has not kept records of its actual costs to install water and sewer taps. TAUD recommends that the City to use the Tap Fee Worksheets attached as **Exhibit 8** to track its actual costs incurred in setting taps from the date of the next WWFB order through June 30, 2022. TAUD will review the worksheets and make a recommendation on any changes to existing tap fees which are justified based upon the actual costs incurred to install new water and sewer taps.

## FIVE YEAR CAPITAL ASSET PLAN

In January of 2020, John Hall met with Mayor Joyce Brown and Utility Manager Kenny Henshaw to discuss potential capital improvements and the purchase of other capital assets the City was planning to make or should consider making to its water and sewer system over the next five years. They discussed the options for funding these capital expenditures. Mr. Hall prepared a Five-Year Capital Asset Plan based upon these discussions which was used in the TAUD financial projections.

The City should adopt the Five-Year Capital Asset Plan attached to this Report as **Exhibit 2**.

## RATE STUDY AND PROPOSED PLAN OF ACTION

To determine whether existing rates will produce sufficient revenues to make the City's water and sewer system self-supporting, TAUD first projected a Statement of Revenues and Expenses and Changes in Net Position for the City's water and sewer fund for its fiscal year ending June 30, 2021, to use as its test year. TAUD projected the revenues for the system using existing rates. TAUD projected operation and maintenance expenses and debt service payments by reviewing historical information from the five previous years, the City's budget for its water and sewer fund for the fiscal year ending June 30, 2021, and any known and anticipated changes during the test year.

Then, TAUD projected Statements of Revenues and Expenses and Changes in Net Position for the City's water and sewer fund for its fiscal years ending June 30 of 2022, 2023, 2024, and 2025. See **Exhibit 3** attached to this Report.

### Revenue Projections:

- Water and sewer revenues (Charge for services) for the test year ending June 30, 2021, were projected by taking the City's actual water usage reports for all rate classes as of June 30, 2020, and applying the City's water and sewer rates in effect on July 1, 2020, to this actual usage.
- Miscellaneous revenue for the test year was projected based upon the average of miscellaneous revenue for the fiscal years ending June 30 of 2019 and 2020.
- Since 2016 the City has experienced minimal annual customer growth and does not plan to expand its existing water or sewer system in the near future to add new customers. Therefore, the metered sales for the remaining four years of the five-year projection period do not include any revenue increases based annual customer growth.

### Expense Projections:

- Except for depreciation, all operating expenses for the test year are projected based upon the average of these expenses for the fiscal years ending June 30 of 2019 and 2020. See the Revenues and Expenses - Test Year Schedule attached as **Exhibit 4**.
- Depreciation for the test year is based upon the City's fixed asset schedule which includes the annual depreciation of its capital assets plus depreciation on the capital assets added during the fiscal year ending June 30, 2020.
- For the remaining four years in the five-year projection period, all operating expenses, except depreciation, are increased by 2% annually over the projected amount for the test year.

- Annual depreciation expenses for the remaining four years of the five-year projection period are projected based upon the City's existing fixed asset schedule and the service lives used on this schedule for depreciation. Depreciation on new capital assets included in the capital asset plan during the five-year projection period are based upon the City's current capitalization policy and the service lives recommended in the City's new suggested capitalization policy.
- Interest expense is based on the debt amortization schedules of existing debt and new debt planned during the five-year projection period.

### **Revenue Sufficiency and Rate Modifications Required**

TUA projects that the City's water and sewer fund will have a positive change in net position of \$44,711 for the test year ending June 30, 2021, not including capital contributions and grant revenue.

The City has already adopted annual water and sewer rate increases of 3% for its fiscal years beginning July 1, 2021 and July 1, 2022.

The City informed TAUD that it intends to increase water and sewer rates by 3% on July 1, 2023 and July 1, 2024. To date, these rate increases have not been adopted, but these rate increases are incorporated in the projected financial statements.

The water and sewer rate changes the City has already adopted for its fiscal years beginning July 1 of 2021 and 2022 and the planned rate increases to become effective on July 1, 2023 and 2024 should ensure that the City has a positive change in its net position for the remaining four years in five-year projection period.

The City should review the planned 3% rate increases to become effective on July 1, 2023 and 2024 as a part of the budgetary process for these two fiscal years to ensure that these 3% rate increases will continue to produce sufficient revenues to give the water and sewer fund a positive change in net position for the last two years of the projected Statements of Revenues and Expenses and Changes in Net Position.

### **Projected Cash and Investments Schedule**

If the City adopts its planned rate increases through July 1, 2024, the water fund and sewer fund should have a cash and investments balance of \$1,701,805 as of June 30, 2025. The Water and Sewer Fund - Projected Cash and Investments Balance Schedule is attached as **Exhibit 5**.

## JUSTIFICATION OF OUTSIDE RATE DIFFERENTIAL IN WATER RATES

Other than having information on the mileage of its water lines inside and outside its city limits, the City has no cost allocation records which TAUD could use to allocate costs between inside-city and outside-city water customers. Moreover, the City does not keep records to allow an accurate allocation of most operating expenses between water and sewer operations. Therefore, TAUD used the records available and discussions with City personnel to back out sewer operating expenses for the purpose of allocating water operating expenses between inside-city and outside-city customers.

TAUD projected water revenue for the City's fiscal year ending June 30, 2021, for inside-city customers and outside-city customers and included the fire hydrant revenue as inside-city customer revenue. This allocation shows that inside-city customers produce approximately 73% of the City's total water revenue and outside-city customers produce approximately 27% of the City's total water revenue.

| <u>Allocations Based on % of Revenue Estimated for FY 20-21 – Water</u> |                  |                |
|---|------------------|----------------|
|   | <u>Revenue</u>   | <u>%</u>       |
| Inside Revenue  | \$247,306        | 73.13%         |
| Outside Revenue   | \$ 86,373        | 26.87%         |
|   | <u>\$333,679</u> | <u>100.00%</u> |

TAUD allocated the expenses of the water system between inside-city and outside-city water customers for the test year ending June 30, 2021, based upon information provided by the City which is set forth in **Exhibit 6** attached to this Report. Based upon the expense allocations, inside-city customers are currently generating 76% of the cost of the operation of the water system and outside-city customers are generating 24% of the cost.

TAUD does not recommend that the City change the current rate differential between inside-city and outside-city water rates. Outside-city water rates seem to produce revenues which only slightly over-recover outside-city water operating expenses. The City has already adopted water rates increases through July 1, 2022. While the City has planned to increase water rates by 3% on July 1, 2023 and July 1, 2024, it may want to look at slightly different rate increases for inside-city and outside-city water customers to reduce or eliminate this slight over-recovery. If the WWFB wants the City to do so, then the WWFB needs to direct the City to implement a system of allocating inside-city and outside-city water operating expenses upon which such future rate increases can be based.



## CITY'S CAPITALIZATION POLICY

The City was not able to locate a resolution or other action which set forth its capitalization policy. The City should adopt a resolution which incorporates the capitalization cost thresholds and service lives the City currently uses for all capital assets except its water and sewer system assets. The City's capitalization policy should include the service lives for its water and sewer system using the recommended service lives adopted by the WWFB for municipal water and sewer systems. TUA prepared a suggested resolution which the City can adopt to establish this recommended capitalization policy which is attached as **Exhibit 7** to this Report.

## TAP FEES

The City's current taps fees are:

|                    |         |
|--------------------|---------|
| Inside-City Water  | \$ 850  |
| Outside-City Water | \$2,000 |
| Sewer              | \$1,000 |

The City was not able to locate any records to support the amount of the current tap fees. Historically, the City has not tracked the actual costs it incurs in installing new water and sewer taps. The City believes that it incurs a greater cost in installing taps outside of the City because the areas the City serves outside of its city limits is very rocky.

For a water and sewer utility which does not have material growth each year, TAUD recommends that tap fees be set to essentially cover the cost of making the taps.

The City indicated that it installs between 6 to 10 new water taps a year and slightly fewer sewer taps. TAUD has developed a Cost of Tap Installation Worksheet which the City can use to track and record the actual materials, equipment and labor it spends on making its water and sewer taps. Rather than render an opinion on the reasonableness of the City's tap fees now, TAUD recommends that the WWFB order the City to use these worksheets to track its actual costs incurred in setting taps from the date of the WWFB order through June 30, 2022. TAUD will review the worksheets and make a recommendation on any changes to existing tap fees which are justified based upon the actual costs incurred to install new water and sewer taps. A copy of the Cost of Tap Installation Worksheet is attached as **Exhibit 8**.

## CONNECTION FEES

The City current fees for the initiation service are:

|                |       |
|----------------|-------|
| Connection Fee | \$50  |
| Renter Deposit | \$150 |

At a minimum, connection fees should cover the cost of establishing new service for a customer. These costs should attempt to cover a customer service employee meeting with the applicant or talking with the applicant by phone, reviewing the application for service, and processing the connection fee payment and tap fee payment, if applicable. A field employee must travel to the service address to verify the initial meter reading for the new account and to turn on the meter. Depending on the distance of the service address from city hall, this trip could take as little as 15 minutes up to an hour. The \$50 connection will just fee barely cover the labor and equipment costs incurred to sign up a new customer for service.

The City charges rental customers a \$150 refundable deposit. The \$150 deposit covers slightly more than two months average water and sewage usage for the City's customers. The City experiences significantly higher uncollectible accounts for rental customers than non-rental customers due to having a higher number of uncollectible accounts for rental customers than property owner customers and experiencing higher delinquent balances from rental customers whose move away without making final payments. The deposit is designed to cover approximately two months of service and is justified in light of the higher uncollectible amounts the City experiences from its rental customers.

### PURCHASING POLICY

The City operates its water and sewer system as a department of the City. Therefore, the City's purchasing procedures govern the purchasing of goods and services by the water and sewer department. The City operates under the Municipal Purchasing Law of 1983, T.C.A. § 6-56-301 *et seq.* (the Law). The Law prescribes when purchases for goods and services must be advertised for public bid and the levels at which competitive bidding is required. Ordinance No. 15-08-01, which is attached as **Exhibit 9**, established the thresholds for public advertisement for quote bids and for sealed competitive bids which are consistent with the Municipal Purchasing Law of 1983. This Ordinance further prescribes when purchase orders are required and the level of expenditures which may be approved by the Mayor and the City Council. TAUD recommends no changes to the City's purchasing policy.

**Exhibit 1****ORDINANCE NO. 19-03-03**

AN ORDINANCE TO AMEND ORDINANCE NO. 13-03-01 AND EACH AND EVERY ORDINANCE WHICH ESTABLISHED RATES AND CHARGES FOR WATER AND SEWER SERVICE IN THE CITY OF COWAN, TENNESSEE.

WHEREAS, it appears it is in the best interest of the citizens of the City of Cowan, Tennessee that the rates and charges for water and sewer service in the City of Cowan should be amended and modified.

NOW, THEREFORE BE IT ORDAINED, BY THE BOARD OF MAYOR AND COUNCILMEN OF THE CITY OF COWAN, TENNESSEE that the sections listed below are changed as follows:

**SECTION 1.** That the base charge for water inside Cowan sewer service area shall be set at \$16.47 effective July 1, 2019, and subsequently increasing at a rate of 3% for three consecutive years as follows:

- a. \$16.96 effective July 1, 2020.
- b. \$17.47 effective July 1, 2021.
- c. \$18.00 effective July 1, 2022.

**SECTION 2.** That the base charge for sewer service inside the Cowan sewer service area shall be set at \$21.01 effective July 1, 2019, and subsequently increasing at a rate of 3% for three consecutive years as follows:

- a. \$21.64 effective July 1, 2020.
- b. \$22.29 effective July 1, 2021.
- c. \$22.96 effective July 1, 2022.

**SECTION 3.** That the base charge for water provided outside the Cowan sewer service area shall be set at \$24.00 effective July 1, 2019, and subsequently increasing at a rate of 3% for three consecutive years as follows:

- a. \$24.72 effective July 1, 2020.
- b. \$25.46 effective July 1, 2021.
- c. \$26.22 effective July 1, 2022.

**SECTION 4.** That the base charges herein above outlined shall apply to the first 2,000 gallons of water or less.

**SECTION 5.** That each additional 1,000 gallons of water used by a customer inside the Cowan sewer service area shall be charged at a rate of \$4.37 (\$0.437 per 100 gallons)

effective July 1, 2019, and subsequently increasing at a rate of 3% for three consecutive years as follows:

- a. \$4.56 effective July 1, 2019.
- b. \$4.69 effective July 1, 2020.
- c. \$4.78 effective July 1, 2021.

**SECTION 6.** That each additional 1,000 gallons of water used by a customer outside the Cowan sewer service area shall be charged at a rate of \$5.51 (\$0.551 per 100 gallons) effective July 1, 2019, and subsequently increasing at a rate of 3% for three consecutive years as follows:

- a. \$5.68 effective July 1, 2020.
- b. \$5.86 effective July 1, 2021.
- c. \$6.04 effective July 1, 2022.

**SECTION 7.** That each additional 1,000 gallons used by a customer shall be charged at a rate of \$5.84 (\$0.584 per 100 gallons) for sewer service effective July 1, 2019, and subsequently increasing at a rate of 3% for three consecutive years as follows:


- a. \$6.02 effective July 1, 2020.
- b. \$6.20 effective July 1, 2021.
- c. \$6.70 effective July 1, 2022.


BE IT FURTHER ORDAINED THAT ALL ORDINANCES OR PARTS OF ORDINANCES IN CONFLICT HERewith BE, AND THE SAME ARE, HEREBY REPEALED.

NOW THEREFORE IT BE RESOLVED THAT THIS ORDINANCE SHALL TAKE EFFECT JULY 1, 2019 FOLLOWING PASSAGE OF THE SECOND READING OF THIS ORDINANCE, THE WEFARE OF THE CITY OF COWAN, TENNESSEE REQUIRING IT.

PASSED FIRST READING: April 9, 2019

PASSED SECOND READING: May 14, 2019

  
 \_\_\_\_\_  
 Joyce Brown, Mayor

  
 \_\_\_\_\_  
 Lori Ashley, City Recorder

**Cowan, Tennessee -Water & Sewer**  
**Five Year Capital Asset Plan**

|  | <u>6/30/2021</u> | <u>6/30/2022</u> | <u>6/30/2023</u> | <u>6/30/2024</u> | <u>6/30/2025</u> |
|--|------------------|------------------|------------------|------------------|------------------|
| Used Service Truck                             | 15,000           |                  |                  |                  |                  |
| Headworks Pump                                 | 5,000            |                  |                  |                  |                  |
| Lab Equipment Wastewater                       | 3,000            |                  |                  |                  |                  |
| I & I Line Replacement                         | 20,000           |                  |                  |                  |                  |
| Roof Wastewater Plant                          | 20,000           |                  |                  |                  |                  |
| Replace Screens at Wastewater Plant            |                  | 150,000          |                  |                  |                  |
| Sludge Pump                                    |                  | 3,500            |                  |                  |                  |
| I & I Line Replacement                         |                  | 20,000           |                  |                  |                  |
| Water Line Replacement - Cumberland RD         |                  | 100,000          |                  |                  |                  |
| Sludge Handling Improvement                    |                  |                  | 400,000          |                  |                  |
| Sewer Rodder                                   |                  |                  | 25,000           |                  |                  |
| I & I Line Replacement                         |                  |                  | 20,000           |                  |                  |
| Replace Rotors at Wastewater Plant             |                  |                  |                  | 1,000,000        |                  |
| Repair & Repaint Water Tanks                   |                  |                  |                  | 80,000           |                  |
| I & I Line Replacement                         |                  |                  |                  | 20,000           |                  |
| Repair & Repaint Water Tanks                   |                  |                  |                  |                  | 90,000           |
| I & I Line Replacement                         |                  |                  |                  |                  | 20,000           |
| <b>Total</b>                                   | <b>63,000</b>    | <b>273,500</b>   | <b>445,000</b>   | <b>1,100,000</b> | <b>110,000</b>   |
| Cumulative Depreciation                        | 5,600            | 12,700           | 24,450           | 53,950           | 58,950           |
| <b>Total Capital Outlay &amp; Depreciation</b> | <b>68,600</b>    | <b>286,200</b>   | <b>469,450</b>   | <b>1,153,950</b> | <b>168,950</b>   |
| <b><u>Source of Funds</u></b>                  |                  |                  |                  |                  |                  |
| Loans  | -                | 150,000          | 400,000          | 1,000,000        | -                |
| Grants   | -                | -                | -                | -                | -                |
| Cash   | 63,000           | 123,500          | 45,000           | 100,000          | 110,000          |
| <b>Total Funding Sources</b>                   | <b>63,000</b>    | <b>273,500</b>   | <b>445,000</b>   | <b>1,100,000</b> | <b>110,000</b>   |

**Cowan, Tennessee- Projected Statements of Revenues and Expenses and Changes in Net Position**  
**Water & Sewer Fund**

|   | Projected<br><u>6/30/2021</u> | Projected<br><u>6/30/2022</u> | Projected<br><u>6/30/2023</u> | Projected<br><u>6/20/2024</u> | Projected<br><u>6/30/2025</u> |
|---|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| Operating Revenues:                           |                               |                               |                               |                               |                               |
| Charge for Services                           | 619,117                       | 619,117                       | 619,117                       | 619,117                       | 619,117                       |
| Fire Hydrant Rent                             | 11,000                        | 11,000                        | 11,000                        | 11,000                        | 11,000                        |
| Miscellaneous                                 | 3,800                         | 3,800                         | 3,800                         | 3,800                         | 3,800                         |
| <b>Total Operating Revenues</b>               | <b>633,917</b>                | <b>633,917</b>                | <b>633,917</b>                | <b>633,917</b>                | <b>633,917</b>                |
| Operating Expenses:                           |                               |                               |                               |                               |                               |
| Contractual Services                          | 28,100                        | 28,662                        | 29,235                        | 29,820                        | 30,416                        |
| Utilities                                     | 50,600                        | 51,612                        | 52,644                        | 53,697                        | 54,771                        |
| Chemicals                                     | 20,700                        | 21,114                        | 21,536                        | 21,967                        | 22,406                        |
| Lab & Testing                                 | 5,400                         | 5,508                         | 5,618                         | 5,731                         | 5,845                         |
| Repairs & Maintenance                         | 44,700                        | 45,594                        | 46,506                        | 47,436                        | 48,385                        |
| Salaries                                      | 168,400                       | 171,768                       | 175,203                       | 178,707                       | 182,282                       |
| Employee Benefits                             | 49,500                        | 50,490                        | 51,500                        | 52,530                        | 53,580                        |
| Payroll Taxes                                 | 15,500                        | 15,810                        | 16,126                        | 16,449                        | 16,778                        |
| Insurance                                     | 21,700                        | 22,134                        | 22,577                        | 23,028                        | 23,489                        |
| Other Supplies & Expenses                     | 29,700                        | 30,294                        | 30,900                        | 31,518                        | 32,148                        |
| Depreciation                                  | 166,470                       | 173,570                       | 185,320                       | 214,820                       | 219,820                       |
| <b>Total Operating Expenses</b>               | <b>600,770</b>                | <b>616,556</b>                | <b>637,166</b>                | <b>675,703</b>                | <b>689,920</b>                |
| <b>Operating Income (Loss)</b>                | <b>33,147</b>                 | <b>17,361</b>                 | <b>(3,249)</b>                | <b>(41,786)</b>               | <b>(56,003)</b>               |
| Nonoperating Revenues (Expenses)              |                               |                               |                               |                               |                               |
| Interest & Investment Revenue                 | 15,300                        | 15,300                        | 15,300                        | 15,300                        | 15,300                        |
| Interest Expense                              | (3,736)                       | (3,964)                       | (4,735)                       | (6,815)                       | (6,517)                       |
| <b>Total Nonoperating Revenues (Expenses)</b> | <b>11,564</b>                 | <b>11,336</b>                 | <b>10,565</b>                 | <b>8,485</b>                  | <b>8,783</b>                  |

|   |        |        |        |          |          |
|---|--------|--------|--------|----------|----------|
| Change in Net Position before Contributed Capital     | 44,711 | 28,697 | 7,316  | (33,301) | (47,220) |
| Capital Contributions / Grants                        | -      | -      | -      | -        | -        |
| Change in Net Position                                | 44,711 | 28,697 | 7,316  | (33,301) | (47,220) |
| Revenue Generated from Passed or Future Rate Increase | N/A    | 36,800 | 61,357 | 81,166   | 101,783  |
| Change in Net Position after Suggested Rate Increase  | 44,711 | 65,497 | 68,674 | 47,866   | 54,562   |

NOTE: For FY 22, 23, 24 and 25 - All expenses increased by 2% CPI with the exception of depreciation expense and interest expense. Depreciation expense increased with new depreciation from 5-year capital plan. Interest expense is from the amortization schedule.

**Cowan, Tennessee- Test Worksheet**  
**Water & Sewer Fund**

|  | City Budget<br><u>6/30/2021</u> | 2 Year<br><u>Average</u> | TAUD<br><u>Projections 6/30/21</u> | <u>Explanation</u>                     |
|--|---------------------------------|--------------------------|------------------------------------|--|
| Operating Revenues:                                      |                                 |                          |                                    |  |
| Charge for Services                                      | 659,400                         | 590,106                  | 619,117                            | Calculated amount from usage           |
| Fire Hydrant Rent  | 11,000                          | -                        | 11,000                             | Has been re-established for 21         |
| Negative Pension Expense                                 | -                               | 8,031                    | -                                  | N/A - this will vary from year to year |
| Miscellaneous  | 31,000                          | 3,782                    | 3,800                              | Used last 2 year average               |
| <b>Total Operating Revenues</b>                          | <b>701,400</b>                  | <b>601,919</b>           | <b>633,917</b>                     |  |
| Operating Expenses:                                      |                                 |                          |                                    |  |
| Contractual Services                                     | 37,000                          | 28,081                   | 28,100                             | Used last 2 year average               |
| Utilities  | 32,800                          | 50,635                   | 50,600                             | Used last 2 year average               |
| Chemicals  | 24,000                          | 20,736                   | 20,700                             | Used last 2 year average               |
| Lab & Testing  | 10,500                          | 5,414                    | 5,400                              | Used last 2 year average               |
| Repairs & Maintenance                                    | 64,500                          | 44,713                   | 44,700                             | Used last 2 year average               |
| Salaries   | 182,500                         | 168,366                  | 168,400                            | Used last 2 year average               |
| Employee Benefits  | 50,000                          | 49,507                   | 49,500                             | Used last 2 year average               |
| Payroll Taxes  | 13,500                          | 15,522                   | 15,500                             | Used last 2 year average               |
| Insurance  | 22,000                          | 21,725                   | 21,700                             | Used last 2 year average               |
| Other Supplies & Expenses                                | 11,000                          | 29,749                   | 29,700                             | Used last 2 year average               |
| Depreciation   | 165,000                         | 164,831                  | 166,470                            | Used depreciation schedule plus new    |
| <b>Total Operating Expenses</b>                          | <b>612,800</b>                  | <b>599,276</b>           | <b>600,770</b>                     |  |
| <b>Operating Income (Loss)</b>                           | <b>88,600</b>                   | <b>2,643</b>             | <b>33,147</b>                      |  |
| Nonoperating Revenues (Expenses)                         |                                 |                          |                                    |  |
| Interest & Investment Revenue                            | 18,000                          | 15,306                   | 15,300                             | Used last 2 year average               |
| Interest Expense   | (4,150)                         | (3,876)                  | (3,736)                            | From amortization schedule             |
| <b>Total Nonoperating Revenues (Expenses)</b>            | <b>13,850</b>                   | <b>11,430</b>            | <b>11,564</b>                      |  |
| <b>Change in Net Position before Contributed Capital</b> | <b>102,450</b>                  | <b>14,073</b>            | <b>44,711</b>                      |  |
| <b>Capital Contributions / Grants</b>                    | <b>-</b>                        | <b>-</b>                 | <b>-</b>                           |  |
| <b>Change in Net Position</b>                            | <b>102,450</b>                  | <b>14,073</b>            | <b>44,711</b>                      |  |



**Cowan, Tennessee - Sewer Fund - Projected Cash and Investment Schedule**

|                               | Projected<br><u>6/30/2021</u> | Projected<br><u>6/30/2022</u> | Projected<br><u>6/30/2023</u> | Projected<br><u>6/30/2024</u> | Projected<br><u>6/30/2025</u> |
|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| <b>Beginning Balance</b>      | <b>1,253,267</b>              | <b>1,368,660</b>              | <b>1,443,993</b>              | <b>1,593,058</b>              | <b>1,646,733</b>              |
| <b>Sources of Funds</b>       |                               |                               |                               |                               |                               |
| Charge for Services           | 619,117                       | 655,917                       | 680,474                       | 700,283                       | 720,900                       |
| Miscellaneous                 | 3,800                         | 3,800                         | 3,800                         | 3,800                         | 3,800                         |
| Interest Income               | 15,300                        | 15,300                        | 15,300                        | 15,300                        | 15,300                        |
| Proceeds from Loans           | -                             | 150,000                       | 400,000                       | 1,000,000                     | -                             |
| <b>Total Sources of Funds</b> | <b>638,217</b>                | <b>825,017</b>                | <b>1,099,574</b>              | <b>1,719,383</b>              | <b>740,000</b>                |
| <b>Uses of Funds</b>          |                               |                               |                               |                               |                               |
| Operating Expenses            | 600,770                       | 616,556                       | 637,166                       | 675,703                       | 689,920                       |
| Depreciation                  | (166,470)                     | (173,570)                     | (185,320)                     | (214,820)                     | (219,820)                     |
| Principle Paid                | 21,788                        | 29,234                        | 48,928                        | 98,011                        | 98,310                        |
| Interest Paid                 | 3,736                         | 3,964                         | 4,735                         | 6,815                         | 6,517                         |
| Capital Assets Purchased      | 63,000                        | 273,500                       | 445,000                       | 1,100,000                     | 110,000                       |
| <b>Total Uses of Funds</b>    | <b>522,824</b>                | <b>749,684</b>                | <b>950,509</b>                | <b>1,665,709</b>              | <b>684,927</b>                |
| <b>Ending Balance</b>         | <b>1,368,660</b>              | <b>1,443,993</b>              | <b>1,593,058</b>              | <b>1,646,733</b>              | <b>1,701,805</b>              |

NOTE: This synopsis from beginning funds to ending funds does not include accounts receivable, accounts payable, fixed asset or any other adjustments made to the balance sheet. This is a "cash basis" summary.

**Cowan, Tennessee - Inside / Outside Analysis**

|   | 6/30/2020      | BACKOUT        | LEFT FOR WATER | WATER           |               | Total          | Allocation Explained     |
|---|----------------|----------------|----------------|-----------------|---------------|----------------|--------------------------|
|   |                | SEWER          |                | Inside          | Outside       |                |                          |
| Operating Revenues:                               |                |                |                |                 |               |                |                          |
| Charge for Services                               | 619,117        | 300,238        | 318,879        | 233,209         | 85,670        | 318,879        | % Based on Usage         |
| Fire Hydrant Rent                                 | 11,000         | -              | 11,000         | 11,000          | -             | 11,000         | All for inside customers |
| Miscellaneous                                     | 3,800          | -              | 3,800          | 3,097           | 703           | 3,800          | % Based on Customers     |
| <b>Total Operating Revenues</b>                   | <b>633,917</b> | <b>300,238</b> | <b>333,679</b> | <b>247,306</b>  | <b>86,373</b> | <b>333,679</b> |                          |
| Operating Expenses:                               |                |                |                |                 |               |                |                          |
| Contractual Services                              | 28,100         | 13,207         | 14,893         | 11,458          | 3,435         | 14,893         | % Based on Gallons       |
| Utilities   | 50,600         | 23,782         | 26,818         | 20,632          | 6,186         | 26,818         | % Based on Gallons       |
| Chemicals   | 20,700         | 9,729          | 10,971         | 8,440           | 2,531         | 10,971         | % Based on Gallons       |
| Lab & Testing                                     | 5,400          | 2,538          | 2,862          | 2,202           | 660           | 2,862          | % Based on Gallons       |
| Repairs & Maintenance                             | 44,700         | 21,009         | 23,691         | 18,227          | 5,464         | 23,691         | % Based on Gallons       |
| Salaries  | 168,400        | 79,148         | 89,252         | 68,666          | 20,586        | 89,252         | % Based on Gallons       |
| Employee Benefits                                 | 49,500         | 23,265         | 26,235         | 20,184          | 6,051         | 26,235         | % Based on Gallons       |
| Payroll Taxes                                     | 15,500         | 7,285          | 8,215          | 6,320           | 1,895         | 8,215          | % Based on Gallons       |
| Insurance   | 21,700         | 10,199         | 11,501         | 8,848           | 2,653         | 11,501         | % Based on Gallons       |
| Other Supplies & Expenses                         | 29,700         | 13,959         | 15,741         | 12,110          | 3,631         | 15,741         | % Based on Gallons       |
| Depreciation                                      | 166,470        | 56,355         | 110,115        | 82,251          | 27,864        | 110,115        | See below                |
| <b>Total Operating Expenses</b>                   | <b>600,770</b> | <b>260,476</b> | <b>340,294</b> | <b>259,338</b>  | <b>80,956</b> | <b>340,294</b> |                          |
| <b>Operating Income (Loss)</b>                    | <b>33,147</b>  | <b>39,762</b>  | <b>(6,615)</b> | <b>(12,032)</b> | <b>5,417</b>  | <b>(6,615)</b> |                          |
| Nonoperating Revenues (Expenses)                  |                |                |                |                 |               |                |                          |
| Interest & Investment Revenue                     | 15,300         | 7,191          | 8,109          | 6,608           | 1,501         | 8,109          | % Based on Customers     |
| Interest Expense                                  | (3,736)        | (1,756)        | (1,980)        | (1,614)         | (366)         | (1,980)        | % Based on Customers     |
| <b>Total Nonoperating Revenues (Expenses)</b>     | <b>11,564</b>  | <b>5,435</b>   | <b>6,129</b>   | <b>4,995</b>    | <b>1,134</b>  | <b>6,129</b>   |                          |
| Change in Net Position before Contributed Capital | 44,711         | 45,197         | (486)          | (7,037)         | 6,551         | (486)          |                          |
| Capital Contributions / Grants                    | -              | -              | -              | -               | -             | -              |                          |
| <b>Change in Net Position</b>                     | <b>44,711</b>  | <b>45,197</b>  | <b>(486)</b>   | <b>(7,037)</b>  | <b>6,551</b>  | <b>(486)</b>   |                          |

| <u>Allocations based on % of Revenue Calculated</u> |    |         |         |
|---|----|---------|---------|
| Water Sales - Inside                                | \$ | 233,209 | 73.13%  |
| Water Sales Outside                                 | \$ | 85,670  | 26.87%  |
|   | \$ | 318,879 | 100.00% |

| <u>Allocations based on % of customers</u> |  |     |         |
|--|--|-----|---------|
| Water - Inside                             |  | 775 | 81.49%  |
| Water - Outside                            |  | 176 | 18.51%  |
|  |  | 951 | 100.00% |

| <u>Allocations based on miles of water lines</u> |  |    |         |
|--|--|----|---------|
| Water - Inside                                   |  | 36 | 72.00%  |
| Water - Outside                                  |  | 14 | 28.00%  |
|  |  | 50 | 100.00% |

| <u>Allocations based on gallons sold</u> |  |            |         |
|--|--|------------|---------|
| Water - Inside                           |  | 28,631,144 | 76.93%  |
| Water - Outside                          |  | 8,583,800  | 23.07%  |
|  |  | 37,214,944 | 100.00% |

| <u>Depreciation</u>      |            | Inside    | Outside   |                       |
|--------------------------|------------|-----------|-----------|-----------------------|
| Water lines depreciation | 49,948.16  | 35,962.68 | 13,985.48 | Based on water lines  |
| Water depreciation       | 60,166.84  | 46,289.08 | 13,877.76 | Based on gallons sold |
|                          | 110,115.00 | 82,251.75 | 27,863.25 |                       |

**Exhibit 7****RESOLUTION NO. 2021-\_\_\_\_\_****A RESOLUTION TO ESTABLISH CAPITALIZATION THRESHOLDS FOR ASSETS TO BE RECORDED AS CAPITAL ASSETS IN THE CITY'S FINANCIAL STATEMENTS**

WHEREAS, the City of Cowan, Tennessee (the City) desires to formally adopt the capitalization thresholds at which its assets have historically been capitalized and recorded as capital assets in the City's financial statements; and

WHEREAS, the City desires to establish appropriate capitalization thresholds and service lives for its water system assets which are consistent with the directives of the Water and Wastewater Financing Board for municipal water and sewer systems.

NOW, THEREFORE, BE IT RESOLVED by the Board of Mayor and Commissioners that:

(a) **Capitalization Thresholds.** City assets with an estimated useful life of two years will be capitalized when the cost of the asset meets the following thresholds: \$500.00 for land; \$10,000 for buildings; \$5,000 for improvements other than building improvements; \$1,000 for equipment; and \$10,000 for infrastructure. Land and Construction in Progress are capitalized but not depreciated. The costs of normal maintenance and repairs that do not add to the value of the asset or materially extend asset lives are not capitalized.

(b) **Asset Cost Basis.** Capital assets shall be recorded at historical cost when the cost is reasonably determinable. If historical cost data is not determinable, an estimated historical cost will be used.

- (1) Actual Cost – This cost will include the purchase or construction cost (which can be obtained through invoice, purchase order, and paid check files) and charges necessary to place the asset into service at its intended location. Such necessary costs may include costs such as freight and transportation, site preparation expenditures, interest costs, professional fees, and legal claims directly attributable to asset acquisition.
- (2) Estimated Cost – This cost will be based on as much documentary evidence as can be found to support the cost, such as interviews with vendors selling such assets engineers, or other personnel and price level adjustments based on the Consumer Price Index for each asset.
- (3) Donated Cost – These assets will be based on their estimated fair market value at time of acquisition. A determination as to the fair market value basis will be included with property records.
- (4) Interest on Debt Issued – Interest on debt issued for the construction of an asset will be capitalized as part of the asset's cost to the extent of the interest that was incurred during the construction period only.

(c) **Depreciation.**

- (1) Depreciation is a method for allocating the cost of capital assets over their useful lives. Generally accepted accounting principles dictate that the value of the capital asset must be written off as an expense over the useful life of the asset.
- (2) Annual depreciation expense will be calculated using the straight-line method.
- (3) When the asset is disposed of, the actual date of disposal is disregarded, and the disposal date is the end of the month prior to the month of disposal (i.e. no depreciation is taken for the month of disposal).
- (4) The salvage value of an asset is an estimate made by management of what the value of an asset will be at the end of its useful life. If the City intends to utilize a capital asset until it is literally worthless, a salvage value of zero (0) will be assigned.

(d) **Useful Lives of Capital Assets**

| <u>Asset Type</u>   | <u>Useful Life in Years</u> |
|---|-----------------------------|
| Land and Easements  | No depreciation             |
| Buildings and improvements (other than water and sewer)         | 25-50                       |
| Furniture, machinery and equipment (other than water and sewer) | 3-10                        |
| Water System:   |                             |
| Buildings (Office and Plant)                                    | 20-50                       |
| Equipment and Tools   | 3-10                        |
| Furniture and Fixtures  | 3-10                        |
| Machinery, Equipment and Service Vehicles                       | 3-10                        |
| Pumps and Treatment Equipment                                   | 3-10                        |
| Transportation Equipment  | 3-10                        |
| Water Lines and Storage   | 20-50                       |
| Well / Dam  | Engineer's Estimate         |

Sewer System:

|   |       |
|---|-------|
| Buildings (Office and Plant)              | 20-50 |
| Equipment and Tools                       | 3-10  |
| Furniture and Fixtures                    | 3-10  |
| Machinery, Equipment and Service Vehicles | 3-10  |
| Pumps and Treatment Equipment             | 3-10  |
| Transportation Equipment                  | 3-10  |
| Wastewater (Sewer) System                 | 20-50 |

Adopted this \_\_\_\_\_ day of \_\_\_\_\_, 2021.

\_\_\_\_\_  
Mayor

Attest: \_\_\_\_\_  
City Recorder

**Exhibit 8**

**Cost of Tap Installation**

Name of Utility Cowan

Prepared By: \_\_\_\_\_ Title : \_\_\_\_\_

Date Prepared: \_\_\_\_\_

Type of Tap Water

| Quantity | Itemized Description                             | Cost           | Total Cost    |
|----------|--|----------------|---------------|
| _____    | Water Meter @                                    | _____ each     | \$0.00        |
| _____    | Meter Box @                                      | _____ each     | \$0.00        |
| _____    | Meter setter/Check Valve @                       | _____ each     | \$0.00        |
| _____    | Corporation Stop @                               | _____ each     | \$0.00        |
| _____    | Feet of Service Line @                           | _____ per foot | \$0.00        |
| _____    | Feet of Location Wire/Tape @                     | _____ per foot | \$0.00        |
| _____    | connection meter fitting @                       | _____ each     | \$0.00        |
| _____    | Saddle @   | _____ each     | \$0.00        |
| _____    | Air Compressors @                                | _____ each     | \$0.00        |
| _____    | Valve or Valve Parts @                           | _____ each     | \$0.00        |
| _____    | Backhoe Hours @                                  | _____ per hour | \$0.00        |
| _____    | Boring @   | _____ per foot | \$0.00        |
| _____    | Truck and Trailer Hours @                        | _____ per mile | \$0.00        |
| _____    | Locate Cost @                                    | _____ per hour | \$0.00        |
| _____    | Miscellaneous                                    | _____          | \$0.00        |
| _____    | Seed Straw@                                      | _____          | \$0.00        |
| _____    | 1000 Gallons Flushing @                          | _____ per 1000 | \$0.00        |
| _____    | Administrative Hours @                           | _____ per hour | \$0.00        |
| _____    | Final clean -up/&inspection                      | _____          | \$0.00        |
| _____    | Installation Labor for _____ men x _____ hours @ | _____ per hour | \$0.00        |
| _____    | Overhead   | _____          | \$0.00        |
|          |  | <b>Total</b>   | <b>\$0.00</b> |

### Cost of Tap Installation

|                        |           |  |  |                |  |  |
|------------------------|-----------|--|--|----------------|--|--|
| <b>Name of Utility</b> | Cowan     |  |  |                |  |  |
| <b>Prepared By:</b>    |           |  |  | <b>Title :</b> |  |  |
| <b>Date Prepared:</b>  |           |  |  |                |  |  |
| <b>Type of Tap</b>     | Sewer Tap |  |  |                |  |  |

| Quantity | Itemized Description                                    | Cost           | Total Cost |
|----------|---|----------------|------------|
|          | Tap into main @   | _____ each     | #VALUE!    |
|          | Feet of Service Line @                                  | _____ per foot | #VALUE!    |
|          | Feet of Location Wire/Tape @                            | _____ per foot | #VALUE!    |
|          | Connection sewer main fitting @                         | _____ each     | #VALUE!    |
|          | Saddle @  | _____ each     | #VALUE!    |
|          | Air Compressors @                                       | _____ each     | #VALUE!    |
|          | Gravel in protection if over 5' deep                    | _____ each     |            |
|          | Clean out at customer connection point                  | _____ each     | #VALUE!    |
|          | Other - @   | _____ each     | #VALUE!    |
|          | Other - @   | _____ each     | #VALUE!    |
|          | Backhoe Hours @   | _____ per hour | #VALUE!    |
|          | Boring @  | _____ per foot | #VALUE!    |
|          | Truck and Trailer Hours @                               | _____ per hour | \$0.00     |
|          | Locate Cost @   | _____ per hour | #VALUE!    |
|          | Installation labor for tap _____ men x _____ hours @    | _____ per hour | #VALUE!    |
|          | Final clean-up and inspection _____ men x _____ hours @ | _____ per hour | #VALUE!    |
|          | Administrative hours _____ hours @                      | _____ per hour | #VALUE!    |
|          | Miscellaneous _____                                     |                |            |
|          | Overhead _____  |                | #REF!      |
|          | <b>Total</b>  |                |            |

Note: Labor can vary significantly depending on soil conditions (rock) and depth of main line.

|  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|
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ORDINANCE NO. 15-08-01  
CITY OF COWAN

AN ORDINANCE TO AMEND ORDINANCE NO. 06-09-02 WHICH ESTABLISHED SPENDING LIMITS IN ACCORDANCE WITH THE 1983 MUNICIPAL PURCHASING LAW

BE IT ORDAINED BY THE BOARD OF MAYOR AND COUNCILMEN OF THE CITY OF COWAN, TENNESSEE THAT ORDINANCE NO. 06-09-02 is hereby amended as follows:

SECTION I

- A. PURCHASE ORDERS REQUIRED— is amended to read “Every purchase over \$100.00 must be accompanied by a purchase order number”.
- B. MAYORAL APPROVAL—is amended to read “The mayor may approve purchases up to \$1,000.00”.
- C. COUNCIL APPROVAL—is amended to read “Purchases in the range of \$1,001.00 to \$2,500.00 must be approved by a majority of the City Council”.
- D. QUOTES REQUIRED—is amended to read “Whenever possible, at least three quotes are required for purchases in the range of \$2,501.00 to \$10,000.00; public advertisement or sealed bids are not required”.
- E. PUBLIC ADVERTISEMENT REQUIRED—is amended to read “Public advertisement and competitive sealed bids are required for purchases of \$10,001.00 and over”.

SECTION II

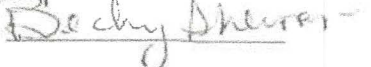
This ordinance shall become effective upon final passage, the public welfare of the City of Cowan, Tennessee requiring it.

PASSED first reading August 11, 2015.

PASSED second reading September 8, 2015.

PASSED third reading October 13, 2015.

Mayor: 

City Recorder: 



JASON E. MUMPOWER  
*Comptroller*

Entity Referred: **City of Harriman**  
Referral Reason: **Negative Change in Net Position**  
Utility Type Referred: **Water and Sewer**

**Staff Summary:**

The City has complied with all prior Board directives, as evidenced in the accompanying pages.

**Staff Recommendation:**

Order the following:

1. The City shall send financial updates to Board staff by March 1st and September 1st of each year, beginning September 1, 2021, until the Board releases the City from its oversight.

**From:** [cvannasdale@hub-tn.com](mailto:cvannasdale@hub-tn.com)  
**To:** [Utilities@cot.tn.gov](mailto:Utilities@cot.tn.gov)  
**Cc:** [Dusty Fagan](#); [Jeremy Gibson](#); ["Wayne Best"](#); [khelms@cityofharriman.net](mailto:khelms@cityofharriman.net); ["Chris Mitchell"](#)  
**Subject:** RE: Response to State Order for Harriman Utility Board (Financial Distress)  
**Date:** Tuesday, June 30, 2020 7:53:31 AM  
**Attachments:** [image001.jpg](#)  
[Harriman New Water and Sewer Rates.pdf](#)

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This e-mail is to follow-up on the water and sewer rate study information I provided your office on February 27<sup>th</sup>. As you are aware, the City of Harriman (Harriman Utility Board, HUB) was issued an Order on 09/30/2019. As such, HUB was required to submit a completed rate study, and either proof of implementation of the resulting recommendations or a proposed plan of implementation. The proposed plan of implementation was presented in my previous e-mail (February 27<sup>th</sup>). Today's e-mail includes the "proof of implementation".

Yesterday evening, our Board of Directors passed a water rates proposal to be effective August 1<sup>st</sup>, 2020. Also, they passed a 2-year sewer rates proposal. The first sewer rate change will take effect August 1<sup>st</sup>, 2020 and the second will take effect August 1<sup>st</sup>, 2021. The attached PDF summarizes the rate changes passed yesterday evening. These rate changes were exactly as recommended in our rate study provided to you in February, with the exception that we are starting August 1<sup>st</sup>, 2020 instead of July 1<sup>st</sup>, 2020. The minor delay is due mostly to our desire to wait until our COVID-19 impact could be better assessed prior to voting on the rate changes. Also, the Board wanted to reevaluate the water department finances in one year before making a decision on the second year (2021) recommendation. I hope you will agree that is appropriate considering the improvement we have already made in our water department since your Order was issued.

In accordance with our strategic plan, our goals are to build appropriate cash reserves in each department, balance our annual budgets to achieve a positive net income (without grant revenue considered), and fund future infrastructure projects (i.e. water plant filter rehab, distribution tank rehab, AMI meters, sewer plant clarifier rehab, etc.).

If you would like additional information or have any questions, please do not hesitate to call me.

**Candace D. Vannasdale, P.E.**  
 General Manager

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**From:** cvannasdale@hub-tn.com <cvannasdale@hub-tn.com>  
**Sent:** Thursday, February 27, 2020 4:28 PM  
**To:** 'utilities@cot.tn.gov' <utilities@cot.tn.gov>  
**Cc:** Dusty Fagan (dfagan@hub-tn.com) <dfagan@hub-tn.com>; Jeremy Gibson <jgibson@hub-tn.com>; 'Wayne Best' <wayne.best@cityofharriman.net>; 'khelms@cityofharriman.net' <khelms@cityofharriman.net>; 'Chris Mitchell' <mail@chrismitchellmc.com>  
**Subject:** Response to State Order for Harriman Utility Board (Financial Distress)

In accordance with the Order issued to the City of Harriman (Harriman Utility Board, HUB) on 09/30/2019, HUB is required to submit a completed rate study, and either proof of implementation

of the resulting recommendations or a proposed plan of implementation.

Attached you will find a copy of our completed rate study with recommendations for both water and wastewater rates for the next four years. This information was developed by our rates consultant Chris Mitchell of Chris Mitchell Management Consultants (CMMC) based upon financial information provided by HUB.

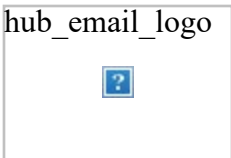
The information from CMMC was first presented to our Board on 01/27/2020. Additionally, I meet with our Board in a Workshop session on 02/10/2020 to further discuss and evaluate the options presented. The Board was very receptive to the recommendations presented by CMMC and agreed that we should vote on the first two years' of rate action for both water and wastewater at the February meeting. Unfortunately, 2 of the 5 Board Members were unable to attend the February meeting, and a decision was made to hold the vote until the next regular Board Meeting scheduled for March 30, 2020. A summary of the proposed Board Action is attached as well as a copy of the State's Order and a copy of our January 2020 Minutes.

I hope that you trust we will send you a summary of the action to be taken at the 03/30/2020 meeting as soon as we can. If you need any additional information, or if you would like paper copies of any of the attachments, please do not hesitate to call me.

**Candace D. Vannasdale, P.E.**

General Manager

hub\_email\_logo



Harriman Utility Board

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Harriman, TN 37748

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Phone: (865) 882-3242 x 201

## 2020 RESIDENTIAL WATER RATES PROPOSAL

### Current Rates:

|                     | Inside City | Outside City |                      |
|---------------------|-------------|--------------|----------------------|
| Customer Charge     | \$21.00     | \$24.50      |                      |
| First 2,000 gallons | \$0.00      | \$0.00       |                      |
| Next 8,000 gallons  | \$6.83      | \$9.85       | per thousand gallons |
| Excess...           | \$4.98      | \$6.23       | per thousand gallons |

### Proposed Rates (effective 8/1/2020):

|                                  | Inside City          | Outside City         |                      |
|----------------------------------|----------------------|----------------------|----------------------|
| Customer Charge                  | \$20.25 <sup>2</sup> | \$23.75 <sup>2</sup> |                      |
| First 1,500 gallons <sup>1</sup> | \$0.00               | \$0.00               |                      |
| Next 8,500 gallons               | \$6.93 <sup>2</sup>  | \$10.19 <sup>2</sup> | per thousand gallons |
| Excess...                        | \$5.05 <sup>2</sup>  | \$6.45 <sup>2</sup>  | per thousand gallons |

#### Notes:

1. We are changing the number of gallons included in the minimum bill (customer charge) from 2,000 to 1,500 gallons in August 2020 and from 1,500 to 1,000 gallons in August 2021.
2. Effective August 1, 2020: For inside customers, we are reducing the fixed rate (customer charge) by 3.57% and increasing the variable rate by 1.5%. For outside customers, we are reducing the fixed rate (customer charge) by 3.06% and increasing the variable rate by 3.5%.

## 2020 COMMERCIAL WATER RATES PROPOSAL

### Current Rates:

|                     | Inside City | Outside City |                      |
|---------------------|-------------|--------------|----------------------|
| Customer Charge     | \$23.40     | \$27.24      |                      |
| First 2,000 gallons | \$0.00      | \$0.00       |                      |
| Next 8,000 gallons  | \$7.65      | \$10.79      | per thousand gallons |
| Excess...           | \$5.58      | \$6.23       | per thousand gallons |

### Proposed Rates (effective 8/1/2020):

|                                  | Inside City          | Outside City         |                      |
|----------------------------------|----------------------|----------------------|----------------------|
| Customer Charge                  | \$22.56 <sup>2</sup> | \$26.41 <sup>2</sup> |                      |
| First 1,500 gallons <sup>1</sup> | \$0.00               | \$0.00               |                      |
| Next 8,500 gallons               | \$7.76 <sup>2</sup>  | \$11.17 <sup>2</sup> | per thousand gallons |
| Excess...                        | \$5.66 <sup>2</sup>  | \$6.45 <sup>2</sup>  | per thousand gallons |

#### Notes:

1. We are changing the number of gallons included in the minimum bill (customer charge) from 2,000 to 1,500 gallons in August 2020 and from 1,500 to 1,000 gallons in August 2021.
2. Effective August 1, 2020: For inside customers, we are reducing the fixed rate (customer charge) by 3.57% and increasing the variable rate by 1.5%. For outside customers, we are reducing the fixed rate (customer charge) by 3.06% and increasing the variable rate by 3.5%.

**2-YEAR (2020 & 2021)****RESIDENTIAL WASTEWATER RATES PROPOSAL****Current Rates:**

|                      | Inside City | Outside City |
|----------------------|-------------|--------------|
| Customer Charge      | \$18.46     | \$18.46      |
| First 1,000 gallons  | \$0.00      | \$0.00       |
| per 1,000 gallons... | \$11.27     | \$11.27      |

**Proposed Rates (effective 8/1/2020):**

|                      | Inside City          | Outside City         |
|----------------------|----------------------|----------------------|
| Customer Charge      | \$19.75 <sup>1</sup> | \$19.75 <sup>1</sup> |
| First 1,000 gallons  | \$0.00               | \$0.00               |
| per 1,000 gallons... | \$12.06 <sup>1</sup> | \$12.06 <sup>1</sup> |

**Proposed Rates (effective 8/1/2021):**

|                      | Inside City          | Outside City         |
|----------------------|----------------------|----------------------|
| Customer Charge      | \$20.74 <sup>2</sup> | \$20.74 <sup>2</sup> |
| First 1,000 gallons  | \$0.00               | \$0.00               |
| per 1,000 gallons... | \$12.66 <sup>2</sup> | \$12.66 <sup>2</sup> |

**Notes:**

1. Effective August 1, 2020: We are increasing the fixed rate (customer charge) and the variable rate by 7%.
2. Effective August 1, 2021: We are increasing the fixed rate (customer charge) and the variable rate by 5% compared to the 8/1/2020 rates.

**2-YEAR (2020 & 2021)****COMMERCIAL WASTEWATER RATES PROPOSAL****Current Rates:**

|                      | Inside City | Outside City |
|----------------------|-------------|--------------|
| Customer Charge      | \$50.59     | \$50.59      |
| First 1,000 gallons  | \$0.00      | \$0.00       |
| per 1,000 gallons... | \$11.64     | \$11.64      |

**Proposed Rates (effective 8/1/2020):**

|                      | Inside City          | Outside City         |
|----------------------|----------------------|----------------------|
| Customer Charge      | \$54.13 <sup>1</sup> | \$54.13 <sup>1</sup> |
| First 1,000 gallons  | \$0.00               | \$0.00               |
| per 1,000 gallons... | \$12.45 <sup>1</sup> | \$12.45 <sup>1</sup> |

**Proposed Rates (effective 8/1/2021):**

|                      | Inside City          | Outside City         |
|----------------------|----------------------|----------------------|
| Customer Charge      | \$56.84 <sup>2</sup> | \$56.84 <sup>2</sup> |
| First 1,000 gallons  | \$0.00               | \$0.00               |
| per 1,000 gallons... | \$13.07 <sup>2</sup> | \$13.07 <sup>2</sup> |

**Notes:**

1. Effective August 1, 2020: We are increasing the fixed rate (customer charge) and the variable rate by 7%.
2. Effective August 1, 2021: We are increasing the fixed rate (customer charge) and the variable rate by 5% compared to the 8/1/2020 rates.





JASON E. MUMPOWER  
*Comptroller*

Entity Referred: **Lauderdale County**  
Referral Reason: **Negative Change in Net Position**  
Utility Type Referred: **Water**

**Staff Summary:**

Lauderdale County has complied with paragraphs 3 through 8 of the attached September 18, 2020, order. Although the County did not have a qualified expert perform a new rate study, it did implement rate recommendations from a 2019 Tennessee Association of Utility Districts study.

Staff believes that the newly implemented rates are sufficient to correct the County's financial deficiencies. Moreover, the Board should require regular financial updates which will allow the Board to quickly intervene if necessary.

**Staff Recommendation:**

Order the following:

1. The County shall send financial updates to Board staff by March 1st and September 1st of each year, beginning September 1, 2021, until the Board releases the County from its oversight.



JASON E. MUMPOWER  
*Comptroller*

Entity Referred: **City of Millersville**

Referral Reason: **Negative Change in Net Position**

Utility Type Referred: **Sewer**

**Staff Summary:**

The City has complied with all prior Board directives, as evidenced by the accompanying documentation.

**Staff Recommendation:**

Order the following:

1. The City shall send financial updates to Board staff by March 1st and September 1st of each year, beginning September 1, 2021, until the Board releases the City from its oversight.

# City of Millersville

## Rate Study

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**2020**  
Revised

*Prepared By:*



# City of Millersville

## 2020 Wastewater Rate Study

### Introduction

#### **Purpose**

The purpose of this report is to present a rate study to assist the City of Millersville (City) in complying with an order dated December 4, 2019 from the Water and Wastewater Financing Board (WWFB), a division of the Tennessee Comptroller of the Treasury. The order states:

1. The City shall hire the Tennessee Association of Utility Districts, or another qualified expert as approved by Board staff, to complete a rate study that includes the following:
  - a. The creation of a five-year capital asset budget to be taken from the current capital asset list and to include future anticipated needs; and
  - b. A review of the City's leak adjustment policy, including any recommended modifications:

This order is the result of the City's non-compliance with TCA § 68-221-1010 (included at the end of this report). Non-compliance conditions include a deficit total net position in any one (1) year, a negative change in net position for two (2) consecutive years, or currently in default on any debt instruments.

RateStudies LLC was hired to perform this analysis.

#### **Methodology**

The methodology used by RateStudies is based on the *American Water Works Association (AWWA) M54 Manual - Developing Rates for Small Systems*. Although rate studies are not an exact science, the financial models used in this report can be a valuable tool for making financial decisions and setting wastewater rates. Considerations are made to simplify the rate study process so that it is understandable to utility officials, managers, staff, and customers.

This report presents a comprehensive financial analysis of the City's wastewater system, including a historical 4-year view and a 5-year projection of customer growth, revenue, and expenses. The City's 5-year Capital Improvement Plan and its impact on depreciation are included. The report also shows projections of existing debt service obligations. The City Manager/Recorder, with the assistance of the City's consulting engineer from OHM Advisors, provided assistance in the collection of historical data, development of the Capital Improvement Plan, growth projections, financial projections, and the final recommendations of this report.

This study uses a Cash Flow Analysis and a Change in Net Position Analysis to determine the need for rate increases. Each of these gives an indication of financial stability for the City's wastewater system. Such information is presented both as Excel spreadsheets designed to function as financial models, and as graphs and charts to give a visual presentation of the critical analyses in this report.

The results of the Cash Flow Analysis and the Change in Net Position Analysis are used to determine the amount of increase needed in wastewater revenues to remedy the City's financially distressed position. These analyses were used to determine the amount of revenue required and to help ensure that the Statutory Change in Net Position is not negative for two future consecutive years.

### **Significant Events and Factors**

Factors affecting this analysis are the following conditions or significant plans:

- Since 2016, the City's customer base has increased minimally, at a rate of approximately 0.8%. For this analysis, management is projecting a 1.1% increase each year, principally for residential and commercial customers.
- In the fiscal year (FY) 2019, rates were re-structured using a lower amount of water for the minimum bill. The usage changed from 1,500 to 1,200 gallons for residential customers, and from 1,500 to 1,000 gallons for commercial customers. Also, 81 customers were reclassified from residential to commercial. The net effect of these changes was to increase 2019 sewer revenue by 18.6%.
- The City passed an ordinance in January 2019, indicating that, effective July 1, 2019, and for each following year on July 1, there shall be an automatic increase of 2% to all sewer rates and charges.
- In FY 2020, there was a rate increase of 2% for both residential and commercial customers. Although a 10% increase in rates for motels, hotels, and campgrounds had also been planned, it was not implemented until March 2020. At which time, the rate was increased by 12.2%. While the rate for customers using water wells had not increased for at least four years, the well rate was increased in March 2020 by 3.2%.
- Changes in general expenses increased from 2016 to 2017 by 25%, and then, for 2018 and 2019, they rose an average of 5.0%. For this analysis, management projects future expenses to continue increasing 5.0% per year, except in 2022, which will increase by 8.0% due to the need for additional manpower.
- The five-year Capital Improvement Plan (CIP) for the wastewater system totals \$3,327,828 and will add \$126,350 in additional depreciation.
- There is currently one State Revolving Fund Loan of \$466,200 for which the annual scheduled debt service of \$23,976 is expected to begin in 2021, and which will mature in 2041. This analysis assumes the City will obtain four more State Revolving Fund Loans to finance the additional future capital improvement projects described in the CIP.
- In 2018, the State of Tennessee amended a law requiring the calculation of the Change in Net Position as total revenues less all grants, capital contributions, and expenses, but without reduction for any excluded non-cash items. The Tennessee Comptroller's office has interpreted the phrase "but without reduction for any excluded non-cash items" to require the addition of any decrease (or the subtraction of any increase) in Net Pension and Other Post-Employment Benefit (P&OPEB) Assets, and the opposite treatment for P&OPEB Liabilities. Thus, the Change in Net Position (2018 Statute) shown in this report is calculated based on that interpretation.

## Recommendations

### Rate Increases

Over the next five years, the City's Statutory Change in Net Position is projected to be negative for FY 2021 through 2024. To remedy this financially distressed position, a 15% rate increase is recommended for FY 2021, a 10% increase for FY 2022, and then a 5% increase for both FY 2023 and FY 2024. **Figure 1** below shows a summary of these recommended rates. A more detailed presentation, showing rates by customer class and the impact on monthly bills for varying levels of usage, is shown in **Figure 17**.

| Proposed Annual Rate Increases |      |      |      |      |
|--------------------------------|------|------|------|------|
| 2020                           | 2021 | 2022 | 2023 | 2024 |
| 0%                             | 15%  | 10%  | 5%   | 5%   |

**Figure 1**

### Leak Adjustment Policy

On April 21, 2020, the City's Board of Commissioners approved an updated "Sewer Adjustment Policy" (shown in **Figure 19**), which includes provisions to address adjustments due to leaks. We have reviewed this policy and make no further recommendations.

### **Other Considerations**

Price elasticity is a measurement of how buyers respond to changes in price. Generally, as the price of a product increases, buyers will buy less of the product. The City may experience price elasticity with some of its customers. Higher rates could encourage customers to use less water, which would result in less wastewater collected and fewer revenues collected. This report does not include a price elasticity analysis.

The recommendations of this report are designed to improve the City's finances and meet the requirements of the Tennessee Comptroller over the next five years. It is recommended to monitor and verify projections presented in this report on an annual basis and to react to unforeseen financial changes and make corrections as necessary.

## Customer Growth and Revenue Projections

### Overview

The City depends on revenue collected from five classes of customers -- residential; commercial; motels, hotels & campgrounds, and customers using well water. Revenue is needed to pay for all of the wastewater department needs, including the cost of operation, maintenance, debt service, depreciation, and capital expenses. A review and analysis of the previous four years' of records (FY 2016-2019) provide a reasonable basis for making growth and revenue projections over the next five years (FY 2020-2024) concerning customer growth and revenue.

### Customer Growth

The City's customer base has been mostly flat since FY 2016, increasing an average of only 0.8% per year from FY 2016-2019. For this analysis, management has projected the number of total customers to increase an average of 1.1% for each of the next five years, FY 2020-2024.

### Revenue Projections

Total revenue increased over FY 2016-2019 by an average of 8.3%. With no additional rate increases, revenue is projected to increase an average of 1.2%, for each of the next five years, FY 2020-2024.

**Figure 2** is both a spreadsheet and graphical representation of the number of customers and the related revenue from the previous four years and a projection of growth assuming no additional changes in rates for the next five years. This information provides a basis for recognizing that, given management's anticipated lack of any significant growth in the number of customers, and assuming no additional rate increases are enacted over the next five years, revenue projections for FY 2020-2024 will remain relatively flat.

### Other Considerations

Wastewater usage and associated wastewater revenue will vary according to weather. Customers generally use less water in years that have greater than average amounts of rainfall and more water usage in years when the amount of rainfall is less than average. This report assumes that rainfall will remain at average levels over the next five years.

Also, many water customers are becoming more conscious of water conservation. They are installing water conservation devices to help reduce water usage. Any reduction in water usage will result in a reduction of wastewater revenue.

| Wastewater Customers and Revenue - with No Rate Increases |              |              |              |              |              |              |              |              |              |
|---|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Number of Customers                                       | 2016         | 2017         | 2018         | 2019         | 2020         | 2021         | 2022         | 2023         | 2024         |
| Residential   | 1,789        | 1,799        | 1,820        | 1,755        | 1,775        | 1,795        | 1,815        | 1,835        | 1,855        |
| Commercial  | 2            | 2            | 1            | 82           | 83           | 84           | 86           | 88           | 90           |
| Motels, Hotels & Campgrounds                              | 8            | 8            | 8            | 4            | 4            | 4            | 4            | 4            | 4            |
| Wells (Flat Rate)   | 3            | 3            | 3            | 2            | 2            | 2            | 2            | 2            | 2            |
| <b>Total Customers</b>                                    | <b>1,802</b> | <b>1,812</b> | <b>1,832</b> | <b>1,843</b> | <b>1,864</b> | <b>1,885</b> | <b>1,907</b> | <b>1,929</b> | <b>1,951</b> |
| % Change  |              | 0.6%         | 1.1%         | 0.6%         | 1.1%         | 1.1%         | 1.2%         | 1.2%         | 1.1%         |

| Revenue                      | 2016             | 2017             | 2018             | 2019               | 2020               | 2021               | 2022               | 2023               | 2024               |
|------------------------------|------------------|------------------|------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| Residential                  | \$800,791        | \$838,568        | \$879,220        | \$881,737          | \$891,785          | \$901,833          | \$911,881          | \$921,930          | \$931,978          |
| Commercial                   | \$5,581          | \$10,471         | \$14,683         | \$178,809          | \$180,990          | \$183,170          | \$187,532          | \$191,893          | \$196,254          |
| Motels, Hotels & Campgrounds | \$59,616         | \$47,569         | \$46,827         | \$34,616           | \$34,616           | \$34,616           | \$34,616           | \$34,616           | \$34,616           |
| Wells (Flat Rate)            | \$1,236          | \$1,140          | \$919            | \$1,077            | \$1,077            | \$1,077            | \$1,077            | \$1,077            | \$1,077            |
| <b>Total Revenue</b>         | <b>\$867,224</b> | <b>\$897,748</b> | <b>\$941,650</b> | <b>\$1,096,238</b> | <b>\$1,108,467</b> | <b>\$1,120,696</b> | <b>\$1,135,106</b> | <b>\$1,149,515</b> | <b>\$1,163,925</b> |
| % Change                     |                  | 3.5%             | 4.9%             | 16.4%              | 1.1%               | 1.1%               | 1.3%               | 1.3%               | 1.3%               |

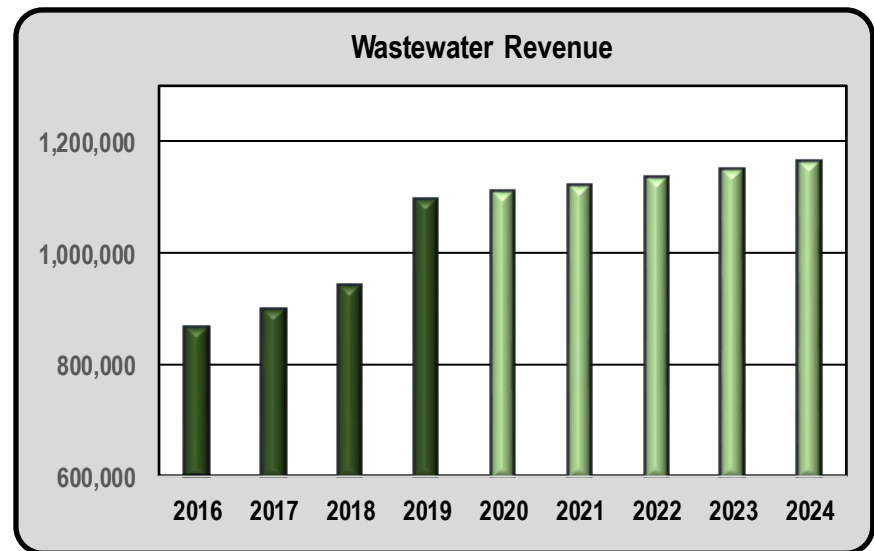
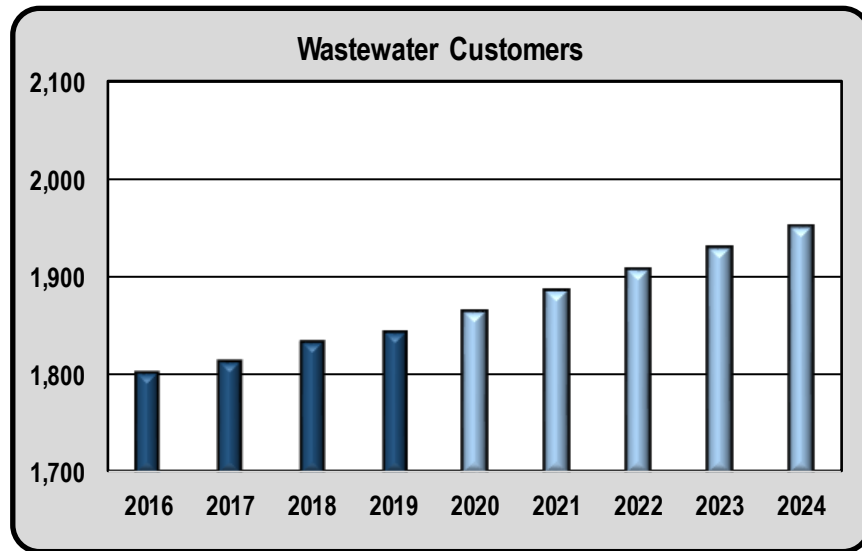


Figure 2



**Figure 3** identifies Other Income besides revenue from customers. Note that, in 2021, the City will no longer buy and sell Sewer Tank/Pump Packages; instead, each customer will be required to buy them from a supplier.

| <b>Other Income - with No Rate Increases</b> |        |        |        |        |        |        |        |        |        |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|  | 2016   | 2017   | 2018   | 2019   | 2020   | 2021   | 2022   | 2023   | 2024   |
| <b>Sewer Fees (Inspects, Permits, etc)</b>   | 450    | 50     |        | 3,085  | 3,000  | 3,000  | 3,000  | 3,000  | 3,000  |
| <b>Sewer Tank/Pump Pkgs</b>                  | 23,525 | 48,288 | 45,194 | 46,634 | 15,000 |        |        |        |        |
| <b>Misc Income</b>                           | 17,469 | 29,386 | 30,876 | 29,454 | 30,000 | 30,000 | 30,000 | 30,000 | 30,000 |
| <b>Total Other Income</b>                    | 41,444 | 77,724 | 76,070 | 79,173 | 48,000 | 33,000 | 33,000 | 33,000 | 33,000 |
| <b>Percent Change</b>                        |        | 87.5%  | -2.1%  | 4.1%   | -39.4% | -31.3% | 0.0%   | 0.0%   | 0.0%   |

**Figure 3**

## Capital Improvement Plan

### Overview

A Capital Improvement Plan (CIP) is typically an unaudited planning document used to identify needed capital improvements and other assets, along with methods of financing, and a calculation of annual depreciation. Capital assets, not including infrastructure assets, are defined by the City as assets with an original cost of \$5,000 or more and a useful life of more than three years. Maintenance items such as meter replacements are not considered capital expenses.

### Anticipated Projects

The City's CIP, shown in **Figure 4**, lists anticipated capital improvements and other assets over the next five years. The CIP includes the name of each project, its estimated cost, proposed financing, useful life in years, and annual depreciation. The depreciation is calculated on the "straight line" method, meaning that the amount of each project or capital expense is divided by its useful life in years.

In addition to anticipating miscellaneous costs of \$ 50,000 per year for unforeseen capital expenditures, specific major projects identified by the City Manager/Recorder and the City's consulting engineer include:

- In FY 2020, an Inflow and Infiltration (I&I) Rehabilitation project, as well as replacing various pumps and other equipment;
- In FY 2021, two more I&I projects (Woody Lane Phase II and replacing some Grinder Lids and Diaphragms);
- In FY 2022, another I&I project (McMurtry Slip Lining);
- In FY 2023, another I&I project (Slater's Creed Road slip lining) McMurtry Slip Lining); and
- In FY 2024, installation of Cartwright Circle North Gravity pumps.

The need for so many I&I projects is illustrated in **Figure 5**. This chart shows an increase in I/I of 27 million gallons between FY 2018 and 2019, which results in an additional annual cost of about \$60,000 for transportation and treatment. Rainfall increased by 3 inches in FY 2019, which could have caused more I/I. Still, the increase in I/I could also be due to other causes such as missing or broken lids, or additional cracks in the sewer lines.

### Financing Future Expenditures

The current I&I rehabilitation project is being financed with a State Revolving Fund Loan of \$518,200, including a grant of \$51,800. All other significant capital improvements are anticipated to be financed with State Revolving Fund Loans, without grants. The remaining capital projects will be funded via cash reserves.

### Other Considerations

The CIP can serve as a planning document and should be reviewed and updated annually. The plan should cover at least five years and include significant purchases. The CIP can also help in developing annual budgets that include depreciation as an expense.

| <b>Wastewater Capital Improvement Plan</b>             |                  |                  |                  |                 |                   |                     |
|--|------------------|------------------|------------------|-----------------|-------------------|---------------------|
| <b>Fiscal Year 2020 (July 1, 2019 - June 30, 2020)</b> |                  |                  |                  |                 |                   |                     |
| <b>Projects</b>  | <b>Cost</b>      | <b>Cash</b>      | <b>Loan</b>      | <b>Grant</b>    | <b>Life-Years</b> | <b>Annual Depr.</b> |
| I&I Rehab  | \$362,827        |                  | \$311,027        | \$51,800        | 40                | \$12,950            |
| Pumps  | \$70,000         | \$70,000         |                  |                 | 10                | \$7,000             |
| Equipment  | \$87,000         | \$87,000         |                  |                 | 10                | \$8,700             |
| Miscellaneous  | \$50,000         | \$50,000         |                  |                 | 10                | \$5,000             |
| <b>Total</b>   | <b>\$569,827</b> | <b>\$207,000</b> | <b>\$311,027</b> | <b>\$51,800</b> |                   | <b>\$33,650</b>     |
| <b>Fiscal Year 2021 (July 1, 2020 - June 30, 2021)</b> |                  |                  |                  |                 |                   |                     |
| <b>Projects</b>  | <b>Cost</b>      | <b>Cash</b>      | <b>Loan</b>      | <b>Grant</b>    | <b>Life-Years</b> | <b>Annual Depr.</b> |
| Woody Lane Phase II (I&I)                              | \$126,500        |                  | \$126,500        |                 | 40                | \$3,163             |
| Grinder Lids and Diaphragms (I&I)                      | \$350,000        | \$350,000        |                  |                 | 20                | \$17,500            |
| Miscellaneous  | \$50,000         | \$50,000         |                  |                 | 10                | \$5,000             |
| <b>Total</b>   | <b>\$526,500</b> | <b>\$400,000</b> | <b>\$126,500</b> |                 |                   | <b>\$25,663</b>     |
| <b>Fiscal Year 2022 (July 1, 2021 - June 30, 2022)</b> |                  |                  |                  |                 |                   |                     |
| <b>Projects</b>  | <b>Cost</b>      | <b>Cash</b>      | <b>Loan</b>      | <b>Grant</b>    | <b>Life-Years</b> | <b>Annual Depr.</b> |
| McMurtry Slip lining (I&I)                             | \$460,000        |                  | \$460,000        |                 | 40                | \$11,500            |
| Miscellaneous  | \$50,000         | \$50,000         |                  |                 | 10                | \$5,000             |
| <b>Total</b>   | <b>\$510,000</b> | <b>\$50,000</b>  | <b>\$460,000</b> |                 |                   | <b>\$16,500</b>     |
| <b>Fiscal Year 2023 (July 1, 2022 - June 30, 2023)</b> |                  |                  |                  |                 |                   |                     |
| <b>Projects</b>  | <b>Cost</b>      | <b>Cash</b>      | <b>Loan</b>      | <b>Grant</b>    | <b>Life-Years</b> | <b>Annual Depr.</b> |
| Slaters Creek Rd Slip lining (I&I)                     | \$747,500        |                  | \$747,500        |                 | 40                | \$18,688            |
| Miscellaneous  | \$50,000         | \$50,000         |                  |                 | 10                | \$5,000             |
| <b>Total</b>   | <b>\$797,500</b> | <b>\$50,000</b>  | <b>\$747,500</b> |                 |                   | <b>\$23,688</b>     |
| <b>Fiscal Year 2024 (July 1, 2023 - June 30, 2024)</b> |                  |                  |                  |                 |                   |                     |
| <b>Projects</b>  | <b>Cost</b>      | <b>Cash</b>      | <b>Loan</b>      | <b>Grant</b>    | <b>Life-Years</b> | <b>Annual Depr.</b> |
| Cartwright Circle North Gravity                        | \$874,000        |                  | \$874,000        |                 | 40                | \$21,850            |
| Miscellaneous  | \$50,000         | \$50,000         |                  |                 | 10                | \$5,000             |
| <b>Total</b>   | <b>\$924,000</b> | <b>\$50,000</b>  | <b>\$874,000</b> |                 |                   | <b>\$26,850</b>     |

Figure 4

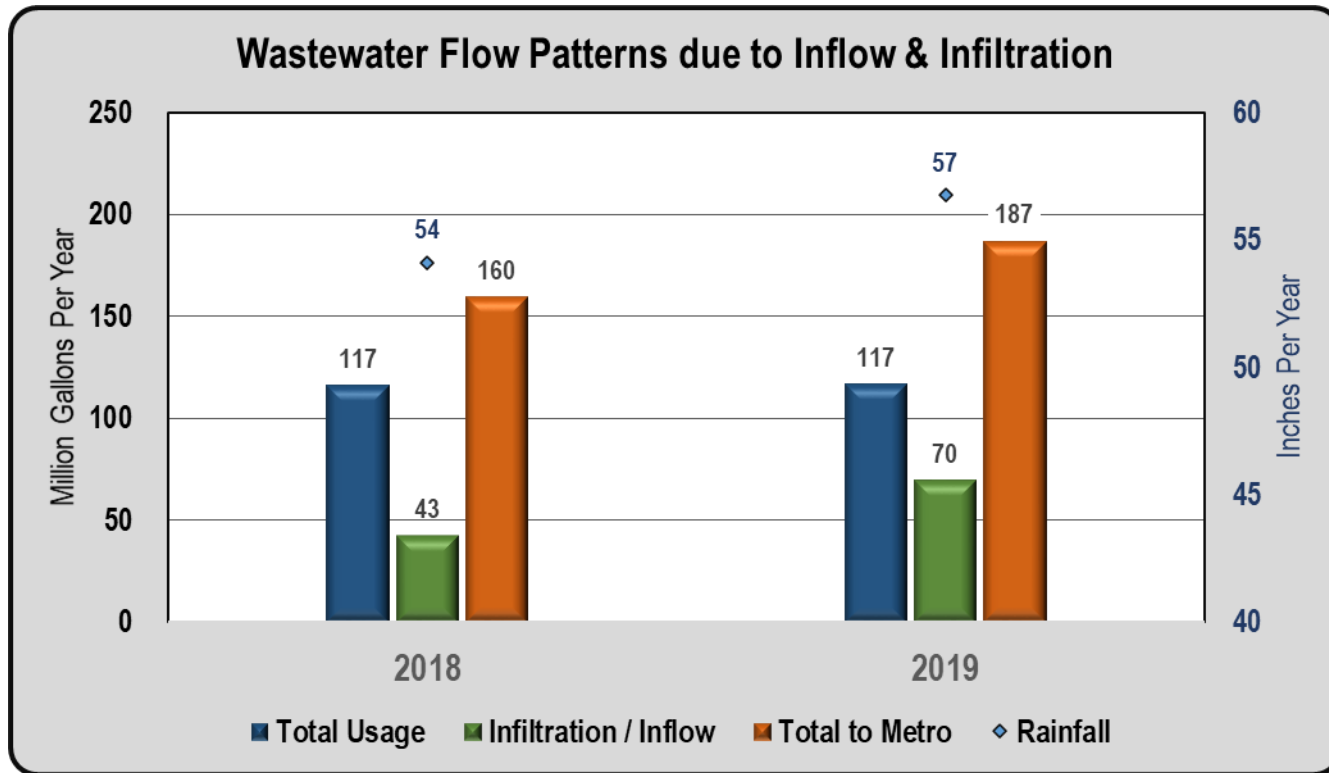


Figure 5

## Depreciation

### Overview

Depreciation is defined as a reduction in the value of an asset with the passage of time, due in particular to wear and tear. Although depreciation is listed as an expense, it is not paid out to anyone, but remains within the City's cash reserves. Funding depreciation is a process compelling the City to accumulate cash. Over time the accumulated depreciation equals the value of money initially spent on each capital asset. This process allows the City to have enough funds for financing new capital improvements or replacing depreciated assets. **Figure 4** (above) shows the amount of annual depreciation of each capital expenditure listed in the CIP.

**Figure 6** is a simplified schedule of all depreciation showing the past five years and projections for the next five. Without any additions to wastewater system fixed assets, the current wastewater depreciation schedule (FY 2019) will remain constant from FY 2020-2022 and then drop to \$234,461 by FY 2024. However, new additions proposed in the CIP will add \$126,350 in new depreciation. **Figure 7** is a graphical representation of scheduled depreciation of existing assets and additional depreciation of new assets placed in service via the anticipated capital improvement projects.

### Requirement

Tennessee state law requires that all utility systems depreciate capital assets. The Governmental Accounting Standards Board (GASB) requires depreciation is to be included in the "Statement of Revenues, Expenses, and Change in Net Position" section of the annual audit as an operating expense. Therefore, the utility must provide sufficient revenue to "fund" the depreciation expense.

### Calculating the Costs

Although there are several methods of determining depreciation, the "straight line" method is used by the City. The calculation is simply dividing the cost of an asset by its useful life. Depreciation has been calculated on each class of depreciable property using the straight-line method. Estimated useful lives are as follows:

|              |    |                       |        |
|--------------|----|-----------------------|--------|
| Buildings    | 40 | Machinery & Equipment | 2 - 20 |
| Improvements | 40 | Sewer Trunk Lines     | 50     |

The depreciation schedule is a listing of each asset, its original cost, the year it went into service, and its useful life. From that, an annual depreciation amount is determined, the accumulated depreciated amount is calculated, and the book value is determined. When the accumulated depreciated amount equals the original cost, the book value goes to zero, and the annual amount of depreciation goes to zero. Unless new assets are added, the total annual depreciation will either stay the same, or it will eventually go away.

### Other Considerations

All assets are to be depreciated regardless of the method of financing, including assets acquired with grants or purchased by developers. An asset begins to depreciate when it is placed into service, not when it is bought or under construction.

| Depreciation - Wastewater           |         |         |         |         |         |         |         |         |         |
|-------------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|                                     | 2016    | 2017    | 2018    | 2019    | 2020    | 2021    | 2022    | 2023    | 2024    |
| <b>Scheduled Depreciation</b>       | 178,484 | 228,709 | 246,189 | 253,705 | 253,705 | 253,705 | 253,705 | 238,298 | 234,461 |
| <b>2020 Additional Depreciation</b> |         |         |         |         | 8,413   | 33,650  | 33,650  | 33,650  | 33,650  |
| <b>2021 Additional Depreciation</b> |         |         |         |         |         | 12,831  | 25,663  | 25,663  | 25,663  |
| <b>2022 Additional Depreciation</b> |         |         |         |         |         |         | 8,250   | 16,500  | 16,500  |
| <b>2023 Additional Depreciation</b> |         |         |         |         |         |         |         | 11,844  | 23,688  |
| <b>2024 Additional Depreciation</b> |         |         |         |         |         |         |         |         | 26,850  |
| <b>Additional Depreciation</b>      |         |         |         |         | 8,413   | 46,481  | 67,563  | 87,656  | 126,350 |
| <b>Total Depreciation</b>           | 178,484 | 228,709 | 246,189 | 253,705 | 262,117 | 300,186 | 321,267 | 325,954 | 360,811 |

| Total Wastewater Depreciation        |         |         |         |         |         |         |         |         |         |
|--------------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| <b>Total Scheduled Depreciation</b>  | 178,484 | 228,709 | 246,189 | 253,705 | 253,705 | 253,705 | 253,705 | 238,298 | 234,461 |
| <b>Total Additional Depreciation</b> |         |         |         |         | 8,413   | 46,481  | 67,563  | 87,656  | 126,350 |
| <b>Total Depreciation</b>            | 178,484 | 228,709 | 246,189 | 253,705 | 262,117 | 300,186 | 321,267 | 325,954 | 360,811 |

Figure 6

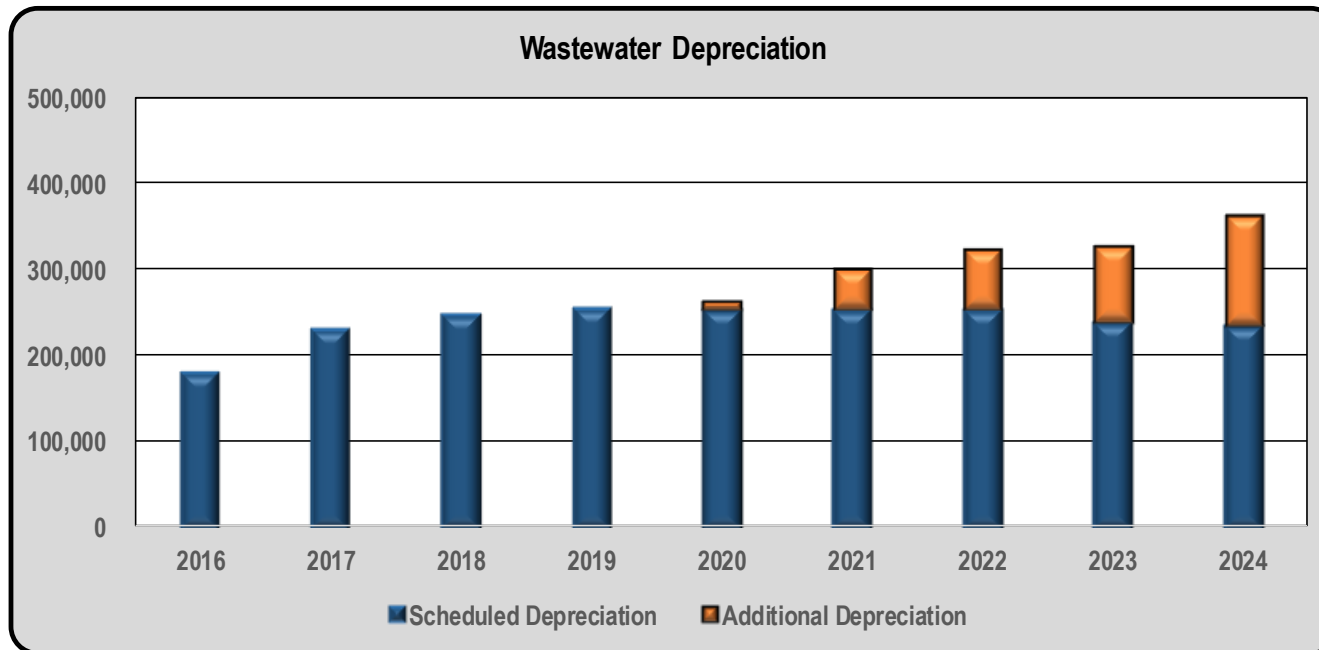


Figure 7  
Page 11

## Debt Service

### Overview

The City currently has one State Revolving Fund Loan of \$466,200 (\$518,000 less a grant of \$51,800), which was initiated in 2017 to finance the current I&I Rehabilitation project. The City has made two draws on this loan -- \$135,949 in FY 2018 and \$19,224 in 2019. The City has made only interest payments for this loan. In FY 2021, the remaining loan balance is scheduled to be released such that this loan will begin repayment of principal plus interest, the scheduled debt service for which is \$23,976/year lasting until 2041.

It is anticipated that the City will use State Revolving Fund Loans for future CIP projects, each having an assumed 1.0% interest rate and a 20-year term. Future projects are assumed to be financed without debt forgiveness or grants.

### Methodology

Debt service impacts both the Cash Flow and the Change in Net Position. Both principal and interest are included in the Cash Flow Analysis. Only the interest amount is included in the Change in Net Position Analysis.

### Debt Service

The wastewater system debt service schedule is shown in **Figure 8**. Given the addition of four additional long-term loans over each of the next four years, debt service will increase from \$27,481 in FY 2021 to \$146,333 in FY 2024 and will remain constant for 20 years.

### Other Considerations

The principal and interest debt schedules can be a resource when developing an annual budget.

| Wastewater Debt Service   |           |          |        |
|---------------------------|-----------|----------|--------|
| 2017 State Revolving Loan |           |          |        |
|                           | Principal | Interest | Total  |
| 2020                      |           | 432      | 432    |
| 2021                      | 22,704    | 1,272    | 23,976 |
| 2022                      | 22,764    | 1,212    | 23,976 |
| 2023                      | 22,824    | 1,152    | 23,976 |
| 2024                      | 22,896    | 1,080    | 23,976 |

| Wastewater Debt Service   |           |          |       |
|---------------------------|-----------|----------|-------|
| 2021 State Revolving Loan |           |          |       |
|                           | Principal | Interest | Total |
| 2020                      |           |          |       |
| 2021                      | 2,873     | 632      | 3,505 |
| 2022                      | 5,802     | 1,208    | 7,010 |
| 2023                      | 5,861     | 1,150    | 7,010 |
| 2024                      | 5,919     | 1,091    | 7,010 |

| Wastewater Debt Service   |           |          |        |
|---------------------------|-----------|----------|--------|
| 2022 State Revolving Loan |           |          |        |
|                           | Principal | Interest | Total  |
| 2020                      |           |          |        |
| 2021                      |           |          |        |
| 2022                      | 10,446    | 2,300    | 12,746 |
| 2023                      | 21,100    | 4,391    | 25,491 |
| 2024                      | 21,311    | 4,180    | 25,491 |

| Wastewater Debt Service   |           |          |        |
|---------------------------|-----------|----------|--------|
| 2023 State Revolving Loan |           |          |        |
|                           | Principal | Interest | Total  |
| 2020                      |           |          |        |
| 2021                      |           |          |        |
| 2022                      |           |          |        |
| 2023                      | 16,974    | 3,737    | 20,711 |
| 2024                      | 34,287    | 7,136    | 41,423 |

| Wastewater Debt Service   |           |          |        |
|---------------------------|-----------|----------|--------|
| 2024 State Revolving Loan |           |          |        |
|                           | Principal | Interest | Total  |
| 2020                      |           |          |        |
| 2021                      |           |          |        |
| 2022                      |           |          |        |
| 2023                      |           |          |        |
| 2024                      | 39,693    | 8,740    | 48,433 |

| Total                     |           |          |         |
|---------------------------|-----------|----------|---------|
| All State Revolving Loans |           |          |         |
|                           | Principal | Interest | Total   |
| 2020                      | 0         | 432      | 432     |
| 2021                      | 25,577    | 1,904    | 27,481  |
| 2022                      | 39,012    | 4,720    | 43,732  |
| 2023                      | 66,758    | 10,430   | 77,188  |
| 2024                      | 124,106   | 22,227   | 146,333 |

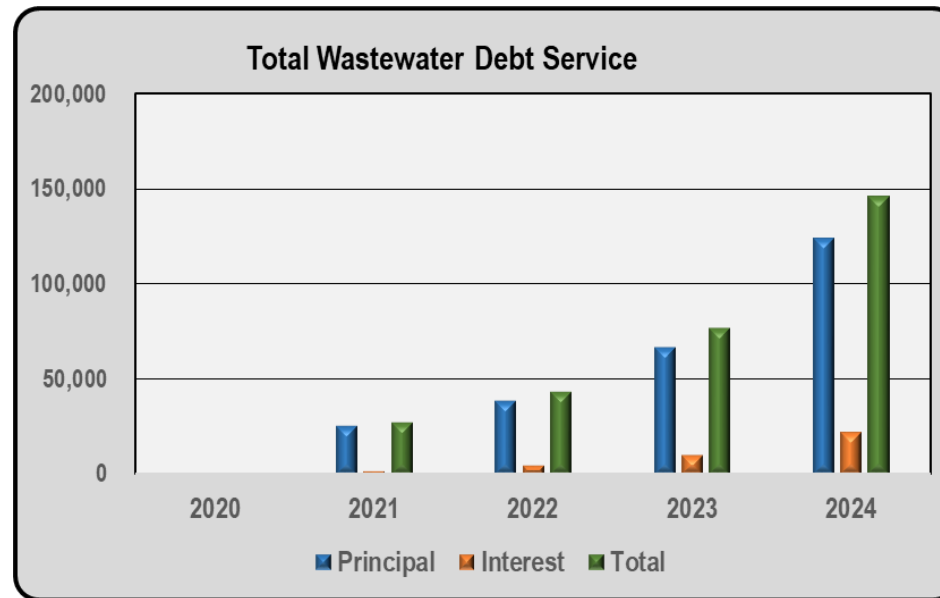


Figure 8



## General Operating Expenses

### Overview

General operating expenses are listed in the annual audit report on the "Statement of Revenues, Expenses, and Changes in Net Position" section. They include items such as Sewer Pretreatment and Odor Control, Treatment (costs from Metro), Transport (Through Goodlettsville and Hendersonville), and all other wastewater system costs borne by Millersville.

### Methodology

In order to project wastewater operating expenses over the next five years, a work session was conducted with key people knowledgeable of the City's wastewater system. Each line of operating expense was reviewed, and decisions were made as to the expected percentage increase for each line item expense. Although total expenditures increased from 2016 to 2017 by 25%, for 2018 and 2019, they rose an average of 5.5%. For this analysis, management projects future expenses to continue increasing 5.0% per year, except in 2022, which will increase by 8.0% due to the need for additional manpower.

### Other Considerations

For a small city like Millersville, operating expenses can vary widely from year to year. A significant repair item or the need to buy large quantities of materials & supplies can make a difference in general expenses. This would have a negative impact on the Cash Flow and the Change in Net Position.

Figure 9 shows a summary of the total expenses.

| Wastewater Expenses                   |                |                |                |                |                |                |                  |                  |                  |
|---------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|------------------|------------------|------------------|
|                                       | 2016           | 2017           | 2018           | 2019           | 2020           | 2021           | 2022             | 2023             | 2024             |
| Pretreatment & Odor Control           | 17,994         | 24,849         | 25,433         | 23,811         | 25,002         | 26,252         | 27,564           | 28,942           | 30,390           |
| Metro Costs                           | 267,624        | 261,488        | 290,023        | 332,679        | 349,313        | 366,779        | 385,118          | 404,373          | 424,592          |
| <i>Percent Change</i>                 |                | -2%            | 11%            | 15%            |                |                |                  |                  |                  |
| Goodlettsville & Hendersonville Costs | 91,316         | 104,438        | 114,682        | 128,975        | 135,424        | 142,195        | 149,305          | 156,770          | 164,608          |
| <i>Percent Change</i>                 |                | 14%            | 10%            | 12%            |                |                |                  |                  |                  |
| Millersville Collection               | 236,239        | 375,882        | 386,154        | 363,074        | 381,228        | 400,289        | 450,304          | 472,819          | 496,460          |
| <b>Total</b>                          | <b>613,173</b> | <b>766,657</b> | <b>816,292</b> | <b>848,539</b> | <b>890,966</b> | <b>935,514</b> | <b>1,012,290</b> | <b>1,062,904</b> | <b>1,116,050</b> |
| <i>Total Percent Change</i>           |                | 25%            | 6%             | 4%             | 5%             | 5%             | 8%               | 5%               | 5%               |

Figure 9

## Cash Flow Analysis

### Overview

It is essential for the City to know the amount of cash it has on hand and if its cash reserves are growing or being depleted. Cash is necessary to pay for the utility's operational and maintenance needs, as well as debt service and capital expenditures, in order to preserve its infrastructure, retain its staff, deliver services to customers, and maintain a healthy cash reserve. Therefore, it is vital to predicting its anticipated expenditures and how much cash the City expects to receive from its customers and other sources. Such an examination is called a Cash Flow Analysis. If the projected Net Cash Flow becomes negative, under normal circumstances, then a rate increase is needed.

### Methodology

The Cash Flow Analysis is configured like a cash budget showing the amount of cash at the beginning of the fiscal year, the amount of income (including customer charges and miscellaneous fees), and the amount of general expenses and interest paid on debt. The Cash Flow Analysis does not include the depreciation as an expense. Adding income and subtracting expenses provides the amount of cash available for capital expenses or adding to the cash reserves. Additional financing from contributions (tap and connection fees), loans, and grants are also included. The City operates on an accrual accounting basis, so an accrual adjustment line item is added to facilitate a cash amount at the end of the year. It is difficult to project what is the accrual adjustment (reconciliation of operating income) in future years, so it is not included in the projected years. The cash balance at the end of one year becomes the amount of cash available at the beginning of the next year.

### Wastewater System

**Figure 10** shows the Cash Flow Analysis with no new rate increases over the next five years. It is shown that the net income remains positive and that the cash balance will continue to increase to \$790,313 in FY 2024. **Figure 11** is a graphical representation of the Cash Flow Analysis showing total income, total expenses, and the amount of cash ending for each year.

It is prudent for the District to maintain a cash reserve that is enough to cover emergencies and paying for unexpected items needing to be replaced. The extent of cash reserves required should be evaluated each year to determine if additional action is necessary regarding setting rates and fees.

### Other considerations

The Cash Flow Analysis is developed as a financial model to project the flow of cash from one year to the next. Therefore, if one parameter is changed in one year, all values will adjust in the following years to reflect the change. The line item "Net Income" is an indicator of whether there is sufficient income to pay for expenses.

Having a better understanding of cash flow and the accumulation or depletion of cash can help develop a multi-year capital improvement plan and financing of future projects.

| <b>Wastewater Cash Flow - with No Rate Increases</b> |           |           |           |           |           |           |           |           |           |
|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|  | 2016      | 2017      | 2018      | 2019      | 2020      | 2021      | 2022      | 2023      | 2024      |
| <b>Cash Beginning Jul 1</b>                          | 1,448,824 | 1,060,558 | 1,140,272 | 1,029,555 | 1,033,483 | 1,085,566 | 870,443   | 926,033   | 912,135   |
| <b>Revenue / Income</b>                              |           |           |           |           |           |           |           |           |           |
| <b>Total Sewer Revenue</b>                           | 867,224   | 897,748   | 941,650   | 1,096,238 | 1,108,467 | 1,120,696 | 1,135,106 | 1,149,515 | 1,163,925 |
| <b>Total Other Income</b>                            | 41,444    | 77,724    | 76,070    | 79,173    | 48,000    | 33,000    | 33,000    | 33,000    | 33,000    |
| <b>Interest</b>                                      | 4,019     | 3,118     | 3,204     | 3,201     | 3,213     | 3,375     | 2,706     | 2,879     | 2,836     |
| <b>Total Income</b>                                  | 912,687   | 978,590   | 1,020,924 | 1,178,612 | 1,159,681 | 1,157,071 | 1,170,812 | 1,185,394 | 1,199,761 |
| <b>Expenses</b>                                      |           |           |           |           |           |           |           |           |           |
| <b>General Expenses</b>                              | 613,173   | 766,657   | 816,292   | 848,539   | 890,966   | 935,514   | 1,012,290 | 1,062,904 | 1,116,050 |
| <b>Debt</b>  | 163,402   |           |           | 456       | 432       | 27,481    | 43,732    | 77,188    | 146,333   |
| <b>Transfers (Paid in lieu of taxes)</b>             |           | 24,495    | 29,118    | 29,200    | 29,200    | 29,200    | 29,200    | 29,200    | 29,200    |
| <b>Total Expenses</b>                                | 776,575   | 791,152   | 845,410   | 878,195   | 920,598   | 992,195   | 1,085,222 | 1,169,293 | 1,291,583 |
| <b>Income Less Expenses</b>                          | 136,112   | 187,438   | 175,514   | 300,417   | 239,083   | 164,877   | 85,590    | 16,102    | (91,822)  |
| <b>Capital Financing</b>                             |           |           |           |           |           |           |           |           |           |
| <b>Tap &amp; Connection Fees</b>                     | 16,775    | 25,925    | 21,350    | \$16,775  | 20,000    | 20,000    | 20,000    | 20,000    | 20,000    |
| <b>Loans</b>   |           |           | 135,949   | 19,224    | 311,027   | 126,500   | 460,000   | 747,500   | 874,000   |
| <b>Grants</b>  |           |           |           |           | 51,800    |           |           |           |           |
| <b>Total Capital Financing</b>                       | 16,775    | 25,925    | 157,299   | 35,999    | 382,827   | 146,500   | 480,000   | 767,500   | 894,000   |
| <b>Capital Expenses</b>                              |           |           |           |           |           |           |           |           |           |
| <b>Capital Expenses</b>                              | 559,162   | 232,034   | 248,673   | 429,037   | 569,827   | 526,500   | 510,000   | 797,500   | 924,000   |
| <b>Wastewater Net Cash Flow</b>                      |           |           |           |           |           |           |           |           |           |
| <b>Annual Gain - (Loss)</b>                          | (406,275) | (18,671)  | 84,140    | (92,621)  | 52,083    | (215,123) | 55,590    | (13,898)  | (121,822) |
| <b>Accrual Adjustment</b>                            | 18,009    | 98,385    | (194,857) | 96,549    |           |           |           |           |           |
| <b>Cash Ending Jun 30</b>                            | 1,060,558 | 1,140,272 | 1,029,555 | 1,033,483 | 1,085,566 | 870,443   | 926,033   | 912,135   | 790,313   |

Figure 10

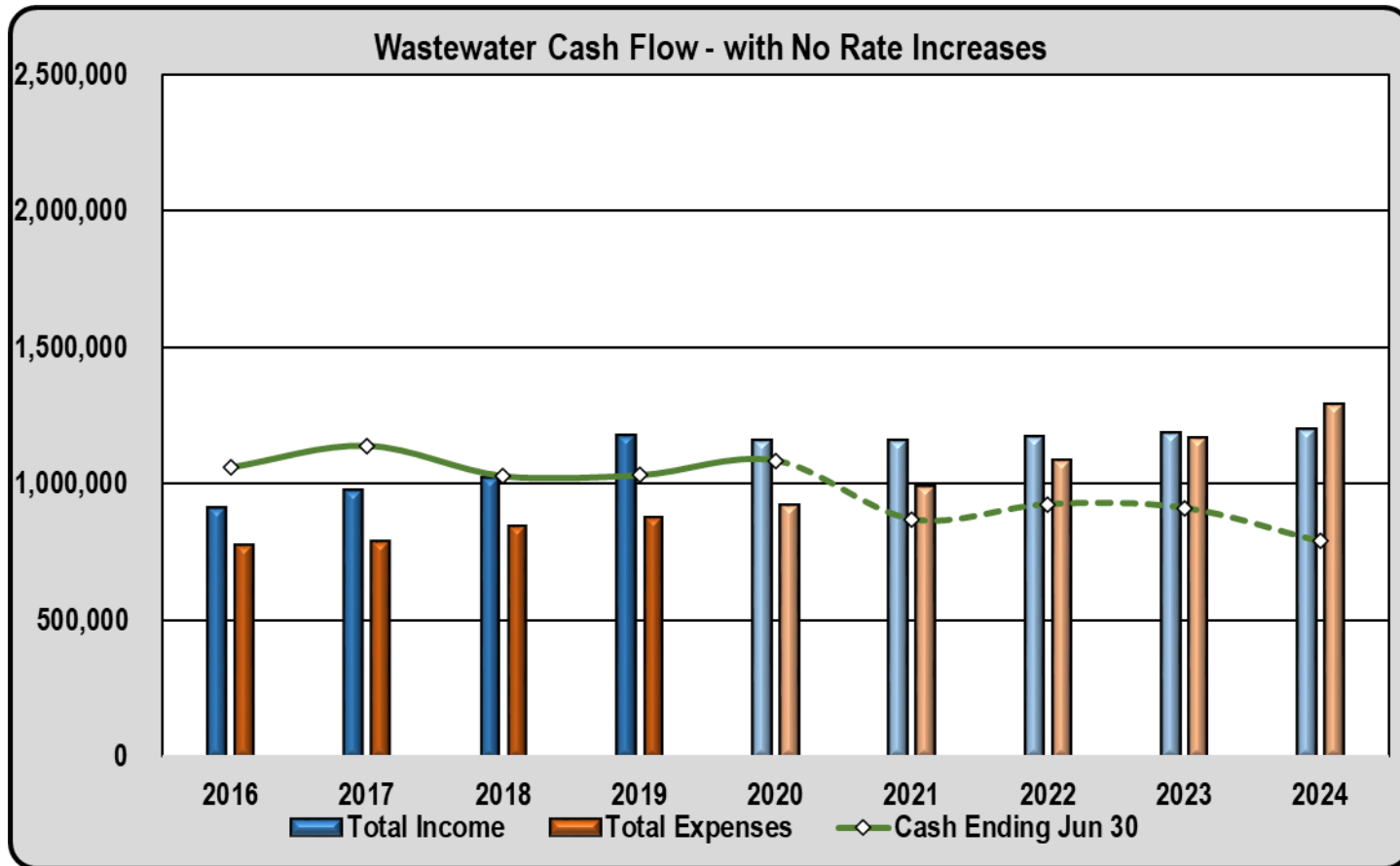


Figure 11

## Change in Net Position Analysis with No Rate Increases

### Overview

Net position is generally defined as assets minus liabilities. The City's wastewater assets include all cash (unrestricted and restricted), land, and the "net value" of everything owned, such as pipes in the ground, tanks, pumps, building, furniture, vehicles and other purchases made that are necessary to the operation of the utility. The net value is defined as the original cost of a capital asset less its accumulated depreciation. Each year there is a change in net position because of the amount of cash changes with increasing or decreasing revenues and expenses, and the amount of the net capital asset value changes because of new capital assets being purchased, all capital assets being depreciated, and possibly some capital assets being totally depreciated. This Change in Net Position is calculated in a section of the City's audit report called "Statement of Revenues, Expenses, and Changes in the Net Position." The Change in Net Position Analysis in this report contains the same data and information found in that section of the audit report.

### Methodology

The Change in Net Position Analysis is different from the Cash Flow Analysis in that it includes depreciation as an operating expense. However, it does not include the amount of money paid for capital improvements or principal debt payments. Though the calculation of the Change in Net Position in the annual audit includes grants and capital contributions, the Tennessee Comptroller will subtract grants and capital contributions in its calculation of the Statutory Change in Net Position. For that reason, grants and capital contributions have not been included in this Change in Net Position Analysis. Finally, based on a 2018 amendment to the Tennessee State law, TCA § 68-221-1010 (shown at the end of this report), the Tennessee Comptroller's interpretation of that amendment requires the addition of any decrease (or the subtraction of any increase) in Net Pension and Other Post-Employment Benefit (P&OPEB) Assets and the opposite treatment for P&OPEB Liabilities. Thus, the increases in the City's P&OPEB Asset balances for FY 2018 and 2019 are each shown as subtractions in this Change in Net Position Analysis.

### Requirement

According to TCA § 68-221-1010 (included at the end of this report), the City is subject to actions by the UMRB if the Statutory Change in Net Position is negative for two consecutive years. However, it is important to note that, because the amount of P&OPEB Assets/Liabilities needed to determine the year-to-year net change is unknown for the future years, this Analysis makes no assumptions as to the necessary adjustment for each of the years 2020-2024. Instead, one of the objectives of the rate recommendations within this report is to project enough revenue to avoid the possibility of having a negative the Statutory Change in Net Position amount for those years.

**Figure 12** is the Change in Net Position Analysis. It shows the calculation of Statutory Change in Net Position based on the Tennessee law. Because the projected Change in Net Position (2018 Statute) is negative for FY 2021-2024, the City would be considered a distressed utility. Although the calculated totals shown here include no rate increases, the recommended rate increases are shown at the bottom.

| <b>Wastewater Change in Net Position - with No Rate Increases</b> |                |                  |                  |                  |                  |                  |                  |                  |                  |
|---|----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
|   | 2016           | 2017             | 2018             | 2019             | 2020             | 2021             | 2022             | 2023             | 2024             |
| <b>Revenue / Income</b>   |                |                  |                  |                  |                  |                  |                  |                  |                  |
| Revenue   | 867,224        | 897,748          | 941,650          | 1,096,238        | 1,108,467        | 1,120,696        | 1,135,106        | 1,149,515        | 1,163,925        |
| Other Income  | 41,444         | 77,724           | 76,070           | 79,173           | 48,000           | 33,000           | 33,000           | 33,000           | 33,000           |
| Interest  | 4,019          | 3,118            | 3,204            | 3,201            | 3,213            | 3,375            | 2,706            | 2,879            | 2,836            |
| Gain on Disposal of Assets  | 750            | 5,140            | 5,084            |                  |                  |                  |                  |                  |                  |
| <b>Total Income</b>   | <b>913,437</b> | <b>983,730</b>   | <b>1,026,008</b> | <b>1,178,612</b> | <b>1,159,681</b> | <b>1,157,071</b> | <b>1,170,812</b> | <b>1,185,394</b> | <b>1,199,761</b> |
| <b>Expenses</b>   |                |                  |                  |                  |                  |                  |                  |                  |                  |
| General Expenses  | 613,173        | 766,657          | 816,292          | 848,539          | 890,966          | 935,514          | 1,012,290        | 1,062,904        | 1,116,050        |
| Depreciation  | 178,484        | 228,709          | 246,189          | 253,705          | 262,117          | 300,186          | 321,267          | 325,954          | 360,811          |
| Transfer  |                | 24,495           | 29,118           | 29,200           | 29,200           | 29,200           | 29,200           | 29,200           | 29,200           |
| Interest Expense  | 1,444          |                  |                  | 456              | 432              | 1,904            | 4,720            | 10,430           | 22,227           |
| <b>Total Expenses</b>   | <b>793,101</b> | <b>1,019,861</b> | <b>1,091,599</b> | <b>1,131,900</b> | <b>1,182,715</b> | <b>1,266,804</b> | <b>1,367,477</b> | <b>1,428,488</b> | <b>1,528,287</b> |
| <b>Income Less Expenses</b>                                       | <b>120,336</b> | <b>(36,131)</b>  | <b>(65,591)</b>  | <b>46,712</b>    | <b>(23,035)</b>  | <b>(109,733)</b> | <b>(196,665)</b> | <b>(243,094)</b> | <b>(328,526)</b> |
| <b>Statutory Change in Net Position</b>                           |                |                  |                  |                  |                  |                  |                  |                  |                  |
| Change in Net Position (2017 Statute)                             | 120,336        | (36,131)         | (65,591)         | 46,712           | (23,035)         | (109,733)        | (196,665)        | (243,094)        | (328,526)        |
| Change in P&OPEB* Assets/Liability                                |                |                  | (11,350)         | (10,356)         |                  |                  |                  |                  |                  |
| <b>Change in Net Position (2018 Statute)</b>                      |                |                  | <b>(76,941)</b>  | <b>36,356</b>    | <b>(23,035)</b>  | <b>(109,733)</b> | <b>(196,665)</b> | <b>(243,094)</b> | <b>(328,526)</b> |
| <b>Recommended Rate Increases</b>                                 |                |                  |                  |                  |                  | <b>15%</b>       | <b>10%</b>       | <b>5%</b>        | <b>5%</b>        |

\* P&OPEB = Pension and Other Post Employment Benefits

Figure 12

Figure 13 shows a graphical representation of the Change in Net Position Analysis.

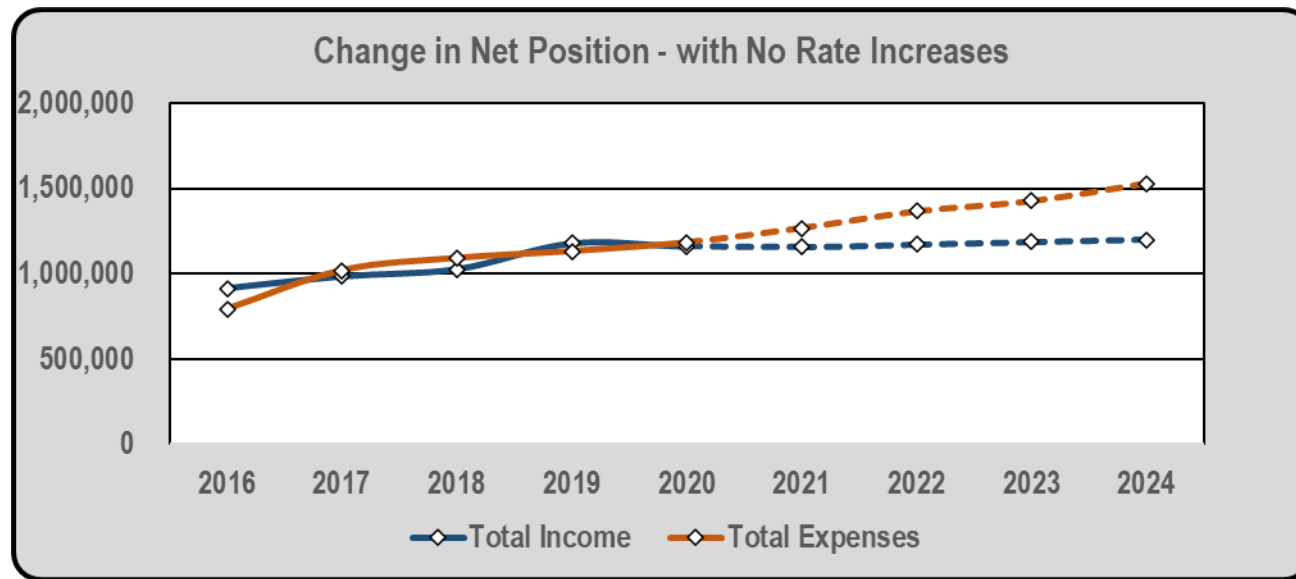


Figure 13

#### Other Considerations

The Change in Net Position Analysis is the analysis that generally controls the extent of rate increases needed.

## Rate Increase Recommendation

### Overview

The amount of rate increase needed is determined using the two analyses presented in this report: the Cash Flow Analysis and the Change in Net Position Analysis. Projections are made over five years. Ideally, rates should be set so that there will be both a cash excess and a sufficiently positive Statutory Change in Net Position in each consecutive year.

### Rate Increase

When determining rate increase recommendations, given the inherent uncertainty of projections, and the need to cover the possible net increase in P&OPEB Assets/Liabilities, it is best to be conservative. Also, rather than implementing just one substantial rate increase, the City has the option to spread the needed revenue increase over several future years. In fact, the City's 2019 Ordinance requires a rate increase of 2% each year.

It is recommended to implement a 15% increase at the beginning of FY 2021 (or earlier), a 10% increase in FY 2022, and to increase rates by 5% in both FY 2023 and 2024. After that, the City should revert to its requirement for an annual 2% increase.

### Cash Flow

**Figure 14** is the Cash Flow Analysis showing the impact of the recommended rate increases. The proposed rate increases create an upward trend in cash reserves, projected to be \$2,044,106 by FY 2024. **Figure 15** is a graphical representation of the Cash Flow Analysis, with the recommended rate increases.

### Change in Net Position

**Figure 16** is the schedule and graphical representation of the Change in Net Position Analysis, showing the impacts of the recommended rate increases. The result is a positive Statutory Change in Net Position amounts in each year for the next four years. However, while the projected Change in Net Position (2018 Statute) is shown as positive for 2021-2024, the year-to-year net increase in P&OPEB Assets/Liabilities is unable to be projected for those years. Thus, for FY 2020, the projected Change in Net Position (2017 Statute) of -\$23,035 may turn out to be more or less than that amount. On the other hand, for FY 2022-2024, because the projected Change in Net Position (2017 Statute) amounts for FY 2021-2024 are at least \$58,371, it is less likely that the resulting actual Change in Net Position (2018 Statute) for those years will be negative.

### Other Considerations

The recommendation for rate increases is based on projections and estimates of income, expenses, and capital expenses over the next five years. The City should review the impacts of making these increases annually, particularly on the Change in Net Position, as presented in each annual audit report and adjust rates further as necessary.



| <b>Wastewater Cash Flow - With Rate Increases</b> |           |           |           |           |           |           |           |           |           |
|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|   | 2016      | 2017      | 2018      | 2019      | 2020      | 2021      | 2022      | 2023      | 2024      |
| <b>Cash Beginning Jul 1</b>                       | 1,448,824 | 1,060,558 | 1,140,272 | 1,029,555 | 1,033,483 | 1,033,766 | 986,747   | 1,343,141 | 1,706,571 |
| <b>Revenue / Income</b>                           |           |           |           |           |           |           |           |           |           |
| <b>Total Sewer Revenue</b>                        | 867,224   | 897,748   | 941,650   | 1,096,238 | 1,108,467 | 1,288,801 | 1,435,909 | 1,526,844 | 1,623,282 |
| <i>Rate Increase</i>                              |           |           |           |           |           | 15%       | 10%       | 5%        | 5%        |
| <b>Total Other Income</b>                         | 41,444    | 77,724    | 76,070    | 79,173    | 48,000    | 33,000    | 33,000    | 33,000    | 33,000    |
| <b>Interest</b>                                   | 4,019     | 3,118     | 3,204     | 3,201     | 3,213     | 3,375     | 2,706     | 2,879     | 2,836     |
| <b>Total Income</b>                               | 912,687   | 978,590   | 1,020,924 | 1,178,612 | 1,159,681 | 1,325,176 | 1,471,615 | 1,562,723 | 1,659,118 |
| <b>Expenses</b>                                   |           |           |           |           |           |           |           |           |           |
| <b>General Expenses</b>                           | 613,173   | 766,657   | 816,292   | 848,539   | 890,966   | 935,514   | 1,012,290 | 1,062,904 | 1,116,050 |
| <b>Debt</b>                                       | 163,402   |           |           | 456       | 432       | 27,481    | 43,732    | 77,188    | 146,333   |
| <b>Transfers (Paid in lieu of taxes)</b>          | 0         | 24,495    | 29,118    | 29,200    | 29,200    | 29,200    | 29,200    | 29,200    | 29,200    |
| <b>Total Expenses</b>                             | 776,575   | 791,152   | 845,410   | 878,195   | 920,598   | 992,195   | 1,085,222 | 1,169,293 | 1,291,583 |
| <b>Income Less Expenses</b>                       | 136,112   | 187,438   | 175,514   | 300,417   | 239,083   | 332,981   | 386,394   | 393,430   | 367,535   |
| <b>Capital Financing</b>                          |           |           |           |           |           |           |           |           |           |
| <b>Tap &amp; Connection Fees</b>                  | 16,775    | 25,925    | 21,350    | 16,775    | 20,000    | 20,000    | 20,000    | 20,000    | 20,000    |
| <b>Loans</b>                                      |           |           | 135,949   | 19,224    | 311,027   | 126,500   | 460,000   | 747,500   | 874,000   |
| <b>Grants</b>                                     |           |           |           |           | 51,800    |           |           |           |           |
| <b>Total Capital Financing</b>                    | 16,775    | 25,925    | 157,299   | 35,999    | 331,027   | 146,500   | 480,000   | 767,500   | 894,000   |
| <b>Capital Expenses</b>                           |           |           |           |           |           |           |           |           |           |
| <b>Capital Expenses</b>                           | 559,162   | 232,034   | 248,673   | 429,037   | 569,827   | 526,500   | 510,000   | 797,500   | 924,000   |
| <b>Water and Wastewater Net Cash Flow</b>         |           |           |           |           |           |           |           |           |           |
| <b>Annual Gain - (Loss)</b>                       | (406,275) | (18,671)  | 84,140    | (92,621)  | 283       | (47,019)  | 356,394   | 363,430   | 337,535   |
| <b>Accrual Adjustment</b>                         | 18,009    | 98,385    | (194,857) | 96,549    |           |           |           |           |           |
| <b>Cash Ending Jun 30</b>                         | 1,060,558 | 1,140,272 | 1,029,555 | 1,033,483 | 1,033,766 | 986,747   | 1,343,141 | 1,706,571 | 2,044,106 |

Figure 14

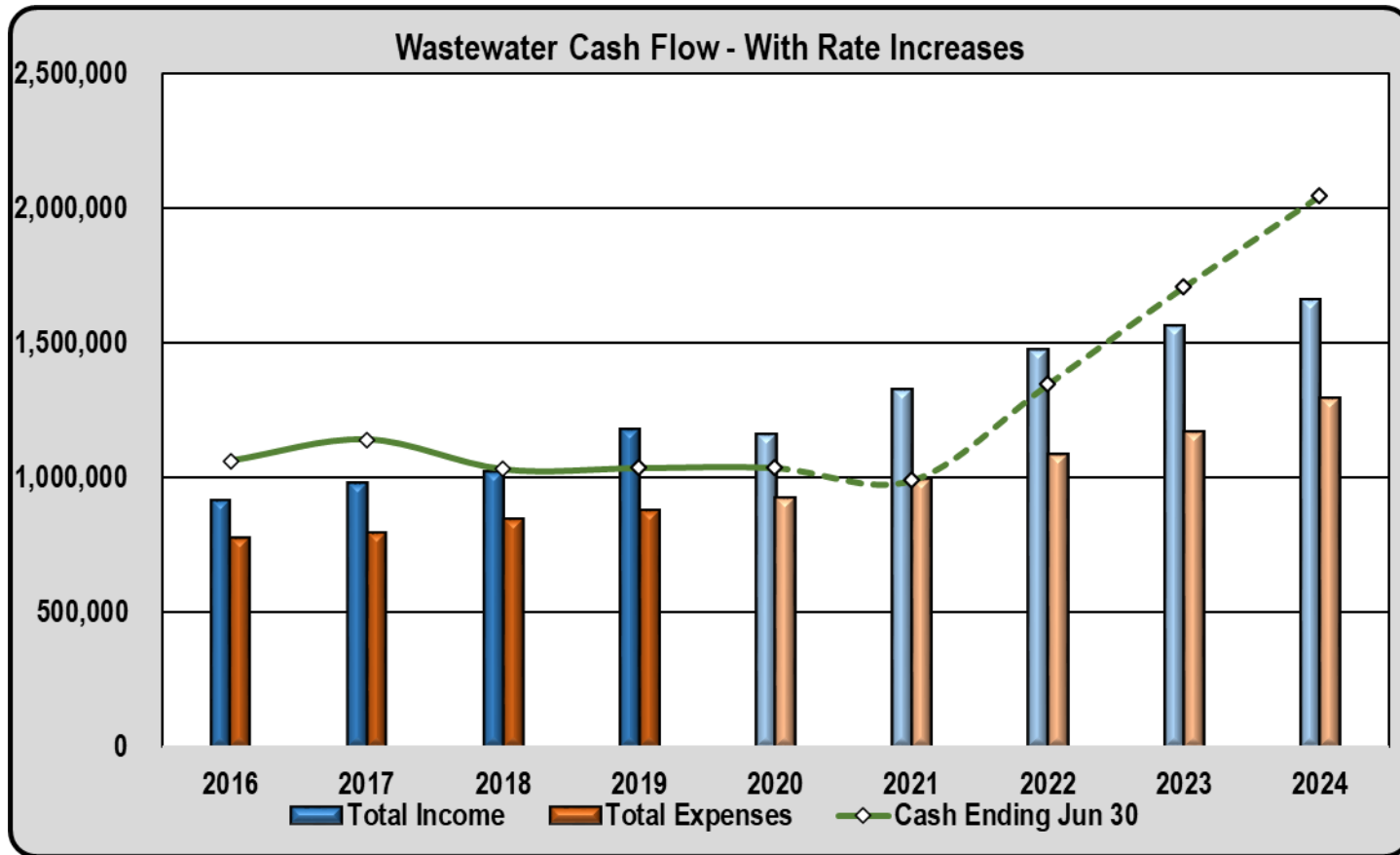


Figure 15

| Wastewater Change in Net Position - With Rate Increases |                |                  |                  |                  |                  |                  |                  |                  |                  |
|---|----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
|   | 2016           | 2017             | 2018             | 2019             | 2020             | 2021             | 2022             | 2023             | 2024             |
| <b>Revenue / Income</b>                                 |                |                  |                  |                  |                  |                  |                  |                  |                  |
| Revenue   | 867,224        | 897,748          | 941,650          | 1,096,238        | 1,108,467        | 1,288,801        | 1,435,909        | 1,526,844        | 1,623,282        |
| Other Income  | 41,444         | 77,724           | 76,070           | 79,173           | 48,000           | 33,000           | 33,000           | 33,000           | 33,000           |
| Interest  | 4,019          | 3,118            | 3,204            | 3,201            | 3,213            | 3,375            | 2,706            | 2,879            | 2,836            |
| Gain on Disposal of Assets                              | 750            | 5,140            | 5,084            |                  |                  |                  |                  |                  |                  |
| <b>Total Income</b>                                     | <b>913,437</b> | <b>983,730</b>   | <b>1,026,008</b> | <b>1,178,612</b> | <b>1,159,681</b> | <b>1,325,176</b> | <b>1,471,615</b> | <b>1,562,723</b> | <b>1,659,118</b> |
| <b>Expenses</b>   |                |                  |                  |                  |                  |                  |                  |                  |                  |
| General Expenses  | 613,173        | 766,657          | 816,292          | 848,539          | 890,966          | 935,514          | 1,012,290        | 1,062,904        | 1,116,050        |
| Depreciation  | 178,484        | 228,709          | 246,189          | 253,705          | 262,117          | 300,186          | 321,267          | 325,954          | 360,811          |
| Transfer  |                | 24,495           | 29,118           | 29,200           | 29,200           | 29,200           | 29,200           | 29,200           | 29,200           |
| Interest Expense  | 1,444          |                  |                  | 456              | 432              | 1,904            | 4,720            | 10,430           | 22,227           |
| <b>Total Expenses</b>                                   | <b>793,101</b> | <b>1,019,861</b> | <b>1,091,599</b> | <b>1,131,900</b> | <b>1,182,715</b> | <b>1,266,804</b> | <b>1,367,477</b> | <b>1,428,488</b> | <b>1,528,287</b> |
| <b>Income Less Expenses</b>                             | <b>120,336</b> | <b>(36,131)</b>  | <b>(65,591)</b>  | <b>46,712</b>    | <b>(23,035)</b>  | <b>58,371</b>    | <b>104,138</b>   | <b>134,235</b>   | <b>130,831</b>   |
| <b>Change in Net Position</b>                           |                |                  |                  |                  |                  |                  |                  |                  |                  |
| Change in Net Position (2017 Statute)                   | 120,336        | (36,131)         | (65,591)         | 46,712           | (23,035)         | 58,371           | 104,138          | 134,235          | 130,831          |
| Change in P&OPEB* Assets/Liability                      |                |                  | (11,350)         | (10,356)         |                  |                  |                  |                  |                  |
| <b>Change in Net Position (2018 Statute)</b>            |                |                  | <b>(76,941)</b>  | <b>36,356</b>    | <b>(23,035)</b>  | <b>58,371</b>    | <b>104,138</b>   | <b>134,235</b>   | <b>130,831</b>   |

\* P&OPEB = Pension and Other Post Employment Benefits

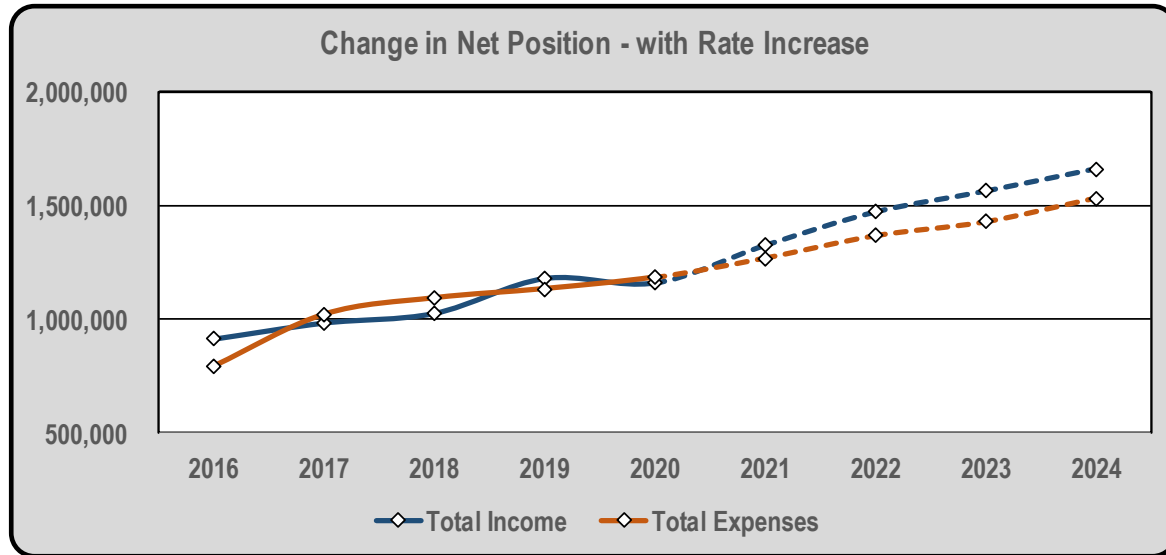


Figure 16

# Impact of Recommended Rate Changes

Figure 17 shows the impact of the recommended rate increases on each customer class and the resulting monthly bill for varying usages.

| Residential                  |                |                |                |            |                |                |                |                |                |            |                |         |         |                |
|------------------------------|----------------|----------------|----------------|------------|----------------|----------------|----------------|----------------|----------------|------------|----------------|---------|---------|----------------|
| 2020 Rates                   |                |                | 2021 Rates     |            |                |                | 2022 Rates     |                |                |            | 2023 Rates     |         |         |                |
| Gallons                      | Minimum        |                | Gallons        | Minimum    |                | Gallons        | Minimum        |                | Gallons        | Minimum    |                |         |         |                |
| First                        | 1,200          | \$16.30        | First          | 1,200      | \$18.75        | 15%            | First          | 1,200          | \$20.62        | 10%        | First          | 1,200   | \$21.65 | 5%             |
|                              |                | Per 1,000 gal. |                |            | Per 1,000 gal. |                |                | Per 1,000 gal. |                |            | Per 1,000 gal. |         |         | Per 1,000 gal. |
| Over                         | 1,200          | \$7.47         | Over           | 1,200      | \$8.59         | 15%            | Over           | 1,200          | \$9.45         | 10%        | Over           | 1,200   | \$9.92  | 5%             |
| Water Sold (Gallons)         | Monthly Charge |                | Monthly Charge | Difference | % Inc.         | Monthly Charge | Difference     | % Inc.         | Monthly Charge | Difference | % Inc.         |         |         |                |
| 1,000                        | \$16.30        |                | \$18.75        | \$2.45     | 15%            | \$20.62        | \$1.87         | 10%            | \$21.65        | \$1.03     | 5%             |         |         |                |
| 3,000                        | \$29.75        |                | \$34.21        | \$4.46     | 15%            | \$37.63        | \$3.42         | 10%            | \$39.51        | \$1.88     | 5%             |         |         |                |
| 5,000                        | \$44.69        |                | \$51.39        | \$6.70     | 15%            | \$56.53        | \$5.14         | 10%            | \$59.35        | \$2.83     | 5%             |         |         |                |
| 7,000                        | \$59.63        |                | \$68.57        | \$8.94     | 15%            | \$75.43        | \$6.86         | 10%            | \$79.20        | \$3.77     | 5%             |         |         |                |
| 10,000                       | \$82.04        |                | \$94.34        | \$12.31    | 15%            | \$103.78       | \$9.43         | 10%            | \$108.96       | \$5.19     | 5%             |         |         |                |
| Commercial                   |                |                |                |            |                |                |                |                |                |            |                |         |         |                |
| 2020 Rates                   |                |                | 2021 Rates     |            |                |                | 2022 Rates     |                |                |            | 2023 Rates     |         |         |                |
| Gallons                      | Minimum        |                | Gallons        | Minimum    |                | Gallons        | Minimum        |                | Gallons        | Minimum    |                |         |         |                |
| First                        | 1,000          | \$16.81        | First          | 1,000      | \$19.33        | 15%            | First          | 1,000          | \$21.26        | 10%        | First          | 1,000   | \$22.33 | 5%             |
|                              |                | Per 1,000 gal. |                |            | Per 1,000 gal. |                |                | Per 1,000 gal. |                |            | Per 1,000 gal. |         |         | Per 1,000 gal. |
| Over                         | 1,000          | \$7.98         | Over           | 1,000      | \$9.18         | 15%            | Over           | 1,000          | \$10.09        | 10%        | Over           | 1,000   | \$10.60 | 5%             |
| Water Sold (Gallons)         | Monthly Charge |                | Monthly Charge | Difference | % Inc.         | Monthly Charge | Difference     | % Inc.         | Monthly Charge | Difference | % Inc.         |         |         |                |
| 1,000                        | \$16.81        |                | \$19.33        | \$2.52     | 15%            | \$21.26        | \$1.93         | 10%            | \$22.33        | \$1.06     | 5%             |         |         |                |
| 10,000                       | \$88.63        |                | \$101.92       | \$13.29    | 15%            | \$112.12       | \$10.19        | 10%            | \$117.72       | \$5.61     | 5%             |         |         |                |
| 20,000                       | \$168.43       |                | \$193.69       | \$25.26    | 15%            | \$213.06       | \$19.37        | 10%            | \$223.72       | \$10.65    | 5%             |         |         |                |
| 40,000                       | \$328.03       |                | \$377.23       | \$49.20    | 15%            | \$414.96       | \$37.72        | 10%            | \$435.71       | \$20.75    | 5%             |         |         |                |
| 60,000                       | \$487.63       |                | \$560.77       | \$73.14    | 15%            | \$616.85       | \$56.08        | 10%            | \$647.69       | \$30.84    | 5%             |         |         |                |
| Motels, Hotels & Campgrounds |                |                |                |            |                |                |                |                |                |            |                |         |         |                |
| 2020 Rates                   |                |                | 2021 Rates     |            |                |                | 2022 Rates     |                |                |            | 2023 Rates     |         |         |                |
| Gallons                      | Minimum        |                | Gallons        | Minimum    |                | Gallons        | Minimum        |                | Gallons        | Minimum    |                |         |         |                |
| All gallons                  | \$11.26        |                | All gallons    | \$12.95    |                | 15%            | All gallons    | \$14.24        |                | 10%        | All gallons    | \$14.96 |         | 5%             |
|                              |                | Per 1,000 gal. |                |            | Per 1,000 gal. |                |                | Per 1,000 gal. |                |            | Per 1,000 gal. |         |         | Per 1,000 gal. |
| Water Sold (Gallons)         | Monthly Charge |                | Monthly Charge | Difference | % Inc.         | Monthly Charge | Difference     | % Inc.         | Monthly Charge | Difference | % Inc.         |         |         |                |
| 10,000                       | \$112.60       |                | \$129.49       | \$16.89    | 15%            | \$142.44       | \$12.95        | 10%            | \$149.56       | \$7.12     | 5%             |         |         |                |
| 30,000                       | \$337.80       |                | \$388.47       | \$50.67    | 15%            | \$427.32       | \$38.85        | 10%            | \$448.68       | \$21.37    | 5%             |         |         |                |
| 60,000                       | \$675.60       |                | \$776.94       | \$101.34   | 15%            | \$854.63       | \$77.69        | 10%            | \$897.37       | \$42.73    | 5%             |         |         |                |
| 90,000                       | \$1,013.40     |                | \$1,165.41     | \$152.01   | 15%            | \$1,281.95     | \$116.54       | 10%            | \$1,346.05     | \$64.10    | 5%             |         |         |                |
| 120,000                      | \$1,351.20     |                | \$1,553.88     | \$202.68   | 15%            | \$1,709.27     | \$155.39       | 10%            | \$1,794.73     | \$85.46    | 5%             |         |         |                |
| Well Rate                    |                |                |                |            |                |                |                |                |                |            |                |         |         |                |
| 2020 Rates                   |                |                | 2021 Rates     |            |                |                | 2022 Rates     |                |                |            | 2023 Rates     |         |         |                |
| Monthly Charge               | \$32.68        |                | Monthly Charge | \$37.58    |                | 15%            | Monthly Charge | \$41.34        |                | 10%        | Monthly Charge | \$43.41 |         | 5%             |

Figure 17

## Comparison with Other Utilities

Figure 18 shows a comparison with similar utilities of a monthly wastewater bill for 5,000 gallons.

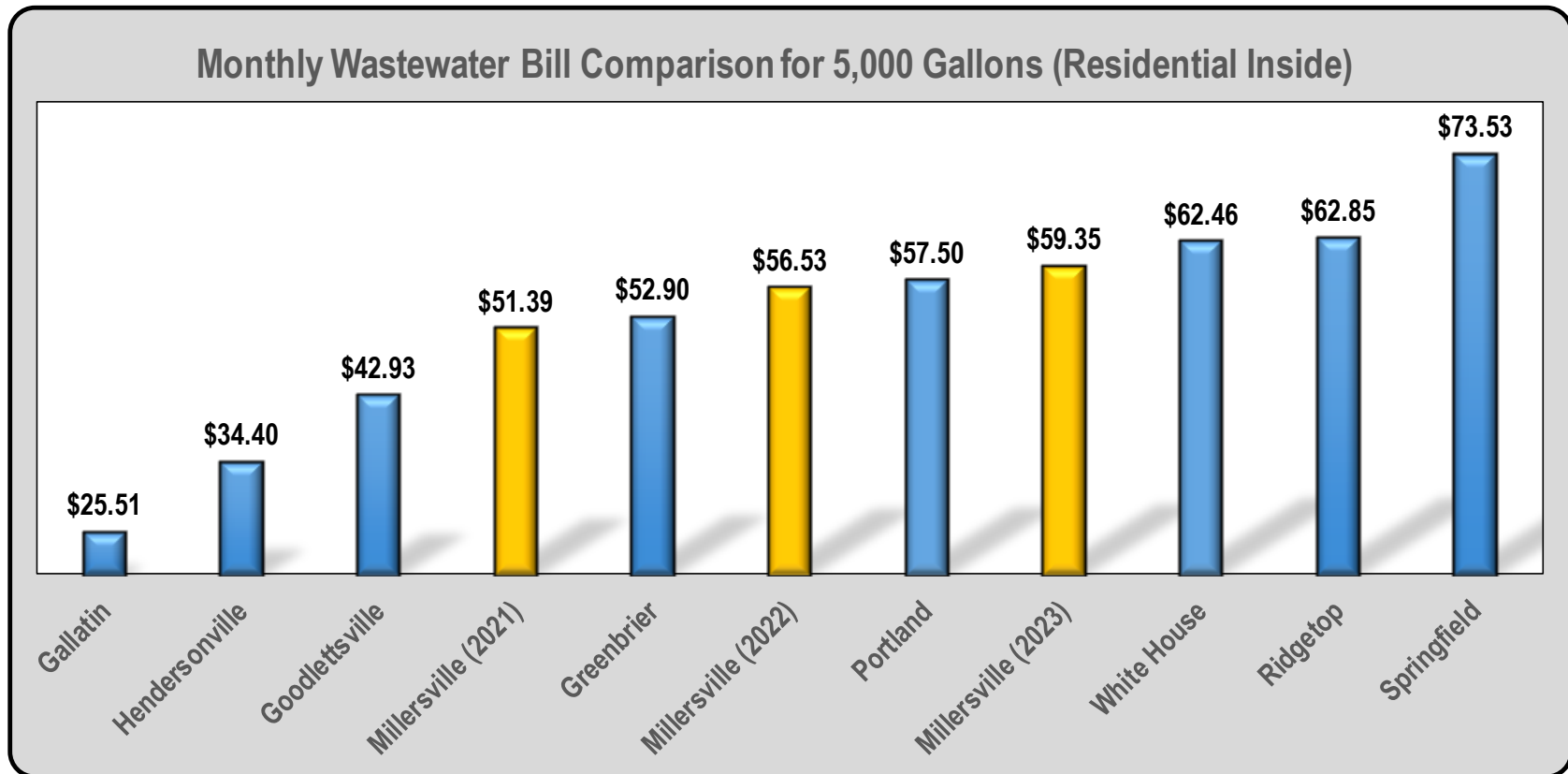


Figure 18

## CITY OF MILLERSVILLE, TENNESSEE

### Resolution 20-R-21 SEWER ADJUSTMENT POLICY Adopted April 21, 2020

#### GENERAL STATEMENT OF ADJUSTMENT POLICY

Sewer rates are based upon the cost of installation and maintenance of the system's infrastructure and the cost of treatment of the wastewater. The most efficient method of measuring sewer usage is to base it on the metered use of water. It is recognized that not all water used at a home will enter the sewer system. Therefore, the City will only make adjustments to sewer bills based upon a few extraordinary events, including major leaks and the filling of large swimming pools. A request for an adjustment should be made as soon as the water usage occurs or is discovered. Requests for an adjustment must be made within six months of the event.

#### WATER LEAKS

Up to two adjustments per calendar year will be given for major water leaks, provided that the leaking water does not flow into the sewer system. In general, a problem that does not result in the leaking water entering drains to the sewer system may qualify for an adjustment.

Proof of repair must be provided before a leak adjustment can be processed. Acceptable proof consists of receipt for work performed by a professional plumbing contractor, receipt(s) for plumbing parts when work is done by the owner/tenant, or a written statement attesting to the leak and subsequent repairs.

To qualify for a leak adjustment, the loss of water must be significant enough so as to result in a noticeable increase in expected water usage (i.e. well above the highest month's usage during a six-month period), followed by a return to normal when the leak is repaired. An approved leak adjustment covers up to two month's water usage. Under no circumstances will leak adjustments be approved for a yearly total of more than four months.

#### SWIMMING POOLS

An adjustment may be given for water used in filling a swimming pool one time during a calendar year. A Pool Fill Request must be submitted for an adjustment. A second adjustment will be permitted only if the customer provides written proof/receipt that a pool was replaced or completely drained for repairs after having been previously filled. No adjustments are given for wading pools or other pools holding less than 2,000 gallons.

#### OTHER WATER USAGE NOT QUALIFYING FOR AN ADJUSTMENT

No adjustments will be given for leaking faucets, running toilets, other leaks where the water is entering the drains, washing cars, pressure-washing, hot tubs, irrigation, or any other water usage not specifically mentioned as qualifying above.

#### CALCULATION OF ADJUSTMENTS

Adjustments are calculated by determining the average water usage of the occupants over a six-month period. For occupants without a six-month history, any adjustment may be delayed until an average can be determined. The average usage calculation is then subtracted from the usage of the month(s) qualifying for an adjustment. The balance is multiplied by the current sewer rate and deducted from the bill or credited to the account. If late fees have been applied prior to the adjustment, they will also be adjusted.

## Tenn. Code Ann. § 68-221-1010

Current through the 2019 Regular Session

### § 68-221-1010. Facilities with earnings or operating deficit or operating in default.

(a)

(1) Within sixty (60) days from the time that an audit of a water system or wastewater facility is filed with the comptroller of the treasury, the comptroller of the treasury, shall file with the board the audited annual financial report of any water system or wastewater facility that has a deficit total net position in any one (1) year, has a negative change in net position for two (2) consecutive years or is currently in default on any of its debt instruments. For purposes of this section, "change in net position" means total revenues less all grants, capital contributions, and expenses, but without reduction for any excluded non-cash items. For purposes of this section, "excluded non-cash items" means any non-cash charges arising from changes to or the implementation of pension and other post-employment benefit standards promulgated by the governmental accounting standards board.

(2) Notwithstanding any other law to the contrary, a government joint venture that supplies or treats water or wastewater for wholesale use only to other governments shall not fall under the jurisdiction of the water and wastewater financing board for the purpose of reporting negative change in the net position annually, but must be referred to the board if the government joint venture is in a deficit or default position as provided herein.

(b)

(1) Within sixty (60) days from the receipt of the audited annual financial report filed by the comptroller of the treasury, the board shall schedule a hearing to determine whether the water system or wastewater facility described in the report is likely to continue in a deficit position. In reaching its determination, the board shall consider current user rates charged by the water system or wastewater facility, the size of the facility and the local government served by it, the quality of the facility's operation and management, and other relevant criteria.

(2) Upon a determination that the water system or wastewater facility is likely to remain in a deficit position, the board may order the management of the water system or wastewater facility to adopt and maintain user rate structures necessary to:

- (A) Fund operation, maintenance, principal and interest obligations and adequate depreciation to recover the cost of the water system or wastewater facility over its useful life;
- (B) Liquidate in an orderly fashion any deficit in total net position; and
- (C) Cure a default on any indebtedness of the water system and wastewater facility.

(3) Any such order shall become final and not subject to review unless the parties named therein request by written petition a hearing before the board, as provided in §§ 68-221-1007 — 68-221-1013, no later than thirty (30) days after the date such order is served. Any hearing or rehearing provided by §§ 68-221-1007 — 68-221-1013 shall be brought pursuant to the

Uniform Administrative Procedures Act, compiled in title 4, chapter 5, part 3. Such hearing may be conducted by the board at a regular or special meeting by any member or panel of members as designated by the chair to act on its behalf, or the chair may designate an administrative judge who shall have the power and authority to conduct hearings in the name of the board to issue initial orders pursuant to the Uniform Administrative Procedures Act.

**(c)** In the event a water system and wastewater facility fails to adopt user rate structures pursuant to a final order of the board, the board may petition the chancery court in a jurisdiction in which the water system and wastewater facility is situated or in the chancery court of Davidson County to require the adoption of the user rate structures ordered by the board or to obtain other remedial action, which, in the discretion of the court, may be required to cause the water system and wastewater facility to be operated in a financially self-sufficient manner.

**(d)**

**(1)** Within sixty (60) days from the time that an audit of a water system is filed with the comptroller of the treasury, the comptroller of the treasury shall file with the board the audited annual financial report of any water system whose water loss as reported in the audit is excessive as established by rules promulgated by the board. Failure of the water system to include the schedule required in this section constitutes excessive water loss and the water system shall be referred to the water and wastewater financing board.

**(2)** In the event a water system fails to take the appropriate actions required by the board to reduce the water loss to an acceptable level pursuant to § 68-221-1009(a)(7), the board may petition the chancery court in a jurisdiction in which the water system is operating to require the water system to take such actions.

**(3)** By February 1 of each year, the comptroller of the treasury shall provide a written report to the speaker of the house of representatives and the speaker of the senate listing the average annual water loss contained in the annual audit for those utility systems described in § 68-221-1007.





JASON E. MUMPOWER  
*Comptroller*

Entity Referred: **Town of Spring City**  
Referral Reason: **Negative Change in Net Position**  
Utility Type Referred: **Water and Sewer**

**Staff Summary:**

The Town has complied with all prior Board directives, as evidenced by the accompanying documentation.

**Staff Recommendation:**

Order the following:

1. The Town shall send financial updates to Board staff by March 1st and September 1st of each year, beginning September 1, 2021, until the Board releases the Town from its oversight.

# Town of Spring City

## Rate Study

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### Cost of Service Analysis 2020

April 13, 2020

*Prepared By:*



# Town of Spring City

## 2019 Water and Wastewater Rate Study

### Introduction

#### **Purpose**

The purpose of this report is to present a comprehensive rate analysis to assist the Town of Spring City (Town) in complying with an order dated April 2, 2019 (included at the end of this report). The order comes from the Water and Wastewater Financing Board (WWFB), a division of the Tennessee Comptroller of the Treasury, and states explicitly:

1. The Town shall hire the Tennessee Association of Utility Districts, or another qualified expert as approved by Board staff, to complete a cost of service study to include:
  - a. A review of all rate classes and recommendation for appropriate rates, including a justification for multiple rate classes or recommendations for a simplified rate structure, and a justification for the discrepancy between rates for customers outside the Town's boundaries as opposed to inside or recommendations for one rate structure;
  - b. A review of all tap fees including any recommended modifications; and
  - c. A review of all service fees and connection fees, including any recommended modifications.

RateStudies LLC was hired to perform this analysis.

#### **Methodology**

The methodology used by RateStudies is based on the *American Water Works Association (AWWA) M54 Manual - Developing Rates for Small Systems*, along with a Cost of Service (COS) analysis. Although rate studies are not an exact science, the financial models used in this report can be a valuable tool for making financial decisions and setting water rates. Considerations are made to simplify the rate study process so that it is understandable to utility officials, managers, staff, and customers.

This report presents a comprehensive financial analysis of the Town's water and wastewater systems, including a historical view and 5-year projection of customer growth, revenue, and expenses. The Town's 5-year Capital Improvement Plan and its impact on depreciation are included. The report also shows projections of existing debt service obligations. The Town's City Manager, City Recorder, Public Works Director and Supervisors of the water and wastewater plants provided assistance in the collection of historical data, development of the Capital Improvement Plan, growth projections, financial projections, and the final recommendations of this report.

To develop a framework for setting new rates, this study used a Cash Flow Analysis and a Change in Net Position Analysis. Each of these gives an indication of financial stability for the Town's water and wastewater systems separately and combined. Such information is presented both as Excel spreadsheets designed to function as financial models, and as graphs and charts to give a visual presentation of the critical analyses in this report.

The Cash Flow Analysis and Change in Net Position Analysis are used to determine the amount of increase needed in water and wastewater revenues to remedy the Town's financially distressed position. These analyses were used to determine the amount of revenue necessary and to help ensure that the Statutory Change in Net Position is not negative for two future consecutive years.

A Cost of Service Analysis is performed to determine appropriate rates by class of customer.

A. System Development Charge Analysis is used in making recommendations for tap fees.

### **Significant Events and Factors**

Factors affecting this analysis are the following conditions or significant plans:

- Since 2015, the Town's customer base for the water and wastewater systems combined has declined slowly, at a rate of less than 1%. For this analysis, management is projecting the total number of customers to increase only slightly each year.
- Water and wastewater rates were each increased in fiscal year (FY) 2019 by an "across the board" 3%. For FY 2020, rates were again increased, but varied between each class of customers, resulting in an overall rate increase of about 12.5% for each system.
- The wastewater system has most customers connected to a gravity system, and other customers connected to a small low-pressure force main with those customers utilizing a grinder pump. TVA and SSM are the most significant users of the wastewater system.
- TVA pays separately for debt service (\$77,504 per year) for the force main used to transport wastewater to the Town's wastewater treatment plant (WWTP). Still, it has not paid for the resulting depreciation, which is \$37,024 per year.
- Changes in general expenses for the combined water and wastewater systems have varied from -16% to 32% over the last five years.
- The five-year Capital Improvement Plan (CIP) for the water system totals \$376,000, and the five-year capital improvement plan for the wastewater system totals \$1,035,648. The water system's CIP will add \$36,907 in additional depreciation, and the wastewater system's CIP will add \$48,512 in additional depreciation.
- There are currently two Rural Development Utilities loans with maturities of 2046 and 2054, and two municipal bonds with maturities of 2033 and 2046. As such, over the next five years, the Town's total debt will continue to decrease gradually.
- In 2018, the State of Tennessee amended a law requiring the calculation of the Change in Net Position as total revenues less all grants, capital contributions, and expenses, but without reduction for any excluded non-cash items. Thus, the Statutory Change in Net Position shown in this report is calculated based on Tennessee law.

**Recommendations**

Recommendations from this study include the following:

- Implement a simplified rate structure, for both water and wastewater that has a minimum bill with 1,000 gallons usage and a cost per 1,000 gallons as determined from the Cost of Service analysis.
- Implement a 12% increase in water rates for FY 2021, and then 3% per year for each year after FY 2021.
- Implement a 3% increase in wastewater rates for FY 2021, and then 3% per year for each year after FY 2021.
- Combine and establish three customer classes to include the following for the water system:
  - Inside City Residential – Including Sprinkler and Irrigation customers
  - Commercial – Including 1” and 2” meter customers and 3” meters and above customers
  - Outside City Residential
- Combine and establish customer classes to include the following for the wastewater system, so there will be four classes of customers:
  - Residential & Commercial
  - SSM
  - TVA
- Bill TVA directly to pay \$37,024 annually for depreciation of the force main system that transports wastewater to the Town’s WWTP.

**Water Rate Increases**

Determining rates according to the WWFB order is a two-step process. The Cost of Service (COS) Analysis is used to determine a fair rate for all customer classes. Also, a rate increase is applied to the COS results. Because of changing the rate structure from a “Minimum charge for the first 2,000 gallons” to a minimum charge for the first 1,000 gallons (based on the COS evaluation), effective rates will vary according to the amount of water purchased. Implementing a 12% rate increase in FY 2021, and then a small increase of 3% per year beyond FY 2021, will provide additional cash for unexpected increases and will help avoid future instances of negative Statutory Change in Net Position.

Figure 1 is a summary of the recommended Inside Residential water rates.

| Inside Residential       |          |                                       |            |          |                                      |            |          |                         |                |     |
|--------------------------|----------|---------------------------------------|------------|----------|--------------------------------------|------------|----------|-------------------------|----------------|-----|
| Current 2020 Water Rates |          | 2021 Water Rates (COS) - with no inc. |            |          | 2021 Water Rates (COS) plus 12% inc. |            |          | Combined COS & 12% inc. |                |     |
| Gallons                  | Minimum  | Gallons                               | Minimum    | % Inc.   | Gallons                              | Minimum    | % Inc.   |                         |                |     |
| First                    | 2,000    | \$25.09                               | First      | 1,000    | \$16.93                              | -33%       | First    | 1,000                   | \$18.96        | 12% |
|                          |          | Per 1,000 gal.                        |            |          | Per 1,000 gal.                       |            |          |                         | Per 1,000 gal. |     |
| Over                     | 2,000    | \$9.90                                | Over       | 1,000    | \$11.31                              | 14%        | Over     | 1,000                   | \$12.66        | 12% |
| Water Sold (Gallons)     | Charge   | Monthly Charge                        | Difference | % Change | Monthly Charge                       | Difference | % Change | Difference              | % Change       |     |
| 1,000                    | \$25.09  | \$16.93                               | (\$8.16)   | -33%     | \$18.96                              | \$2.03     | 12%      | (\$6.13)                | -24%           |     |
| 2,000                    | \$25.09  | \$28.24                               | \$3.15     | 13%      | \$31.63                              | \$3.39     | 12%      | \$6.54                  | 26%            |     |
| 4,000                    | \$44.89  | \$50.86                               | \$5.97     | 13%      | \$56.96                              | \$6.10     | 12%      | \$12.07                 | 27%            |     |
| 5,000                    | \$54.79  | \$62.16                               | \$7.37     | 13%      | \$69.62                              | \$7.46     | 12%      | \$14.83                 | 27%            |     |
| 10,000                   | \$104.29 | \$118.70                              | \$14.41    | 14%      | \$132.95                             | \$14.24    | 12%      | \$28.66                 | 27%            |     |

Note: COS = Cost of Service

Figure 1  
Page 3



**Wastewater Rate Increases**

Similar to the water system, the wastewater system COS Analysis determines a fair rate for all wastewater customer classes. After that, a rate increase is applied to the COS results. Because of changing the rate structure from a “Minimum charge for the first 3,000 gallons” to a minimum charge for the first 1,000 gallons (based on the COS evaluation), effective rates will vary according to the amount of water purchased. An increase of 3% per year beyond FY 2021 will provide additional cash for unexpected expenses. It will help avoid future instances of negative Statutory Change in Net Position.

Figure 4 shows the recommended rates for residential and commercial wastewater customers.

| Residential & Commercial |          |                |  |            |                |  |            |                |                         |          |  |  |
|--------------------------|----------|----------------|--|------------|----------------|--|------------|----------------|-------------------------|----------|--|--|
| 2020 Wastewater Rates    |          |                | 2021 Wastewater Rates (COS) with No Increase |            |                | 2021 Wastewater Rates (COS) with 3% Inc. |            |                | Combined COS & 12% Inc. |          |  |  |
| Gallons                  | Minimum  |                | Gallons                                      | Minimum    | % Inc.         | Gallons                                  | Minimum    | % Inc.         |                         |          |  |  |
| First                    | 3,000    | \$31.36        | First  | 1,000      | \$18.60        | -41%                                     | First      | 1,000          | \$19.16                 | 3%       |  |  |
|                          |          | Per 1,000 gal. |  |            | Per 1,000 gal. |  |            | Per 1,000 gal. |                         |          |  |  |
| Over                     | 3,000    | \$10.89        | Over   | 1,000      | \$11.63        | 7%                                       | Over       | 1,000          | \$11.97                 | 3%       |  |  |
| Water Sold (Gallons)     | Charge   |                | Monthly Charge                               | Difference | % Change       | Monthly Charge                           | Difference | % Change       | Difference              | % Change |  |  |
| 1,000                    | \$31.36  |                | \$18.60                                      | (\$12.76)  | -41%           | \$19.16                                  | \$0.56     | 3%             | (\$12.20)               | -39%     |  |  |
| 2,000                    | \$31.36  |                | \$30.23                                      | (\$1.13)   | -4%            | \$31.13                                  | \$0.91     | 3%             | (\$0.23)                | -1%      |  |  |
| 5,000                    | \$53.14  |                | \$65.10                                      | \$11.96    | 23%            | \$67.06                                  | \$1.95     | 3%             | \$13.92                 | 26%      |  |  |
| 7,000                    | \$74.92  |                | \$88.36                                      | \$13.44    | 18%            | \$91.01                                  | \$2.65     | 3%             | \$16.09                 | 21%      |  |  |
| 10,000                   | \$107.59 |                | \$123.23                                     | \$15.64    | 15%            | \$126.93                                 | \$3.70     | 3%             | \$19.34                 | 18%      |  |  |

Note: COS = Cost of Service

Figure 4

Figure 5 shows the recommended wastewater rates for SSM.

| SSM                   |                |                |  |            |                |  |            |                |                         |          |  |  |
|-----------------------|----------------|----------------|--|------------|----------------|--|------------|----------------|-------------------------|----------|--|--|
| 2020 Wastewater Rates |                |                | 2021 Wastewater Rates (COS) with No Increase |            |                | 2021 Wastewater Rates (COS) with 3% Inc. |            |                | Combined COS & 12% Inc. |          |  |  |
| Gallons               | Minimum        |                | Gallons                                      | Minimum    | % Inc.         | Gallons                                  | Minimum    | % Inc.         |                         |          |  |  |
| First                 | 2,000          | \$34.63        | First  | 1,000      | \$13.02        | -62%                                     | First      | 1,000          | \$13.41                 | 3%       |  |  |
|                       |                | Per 1,000 gal. |  |            | Per 1,000 gal. |  |            | Per 1,000 gal. |                         |          |  |  |
| Over                  | 2,000          | \$4.85         | Over   | 1,000      | \$6.05         | 25%                                      | Over       | 1,000          | \$6.23                  | 3%       |  |  |
| Water Sold (Gallons)  | Monthly Charge |                | Monthly Charge                               | Difference | % Change       | Monthly Charge                           | Difference | % Change       | Difference              | % Change |  |  |
| 1,000,000             | \$4,875        |                | \$6,055                                      | \$1,180    | 24%            | \$6,237                                  | \$182      | 3%             | \$1,361.85              | 28%      |  |  |
| 2,000,000             | \$9,725        |                | \$12,109                                     | \$2,384    | 25%            | \$12,473                                 | \$363      | 3%             | \$2,747.67              | 28%      |  |  |
| 3,000,000             | \$14,575       |                | \$18,157                                     | \$3,583    | 25%            | \$18,702                                 | \$545      | 3%             | \$4,127.26              | 28%      |  |  |
| 4,000,000             | \$19,425       |                | \$24,206                                     | \$4,781    | 25%            | \$24,932                                 | \$726      | 3%             | \$5,506.85              | 28%      |  |  |
| 5,000,000             | \$24,275       |                | \$30,254                                     | \$5,979    | 25%            | \$31,161                                 | \$908      | 3%             | \$6,886.44              | 28%      |  |  |

Note: COS = Cost of Service

Figure 5

Figure 6 shows the recommended wastewater rates for TVA.

| TVA                   |                |                |  |            |                |  |            |                |                         |          |  |  |
|-----------------------|----------------|----------------|--|------------|----------------|--|------------|----------------|-------------------------|----------|--|--|
| 2020 Wastewater Rates |                |                | 2021 Wastewater Rates (COS) with No Increase |            |                | 2021 Wastewater Rates (COS) with 3% Inc. |            |                | Combined COS & 12% Inc. |          |  |  |
| Gallons               | Minimum        |                | Gallons                                      | Minimum    | % Inc.         | Gallons                                  | Minimum    | % Inc.         |                         |          |  |  |
| First                 | 10,000         | \$94.10        | First  | 1,000      | \$12.97        | -86%                                     | First      | 1,000          | \$13.36                 | 3%       |  |  |
|                       |                | Per 1,000 gal. |  |            | Per 1,000 gal. |  |            | Per 1,000 gal. |                         |          |  |  |
| Over                  | 10,000         | \$6.08         | Over   | 1,000      | \$5.99         | -1%                                      | Over       | 1,000          | \$6.17                  | 3%       |  |  |
| Water Sold (Gallons)  | Monthly Charge |                | Monthly Charge                               | Difference | % Change       | Monthly Charge                           | Difference | % Change       | Difference              | % Change |  |  |
| 10,000                | \$94           |                | \$67   | (\$27.18)  | -29%           | \$69                                     | \$2.01     | 3%             | (\$25.17)               | -27%     |  |  |
| 25,000                | \$185          |                | \$157  | (\$28.45)  | -15%           | \$162                                    | \$4.71     | 3%             | (\$23.75)               | -13%     |  |  |
| 50,000                | \$337          |                | \$307  | (\$30.58)  | -9%            | \$316                                    | \$9.20     | 3%             | (\$21.38)               | -6%      |  |  |
| 75,000                | \$489          |                | \$457  | (\$32.72)  | -7%            | \$470                                    | \$13.70    | 3%             | (\$19.02)               | -4%      |  |  |
| 100,000               | \$641          |                | \$606  | (\$34.85)  | -5%            | \$625                                    | \$18.19    | 3%             | (\$16.65)               | -3%      |  |  |

Note: COS = Cost of Service

Figure 6

**Other Considerations**

Price elasticity is a measurement of how buyers respond to changes in price. Generally, as the price of a product increases, buyers will buy less of the product. The Town may experience price elasticity with some of its customers. Higher rates could encourage some customers to use less water, which would result in less amount of water bought and fewer revenues collected. This report does not include a price elasticity analysis.

The recommended rate increases are designed to improve the Town’s water and wastewater finances and meet State requirements. The Town should monitor and update this report annually or at least every two years to verify the projections presented in this report, react to unforeseen financial changes, and make corrections as necessary.



## Customer Growth and Revenue Projections

### Overview

The Town depends on revenue collected from customers to pay for all of the water and wastewater department needs, including the cost of operation, maintenance, debt service, depreciation, and capital expenses. A review and analysis of the previous five years of records (FY 2015-2019) provide a reasonable basis for making projections over the next five years (FY 2020-2024) concerning customer growth and revenue.

### Customer Growth

The Town's customer base for the water and wastewater systems combined has been largely the same since FY 2015, showing a slight decrease from FY 2015 -2019. Management has projected the number of total customers to increase at only 0.25% for each of the next five years FY 2020-2024.

### Revenue Projections

Total revenue for the water and wastewater systems combined increased over FY 2015-2019 by an average of 1.6%. Total combined revenue is projected to increase by 12.5% in FY 2020. The revenue is expected to grow at only 0.4% to 0.7% over each of the next four years, assuming no additional rate increases.

**Figures 7a and 7b** are spreadsheets showing data of water and wastewater customers and the related revenue from the previous five years and a projection of growth, assuming no additional changes in rates for the next five years. **Figure 7c** is a spreadsheet showing totals of existing and projected water and wastewater revenue by each class of customers. **Figure 8** is both a spreadsheet and graphical representation of the number of water and wastewater customers and related revenue. Minimal growth in the past five years provides a basis for recognizing that, given management's anticipated lack of any significant growth in the number of customers, and assuming no additional rate increases are enacted over the next four years, revenue projections for FY 2021-2024 will remain relatively flat.

### Other Considerations

Water usage and associated water and wastewater revenue will vary according to weather. Customers generally use less water in years that have greater than average amounts of rainfall and more water usage in years when the amount of rain is less than average. This report assumes that rain will remain at average levels over the next five years.

Also, many water customers are becoming more conscious of water conservation. They are installing water conservation devices to help reduce water usage. Any reduction in water usage will result in a reduction of water and wastewater revenue.

**Water Customers and Revenue (with no additional rate increases):**

| <b>Inside Town Limits - Usage &amp; Revenue - No Rate Increases</b>  |           |           |             |             |             |                  |                  |                  |                  |                  |
|--|-----------|-----------|-------------|-------------|-------------|------------------|------------------|------------------|------------------|------------------|
|  | 2015      | 2016      | <u>2017</u> | <u>2018</u> | <u>2019</u> | <u>2020</u>      | <u>2021</u>      | <u>2022</u>      | <u>2023</u>      | <u>2024</u>      |
| <b>Customers</b>   | 863       | 862       | 857         | 860         | 861         | <b>862</b>       | 863              | 865              | 866              | 867              |
| <b>New Customers</b>   |           | -1        | -5          | 3           | 1           | 1                | 1                | 2                | 1                | 1                |
| <b>Usage MGD</b>   | 38        | 36        | 36          | 36          | 35          | <b>36</b>        | 36               | 36               | 36               | 36               |
| <b>Monthly Usage</b>   | 3,641     | 3,506     | 3,532       | 3,449       | 3,435       | <b>3,435</b>     | 3,435            | 3,435            | 3,435            | 3,435            |
| <b>Avg Monthly Bill</b>  | \$35.75   | \$36.71   | \$39.01     | \$37.53     | \$38.43     | <b>\$43.04</b>   | <b>\$43.04</b>   | <b>\$43.04</b>   | <b>\$43.04</b>   | <b>\$43.04</b>   |
| <b>Inside Revenue</b>  | \$370,242 | \$379,721 | \$401,224   | \$387,309   | \$397,089   | <b>\$445,256</b> | <b>\$445,773</b> | <b>\$446,806</b> | <b>\$447,322</b> | <b>\$447,839</b> |
| <b>Percent Change</b>  |           | 3%        | 6%          | -3%         | 3%          | <b>12%</b>       | <b>0%</b>        | <b>0%</b>        | <b>0%</b>        | <b>0%</b>        |
| <b>Outside Town Limits - Usage &amp; Revenue - No Rate Increases</b> |           |           |             |             |             |                  |                  |                  |                  |                  |
|  | 2015      | 2016      | <u>2017</u> | <u>2018</u> | <u>2019</u> | <u>2020</u>      | <u>2021</u>      | <u>2022</u>      | <u>2023</u>      | <u>2024</u>      |
| <b>Customers</b>   | 151       | 151       | 150         | 146         | 143         | <b>144</b>       | 145              | 147              | 148              | 149              |
| <b>New Customers</b>   |           | 0         | -1          | -4          | -3          | 1                | 1                | 2                | 1                | 1                |
| <b>Usage MGD</b>   | 6         | 5         | 5           | 5           | 5           | 5                | 5                | 5                | 5                | 6                |
| <b>Monthly Usage</b>   | 3,284     | 2,884     | 2,861       | 2,838       | 3,085       | <b>3,085</b>     | 3,085            | 3,085            | 3,085            | 3,085            |
| <b>Avg Monthly Bill</b>  | \$42.49   | \$40.82   | \$45.80     | \$41.33     | \$46.98     | <b>\$51.67</b>   | <b>\$51.67</b>   | <b>\$51.67</b>   | <b>\$51.67</b>   | <b>\$51.67</b>   |
| <b>Outside Revenue</b>   | \$76,861  | \$73,764  | \$82,341    | \$72,329    | \$80,799    | <b>\$89,499</b>  | <b>\$90,119</b>  | <b>\$91,360</b>  | <b>\$91,980</b>  | <b>\$92,600</b>  |
| <b>Percent Change</b>  |           | -4%       | 12%         | -12%        | 12%         | <b>11%</b>       | <b>1%</b>        | <b>1%</b>        | <b>1%</b>        | <b>1%</b>        |
| <b>Commercial - No Rate Increases</b>                                |           |           |             |             |             |                  |                  |                  |                  |                  |
|  | 2015      | 2016      | <u>2017</u> | <u>2018</u> | <u>2019</u> | <u>2020</u>      | <u>2021</u>      | <u>2022</u>      | <u>2023</u>      | <u>2024</u>      |
| <b>Customers</b>   | 26        | 26        | 27          | 27          | 28          | <b>28</b>        | 28               | 29               | 29               | 30               |
| <b>New Customers</b>   |           | 0         | 1           | 0           | 1           | 0                | 0                | 1                | 0                | 1                |
| <b>Usage MGD</b>   | 11        | 10        | 13          | 9           | 10          | <b>10</b>        | 10               | 10               | 10               | 11               |
| <b>Monthly Usage</b>   | 34,522    | 33,068    | 38,908      | 28,747      | 28,879      | <b>28,879</b>    | 28,879           | 28,879           | 28,879           | 28,879           |
| <b>Avg Monthly Bill</b>  | \$321.34  | \$324.31  | \$400.26    | \$298.91    | \$307.03    | <b>\$362.29</b>  | <b>\$362.29</b>  | <b>\$362.29</b>  | <b>\$362.29</b>  | <b>\$362.29</b>  |
| <b>Revenue</b>   | \$100,259 | \$102,158 | \$129,684   | \$96,845    | \$104,390   | <b>\$123,180</b> | <b>\$123,180</b> | <b>\$127,527</b> | <b>\$127,527</b> | <b>\$131,875</b> |
| <b>Percent Change</b>  |           | 2%        | 27%         | -25%        | 8%          | <b>18%</b>       | <b>0%</b>        | <b>4%</b>        | <b>0%</b>        | <b>3%</b>        |

Figure 7a

**Wastewater Customers and Revenue (with no additional rate increases):**

| <b>Gravity - No Rate Increases</b>    |             |             |             |             |             |                  |                  |                  |                  |                  |
|---------------------------------------|-------------|-------------|-------------|-------------|-------------|------------------|------------------|------------------|------------------|------------------|
|                                       | <u>2015</u> | <u>2016</u> | <u>2017</u> | <u>2018</u> | <u>2019</u> | <u>2020</u>      | <u>2021</u>      | <u>2022</u>      | <u>2023</u>      | <u>2024</u>      |
| <b>Customers</b>                      | 612         | 609         | 609         | 607         | 607         | <b>608</b>       | <b>609</b>       | <b>610</b>       | <b>611</b>       | <b>612</b>       |
| <b>New Customers</b>                  |             | -3          | 0           | -2          | 0           | 1                | 1                | 1                | 1                | 1                |
| <b>Usage MGD</b>                      | 33          | 32          | 32          | 32          | 33          | <b>33</b>        | <b>33</b>        | <b>33</b>        | <b>33</b>        | <b>33</b>        |
| <b>Monthly Usage</b>                  | 4,549       | 4,389       | 4,347       | 4,458       | 4,483       | <b>4,483</b>     | <b>4,483</b>     | <b>4,483</b>     | <b>4,483</b>     | <b>4,483</b>     |
| <b>Avg Monthly Bill</b>               | \$52.85     | \$54.62     | \$54.85     | \$58.03     | \$55.90     | \$57.06          | <b>\$57.06</b>   | <b>\$57.06</b>   | <b>\$57.06</b>   | <b>\$57.06</b>   |
| <b>Revenue</b>                        | \$388,110   | \$399,171   | \$400,877   | \$422,725   | \$407,192   | <b>\$416,312</b> | <b>\$416,997</b> | <b>\$417,681</b> | <b>\$418,366</b> | <b>\$419,051</b> |
| <b>Percent Change</b>                 |             | 3%          | 0%          | 5%          | -4%         | 2%               | 0.2%             | 0.2%             | 0.2%             | 0.2%             |
| <b>Force Main - No Rate Increases</b> |             |             |             |             |             |                  |                  |                  |                  |                  |
|                                       | <u>2015</u> | <u>2016</u> | <u>2017</u> | <u>2018</u> | <u>2019</u> | <u>2020</u>      | <u>2021</u>      | <u>2022</u>      | <u>2023</u>      | <u>2024</u>      |
| <b>Customers</b>                      | 188         | 189         | 189         | 189         | 190         | <b>191</b>       | <b>192</b>       | <b>193</b>       | <b>194</b>       | <b>195</b>       |
| <b>New Customers</b>                  |             | 1           | 0           | 0           | 1           | 1                | 1                | 1                | 1                | 1                |
| <b>Usage MGD</b>                      | 9           | 9           | 9           | 8           | 8           | <b>8</b>         | <b>8</b>         | <b>8</b>         | <b>8</b>         | <b>8</b>         |
| <b>Monthly Usage</b>                  | 4,132       | 3,811       | 4,008       | 3,408       | 3,601       | <b>3,601</b>     | <b>3,601</b>     | <b>3,601</b>     | <b>3,601</b>     | <b>3,601</b>     |
| <b>Avg Monthly Bill</b>               | \$46.19     | \$47.09     | \$48.28     | \$48.40     | \$45.96     | \$50.50          | <b>\$50.50</b>   | <b>\$50.50</b>   | <b>\$50.50</b>   | <b>\$50.50</b>   |
| <b>Revenue</b>                        | \$104,400   | \$107,037   | \$109,497   | \$109,764   | \$104,597   | <b>\$115,536</b> | <b>\$116,142</b> | <b>\$116,748</b> | <b>\$117,354</b> | <b>\$117,960</b> |
| <b>Percent Change</b>                 |             | 3%          | 2%          | 0%          | -5%         | 10%              | 1%               | 1%               | 1%               | 1%               |
| <b>SSM - No Rate Increases</b>        |             |             |             |             |             |                  |                  |                  |                  |                  |
|                                       | <u>2015</u> | <u>2016</u> | <u>2017</u> | <u>2018</u> | <u>2019</u> | <u>2020</u>      | <u>2021</u>      | <u>2022</u>      | <u>2023</u>      | <u>2024</u>      |
| <b>Usage MGY</b>                      | 41          | 47          | 42          | 45          | 48          | <b>55</b>        | <b>56</b>        | <b>56</b>        | <b>57</b>        | <b>57</b>        |
| <b>Monthly Usage</b>                  | 3,407,500   | 3,933,083   | 3,496,750   | 3,716,792   | 4,006,500   | <b>4,583,333</b> | <b>4,629,167</b> | <b>4,675,458</b> | <b>4,722,213</b> | <b>4,769,435</b> |
| <b>Avg Monthly Bill</b>               | \$13,170    | \$14,985    | \$13,519    | \$15,053    | \$16,001    | <b>\$22,229</b>  | <b>\$22,451</b>  | <b>\$22,676</b>  | <b>\$22,903</b>  | <b>\$23,132</b>  |
| <b>Revenue</b>                        | \$158,040   | \$179,817   | \$162,230   | \$180,635   | \$192,017   | <b>\$266,750</b> | <b>\$269,418</b> | <b>\$272,112</b> | <b>\$274,833</b> | <b>\$277,581</b> |
| <b>Percent Change</b>                 |             | 14%         | -10%        | 11%         | 6%          | 39%              | 1%               | 1%               | 1%               | 1%               |
| <b>TVA - No Rate Increases</b>        |             |             |             |             |             |                  |                  |                  |                  |                  |
|                                       | <u>2015</u> | <u>2016</u> | <u>2017</u> | <u>2018</u> | <u>2019</u> | <u>2020</u>      | <u>2021</u>      | <u>2022</u>      | <u>2023</u>      | <u>2024</u>      |
| <b>Usage MGY</b>                      | 9           | 9           | 4           | 4           | 6           | 4                | 4                | 4                | 4                | 4                |
| <b>Monthly Usage</b>                  | 754,217     | 719,467     | 328,786     | 323,441     | 480,318     | <b>385,030</b>   | <b>388,880</b>   | <b>392,769</b>   | <b>396,697</b>   | <b>400,664</b>   |
| <b>Avg Monthly Bill</b>               | \$2,998     | \$2,628     | \$1,365     | \$1,787     | \$2,532     | <b>\$2,029</b>   | <b>\$2,050</b>   | <b>\$2,070</b>   | <b>\$2,091</b>   | <b>\$2,112</b>   |
| <b>Revenue</b>                        | \$35,982    | \$31,536    | \$16,384    | \$21,445    | \$30,380    | <b>\$24,353</b>  | <b>\$24,597</b>  | <b>\$24,842</b>  | <b>\$25,090</b>  | <b>\$25,341</b>  |
| <b>Percent Change</b>                 |             | -12%        | -48%        | 31%         | 42%         | -20%             | 1%               | 1%               | 1%               | 1%               |

Figure 7b

**Water and Wastewater Revenue by Class of Customer (with no additional rate increases):**

| <b>Water Revenue</b> |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
|----------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|                      | 2015              | 2016              | 2017              | 2018              | 2019              | 2020              | 2021              | 2022              | 2023              | 2024              |
| Inside Res.          | \$ 370,242        | \$ 379,721        | \$ 401,224        | \$ 387,309        | \$ 397,089        | \$ 445,256        | \$ 445,773        | \$ 446,806        | \$ 447,322        | \$ 447,839        |
| Outside Res          | \$ 76,861         | \$ 73,764         | \$ 82,341         | \$ 72,329         | \$ 80,799         | \$ 89,499         | \$ 90,119         | \$ 91,360         | \$ 91,980         | \$ 92,600         |
| Commercial           | \$ 100,259        | \$ 102,158        | \$ 129,684        | \$ 96,845         | \$ 104,390        | \$ 123,180        | \$ 123,180        | \$ 127,527        | \$ 127,527        | \$ 131,875        |
| <b>Total</b>         | <b>\$ 547,361</b> | <b>\$ 555,643</b> | <b>\$ 613,249</b> | <b>\$ 556,484</b> | <b>\$ 582,278</b> | <b>\$ 657,936</b> | <b>\$ 659,072</b> | <b>\$ 665,693</b> | <b>\$ 666,829</b> | <b>\$ 672,313</b> |
| % Increase           |                   | 1.5%              | 10.4%             | -9.3%             | 4.6%              | 13.0%             | 0.2%              | 1.0%              | 0.2%              | 0.8%              |

| <b>Wastewater Revenue</b> |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
|---------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|                           | 2015              | 2016              | 2017              | 2018              | 2019              | 2020              | 2021              | 2022              | 2023              | 2024              |
| Gravity                   | \$ 388,110        | \$ 399,171        | \$ 400,877        | \$ 422,725        | \$ 407,192        | \$ 416,312        | \$ 416,997        | \$ 417,681        | \$ 418,366        | \$ 419,051        |
| Force Main                | \$ 104,400        | \$ 107,037        | \$ 109,497        | \$ 109,764        | \$ 104,597        | \$ 115,536        | \$ 116,142        | \$ 116,748        | \$ 117,354        | \$ 117,960        |
| SSM                       | \$ 158,040        | \$ 179,817        | \$ 162,230        | \$ 180,635        | \$ 192,017        | \$ 266,750        | \$ 269,418        | \$ 272,112        | \$ 274,833        | \$ 277,581        |
| TVA                       | \$ 35,982         | \$ 31,536         | \$ 16,384         | \$ 21,445         | \$ 30,380         | \$ 24,353         | \$ 24,597         | \$ 24,842         | \$ 25,090         | \$ 25,341         |
| <b>Total</b>              | <b>\$ 686,532</b> | <b>\$ 717,560</b> | <b>\$ 688,990</b> | <b>\$ 734,569</b> | <b>\$ 734,187</b> | <b>\$ 822,951</b> | <b>\$ 827,153</b> | <b>\$ 831,383</b> | <b>\$ 835,643</b> | <b>\$ 839,933</b> |
| % Increase                |                   | 4.5%              | -4.0%             | 6.6%              | -0.1%             | 12.1%             | 0.5%              | 0.5%              | 0.5%              | 0.5%              |

**Figure 7c**

**All Customers and Total Revenue (with no additional rate increases):**

| Customers  | 2015        | 2016        | 2017        | 2018        | 2019        | 2020        | 2021        | 2022        | 2023        | 2024        |
|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Water      | 1,040       | 1,039       | 1,034       | 1,033       | 1,033       | 1,035       | 1,037       | 1,042       | 1,044       | 1,047       |
| Wastewater | 802         | 800         | 800         | 798         | 799         | 801         | 803         | 805         | 807         | 809         |
| <hr/>      |             |             |             |             |             |             |             |             |             |             |
| Revenue    | 2015        | 2016        | 2017        | 2018        | 2019        | 2020        | 2021        | 2022        | 2023        | 2024        |
| Water      | \$547,361   | \$555,643   | \$613,249   | \$556,484   | \$582,278   | \$657,936   | \$659,072   | \$665,693   | \$666,829   | \$672,313   |
| Wastewater | \$686,532   | \$717,560   | \$688,990   | \$734,569   | \$734,187   | \$822,951   | \$827,153   | \$831,383   | \$835,643   | \$839,933   |
| Total      | \$1,233,894 | \$1,273,203 | \$1,302,238 | \$1,291,053 | \$1,316,465 | \$1,480,887 | \$1,486,225 | \$1,497,076 | \$1,502,472 | \$1,512,246 |
| % Change   |             | 3.2%        | 2.3%        | -0.9%       | 2.0%        | 12.5%       | 0.4%        | 0.7%        | 0.4%        | 0.7%        |

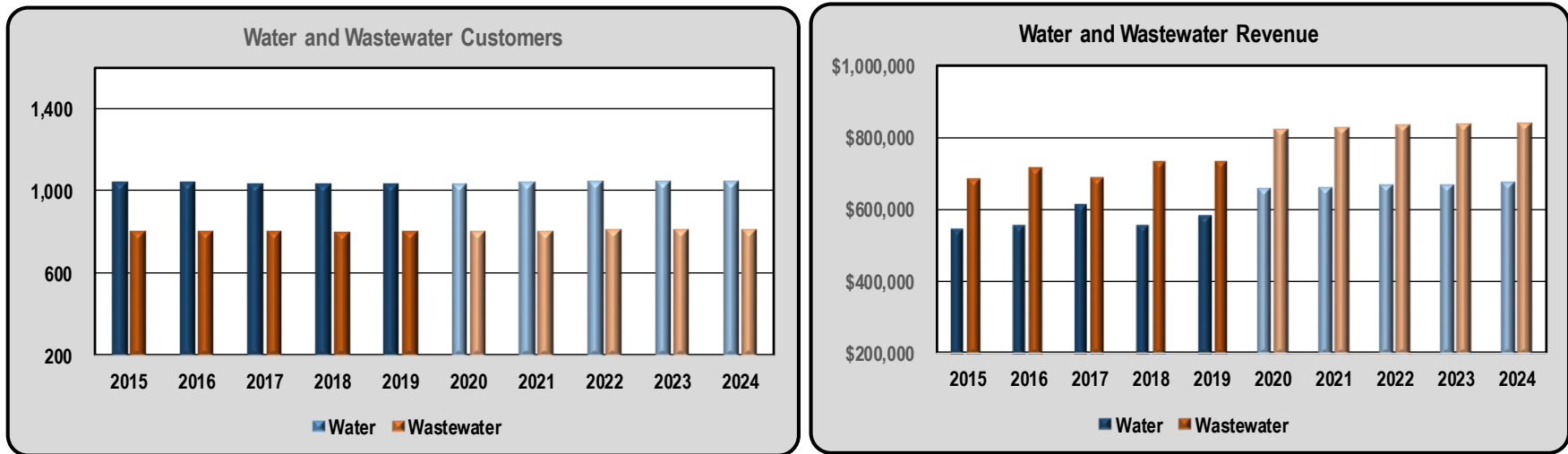


Figure 8

**Figure 9** identifies other income besides revenue from customers. Note that beginning in FY 2021, TVA is expected to be charged for the depreciation relating to the TVA force main.

| <b>Other Income</b>     |        |        |        |        |         |               |                |                |                |                |
|-------------------------|--------|--------|--------|--------|---------|---------------|----------------|----------------|----------------|----------------|
|                         | 2015   | 2016   | 2017   | 2018   | 2019    | 2020          | 2021           | 2022           | 2023           | 2024           |
| <b>Water</b>            | 15,419 | 13,385 | 29,179 | 23,641 | 24,418  | <b>23,009</b> | <b>23,514</b>  | <b>24,020</b>  | <b>24,525</b>  | <b>25,030</b>  |
| <b>Wastewater</b>       | 27,119 | 22,285 | 34,179 | 28,641 | 26,318  | <b>29,209</b> | <b>29,214</b>  | <b>29,220</b>  | <b>29,225</b>  | <b>29,230</b>  |
| <b>Total</b>            | 42,538 | 35,670 | 63,358 | 52,283 | 50,736  | <b>52,219</b> | <b>52,729</b>  | <b>53,239</b>  | <b>53,749</b>  | <b>54,260</b>  |
| <b>TVA Other Income</b> |        |        |        |        |         |               |                |                |                |                |
| <b>TVA Debt</b>         | 77,504 | 77,504 | 51,669 | 77,504 | 90,421  | <b>77,504</b> | <b>77,504</b>  | <b>77,504</b>  | <b>77,504</b>  | <b>77,504</b>  |
| <b>TVA Odor Control</b> | 14,014 | 11,375 | 5,880  | 15,424 | 16,402  | <b>16,402</b> | <b>16,402</b>  | <b>16,402</b>  | <b>16,402</b>  | <b>16,402</b>  |
| <b>TVA Depreciation</b> |        |        |        |        |         |               | <b>37,024</b>  | <b>37,024</b>  | <b>37,024</b>  | <b>37,024</b>  |
| <b>Total TVA</b>        | 91,518 | 88,879 | 57,549 | 92,928 | 106,823 | <b>93,906</b> | <b>130,930</b> | <b>130,930</b> | <b>130,930</b> | <b>130,930</b> |

**Figure 9**

## Capital Improvement Plan

### Overview

A Capital Improvement Plan (CIP) is typically an unaudited planning document used to identify needed capital improvements and other assets, along with methods of financing, and a calculation of annual depreciation. Capital assets are defined by the Town as assets with an initial individual cost of \$5,000 or more.

### Anticipated Projects

Water system projects recommended by the Town's Director of Public Works and the Supervisors for the Water and Wastewater Plants include:

- In FY 2020, replacing the Picadilly Pump, Filter Media, Miox Cell, Mission Control, and a truck;
- In FY 2021, replacing a backhoe; and
- In FY 2022, replacing a utility truck.

The CIP for the water system also includes miscellaneous amounts ranging from \$ 10,000 to \$ 50,000 per year for unforeseen capital expenditures.

Wastewater system projects, also recommended by Director of Public Works and the Supervisors for the Water and Wastewater Plants include:

- In FY 2020, replacement of a RAS pump,
- In FY 2021, sewer system rehabilitation and WWTP improvements, and
- In FY 2023, the replacement of grinder pumps.

The CIP for the wastewater system also includes miscellaneous amounts ranging from \$10,000 to \$50,000 per year for unforeseen capital expenditures.

### Financing Future Expenditures

The sewer system rehabilitation and WWTP improvement project will be mostly funded by a Community Development Block Grant (CDBG) of \$525,000. All other water and wastewater system capital improvements will be financed via cash reserves.

**Figures 10a & b** show detailed listings of water and wastewater projects, their costs, and methods of financing. This is a five-year CIP beginning with the current FY 2020 and projected through FY 2024.

### Other Considerations

The CIP can serve as a planning document and should be reviewed and updated annually. The CIP can also be helpful in developing budgets, especially if the budget contains financing and depreciation.

**Water Capital Improvement Plan:**

| <b>Water Capital Improvement Plan</b>                  |                  |                  |             |              |                   |                     |
|--|------------------|------------------|-------------|--------------|-------------------|---------------------|
| <b>Fiscal Year 2020 (July 1, 2019 - June 30, 2020)</b> |                  |                  |             |              |                   |                     |
| <b>Projects</b>  | <b>Cost</b>      | <b>Cash</b>      | <b>Loan</b> | <b>Grant</b> | <b>Life-Years</b> | <b>Annual Depr.</b> |
| Piccadilly - Pump                                      | \$16,000         | \$16,000         |             |              | 20                | \$800               |
| Filter Media   | \$25,000         | \$25,000         |             |              | 15                | \$1,667             |
| Truck  | \$30,000         | \$30,000         |             |              | 7                 | \$4,286             |
| Miox Cell  | \$25,000         | \$25,000         |             |              | 15                | \$1,667             |
| Mission Control  | \$20,000         | \$20,000         |             |              | 10                | \$2,000             |
| Miscellaneous  | \$10,000         | \$10,000         |             |              | 10                | \$1,000             |
| <b>Total</b>   | <b>\$126,000</b> | <b>\$126,000</b> | <b>\$0</b>  | <b>\$0</b>   |                   | <b>\$11,419</b>     |
| <b>Fiscal Year 2021 (July 1, 2020 - June 30, 2021)</b> |                  |                  |             |              |                   |                     |
| <b>Projects</b>  | <b>Cost</b>      | <b>Cash</b>      | <b>Loan</b> | <b>Grant</b> | <b>Life-Years</b> | <b>Annual Depr.</b> |
| Backhoe  | \$100,000        | \$100,000        |             |              | 7                 | \$14,286            |
| Miscellaneous  | \$20,000         | \$20,000         |             |              | 10                | \$2,000             |
| <b>Total</b>   | <b>\$120,000</b> | <b>\$120,000</b> | <b>\$0</b>  |              |                   | <b>\$16,286</b>     |
| <b>Fiscal Year 2022 (July 1, 2021 - June 30, 2022)</b> |                  |                  |             |              |                   |                     |
| <b>Projects</b>  | <b>Cost</b>      | <b>Cash</b>      | <b>Loan</b> | <b>Grant</b> | <b>Life-Years</b> | <b>Annual Depr.</b> |
| Miscellaneous  | \$25,000         | \$25,000         |             |              | 15                | \$1,667             |
| <b>Total</b>   | <b>\$25,000</b>  | <b>\$25,000</b>  | <b>\$0</b>  |              |                   | <b>\$1,667</b>      |
| <b>Fiscal Year 2023 (July 1, 2022 - June 30, 2023)</b> |                  |                  |             |              |                   |                     |
| <b>Projects</b>  | <b>Cost</b>      | <b>Cash</b>      | <b>Loan</b> | <b>Grant</b> | <b>Life-Years</b> | <b>Annual Depr.</b> |
| Utility Truck  | \$30,000         | \$30,000         |             |              | 7                 | \$4,286             |
| Miscellaneous  | \$25,000         | \$25,000         |             |              | 20                | \$1,250             |
| <b>Total</b>   | <b>\$55,000</b>  | <b>\$55,000</b>  | <b>\$0</b>  | <b>\$0</b>   |                   | <b>\$5,536</b>      |
| <b>Fiscal Year 2024 (July 1, 2023 - June 30, 2024)</b> |                  |                  |             |              |                   |                     |
| <b>Projects</b>  | <b>Cost</b>      | <b>Cash</b>      | <b>Loan</b> | <b>Grant</b> | <b>Life-Years</b> | <b>Annual Depr.</b> |
| Miscellaneous  | \$50,000         | \$50,000         |             |              | 25                | \$2,000             |
| <b>Total</b>   | <b>\$50,000</b>  | <b>\$50,000</b>  | <b>\$0</b>  | <b>\$0</b>   |                   | <b>\$2,000</b>      |

Figure 10a



**Wastewater Capital Improvement Plan:**

| <b>Wastewater Capital Improvement Plan</b>             |                  |                  |             |                  |                   |                     |
|--|------------------|------------------|-------------|------------------|-------------------|---------------------|
| <b>Fiscal Year 2020 (July 1, 2019 - June 30, 2020)</b> |                  |                  |             |                  |                   |                     |
| <b>Projects</b>  | <b>Cost</b>      | <b>Cash</b>      | <b>Loan</b> | <b>Grant</b>     | <b>Life-Years</b> | <b>Annual Depr.</b> |
| RAS Pump   | \$10,000         |                  |             |                  | 10                | \$1,000             |
| Miscellaneous  | \$10,000         | \$10,000         |             |                  | 10                | \$1,000             |
| <b>Total</b>   | <b>\$20,000</b>  | <b>\$10,000</b>  | <b>\$0</b>  | <b>\$0</b>       |                   | <b>\$2,000</b>      |
| <b>Fiscal Year 2021 (July 1, 2020 - June 30, 2021)</b> |                  |                  |             |                  |                   |                     |
| <b>Projects</b>  | <b>Cost</b>      | <b>Cash</b>      | <b>Loan</b> | <b>Grant</b>     | <b>Life-Years</b> | <b>Annual Depr.</b> |
| CDBG   | \$603,448        | \$78,448         |             | \$525,000        | 30                | \$20,115            |
| Miscellaneous  | \$20,000         | \$20,000         |             |                  | 10                | \$2,000             |
| <b>Total</b>   | <b>\$623,448</b> | <b>\$98,448</b>  | <b>\$0</b>  | <b>\$525,000</b> |                   | <b>\$22,115</b>     |
| <b>Fiscal Year 2022 (July 1, 2021 - June 30, 2022)</b> |                  |                  |             |                  |                   |                     |
| <b>Projects</b>  | <b>Cost</b>      | <b>Cash</b>      | <b>Loan</b> | <b>Grant</b>     | <b>Life-Years</b> | <b>Annual Depr.</b> |
| Miscellaneous  | \$20,000         | \$20,000         |             |                  | 15                | \$1,333             |
| <b>Total</b>   | <b>\$20,000</b>  | <b>\$20,000</b>  | <b>\$0</b>  |                  |                   | <b>\$1,333</b>      |
| <b>Fiscal Year 2023 (July 1, 2022 - June 30, 2023)</b> |                  |                  |             |                  |                   |                     |
| <b>Projects</b>  | <b>Cost</b>      | <b>Cash</b>      | <b>Loan</b> | <b>Grant</b>     | <b>Life-Years</b> | <b>Annual Depr.</b> |
| Replace Grinders                                       | \$297,200        | \$297,200        |             |                  | 15                | \$19,813            |
| Miscellaneous  | \$25,000         | \$25,000         |             |                  | 20                | \$1,250             |
| <b>Total</b>   | <b>\$322,200</b> | <b>\$322,200</b> | <b>\$0</b>  | <b>\$0</b>       |                   | <b>\$21,063</b>     |
| <b>Fiscal Year 2024 (July 1, 2023 - June 30, 2024)</b> |                  |                  |             |                  |                   |                     |
| <b>Projects</b>  | <b>Cost</b>      | <b>Cash</b>      | <b>Loan</b> | <b>Grant</b>     | <b>Life-Years</b> | <b>Annual Depr.</b> |
| Miscellaneous  | \$50,000         | \$50,000         |             |                  | 25                | \$2,000             |
| <b>Total</b>   | <b>\$50,000</b>  | <b>\$50,000</b>  | <b>\$0</b>  | <b>\$0</b>       |                   | <b>\$2,000</b>      |

Figure 10b

## Depreciation

### Overview

Depreciation is defined as a reduction in the value of an asset over time. Although depreciation is listed as an expense, it is not paid out to anyone. Instead, it remains within the Town's cash funds. Funding depreciation is a process compelling the Town to accumulate cash. Over time the accumulated depreciation equals the value of money initially spent on each capital asset. This process allows the Town to have enough funds for financing new capital improvements or replacing depreciated assets. **Figures 10a & b** (above) show the amount of annual depreciation of each capital expenditure listed in the CIP.

**Figure 11** is a simplified schedule of all depreciation showing the past five years and projections for the next five. Without any additions to water system fixed assets, the current water depreciation schedule (FY 2019) would be reduced by \$3,027 by FY 2024, but new additions proposed in the CIP adds about \$36,907 in additional depreciation. Without any additions to wastewater system fixed assets, the current wastewater depreciation schedule (FY 2019) would be reduced by \$28,600 through FY 2024, but new additions proposed in the CIP adds \$48,512 in additional depreciation. **Figure 12** is a graphical representation of scheduled depreciation of existing assets and extra depreciation of assets placed in service via the anticipated capital improvement projects.

### Requirement

Tennessee state law requires that all utility systems depreciate capital assets. According to the Governmental Accounting Standards Board (GASB), depreciation is to be included in the "Statement of Revenues, Expenses, and Change in Net Position" section of the audit as an operating expense. Therefore, the utility must provide sufficient revenue to "fund" the depreciation expense.

### Calculating the Costs

Although there are several methods of determining depreciation, the "straight line" method is used by the Town. The calculation is simply dividing the cost of an asset by its useful life, which may range from 3 to 50 years.

The depreciation schedule is a listing of all assets, their original cost, the year it went into service, and its useful life. From that, an annual depreciation amount is determined, the accumulated depreciated amount is calculated, and the book value is determined. When the accumulated depreciated amount equals the original cost, the book value goes to zero, and the annual amount of depreciation goes to zero. Unless new assets are added, the total yearly depreciation will either stay the same, or it will eventually go away.

### Other Considerations

It is important to note that assets are depreciated regardless of the method of financing or acquisition. An asset begins to depreciate when it is placed into service, not when it is bought or under construction.

**Water and Wastewater Depreciation Schedules:**

| <b>Depreciation</b>                  |         |         |         |         |         |         |         |         |         |         |
|--------------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| <b>Depreciation - Water</b>          |         |         |         |         |         |         |         |         |         |         |
|                                      | 2015    | 2016    | 2017    | 2018    | 2019    | 2020    | 2021    | 2022    | 2023    | 2024    |
| <b>Scheduled Depreciation</b>        | 168,621 | 171,441 | 177,162 | 178,932 | 179,844 | 179,515 | 179,152 | 178,817 | 176,984 | 176,817 |
| <b>2020 Additional Depreciation</b>  |         |         |         |         |         | 5,710   | 11,419  | 11,419  | 11,419  | 11,419  |
| <b>2021 Additional Depreciation</b>  |         |         |         |         |         |         | 8,143   | 16,286  | 16,286  | 16,286  |
| <b>2022 Additional Depreciation</b>  |         |         |         |         |         |         |         | 833     | 1,667   | 1,667   |
| <b>2023 Additional Depreciation</b>  |         |         |         |         |         |         |         |         | 2,768   | 5,536   |
| <b>2024 Additional Depreciation</b>  |         |         |         |         |         |         |         |         |         | 2,000   |
| <b>Total Additional Depreciation</b> |         |         |         |         |         | 5,710   | 19,562  | 28,538  | 32,139  | 36,907  |
| <b>Total Water Depreciation</b>      | 168,621 | 171,441 | 177,162 | 178,932 | 179,844 | 185,224 | 198,714 | 207,355 | 209,123 | 213,725 |

| <b>Depreciation - Wastewater</b>     |         |         |         |         |         |         |         |         |         |         |
|--------------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|                                      | 2015    | 2016    | 2017    | 2018    | 2019    | 2020    | 2021    | 2022    | 2023    | 2024    |
| <b>Scheduled Depreciation</b>        | 236,855 | 240,817 | 248,852 | 251,338 | 250,921 | 250,921 | 213,706 | 212,059 | 183,746 | 183,746 |
| <b>2020 Additional Depreciation</b>  |         |         |         |         |         | 1,000   | 2,000   | 2,000   | 2,000   | 2,000   |
| <b>2021 Additional Depreciation</b>  |         |         |         |         |         |         | 11,057  | 22,115  | 22,115  | 22,115  |
| <b>2022 Additional Depreciation</b>  |         |         |         |         |         |         |         | 667     | 1,333   | 1,333   |
| <b>2023 Additional Depreciation</b>  |         |         |         |         |         |         |         |         | 10,532  | 21,063  |
| <b>2024 Additional Depreciation</b>  |         |         |         |         |         |         |         |         |         | 2,000   |
| <b>Additional Depreciation</b>       |         |         |         |         |         | 1,000   | 13,057  | 24,782  | 35,980  | 48,512  |
| <b>Total Wastewater Depreciation</b> | 236,855 | 240,817 | 248,852 | 251,338 | 250,921 | 251,921 | 226,763 | 236,840 | 219,726 | 232,258 |

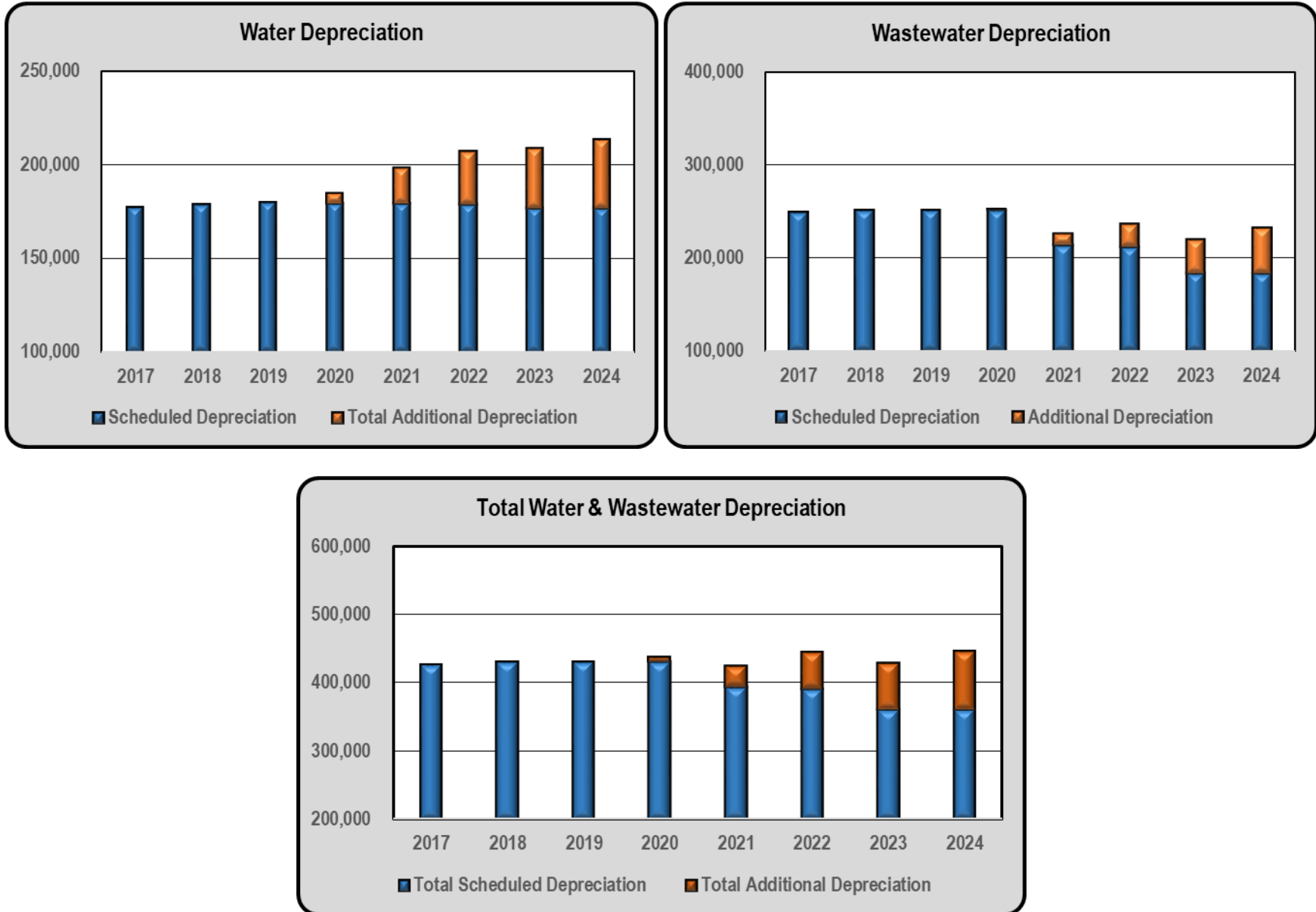
| <b>Total Water and Wastewater Depreciation</b> |         |         |         |         |         |         |         |         |         |         |
|--|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| <b>Total Scheduled Depreciation</b>            | 405,476 | 412,258 | 426,014 | 430,270 | 430,765 | 430,436 | 392,858 | 390,876 | 360,730 | 360,564 |
| <b>Total Additional Depreciation</b>           |         |         |         |         |         | 6,710   | 32,619  | 53,320  | 68,119  | 85,419  |
| <b>Total Wt and Ww Depreciation</b>            | 405,476 | 412,258 | 426,014 | 430,270 | 430,765 | 437,145 | 425,477 | 444,196 | 428,850 | 445,983 |

| <b>TVA Depreciation</b> |  |  |  |  |        |        |        |        |
|-------------------------|--|--|--|--|--------|--------|--------|--------|
| <b>TVA Depreciation</b> |  |  |  |  | 37,024 | 37,024 | 37,024 | 37,024 |

Figure 11

**Water and Wastewater Depreciation Graphs:**



**Figure 12**  
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## Debt Service

### Overview

The Town currently pays principal and interest on two Rural Development loans and two municipal bonds. The CIP anticipates that financing of future projects will be performed via one grant and cash reserves. Therefore, this debt service analysis assumes no additional debt will be incurred.

### Methodology

For purposes of this report, the existing loans and bonds have been separated for the water department and the wastewater department. This is important in understanding revenue requirements and rate adjustments for the separated systems. Debt service impacts both the cash flow and the change in net position. Both principal and interest are included in the Cash Flow Analysis. Still, only the interest amount is included in the Change in Net Position Analysis.

### Water and Wastewater Debt Service

The water system and wastewater system debt service schedules are shown in **Figures 13a and 13b**. Given that the maturity dates of the existing loans all greatly exceed the 5-year projection period, debt service will decrease gradually. **Figure 14c** shows the combined water and wastewater debt schedule.

Concerning wastewater debt, it should be noted TVA reimburses the Town for 60.4% of the debt service payments on the Series 2006 loan and 40.8% of the debt service payments on the Series 2006 bond.

### Other Considerations

The principal and interest debt schedules can be a resource when developing an annual budget.

**Water Debt Servicing Schedules:**

| <b>Water Debt</b>  |                  |                 |              |
|--------------------|------------------|-----------------|--------------|
| <b>Series 2013</b> |                  |                 |              |
|                    | <b>Principal</b> | <b>Interest</b> | <b>Total</b> |
| <b>2020</b>        | 60,000           | 25,743          | 85,743       |
| <b>2021</b>        | 50,000           | 24,363          | 74,363       |
| <b>2022</b>        | 50,000           | 22,988          | 72,988       |
| <b>2023</b>        | 50,000           | 21,488          | 71,488       |
| <b>2024</b>        | 50,000           | 19,925          | 69,925       |

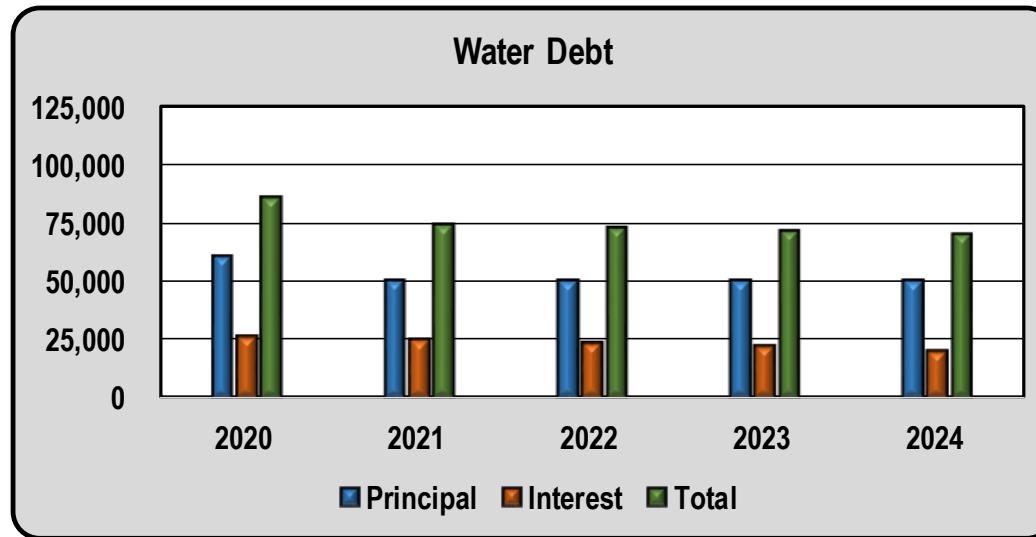


Figure 13a

**Wastewater Debt Servicing Schedules:**

| Spring City Wastewater Debt |           |          |             |          |             |          |             |          |                          |          |         |
|-----------------------------|-----------|----------|-------------|----------|-------------|----------|-------------|----------|--------------------------|----------|---------|
| Series 2006                 |           |          | Series 2008 |          | Series 2013 |          | Series 2014 |          | Total SC Wastewater Debt |          |         |
|                             | Principal | Interest | Principal   | Interest | Principal   | Interest | Principal   | Interest | Principal                | Interest | Total   |
| 2020                        | 15,400    | 29,768   | 3,679       | 8,817    | 60,000      | 25,743   | 10,265      | 16,075   | 89,344                   | 80,403   | 169,746 |
| 2021                        | 16,048    | 29,120   | 3,769       | 8,727    | 50,000      | 24,363   | 10,595      | 15,745   | 80,411                   | 77,955   | 158,366 |
| 2022                        | 16,722    | 28,445   | 3,429       | 9,067    | 50,000      | 22,988   | 10,890      | 15,450   | 81,041                   | 75,950   | 156,991 |
| 2023                        | 17,425    | 27,743   | 3,296       | 9,200    | 50,000      | 21,488   | 11,194      | 14,146   | 81,915                   | 72,576   | 154,491 |
| 2024                        | 18,158    | 27,010   | 3,157       | 9,339    | 50,000      | 19,925   | 11,465      | 14,875   | 82,780                   | 71,149   | 153,929 |

| TVA Wastewater Debt |           |             |           |                           |           |        |
|---------------------|-----------|-------------|-----------|---------------------------|-----------|--------|
| Series 2006         |           | Series 2008 |           | Total TVA Wastewater Debt |           |        |
|                     | Principal | Interest    | Principal | Interest                  | Principal | Total  |
| 2020                | 23,489    | 45,403      | 2,732     | 5,880                     | 26,221    | 77,504 |
| 2021                | 24,476    | 44,416      | 2,642     | 5,970                     | 27,119    | 77,504 |
| 2022                | 25,506    | 43,387      | 2,982     | 5,630                     | 28,488    | 77,504 |
| 2023                | 26,578    | 42,314      | 3,115     | 5,497                     | 29,693    | 77,504 |
| 2024                | 27,695    | 41,197      | 3,254     | 5,358                     | 30,949    | 77,504 |

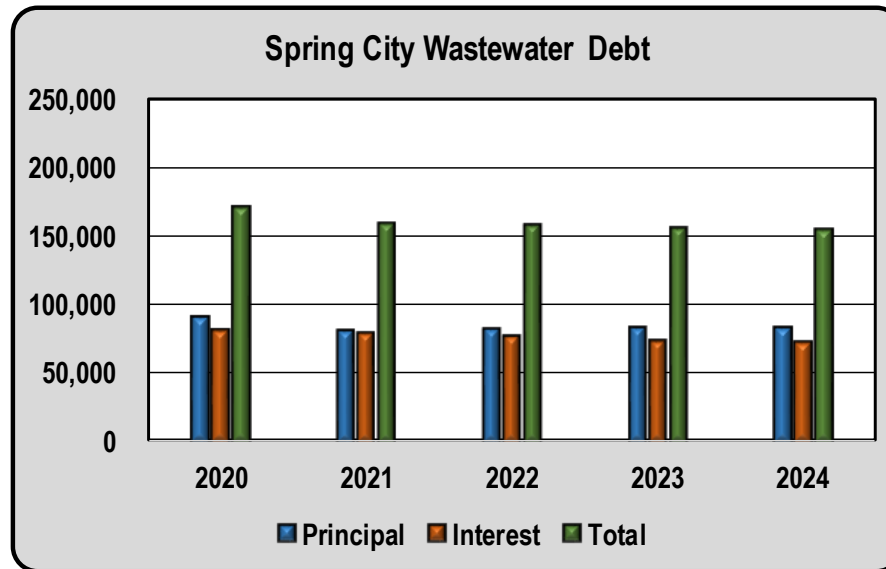


Figure 13b

## General Operating Expenses

### Overview

Combined general operating expenses are listed in the audit on the "Statement of Revenues, Expenses, and Changes in Net Position" section and includes items from both water and wastewater systems operations (such as power for pumping, treatment plant expenses, distribution labor, and other) plus water and wastewater administrative expenses (such as salaries, insurance, and employee benefits). Depreciation is also listed as an expense. The Cash Flow Analysis does not include the depreciation as an expense. However, depreciation is included in the Change in Net Position Analysis as an expense.

### Methodology

In order to project water and wastewater operating expenses over the next five years, a work session was conducted with key people knowledgeable of the Town's water and wastewater systems. Each line of operating expense was reviewed, and decisions were made as to the expected percentage increase for each line item expense.

**Figure 14** shows a summary of the total expenses for each system (water and wastewater) and the combined total expense. Water system expenses for the past five years have been 54% of the combined total expense. For future years, except for FY 2020, in which the combined total is expected not to increase, each system's general operating expenses for are projected to increase by about 3% each year

### Other Considerations

For a small city like Spring City, operating expenses can vary widely from year to year. An extensive repair and maintenance item or the need for buying large quantities of materials and supplies can make a big difference in general expenses. Unexpected expenses like these will impact cash flow and the change in net position.



**Summary of Water, Wastewater, and Combined Total Expenses:**

| <b>Water Expenses</b>      |         |         |         |         |         |         |         |         |         |         |
|----------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|                            | 2015    | 2016    | 2017    | 2018    | 2019    | 2020    | 2021    | 2022    | 2023    | 2024    |
| <b>General &amp; Admin</b> | 37,830  | 26,703  | 28,872  | 25,555  | 23,809  | 24,572  | 25,362  | 26,179  | 26,919  | 27,684  |
| <b>Water Plant</b>         | 277,562 | 239,539 | 238,791 | 177,628 | 291,304 | 266,502 | 272,843 | 279,607 | 286,555 | 293,693 |
| <b>Distribution</b>        | 182,813 | 239,278 | 215,930 | 199,001 | 211,837 | 218,408 | 225,189 | 232,186 | 239,407 | 246,859 |
| <b>Total</b>               | 498,205 | 505,520 | 483,593 | 402,184 | 526,950 | 509,482 | 523,394 | 537,972 | 552,881 | 568,236 |
| <b>Percent Change</b>      |         | 1%      | -4%     | -17%    | 31%     | -3%     | 3%      | 3%      | 3%      | 3%      |

| <b>Wastewater Expenses</b> |         |         |         |         |         |         |         |         |         |         |
|----------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|                            | 2015    | 2016    | 2017    | 2018    | 2019    | 2020    | 2021    | 2022    | 2023    | 2024    |
| <b>General &amp; Admin</b> | 37,830  | 26,703  | 28,872  | 25,555  | 23,809  | 24,523  | 25,259  | 26,017  | 26,797  | 27,601  |
| <b>Wastewater Plant</b>    | 249,990 | 290,551 | 311,294 | 254,151 | 337,471 | 339,456 | 349,606 | 360,092 | 370,928 | 382,127 |
| <b>Collection</b>          | 113,936 | 74,312  | 102,003 | 93,052  | 131,432 | 135,503 | 139,702 | 144,034 | 148,503 | 153,113 |
| <b>Total</b>               | 401,756 | 391,566 | 442,169 | 372,758 | 492,712 | 499,482 | 514,567 | 530,143 | 546,228 | 562,841 |
| <b>Percent Change</b>      |         | -3%     | 13%     | -16%    | 32%     | 1%      | 3%      | 3%      | 3%      | 3%      |

| <b>Total Water and Wastewater Expenses</b> |         |         |         |         |           |           |           |           |           |           |
|--|---------|---------|---------|---------|-----------|-----------|-----------|-----------|-----------|-----------|
| <b>Total Expenses</b>                      | 899,961 | 897,086 | 925,762 | 774,942 | 1,019,662 | 1,008,964 | 1,037,960 | 1,068,115 | 1,099,109 | 1,131,077 |
| <b>Percent Change</b>                      |         | 0%      | 3%      | -16%    | 32%       | -1%       | 3%        | 3%        | 3%        | 3%        |

Figure 14

## Cash Flow Analysis

### Overview

It is essential for the Town to know the amount of cash it has on hand and if its cash reserves are growing or being depleted. Cash is necessary to pay for the utility's operational and maintenance needs as well as debt and capital expenses in order to preserve its infrastructure, retain its staff, deliver services to customers, and maintain a healthy cash reserve. Therefore, it is essential to predict its anticipated expenditures and how much cash the Town expects to receive from its customers and other sources. Such an examination is called a Cash Flow Analysis. If the projected Net Cash Flow becomes negative, under normal circumstances, then a rate increase is needed.

### Methodology

The Cash Flow Analysis is configured similarly to a cash budget showing the amount of cash at the beginning of the fiscal year, the amount of income (including customer charges and miscellaneous fees), and the amount of expenses (including general operating expenses and debt). Adding income and subtracting expenses as well as capital improvements, provides the amount of cash available for capital expenses. Additional financing such as loans and grants are also included. The Town operates on an accrual accounting basis, so an accrual adjustment line item is added to facilitate a cash amount at the end of the year. It is difficult to project what is the accrual adjustment (reconciliation of operating income) in future years, so it is not included in the projected years.

### Water System

**Figure 15** shows the Cash Flow Analysis for the water system with no new rate increases. The analysis shows sufficient net cash flows (income less expenses) for FY 2020-2024.

### Wastewater System

**Figure 16** shows the Cash Flow Analysis for the wastewater system with no new rate increases. This analysis also indicates sufficient net cash flows for FY 2020-2024. Although the TVA depreciation is a non-cash operating expense, it is recommended that TVA fund the depreciation of the force main used to transport wastewater to the Town's WWTP, which will provide additional revenue. This new TVA revenue is shown in the wastewater Cash Flow Analysis beginning in FY 2021.

### Other Considerations

Having a better understanding of cash flow and the accumulation of cash can be helpful in developing a multi-year capital improvement plan and financing of future projects.

**Water Cash Flow (with no future rate increases):**

| <b>Water Cash Flow - No Rate Increases</b> |           |           |           |         |          |          |          |         |         |         |
|--|-----------|-----------|-----------|---------|----------|----------|----------|---------|---------|---------|
|  | 2015      | 2016      | 2017      | 2018    | 2019     | 2020     | 2021     | 2022    | 2023    | 2024    |
| <b>Cash Beginning Jul 1</b>                | 956,216   | 1,027,211 | 710,928   | 600,941 | 675,772  | 640,141  | 599,861  | 649,522 | 782,027 | 860,997 |
| <b>Revenue / Income</b>                    |           |           |           |         |          |          |          |         |         |         |
| <b>Revenue</b>                             | 547,361   | 555,643   | 613,249   | 556,484 | 582,278  | 657,936  | 659,072  | 665,693 | 666,829 | 672,313 |
| <b>Other Income</b>                        | 15,419    | 13,385    | 29,179    | 23,641  | 21,583   | 23,009   | 23,514   | 24,020  | 24,525  | 25,030  |
| <b>Total Income</b>                        | 562,781   | 569,028   | 642,428   | 580,125 | 603,861  | 680,945  | 682,587  | 689,712 | 691,354 | 697,343 |
| <b>Expenses</b>                            |           |           |           |         |          |          |          |         |         |         |
| <b>General Expenses</b>                    | 498,205   | 505,520   | 483,593   | 402,184 | 526,950  | 509,482  | 523,394  | 537,972 | 552,881 | 568,236 |
| <b>Debt</b>                                | 91,893    | 90,693    | 89,493    | 88,293  | 87,093   | 85,743   | 74,363   | 72,988  | 71,488  | 69,925  |
| <b>Total Expenses</b>                      | 590,098   | 596,213   | 573,086   | 490,477 | 614,043  | 595,225  | 597,756  | 610,960 | 624,369 | 638,161 |
| <b>Income Less Expenses</b>                | (27,317)  | (27,184)  | 69,342    | 89,648  | (10,182) | 85,720   | 84,830   | 78,753  | 66,985  | 59,182  |
| <b>Capital Financing</b>                   |           |           |           |         |          |          |          |         |         |         |
| <b>Loans</b>                               |           |           |           |         |          |          |          |         |         |         |
| <b>Grants</b>                              | 70,493    | 175,742   |           |         |          |          |          |         |         |         |
| <b>Total Capital Financing</b>             | 70,493    | 175,742   |           |         |          |          |          |         |         |         |
| <b>Capital Expenses</b>                    |           |           |           |         |          |          |          |         |         |         |
| <b>Capital Expenses</b>                    | 91,546    | 302,518   | 7,703     | 10,000  | 13,367   | 126,000  | 120,000  | 25,000  | 55,000  | 50,000  |
| <b>Water Net Cash Flow</b>                 |           |           |           |         |          |          |          |         |         |         |
| <b>Annual Gain - (Loss)</b>                | (48,370)  | (153,960) | 61,640    | 79,648  | (23,548) | (40,280) | (35,170) | 53,753  | 11,985  | 9,182   |
| <b>Accrual Adjustment</b>                  | 119,365   | (162,323) | (171,627) | (4,817) | (12,083) |          |          |         |         |         |
| <b>Cash Ending Jun 30</b>                  | 1,027,211 | 710,928   | 600,941   | 675,772 | 640,141  | 599,861  | 649,522  | 782,027 | 860,997 | 929,361 |

Figure 15

**Wastewater Cash Flow (with no future rate Increases):**

| <b>Wastewater Cash Flow - No Rate Increases</b> |         |           |           |         |          |         |         |           |           |           |
|---|---------|-----------|-----------|---------|----------|---------|---------|-----------|-----------|-----------|
|   | 2015    | 2016      | 2017      | 2018    | 2019     | 2020    | 2021    | 2022      | 2023      | 2024      |
| <b>Cash Beginning Jul 1</b>                     | 239,054 | 487,378   | 383,237   | 291,455 | 510,219  | 607,949 | 787,284 | 909,295   | 1,116,190 | 1,011,564 |
| <b>Revenue / Income</b>                         |         |           |           |         |          |         |         |           |           |           |
| Revenue   | 686,532 | 717,560   | 688,990   | 734,569 | 734,187  | 822,951 | 827,153 | 831,383   | 835,643   | 839,933   |
| TVA Odor Control                                | 14,014  | 11,375    | 5,880     | 15,424  | 16,402   | 16,402  | 16,402  | 16,402    | 16,402    | 16,402    |
| TVA Debt  | 77,504  | 77,504    | 51,669    | 77,504  | 90,421   | 77,504  | 77,504  | 77,504    | 77,504    | 77,504    |
| TVA Depreciation                                |         |           |           |         |          |         | 37,024  | 37,024    | 37,024    | 37,024    |
| Other Income                                    | 27,119  | 22,285    | 34,179    | 28,641  | 23,483   | 29,209  | 29,214  | 29,220    | 29,225    | 29,230    |
| <b>Total Income</b>                             | 805,169 | 828,724   | 780,718   | 856,139 | 864,493  | 946,067 | 987,297 | 991,533   | 995,798   | 1,000,093 |
| <b>Expenses</b>                                 |         |           |           |         |          |         |         |           |           |           |
| General Expenses                                | 387,742 | 380,191   | 436,289   | 357,334 | 476,310  | 483,080 | 514,567 | 513,741   | 529,826   | 546,439   |
| TVA Odor Control                                | 14,014  | 11,375    | 5,880     | 15,424  | 16,402   | 16,402  | 16,402  | 16,402    | 16,402    | 16,402    |
| TVA Debt  | 77,504  | 77,504    | 51,669    | 77,504  | 90,421   | 77,504  | 77,504  | 77,504    | 77,504    | 77,504    |
| Debt  | 175,897 | 174,697   | 199,332   | 172,297 | 158,179  | 169,746 | 158,366 | 156,991   | 154,491   | 153,929   |
| <b>Total Expenses</b>                           | 655,156 | 643,766   | 693,170   | 622,559 | 741,312  | 746,732 | 766,839 | 764,638   | 778,223   | 794,273   |
| <b>Income Less Expenses</b>                     | 150,013 | 184,957   | 87,548    | 233,580 | 123,180  | 199,335 | 220,459 | 226,895   | 217,575   | 205,819   |
| <b>Capital Financing</b>                        |         |           |           |         |          |         |         |           |           |           |
| Loans   |         |           |           |         |          |         |         |           |           |           |
| Grants  | 70,493  | 175,742   |           |         |          |         | 525,000 |           |           |           |
| <b>Total Capital Financing</b>                  | 70,493  | 175,742   |           |         |          |         | 525,000 |           |           |           |
| <b>Capital Expenses</b>                         |         |           |           |         |          |         |         |           |           |           |
| Capital Expenses                                | 91,546  | 302,518   | 7,703     | 10,000  | 13,367   | 20,000  | 623,448 | 20,000    | 322,200   | 50,000    |
| <b>Wastewater Net Cash Flow</b>                 |         |           |           |         |          |         |         |           |           |           |
| Annual Gain - (Loss)                            | 128,960 | 58,182    | 79,845    | 223,580 | 109,814  | 179,335 | 122,011 | 206,895   | (104,625) | 155,819   |
| Accrual Adjustment                              | 119,365 | (162,323) | (171,627) | (4,817) | (12,083) |         |         |           |           |           |
| <b>Cash Ending Jun 30</b>                       | 487,378 | 383,237   | 291,455   | 510,219 | 607,949  | 787,284 | 909,295 | 1,116,190 | 1,011,564 | 1,167,384 |

Figure 16

## Change in Net Position Analysis

### Overview

Net position is generally defined as assets minus liabilities. The Town's water and wastewater assets include all cash (unrestricted and restricted), land, and the "net value" of everything owned such as pipes in the ground, tanks, pumps, building, furniture, vehicles and other purchases made that are necessary to the operation of the utility. The net value is defined as the original cost of a capital asset less its accumulated depreciation. Each year there is a change in net position because of the amount of cash changes with increasing or decreasing revenues and expenses, and the amount of the net capital asset value changes because of new capital assets being purchased, all capital assets being depreciated, and possibly some capital assets being totally depreciated. This Change in Net Position is calculated in a section of the Town's audit called "Statement of Revenues, Expenses, and Changes in the Net Position." The Change in Net Position Analysis in this report contains the same data and information found in that section of the audit.

### Methodology

The Change in Net Position Analysis is different from the Cash Flow Analysis in that it includes depreciation as an operating expense, but it does not include the amount of money paid for capital improvements or principal debt payments. It does include grants and gives credit for the value of capital improvements provided by developers. In 2018, the State of Tennessee amended a 2017 law requiring the Water and Wastewater Financing Board (WWFB) to determine the Statutory Change in Net Position as described in TCA § 68-221-1010 (included at the end of this report). Although initially defined in 2017 as just "total revenues less all grants, capital contributions, and expenses," the 2018 amendment added the following verbiage: "...but without reduction for any excluded non-cash items. For purposes of this section, 'excluded non-cash items' means any non-cash charges arising from changes to or the implementation of Pension and Other Post-Employment Benefit (P&OPEB) standards promulgated by the governmental accounting standards board". According to the Tennessee Comptroller's Office, the calculations needed to meet this new 2018 requirement involve adding back the year-to-year change in P&OPEB Assets/Liabilities, as is illustrated in **Figure 17**.

### Requirement

The Statutory Change in Net Position is essential because the first line of verbiage within TCA § 68-221-1010 indicates that the Town would be subject to actions by the WWFB if the Statutory Change in Net Position is negative for two consecutive years. For purposes of this report, the Statutory Change in Net Position is calculated based on the 2018 Statute and the calculations provided by the Comptroller's Office. However, it is important to note that, because the amount of P&OPEB Assets/Liabilities (needed to determine the year-to-year change and, therefore, to compute the Statutory Change in Net Position) is unknown for the future years, this report makes no assumptions as to the necessary add-back amount for each of the years 2020-2024. Instead, one of the objectives of the rate recommendations within this report is to project enough revenue such that the Statutory Change in Net Position for those years is sufficient to avoid the possibility of having a negative amount.

Calculation of Statutory Change in Net Position:

| <b>TN 2017 Law required Statutory Change in Net Position (CNP) to be calculated as follows:</b>   |             |             |             |             |             |
|---|-------------|-------------|-------------|-------------|-------------|
| Financial Statement (GAAP-based) CNP with this one modification:<br>Subtract Grants, Capital Contributions & Transfers In   |             |             |             |             |             |
| <b>TN 2018 Law requires Statutory Change in Net Position (CNP) to be calculated as follows:</b>   |             |             |             |             |             |
| Financial Statement (GAAP-based) CNP with these modifications:<br>Subtract Grants, Capital Contributions & Transfers In<br>Add (Prior Pension & OPEB Asset – Current Pension & OPEB Asset)<br>Add (Current Pension & OPEB Liability – Prior Pension & OPEB Liability) |             |             |             |             |             |
|   | <u>2015</u> | <u>2016</u> | <u>2017</u> | <u>2018</u> | <u>2019</u> |
| Financial Statement Change in Net Position  | (54,887)    | 266,233     | (98,096)    | 66,106      | (136,897)   |
| Subtract Grants, Capital Contributions, & Transfers In  | 60,432      | 351,484     | 0           | 0           | 0           |
| <b>As reference, these are the year-end balances of:</b>  |             |             |             |             |             |
| Pension & OPEB Asset  |             |             |             | 15,925      | 12,044      |
| Pension & OPEB Liability  | 33,306      | 40,244      | 29,933      |             |             |
| <b>Add Change in Pension &amp; OPEB Asset</b>   |             |             |             |             |             |
| Prior Pension & OPEB Assets   |             |             |             | 0           | 15,925      |
| Minus Current Pension & OPEB Assets   |             |             |             | 15,925      | 12,044      |
| <b>Change (Prior - Current)</b>   | N/A         | N/A         | N/A         | (15,925)    | 3,881       |
| <b>Add Change in Pension &amp; OPEB Liability</b>   |             |             |             |             |             |
| Current Pension & OPEB Liability  |             |             |             | 0           | 0           |
| Minus Prior Pension & OPEB Liability  |             |             |             | 29,933      | 0           |
| <b>Change (Current - Prior)</b>   | N/A         | N/A         | N/A         | (29,933)    | 0           |
| <b>= Annual Change in Pension &amp; OPEB</b>  | N/A         | N/A         | N/A         | (45,858)    | 3,881       |
| <b>= Change in Net Position (2018 Statute)</b>  | (115,319)   | (85,251)    | (98,096)    | 20,248      | (133,016)   |

Figure 17

## **Water and Wastewater Systems – Change in Net Position**

**Figure 18a** is the Change in Net Position Analysis for the water system, and **Figure 18b** is the Change in Net Position Analysis for the wastewater system as if they had separate accounting. For purposes of this analysis, the Change in P&OPEB amounts for FY 2018 and FY 2019 has been allocated equally. The Change in P&OPEB for FY 2020 – 2024 cannot be projected with the limited data available.

If the water system were a standalone utility, it would have had problems over the past five years because of the multiple consecutive years of negative Change in Net Position in FY 2015-2019. More importantly, this condition is also projected to continue for the next five years, FY 2020-2024. On the other hand, the wastewater system shows negative Change in Net Position amounts for only FY 2017 and FY 2019. Although calculations are made with no rate increases, recommended rate increases are also shown.

Before FY 2017, grants and contributions were left in the calculation of the Statutory Change in Net Position. There were some grants and contributions for FY 2015 and 2016, but are not included for simplicity of this report. There is a grant anticipated for FY 2021, but it is removed to comply with the state laws regarding the calculation of the Statutory Change in Net Position.

### **Other Considerations**

The Change in Net Position Analysis is the analysis that generally controls the amount of rate increase if one is needed. When separating the water and wastewater systems, a determination can be made which system should receive the greatest amount of increases.

**Water System Change in Net Position (with no future rate increases):**

| <b>Water Change in Net Position - No Rate Increases</b> |                  |                  |                 |                 |                  |                 |                 |                 |                 |                  |
|---|------------------|------------------|-----------------|-----------------|------------------|-----------------|-----------------|-----------------|-----------------|------------------|
|   | 2015             | 2016             | 2017            | 2018            | 2019             | 2020            | 2021            | 2022            | 2023            | 2024             |
| <b>Revenue / Income</b>                                 |                  |                  |                 |                 |                  |                 |                 |                 |                 |                  |
| Revenue   | 547,361          | 555,643          | 613,249         | 556,484         | 582,278          | 657,936         | 659,072         | 665,693         | 666,829         | 672,313          |
| Other Income  | 15,419           | 13,385           | 29,179          | 23,641          | 21,583           | 23,009          | 23,514          | 24,020          | 24,525          | 25,030           |
| <b>Total Water Income</b>                               | <b>562,781</b>   | <b>569,028</b>   | <b>642,428</b>  | <b>580,125</b>  | <b>603,861</b>   | <b>680,945</b>  | <b>682,587</b>  | <b>689,712</b>  | <b>691,354</b>  | <b>697,343</b>   |
| <b>Expenses</b>   |                  |                  |                 |                 |                  |                 |                 |                 |                 |                  |
| General Expenses  | 498,205          | 505,520          | 483,593         | 402,184         | 526,950          | 509,482         | 523,394         | 537,972         | 552,881         | 568,236          |
| Depreciation  | 168,621          | 171,441          | 177,162         | 178,932         | 179,844          | 185,224         | 198,714         | 207,355         | 209,123         | 213,725          |
| Interest Expense  | 31,893           | 30,843           | 29,493          | 28,293          | 27,093           | 25,743          | 24,363          | 22,988          | 21,488          | 19,925           |
| <b>Total Water Expenses</b>                             | <b>698,719</b>   | <b>707,804</b>   | <b>690,248</b>  | <b>609,408</b>  | <b>733,886</b>   | <b>720,449</b>  | <b>746,471</b>  | <b>768,315</b>  | <b>783,492</b>  | <b>801,886</b>   |
| <b>Income Less Expenses</b>                             | <b>(135,938)</b> | <b>(138,776)</b> | <b>(47,820)</b> | <b>(29,283)</b> | <b>(130,025)</b> | <b>(39,504)</b> | <b>(63,884)</b> | <b>(78,603)</b> | <b>(92,138)</b> | <b>(104,542)</b> |
| <b>Change in Net Position</b>                           |                  |                  |                 |                 |                  |                 |                 |                 |                 |                  |
| Change in Net Position (2017 Statute)                   | (135,938)        | (138,776)        | (47,820)        | (29,283)        | (130,025)        | (39,504)        | (63,884)        | (78,603)        | (92,138)        | (104,542)        |
| Change in P&OPEB Assets / Liab.                         |                  |                  |                 | (22,929)        | 1,941            | -               | -               | -               | -               | -                |
| Change in Net Position (2018 Statute)                   | (135,938)        | (138,776)        | (47,820)        | (52,212)        | (128,085)        | (39,504)        | (63,884)        | (78,603)        | (92,138)        | (104,542)        |
| <b>Recommended Rate Increases</b>                       |                  |                  |                 |                 |                  |                 | 12%             | 3%              | 3%              | 3%               |

Note: P&OPEB - Pension and Other Post Employment Benefits

Figure 18a



| Wastewater Change in Net Position - No Rate Increases |                |                |                 |                |                 |                |                |                |                |                  |
|---|----------------|----------------|-----------------|----------------|-----------------|----------------|----------------|----------------|----------------|------------------|
|   | 2015           | 2016           | 2017            | 2018           | 2019            | 2020           | 2021           | 2022           | 2023           | 2024             |
| <b>Revenue / Income</b>                               |                |                |                 |                |                 |                |                |                |                |                  |
| Revenue   | 686,532        | 717,560        | 688,990         | 734,569        | 734,187         | 822,951        | 827,153        | 831,383        | 835,643        | 839,933          |
| TVA Odor Control                                      | 14,014         | 11,375         | 5,880           | 15,424         | 16,402          | 16,402         | 16,402         | 16,402         | 16,402         | 16,402           |
| TVA Debt  | 77,504         | 77,504         | 51,669          | 77,504         | 90,421          | 77,504         | 77,504         | 77,504         | 77,504         | 77,504           |
| TVA Depreciation                                      |                |                |                 |                |                 |                | 37,024         | 37,024         | 37,024         | 37,024           |
| Other Income  | 27,119         | 22,285         | 34,179          | 28,641         | 23,483          | 29,209         | 29,214         | 29,220         | 29,225         | 29,230           |
| <b>Total Wastewater Income</b>                        | <b>805,169</b> | <b>828,724</b> | <b>780,718</b>  | <b>856,139</b> | <b>864,493</b>  | <b>946,067</b> | <b>987,297</b> | <b>991,533</b> | <b>995,798</b> | <b>1,000,093</b> |
| <b>Expenses</b>                                       |                |                |                 |                |                 |                |                |                |                |                  |
| General Expenses                                      | 387,742        | 380,191        | 436,289         | 357,334        | 476,310         | 483,080        | 514,567        | 513,741        | 529,826        | 546,439          |
| TVA Odor Control                                      | 14,014         | 11,375         | 5,880           | 15,424         | 16,402          | 16,402         | 16,402         | 16,402         | 16,402         | 16,402           |
| TVA Depreciation                                      |                |                |                 |                |                 |                | 37,024         | 37,024         | 37,024         | 37,024           |
| Depreciation  | 236,855        | 240,817        | 248,852         | 251,338        | 250,921         | 251,921        | 226,763        | 236,840        | 219,726        | 232,258          |
| Interest Expense                                      | 145,940        | 142,817        | 139,974         | 136,654        | 133,402         | 131,686        | 128,341        | 124,967        | 120,388        | 117,704          |
| <b>Total Wastewater Expenses</b>                      | <b>784,550</b> | <b>775,199</b> | <b>830,994</b>  | <b>760,750</b> | <b>877,035</b>  | <b>883,089</b> | <b>923,096</b> | <b>928,974</b> | <b>923,366</b> | <b>949,827</b>   |
| <b>Income Less Expenses</b>                           | <b>20,619</b>  | <b>53,525</b>  | <b>(50,277)</b> | <b>95,389</b>  | <b>(12,542)</b> | <b>62,978</b>  | <b>64,201</b>  | <b>62,559</b>  | <b>72,432</b>  | <b>50,266</b>    |
| <b>Change in Net Position</b>                         |                |                |                 |                |                 |                |                |                |                |                  |
| Change in Net Position (2017 Statute)                 | 20,619         | 53,525         | (50,277)        | 95,389         | (12,542)        | 62,978         | 64,201         | 62,559         | 72,432         | 50,266           |
| Change in P&OPEB Assets / Liab.                       |                |                |                 | (22,929)       | 1,941           | -              | -              | -              | -              | -                |
| Change in Net Position (2018 Statute)                 | 20,619         | 53,525         | (50,277)        | 72,460         | (10,601)        | 62,978         | 64,201         | 62,559         | 72,432         | 50,266           |
| <b>Recommended Rate Increases</b>                     |                |                |                 |                |                 |                | 3%             | 3%             | 3%             | 3%               |

Note: P&OPEB - Pension and Other Post Employment Benefits

Figure 18b

## Water and Wastewater Systems Combined with No Rate Increases

### **Overview**

The financial accounting of the Town's water and wastewater systems is combined in its Annual Audit. The Tennessee Comptroller's Office reviews the Annual Financial Report. Still, it is not concerned about the separation of water and wastewater, only the combined results. That is why this report is showing a combined analysis that adds the water and wastewater analysis together within the Cash Flow Analysis and the Change in Net Position Analysis. The reason for separating the two earlier in this report was to determine the need for reasonable rate increases independently of each other.

### **Methodology**

Combining the water and wastewater systems financially is simply done by adding each component of the water system Cash Flow Analysis and Change in Net Position Analysis with the corresponding component of the wastewater Cash Flow Analysis and Change in Net Position Analysis.

### **Combined Cash Flow Analysis – No Rate Increases**

**Figure 19** shows the combined Cash Flow Analysis for the water and wastewater systems for the past five years and projections for the next five years with no future rate increases. The analysis shows positive net cash flows for FY 2020-2024.

**Water and Wastewater Cash Flow (with no future rate increases):**

| <b>Water and Wastewater Cash Flow - No Rate Increases</b> |           |           |           |           |           |           |           |           |           |           |
|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|   | 2015      | 2016      | 2017      | 2018      | 2019      | 2020      | 2021      | 2022      | 2023      | 2024      |
| <b>Cash Beginning Jul 1</b>                               | 1,195,270 | 1,514,589 | 1,094,165 | 892,396   | 1,186,001 | 1,248,100 | 1,387,155 | 1,473,996 | 1,734,644 | 1,642,003 |
| <b>Revenue / Income</b>                                   |           |           |           |           |           |           |           |           |           |           |
| Revenue   | 1,233,894 | 1,273,203 | 1,302,238 | 1,291,053 | 1,316,465 | 1,480,887 | 1,486,225 | 1,497,076 | 1,502,472 | 1,512,246 |
| TVA Odor Control  | 14,014    | 11,375    | 5,880     | 15,424    | 16,402    | 16,402    | 16,402    | 16,402    | 16,402    | 16,402    |
| TVA Debt  | 77,504    | 77,504    | 51,669    | 77,504    | 90,421    | 77,504    | 77,504    | 77,504    | 77,504    | 77,504    |
| TVA Depreciation  |           |           |           |           |           |           | 37,024    | 37,024    | 37,024    | 37,024    |
| Other Income  | 42,538    | 35,670    | 63,358    | 52,283    | 45,065    | 52,219    | 52,729    | 53,239    | 53,749    | 54,260    |
| <b>Total Income</b>                                       | 1,367,950 | 1,397,752 | 1,423,146 | 1,436,264 | 1,468,354 | 1,627,012 | 1,669,884 | 1,681,245 | 1,687,152 | 1,697,436 |
| <b>Expenses</b>   |           |           |           |           |           |           |           |           |           |           |
| General Expenses  | 885,947   | 885,711   | 919,882   | 759,518   | 1,003,260 | 992,562   | 1,037,960 | 1,051,713 | 1,082,707 | 1,114,675 |
| TVA Odor Control  | 14,014    | 11,375    | 5,880     | 15,424    | 16,402    | 16,402    | 16,402    | 16,402    | 16,402    | 16,402    |
| TVA Debt  | 77,504    | 77,504    | 51,669    | 77,504    | 90,421    | 77,504    | 77,504    | 77,504    | 77,504    | 77,504    |
| Debt  | 267,789   | 265,389   | 288,824   | 260,589   | 245,272   | 255,489   | 232,729   | 229,979   | 225,979   | 223,854   |
| <b>Total Expenses</b>                                     | 1,245,254 | 1,239,979 | 1,266,255 | 1,113,035 | 1,355,355 | 1,341,957 | 1,364,595 | 1,375,598 | 1,402,592 | 1,432,434 |
| <b>Income Less Expenses</b>                               | 122,696   | 157,773   | 156,890   | 323,229   | 112,998   | 285,055   | 305,289   | 305,648   | 284,560   | 265,001   |
| <b>Capital Financing</b>                                  |           |           |           |           |           |           |           |           |           |           |
| Loans   |           |           |           |           |           |           |           |           |           |           |
| Grants  | 140,985   | 351,484   |           |           |           |           | 525,000   |           |           |           |
| <b>Total Capital Financing</b>                            | 140,985   | 351,484   |           |           |           |           | 525,000   |           |           |           |
| <b>Capital Expenses</b>                                   |           |           |           |           |           |           |           |           |           |           |
| Capital Expenses  | 183,091   | 605,035   | 15,405    | 20,000    | 26,733    | 146,000   | 743,448   | 45,000    | 377,200   | 100,000   |
| <b>Water and Wastewater Net Cash Flow</b>                 |           |           |           |           |           |           |           |           |           |           |
| Annual Gain - (Loss)                                      | 80,590    | (95,778)  | 141,485   | 303,229   | 86,265    | 139,055   | 86,841    | 260,648   | (92,640)  | 165,001   |
| Accrual Adjustment  | 238,729   | (324,646) | (343,254) | (9,624)   | (24,166)  |           |           |           |           |           |
| <b>Cash Ending Jun 30</b>                                 | 1,514,589 | 1,094,165 | 892,396   | 1,186,001 | 1,248,100 | 1,387,155 | 1,473,996 | 1,734,644 | 1,642,003 | 1,807,005 |

Figure 19

Figure 20 is a graphical representation of the combined Cash Flow Analysis, with no future rate increases.

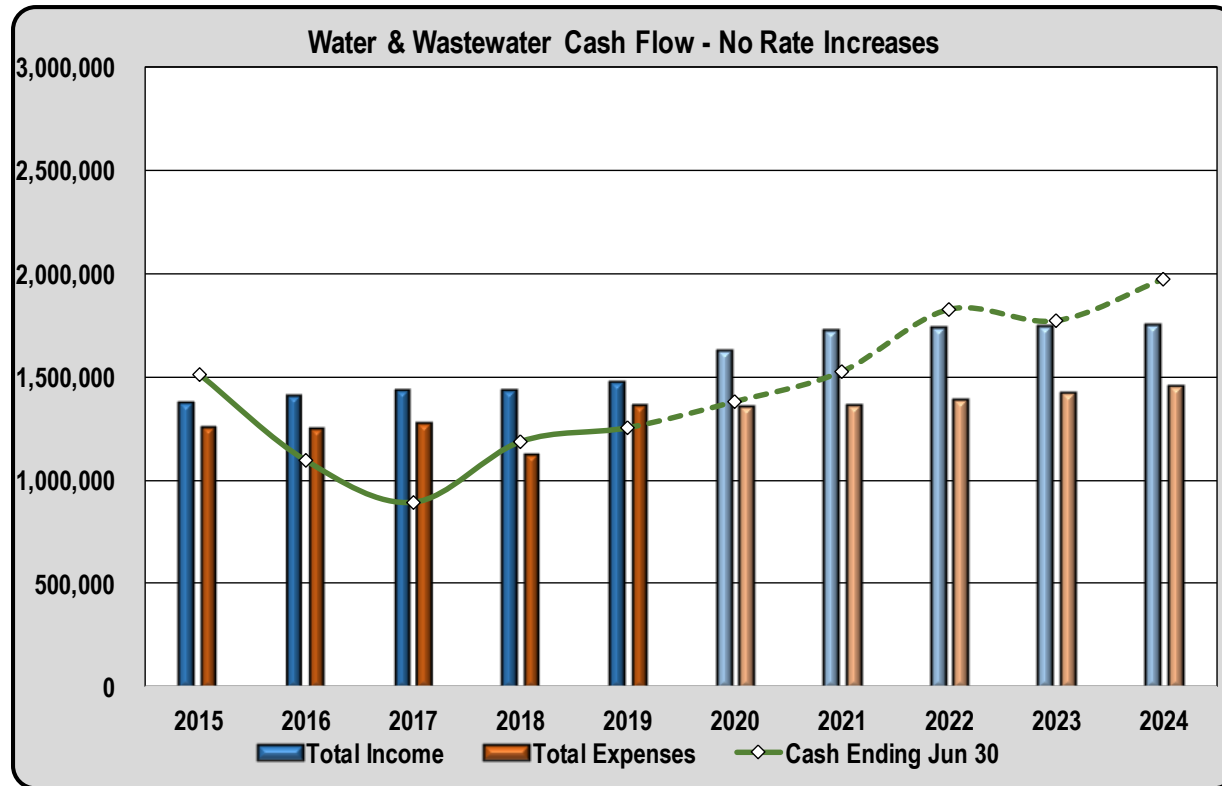


Figure 20

**Change in Net Position – Combined**

The combined water and wastewater Change in Net Position Analysis is shown in **Figure 21**. Note that although the projected total “Income less Expenses” is negative for FY 2019, it becomes positive for FY 2020-2021, then negative for FY 2022-2024. However, since the year-to-year changes in the future P&OPEB Assets/Liabilities are unknown, the future projected Statutory Change in Net Position for FY 2020-2024 may not be sufficient, which may cause the Town to be non-compliant with state laws regarding Change in Net Position. A graphical representation of the combined water and wastewater Change in Net Position Analysis is also provided.

**Other Considerations**

Making financial decisions such as rate increases based only on a combined financial analysis tends to cause an imbalance in one of the systems supporting the other. Each system has its own unique expenses, as this report presents.

**Water and Wastewater Change in Net Position (with no future rate increases):**

| <b>Water &amp; Wastewater Change in Net Position - No Rate Increases</b> |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
|--|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
|  | 2015             | 2016             | 2017             | 2018             | 2019             | 2020             | 2021             | 2022             | 2023             | 2024             |
| <b>Revenue / Income</b>  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| Revenue  | 1,233,894        | 1,273,203        | 1,302,238        | 1,291,053        | 1,316,465        | 1,480,887        | 1,486,225        | 1,497,076        | 1,502,472        | 1,512,246        |
| TVA Odor Control   | 14,014           | 11,375           | 5,880            | 15,424           | 16,402           | 16,402           | 16,402           | 16,402           | 16,402           | 16,402           |
| TVA Debt   | 77,504           | 77,504           | 51,669           | 77,504           | 90,421           | 77,504           | 77,504           | 77,504           | 77,504           | 77,504           |
| TVA Depreciation   |                  |                  |                  |                  |                  |                  | 37,024           | 37,024           | 37,024           | 37,024           |
| Other Income   | 42,538           | 35,670           | 63,358           | 52,283           | 45,065           | 52,219           | 52,729           | 53,239           | 53,749           | 54,260           |
| <b>Total Income</b>  | <b>1,367,950</b> | <b>1,397,752</b> | <b>1,423,146</b> | <b>1,436,264</b> | <b>1,468,354</b> | <b>1,627,012</b> | <b>1,669,884</b> | <b>1,681,245</b> | <b>1,687,152</b> | <b>1,697,436</b> |
| <b>Expenses</b>  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| General Expenses   | 885,947          | 885,711          | 919,882          | 759,518          | 1,003,260        | 992,562          | 1,037,960        | 1,051,713        | 1,082,707        | 1,114,675        |
| TVA Odor Control   | 14,014           | 11,375           | 5,880            | 15,424           | 16,402           | 16,402           | 16,402           | 16,402           | 16,402           | 16,402           |
| TVA Depreciation   |                  |                  |                  |                  |                  |                  | 37,024           | 37,024           | 37,024           | 37,024           |
| Depreciation   | 405,476          | 412,258          | 426,014          | 430,270          | 430,765          | 437,145          | 425,477          | 444,196          | 428,850          | 445,983          |
| Interest Expense   | 177,832          | 173,659          | 169,466          | 164,946          | 160,494          | 157,428          | 152,703          | 147,954          | 141,875          | 137,629          |
| <b>Total Expenses</b>  | <b>1,483,269</b> | <b>1,483,003</b> | <b>1,521,242</b> | <b>1,370,158</b> | <b>1,610,921</b> | <b>1,603,538</b> | <b>1,669,567</b> | <b>1,697,289</b> | <b>1,706,858</b> | <b>1,751,713</b> |
| <b>Income Less Expenses</b>  | <b>(115,319)</b> | <b>(85,251)</b>  | <b>(98,096)</b>  | 66,106           | <b>(142,567)</b> | 23,474           | 317              | <b>(16,044)</b>  | <b>(19,706)</b>  | <b>(54,277)</b>  |
| <b>Change in Net Position</b>  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| Change in Net Position (2017 Statute)                                    | (115,319)        | (85,251)         | (98,096)         | 66,106           | (142,568)        | 23,474           | 317              | (16,044)         | (19,706)         | (54,277)         |
| Change in P&OPEB Assets / Liab.  |                  |                  |                  | (45,858)         | 3,881            | -                | -                | -                | -                | -                |
| Change in Net Position (2018 Statute)                                    | (115,319)        | (85,251)         | (98,096)         | 20,248           | (138,687)        | 23,474           | 317              | (16,044)         | (19,706)         | (54,277)         |

Figure 21

## Cost of Service Analysis

A Cost of Service (COS) Analysis is a method used to distribute cost based on the level of service provided. The COS is used to determine a fair rate for residential and commercial customers, and for SSM and TVA.

### Methodology

The COS presented in this report is not an American Water Works Association (AWWA) M-1 COS analysis and does not include peak day and peak hour demands. The Town does not have adequate data for such determination. The methodology used is based on a fair distribution of the revenue requirement to each class of customers.

There are five components to the COS:

- Establish Customer Classes
- Revenue Requirement
- Cost Allocation
- Distribution of Variable Cost to Customer Classes
- Development and Design of a Schedule of Rates

## Water System COS

### 1 Establish Customer Classes

The Town provides water services to residential customers inside the city limits, commercial customers inside the city limits, and residential customers outside the city limits. Currently, there are six classes of customers:

- Inside City Residential
- 1" to 2" meters (Commercial)
- 3" and above (Commercial)
- Outside the City Residential
- Sprinkler
- Irrigation

Recommended is for the Town to combine and establish customer classes as follows:

- Inside City Residential – Including Sprinkler Customers and Irrigation Customers
- Commercial – Including 1" and 2" Meter Customers and 3" meters and above Customers
- Outside City Residential

## 2 Revenue Requirement

The revenue requirement is the total amount of cash needed for the water system to operate for a specific year. The year selected for this report is FY 2021. Included are projected FY 2021 expenses, depreciation, interest, other income, and Change in Net Position. The revenue requirement formulation is based on a modification of the “Utility Method” presented in the AWWA M-1 Manual. However, it is different from the M-1 Manual because a “return on equity” or a “risk premium” is not included. The revenue requirement for the Town generally follows the format of the “Statement of Revenues, Expenses, and Changes in Net Position” section of the Town’s financial statement audit. Although the “Cash Needs” approach is another method of determining revenue requirements as described in the M-1 Manual, it is not used because the cash needs method does not include depreciation

The following four components determine the revenue requirement:

### Operation and Maintenance

The Town maintains comprehensive annual financial records accounting for operation and maintenance expenses such as general and administrative, water plant, and distribution for the water system (as well as the wastewater plant and collection for the wastewater system).

### Depreciation

Depreciation is a non-cash operating expense funded through revenue.

### Interest Expense

While the interest component of debt is included, the principal component is not.

### Other Income

Other income is a combination of fees, such as tap fees, penalties, interest income, and other miscellaneous fees.

The revenue requirement is further categorized into fixed costs and variable costs. Fixed costs are those costs unrelated to the treatment and distribution of water. Variable costs are those costs associated directly or indirectly with the treatment and distribution of water. The fixed costs are generally used to determine a “Service Charge,” which is used in the calculation of a minimum bill. The service charge is calculated by dividing the fixed costs by the total number of customers. The variable costs are used to determine a unit rate or a cost per 1,000 gallons. Allocation and distribution of the variable costs will determine the cost per 1,000 gallons for each customer class.

**Figure 22a** shows the total Water System Revenue Requirement for FY 2021, which determines the service charge amount. The service charge is based on a single-family unit. If larger meters are used by customers, additional charges should apply. **Figure 22b** shows an estimated cost for maintaining and replacing large meters. **Figure 22c** gives the service charge for varying meter sizes by adding the base service charge to the amount estimated for the maintenance and replacement of each meter size.

| Water System 2021 Revenue Requirement (No Rate Increases) |                  |      |                 |          |                  |
|---|------------------|------|-----------------|----------|------------------|
|   | Cost             |      | Fixed           | Variable |                  |
| General & Admin   | \$25,362         | 100% | \$25,362        | 0%       | \$0              |
| Water Plant   | \$272,843        | 0%   | \$0             | 100%     | \$272,843        |
| Distribution  | \$225,189        | 0%   | \$0             | 100%     | \$225,189        |
| Depreciation  | \$198,714        | 20%  | \$39,743        | 80%      | \$158,971        |
| Interest Expense  | \$24,363         | 20%  | \$4,873         | 80%      | \$19,490         |
| Change in Net Position (2018 law)                         | (\$63,884)       | 0%   | \$0             | 100%     | (\$63,884)       |
| Less Other Income   | (\$23,514)       | 0%   | \$0             | 100%     | (\$23,514)       |
| <b>Revenue Requirement</b>                                | <b>\$659,072</b> |      | <b>\$69,977</b> |          | <b>\$589,095</b> |
| <b>Total Customers</b>                                    |                  |      | <b>1,037</b>    |          |                  |
| <b>Service Charge</b>                                     |                  |      | <b>\$5.62</b>   |          |                  |

Figure 22a

| Meter Maintenance & Replacement Costs |            |                             |                     |                     |          |                 |                   |
|---------------------------------------|------------|-----------------------------|---------------------|---------------------|----------|-----------------|-------------------|
| Meter Size                            | Meter Cost | Cost Increase<br>@ 3% / Yr. | Labor to<br>Replace | Service<br>(10 Yr.) | Total    | Monthly<br>Bill | Annual<br>Revenue |
| 1 - Inch                              | \$500      | \$172                       | \$500               | \$1,000             | \$2,172  | \$18            | \$217             |
| 2 - Inch                              | \$1,500    | \$516                       | \$700               | \$2,000             | \$4,716  | \$39            | \$472             |
| 3 - Inch                              | \$2,500    | \$860                       | \$900               | \$5,000             | \$9,260  | \$77            | \$926             |
| 4 - Inch                              | \$3,500    | \$1,204                     | \$1,100             | \$6,000             | \$11,804 | \$98            | \$1,180           |
| 6 - Inch                              | \$5,000    | \$1,720                     | \$2,000             | \$8,000             | \$16,720 | \$139           | \$1,672           |

**Notes:**

**Assumption: Meters are replaced every 10 years**

**The Monthly Bill is added to the Monthly Service Charge**

Figure 22b

| Meter Size               | Service<br>Charge |
|--------------------------|-------------------|
| 5/8 - Inch (Residential) | \$5.61            |
| 1 - Inch                 | \$23.71           |
| 2 - Inch                 | \$44.90           |
| 3 - Inch                 | \$82.77           |
| 4 - Inch                 | \$103.97          |
| 6 - Inch                 | \$144.94          |

Figure 22c



### 3 Cost Allocation

**Figure 23** shows the allocation of water distribution costs. A distinguishing feature of the distribution system is a cross-connection program. The Town's cross-connection program relates primarily to testing backflow prevention devices. Applying percentages of time and effort to the selected services provides the basis for the allocation of this cost. Multiplying the percentage of each service by the total cost determines the cost of each service.

| <b>Allocation of Water Distribution Costs</b>                      |                     |                         |                  |
|--|---------------------|-------------------------|------------------|
| <b>Percentages of Cost Allocation for Variable Operating Costs</b> |                     |                         |                  |
|  | <b>Distribution</b> | <b>Backflow Testing</b> | <b>Total</b>     |
| <b>Distribution</b>  | 98%                 | 2%                      | <b>100%</b>      |
| <b>Cost Allocation for Variable Operating Costs</b>                |                     |                         |                  |
|  | <b>Distribution</b> | <b>Backflow Testing</b> | <b>Total</b>     |
| <b>Distribution</b>  | \$220,685           | \$4,504                 | <b>\$225,189</b> |

**Figure 23**

### 4 Distribution of Variable Cost to Customer Classes

The distribution of variable cost among the three different water customer classes is accomplished using two key percentages, Customers and Usage, plus adjustments for customer class-specific considerations.

First, **Figure 24** shows the calculation of the key percentages Customers, Usage, and Revenue.

| <b>2021 Water Data Analysis (No Rate Increases)</b> |                  |                   |                    |                   |                  |                   |
|---|------------------|-------------------|--------------------|-------------------|------------------|-------------------|
| <b>Customer Class</b>                               | <b>Customers</b> | <b>% of Total</b> | <b>Usage (MGY)</b> | <b>% of Total</b> | <b>Revenue</b>   | <b>% of Total</b> |
| <b>Inside Res.</b>                                  | 863              | 83%               | 36                 | 70%               | \$445,773        | 68%               |
| <b>Outside Res</b>                                  | 145              | 14%               | 5                  | 11%               | \$90,119         | 14%               |
| <b>Commercial</b>                                   | 28               | 3%                | 10                 | 19%               | \$123,180        | 19%               |
| <b>Total</b>  | <b>1,037</b>     | <b>100%</b>       | <b>51</b>          | <b>100%</b>       | <b>\$659,072</b> | <b>100%</b>       |

Note: MGY = Million Gallons Per Year

**Figure 24**

Next, **Figure 25** shows the complete distribution of variable costs via a methodology that, using the annual cost of each service provided, applies the key percentages above plus adjustments to compute the total revenue required from each customer class to cover the variable costs. That is:

- Water Treatment, Distribution costs, Depreciation Inside, Interest Expense, and Change in Net Position are each distributed based on the percent of Usage.
- Other Income is distributed based on the percent of Customers.
- Depreciation Outside is distributed 100% to the outside residential customers.
- Backflow testing is distributed 100% to Commercial customers.

| <b>Cost of Services for Variable Costs (No Rate Increases)</b> |                        |                     |                         |                       |                        |                         |                               |                       |                  |
|--|------------------------|---------------------|-------------------------|-----------------------|------------------------|-------------------------|-------------------------------|-----------------------|------------------|
|  | <b>Water Treatment</b> | <b>Distribution</b> | <b>Backflow Testing</b> | <b>Deprec. Inside</b> | <b>Deprec. Outside</b> | <b>Interest Expense</b> | <b>Change in Net Position</b> | <b>Less Other Inc</b> | <b>Total</b>     |
| <b>Annual Cost</b>   | \$272,843              | \$220,685           | \$4,504                 | \$152,946             | \$6,025                | \$19,490                | (\$63,884)                    | (\$23,514)            | <b>\$589,095</b> |
| <b>Percent Distribution for Variable Costs</b>                 |                        |                     |                         |                       |                        |                         |                               |                       |                  |
| <b>Customer Class</b>  | <b>Water Treatment</b> | <b>Distribution</b> | <b>Backflow Testing</b> | <b>Deprec. Inside</b> | <b>Deprec. Outside</b> | <b>Interest Expense</b> | <b>Change in Net Position</b> | <b>Less Other Inc</b> |                  |
| <b>Inside Res.</b>   | 70%                    | 70%                 |                         | 70%                   |                        | 70%                     | 70%                           | 83%                   |                  |
| <b>Outside Res</b>   | 11%                    | 11%                 |                         | 11%                   | 100%                   | 11%                     | 11%                           | 14%                   |                  |
| <b>Commercial</b>  | 19%                    | 19%                 | 100%                    | 19%                   |                        | 19%                     | 19%                           | 3%                    |                  |
| <b>Cost Distribution for Variable Costs</b>                    |                        |                     |                         |                       |                        |                         |                               |                       |                  |
| <b>Customer Class</b>  | <b>Water Treatment</b> | <b>Distribution</b> | <b>Backflow Testing</b> | <b>Deprec. Inside</b> | <b>Deprec. Outside</b> | <b>Interest Expense</b> | <b>Change in Net Position</b> | <b>Less Other Inc</b> | <b>Total</b>     |
| <b>Inside Res.</b>   | \$191,169              | \$154,624           | \$0                     | \$107,162             | \$0                    | \$13,656                | (\$44,761)                    | (\$19,576)            | <b>\$402,274</b> |
| <b>Outside Res</b>   | \$28,912               | \$23,385            | \$0                     | \$16,207              | \$6,025                | \$2,065                 | (\$6,770)                     | (\$3,296)             | <b>\$66,529</b>  |
| <b>Commercial</b>  | \$52,763               | \$42,676            | \$4,504                 | \$29,577              | \$0                    | \$3,769                 | (\$12,354)                    | (\$643)               | <b>\$120,292</b> |
| <b>Total</b>   | <b>\$272,843</b>       | <b>\$220,685</b>    | <b>\$4,504</b>          | <b>\$152,946</b>      | <b>\$6,025</b>         | <b>\$19,490</b>         | <b>(\$63,884)</b>             | <b>(\$23,514)</b>     | <b>\$589,095</b> |

Figure 25

**Figure 26** shows the different rates per 1,000 gallons for three water system customer classes. The rate per 1,000 gallons is determined by dividing the Total Revenue Required from each customer class (in **Figure 25**) by the total Usage (MGY) for that customer class (from **Figure 24**).

| Rate Determination for Variable Costs |                  |                     |
|---------------------------------------|------------------|---------------------|
| Customer Class                        | Revenue Required | Rate Per 1,000 Gal. |
| Inside Res.                           | \$402,274        | \$11.31             |
| Outside Res                           | \$66,529         | \$12.37             |
| Commercial                            | \$120,292        | \$12.25             |
| <b>Total</b>                          | <b>\$589,095</b> |                     |

Figure 26

**5 Development and Design of a Schedule of Rates**

Figures 27a, 27b, and 27c show the impact of changing the Town’s water rate schedule from a minimum of 2,000 gallons to a minimum with 1,000 gallons usage plus a variable rate based on each customer class. Because the rate structure is changing, it is difficult to estimate the overall percentage change that residential and commercial customers will receive. Some customers will notice a decrease in the amount they pay, and others will see an increase. The rates for FY 2021 are shown twice: first, to reflect the changes resulting from the COS with no rate increase; and second, to show the combined impact of the COS plus the recommended 12% increase.

| Inside Residential       |          |                |                                       |            |                |                                      |            |                |                         |          |  |  |
|--------------------------|----------|----------------|---------------------------------------|------------|----------------|--------------------------------------|------------|----------------|-------------------------|----------|--|--|
| Current 2020 Water Rates |          |                | 2021 Water Rates (COS) - with no Inc. |            |                | 2021 Water Rates (COS) plus 12% Inc. |            |                | Combined COS & 12% Inc. |          |  |  |
| Gallons                  | Minimum  |                | Gallons                               | Minimum    | % Inc.         | Gallons                              | Minimum    | % Inc.         |                         |          |  |  |
| First                    | 2,000    | \$25.09        | First                                 | 1,000      | \$16.93        | -33%                                 | First      | 1,000          | \$18.96                 | 12%      |  |  |
|                          |          | Per 1,000 gal. |                                       |            | Per 1,000 gal. |                                      |            | Per 1,000 gal. |                         |          |  |  |
| Over                     | 2,000    | \$9.90         | Over                                  | 1,000      | \$11.31        | 14%                                  | Over       | 1,000          | \$12.66                 | 12%      |  |  |
| Water Sold (Gallons)     | Charge   |                | Monthly Charge                        | Difference | % Change       | Monthly Charge                       | Difference | % Change       | Difference              | % Change |  |  |
| 1,000                    | \$25.09  |                | \$16.93                               | (\$8.16)   | -33%           | \$18.96                              | \$2.03     | 12%            | (\$6.13)                | -24%     |  |  |
| 2,000                    | \$25.09  |                | \$28.24                               | \$3.15     | 13%            | \$31.63                              | \$3.39     | 12%            | \$6.54                  | 26%      |  |  |
| 4,000                    | \$44.89  |                | \$50.86                               | \$5.97     | 13%            | \$56.96                              | \$6.10     | 12%            | \$12.07                 | 27%      |  |  |
| 5,000                    | \$54.79  |                | \$62.16                               | \$7.37     | 13%            | \$69.62                              | \$7.46     | 12%            | \$14.83                 | 27%      |  |  |
| 10,000                   | \$104.29 |                | \$118.70                              | \$14.41    | 14%            | \$132.95                             | \$14.24    | 12%            | \$28.66                 | 27%      |  |  |

Note: COS = Cost of Service

Figure 27a

| Outside Residential      |                |                |                                       |            |                |                                      |            |                |                         |          |  |  |
|--------------------------|----------------|----------------|---------------------------------------|------------|----------------|--------------------------------------|------------|----------------|-------------------------|----------|--|--|
| Current 2020 Water Rates |                |                | 2021 Water Rates (COS) - with no Inc. |            |                | 2021 Water Rates (COS) plus 12% Inc. |            |                | Combined COS & 12% Inc. |          |  |  |
| Gallons                  | Minimum        |                | Gallons                               | Minimum    | % Inc.         | Gallons                              | Minimum    | % Inc.         |                         |          |  |  |
| First                    | 2,000          | \$32.62        | First                                 | 1,000      | \$17.99        | -45%                                 | First      | 1,000          | \$20.15                 | 12%      |  |  |
|                          |                | Per 1,000 gal. |                                       |            | Per 1,000 gal. |                                      |            | Per 1,000 gal. |                         |          |  |  |
| Over                     | 2,000          | \$12.87        | Over                                  | 1,000      | \$12.37        | -4%                                  | Over       | 1,000          | \$13.85                 | 12%      |  |  |
| Water Sold (Gallons)     | Monthly Charge |                | Monthly Charge                        | Difference | % Change       | Monthly Charge                       | Difference | % Change       | Difference              | % Change |  |  |
| 1,000                    | \$32.62        |                | \$17.99                               | (\$14.63)  | -45%           | \$20.15                              | \$2.16     | 12%            | (\$12.47)               | -38%     |  |  |
| 2,000                    | \$32.62        |                | \$30.35                               | (\$2.27)   | -7%            | \$34.00                              | \$3.64     | 12%            | \$1.38                  | 4%       |  |  |
| 4,000                    | \$58.36        |                | \$55.09                               | (\$3.27)   | -6%            | \$61.70                              | \$6.61     | 12%            | \$3.34                  | 6%       |  |  |
| 5,000                    | \$71.23        |                | \$67.45                               | (\$3.78)   | -5%            | \$75.54                              | \$8.09     | 12%            | \$4.31                  | 6%       |  |  |
| 10,000                   | \$135.58       |                | \$129.28                              | (\$6.30)   | -5%            | \$144.79                             | \$15.51    | 12%            | \$9.21                  | 7%       |  |  |

Note: COS = Cost of Service

Figure 27b

| Commercial               |                |                |                                       |            |                |                                      |            |                |                         |          |  |  |
|--------------------------|----------------|----------------|---------------------------------------|------------|----------------|--------------------------------------|------------|----------------|-------------------------|----------|--|--|
| Current 2020 Water Rates |                |                | 2021 Water Rates (COS) - with no Inc. |            |                | 2021 Water Rates (COS) plus 12% Inc. |            |                | Combined COS & 12% Inc. |          |  |  |
| Gallons                  | Minimum        |                | Gallons                               | Minimum    | % Inc.         | Gallons                              | Minimum    | % Inc.         |                         |          |  |  |
| First                    | 2,000          | \$43.91        | First                                 | 1,000      | \$17.88        | -59%                                 | First      | 1,000          | \$20.02                 | 12%      |  |  |
|                          |                | Per 1,000 gal. |                                       |            | Per 1,000 gal. |                                      |            | Per 1,000 gal. |                         |          |  |  |
| Over                     | 2,000          | \$9.90         | Over                                  | 1,000      | \$12.25        | 24%                                  | Over       | 1,000          | \$13.72                 | 12%      |  |  |
| Water Sold (Gallons)     | Monthly Charge |                | Monthly Charge                        | Difference | % Change       | Monthly Charge                       | Difference | % Change       | Difference              | % Change |  |  |
| 1,000                    | \$43.91        |                | \$17.88                               | (\$26.03)  | -59%           | \$20.02                              | \$2.15     | 12%            | (\$23.89)               | -54%     |  |  |
| 4,000                    | \$63.71        |                | \$54.63                               | (\$9.08)   | -14%           | \$61.18                              | \$6.56     | 12%            | (\$2.53)                | -4%      |  |  |
| 5,000                    | \$73.61        |                | \$66.88                               | (\$6.73)   | -9%            | \$74.91                              | \$8.03     | 12%            | \$1.30                  | 2%       |  |  |
| 10,000                   | \$123.11       |                | \$128.14                              | \$5.03     | 4%             | \$143.51                             | \$15.38    | 12%            | \$20.40                 | 17%      |  |  |
| 50,000                   | \$519.11       |                | \$618.19                              | \$99.08    | 19%            | \$692.37                             | \$74.18    | 12%            | \$173.26                | 33%      |  |  |

Note: COS = Cost of Service

Figure 27c

**Water Cash Flow – with Recommended Rates:**

Figure 28 shows the projected impact on the water system's cash flow using the recommended rate increases.

| <b>Water Cash Flow - With Rate Increases</b> |           |           |           |         |          |          |         |           |           |           |
|--|-----------|-----------|-----------|---------|----------|----------|---------|-----------|-----------|-----------|
|  | 2015      | 2016      | 2017      | 2018    | 2019     | 2020     | 2021    | 2022      | 2023      | 2024      |
| <b>Cash Beginning Jul 1</b>                  | 956,216   | 1,027,211 | 710,928   | 600,941 | 675,772  | 640,141  | 599,861 | 807,699   | 1,144,705 | 1,474,681 |
| <b>Revenue / Income</b>                      |           |           |           |         |          |          |         |           |           |           |
| <b>Revenue</b>                               | 547,361   | 555,643   | 613,249   | 556,484 | 582,278  | 657,936  | 738,161 | 767,943   | 792,332   | 822,814   |
| <b>Rate Increase</b>                         |           |           |           |         |          |          | 12%     | 3%        | 3%        | 3%        |
| <b>Other Income</b>                          | 15,419    | 13,385    | 29,179    | 23,641  | 21,583   | 23,009   | 23,514  | 24,020    | 24,525    | 25,030    |
| <b>Total Income</b>                          | 562,781   | 569,028   | 642,428   | 580,125 | 603,861  | 680,945  | 761,675 | 791,963   | 816,857   | 847,843   |
| <b>Expenses</b>                              |           |           |           |         |          |          |         |           |           |           |
| <b>General Expenses</b>                      | 498,205   | 505,520   | 483,593   | 402,184 | 526,950  | 509,482  | 523,394 | 537,972   | 552,881   | 568,236   |
| <b>Debt</b>                                  | 91,893    | 90,693    | 89,493    | 88,293  | 87,093   | 85,743   | 74,363  | 72,988    | 71,488    | 69,925    |
| <b>Total Expenses</b>                        | 590,098   | 596,213   | 573,086   | 490,477 | 614,043  | 595,225  | 597,756 | 610,960   | 624,369   | 638,161   |
| <b>Income Less Expenses</b>                  | (27,317)  | (27,184)  | 69,342    | 89,648  | (10,182) | 85,720   | 163,919 | 181,003   | 192,488   | 209,682   |
| <b>Capital Financing</b>                     |           |           |           |         |          |          |         |           |           |           |
| <b>Loans</b>                                 |           |           |           |         |          |          |         |           |           |           |
| <b>Grants</b>                                | 70,493    | 175,742   |           |         |          |          |         |           |           |           |
| <b>Total Capital Financing</b>               | 70,493    | 175,742   |           |         |          |          |         |           |           |           |
| <b>Capital Expenses</b>                      |           |           |           |         |          |          |         |           |           |           |
| <b>Capital Expenses</b>                      | 91,546    | 302,518   | 7,703     | 10,000  | 13,367   | 126,000  | 120,000 | 25,000    | 55,000    | 50,000    |
| <b>Water Net Cash Flow</b>                   |           |           |           |         |          |          |         |           |           |           |
| <b>Annual Gain - (Loss)</b>                  | (48,370)  | (153,960) | 61,640    | 79,648  | (23,548) | (40,280) | 43,919  | 156,003   | 137,488   | 159,682   |
| <b>Accrual Adjustment</b>                    | 119,365   | (162,323) | (171,627) | (4,817) | (12,083) |          |         |           |           |           |
| <b>Cash Ending Jun 30</b>                    | 1,027,211 | 710,928   | 600,941   | 675,772 | 640,141  | 599,861  | 807,699 | 1,144,705 | 1,474,681 | 1,844,045 |

Figure 28

**Water System Change in Net Position – with Recommended Rates:**

Figure 29 shows the impact on the water system's Change in Net Position using the recommended rate increases.

| <b>Water Change in Net Position - With Rate Increases</b> |                  |                  |                 |                 |                  |                 |                |                |                |                |
|---|------------------|------------------|-----------------|-----------------|------------------|-----------------|----------------|----------------|----------------|----------------|
|   | 2015             | 2016             | 2017            | 2018            | 2019             | 2020            | 2021           | 2022           | 2023           | 2024           |
| <b>Revenue / Income</b>                                   |                  |                  |                 |                 |                  |                 |                |                |                |                |
| Revenue   | 547,361          | 555,643          | 613,249         | 556,484         | 582,278          | 657,936         | 738,161        | 767,943        | 792,332        | 822,814        |
| Other Income  | 15,419           | 13,385           | 29,179          | 23,641          | 21,583           | 23,009          | 23,514         | 24,020         | 24,525         | 25,030         |
| <b>Total Water Income</b>                                 | <b>562,781</b>   | <b>569,028</b>   | <b>642,428</b>  | <b>580,125</b>  | <b>603,861</b>   | <b>680,945</b>  | <b>761,675</b> | <b>791,963</b> | <b>816,856</b> | <b>847,843</b> |
| <b>Expenses</b>   |                  |                  |                 |                 |                  |                 |                |                |                |                |
| General Expenses  | 498,205          | 505,520          | 483,593         | 402,184         | 526,950          | 509,482         | 523,394        | 537,972        | 552,881        | 568,236        |
| Depreciation  | 168,621          | 171,441          | 177,162         | 178,932         | 179,844          | 185,224         | 198,714        | 207,355        | 209,123        | 213,725        |
| Interest Expense  | 31,893           | 30,843           | 29,493          | 28,293          | 27,093           | 25,743          | 24,363         | 22,988         | 21,488         | 19,925         |
| <b>Total Water Expenses</b>                               | <b>698,719</b>   | <b>707,804</b>   | <b>690,248</b>  | <b>609,408</b>  | <b>733,886</b>   | <b>720,449</b>  | <b>746,471</b> | <b>768,315</b> | <b>783,492</b> | <b>801,886</b> |
| <b>Income Less Expenses</b>                               | <b>(135,938)</b> | <b>(138,776)</b> | <b>(47,820)</b> | <b>(29,283)</b> | <b>(130,025)</b> | <b>(39,504)</b> | <b>15,205</b>  | <b>23,648</b>  | <b>33,365</b>  | <b>45,958</b>  |
| <b>Change in Net Position</b>                             |                  |                  |                 |                 |                  |                 |                |                |                |                |
| Change in Net Position (2017 Statute)                     | (135,938)        | (138,776)        | (47,820)        | (29,283)        | (130,025)        | (39,504)        | 15,205         | 23,648         | 33,365         | 45,958         |
| Change in P&OPEB Assets / Liab.                           |                  |                  |                 | (22,929)        | 1,941            | -               | -              | -              | -              | -              |
| <b>Change in Net Position (2018 Statute)</b>              | <b>(135,938)</b> | <b>(138,776)</b> | <b>(47,820)</b> | <b>(52,212)</b> | <b>(128,085)</b> | <b>(39,504)</b> | <b>15,205</b>  | <b>23,648</b>  | <b>33,365</b>  | <b>45,958</b>  |

Figure 29

## Wastewater System Cost of Service

### 1 Establish Customer Classes

The Town provides wastewater services to residential customers directly connected to the gravity system, commercial customers inside the city limits, residential customers outside the city limits, SSM, and TVA. Currently, there are eight classes of customers:

- Inside City Residential connected to the gravity system
- Inside City Residential connected to the force main system
- Outside City Residential connected to the force main system
- Outside City Commercial connected to the force main system
- SSM
- TVA
- Flat Amount
- Flat Sewer

Recommended is for the Town to combine and establish customer classes as follows:

- Residential and Commercial
- SSM
- TVA

The Town has identified only one customer as being “commercial,” and that customer is outside the city limits. There are other commercial customers, but they are included in the inside city residential class. The Town does not have data on commercial customers connected to the gravity system. The “Flat Amount” customer class has only one customer. Because the Town does not collect revenue from that customer, it is recommended to remove that customer class from the rate schedule. There is only one customer in the “Flat Sewer” customer class, which is a wastewater customer not on the Town’s water system. It is recommended to increase that customer’s rate from \$30 to \$51.60, based on providing the customer with an average of 4,000 gallons per month.

### 2 Revenue Requirement

**Figure 30** shows the projected revenue requirement for the wastewater system. The revenue requirement for the wastewater system is like the water system. It includes projected FY 2021 expenses, depreciation, interest, Change in Net Position, and other income. The fixed cost and the total number of customers determine the amount of the service charge for each customer. Allocation and distribution of the variable cost will determine the cost per 1,000 gallons for each customer class. \$37,024 is removed from the depreciation cost due to the depreciation of a force main used only by TVA. Therefore \$37,024 is taken out of the revenue requirement because TVA will be the only customer paying for this part of the depreciation. The TVA debt of \$77,504 is shown as negative because TVA is the only customer paying for their portion of the debt, and thus is not included in the calculation of fixed and variable costs.

| 2021 Wastewater Revenue Requirement (No Rate Increase) |                  |               |                 |          |                  |
|--|------------------|---------------|-----------------|----------|------------------|
|  | Cost             | Fixed         |                 | Variable |                  |
| General & Admin  | \$25,259         | 100%          | \$25,259        | 0%       | \$0              |
| Wastewater Plant                                       | \$349,606        | 0%            | \$0             | 100%     | \$349,606        |
| Collection   | \$139,702        | 0%            | \$0             | 100%     | \$139,702        |
| Depreciation   | \$226,763        | 10%           | \$22,676        | 90%      | \$204,087        |
| Interest Expense                                       | \$128,341        | 10%           | \$12,834        | 90%      | \$115,506        |
| Change in Net Position                                 | \$64,201         | 10%           | \$6,420         | 90%      | \$57,781         |
| Less TVA Debt  | (\$77,504)       |               |                 |          |                  |
| Less Other Income                                      | (\$29,214)       |               | \$0             | 100%     | (\$29,214)       |
| <b>Revenue Requirement</b>                             | <b>\$827,153</b> |               | <b>\$67,189</b> |          | <b>\$837,467</b> |
| <b>Total Customers</b>                                 |                  | <b>803</b>    |                 |          |                  |
| <b>Service Charge</b>                                  |                  | <b>\$6.98</b> |                 |          |                  |

Note: \$37,024 has been removed from the depreciation to be paid directly by TVA

Figure 30

### 3 Cost Allocation

The distribution of each of the above variable cost amounts among the three different wastewater customer classes is performed in step #4. However, to do so, it is first necessary to calculate several different percentages to be used as a basis for distributing each amount.

**3a** – As shown in **Figure 31**, the relative percentages of Usage (MGY) applicable to each class will be used as a basis for the distribution of Wastewater Treatment Plant cost, while the relative percentages of Customers will be used to distribute Other Income.

| 2021 Wastewater Usage (No Rate Increases) |            |             |             |             |                  |             |
|---|------------|-------------|-------------|-------------|------------------|-------------|
| Customer Class                            | Customers  | % of Total  | Usage (MGY) | % of Total  | Revenue          | % of Total  |
| Res & Comm                                | 801        | 99.8%       | 41          | 41%         | \$533,139        | 64%         |
| SSM                                       | 1          | 0.1%        | 56          | 55%         | \$269,418        | 33%         |
| TVA                                       | 1          | 0.1%        | 4           | 4%          | \$24,597         | 3%          |
| <b>Total</b>                              | <b>803</b> | <b>100%</b> | <b>101</b>  | <b>100%</b> | <b>\$827,153</b> | <b>100%</b> |

Note: MGY = Million Gallons Per Year

Figure 31



**3b** -- Four other elements of the total variable cost – Collection, Depreciation, Interest, and Change in Net Position – will be distributed to each customer class based on the summary of the allocated depreciation costs of six different components of the wastewater system:

- WWTP (Wastewater Treatment Plant) – allocated based on the Usage (MGY) %, above.
- Main Pump Station – allocated based on Usage % (except that none is allocated to TVA which does not use the Main Pump Station).
- Gravity & Force Main Lines – allocated based on the percentage of line length in feet.
- TVA Force Main -- allocated based on the percentage of line length in miles.
- Vehicles & Equipment – allocated based on an assumed equal use of these items to support all classes.
- Low-Pressure Sewer Lines – allocated entirely to the Residential & Commercial customers that use such lines.

As shown in **Figure 32**, the summary of these allocated costs is used to calculate the percentages that will be used in the distribution of these four variable costs.

| Allocation of Depreciation Costs            |                             |             |                  |                                       |   |                                |                 |   |               |             |                 |  |  |
|---|-----------------------------|-------------|------------------|---------------------------------------|---|--------------------------------|-----------------|---|---------------|-------------|-----------------|--|--|
| Component # 1 -- WWTP                       |                             |             |                  | Component # 2 -- Main Pump Station    |   |                                |                 | Component # 3 -- Gravity & Force Main Lines |               |             |                 |  |  |
|   | MGY                         | % Use       | Depreciation     |                                       | MGY   | % Use                          | Depreciation    |   | Feet          | % Feet      | Depreciation    |  |  |
| Res & Comm                                  | 41                          | 41%         | \$45,591         | Res & Comm                            | 41  | 42%                            | \$6,071         | Res & Comm                                  | 63,980        | 90%         | \$43,725        |  |  |
| SSM   | 56                          | 55%         | \$61,704         | SSM                                   | 56  | 58%                            | \$8,216         | SSM   | 8,639         | 10%         | \$4,603         |  |  |
| TVA   | 4                           | 4%          | \$4,488          | TVA                                   |   |                                |                 | TVA   |               |             |                 |  |  |
| <b>Total</b>                                | <b>101</b>                  | <b>100%</b> | <b>\$111,783</b> | <b>Total</b>                          | <b>97</b>                                     | <b>100%</b>                    | <b>\$14,287</b> | <b>Total</b>                                | <b>72,619</b> | <b>100%</b> | <b>\$48,366</b> |  |  |
| Component # 4 -- TVA Force Main             |                             |             |                  | Component # 5 -- Vehicles & Equipment |   |                                |                 | Component # 6 -- Low Pressure Sewer Lines   |               |             |                 |  |  |
|   | Miles                       | % Miles     | Depreciation     |                                       | Unit  | % Use                          | Depreciation    |   | Feet          | % Feet      | Depreciation    |  |  |
| Res & Comm                                  | 0.5                         | 4%          | \$1,551          | Res & Comm                            | 1   | 33%                            | \$935           | Res & Comm                                  | 21,820        | 100%        | \$46,800        |  |  |
| SSM   |                             |             |                  | SSM                                   | 1   | 33%                            | \$935           | SSM   |               |             |                 |  |  |
| TVA   | 7.8                         | 96%         | \$37,024         | TVA                                   | 1   | 33%                            | \$935           | TVA   |               |             |                 |  |  |
| <b>Total</b>                                | <b>8</b>                    | <b>100%</b> | <b>\$38,575</b>  | <b>Total</b>                          | <b>3</b>                                      | <b>100%</b>                    | <b>\$2,805</b>  | <b>Total</b>                                | <b>21,820</b> | <b>100%</b> | <b>\$46,800</b> |  |  |
| Summary of Allocations for Collection Costs |                             |             |                  |                                       | Summary of Allocations for Depreciation Costs |                                |                 |   |               |             |                 |  |  |
| Res & Comm                                  | Components # 2, 3, 4, 5 & 6 |             | \$99,081         | <b>87%</b>                            | Res & Comm                                    | Components # 1, 2, 3, 4, 5 & 6 |                 | \$144,672                                   | <b>64%</b>    |             |                 |  |  |
| SSM   | Components # 2, 3, & 5      |             | \$13,754         | <b>12%</b>                            | SSM   | Components # 1, 2, 3, 4, 5 & 6 |                 | \$75,458                                    | <b>33%</b>    |             |                 |  |  |
| TVA   | Component # 5               |             | \$935            | <b>1%</b>                             | TVA   | Components # 1, 2, 3, 5 & 6    |                 | \$5,422                                     | <b>2%</b>     |             |                 |  |  |
|   |                             |             | \$113,770        | 100%                                  |   |                                |                 | \$225,552                                   | 100%          |             |                 |  |  |

**Figure 32**

#### 4 Distribution of Variable Cost to Customer Classes

Figure 33 shows how the percentages in step 3 are used to distribute each variable cost amount among the four different wastewater customer classes:

- The relative percentages of Usage (MGY) in **Figure 31** are used to distribute total Wastewater Plant cost.
- The relative percentages of summarized allocated depreciation costs for Collection in **Figure 32** are used to distribute Collection costs.
- The relative percentages of summarized allocated depreciation costs for Deprecation, also in **Figure 32**, are used to distribute the variable portion of total Deprecation, Interest Expense, and Change in Net Position.
- The relative percentages of Usage (MGY) in **Figure 31** are used to distribute total Wastewater Plant cost.
- The relative percentages of Customers in **Figure 31** are used to distribute Other Income.

| <b>Distribution of Variable Wastewater Costs (No Rate Increases)</b> |                             |                   |                  |                         |                               |                       |                  |
|--|-----------------------------|-------------------|------------------|-------------------------|-------------------------------|-----------------------|------------------|
| <b>Cost of Services for Variable Costs</b>                           |                             |                   |                  |                         |                               |                       |                  |
|  | <b>Wastewater Treatment</b> | <b>Collection</b> | <b>Deprec.</b>   | <b>Interest Expense</b> | <b>Change in Net Position</b> | <b>Less Other Inc</b> | <b>Total</b>     |
| <b>Annual Cost</b>   | \$349,606                   | \$139,702         | \$203,041        | \$115,506               | \$58,827                      | (\$29,214)            | <b>\$837,467</b> |
| <b>Percent Distribution for Variable Costs</b>                       |                             |                   |                  |                         |                               |                       |                  |
| <b>Customer Class</b>  | <b>Wastewater Treatment</b> | <b>Collection</b> | <b>Deprec.</b>   | <b>Interest Expense</b> | <b>Change in Net Position</b> | <b>Less Other Inc</b> |                  |
| <b>Res &amp; Comm</b>  | 41%                         | 87%               | 64%              | 64%                     | 64%                           | 99.8%                 |                  |
| <b>SSM</b>   | 55%                         | 12%               | 33%              | 33%                     | 33%                           | 0.1%                  |                  |
| <b>TVA</b>   | 4%                          | 1%                | 2%               | 2%                      | 2%                            | 0.1%                  |                  |
| <b>Cost Distribution for Variable Costs</b>                          |                             |                   |                  |                         |                               |                       |                  |
| <b>Customer Class</b>  | <b>Wastewater Treatment</b> | <b>Collection</b> | <b>Deprec.</b>   | <b>Interest Expense</b> | <b>Change in Net Position</b> | <b>Less Other Inc</b> | <b>Total</b>     |
| <b>Res &amp; Comm</b>  | \$142,587                   | \$121,665         | \$130,233        | \$74,087                | \$37,732                      | (\$29,142)            | <b>\$477,163</b> |
| <b>SSM</b>   | \$192,983                   | \$16,889          | \$67,927         | \$38,643                | \$19,680                      | (\$36)                | <b>\$336,086</b> |
| <b>TVA</b>   | \$14,035                    | \$1,148           | \$4,881          | \$2,777                 | \$1,414                       | (\$36)                | <b>\$24,219</b>  |
| <b>Total</b>   | <b>\$349,606</b>            | <b>\$139,702</b>  | <b>\$203,041</b> | <b>\$115,506</b>        | <b>\$58,827</b>               | <b>(\$29,214)</b>     | <b>\$837,467</b> |

Figure 33

Figure 34 shows the calculated rate per 1,000 gallons for the three wastewater system customer classes:

| Rate Determination for Variable Costs |                  |                     |
|---------------------------------------|------------------|---------------------|
| Customer Class                        | Revenue Required | Rate Per 1,000 Gal. |
| Res & Comm                            | \$477,163        | \$11.63             |
| SSM                                   | \$336,086        | \$6.05              |
| TVA                                   | \$24,219         | \$5.99              |
| <b>Total</b>                          | <b>\$837,467</b> |                     |

Figure 34

**5 Development and Design of a Schedule of Rates**

Figures 35a, 35b, and 35c show the impact of changing the Town’s wastewater rate schedule from a minimum of 3,000 gallons to a minimum with 1,000 gallons of usage plus a variable rate based on the cost of service analysis for each customer class. Because the rate structure is changing from a minimum bill to a service charge, it is difficult to estimate the overall percentage change that residential and commercial customers will receive. Some customers will notice a decrease in the amount they pay, and others will see an increase. The rates for FY 2021 are shown twice: first, to reflect the changes resulting from the COS with no rate increase; and second, to show the combined impact of the recommended COS plus 3% increase.

| Residential & Commercial |          |                |  |            |                |                |  |          |                |                         |  |  |
|--------------------------|----------|----------------|--|------------|----------------|----------------|--|----------|----------------|-------------------------|--|--|
| 2020 Wastewater Rates    |          |                | 2021 Wastewater Rates (COS) with No Increase |            |                |                | 2021 Wastewater Rates (COS) with 3% Inc. |          |                | Combined COS & 12% Inc. |  |  |
| Gallons                  | Minimum  |                | Gallons                                      | Minimum    | % Inc.         | Gallons        | Minimum                                  | % Inc.   |                |                         |  |  |
| First                    | 3,000    | \$31.36        | First  | 1,000      | \$18.60        | -41%           | First                                    | 1,000    | \$19.16        | 3%                      |  |  |
|                          |          | Per 1,000 gal. |  |            | Per 1,000 gal. |                |  |          | Per 1,000 gal. |                         |  |  |
| Over                     | 3,000    | \$10.89        | Over   | 1,000      | \$11.63        | 7%             | Over                                     | 1,000    | \$11.97        | 3%                      |  |  |
| Water Sold (Gallons)     | Charge   |                | Monthly Charge                               | Difference | % Change       | Monthly Charge | Difference                               | % Change | Difference     | % Change                |  |  |
| 1,000                    | \$31.36  |                | \$18.60                                      | (\$12.76)  | -41%           | \$19.16        | \$0.56                                   | 3%       | (\$12.20)      | -39%                    |  |  |
| 2,000                    | \$31.36  |                | \$30.23                                      | (\$1.13)   | -4%            | \$31.13        | \$0.91                                   | 3%       | (\$0.23)       | -1%                     |  |  |
| 5,000                    | \$53.14  |                | \$65.10                                      | \$11.96    | 23%            | \$67.06        | \$1.95                                   | 3%       | \$13.92        | 26%                     |  |  |
| 7,000                    | \$74.92  |                | \$88.36                                      | \$13.44    | 18%            | \$91.01        | \$2.65                                   | 3%       | \$16.09        | 21%                     |  |  |
| 10,000                   | \$107.59 |                | \$123.23                                     | \$15.64    | 15%            | \$126.93       | \$3.70                                   | 3%       | \$19.34        | 18%                     |  |  |

Figure 35a

| SSM                   |                |                |  |            |                |                |  |                |            |                         |  |  |
|-----------------------|----------------|----------------|--|------------|----------------|----------------|--|----------------|------------|-------------------------|--|--|
| 2020 Wastewater Rates |                |                | 2021 Wastewater Rates (COS) with No Increase |            |                |                | 2021 Wastewater Rates (COS) with 3% Inc. |                |            | Combined COS & 12% Inc. |  |  |
| Gallons               | Minimum        |                | Gallons                                      | Minimum    | % Inc.         | Gallons        | Minimum                                  | % Inc.         |            |                         |  |  |
| First                 | 2,000          | \$34.63        | First  | 1,000      | \$13.02        | -62%           | First                                    | 1,000          | \$13.41    | 3%                      |  |  |
|                       |                | Per 1,000 gal. |  |            | Per 1,000 gal. |                |  | Per 1,000 gal. |            |                         |  |  |
| Over                  | 2,000          | \$4.85         | Over   | 1,000      | \$6.05         | 25%            | Over                                     | 1,000          | \$6.23     | 3%                      |  |  |
| Water Sold (Gallons)  | Monthly Charge |                | Monthly Charge                               | Difference | % Change       | Monthly Charge | Difference                               | % Change       | Difference | % Change                |  |  |
| 1,000,000             | \$4,875        |                | \$6,055                                      | \$1,180    | 24%            | \$6,237        | \$182                                    | 3%             | \$1,361.85 | 28%                     |  |  |
| 2,000,000             | \$9,725        |                | \$12,109                                     | \$2,384    | 25%            | \$12,473       | \$363                                    | 3%             | \$2,747.67 | 28%                     |  |  |
| 3,000,000             | \$14,575       |                | \$18,157                                     | \$3,583    | 25%            | \$18,702       | \$545                                    | 3%             | \$4,127.26 | 28%                     |  |  |
| 4,000,000             | \$19,425       |                | \$24,206                                     | \$4,781    | 25%            | \$24,932       | \$726                                    | 3%             | \$5,506.85 | 28%                     |  |  |
| 5,000,000             | \$24,275       |                | \$30,254                                     | \$5,979    | 25%            | \$31,161       | \$908                                    | 3%             | \$6,886.44 | 28%                     |  |  |

Figure 35b

| TVA                   |                |                |  |            |                |                |  |                |            |                         |  |  |
|-----------------------|----------------|----------------|--|------------|----------------|----------------|--|----------------|------------|-------------------------|--|--|
| 2020 Wastewater Rates |                |                | 2021 Wastewater Rates (COS) with No Increase |            |                |                | 2021 Wastewater Rates (COS) with 3% Inc. |                |            | Combined COS & 12% Inc. |  |  |
| Gallons               | Minimum        |                | Gallons                                      | Minimum    | % Inc.         | Gallons        | Minimum                                  | % Inc.         |            |                         |  |  |
| First                 | 10,000         | \$94.10        | First  | 1,000      | \$12.97        | -86%           | First                                    | 1,000          | \$13.36    | 3%                      |  |  |
|                       |                | Per 1,000 gal. |  |            | Per 1,000 gal. |                |  | Per 1,000 gal. |            |                         |  |  |
| Over                  | 10,000         | \$6.08         | Over   | 1,000      | \$5.99         | -1%            | Over                                     | 1,000          | \$6.17     | 3%                      |  |  |
| Water Sold (Gallons)  | Monthly Charge |                | Monthly Charge                               | Difference | % Change       | Monthly Charge | Difference                               | % Change       | Difference | % Change                |  |  |
| 10,000                | \$94           |                | \$67   | (\$27.18)  | -29%           | \$69           | \$2.01                                   | 3%             | (\$25.17)  | -27%                    |  |  |
| 25,000                | \$185          |                | \$157  | (\$28.45)  | -15%           | \$162          | \$4.71                                   | 3%             | (\$23.75)  | -13%                    |  |  |
| 50,000                | \$337          |                | \$307  | (\$30.58)  | -9%            | \$316          | \$9.20                                   | 3%             | (\$21.38)  | -6%                     |  |  |
| 75,000                | \$489          |                | \$457  | (\$32.72)  | -7%            | \$470          | \$13.70                                  | 3%             | (\$19.02)  | -4%                     |  |  |
| 100,000               | \$641          |                | \$606  | (\$34.85)  | -5%            | \$625          | \$18.19                                  | 3%             | (\$16.65)  | -3%                     |  |  |

Figure 35c

**Wastewater Cash Flow – with Recommended Rates:**

Figure 36 shows the projected impact on the wastewater system's cash flow using the recommended rate increases.

| <b>Wastewater Cash Flow - With Rate Increases</b> |         |           |           |         |          |         |           |           |           |           |
|---|---------|-----------|-----------|---------|----------|---------|-----------|-----------|-----------|-----------|
|   | 2015    | 2016      | 2017      | 2018    | 2019     | 2020    | 2021      | 2022      | 2023      | 2024      |
| <b>Cash Beginning Jul 1</b>                       | 239,054 | 487,378   | 383,237   | 291,455 | 510,219  | 607,949 | 787,284   | 950,511   | 1,208,038 | 1,180,899 |
| <b>Revenue / Income</b>                           |         |           |           |         |          |         |           |           |           |           |
| <b>Revenue</b>                                    | 686,532 | 717,560   | 688,990   | 734,569 | 734,187  | 822,951 | 851,967   | 882,014   | 913,130   | 945,352   |
| <b>Rate Increase</b>                              |         |           |           |         |          |         | 3%        | 3%        | 3%        | 3%        |
| <b>TVA Odor Control</b>                           | 14,014  | 11,375    | 5,880     | 15,424  | 16,402   | 16,402  | 16,402    | 16,402    | 16,402    | 16,402    |
| <b>TVA Debt</b>                                   | 77,504  | 77,504    | 51,669    | 77,504  | 90,421   | 77,504  | 77,504    | 77,504    | 77,504    | 77,504    |
| <b>TVA Depreciation</b>                           |         |           |           |         |          | 37,024  | 37,024    | 37,024    | 37,024    | 37,024    |
| <b>Other Income</b>                               | 27,119  | 22,285    | 34,179    | 28,641  | 23,483   | 29,209  | 29,214    | 29,220    | 29,225    | 29,230    |
| <b>Total Income</b>                               | 805,169 | 828,724   | 780,718   | 856,139 | 864,493  | 946,067 | 1,012,112 | 1,042,164 | 1,073,285 | 1,105,512 |
| <b>Expenses</b>                                   |         |           |           |         |          |         |           |           |           |           |
| <b>General Expenses</b>                           | 387,742 | 380,191   | 436,289   | 357,334 | 476,310  | 483,080 | 498,165   | 513,741   | 529,826   | 546,439   |
| <b>TVA Odor Control</b>                           | 14,014  | 11,375    | 5,880     | 15,424  | 16,402   | 16,402  | 16,402    | 16,402    | 16,402    | 16,402    |
| <b>TVA Debt</b>                                   | 77,504  | 77,504    | 51,669    | 77,504  | 90,421   | 77,504  | 77,504    | 77,504    | 77,504    | 77,504    |
| <b>Debt</b>                                       | 175,897 | 174,697   | 199,332   | 172,297 | 158,179  | 169,746 | 158,366   | 156,991   | 154,491   | 153,929   |
| <b>Total Expenses</b>                             | 655,156 | 643,766   | 693,170   | 622,559 | 741,312  | 746,732 | 750,437   | 764,638   | 778,223   | 794,273   |
| <b>Income Less Expenses</b>                       | 150,013 | 184,957   | 87,548    | 233,580 | 123,180  | 199,335 | 261,675   | 277,526   | 295,061   | 311,238   |
| <b>Capital Financing</b>                          |         |           |           |         |          |         |           |           |           |           |
| <b>Loans</b>                                      |         |           |           |         |          |         |           |           |           |           |
| <b>Grants</b>                                     | 70,493  | 175,742   |           |         |          |         | 525,000   |           |           |           |
| <b>Total Capital Financing</b>                    | 70,493  | 175,742   |           |         |          |         | 525,000   |           |           |           |
| <b>Capital Expenses</b>                           |         |           |           |         |          |         |           |           |           |           |
| <b>Capital Expenses</b>                           | 91,546  | 302,518   | 7,703     | 10,000  | 13,367   | 20,000  | 623,448   | 20,000    | 322,200   | 50,000    |
| <b>Wastewater Net Cash Flow</b>                   |         |           |           |         |          |         |           |           |           |           |
| <b>Annual Gain - (Loss)</b>                       | 128,960 | 58,182    | 79,845    | 223,580 | 109,814  | 179,335 | 163,227   | 257,526   | (27,139)  | 261,238   |
| <b>Accrual Adjustment</b>                         | 119,365 | (162,323) | (171,627) | (4,817) | (12,083) |         |           |           |           |           |
| <b>Cash Ending Jun 30</b>                         | 487,378 | 383,237   | 291,455   | 510,219 | 607,949  | 787,284 | 950,511   | 1,208,038 | 1,180,899 | 1,442,137 |

Figure 36

### Wastewater Change in Net Position – with Recommended Rates:

Figure 37 shows the projected impact on the wastewater system's Change in Net Position using the recommended rate increases.

| Wastewater Change in Net Position - With Rate Increases |                |                |                 |                |                 |                |                  |                  |                  |                  |
|---|----------------|----------------|-----------------|----------------|-----------------|----------------|------------------|------------------|------------------|------------------|
|   | 2015           | 2016           | 2017            | 2018           | 2019            | 2020           | 2021             | 2022             | 2023             | 2024             |
| <b>Revenue / Income</b>                                 |                |                |                 |                |                 |                |                  |                  |                  |                  |
| Revenue   | 686,532        | 717,560        | 688,990         | 734,569        | 734,187         | 822,951        | 851,967          | 882,014          | 913,130          | 945,352          |
| TVA Odor Control  | 14,014         | 11,375         | 5,880           | 15,424         | 16,402          | 16,402         | 16,402           | 16,402           | 16,402           | 16,402           |
| TVA Debt  | 77,504         | 77,504         | 51,669          | 77,504         | 90,421          | 77,504         | 77,504           | 77,504           | 77,504           | 77,504           |
| TVA Depreciation  |                |                |                 |                |                 |                | 37,024           | 37,024           | 37,024           | 37,024           |
| Other Income  | 27,119         | 22,285         | 34,179          | 28,641         | 23,483          | 29,209         | 29,214           | 29,220           | 29,225           | 29,230           |
| <b>Total Wastewater Income</b>                          | <b>805,169</b> | <b>828,724</b> | <b>780,718</b>  | <b>856,139</b> | <b>864,493</b>  | <b>946,067</b> | <b>1,012,112</b> | <b>1,042,164</b> | <b>1,073,285</b> | <b>1,105,512</b> |
| <b>Expenses</b>   |                |                |                 |                |                 |                |                  |                  |                  |                  |
| General Expenses  | 387,742        | 380,191        | 436,289         | 357,334        | 476,310         | 483,080        | 514,567          | 513,741          | 529,826          | 546,439          |
| TVA Odor Control  | 14,014         | 11,375         | 5,880           | 15,424         | 16,402          | 16,402         | 16,402           | 16,402           | 16,402           | 16,402           |
| TVA Depreciation  |                |                |                 |                |                 |                | 37,024           | 37,024           | 37,024           | 37,024           |
| Depreciation  | 236,855        | 240,817        | 248,852         | 251,338        | 250,921         | 251,921        | 226,763          | 236,840          | 219,726          | 232,258          |
| Interest Expense  | 145,940        | 142,817        | 139,974         | 136,654        | 133,402         | 131,686        | 128,341          | 124,967          | 120,388          | 117,704          |
| <b>Total Wastewater Expenses</b>                        | <b>784,550</b> | <b>775,199</b> | <b>830,994</b>  | <b>760,750</b> | <b>877,035</b>  | <b>883,089</b> | <b>923,096</b>   | <b>928,974</b>   | <b>923,366</b>   | <b>949,827</b>   |
| <b>Income Less Expenses</b>                             | <b>20,619</b>  | <b>53,525</b>  | <b>(50,277)</b> | <b>95,389</b>  | <b>(12,542)</b> | <b>62,978</b>  | <b>89,016</b>    | <b>113,191</b>   | <b>149,918</b>   | <b>155,685</b>   |
| <b>Change in Net Position</b>                           |                |                |                 |                |                 |                |                  |                  |                  |                  |
| Change in Net Position (2017 Statute)                   | 20,619         | 53,525         | (50,277)        | 95,389         | (12,542)        | 62,978         | 89,016           | 113,191          | 149,918          | 155,685          |
| Change in P&OPEB Assets / Liab.                         |                |                |                 | (22,929)       | 1,941           | -              | -                | -                | -                | -                |
| <b>Change in Net Position (2018 Statute)</b>            | <b>20,619</b>  | <b>53,525</b>  | <b>(50,277)</b> | <b>72,460</b>  | <b>(10,601)</b> | <b>62,978</b>  | <b>89,016</b>    | <b>113,191</b>   | <b>149,918</b>   | <b>155,685</b>   |

Note: P&OPEB - Pension and Other Post Employment Benefits

Figure 37

## Combined Water and Wastewater Systems

### Combined Water and Wastewater Cash Flow – with Recommended Rates:

Figure 38 shows the results of combining the water and wastewater systems' cash flow using the recommended rate increases.

| <b>Water and Wastewater Cash Flow - With Rate Increases</b> |           |           |           |           |           |           |           |           |           |           |
|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|   | 2015      | 2016      | 2017      | 2018      | 2019      | 2020      | 2021      | 2022      | 2023      | 2024      |
| <b>Cash Beginning Jul 1</b>                                 | 1,195,270 | 1,514,589 | 1,094,165 | 892,396   | 1,186,001 | 1,248,100 | 1,387,155 | 1,577,899 | 1,991,429 | 2,101,778 |
| <b>Revenue / Income</b>                                     |           |           |           |           |           |           |           |           |           |           |
| Revenue   | 1,233,894 | 1,273,203 | 1,302,238 | 1,291,053 | 1,316,465 | 1,480,887 | 1,590,128 | 1,649,958 | 1,705,462 | 1,768,165 |
| TVA Odor Control  | 14,014    | 11,375    | 5,880     | 15,424    | 16,402    | 16,402    | 16,402    | 16,402    | 16,402    | 16,402    |
| TVA Debt  | 77,504    | 77,504    | 51,669    | 77,504    | 90,421    | 77,504    | 77,504    | 77,504    | 77,504    | 77,504    |
| TVA Depreciation  |           |           |           |           |           |           | 37,024    | 37,024    | 37,024    | 37,024    |
| Other Income  | 42,538    | 35,670    | 63,358    | 52,283    | 45,065    | 52,219    | 52,729    | 53,239    | 53,749    | 54,260    |
| <b>Total Income</b>   | 1,367,950 | 1,397,752 | 1,423,146 | 1,436,264 | 1,468,354 | 1,627,012 | 1,773,787 | 1,834,127 | 1,890,141 | 1,953,355 |
| <b>Expenses</b>   |           |           |           |           |           |           |           |           |           |           |
| General Expenses  | 885,947   | 885,711   | 919,882   | 759,518   | 1,003,260 | 992,562   | 1,037,960 | 1,051,713 | 1,082,707 | 1,114,675 |
| TVA Odor Control  | 14,014    | 11,375    | 5,880     | 15,424    | 16,402    | 16,402    | 16,402    | 16,402    | 16,402    | 16,402    |
| TVA Debt  | 77,504    | 77,504    | 51,669    | 77,504    | 90,421    | 77,504    | 77,504    | 77,504    | 77,504    | 77,504    |
| Debt  | 267,789   | 265,389   | 288,824   | 260,589   | 245,272   | 255,489   | 232,729   | 229,979   | 225,979   | 223,854   |
| <b>Total Expenses</b>                                       | 1,245,254 | 1,239,979 | 1,266,255 | 1,113,035 | 1,355,355 | 1,341,957 | 1,364,595 | 1,375,598 | 1,402,592 | 1,432,434 |
| <b>Income Less Expenses</b>                                 | 122,696   | 157,773   | 156,890   | 323,229   | 112,998   | 285,055   | 409,192   | 458,529   | 487,549   | 520,920   |
| <b>Capital Financing</b>                                    |           |           |           |           |           |           |           |           |           |           |
| Loans   |           |           |           |           |           |           |           |           |           |           |
| Grants  | 140,985   | 351,484   |           |           |           |           | 525,000   |           |           |           |
| <b>Total Capital Financing</b>                              | 140,985   | 351,484   |           |           |           |           | 525,000   |           |           |           |
| <b>Capital Expenses</b>                                     |           |           |           |           |           |           |           |           |           |           |
| Capital Expenses  | 183,091   | 605,035   | 15,405    | 20,000    | 26,733    | 146,000   | 743,448   | 45,000    | 377,200   | 100,000   |
| <b>Water and Wastewater Net Cash Flow</b>                   |           |           |           |           |           |           |           |           |           |           |
| Annual Gain - (Loss)  | 80,590    | (95,778)  | 141,485   | 303,229   | 86,265    | 139,055   | 190,744   | 413,529   | 110,349   | 420,920   |
| Accrual Adjustment  | 238,729   | (324,646) | (343,254) | (9,624)   | (24,166)  |           |           |           |           |           |
| <b>Cash Ending Jun 30</b>                                   | 1,514,589 | 1,094,165 | 892,396   | 1,186,001 | 1,248,100 | 1,387,155 | 1,577,899 | 1,991,429 | 2,101,778 | 2,522,698 |

Figure 38

Figure 39 is a graphical representation of the combined Cash Flow using the recommended rate increases.

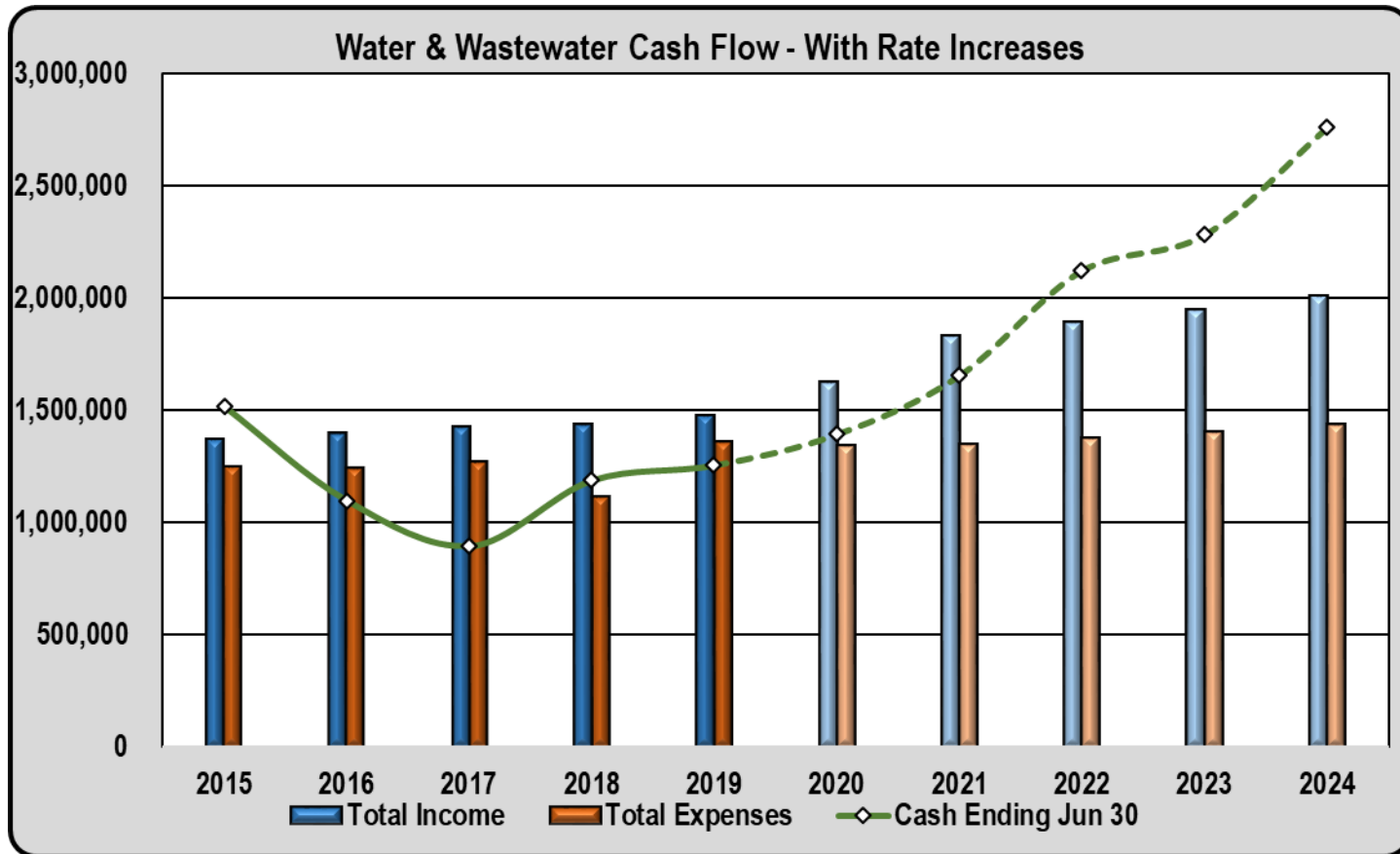


Figure 39



### Combined Water and Wastewater Change in Net Position – with Recommended Rates:

Figure 40 shows the results of the water and wastewater systems' combined Change in Net Position using the recommended rate increases.

Although the projected Change in Net Position (2018 Statute) is shown as positive for 2020-2024, recall that the year-to-year Change in P&OPEB Assets/Liabilities is unable to be projected for those years. Thus, for FY 2020, the projected Change in Net Position (2017 Statute) of \$ 23,474 may turn out to be not sufficient to absorb an actual negative Change in P&OPEB that is greater than that amount (in which case, the Town would be in violation of the 2018 Statute). On the other hand, for FY 2021-2024, because the projected Change in Net Position (2017 Statute) amounts for FY 2021-2024 are \$100,000 or greater, there is less likely that the resulting actual Change in Net Position (2018 Statute) for those years will be negative.

| <b>Water &amp; Wastewater Change in Net Position - With Rate Increases</b> |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
|--|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
|  | 2015             | 2016             | 2017             | 2018             | 2019             | 2020             | 2021             | 2022             | 2023             | 2024             |
| <b>Revenue / Income</b>  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| Revenue  | 1,233,894        | 1,273,203        | 1,302,238        | 1,291,053        | 1,316,465        | 1,480,887        | 1,590,128        | 1,649,958        | 1,705,462        | 1,768,165        |
| TVA Odor Control   | 14,014           | 11,375           | 5,880            | 15,424           | 16,402           | 16,402           | 16,402           | 16,402           | 16,402           | 16,402           |
| TVA Debt   | 77,504           | 77,504           | 51,669           | 77,504           | 90,421           | 77,504           | 77,504           | 77,504           | 77,504           | 77,504           |
| TVA Depreciation   |                  |                  |                  |                  |                  |                  | 37,024           | 37,024           | 37,024           | 37,024           |
| Other Income   | 42,538           | 35,670           | 63,358           | 52,283           | 45,065           | 52,219           | 52,729           | 53,239           | 53,749           | 54,260           |
| <b>Total Income</b>  | <b>1,367,950</b> | <b>1,397,752</b> | <b>1,423,146</b> | <b>1,436,264</b> | <b>1,468,354</b> | <b>1,627,012</b> | <b>1,773,787</b> | <b>1,834,127</b> | <b>1,890,141</b> | <b>1,953,355</b> |
| <b>Expenses</b>  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| General Expenses   | 885,947          | 885,711          | 919,882          | 759,518          | 1,003,260        | 992,562          | 1,037,960        | 1,051,713        | 1,082,707        | 1,114,675        |
| TVA Odor Control   | 14,014           | 11,375           | 5,880            | 15,424           | 16,402           | 16,402           | 16,402           | 16,402           | 16,402           | 16,402           |
| TVA Depreciation   |                  |                  |                  |                  |                  |                  | 37,024           | 37,024           | 37,024           | 37,024           |
| Depreciation   | 405,476          | 412,258          | 426,014          | 430,270          | 430,765          | 437,145          | 425,477          | 444,196          | 428,850          | 445,983          |
| Interest Expense   | 177,832          | 173,659          | 169,466          | 164,946          | 160,494          | 157,428          | 152,703          | 147,954          | 141,875          | 137,629          |
| <b>Total Expenses</b>  | <b>1,483,269</b> | <b>1,483,003</b> | <b>1,521,242</b> | <b>1,370,158</b> | <b>1,610,921</b> | <b>1,603,538</b> | <b>1,669,567</b> | <b>1,697,289</b> | <b>1,706,858</b> | <b>1,751,713</b> |
| <b>Income Less Expenses</b>  | <b>(115,319)</b> | <b>(85,251)</b>  | <b>(98,096)</b>  | <b>66,106</b>    | <b>(142,567)</b> | <b>23,474</b>    | <b>104,220</b>   | <b>136,838</b>   | <b>183,283</b>   | <b>201,642</b>   |
| <b>Change in Net Position</b>  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| Change in Net Position (2017 Statute)                                      | (115,319)        | (85,251)         | (98,096)         | 66,106           | (142,567)        | 23,474           | 104,220          | 136,838          | 183,283          | 201,642          |
| Change in P&OPEB Assets / Liab.  |                  |                  |                  | (45,858)         | 3,881            | -                | -                | -                | -                | -                |
| <b>Change in Net Position (2018 Statute)</b>                               | <b>(115,319)</b> | <b>(85,251)</b>  | <b>(98,096)</b>  | <b>20,248</b>    | <b>(138,686)</b> | <b>23,474</b>    | <b>104,220</b>   | <b>136,838</b>   | <b>183,283</b>   | <b>201,642</b>   |

Figure 40

Figure 41 is a graphical representation of the combined water and wastewater systems' Change in Net Position using the recommended rate increases.

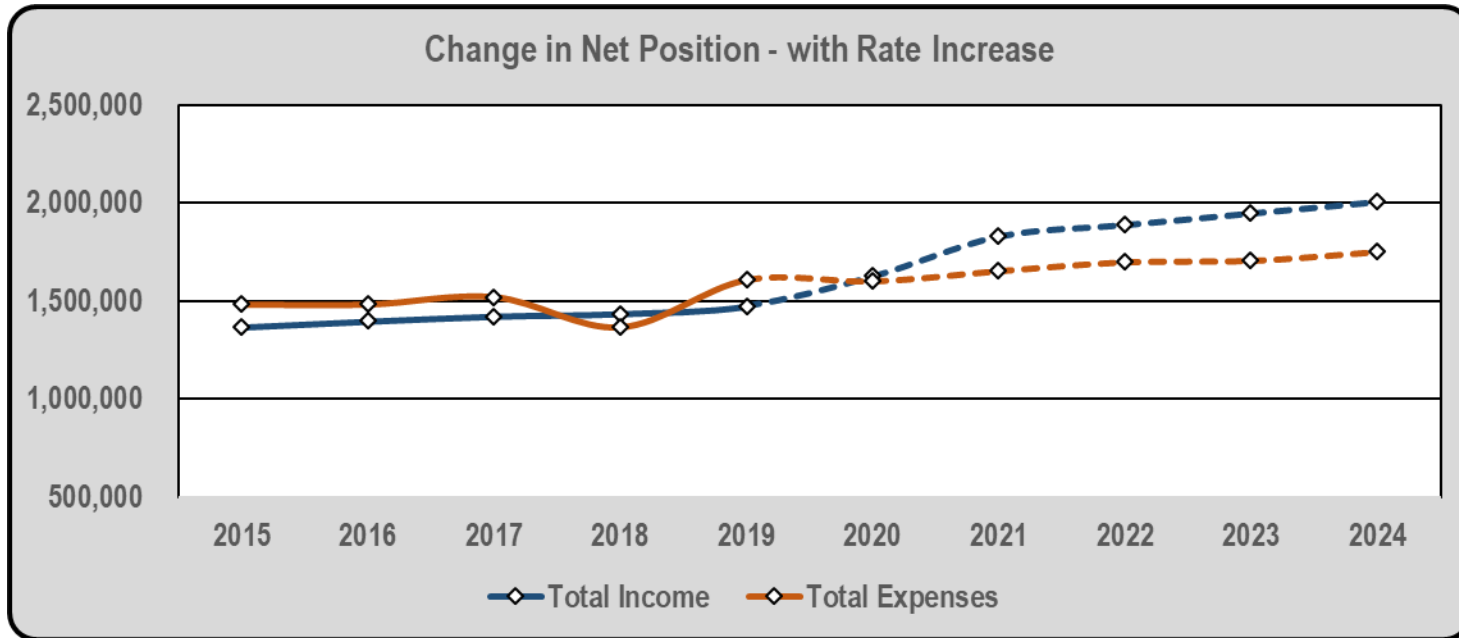


Figure 41

**Other Considerations**

Projections and estimates of revenue, expenses, capital expenses, and capital improvements to be made over the next five years are the basis for making recommendations for rate increases. The Town should review annually the impacts of making these increases, particularly the “Change in Net Position” as presented in each annual audit and adjust as necessary.

# System Development Charge Analysis

## Overview

A System Development Charge (SDC) is a one-time charge paid by new water or wastewater customer to access either one or both of the systems. Basically, a potential customer is “buying” available capacity within the water and wastewater systems. The SDC does not include the cost of making the actual connection to the main lines; that would be an additional charge. It is recommended that the Town develop a policy such that a new customer would reimburse the Town for actual labor, equipment, and materials needed for making the connection. The SDC would increase based on meter size relative to a single-family unit.

The fundamental formula for calculating an SDC is to divide the total system asset (less depreciation) by the System’s Capacity in gallons per day and then multiply that amount by the New Customer Capacity Demand in gallons per day. **Figure 42** shows the SDC for the water and wastewater systems.

| System Development Charge (SDC) - Water System   |                |                 |          |
|--|----------------|-----------------|----------|
| Capital Assets   | \$6,850,268    |                 |          |
| System Capacity  | 700,000        | gal per day     |          |
| Assets per capacity  | \$9.79         | per gal per day |          |
| Single Family Unit (SFU)   | 150            | gal per day     |          |
|  | 4,500          | gal per month   |          |
| System Development Charge  | \$1,500        | per SFU         |          |
| Meter Size   | Meter Capacity | Multiple of     | SDC      |
| Inch   | GPM            | SFU             |          |
| 5/8  | 20             |                 | \$1,500  |
| 1  | 50             | 2.5             | \$3,750  |
| 1 1/2  | 100            | 5               | \$7,500  |
| 2  | 160            | 8               | \$12,000 |
| 3  | 300            | 15              | \$22,500 |
| 4  | 500            | 25              | \$37,500 |
| 6  | 1,000          | 50              | \$75,000 |
| Connection Fee   |                |                 |          |
| In addition to the SDC, the customer will be charged for the cost of labor, materials and equipment used in making a connection to the water main. |                |                 |          |

| System Development Charge (SDC) - Wastewater System  |                |                 |          |
|--|----------------|-----------------|----------|
| Capital Assets   | \$4,849,905    |                 |          |
| System Capacity  | 700,000        | gal per day     |          |
| Assets per capacity  | \$6.93         | per gal per day |          |
| Single Family Unit (SFU)   | 150            | gal per day     |          |
|  | 4,500          | gal per month   |          |
| System Development Charge  | \$1,000        | per SFU         |          |
| Meter Size   | Meter Capacity | Multiple of     | SDC      |
| Inch   | GPM            | SFU             |          |
| 5/8  | 20             |                 | \$1,000  |
| 1  | 50             | 2.5             | \$2,500  |
| 1 1/2  | 100            | 5               | \$5,000  |
| 2  | 160            | 8               | \$8,000  |
| 3  | 300            | 15              | \$15,000 |
| 4  | 500            | 25              | \$25,000 |
| 6  | 1,000          | 50              | \$50,000 |
| Connection Fee   |                |                 |          |
| In addition to the SDC, the customer will be charged for the cost of labor, materials and equipment used in making a connection to the sewer main. |                |                 |          |

Figure 42

## Tenn. Code Ann. § 68-221-1010

Current through the 2019 Regular Session

### § 68-221-1010. Facilities with earnings or operating deficit or operating in default.

(a)

(1) Within sixty (60) days from the time that an audit of a water system or wastewater facility is filed with the comptroller of the treasury, the comptroller of the treasury, shall file with the board the audited annual financial report of any water system or wastewater facility that has a deficit total net position in any one (1) year, has a negative change in net position for two (2) consecutive years or is currently in default on any of its debt instruments. For purposes of this section, “change in net position” means total revenues less all grants, capital contributions, and expenses, but without reduction for any excluded non-cash items. For purposes of this section, “excluded non-cash items” means any non-cash charges arising from changes to or the implementation of pension and other post-employment benefit standards promulgated by the governmental accounting standards board.

(2) Notwithstanding any other law to the contrary, a government joint venture that supplies or treats water or wastewater for wholesale use only to other governments shall not fall under the jurisdiction of the water and wastewater financing board for the purpose of reporting negative change in the net position annually, but must be referred to the board if the government joint venture is in a deficit or default position as provided herein.

(b)

(1) Within sixty (60) days from the receipt of the audited annual financial report filed by the comptroller of the treasury, the board shall schedule a hearing to determine whether the water system or wastewater facility described in the report is likely to continue in a deficit position. In reaching its determination, the board shall consider current user rates charged by the water system or wastewater facility, the size of the facility and the local government served by it, the quality of the facility's operation and management, and other relevant criteria.

(2) Upon a determination that the water system or wastewater facility is likely to remain in a deficit position, the board may order the management of the water system or wastewater facility to adopt and maintain user rate structures necessary to:

- (A) Fund operation, maintenance, principal and interest obligations and adequate depreciation to recover the cost of the water system or wastewater facility over its useful life;
- (B) Liquidate in an orderly fashion any deficit in total net position; and
- (C) Cure a default on any indebtedness of the water system and wastewater facility.

(3) Any such order shall become final and not subject to review unless the parties named therein request by written petition a hearing before the board, as provided in §§ 68-221-1007 — 68-221-1013, no later than thirty (30) days after the date such order is served. Any hearing or rehearing provided by §§ 68-221-1007 — 68-221-1013 shall be brought pursuant to the

Uniform Administrative Procedures Act, compiled in title 4, chapter 5, part 3. Such hearing may be conducted by the board at a regular or special meeting by any member or panel of members as designated by the chair to act on its behalf, or the chair may designate an administrative judge who shall have the power and authority to conduct hearings in the name of the board to issue initial orders pursuant to the Uniform Administrative Procedures Act.

**(c)** In the event a water system and wastewater facility fails to adopt user rate structures pursuant to a final order of the board, the board may petition the chancery court in a jurisdiction in which the water system and wastewater facility is situated or in the chancery court of Davidson County to require the adoption of the user rate structures ordered by the board or to obtain other remedial action, which, in the discretion of the court, may be required to cause the water system and wastewater facility to be operated in a financially self-sufficient manner.

**(d)**

**(1)** Within sixty (60) days from the time that an audit of a water system is filed with the comptroller of the treasury, the comptroller of the treasury shall file with the board the audited annual financial report of any water system whose water loss as reported in the audit is excessive as established by rules promulgated by the board. Failure of the water system to include the schedule required in this section constitutes excessive water loss and the water system shall be referred to the water and wastewater financing board.

**(2)** In the event a water system fails to take the appropriate actions required by the board to reduce the water loss to an acceptable level pursuant to § 68-221-1009(a)(7), the board may petition the chancery court in a jurisdiction in which the water system is operating to require the water system to take such actions.

**(3)** By February 1 of each year, the comptroller of the treasury shall provide a written report to the speaker of the house of representatives and the speaker of the senate listing the average annual water loss contained in the annual audit for those utility systems described in § 68-221-1007.



JUSTIN P. WILSON  
*Comptroller*

JASON E. MUMPOWER  
*Deputy Comptroller*

### **Case: Town of Spring City**

#### **Staff Summary:**

On April 2, 2019, the Board ordered the Town to comply with the following:

1. The Town shall have the Municipal Technical Advisory Service, the TAUD, or another qualified expert as approved Board staff perform a rate study to include:
  - a. Recommendations to remedy the Town's financially distressed position; and
  - b. A justification for disparity in rates between customers inside and outside the Town.
2. The Town shall provide an update to Board staff with the completed rate study and an implemented or proposed plan of action by June 30, 2019.

The Town has complied with the order. MTAS completed a rate study. However, the Town did not clarify if action was taken by the Town or what the justification for the inside/outside rates were.

The Town implemented the MTAS rate recommendations incorrectly. The rate for SSM Industries was supposed to be \$4.35 per 1,000 gallons and was put in the ordinance at \$9.90. MTAS did not complete a cost of service study which staff believes is necessary.

#### **Staff Recommendation:**

Order the Town to comply with the following:

1. The Town shall hire the Tennessee Association of Utility Districts, or another qualified expert as approved by Board staff, to complete a cost of service study to include:
  - a. a review of all rate classes and recommendations for appropriate rates, including a justification for multiple rate classes or recommendations for a simplified rate structure, and a justification for the discrepancy between rates for customers outside the Town's boundaries as opposed to inside or recommendations for one rate structure;
  - b. a review of all tap fees including any recommended modifications; and
  - c. a review of all service fees and connection fees including any recommended modifications.
2. By October 31, 2019, the Town shall send Board Staff a copy of the contract between the Town and the qualified expert who is to perform the tasks in paragraph 1.



JUSTIN P. WILSON  
*Comptroller*

JASON E. MUMPOWER  
*Deputy Comptroller*

3. By February 28, 2020, the Town shall provide Board staff with the completed cost of service study, and either proof of implementation of the resulting recommendations or a proposed plan of implementation.
4. Board staff is given the authority to grant one extension of up to six months of the foregoing deadlines upon a showing of good cause by the Town.



JASON E. MUMPOWER  
*Comptroller*

Entity Referred: **City of Woodland Mills**  
Referral Reason: **Negative Change in Net Position**  
Utility Type Referred: **Sewer**

**Staff Summary:**

**Staff Summary:**

The City has complied with all prior Board directives, as evidenced by the accompanying documentation.

**Staff Recommendation:**

Order the following:

1. The City shall send financial updates to Board staff by March 1st and September 1st of each year, beginning September 1, 2021, until the Board releases the City from its oversight.





Tennessee Utility Assistance, LLC  
840 Commercial Court  
Murfreesboro, TN 37129  
Voice (615) 896-9022  
Fax (615) 898-8283

# **REPORT FOR CITY OF WOODLAND MILLS, TENNESSEE**

## **WATER AND WASTEWATER FINANCING BOARD ORDER DATED SEPTEMBER 30, 2019**

**June 11, 2020**

## **INTRODUCTION**

### **Description of the Woodland Mills Sewer System and Existing Rates**

The City of Woodland Mills, Tennessee (City or Woodland Mills) provides sewer service to approximately 170 customers. The City's sewer system is a collection only system. All its wastewater is treated by Union City. Most of the City's customers are residential. The City has a few small commercial customers. The City has one large commercial customer, the Williams Country Sausage manufacturing facility. The revenue from Williams Sausage provides approximately 83% of the City's sewer revenues.

Water service to the City's sewer customers is provided by Union City. Pursuant to an agreement with Union City, Union City bills the City's sewer service charges on the its water bill. Union City will discontinue water service to its customers for nonpayment of the City's sewer service charges. Union City charges the City \$4.30 per customer to provide the City with sewer billing and collection services.

The City has one rate structure for all of its customers. The City's monthly minimum bill does not have any gallonage included. On July 1, 2018, the City increased its usage rate from \$2.66 per 1,000 gallons to \$3.21 per 1,000 gallons.

On July 1, 2019, the City increased its usage rate from \$3.21 per 1,000 gallons to \$3.51 per 1,000 gallons. The City's existing sewer rates are as follows:

|              |                          |
|--------------|--------------------------|
| Minimum bill | \$10.00                  |
| Usage Rage   | \$3.51 per 1,000 gallons |

The City was referred to the Water and Wastewater Financing Board (WWFB) upon the submission of its audit for its fiscal year ending June 30, 2018, because it met the statutory definition for a financially distressed City sewer system. The system had a negative change in net position for two consecutive years without regard to any grants or capital contributions for its fiscal years ending June 30, 2017 and June 30, 2018.

The City had a negative change in net position for its fiscal year ending June 30, 2019 in the amount of \$1,748.

### **Water and Wastewater Financing Board Order**

On September 30, 2019, the Water and Wastewater Financing Board (WWFB) issued an order directing the City of Woodland Mills do the following items.

- 1) The City shall have the Tennessee Association of Utility Districts, or another qualified expert as approved by the Board staff, perform a rate study that includes the following:

- a) A review of the capitalization policy, including any recommended modifications;
  - b) A review of the tap fees, including any recommended modifications;
  - c) A review of the financial viability of the City's personnel costs being paid out of the utility fund, including any recommended modifications;
  - d) The creation of a five-year capital asset budget, to be taken from the current capital asset list and to include future anticipated needs; and
  - e) A review of the leak adjustment policy, including any recommended modifications.
- 2) By October 31, 2019, the City shall send Board staff a copy of the contract between the City and the qualified expert who is to perform the tasks in paragraph 1.
  - 3) By December 31, 2019, the City shall send Board staff proof that all members of the utility's governing body have compiled with the training requirements set out in the Tenn. Code Ann. 7-34-115(j).
  - 4) By February 28, 2020, the City shall provide Board staff with the completed rate study and either proof of implementation of the resulting recommendations or a proposed plan of implementation.

## RECOMMENDATIONS

### **Recommendation #1**

The City's sewer fund is not projected to have a negative change in net position during the five-year projection period developed by TUA. Therefore, TUA recommends no rate changes for the City at this time.

### **Recommendation # 2**

The City should adopt a resolution to establish a capitalization policy which incorporates the capitalization cost thresholds and service lives the City currently uses for all capital assets except its sewer system assets. The City's capitalization policy should include the service lives for its sewer system using the recommended service lives adopted by the WWFB for municipal sewer systems. TUA prepared a suggested resolution which the City can adopt to establish the recommended capitalization policy.

### **Recommendation #3**

TUA recommends that the City adopt an ordinance which incorporates the terms and conditions it is currently using to make sewer bill adjustments based upon a leak in a customer's water service line and for the filling of swimming pools. TUA prepared a suggested ordinance which the City can adopt for this purpose.

### **Recommendation #4**

Because the City makes so few new sewer taps, TUA suggests that the City's tap fee be equal to the actual cost of the installation of the tap by its outside contractor.

### **Recommendation #5**

The City's sewer fund is currently paying the general fund \$6,300 a year which is described as interest expense in the City's financial statement for the sewer fund. Based upon information provided to TUA, this interest expense appears to an annual return to the general fund on its investment in the sewer fund when the City paid off its sewer bonds early. In 1999, the equity transfer from the general fund to the sewer fund from this bond redemption was \$105,562.74. Beginning in 1999, the sewer fund began paying the general fund the annual amount of \$6,300 as a return on this investment from the general fund.

Under T.C.A. 7-34-115(a)(1)(H), a municipal water or sewer system can use its revenues to pay:

an amount to the general fund of the municipality not to exceed a cumulative return of six percent (6%) per annum of any equity invested from the general fund, if any, of the municipality. Equity investment includes any contributions or

purchases made by the municipality from the general fund, including, but not limited to, cash contributions, retirement of debt service and purchases of equipment, so long as these contributions are reflected in the utility's financial statement...

No equity investment by the general fund is reflected as a separate line item in the financial statement of the sewer fund. TUA understands the equity investment is included in the total amount of Capital Asset - Sewer System on the Statement of Net Position. Apparently, the \$6,300 payment has been made from the sewer fund to the general fund for 20 years. TUA understand the City's auditor will be seeking guidance from the Comptroller's Office on how this payment should be handled going forward.

### FIVE YEAR CAPITAL ASSET PLAN

The City's only planned capital improvement over the next five years is the replacement of its Lift Station No. 1 in the fiscal year beginning July 1, 2021. The City's Five-Year Capital Asset Plan is attached to this Report as **Exhibit 1**.

## **RATE STUDY AND PROPOSED PLAN OF ACTION**

To determine whether existing rates will produce sufficient revenues to make the City's sewer system self-supporting, TUA first projected a Statement of Revenues and Expenses and Changes in Net Position for the City's sewer fund for its current fiscal year which ends June 30, 2020. TUA projected the revenues for the system using existing rates. TUA projected operation and maintenance expenses and debt service payments by reviewing historical information from the five previous years, reviewing the City's budget for its sewer fund for the current fiscal year, and taking into account any known and anticipated changes for this fiscal year.

Then, TUA projected Statements of Revenues and Expenses and Changes in Net Position for the City's sewer fund for its fiscal years ending June 30 of 2021, 2022, 2023, 2024, and 2025. See **Exhibit 2** attached to this Report.

### **Revenue Projections:**

- Sewer sales for the fiscal year ending June 30, 2020, were projected based upon nine months of actual sewer sales plus projected sales for the remaining three months of the fiscal year based upon the previous nine months.
- Since 2015 the City has experienced no customer growth in residential and commercial customers. The sewer revenues from the Williams Country Sausage facility increased in the current fiscal year due to a recent expansion of the facility. No further growth in sewer revenues from the Williams County Sausage facility is anticipated by the City over the next five years. Therefore, the sewer sales projections for the fiscal years ending June 30 of 2021, 2022, 2023, 2024, and 2025 do not include any revenue increases based on annual customer growth.

### **Expense Projections:**

- Except for depreciation and treatment expense, all operating expenses for the current fiscal year are projected based the average of these expenses over the last two fiscal years.
- Treatment expense is projected based upon nine months of the actual expense for this fiscal year plus an estimate of the expense for the remaining three months of the fiscal year based upon the previous nine months.
- Depreciation for the current fiscal year is based upon the City's fixed asset schedule which includes the annual depreciation of capital assets.
- For the remaining fiscal years in the five-year projection, all operating expenses, except depreciation are increased by 2% annually over the projected amount for the current fiscal year.

- For many years the City's sewer fund has recorded \$6,300 as interest expense. Based upon information provided to TUA, this interest expense does not appear to be based upon a loan from the general fund to the sewer fund. According to the City, this annual interest expense payment is a return to the City's general fund on its investment in the sewer fund from the early pay off of a City sewer bond issue many years ago. Therefore, TUA's projection for the current fiscal year and for future years includes an annual interest expense amount of \$6,300.
- Annual depreciation expenses are projected based upon the City's existing fixed asset schedule and the useful service lives used on the schedule for depreciation and upon the new depreciation of the new lift station scheduled to be constructed during the fiscal year ending June 30, 2022.

### Revenue Sufficiency and Rate Modifications Required

TUA projects that the City's sewer fund will have a positive change in net position for the current fiscal year ending June 30, 2020.

Due to the rate increase which became effective on July 1, 2019, and the increased sewer revenue from Williams Sausage, TUA projects that the City's sewer fund will have a positive change in net position for its fiscal years ending June 30 of 2021 - 2025.

TUA suggests that the City may want to implement a small rate increase on July 1, 2024. Although TUA projects the City's sewer fund should still have a positive change in net position during the fiscal year which begins July 1, 2024, a small rate increase will ensure that the City's sewer fund continues to be self-supporting. TUA suggests a \$0.10 per 1,000 gallons rate increase in its usage rate on July 1, 2024. The City does not need to act on this suggested rate increase now.

TUA recommends that the City review its rates annually as a part of the budgetary process beginning in the Spring of 2021 to ensure that the current rates will continue to produce sufficient revenues to give it a positive change in net position for future fiscal years.

The Water and Sewer Fund – Projected Cash Balance Schedule is attached as **Exhibit 3**.

### PAYMENT OF CERTAIN CITY PERSONNEL COSTS AND EXPENSES FROM SEWER FUND

Before July 1, 2018, the City had paid the compensation of the Mayor and Aldermen and of the City's waste station maintenance employee out of the sewer fund. The City paid a portion of the City's insurance cost and certain professional fees out of the sewer fund as well. Upon the advice of its auditor, these expenses have been paid out of the City's general fund since July 1, 2018. Therefore, no further action needs to be taken on this issue.

### CITY'S CAPITALIZATION POLICY

The City was not able to locate a resolution or other action which set forth its capitalization policy. The City should adopt a resolution which incorporates the capitalization cost thresholds and service lives the City currently uses for all capital assets except its sewer system assets. The City's capitalization policy should include the service lives for its sewer system using the recommended service lives adopted by the WWFB for municipal sewer systems. TUA prepared a suggested resolution which the City can adopt to establish this recommended capitalization policy which is attached as **Exhibit 4** to this Report.

### LEAK ADJUSTMENT POLICY

The City currently gives one sewer bill adjustment a year for a leak in the customer's service line between the meter and the house or business premises. The City currently gives one leak adjustment a year for the filling of a swimming pool. The City has never adopted an ordinance setting for the terms and conditions of these sewer bill adjustments. TUA has prepared a suggested ordinance which incorporates the City's current practice on sewer bill adjustments for water service line leaks and the filling of pools which is attached as **Exhibit 5** to this Report.

### TAP FEE MODIFICATIONS

The City's current sewer tap fee is \$300. This tap fee may not cover the cost of the installation of a sewer tap. The City uses an outside contractor to install sewer taps which are done very infrequently. For its most recent sewer tap, the City was charged \$450 by its contractor. Because the City makes so few new sewer taps, TUA suggests that the City's tap fee be equal to the actual cost of the installation of the tap by its outside contractor.



# Financial Distress



JASON E. MUMPOWER  
*Comptroller*

Entity Referred: **City of Bethel Springs**

Referral Reason: **Negative Change in Net Position**

Utility Type Referred: **Water and Sewer**

**Staff Summary:**

Bethel Springs received the attached TAUD report in April of 2021. Staff has not received confirmation that the City has implemented the recommendations.

**Staff Recommendation:**

Order the following:

1. By June 30, 2021, the City shall send Board staff proof that is has implemented the recommendations contained in its January 2021 TAUD Report.
2. The City shall send financial updates to Board staff by March 1st and September 1st of each year, beginning September 1, 2021, until the Board releases the City from its oversight.



Tennessee Utility Assistance, LLC  
840 Commercial Court  
Murfreesboro, TN 37129  
Voice (615) 896-9022  
Fax (615) 898-8283

## **REPORT FOR TOWN OF BETHEL SPRINGS, TENNESSEE**

### **WATER AND WASTEWATER FINANCING BOARD ORDER DATED SEPTEMBER 30, 2019**

April 20, 2021

## **INTRODUCTION**

### **Description of the Bethel Springs Water System and Sewer System**

The Town of Bethel Springs, Tennessee (Town or Bethel Springs) is located in McNairy County. The governing board of the Town's water and sewer system is its Board of Mayor and Aldermen. As of June 30, 2020, the Town provided water service to 355 customers and provided sewer service to 275 customers. The Town's raw water supply comes from two wells which is treated at the Town's water treatment plant. The Town purchases water from the Town of Selmer to serve one portion of its service area. The Town has a grinder pump collection system and pumps its effluent for treatment to Selmer.

The Town was referred to the Water and Wastewater Financing Board (WWFB) upon the submission of its audit for its fiscal year ending June 30, 2017, because it met the statutory definition for a financially distressed municipal water and sewer system. The system had a negative change in net position for two consecutive years without regard to any grants or capital contributions for its fiscal years ending June 30, 2016 and June 30, 2017.

### **History of Rates and Existing Rate Structure**

The Town charges all of its water customers the same rates and all of its sewer customers the same rates. The Town's current water and sewer rates are set forth below and have not been changed since 2011.

#### Water Rates

|                   |                           |
|-------------------|---------------------------|
| Minimum charge    | \$11.00                   |
| Per 1,000 gallons | \$ 7.00 per 1,000 gallons |

#### Sewer Rates

|                                       |                           |
|---------------------------------------|---------------------------|
| Minimum bill (includes 2,800 gallons) | \$51.29                   |
| Over 2,800 gallons                    | \$ 7.08 per 1,000 gallons |

At current rates, the Town's water and sewer fund has had substantial negative changes in net position each year since it was referred to the WWFB:

|               |            |
|---------------|------------|
| June 30, 2018 | (\$45,797) |
| June 30, 2019 | (\$63,802) |
| June 30, 2020 | (\$53,683) |

The balance of the Cash and Investments accounts of the water and sewer fund as of July 1, 2020, was \$203,184.

### Water and Wastewater Financing Board Order

On September 30, 2019, the Water and Wastewater Financing Board (WWFB) issued an order directing the Town of Bethel Springs to do the following items.

- 1) The Town shall have the Tennessee Association of Utility Districts, or another qualified expert as approved by the Board staff, perform a rate study that includes the following:
  - a) an evaluation of the cost of tapping into the water and sewer system;
  - b) a review of the capitalization policy, including any recommended modifications;
  - c) the creation of a five-year capital asset budget, to be taken from the current capital asset list and to include future anticipated needs; and
  - d) a review of the leak adjustment policy, including any recommended modifications.
- 2) By October 31, 2019, the Town shall send Board staff a copy of the contract between the Town and the qualified expert who is to perform the tasks in paragraph 1.
- 3) By February 28, 2020, the Town shall provide Board staff with the completed rate study and either proof of implementation of the resulting recommendations or a proposed plan of implementation.

## **RECOMMENDATIONS**

### **Recommendation #1**

The Town needs to adopt the Five-Year Capital Asset Plan attached as **Exhibit 1**.

### **Recommendation #2**

TUA recommends the Town adopt the water and sewer rates set forth in attached **Exhibit 4** to become effective on July 1<sup>st</sup> of 2021, 2022 and 2023.

### **Recommendation # 3**

The Town adopted the capital assets policy recommended by TUA on March 9, 2020.

### **Recommendation #4**

The Town passed the leak adjustment ordinance recommended by TUA on March 9, 2020.

### **Recommendation #5**

The Town plans to approve a new water tap fee of \$600 and a new sewer tap fee of \$3,400 at its April 2021 board meeting which fees are based upon the cost estimate for the installation of these taps.

## **FIVE YEAR CAPITAL ASSET PLAN**

On February 25, 2021, John Hall met with Deborah Sullivan, City Recorder and Bernie Moore, Water Manager, to develop a five-year capital assets plan. They discussed capital purchases for and capital improvements to the Town's water and sewer system which the Town has planned to make or should consider making within the next five years. The Town had a Municipal Sewer System Capital Asset Evaluation prepared by its engineering firm, Cook Coggin Engineering, Inc., in June of 2020. The Evaluation includes several sewer system projects. In the discussions with Mr. Hall, the Town indicated that it could not financially afford to complete all of the sewer system improvements recommended in the Evaluation.

Based upon these discussions, Mr. Hall prepared a Five-Year Capital Asset Plan which was used in the TUA financial projections.

The Town should adopt the Five-Year Capital Asset Plan attached to this Report as **Exhibit 1**.

## **RATE STUDY AND PROPOSED PLAN OF ACTION**

To determine whether existing rates will produce sufficient revenues to make the Town's water and sewer system self-supporting, TUA first projected a Statement of Revenues and Expenses and Changes in Net Position for the Town's water and sewer fund for its fiscal year ending June 30, 2021, to use as its test year. TUA projected the revenues for the system using existing rates. TUA projected operation and maintenance expenses and debt service payments by reviewing: (1) the Town's budget for the water and sewer fund for its fiscal year ending June 30, 2021; (2) historical information on the Town's water and sewer from the five previous years; and (3) the unaudited revenues and expenses of the Town's water and sewer fund for the fiscal year ending June 30, 2020.

Then, TUA projected Statements of Revenues and Expenses and Changes in Net Position for the Town's water and sewer fund for its fiscal years ending June 30 of 2022, 2023, 2024, and 2025. See **Exhibit 2** attached to this Report.

### **Revenue Projections:**

- Water sales and sewer sales for the fiscal year ending June 30, 2021, are projected by taking the Town's actual water usage reports for the year ending June 30, 2020, and applying the Town's existing water rates and sewer rates to this actual usage. Since 2016 the Town has experienced minimal annual growth in customers and does not plan to expand its existing systems in the near future. Therefore, the water and sewer sales after the test year do not include any revenue increases based annual customer growth.
- Water and sewer tap fees for the test year are based upon on discussion with the City which are consistent with its average water and sewer tap fees for its past two fiscal years.

- Penalties for the test year are based on discussions with the City and is consistent with the actual penalties amount for its fiscal year ending June 30, 2020.

### **Expense Projections:**

- Except for depreciation, all operating expenses for the test year ending June 30, 2021 are projected based upon the Town's previous two fiscal years. See the Revenues and Expenses - Test Year schedule attached as **Exhibit 3**.
- Depreciation for the test year is projected based upon the Town's existing fixed asset schedule and the useful service lives used on this schedule for depreciation as of June 30, 2020, plus the depreciation attributable to the new capital assets in the proposed Five-Year Capital Asset Plan for the Town's fiscal year ending June 30, 2021.
- Interest expense for the test year and the remaining years in the projection period was based on current debt amortization schedules.
- For the remaining fiscal years in the five-year projection, all operating expenses, except depreciation and interest expense, are increased by 2% annually over the projected amount for the test year.
- Annual depreciation expenses after the test year were projected based upon the Town's existing fixed asset schedule and the service lives used on this schedule for depreciation. Depreciation on new capital assets included in the capital asset plan after the test year are based upon the service lives in the Town's new capital assets policy adopted in March of 2020.

### **Revenue Sufficiency and Rate Modifications Required**

Based upon the projected Statements, the Town's water and sewer fund will continue to have substantial negative changes in net position each year at current rates, beginning with the Town's current fiscal year which ends June 30, 2021. The rate increases required by the Town to give the Town's water and sewer fund a positive change in net position are substantial. TUA recommends that:

- The Town adopt the rates needed over a three-year period beginning July 1, 2021, as set forth in **Exhibit 4** attached to this Report. TUA projects that the Town will achieve a positive change in net position with the rates set forth in **Exhibit 4** during its fiscal year beginning July 1, 2023.
- The Town will need to adopt an additional rate increase in water and sewer rates for its fiscal year beginning July 1, 2024. TUA suggests that the Town wait and approve this rate increase in connection with the review and adoption of its budget for the water and sewer fund for its fiscal year beginning July 1, 2024.



The rate recommendations in **Exhibit 4** are based upon revenue and expense projections which are subject to change. Therefore, these rate recommendations should be reviewed as a part of the budgetary process for the Town's fiscal year beginning July 1, 2022, to ensure that rates recommended will continue to produce the revenues projected and to confirm the projected expenses. If the revenues and expenses anticipated in the budgeting process are different than those projected, the Town may need to alter the annual rate increases needed beginning July 1<sup>st</sup> of each year during the five-year projection period.

Based upon water usage of 4,000 gallons a month, a Town customer's monthly water and sewer bill will increase as follows:

| <u>Current Bill</u> | <u>New bill (effective July 1, 2023)</u> |
|---------------------|--|
| Water \$39.00       | Water \$63.50                            |
| Sewer \$59.82       | Sewer \$69.90                            |

### **Projected Cash and Investments Schedule**

The Water and Sewer Fund – Projected Cash and Investments Schedule is attached as **Exhibit 5**. If the Town adopts the rate increases recommended by TUA and funds its capital improvements as set forth in the Five-Year Capital Asset Plan, the water and sewer fund should have a cash balance of \$447,597 as of June 30, 2025.

### **TOWN'S CAPITALIZATION POLICY**

The Town was not able to locate any ordinance or resolution setting forth its capitalization policy. TUA prepared a suggested capital asset policy for the Town to adopt which includes the service lives for water and sewer system assets recommended by the WWFB for municipal water and sewer utilities. The suggested capital asset policy is attached as **Exhibit 6**. The Town approved this capital asset policy at its Mayor and Board of Aldermen meeting on March 9, 2020, and a copy of the minutes of this meeting are attached as **Exhibit 7** to this Report.

### **NEW LEAK ADJUSTMENT POLICY**

The Town had an existing ordinance consisting of a single paragraph which authorizes the leak adjustments the Town was making. TUA prepared a suggested ordinance governing leak adjustment for consideration by the Mayor and Board of Aldermen which is attached as **Exhibit 8** to this Report. This leak adjustment ordinance was adopted on second reading at Town's Mayor and Board of Aldermen meeting on March 9, 2020. See **Exhibit 7**.

## TAP FEES

As of February of 2019, the Town's tap fees were as follows:

|           |       |
|-----------|-------|
| Water tap | \$350 |
| Sewer tap | \$450 |

Mr. Hall requested the Town develop an estimate of the actual cost of the materials, equipment and labor which the Town incurs to install a water tap and sewer tap, and Mr. Hall provided the Town with a tap fee worksheet to prepare this estimate. The Town's estimated cost to install a water tap and sewer tap (grinder pump system) is attached as **Exhibit 9**.

The Town's Mayor and Board of Aldermen plan to increase the Town's fees at its April board meeting to:

|           |         |
|-----------|---------|
| Water tap | \$ 600  |
| Sewer tap | \$3,400 |

**Bethel Springs, TN**  
**Five Year Capital Asset Plan**

|  | <u>6/30/2021</u> | <u>6/30/2022</u> | <u>6/30/2023</u> | <u>6/30/2024</u> | <u>6/30/2025</u> |
|--|------------------|------------------|------------------|------------------|------------------|
| Upgrade main lift station                      | 22,000           | -                | -                | -                | -                |
| Install new Secada system                      | 12,000           | -                | -                | -                | -                |
| 5 air release valves                           | -                | 5,000            | -                | -                | -                |
| Pigging force main                             | -                | 10,000           | -                | -                | -                |
| 5 grinder pumps                                | -                | 2,500            | -                | -                | -                |
| Bleach building                                | -                | 10,000           | -                | -                | -                |
| 50 AMR plus handheld reader                    | -                | 8,000            | -                | -                | -                |
| Pigging 10,000 force main                      | -                | -                | 10,000           | -                | -                |
| Magnetic flow meter at Selmer                  | -                | -                | 5,000            | -                | -                |
| Water line replacement CIP Bunivsta            | -                | -                | 330,000          | -                | -                |
| Replace 4 miles of CIP                         | -                | -                | -                | 500,000          | -                |
| Flow meters WWTP                               | -                | -                | -                | 5,000            | -                |
| Iron removal system at wells                   | -                | -                | -                | 750,000          | -                |
| Low PSI check valve replacement                | -                | -                | -                | -                | 20,000           |
| Repair of retrofitted pumps 120 units          | -                | -                | -                | -                | 48,000           |
| Backhoe  | -                | -                | -                | -                | 65,000           |
| <b>Total</b>                                   | <b>34,000</b>    | <b>35,500</b>    | <b>345,000</b>   | <b>1,255,000</b> | <b>133,000</b>   |
| Cumulative Depreciation                        | 3,400            | 6,200            | 15,617           | 58,617           | 68,750           |
| <b>Total Capital Outlay &amp; Depreciation</b> | <b>37,400</b>    | <b>41,700</b>    | <b>360,617</b>   | <b>1,313,617</b> | <b>201,750</b>   |
| <b>Source of Funds</b>                         |                  |                  |                  |                  |                  |
| Loans  | -                | -                | -                | -                | -                |
| Grants   | -                | -                | 313,500          | 1,187,500        | -                |
| Cash   | 34,000           | 35,500           | 31,500           | 67,500           | 133,000          |
| <b>Total Funding Sources</b>                   | <b>34,000</b>    | <b>35,500</b>    | <b>345,000</b>   | <b>1,255,000</b> | <b>133,000</b>   |

### Bethel Springs, TN- Projected Statements of Revenues and Expenses and Changes in Net Position

|  | Projected<br>6/30/2021 | Projected<br>6/30/2022 | Projected<br>6/30/2023 | Projected<br>6/30/2024 | Projected<br>6/30/2025 |
|--|------------------------|------------------------|------------------------|------------------------|------------------------|
| <b>Operating Revenues:</b>                                   |                        |                        |                        |                        |                        |
| Metered Sales  | 353,351                | 353,351                | 353,351                | 353,351                | 353,351                |
| Tap Fees   | 2,000                  | 2,000                  | 2,000                  | 2,000                  | 2,000                  |
| Penalties  | 3,500                  | 3,500                  | 3,500                  | 3,500                  | 3,500                  |
| <b>Total Operating Revenues</b>                              | <b>358,851</b>         | <b>358,851</b>         | <b>358,851</b>         | <b>358,851</b>         | <b>358,851</b>         |
| <b>Operating Expenses:</b>                                   |                        |                        |                        |                        |                        |
| Salaries, Wages and Payroll Taxes                            | 43,065                 | 43,926                 | 44,804                 | 45,700                 | 46,614                 |
| Utilities  | 15,196                 | 15,499                 | 15,809                 | 16,126                 | 16,448                 |
| Repairs & Maintenance  | 7,878                  | 8,035                  | 8,196                  | 8,360                  | 8,527                  |
| Supplies   | 31,999                 | 32,638                 | 33,291                 | 33,957                 | 34,636                 |
| Office Expense   | 6,183                  | 6,306                  | 6,432                  | 6,561                  | 6,692                  |
| Vehicle Expense  | 2,560                  | 2,611                  | 2,663                  | 2,716                  | 2,770                  |
| Insurance  | 13,815                 | 14,091                 | 14,373                 | 14,660                 | 14,953                 |
| Professional Services  | 7,665                  | 7,818                  | 7,975                  | 8,134                  | 8,297                  |
| Contract Labor   | 25,598                 | 26,110                 | 26,632                 | 27,165                 | 27,708                 |
| Dues   | 1,959                  | 1,998                  | 2,038                  | 2,079                  | 2,120                  |
| Water Treatment  | 46,749                 | 47,684                 | 48,638                 | 49,610                 | 50,603                 |
| Depreciation   | 140,997                | 143,797                | 153,214                | 196,214                | 206,347                |
| Miscellaneous  | 196                    | 200                    | 204                    | 208                    | 212                    |
| <b>Total Operating Expenses</b>                              | <b>343,856</b>         | <b>350,714</b>         | <b>364,269</b>         | <b>411,490</b>         | <b>425,929</b>         |
| <b>Operating Income (Loss)</b>                               | <b>14,995</b>          | <b>8,137</b>           | <b>(5,418)</b>         | <b>(52,639)</b>        | <b>(67,078)</b>        |
| <b>Nonoperating Revenues (Expenses)</b>                      |                        |                        |                        |                        |                        |
| Interest Expense   | (76,685)               | (75,237)               | (73,733)               | (72,168)               | (70,541)               |
| Interest Income  | 36                     | 36                     | 36                     | 36                     | 36                     |
| <b>Total Nonoperating Revenues (Expenses)</b>                | <b>(76,650)</b>        | <b>(75,201)</b>        | <b>(73,697)</b>        | <b>(72,132)</b>        | <b>(70,505)</b>        |
| <b>Change in Net Position before Suggested Rate Increase</b> | <b>(61,655)</b>        | <b>(67,064)</b>        | <b>(79,115)</b>        | <b>(124,771)</b>       | <b>(137,583)</b>       |
| <b>Revenue Generated from Suggested Rate Increase</b>        | <b>N/A</b>             | <b>34,005</b>          | <b>61,887</b>          | <b>134,192</b>         | <b>146,243</b>         |
| <b>Change in Net Position after Suggested Rate Increase</b>  | <b>(61,655)</b>        | <b>(33,059)</b>        | <b>(17,228)</b>        | <b>9,422</b>           | <b>8,661</b>           |
| <b>Projected Grant Revenue</b>                               | <b>-</b>               | <b>-</b>               | <b>313,500</b>         | <b>1,187,500</b>       | <b>-</b>               |

**Bethel Springs, TN - Test Year**

|   | Last 2 Year     | Estimated for 20-21 | Explanation   |
|---|-----------------|---------------------|---|
|   | <u>Average</u>  |                     |   |
| <b>Operating Revenues:</b>                    |                 |                     |   |
| Metered Sales                                 | 369,279         | 353,351             | Used calculated amount from usage reports - other revenue |
| Tap Fees                                      | -               | 2,000               | Estimated from discussions with City.                     |
| Penalties                                     | -               | 3,500               | Estimated from discussions with City.                     |
| <b>Total Operating Revenues</b>               | <u>369,279</u>  | <u>358,851</u>      |   |
| <b>Operating Expenses:</b>                    |                 |                     |   |
| Salaries, Wages and Payroll Taxes             | 43,065          | 43,065              | Used 2 year average                                       |
| Utilities                                     | 15,196          | 15,196              | Used 2 year average                                       |
| Repairs & Maintenance                         | 7,878           | 7,878               | Used 2 year average                                       |
| Supplies                                      | 31,999          | 31,999              | Used 2 year average                                       |
| Office Expense                                | 6,183           | 6,183               | Used 2 year average                                       |
| Vehicle Expense                               | 2,560           | 2,560               | Used 2 year average                                       |
| Insurance                                     | 13,815          | 13,815              | Used 2 year average                                       |
| Professional Services                         | 7,665           | 7,665               | Used 2 year average                                       |
| Contract Labor                                | 25,598          | 25,598              | Used 2 year average                                       |
| Dues  | 1,959           | 1,959               | Used 2 year average                                       |
| Water Treatment                               | 46,749          | 46,749              | Used 2 year average                                       |
| Depreciation                                  | 137,597         | 140,997             | Used current depreciation plus additions from 5 year plan |
| Miscellaneous                                 | 196             | 196                 | Used 2 year average                                       |
| <b>Total Operating Expenses</b>               | <u>340,456</u>  | <u>343,856</u>      |   |
| <b>Operating Income (Loss)</b>                | <u>28,823</u>   | <u>14,995</u>       |   |
| <b>Nonoperating Revenues (Expenses)</b>       |                 |                     |   |
| Interest Expense                              | (87,601)        | (76,685)            | From amortization schedule                                |
| Interest Income                               | 36              | 36                  | Used 2 year average                                       |
| <b>Total Nonoperating Revenues (Expenses)</b> | <u>(87,565)</u> | <u>(76,650)</u>     |   |
| <b>Change in Net Position</b>                 | <u>(58,743)</u> | <u>(61,655)</u>     |   |

**Bethel Springs, TN - Recommended Rate Increases**

| <b><u>Recommended Rate Increases</u></b> | FY 21-22<br><i>start July 1, 2021</i> | FY 22-23<br><i>start July 1, 2022</i> | FY 23-24<br><i>start July 1, 2023</i> | FY 24-25<br><i>start July 1, 2024</i> |
|--|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| <b><u>WATER</u></b>                      |                                       |                                       |                                       |                                       |
| Minimum Bill                             | \$13.00                               | \$14.00                               | \$15.50                               | \$15.75                               |
| Each 1,000 gallons                       | \$8.00 / 1,000                        | \$9.00 / 1,000                        | \$12.00 / 1,000                       | \$12.50 / 1,000                       |
| <b><u>SEWER</u></b>                      |                                       |                                       |                                       |                                       |
| 0- 2,800 gallons                         | \$53.00                               | \$54.00                               | \$55.50                               | \$55.75                               |
| Over 2,800 gallons                       | \$8.00 / 1,000                        | \$9.00 / 1,000                        | \$12.00 / 1,000                       | \$12.50 / 1,000                       |

**Bethel Springs, TN - Projected Cash & Investment Balance Schedule**

|  | Projected<br><u>6/30/2021</u> | Projected<br><u>6/30/2022</u> | Projected<br><u>6/30/2023</u> | Projected<br><u>6/30/2024</u> | Projected<br><u>6/30/2025</u> |
|--|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| <b>Beginning Balance</b>   | <b>203,184</b>                | <b>211,379</b>                | <b>248,022</b>                | <b>312,409</b>                | <b>408,880</b>                |
| Sources of Funds   |                               |                               |                               |                               |                               |
| Charge for Services (included<br>suggested rate increase<br>revenue) | 358,851                       | 392,856                       | 420,738                       | 493,043                       | 505,094                       |
| Interest Revenue   | 36                            | 36                            | 36                            | 36                            | 36                            |
| Grants   | -                             | -                             | 313,500                       | 1,187,500                     | -                             |
| Total Sources of Funds   | <u>358,887</u>                | <u>392,892</u>                | <u>734,274</u>                | <u>1,680,579</u>              | <u>505,130</u>                |
| Uses of Funds  |                               |                               |                               |                               |                               |
| Operating Expenses   | 343,856                       | 350,714                       | 364,269                       | 411,490                       | 425,929                       |
| Depreciation   | (140,997)                     | (143,797)                     | (153,214)                     | (196,214)                     | (206,347)                     |
| Interest Expense   | 76,685                        | 75,237                        | 73,733                        | 72,168                        | 70,541                        |
| Payments on Principal  | 37,147                        | 38,595                        | 40,099                        | 41,664                        | 43,291                        |
| Capital Outlay   | 34,000                        | 35,500                        | 345,000                       | 1,255,000                     | 133,000                       |
| Total Uses of Funds  | <u>350,692</u>                | <u>356,249</u>                | <u>669,887</u>                | <u>1,584,108</u>              | <u>466,414</u>                |
| <b>Ending Balance</b>  | <b><u>211,379</u></b>         | <b><u>248,022</u></b>         | <b><u>312,409</u></b>         | <b><u>408,880</u></b>         | <b><u>447,597</u></b>         |

NOTE: This synopsis from beginning funds to ending funds does not include accounts receivable, accounts payable, fixed asset or any other adjustments made to the balance sheet. This is a "cash basis" summary.

**Exhibit 6****CAPITAL ASSET POLICY AND PROCEDURES  
TOWN OF BETHEL SPRINGS, TENNESSEE**

- (a) **Purpose.** The purpose of this Capital Asset Policy and Procedures (the Policy) is to provide guidelines for the Town of Bethel Springs regarding capital asset reporting in the financial statements in accordance with Governmental Accounting Standards Board (GASB) Statement No. 34, *Basic Financial Statement-and Management's Discussion and Analysis-for State and Local Governments*. The Policy establishes management control and continuing accountability for all capital assets, capitalization thresholds, and service lives for capital assets acquired by the Town.
- (b) **Capitalization Thresholds.** The capitalization thresholds for the Town's assets are a cost of \$5,000.00 and an estimated useful life of three years. Land and Construction in Progress are capitalized but not depreciated.
- (c) **Administration of Capital Assets.**
- (1) The Town uses the straight-line depreciation method and full-month convention for assets acquired in the current fiscal year.
  - (2) The Town Recorder is responsible for informing the auditors of any new capital asset acquisitions or disposals which is typically done in connection with the Town's annual audit.
  - (3) The Town's capital assets should be documented by an inventory listing supported with detailed records for the historical or estimated historical cost of each asset.
  - (4) Each Town department supervisor should notify the Town Recorder of new capital asset acquisitions, the projected life of the asset in years, and any asset disposals during the current fiscal year.
  - (5) Each Town department supervisor will notify the Town Recorder of any theft or damage to the Town's assets in order that law enforcement and/or insurance companies may be notified.
  - (6) Any asset transfers require approval from the Mayor / Mayor and Board of Aldermen and notification to the Town Recorder.
  - (7) The Town Recorder may randomly audit selected department assets and will report any non-compliance to the Mayor. He or she will work with management and external



auditors on all issues concerning capital asset reporting in order to comply with GASB Statement 34.

(d) **Recordation of Capital Assets.**

- (1) Recording Land – Land will be capitalized at historical or estimated historical cost until the land is sold or transferred. Land will not be depreciated. Expenditures for land that do not require maintenance or replacement are capitalized but not depreciated.
- (2) Recording Land Improvements – Improvements to land that are part of a site, such as parking lots, landscaping, and fencing, are depreciable. These improvements will be recorded separately to the extent that cost documentation is available.
- (3) Recording Buildings – Buildings will be recorded at either their acquisition cost or construction cost. Each building component (e.g., roof, HVAC systems, etc.) should be recorded separately when significant because of the difference in the useful lives of these components. These components will be recorded separately to the extent that cost documentation is available.
- (4) Recording Building Improvements – Building improvements that extend the useful life of a building and meet the capitalization threshold will be capitalized. These improvements will be recorded separately to the extent that cost documentation is available.
- (5) Recording Construction-in-Progress – Construction-in-Progress will be capitalized but not depreciated.
- (6) Recording Service Vehicles and Transportation Equipment – Vehicles and transportation equipment will be identified, inventoried and depreciated.
- (7) Recording Furniture and Equipment – Assets such as furniture, machinery, and equipment should be identified and inventoried. If an asset meets the threshold levels, it will be capitalized and depreciated.
- (8) Recording Water and Sewer System Infrastructure - Water and Sewer system infrastructure will be recorded at either its acquisition cost or construction cost. Each significant component (e.g. service lines, pumps, storage tanks, etc.) should be recorded separately because of the difference in the useful lives of the components. These components will be recorded separately to the extent that cost documentation is available.
- (9) Recording Water and Sewer System Improvements – Water and Sewer system improvements that extend the useful life of a system asset and which meets the capitalization threshold will be capitalized. These improvements will be recorded separately to the extent that cost documentation is available.

(e) **Asset Cost Basis.** Capital assets shall be recorded at historical cost when the cost is reasonably determinable. If historical cost data is not determinable, an estimated historical cost will be used.

- (1) Actual Cost – This cost will include the purchase or construction cost (which can be obtained through invoice, purchase order, and paid check files) and charges necessary to place the asset into service at its intended location. Such necessary costs may include costs such as freight and transportation, site preparation expenditures, interest costs, professional fees, and legal claims directly attributable to asset acquisition.
- (2) Estimated Cost – This cost will be based on as much documentary evidence as can be found to support the cost, such as interviews with vendors selling such assets engineers, or other personnel and price level adjustments based on the Consumer Price Index for each asset.
- (3) Donated Cost – These assets will be based on their estimated fair market value at time of acquisition. A determination as to the fair market value basis will be included with property records.
- (4) Interest on Debt Issued – Interest on debt issued for the construction of an asset will be capitalized as part of the asset's cost to the extent of the interest that was incurred during the construction period only.

(f) **Depreciation.**

- (1) Depreciation is a method for allocating the cost of capital assets over their useful lives. Generally accepted accounting principles dictate that the value of the capital asset must be written off as an expense over the useful life of the asset as an indirect cost.
- (2) Annual depreciation expense will be calculated using the straight-line method. The Town will utilize the full-month averaging convention. By using the full-month averaging convention, property placed in service at any time during a given month is treated as if it was placed in service at the first day of that month, regardless of the actual day of the month acquired.
- (3) When the asset is disposed of, the actual date of disposal is disregarded, and the disposal date is the end of the month prior to the month of disposal (i.e. no depreciation is taken for the month of disposal).
- (4) The salvage value of an asset is an estimate made by management of what the value of an asset will be at the end of its useful life. If the Town intends to utilize a capital asset until it is literally worthless, a salvage value of zero (0) will be assigned.

(g) **Useful Lives of Capital Assets**

| <b><u>Asset Type</u></b>                         | <b><u>Useful Life in Years</u></b> |
|--|------------------------------------|
| <b>Land and Easements</b>                        | No depreciation                    |
| <b>Land Improvements</b>                         | 30 - 40                            |
| <b>Buildings</b>                                 | 10 – 50                            |
| <b>Buildings Improvements</b>                    | 10 – 50                            |
| <b>Machinery, Equipment and Service Vehicles</b> | 5 – 10                             |
| <b>Furniture and Fixtures</b>                    | 5 - 10                             |
| <b>Water Systems</b>                             |                                    |
| Buildings (Office and Plant)                     | 30 - 50                            |
| Equipment and Tools                              | 10 - 15                            |
| Furniture and Fixtures                           | 5 - 10                             |
| Machinery, Equipment and Service Vehicles        | 5 - 15                             |
| Pumps and Treatment Equipment                    | 15 - 20                            |
| Transportation Equipment                         | 5 - 10                             |
| Water Lines and Storage                          | 40 - 50                            |
| Well / Dam                                       | Engineer's Estimate                |
| <b>Sewer Systems</b>                             |                                    |
| Buildings (Office and Plant)                     | 30 - 50                            |
| Equipment and Tools                              | 10 - 15                            |
| Furniture and Fixtures                           | 5 - 10                             |
| Machinery, Equipment and Service Vehicles        | 5 - 15                             |
| Pumps and Treatment Equipment                    | 15 - 20                            |
| Transportation Equipment                         | 5 - 10                             |
| Wastewater (Sewer) System                        | 40 - 50                            |

**TOWN OF BETHEL SPRINGS, TENNESSEE  
PERSONAL PROPERTY ACQUISITION/DISPOSITION RECORD**

PROPERTY DESCRIPTION

Location \_\_\_\_\_ Tag # \_\_\_\_\_

Account Code \_\_\_\_\_

Item Description \_\_\_\_\_

Vendor \_\_\_\_\_

Make/Model \_\_\_\_\_ Serial # \_\_\_\_\_

Purchase Price \$ \_\_\_\_\_ or Appraised Value \$ \_\_\_\_\_

ACQUISITION

Date Received \_\_\_\_\_ Purchase Order # \_\_\_\_\_

Received By \_\_\_\_\_ Condition Code \_\_\_\_\_

Transferred From \_\_\_\_\_ Status Code \_\_\_\_\_

Status Code (U=In Use; R=Held In Reserve; S=In Storage)

Donated By \_\_\_\_\_

DISPOSITION

\_\_\_\_\_ Transfer \_\_\_\_\_ Stolen/Lost \_\_\_\_\_ Surplus \_\_\_\_\_ Scrap

Other \_\_\_\_\_

Transferred To \_\_\_\_\_

I certify the above described equipment has been transferred, stolen/lost, declared surplus, scrapped, or disposed of by other means as indicated above. If the item was declared surplus, it is available for use by other departments or can be sold in the prescribed manner as surplus. If stolen, a stolen property report has been **filed with the police/sheriff's department.**

\_\_\_\_\_  
SIGNATURE DEPARTMENT HEAD

\_\_\_\_\_  
DATE

March 9, 2020 City Hall Meeting

**Town of Bethel Springs  
City Hall Meeting Minutes  
March 9, 2020**

Mayor Gary Bizzell Jr. called the City Hall Meeting to order at 6:30 p.m. on March 9, 2020. Vice Mayor John Wood Jr. gave the invocation Those in attendance were: Mayor Gary Bizzell Jr., Vice Mayor John Wood, Alderman Sherry Smith, Alderman Gilbert Atkins, City Recorder Deborah Sullivan and the citizens of Bethel Springs. Alderman Gary Bizzell Sr. was absent.

Motion to approve the February city hall and special called minutes was made by Vice Mayor John Woods and seconded by Alderman Gilbert Atkins. The board voted as follows; Mayor Gary Bizzell Jr – yea, Vice Mayor John Wood Jr.- yea, and Alderman Sherry Smith – passed, and Alderman Gilbert Atkins– yea. Motion passed.

Motion to approve financials and bills to be paid was made by Vice Mayor John Wood Jr and seconded by Alderman Gilbert Atkins. The board voted as follows; Mayor Gary Bizzell Jr – yea, Vice Mayor John Wood Jr.- yea, Alderman Sherry Smith – pass, and Alderman Gilbert Atkins– yea. Motion passed.

Motion to approve the water report was made by Alderman Gilbert Atkins and seconded by Vice Mayor John Wood. The board voted as follows; Mayor Gary Bizzell Jr – yea, Vice Mayor John Wood Jr.- yea, Alderman Sherry Smith – pass, and Alderman Gilbert Atkins– yea. Motion passed.

Motion to approve the second reading of Ordinance O-20-1 pertaining to Leak adjustment was made by Vice Mayor John Wood Jr and seconded by Alderman Gilbert Atkins. The board voted as follows; Mayor Gary Bizzell Jr – yea, Vice Mayor John Wood Jr.- yea, Alderman Sherry Smith – no, and Alderman Gilbert Atkins– yea. Motion passed.

Motion to approve the capital asset policy was made by Vice Mayor John Wood Jr and seconded by Alderman Gilbert Atkins. The board voted as follows; Mayor Gary Bizzell Jr – yea, Vice Mayor John Wood Jr.- yea, Alderman Sherry Smith – pass, and Alderman Gilbert Atkins– yea. Motion passed.

Motion to adjourn the meeting was made and all were in favor, meeting was adjourned.

  
\_\_\_\_\_  
Mayor  
\_\_\_\_\_  
Recorder

March 9, 2020 City Hall Meeting

4-6-20

Date

**Ordinance No. #####**

**An Ordinance Authorizing Leak Adjustments for Water and Sewer Customers of the Town of Bethel Springs, Tennessee**

Whereas, the Mayor and Board of Aldermen desires to have a fair, consistent and equitable procedure to adjust high water and sewer bills caused by leak on the customer's side of the Town's water meter.

Be It Ordained by the Mayor and Board of Alderman of Town of Bethel Springs, Tennessee, that the following policy be adopted for the adjustment of high water and sewer bills caused by a leak on the customer's side of the meter as a new Section ##### to the Bethel Springs Municipal Code.

#####. Leak Adjustments

- (1) The customer is responsible for paying for all metered water usage at the customer's service address and for paying all sewer charges based upon metered water usage. Customers are responsible for keeping their plumbing repaired and in good working order.
  
- (2) To qualify for a leak adjustment, the following conditions must be met.
  - (a) Water loss from a leak must result in a monthly water bill which is at least one and half times more than the customer's normal monthly water bill. The month in which the leak occurred shall be excluded in calculating the customer's normal monthly water bill for the preceding three-month period. When a customer does not have three months water usage history with the Town, the customer's average water usage will be based upon the customer's average water usage for the number of full months the customer has actually received water service at the service address.
  
  - (b) The customer must locate and timely repair the water leak which must be verified by the Town. The repair may be verified one of the following methods.
    - (i) The customer must present the Town with an affidavit or written statement from a plumber that the leak has been located and repaired.
  
    - (ii) A Town employee is able to verify that the customer was able to repair the leak.
  
  - (c) A leak must be repaired within 30 days of the due date of the bill which shows the customer has a water leak. When a customer is notified of a leak by the Town, the leak must be repaired within 30 days of receiving such notice. The customer must submit a leak adjustment request form to the Town office which form can be obtained by calling the Town's office.

- (d) When the customer has a chronic leak, the Town may require the replacement of the pipe before a leak adjustment is made.
- (e) The leak must have been concealed and not readily detectable by a reasonable person such as a leak in an underground water service line between the meter and the exterior of a building or within walls or under the floors of a building.
- (f) No leak adjustment will be made for leaks which are readily detectable by the customer. These include the following:
- i. Leaking faucets and toilets;
  - ii. Faucets, hoses and other water outlets left running;
  - iii. Leaks from frozen pipes;
  - iv. Water used for filling swimming pools, washing cars and irrigating lawns gardens; or
  - v. Leaks from swimming pool systems and from irrigation systems.
- (g) Only one bill will be adjusted for a qualifying leak in any consecutive twelve-month period. The leak adjustment will only be made in the billing cycle in which the leak is repaired.

- (4) The leak adjustment for the water bill will be calculated as follows:

STEP 1: Determine the customer's average monthly water usage from the customer's three preceding monthly bills, excluding the month in which the leak occurred. When a customer does not have three months of water usage history with the Town, the customer's average monthly water usage will be based upon the customer's average water usage for the number of full months the customer has actually received water service at the service address.

STEP 2: Subtract the customer's average monthly water usage from STEP 1 from the total water usage included in the high bill being adjusted to establish the amount of the overage gallons.

STEP 3: Divide the overage gallons by two to determine the amount of gallons to be used to make the leak adjustment to the bill.

STEP 4: Multiply the amount in STEP 3 by the discounted rate of \$ 3.00 per 1,000 gallons to calculate the bill adjustment for water portion of the bill.

STEP 5: The adjusted water billing amount will include the average monthly bill plus the adjustment from STEP 3, plus sales tax and any other charges that may apply.



Example: The customer's water usage on the high bill being adjusted is 20,000 gallons. The customer's average monthly water usage is 4,000 gallons. The leak adjustment is computed as follows:

|                                   |               |
|-----------------------------------|---------------|
| Water usage included in high bill | 20,000        |
| Average monthly water usage       | <u>-4,000</u> |
| Overage gallons                   | 16,000        |

$(16,000)/2 = 8,000$  – Overage gallons used to make water bill adjustment

$(8,000)(\$3.00 \text{ per } 1,000 \text{ gallons}) = \$24.00$  - Adjusted bill amount of gallons  
above average monthly water usage

(5) When the Town determines that the water from the qualifying leak did not enter the Town's sewer system, the Town will adjust the customer's high sewer bill to the customer's average sewer bill using the customer's average monthly water usage as defined in section 4.

(6) When a high sewer bill is caused by a water leak which does not qualify for a water leak adjustment under section (2) and the Town determines the water from the non-qualifying leak did not enter the Town's sewer system, the Town will adjust the customer's high sewer bill to the customer's average sewer bill using the customer's average monthly water usage as defined in section 4.

(7) In hardship cases the Town's Mayor and Board of Aldermen may approve monthly installment payments for the adjusted bill not to exceed twelve (12) consecutive monthly installments.

**Bethel Springs Tap Cost Worksheet**

**Cost of Water Tap**

|                  |                  |
|------------------|------------------|
| Saddle           | \$ 61.66         |
| Corporation Stop | \$ 43.82         |
| Tubing           | \$ 19.00         |
| Curb Stop        | \$ 38.00         |
| Check valve      | \$ 84.50         |
| Meter box        | \$ 23.50         |
| Meter            | \$ 178.88        |
| Backhoe          | \$48             |
| Labor            | \$ 100.00        |
| <b>TOTAL:</b>    | <b>\$ 597.36</b> |

**Cost of Grinder Pump System**

|  |                    |
|--|--------------------|
| Complete station w/24"x<br>60"basin, 32' supply cable,<br>alarm panel and pump | \$ 2,405.00        |
| Concrete   | \$ 95.90           |
| Tapping saddle   | \$ 30.99           |
| Pipe   | \$ 21.00           |
| Backhoe  | \$ 200.00          |
| Ball valve and check valve   | \$ 250.00          |
| Labor  | \$ 396.00          |
| <b>TOTAL:</b>  | <b>\$ 3,398.89</b> |



JASON E. MUMPOWER  
*Comptroller*

Entity Referred: **City of Clifton**

Referral Reason: **Negative Change in Net Position**

Utility Type Referred: **Water and Sewer**

**Staff Summary:**

The City of Clifton is currently in the process of building a new water treatment plant, which will have the capacity to serve the area.

The City has increased rates based upon the design engineer's report and plans to increase rates again during the plant's construction phase. The increases will total 90% - 100% by the plant's completion.

**Staff Recommendation:**

Order the following:

1. By November 1, 2021, the City shall provide Board staff with a financial update and an update regarding the status of the plant construction.



JASON E. MUMPOWER  
*Comptroller*

Entity Referred: **City of Copperhill**

Referral Reason: **Negative Change in Net Position**

Utility Type Referred: **Water and Sewer**

**Staff Summary:**

Copperhill received the attached TUA report on January 21, 2021. Staff has not received confirmation that the City has implemented the recommendations.

**Staff Recommendation:**

Order the following:

1. By June 30, 2021, the City shall send Board staff proof of the City's implementation of the recommendations contained in its January 2021 TAUD Report.
2. The City shall send financial updates to Board staff by March 1st and September 1st of each year, beginning September 1, 2021, until the Board releases the City from its oversight.



JASON E. MUMPOWER  
*Comptroller*

Entity Referred: **City of Goodlettsville**

Referral Reason: **Negative Change in Net Position**

Utility Type Referred: **Sewer**

**Staff Summary:**

Since its referral, the City has increased its rates by 7% to cover increased fees for treating its wastewater. It has also entered into an agreement with Blankenship CPA Group, PLLC to perform a rate study. The rate study will also review capital needs.

**Staff Recommendation:**

Order the following:

1. By November 1, 2021, the City shall provide Board staff with the completed rate study, and either proof of implementation of the resulting recommendations or a proposed plan of implementation.
2. Board staff is given the authority to grant one extension of up to six months of the foregoing deadlines upon a showing of good cause by the City.

# City of Goodlettsville, Tennessee

## Proposal for Wastewater Rate Study and Cost of Service Analysis



**City of Goodlettsville**  
**Proposal for Wastewater Rate Study**  
**and Cost of Service Analysis**

March 23, 2021

City of Goodlettsville, Tennessee  
Attn: Tim Ellis, City Manager

Thank you for the opportunity to submit this proposal to perform wastewater rate study consulting services to the City of Goodlettsville, Tennessee ("the City"). Blankenship CPA Group, PLLC, as a top ten firm in Middle Tennessee with offices in Goodlettsville, Brentwood, Dickson, Mt. Juliet, Murfreesboro, and Nashville is uniquely qualified to serve as an expert with the ability to assess the financial health of utility systems and make best practice recommendations. The following factors highlight why our firm can best serve your needs:

**Technical Expertise**

Our team has provided accounting, auditing, and consulting service to utilities in the state of Tennessee since 1992.

The Tennessee Comptroller of the Treasury has selected our firm as an approved provider for rate study consulting services to public utilities and governmental entities appearing before the Utility Management Review Board and the Water and Wastewater Financing Board. We enjoy a good relationship with the Division of Local Government Audit, which has on numerous occasions referred entities needing audit services to members of our firm.

Our firm is a member of the American Institute of Certified Public Accountants (AICPA), the Tennessee Society of Certified Public Accountants (TSCPA), the Tennessee Association of Utility Districts (TAUD), and the Tennessee Gas Association (TGA), the Government Finance Officers Association (GFOA), and the Tennessee Government Finance Officers Association (TNGFOA).

As a member firm of the AICPA, we participate in the AICPA's Peer Review Program under which our firm's system of quality control for accounting and auditing practice is reviewed by an outside firm every 3 years. Additionally, as you are aware, the State of Tennessee Comptroller's Office requires CPA firms providing audit services to governmental entities to comply with the requirements of the AICPA Peer Review Program. Our firm continues to satisfy all peer review requirements and our most recent report is on file with the State Comptroller's Office (copy attached).

Members of our firm have been serving utilities in Tennessee since the 1970's. Members of our team have extensive experience providing the following sample of services to utilities:

- Commissioner, Management, and Accounting Training
- Utility Sales Tax Consulting
- Capital Project and Depreciation Analysis
- Rate and Cost of Service Studies
- Benchmarking Analysis
- Accounting Solutions
- Internal Control Assessments including SOC Reporting

**City of Goodlettsville**  
**Proposal for Wastewater Rate Study**  
**and Cost of Service Analysis**

- Audits as prescribed by the Government Accountability Office (GAO) and the Comptroller of Tennessee, Division of Local Government Audit
- IT Consulting
- Agreed-upon procedures
- Fraud investigations

We require firm members assigned to governmental audit and consulting engagements to meet or exceed the continuing professional education requirements of the AICPA. Members of our firm attend statewide utility conferences and trainings to stay abreast of issues facing utilities in the state of Tennessee. Additionally, members of our firm performing rate-consulting services continue to gain additional knowledge through various external trainings including those offered by the American Water Works Association (AWWA).

**Capacity and Appetite**

Blankenship has the capacity and the willingness to commit to serving the City in this analysis. As a firm, we are actively growing our consulting practice as well as our utility practice within the region. We believe our firm approach and client vision are well aligned with the unique focus of public utilities and governmental entities commitment to serve their customers and citizens.

**Collaborative Relationship**

We believe the City is best served when there is a strong working relationship like the one we share with you. We understand the dynamics of how the City, elected officials, the public and the state and federal regulatory agencies are all involved in this type of analysis and decision-making. As a firm, we are comfortable collaborating with each of these parties to achieve the best results.

**Mission and Vision**

The City of Goodlettsville is “a government committed to operating with efficiency and integrity in all we do as we strive to enhance the quality of life for the community we serve”. Blankenship is committed to ensure the City accomplishes its mission by fulfilling our mission to be an expert guide, offering client vision through stewardship to achieve real relationship.

**Deliverables**

As part of our commitment to providing the highest level of service to users of our services, we are committed to providing the necessary deliverables including written reports and in-person presentation to ensure the City is receiving the information needed to make the most informed decisions in the operation and oversight of your utility.



**City of Goodlettsville**  
**Proposal for Wastewater Rate Study**  
**and Cost of Service Analysis**

Please review our enclosed proposal and feel free to contact us if you have any questions or need additional information. We look forward to collaborating with you as an approved resource with uncommon experience to provide a reliable and timely product.

Sincerely,



Dorian Bailey, CPA  
Director of Consulting  
Utility Consulting Services  
[dbailey@bcpas.com](mailto:dbailey@bcpas.com)  
615-921-6979



Bob Adams, CPA  
Senior Consulting Manager  
Utility Consulting Services  
[badams@bcpas.com](mailto:badams@bcpas.com)  
615-758-1509

**City of Goodlettsville**  
**Proposal for Wastewater Rate Study**  
**and Cost of Service Analysis**

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**City of Goodlettsville**  
**Proposal for Wastewater Rate Study**  
**and Cost of Service Analysis**

**Firm Overview**

Blankenship CPA Group, PLLC provides auditing, tax, accounting, and consulting services to clients across the region, with a strong focus over the years in the governmental and not-for-profit sectors. Blankenship is a top 10 firm in the area, serves more than 5,000 clients, and has over 100 team members across our six area offices. Blankenship has transformed significantly over the years while continuing our commitment to quality and progression.

One way in which we differentiate ourselves is that the key individuals that work directly with our clients are highly experienced and mature in our profession. This allows a deeper level of service that can only come with many years of practice. Our clients often view us more as trusted advisors, willing to take the time to communicate observations and advice concerning compliance and financial reporting matters. Our team is in a unique position to bring added value to our relationships based on the years of specific knowledge and experience gained from seeing many similar organizations and different firms. Our clients enjoy the expertise of our team members with an average experience across the board of around 20 years in the accounting and business sectors, as well as below industry average turnover. Our personnel focus within a specific service type including assurance, tax, accounting, consulting services, and information technology.

We also are a part of [Firm Foundation](#), a national organization committed to accounting firm excellence. Our membership in Firm Foundation gives us access to thousands of professionals serving a diverse range of industries, should the need for specialization on a particular matter arise. Thus, the combination of our own experience and the resources of Firm Foundation allows us unlimited flexibility in customizing our service to fit our clients' unique situations. Firm Foundation helps Blankenship perform at the highest level while providing an even deeper bench if needed, as some of the world's foremost experts are a simple phone call away.

Blankenship CPA Group, PLLC and/or its assurance leaders are members of the American Institute of Certified Public Accountants (AICPA), the Tennessee Society of Certified Public Accountants (TSCPA), the Government Finance Officers Association (GFOA), the Tennessee Government Finance Officers Association (TGFOA), the Tennessee Gas Association (TGA), and the Tennessee Association of Utility Districts (TAUD), along with various area Chambers of Commerce.

Blankenship CPA Group, PLLC serves clients from our locations throughout Middle Tennessee. Additional information about each office is located on our website at [www.bcpas.com](http://www.bcpas.com).

**City of Goodlettsville**  
**Proposal for Wastewater Rate Study**  
**and Cost of Service Analysis**

**Firm Overview – Continued**

**Essential Qualifications**

The Tennessee Comptroller's Office has established certain essential requirements that a firm must satisfy in order to provide audit and consulting services to Tennessee governmental entities. Those requirements and our status under each are as follows:

- **License to Practice in Tennessee**

Our firm is registered and licensed to practice in the State of Tennessee by the State Board of Accountancy

- **Continuing Professional Education**

Blankenship CPA Group, PLLC ("Blankenship")'s governmental assurance professionals are in compliance with the continuing professional education requirements of both the AICPA and *Government Auditing Standards* as defined by the United States Government Accountability Office (GAO).

- **Independence**

Our firm is independent of the City personally, externally, and organizationally under the independence standards of the AICPA and under the more highly restrictive standards established by the GAO. We have no conflicts of interest with regard to any other work performed by our firm for the City.

- **External Quality Control Peer Review**

As a member firm of the AICPA, we participate in the AICPA's Peer Review Program under which our firm's system of quality control for accounting and auditing practice is reviewed by an outside firm every three years. Our firm continues to satisfy all peer review requirements. A copy of the review performed by the firm of Henderson, Hutcherson & McCullough, PLLC is enclosed with this proposal.

- **A History of Performing Quality Services to Utilities and Municipal Governments**

Our firm and its assurance leaders have performed audits and consulting services for a wide range of utilities including governmental entities under contracts approved by the Comptroller's Office for decades. We enjoy a good relationship with the Division of Local Government Audit, which has on a number of occasions referred entities needing audit or consulting services to our firm for assistance.

**Consultation and Support**

We recognize that continuity of staff is important on any audit as this provides a direct and consistent line of communication and understanding. We strive to have limited staff turnover on jobs to ensure you are happy and to reduce audit inefficiencies in the future. Since we strive to keep the same managers on jobs, we also ask that you reach out to Bob Adams throughout the engagement for any questions you may have. We want to be a resource for you and to be made aware of situations early, which could affect the engagement.

**City of Goodlettsville**  
**Proposal for Wastewater Rate Study**  
**and Cost of Service Analysis**

**Firm Overview – Continued**

**Consultation and Support - continued**

We hope that the City will feel comfortable contacting us regarding significant transactions, activity, and issues. We will make every effort to keep apprised of such matters through inquiries and review of documents and internal analysis; however, direct questions help us to provide specific counsel and other assistance. We are delighted to provide specialized consultation and support assistance on sensitive or highly specialized areas whenever we can maintain our professional independence in both fact and appearance. Other consultation and support projects would be subject to fees negotiated outside of this proposal.

**Bios of Utility Consultants and Client Relationship Partner**



**Dorian Bailey CPA, MBA**

Dorian is the Director of Consulting with the firm and a graduate of the University of San Francisco and Rensselaer Polytechnic Institute. She has over 25 years in all aspects of Accounting, Audit, and Finance working with multi-nationals. She has significant experience in the manufacturing industry. She specializes in finance effectiveness and process improvement initiatives. Dorian has advised C-Suite and extended leadership of large, multi-national corporations to transform Finance and improve core Finance processes, unlocking efficiencies and cost savings through process redesign, technology enhancements, and analysis of operating models and organizational design. She has served global clients across industry lines including Automotive, Energy, Oil & Gas, Retail, and Technology.



**Bob Adams, CPA, CGMA**

Bob is a senior manager and utility consultant with the firm and graduate of Western Kentucky University. He oversees the firm's utility projects and manages audits for local government utility districts and agencies, not-for-profit organizations, and closely held businesses. Bob has almost 15 years of experience in providing audit, accounting, and consulting services to water and wastewater, natural gas, and electric utilities, including financial statement, compliance, SOC 1 (formerly SAS 70), rate consulting, and agreed-upon procedures. Additionally, Bob has presented education and training seminars to utility management groups throughout Tennessee. He also is one of the leaders in developing the firm's training curriculum specific to utilities. He currently serves as Past Treasurer and member of the Board of Directors for a Nashville-based not-for-profit organization and was recognized as their 2018 Board Member of the Year for his service to the organization. Bob is also a member of the Tennessee Gas Association, the Tennessee Association of Utility Districts, and the Tennessee Governmental Financial Officers Association.

**City of Goodlettsville  
Proposal for Wastewater Rate Study  
and Cost of Service Analysis**

***Bios of Utility Consultants and Client Relationship Partner - Continued***



**Karen Stephens, CPA**

Karen is a partner and Goodlettsville Office Director. She has a Bachelor of Science degree in Professional Accountancy from David Lipscomb University. Karen served as the audit partner for Parker, Parker & Associates prior to joining the firm when Parker's practice joined with Blankenship. She began her career as an auditor with Deloitte and now has over 20 years of extensive auditing and tax experience with governmental entities and not-for-profit organizations as well as for-profit industries including construction and manufacturing. Karen is a member of the American Institute of Certified Public Accountants, the Tennessee Society of Certified Public Accountants (TSCPA), the Government Finance Officers Association (GFOA), and the Tennessee Government Finance Officers Association (TGFOA) and currently most recently served on the TSCPA Audit Committee.

**City of Goodlettsville**  
**Proposal for Wastewater Rate Study**  
**and Cost of Service Analysis**

**Project Overview**

**Project Workflow and Initial Data Requests**

In order for the project to meet necessary timelines and helping achieving the City's objectives, continuous collaboration between the City and BCPAG will be of importance. Below is an anticipated list of data requests that will be necessary. Based the continuous working relationship between the City and BCPAG, some of these data requests are already available to BCPAG:

Financial Requests (normally obtained from the Finance Department)

- Monthly billing registers including billing statistics. Minimum monthly billing data needed will include the number bills, usage, and billing revenues.
- Monthly costs including usage related to monthly billings
- Previous audits
- Monthly trial balances
- Detailed depreciation schedules
- Capital improvement plan
- Prior rate study conducted
- Long-term debt payment schedules and copies of existing debt agreements
- Current rate and fee schedules
- Future budgets and projections
- Based on the information received, other requests may be necessary

Operations, Maintenance, and Capital Requests (normally obtained from the Engineering Department)

- Feet (or miles) of sewer mains and services (by size of pipe)
- Average cost of sewer mains and services (by size of pipe)
- Inventory of meters and regulators in use by size
- Average cost of meters and regulators
- Wastewater plant capacity
- Based on the information received, other requests may be necessary

The methodology used for the project will be based on the M-1 Manual (Principles of Water Rates, Fees, and Charges) as prescribed by the American Water Works Association. Below is a summary of the project.

**Phase I - Initial Technical Analysis**

**Revenue Requirement Analysis**

This analysis examines the utility's operating and capital costs to determine the total revenue requirements and the adequacy of the utility's existing rates. The objective is to compare the revenues of the utility to its operating and capital costs to determine the adequacy of the existing rates to recover the utility's costs.

**City of Goodlettsville**  
**Proposal for Wastewater Rate Study**  
**and Cost of Service Analysis**

**Project Overview - Continued**

**Phase I - Initial Technical Analysis - continued**

**Cost-of-service analysis**

This analysis is used to functionalize, allocate, and equitably distribute the revenue requirements to the various customer classes of service (e.g., residential, commercial) served by the utility. The objective is to allocate the revenue requirements to the various customer classes of service in a fair and equitable manner.

**Rate-design analysis**

This analysis uses the results from the revenue requirement and cost-of-service analyses to establish cost-based water rates that meet the overall rate-design goals and objectives of the utility. The objective is to consider both the level and structure of the rate design to collect the distributed revenue requirements from each class of service.

**Phase II – Scenarios, Projections, and Analysis**

Based off the results of Phase I, we will work through the following scenarios and projections.

**Cost of Service scenarios**

Using data collected in Phase I, we will work with management to evaluate scenarios regarding capital improvement plans, sewer capacity, and debt service reserve levels.

**Revenue Requirement projections**

An assessment of revenue requirements for up to a 10-year planning period will be performed. Through a collaborative approach with management, projections for operations and maintenance, repairs, replacement, capital projects, and debt service will be computed. Additionally, potential growth in customers and volumes to be treated will be projected.

**System Capacity and Development charges**

An assessment of new customer demands will be analyzed.

**Phase III – Review and Reporting**

**Review**

A review of existing rates will be discussed with management along with potential recommendations.

**Reporting**

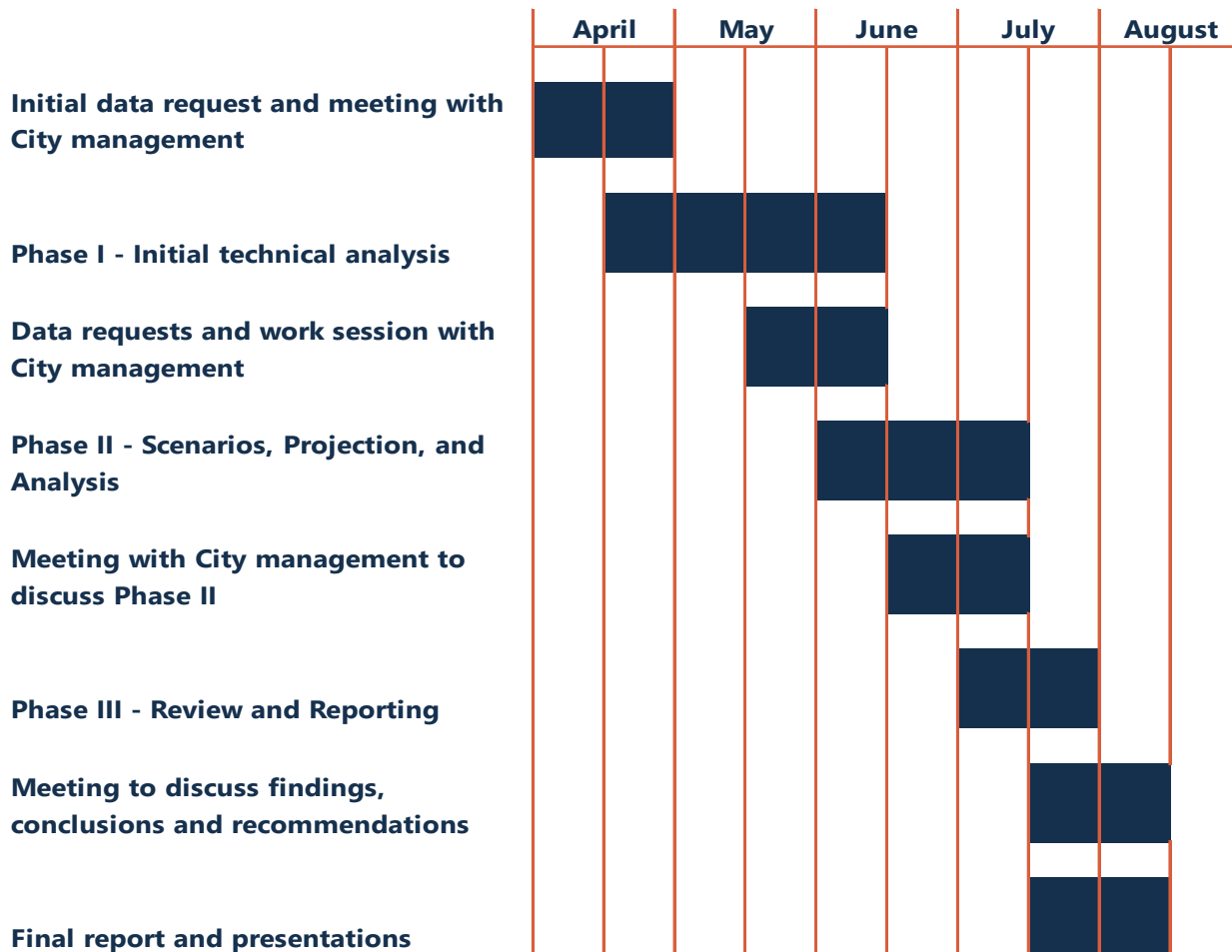
A final report will be prepared noting findings, recommendations, and conclusions will be presented.



**City of Goodlettsville  
 Proposal for Wastewater Rate Study  
 and Cost of Service Analysis**

**Projected Timeline**

Assuming the project will begin around April 15, 2021, below is an estimated timeline of when we estimate the project will be performed. This is contingent on the start date of the engagement, timely responses to our requests, and unplanned circumstances. The timeline can also be adjusted to meet any external deadlines set forth by the Tennessee Comptroller of Treasury and internal deadlines prescribed by the City of Goodlettsville.



**City of Goodlettsville**  
**Proposal for Wastewater Rate Study**  
**and Cost of Service Analysis**

**Utility, Governmental, and General Auditing, Accounting, and Consulting Services**  
**Experience**

Blankenship's consulting and assurance practice represents the same depth as the national accounting firms in the area, in part because several members of the team's leadership worked in national firms.

Current Blankenship utility clients include the following:

- Greater Dickson Gas Authority
- Water Authority of Dickson County
- Middle Tennessee Natural Gas Utility District
- City of Gallatin
- City of Mt. Juliet
- City of Greenbrier
- City of Millersville
- Harpeth Wastewater Cooperative
- Tennessee Gas Association
- Gateway Utility Company
- Claiborne Utilities District

Selected notable utilities formerly served by Blankenship's leadership team include the following:

- The Metropolitan Government of Nashville and Davidson County, Tennessee
- Metro Nashville Department of Water and Sewerage Services
- Nashville Electric Service
- Knoxville Utilities Board
- Sevier County Utility District
- Oak Ridge Utility District
- Powell-Clinch Utility District
- Elk River Public Utility District
- City of Portland
- City of Springfield
- Various other natural gas, water and waste water utilities, cities, and other governmental entities

**City of Goodlettsville**  
**Proposal for Wastewater Rate Study**  
**and Cost of Service Analysis**

**Cost Proposal**

We are submitting a cost proposal to perform rate design consulting services for the City of Goodlettsville. We propose to perform the following consulting services below at our standard hourly consulting rates (which range from \$140 per hour to \$275 per hour) and to cap our fees as noted below for this specific engagement.

The estimated range provided in each phase is there to reflect the uncertainty that exists in the scope of this proposal. The number of scenarios desired, detail and type of data to be provided, and other variables will be decisions you make along the way. These decisions will cause the amount of time necessary to complete each phase to vary. The highest range of the estimate is our proposed maximum fee.

Our proposed maximum fees are based upon the assumption that unanticipated circumstances significantly impacting our work and the consulting engagement do not occur. If such circumstances were to occur, such as meeting with potential opposition parties, testimony, and additional analysis outside the scope of the project, we would discuss them with you in advance to agree upon reasonable fee changes.

| <b>Description of Service</b>                        | <b>Estimated Fee Range</b> |
|--|----------------------------|
| <b>Phase I Initial Technical Analysis</b>            | \$7,500 - \$9,000          |
| <b>Phase II Scenarios, Projections, and Analysis</b> | \$3,000 - \$4,000          |
| <b>Phase III Review and Reporting</b>                | \$1,500 - \$2,000          |
| <b>Total</b>   | <u>\$12,000 - \$15,000</u> |

These fees include all aspects of the consulting engagement including communications to management and those charged with governance, and presentation of the final report to the board, and any discussions surrounding the report. These fees are based on the assumption that the City will respond timely to requests for additional information, and work with the team at Blankenship CPA Group, PLLC to provide information as requested.

**Closing**

Thank you for the opportunity to submit this proposal. If you have any questions regarding the utility consulting services outlined in this proposal, please let us know. We would also be pleased to meet with you and your team to discuss the proposal if you desire. We hope that our experience and expertise in serving utilities in Tennessee will help the City of Goodlettsville accomplish its mission. Please do not hesitate to contact us should you have any questions, comments, or need additional information.



JASON E. MUMPOWER  
*Comptroller*

Entity Referred: **City of Kingsport**  
Referral Reason: **Negative Change in Net Position**  
Utility Type Referred: **Sewer**

**Staff Summary:**

In 2019, the City entered into a contract with Raftelis to perform a rate study, which was halted due to the pandemic. The rate study has resumed and is currently underway. The City expects to implement the resulting recommendations in its FY 2022 budget.

**Staff Recommendation:**

Order the following:

1. By November 1, 2021, the City shall provide Board staff with the completed rate study, and either proof of implementation of the resulting recommendations or a proposed plan of implementation.
2. Board staff is given the authority to grant one extension of up to six months of the foregoing deadlines upon a showing of good cause by the City.



JASON E. MUMPOWER  
Comptroller

Entity Referred: **Town of Linden**

Referral Reason: **Negative Change in Net Position**

Utility Type Referred: **Water and Sewer**

**Staff Summary:**

In February 2020, Board staff sent the financial questionnaire to the Town and requested it be completed and returned by April 10, 2020. The Town did not return the questionnaire. In September 2020, the Board ordered the Town to contract with a qualified expert to assist it in completing the questionnaire and ordered it be submitted to Board staff by December 31, 2020. The Town still has not returned the questionnaire.

Even without the questionnaire, Staff is able to determine from the Town's previous audits that the Town needs a rate study. The Town has been financially distressed for several years and is unable to remedy its financial instability without the assistance of an expert.

**Staff Recommendation:**

Order the following:

1. The Town shall have the Tennessee Association of Utility Districts, or another qualified expert as approved by Board staff, perform a rate study that includes the following:
  - a. a review of the debt management policy;
  - b. a review of the capitalization policy; and
  - c. a review of connection, reconnection, and tap fees.
2. By June 11, 2021, the Town shall send Board staff a copy of the contract between the Town and the qualified expert who is to perform the tasks in paragraph 1.
3. By September 30, 2021, the Town shall provide Board staff with the completed rate study, and either proof of implementation of the resulting recommendations or a proposed plan of implementation.
4. Board staff is given the authority to grant one extension of up to six months of the foregoing deadlines upon a showing of good cause by the Town.

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

**IN THE MATTER OF:**

**TOWN OF LINDEN**

)  
)  
)  
)  
)  
)  
)

**TENN. CODE ANN. § 68-221-1010  
-FINANCIAL DISTRESS**

---

**ORDER**

---

On August 27, 2020, the Tennessee Water and Wastewater Financing Board (“the Board”) reviewed the financially distressed status of the Town of Linden (“the Linden”) pursuant to Tenn. Code Ann. § 68-221-1010. Board staff informed the Board that Staff sent the financial questionnaire to the Town on February 10, 2020, and requested it be completed and returned by April 10, 2020. The Town has not returned the questionnaire. Therefore, based on Staff’s statements and recommendations and all supporting documentation, the Board hereby orders the following:

1. The Town shall have the Tennessee Association of Utility Districts, or another qualified expert as approved by Board staff, assist in completing the financial questionnaire previously sent by Board staff.
2. By October 31, 2020, the Town shall send Board Staff a copy of the contract between the Town and the qualified expert who is to perform the tasks in paragraph 1.
3. The Town shall send the completed financial questionnaire and all supporting documentation to Board staff by December 31, 2020.
4. Board staff is given the authority to grant one extension of up to six months of the foregoing deadlines upon a showing of good cause by the Town.

ENTERED this 18th day of September, 2020.

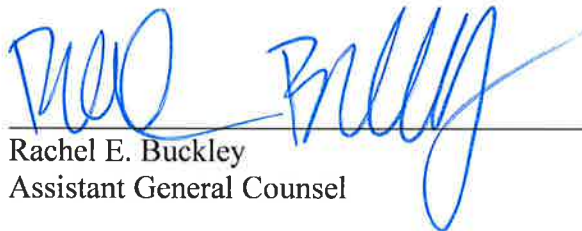


\_\_\_\_\_  
BETSY KNOTTS, Chair  
Water and Wastewater Financing Board

**CERTIFICATE OF SERVICE**

I hereby certify that a copy of the foregoing has been served via U.S. mail to the following on this 18th day of September, 2020:

Mayor Wess Ward  
Ms. Kristy Tucker, City Recorder  
Town of Linden  
P.O. Box 46  
Linden, TN 37096



\_\_\_\_\_  
Rachel E. Buckley  
Assistant General Counsel



JUSTIN P. WILSON  
*Comptroller*

JASON E. MUMPOWER  
*Deputy Comptroller*

Monday, February 10, 2020

Mayor Wess Ward  
P.O. Box 46  
Linden, TN 37096

Dear Mayor Ward,

The Tennessee Comptroller of the Treasury has referred the City of Linden to the Water & Wastewater Financing Board (hereinafter "Board") for financial distress pursuant to Tennessee Code Annotated § 68-221-1010(a).

Please fill out the enclosed questionnaire and return it and all supporting documentation to our office no later than April 10, 2020. Please submit this to either [utilities@cot.tn.gov](mailto:utilities@cot.tn.gov) and/or the following mailing address:

TN Comptroller of the Treasury  
Attention: John Greer/Ross Colona  
Cordell Hull Building  
425 Fifth Avenue North  
Nashville, TN 37243

If you wish to submit this information via mail, **do not send stapled documents.**

While we recognize that this questionnaire may be difficult to fill out, it is necessary to determine how we can help you achieve long-term financial success. If you are having trouble filling this out, please contact our office for additional assistance. After we receive your information, we will decide whether it is necessary for the City to meet with our staff or go directly before the Board.

If you need further assistance or have any questions, please feel free to contact us at (615) 747-5260 or [utilities@cot.tn.gov](mailto:utilities@cot.tn.gov).

Sincerely,

*John Greer*

John Greer  
Technical Secretary

*Ross Colona*

Ross Colona  
Utilities Specialist





JASON E. MUMPOWER  
Comptroller

Entity Referred: **City of Lobelville**

Referral Reason: **Negative Change in Net Position**

Utility Type Referred: **Water and Sewer**

**Staff Summary:**

Although Lobelville has increased water and sewer rates by 4% and has increased tap fees, Staff cannot determine whether the increases are sufficient to correct the City's financial instability.

Rates inside the City versus those outside differ greatly. In its financial questionnaire the City offered the following justification:

We do have differing rate classes for inside city limits versus outside city limits, as well as differing rates for varying meter sizes. Based on historical activity, we feel that the lines outside the city limits have required extra maintenance as well as additional labor hours to read the meters.

The sewer system's capacity is 113,000 gallons per day, but according to the City's questionnaire, it treats an average of 182,000 gallons per day. This excess amount is due to infiltration and inflow, and while the City has no plans to correct these issues, it contends that it has unsuccessfully applied for grants the past three years to address the problem.

**Staff Recommendation:**

Order the following:

1. The City shall have the Tennessee Association of Utility Districts, or another qualified expert as approved by Board staff, perform a rate study that includes the following:
  - a. a review of the debt management policy;
  - b. a justification for the differing rate classes, or if no justification is possible, recommendations for an appropriate rate structure;
  - c. creation of a capitalization policy;
  - d. creation of a five-year capital asset plan;
  - e. creation of a plan to address infiltration and inflow;
  - f. a review of the leak adjustment policy; and
  - g. a review of connection, reconnection, and tap fees.
2. By May 7, 2021, the City shall send Board staff a copy of the contract between

- the City and the qualified expert who is to perform the tasks in paragraph 1.
3. By November 1, 2021, the City shall provide Board staff with the completed rate study, and either proof of implementation of the resulting recommendations or a proposed plan of implementation.
  4. Board staff is given the authority to grant one extension of up to six months of the foregoing deadlines upon a showing of good cause by the City.

**AN ORDINANCE TO SET THE RATES, FOR WATER AND SEWER SERVICE OF THE CITY OF LOBELVILLE.**

WHEREAS, To have a financially viable water and sewer system; and

WHEREAS, To comply with Tennessee Code Annotated; and

WHEREAS, The Board of Mayor and Aldermen of the City of Lobelville finds it necessary to increase the rates for the water and sewer service of the City of Lobelville;

**NOW, THEREFORE: BE IT ORDAINED BY THE BOARD OF MAYOR AND ALDERMEN OF THE CITY OF LOBELVILLE, TENNESSEE, THAT:**

Section 1. This ordinance will replace in entirety the current water and sewer rates for the City of Lobelville. (Ordinance # 14-04.)

Section 2. The new rates for water and sewer service are:

**Water Inside:**

0 to 2,000 gallons - \$20.46  
All gallons over 2,000 - \$7.00 per 1,000 gallons

**Meter Size Base Rate**

5/8" Residential, Commercial, Industrial-\$20.46  
1" Commercial - \$48.62  
2" Commercial - \$155.58  
1" Industrial - \$48.62  
2" Industrial - \$155.58

**Water Outside:**

0 to 2,000 gallons - \$41.04  
All gallons over 2,000 - \$8.00 per 1,000 gallons

5/8" Residential, Commercial - \$41.04  
1" Commercial - \$76.84  
2" Commercial - \$245.86

**Wastewater:**

0 to 2,000 gallons - \$20.46  
All gallons over 2,000 - \$7.00 per 1,000 gallons

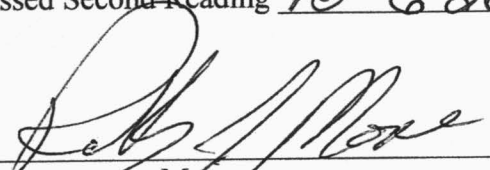
5/8" Residential, Commercial, Industrial-\$20.46  
1" Commercial - \$48.62  
2" Commercial - \$155.58  
1" Industrial - \$48.62  
2" Industrial - \$155.58

Section 3. The above rates shall go into effect November 1<sup>st</sup>, 2020.

Section 4. This ordinance shall become effective upon final passage, the public welfare requiring it.

Passed First Reading 09-01-2020

Passed Second Reading 10-6-2020

  
\_\_\_\_\_  
Mayor

  
\_\_\_\_\_  
Recorder

**Lobelville**  
**Responses to WWFB Questionnaire**

**Section B: Water Utility Information**

1. Yes
2. Yes
  - a. Reference Attachment 1 – Ordinance 20-02. This ordinance established a 4% increase in the base rate for 0 to 2,000 gallons of consumption. Additionally, the incremental rate per 1,000 gallons of consumption were increased and changed to a uniform block rate structure rather than the declining block rate structure that was previously in place. The latest rate study was performed in 2014. The results of that study produced the rates adopted in the ordinance referenced in Item 2b, below.
  - b. Reference Attachment 2 – Ordinance 14-04 & 2014 Rate Study
  - c. We do have differing rate classes for inside city limits versus outside city limits, as well as differing rates for varying meter sizes. Based on historical activity, we feel that the lines outside the city limits have required extra maintenance and well as additional labor hours to read the meters. Differing rates based on meter size is due to the cost associated with larger lines and meters.
3. Yes
  - a. See below
    - i. We are currently in the beginning stages of our budget development for the next fiscal year. As part of this, we will be having discussions to implement annual rate increases consistent with the CPI. Essentially, an annual COLA to cover the additional costs incurred each year as a result of inflation.
    - ii. Across all customer classes
    - iii. No
    - iv. Not discussed at a meeting yet
4. Yes
  - a. Reference Attachment 4 – Resolution 20-03
  - b. Could not locate
  - c. Fees are charged to help offset the direct cost associated with connecting to the system.
5. Yes
  - a. Reference Attachment 7 – Ordinance 16-01
6. No
  - a. Reference Attachment 8 – Notes to Financial Statements regarding Capital Assets. We could not locate a copy of our actual policy as of the date of this response. We will work to get a policy adopted and on file.
7. Reference Attachment 9
8. Yes
  - a. We implemented a rate increase in October 2020 and plan to implement annual rate increases as discussed in Question 3 above. Based on our analysis of the new rates implemented in October 2020, we anticipate additional annual revenues of approximately \$61,000. Ref Attachment 10.
  - b. N/A
9. Mayor and Board of Aldermen
  - a. No
  - b. Reference Attachment 11

- i. Reference Attachment 11
  - ii. Reference Attachment 11
  - iii. Reference Attachment 11
  - iv. Reference Attachment 11
  - v. Reference Attachment 11
  - vi. Yes
  - vii. Reference Attachment 11
- 10. 1,449
  - a. See below
    - i. 1,449
    - ii. 0
    - iii. 1,449
    - iv. 0
    - v. Reference Attachment 12
- 11. 8.01%
- 12. 14.30%
- 13. Yes
  - a. 25 adjustments, totaling \$4,937.14
  - b. Reference Attachment 13
  - c. N/A
- 14. No
  - a. N/A
  - b. N/A
- 15. No
  - a. N/A
  - b. N/A
- 16. No
  - a. N/A
  - b. N/A
- 17. No
  - a. N/A
  - b. They are not made aware on an annual basis. Only made ware if the rates are changed.
- 18. Yes
  - a. Reviewed by the Mayor and Board during the budget process
  - b. N/A
  - c. Currently do not have a plan, however, we recognize the need for one and will be working towards developing a capital asset plan.
- 19. Yes
- 20. Yes
  - a. \$3.86 / 1,000 gals
  - b. N/A
- 21. No
  - a. N/A
  - b. N/A
- 22. No
  - a. N/A
  - b. N/A
- 23. No

- a. N/A
  - b. Though we don't have a formal plan in place, we continuously look for leaks in distribution lines and service lines.
24. No, we are not aware of any
- a. N/A
  - b. N/A
25. The Board of Mayor and Aldermen meet monthly on the first Tuesday of the month at 5:00 pm at City Hall. Notice of the meetings are posted in the lobby of City Hall and published in the local newspaper.

### **Water Attachment List**

1. Ordinance 20-02
2. Ordinance 14-04 & 2014 Rate Study
3. N/A
4. Resolution 20-03
5. Reference response to 4b
6. Reference response to 4c
7. Ordinance 16-01 and attached policy
8. Reference copy of Financial Statement note disclosure and response to 6a
9. Financial Statements for Dec 2020, Jan 2021, Feb 2021
10. Analysis of Rate Increases Implemented in Oct 2020
11. Board information listing and training certificates
12. Totals by Service By Cust Type report and Consumption By Rate report
13. Leak Notification and Leak Adjustment Policy
14. N/A
15. N/A
16. N/A
17. Reference response to 17b
18. Reference response to 18a and 18c
19. N/A
20. N/A
21. N/A
22. Reference response to 23b
23. Reference response to 24

### Section C: Wastewater Utility Information

1. Yes
2. Yes – Reference the response to Question 2 in Water Utility Information and Attachments 1 and 2 in Water Utility Information
3. Yes – Reference the response to Question 3 in Water Utility Information
4. Yes – Reference the response to Question 4 in Water Utility Information and Attachment 4 in Water Utility Information
5. Yes – Reference Attachment 7 in Water Utility Information
6. No – Reference response to Question 6 in Water Utility Information and Attachment 8 in Water Utility Information
7. Reference Attachment 9 in Water Utility Information
8. Yes
  - a. We implemented a rate increase in October 2020 and plan to implement annual rate increases as discussed in Question 3 above. Based on our analysis of the new rates implemented in October 2020, we anticipate additional annual revenues of approximately \$19,000. Ref Attachment 10 in Water Utility Information.
  - b. N/A
9. Reference response to Question 9 in Water Utility Information and Attachment 11 in Water Utility Information
10. 296
  - a. See below
    - i. 296
    - ii. 0
    - iii. 296
    - iv. 0
    - v. Ref Attachment 12 in Water Utility Information
11. 34.86 %
12. 41.90 %
13. Yes
  - a. 5 adjustments, totaling \$3,825.95
  - b. Ref Attachment 13 in Water Utility Information
  - c. N/A
14. No
  - a. N/A
  - b. N/A
15. No
  - a. N/A
  - b. N/A
16. No
  - a. N/A
  - b. N/A
17. No – Reference response to Question 17 in Water Utility Information
18. Yes – Reference response to Question 18 in Water Utility Information
19. Yes
20. Yes
  - a. The city supplies the usage data. There are no other suppliers for our customers.
  - b. N/A

- c. N/A
- 21. No
  - a. N/A
  - b. N/A
- 22. No
  - a. N/A
  - b. N/A
- 23. Yes
  - a. See below
    - i. \$1.55 / thousand gals
    - ii. 113,000 gallons per day capacity
    - iii. 182,000 gallons per day. Over capacity most days due to I&I
- 24. No
  - a. We do not have a written formal plan; however, we acknowledge that we have an I&I issue. We have applied for CDBG grants for the last three years; however, we have not been awarded any to assist with this problem.
- 25. No, we are not aware of any
  - a. N/A
  - b. N/A
- 26. Reference response to Question 25 in Water Utility Information
- 27. Yes
  - a. Ref Attachment 24. Per Article VII of Sewer Ordinance 30, the Wastewater Manager is authorized for inspections. Article VII of Sewer Ordinance 30 addresses penalties.
  - b. N/A

### **Wastewater Attachment List**

1. Reference Attachment 1 in Water Utility Information
2. Reference Attachment 2 in Water Utility Information
3. N/A
4. Ref Attachment 4 in Water Utility Information
5. Reference response to 4
6. Reference response to 4
7. Reference Attachment 7 in Water Utility Information
8. Reference Attachment 8 in Water Utility Information and response to 6
9. Reference Attachment 9 in Water Utility Information
10. Reference Attachment 10 in Water Utility Information
11. Reference Attachment 11 in Water Utility Information
12. Reference Attachment 12 in Water Utility Information
13. Reference Attachment 13 in Water Utility Information
14. N/A
15. N/A
16. N/A
17. Reference response to 17
18. Reference response to 18
19. Reference response to 20



20. N/A
21. Reference response to 23
22. Reference response to 24
23. Reference response to 25
24. Sewer Ordinance 28 1969; Sewer Ordinance 29 1969; Sewer Ordinance 30 1970



JASON E. MUMPOWER  
*Comptroller*

Entity Referred: **Town of Parrottsville**

Referral Reason: **Negative Change in Net Position**

Utility Type Referred: **Sewer**

**Staff Summary:**

In September 2020, the Board ordered the Town to, among other tasks, receive a rate study containing various evaluations by a qualified expert. In April 2021, the Town directed Board staff to speak with Mike Callahan, a civil engineer with CE Designers, Inc., regarding the status of the Town's compliance with the September 2020 order. While Mr. Callahan was familiar with the order due to its length, he indicated that the Town never contracted with him to assist in completing its directives. In any event, Board staff never approved Mr. Callahan as a qualified expert pursuant to the order's requirements. In short, the Town has failed to complete the directives contained in the Board's September 2020 order.

**Staff Recommendation:**

Order the following:

1. By June 11, 2021, the Town shall send Board staff a copy of the contract between the District and the qualified expert who is to perform the tasks in paragraph 1 of the September 2020 order.
2. By November 1, 2021, the Town shall provide Board staff with the completed rate study, and either proof of implementation of the resulting recommendations or a proposed plan of implementation.
3. If the Town fails to comply with the directives of this order or those of the September 18, 2020 order, Staff shall refer this matter to the Tennessee Attorney General for enforcement through chancery court.

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

**IN THE MATTER OF:**

**TOWN OF PARROTTSVILLE**

)  
)  
)  
)  
)  
)  
)

**TENN. CODE ANN. § 68-221-1010  
-FINANCIAL DISTRESS**

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**ORDER**

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On August 27, 2020, the Tennessee Water and Wastewater Financing Board (“the Board”) reviewed the financially distressed status of the Town of Parrottsville (“the Town”) pursuant to Tenn. Code Ann. § 68-221-1010. Board staff informed the Board that the Town does not charge its customers based on usage, but rather charges each customer a flat rate. Although the Town has used a dye test to attempt to determine who is connected to the sewer system, the Town does not have an accurate assessment of its current and potential customers. Member Redwine asked whether there were any utility systems in the area with which the Town could merge, given the Town’s small size and customer base. Staff indicated that the Board could have a qualified expert evaluate the possibility of a merger of the Town with another utility. Therefore, based on Staff’s statements and recommendations and all supporting documentation, the Board hereby orders the following:

1. The Town shall have the Tennessee Association of Utility Districts, or another qualified expert as approved by Board staff, perform a rate study that includes the following:
  - a. creation of a capitalization policy;

- b. a review of the Town's capital asset list, including any recommended modifications;
  - c. creation of a debt management policy;
  - d. a review of the Town's purchasing policy, including any recommended modifications;
  - e. creation of a five-year capital asset budget, to be taken from the current capital asset list and to include future anticipated needs;
  - f. an evaluation to determine the number of customers connected to the sewer system;
  - g. negotiation of a cut-off agreement with the local water provider;
  - h. a justification for charging a flat fee rather than billing by usage, or if no justification is possible, recommendations for an appropriate rate structure;
  - i. a review of connection fees, tap fees and required deposit amounts, including any recommended modifications; and
  - j. an evaluation of the potential of a merger of the Town with another utility system.
2. By October 31, 2020, the Town shall send Board staff a copy of the contract between the Town and the qualified expert who is to perform the tasks in paragraph 1.
  3. By December 31, 2020, the Town shall send Board staff proof that all members of the utility system's governing body have complied with the training requirements set out in Tenn. Code Ann. § 7-34-115(j).

- 4. By February 28, 2021, the Town shall provide Board staff with the completed rate study, and either proof of implementation of the resulting recommendations or a proposed plan of implementation.
- 5. Board staff is given the authority to grant one extension of up to six months of the foregoing deadlines upon a showing of good cause by the Town.

ENTERED this 18th day of September, 2020.

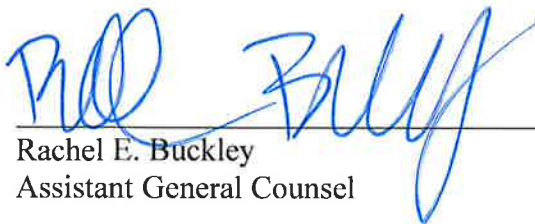


\_\_\_\_\_  
BETSY KNOTTS, Chair  
Water and Wastewater Financing Board

**CERTIFICATE OF SERVICE**

I hereby certify that a copy of the foregoing has been served via U.S. mail to the following on this 18th day of September, 2020:

Mayor Dewayne Daniel  
Ms. Jayne Ragan, City Recorder  
Town of Parrottsville  
P.O. Box 300  
Parrottsville, TN 37843



\_\_\_\_\_  
Rachel E. Buckley  
Assistant General Counsel



JASON E. MUMPOWER  
*Comptroller*

**Entities Referred:**                    **Cities of Sunbright and Wartburg**

**Utility Types:**                    **Water and Sewer**

**Staff Summary:**

Staff Summary to follow.

**Staff Recommendation:**

Staff Recommendation to follow.



JASON E. MUMPOWER  
*Comptroller*

Entity Referred: **City of Watertown**  
Referral Reason: **Negative Change in Net Position**  
Utility Type Referred: **Sewer**

**Staff Summary:**

Watertown received the attached TAUD report in July of 2020. Staff has not received confirmation that the City has implemented the recommendations.

**Staff Recommendation:**

Order the following:

1. By June 30, 2021, the City shall send Board staff proof that is has implemented the recommendations contained in the July 2020 TAUD Report.
2. If the City fails to comply with the directives of this order or those of the September 2019 or November 2020 order, Staff shall refer this matter to the Tennessee Attorney General for enforcement through chancery court.



Tennessee Utility Assistance, LLC  
840 Commercial Court  
Murfreesboro, TN 37129  
Voice (615) 896-9022  
Fax (615) 898-8283

July 2, 2020

*Via email*

Honorable Michael Jennings  
City of Watertown, Tennessee  
8630 Sparta Pike  
Watertown, TN 37184

Re: City of Watertown – Compliance with WWFB Order Dated  
September 30, 2019

Dear Mayor Jennings:

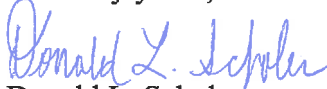
I have enclosed the Report for the City of Watertown prepared by Tennessee Utility Assistance, LLC (TUA) on the directives of the Water and Wastewater Financing Board (WWFB) in its September 30, 2019 Order. You need to email the Report to John Greer at [john.greer@cot.tn.gov](mailto:john.greer@cot.tn.gov) who works with the WWFB.

The recommendations of TUA for compliance with the directives of WWFB's Order are pages 4 and 5 of the Report. The WWFB will be meeting again on August 27, 2020. The City should act on these recommendations as soon as it can do so. You will probably receive a communication from Mr. Greer around the first of August to get an update from you on City's actions or plan of action on these recommendations. If I can answer any questions about the recommendations or how to move forward on the recommendations, please feel free to contact me.

I have enclosed an invoice from TUA for \$3,000 for the Report pursuant to the fee set forth in our engagement letter.

Thank you for allowing TUA to assist you with complying with the WWFB's Order.

Sincerely yours,

  
Donald L. Scholes

Enclosures





Tennessee Utility Assistance, LLC  
840 Commercial Court  
Murfreesboro, TN 37129  
Voice (615) 896-9022  
Fax (615) 898-8283

# **REPORT FOR CITY OF WATERTOWN, TENNESSEE**

## **WATER AND WASTEWATER FINANCING BOARD ORDER DATED SEPTEMBER 30, 2019**

**July 2, 2020**

## INTRODUCTION

### Relevant History of the City's Water and Sewer System and Rates

The City of Watertown, Tennessee ("the City") provides water service to approximately 650 customers and sewer service to approximately 615 customers. Since the City's water and sewer fund had a negative change in net position for its fiscal years ending June 30 of 2016 and 2017, the financial condition of the City's water and sewer fund has improved. This improvement was primarily due to a decrease in interest expense from paying off the debt of the water and sewer fund and a decrease in annual depreciation expenses. As a result, the City's water and sewer fund had a positive change in net position of \$75,189 for its fiscal year ending June 30, 2018, and a positive change in net position of \$35,699 and for its fiscal year ending June 30, 2019.

TUA projects that the City's water and sewer fund will have a positive change in net position of \$4,619 for its current fiscal year ending June 30, 2020.

In 2015, the City entered into a Consent Order and Agreement with the Tennessee Department of Environment and Conservation (TDEC) to resolve enforcement actions in two Director's Order and Assessment cases, WPC14-0120 and WPC15-0030. The Consent Order requires that the City make substantial improvements to its sewer collection system by the end of 2025. The City has contracted with Water Management Services, LLC to design the needed project and to assist it with obtaining the funding the project.

The City has elected to finance the sewer collection system improvements using a loan from the Clean Water State Revolving Fund (SRF). The City completed its loan application for \$2,300,000 with SRF in March of 2020. The City anticipates that its sewer system collection system rehabilitation project will be completed in late 2022.

The City's water rates and sewer rates are the same. The City's current rates for water service and sewer service are as follows:

#### Inside City

|                                       |                          |
|---------------------------------------|--------------------------|
| Minimum bill (includes 2,000 gallons) | \$15.39                  |
| 0 - 2,000 gallons                     | \$4.12 per 1,000 gallons |
| 2,001 - 10,000 gallons                | \$5.64 per 1,000 gallons |
| Over 10,000 gallons                   | \$6.57 per 1,000 gallons |

#### Outside City

|                                       |                          |
|---------------------------------------|--------------------------|
| Minimum bill (includes 2,000 gallons) | \$23.08                  |
| 0 - 2,000 gallons                     | \$6.16 per 1,000 gallons |
| 2,001 - 10,000 gallons                | \$8.46 per 1,000 gallons |
| Over 10,000 gallons                   | \$9.86 per 1,000 gallons |

These rates have been in effect since 2009.

### WWFB Order

The City was referred to the Water and Wastewater Financing Board (WWFB) upon the submission of its audit for its fiscal year ending June 30, 2017, because it met the statutory definition for a financially distressed municipal water and sewer system. The system had a negative change in net position for two consecutive years without regard to any grants or capital contributions for its fiscal years ending June 30, 2016 and June 30, 2017.

On September 30, 2019, the WWFB entered an order directing the City to do the following:

- 1) The City shall have the Tennessee Association of Utility Districts, or another qualified expert as approved by Board staff, perform a rate study to include the following:
  - a. Creation of a capitalization policy;
  - b. A review of the cost of compliance with environmental issues;
  - c. The creation of a five-year capital asset budget to be taken from the current capital asset list and to include future anticipated needs; and
  - d. A review of the leak adjustment policy, including any recommended modifications.
- 2) By October 31, 2019, the City shall send Board staff a copy of the contract between the City and the qualified expert who is to perform the tasks in paragraph 1.
- 3) By December 31, 2019, the City shall send Board staff proof that all members of the utility's governing body have compiled with the training requirements set out in Tenn. Code. Ann. 7-34-115(j).
- 4) By February 28, 2020, the City shall provide Board staff with the completed rate study and either proof of implementation of the resulting recommendations or a proposed plan of implementation.

## **RECOMMENDATIONS**

### **Recommendation #1**

To meet its annual revenue requirements for its fiscal year ending June 30, 2021, TUA recommends that the City make the following rate adjustments effective October 1, 2020.

- (1) The City should eliminate its outside-city water and sewer rate classes. The City only has 13 outside-city water customers. The City only has one outside-city sewer customer. With such a small number of outside-city customers, no cost justification exists to have separate outside-city rate classes.
- (2) The City should increase its minimum water bill and sewer bill by \$0.25 and should increase the usage rate in each rate block by \$0.25 per 1,000 gallons.

### **Recommendation # 2**

Beginning July 1, 2021, the City will need to review existing rates annually to determine whether annual rate increases are needed so the water and sewer fund will continue to have a positive change in net position. The completion of the sewer collection system rehabilitation project in late 2021 will definitely require a rate increase for the fiscal year beginning July 1, 2022, due to the increased depreciation expense and debt costs of the project.

TUA suggests that the adoption of any rate increases to become effective on or after July 1, 2021 should be done annually as a part of the budgetary process each year to ensure that rates recommended later in this Report will continue to produce sufficient revenues to give the water and sewer fund a positive change in net position in future fiscal years.

### **Recommendation # 3**

TUA recommends that the City adopt a resolution to establish a capitalization policy which incorporates the capitalization cost thresholds and service lives the City currently uses for all capital assets except its water and sewer system assets. The City's capitalization policy should adopt the service lives for its water and sewer system using the recommended service lives adopted by the WWFB for municipal water and sewer systems.

Currently, the City uses \$500 as a capitalization threshold. This threshold is low. Capitalizing each asset which cost more than \$500 and depreciating the asset over its useful life requires extra recordkeeping for the City which provides no real benefit to the City. The GFOA recommends that the capitalization threshold for local governments be no less than \$5,000. While a smaller city such as Watertown may not need to have \$5,000 as its capitalization threshold, something greater than \$500 seems warranted.

**Recommendation # 4**

TUA does not recommend any changes to the City's current leak adjustment policy. The City may want to incorporate the leak adjustment policy into an ordinance.

**Recommendation # 5**

TUA was informed that the Mayor and members of the City Council have had no municipal utility official training as mandated by T.C.A. § 7-34-115(j). TUA recommends the members get the required 12 hours of initial training as soon as they can.

## FIVE YEAR CAPITAL ASSET PLAN AND COST OF COMPLIANCE WITH ENVIRONMENTAL ISSUES

The City expects to spend \$2,300,000 during the next five years to rehabilitate of the City's sewer collection system as required by the TDEC Consent Order. Because of this sizeable expenditure, the City desires to limit the capital improvements for the Five-Year Capital Asset Plan to this sewer collection system rehabilitation project. While the City may be entitled to some principal forgiveness on the SRF loan, the amount of any principal forgiveness is unknown at this time. Therefore, the Five Year Capital Asset Plan assumes the City's sewer collection system rehabilitation project will be financed by loan funds only. The City's suggested the Five-Year Capital Asset Plan is attached to this Report as **Exhibit 1**.

## RATE STUDY AND PROPOSED PLAN OF ACTION

To determine whether existing rates will produce sufficient revenues to make the City's water and sewer system self-supporting, TUA first projected a Statement of Revenues and Expenses and Changes in Net Position for the City's water and sewer fund for its current fiscal year ending June 30, 2020. TUA projected the revenues for the system using existing rates. TUA projected operating expenses by reviewing historical information from the five previous years and reviewing expenses for the current fiscal year. The City's water and sewer system has no debt.

Then, TUA projected Statements of Revenues and Expenses and Changes in Net Position for the City's water and sewer fund for its fiscal years ending June 30 of 2021, 2022, 2023, 2024, and 2025. See **Exhibit 2** attached to this Report.

### Revenue Projections:

- Water and sewer sales for the fiscal year ending June 30, 2020, were projected based upon nine months of actual water and sewer sales and plus projected sales for the remaining three months of the fiscal year based upon the previous nine months.
- Since 2015 the City has experienced minimal annual customer growth and does not plan to expand its existing water or sewer system in the near future. Therefore, the water and sewer sales projections for the fiscal years ending June 30<sup>th</sup> of 2021, 2022, 2023, 2024, and 2025 do not include any revenue increases based on annual customer growth.

### Expense Projections:

- Except for depreciation, all operating expenses for the current fiscal year are projected based upon nine months of actual expenses plus estimated expenses for the remaining three months of the fiscal year based upon the previous nine months. Depreciation for the current fiscal year is based upon the City's fixed asset schedule which includes the annual depreciation of capital assets.
- For the remaining fiscal years in the five-year projection, all operating expenses, except depreciation, contracted services and miscellaneous expenses, are increased by 2% annually over the projected amount for the current fiscal year.
- Miscellaneous expense is projected to be \$13,725 for the fiscal year ending June 30, 2021 based upon the average of prior two fiscal years and is then increased by 2% for subsequent years.
- Contracted services expense was projected to be \$85,266 for the fiscal year ending June 30, 2021 based upon the average of prior two fiscal years and was then increased by 2% for subsequent years.
- Annual depreciation expenses are projected based upon the City's existing fixed asset schedule and the useful service lives used on the schedule for depreciation and upon the

new depreciation of the sewer collection system improvements which will be constructed as required by the TDEC Consent Order.

- Interest expenses for the fiscal years ending June 30, 2022, 2023, 2024 and 2025 are projected based on a new State Revolving Fund Loan assuming an interest rate of 1.75% with a life of 20 years. The fiscal year ending June 30, 2022 only includes one six month interest payment.

### Revenue Sufficiency and Rate Modifications Required

Based upon the projected Statements, the City's water and sewer fund will have a positive change in net position for its current fiscal year. However, at current rates the positive change in net position over the last two years and the current fiscal year are on a downward trend.

#### Rate Changes Effective October 1, 2020

Therefore, TUA recommends the City make the following rate modifications effective October 1, 2020:

- (1) The City should eliminate its outside-city water and sewer rate classes. The City only has 13 outside-city water customers which provide only 2.8% of the water revenues of the City. The City only has 1 outside-city sewer customer who provides only 0.26% of the City's sewer revenues. With such a small number of outside-city customers, no cost justification exists to have separate outside-city rate classes. The elimination of the outside-city rates on the City's total water and sewer revenues is immaterial in the establishment of rates for future years.
- (2) The City should increase its minimum water bill and sewer bill by \$0.25 and should increase the usage rate in each rate block by \$0.25 per 1,000 gallons.

These rate changes should produce a positive change in the net position of the City's water and sewer fund for its next fiscal year ending June 30, 2021 of \$5,284.

The City's new rate schedule effective October 1, 2020, will be as follows:

#### Water and Sewer

|                        |                          |
|------------------------|--------------------------|
| Minimum bill           | \$15.64                  |
| 0 – 2,000 gallons      | \$4.37 per 1,000 gallons |
| 2,001 – 10,000 gallons | \$5.89 per 1,000 gallons |
| Over 10,000 gallons    | \$6.82 per 1,000 gallons |



Future Rate Changes Beginning July 1, 2021

The City will have significant expense increases starting with its fiscal year beginning July 1, 2021 due to the depreciation of its sewer collection system rehabilitation project and debt payments on its SRF loan. To continue to meeting its revenue requirements, TUA recommends the following rate changes to become effective at the beginning of each fiscal year, July 1 as shown below:

The City's new rate schedule effective July 1, 2021, will be as follows:

Water and Sewer

|                        |                          |
|------------------------|--------------------------|
| Minimum bill           | \$16.64                  |
| 0 – 2,000 gallons      | \$5.87 per 1,000 gallons |
| 2,001 – 10,000 gallons | \$7.39 per 1,000 gallons |
| Over 10,000 gallons    | \$8.32 per 1,000 gallons |

The City's new rate schedule effective July 1, 2022, will be as follows:

Water and Sewer

|                        |                          |
|------------------------|--------------------------|
| Minimum bill           | \$16.64                  |
| 0 – 2,000 gallons      | \$6.12 per 1,000 gallons |
| 2,001 – 10,000 gallons | \$7.64 per 1,000 gallons |
| Over 10,000 gallons    | \$8.57 per 1,000 gallons |

The City's new rate schedule effective July 1, 2023, will be as follows:

Water and Sewer

|                        |                          |
|------------------------|--------------------------|
| Minimum bill           | \$16.64                  |
| 0 – 2,000 gallons      | \$6.37 per 1,000 gallons |
| 2,001 – 10,000 gallons | \$7.89 per 1,000 gallons |
| Over 10,000 gallons    | \$8.82 per 1,000 gallons |

The City's new rate schedule effective July 1, 2024, will be as follows:

Water and Sewer

|                        |                          |
|------------------------|--------------------------|
| Minimum bill           | \$16.64                  |
| 0 – 2,000 gallons      | \$6.62 per 1,000 gallons |
| 2,001 – 10,000 gallons | \$8.14 per 1,000 gallons |
| Over 10,000 gallons    | \$9.07 per 1,000 gallons |

If the City adopts the rate changes recommended by TUA, the City's water and sewer fund should continue to have a positive change in net position for its fiscal years ending June 30 of 2022, 2023, 2024 and 2025. See **Exhibit 2**.

The rate recommendations for the fiscal years beginning July 1, 2021 are based upon revenue and expense projections which include assumptions which are subject to change. Therefore, the rate recommendations should be reviewed annually as a part of the budgetary process each year to ensure that rates recommended will continue to produce sufficient revenues to give the water and sewer fund a positive change in net position in future fiscal years.

The Water and Sewer Fund – Projected Cash and Investment Schedule is attached as **Exhibit 3**.

## CREATION OF A CAPITALIZATION POLICY

The City was unable to locate a resolution which set for the its City's capitalization policy. The City should adopt a resolution to establish a capitalization policy which incorporates the capitalization cost thresholds and service lives the City currently uses for all capital assets except its water and sewer system assets. The City's capitalization policy should adopt the service lives for its water and sewer system using the recommended service lives adopted by the WWFB for municipal water and sewer systems. TUA prepared a draft of a resolution for the City to adopt to establish a capitalization policy. This draft resolution is attached as **Exhibit 4** to this Report.

Currently, the City uses \$500 as a capitalization threshold. This threshold is low. Capitalizing each asset which cost more than \$500 and depreciating the asset over its useful life requires extra recordkeeping for the City which provides no real benefit to the City. The GFOA recommends that the capitalization threshold for local governments of no less than \$5,000. While a smaller city such as Watertown may not need to have \$5,000 as its capitalization threshold, something greater than \$500 seems warranted.

## REVIEW OF LEAK ADJUSTMENT POLICY

TUA reviewed the City's current leak adjustment policy and discussed with the City any possible changes to the policy. TUA reviewed the leak adjustments for fiscal year ending June 30, 2019, and these leak adjustments were determined to be minimal. TUA believes the current policy is adequate and does not need any revisions. The policy is attached as **Exhibit 5** to this report.

**Watertown, Tennessee - Water & Sewer Fund**  
**Five Year Capital Asset Plan**

|  | <u>Estimated Cost</u> |                  |                  |                  |                  |                  |
|--|-----------------------|------------------|------------------|------------------|------------------|------------------|
|  | <u>6/30/2020</u>      | <u>6/30/2021</u> | <u>6/30/2022</u> | <u>6/30/2023</u> | <u>6/30/2024</u> | <u>6/30/2025</u> |
| Sewer Collection System Rehabilitation/Replace | -                     | -                | 2,300,000        | -                | -                | -                |
| <b>Total</b>                                   | -                     | -                | <b>2,300,000</b> | -                | -                | -                |
| Cumulative Depreciation                        | -                     | -                | 28,750           | 57,500           | 57,500           | 57,500           |
| <b>Total Capital Outlay &amp; Depreciation</b> | -                     | -                | <b>2,328,750</b> | <b>57,500</b>    | <b>57,500</b>    | <b>57,500</b>    |
| <b>Source of Funds</b>                         |                       |                  |                  |                  |                  |                  |
| Loans  | -                     | -                | 2,300,000        | -                | -                | -                |
| Grants   | -                     | -                | -                | -                | -                | -                |
| Cash   | -                     | -                | -                | -                | -                | -                |
| <b>Total Funding Sources</b>                   | -                     | -                | <b>2,300,000</b> | -                | -                | -                |

**Watertown, Tennessee - Projected Statements of Revenues and Expenses and Changes in Net Position**  
**Water & Sewer Fund**

|   | Projected<br>6/30/2020 | Projected<br>6/30/2021 | Projected<br>6/30/2022 | Projected<br>6/30/2023 | Projected<br>6/30/2024 | Projected<br>6/30/2025 |
|---|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| <b>Operating Revenues:</b>                                  |                        |                        |                        |                        |                        |                        |
| Water and Sewer Sales                                       | 521,557                | 521,557                | 521,557                | 521,557                | 521,557                | 521,557                |
| Forfeited Discounts   | 24,380                 | 24,380                 | 24,380                 | 24,380                 | 24,380                 | 24,380                 |
| Reconnection Fees   | 11,933                 | 11,933                 | 11,933                 | 11,933                 | 11,933                 | 11,933                 |
| Tap Fees  | 12,000                 | 12,000                 | 12,000                 | 12,000                 | 12,000                 | 12,000                 |
| Miscellaneous   | (1,255)                | (1,255)                | (1,255)                | (1,255)                | (1,255)                | (1,255)                |
| <b>Total Operating Revenues</b>                             | <b>568,615</b>         | <b>568,615</b>         | <b>568,615</b>         | <b>568,615</b>         | <b>568,615</b>         | <b>568,615</b>         |
| <b>Operating Expenses:</b>                                  |                        |                        |                        |                        |                        |                        |
| Salaries  | 144,819                | 147,715                | 150,670                | 153,683                | 156,757                | 159,892                |
| Payroll Taxes   | 11,079                 | 11,301                 | 11,527                 | 11,757                 | 11,992                 | 12,232                 |
| Employee Insurance  | 24,883                 | 25,381                 | 25,888                 | 26,406                 | 26,934                 | 27,473                 |
| Utilities   | 60,224                 | 61,428                 | 62,657                 | 63,910                 | 65,188                 | 66,492                 |
| Materials and Supplies                                      | 42,055                 | 42,896                 | 43,754                 | 44,629                 | 45,522                 | 46,432                 |
| Repairs and Maintenance                                     | 37,680                 | 38,434                 | 39,202                 | 39,986                 | 40,786                 | 41,602                 |
| Insurance   | 40,000                 | 40,800                 | 41,616                 | 42,448                 | 43,297                 | 44,163                 |
| Contracted Services   | 85,266                 | 85,266                 | 86,971                 | 88,711                 | 90,485                 | 92,295                 |
| Depreciation  | 85,581                 | 85,581                 | 114,331                | 143,081                | 143,081                | 143,081                |
| Office Supplies and Postage                                 | 3,823                  | 3,899                  | 3,977                  | 4,057                  | 4,138                  | 4,221                  |
| Gas and Oil   | 4,180                  | 4,264                  | 4,349                  | 4,436                  | 4,525                  | 4,615                  |
| Landfill Services   | 8,108                  | 8,270                  | 8,436                  | 8,604                  | 8,776                  | 8,952                  |
| Professional Fees   | 3,900                  | 3,978                  | 4,058                  | 4,139                  | 4,221                  | 4,306                  |
| Miscellaneous   | 13,275                 | 13,541                 | 13,811                 | 14,088                 | 14,369                 | 14,657                 |
| <b>Total Operating Expenses</b>                             | <b>564,873</b>         | <b>572,754</b>         | <b>611,247</b>         | <b>649,935</b>         | <b>660,072</b>         | <b>670,412</b>         |
| <b>Operating Income (Loss)</b>                              | <b>3,742</b>           | <b>(4,139)</b>         | <b>(42,632)</b>        | <b>(81,320)</b>        | <b>(91,457)</b>        | <b>(101,797)</b>       |
| <b>Nonoperating Revenues (Expenses)</b>                     |                        |                        |                        |                        |                        |                        |
| Interest Income   | 877                    | 877                    | 877                    | 877                    | 877                    | 877                    |
| Recovery of Bad Debts                                       | -                      | -                      | -                      | -                      | -                      | -                      |
| Interest Expense  | -                      | -                      | (19,738)               | (37,766)               | (36,026)               | (34,256)               |
| <b>Total Nonoperating Revenues (Expenses)</b>               | <b>877</b>             | <b>877</b>             | <b>(18,861)</b>        | <b>(36,889)</b>        | <b>(35,149)</b>        | <b>(33,379)</b>        |
| <b>Change in Net Position before Contributed Capital</b>    | <b>4,619</b>           | <b>(3,262)</b>         | <b>(61,493)</b>        | <b>(118,209)</b>       | <b>(126,606)</b>       | <b>(135,176)</b>       |
| <b>Capital Contributions &amp; Transfers</b>                | <b>-</b>               | <b>-</b>               | <b>-</b>               | <b>-</b>               | <b>-</b>               | <b>-</b>               |
| <b>Change in Net Position</b>                               | <b>4,619</b>           | <b>(3,262)</b>         | <b>(61,493)</b>        | <b>(118,209)</b>       | <b>(126,606)</b>       | <b>(135,176)</b>       |
| <b>Revenue Generated from Suggested Rate Increase</b>       | <b>N/A</b>             | <b>8,546</b>           | <b>67,316</b>          | <b>123,236</b>         | <b>131,782</b>         | <b>140,328</b>         |
| <b>Change in Net Position after Suggested Rate Increase</b> | <b>4,619</b>           | <b>5,284</b>           | <b>5,823</b>           | <b>5,027</b>           | <b>5,176</b>           | <b>5,152</b>           |

**Watertown, Tennessee - Water & Sewer Fund - Projected Cash and Investments Schedule**

|  | <u>Projected<br/>6/30/2020</u> | <u>Projected<br/>6/30/2021</u> | <u>Projected<br/>6/30/2022</u> | <u>Projected<br/>6/30/2023</u> | <u>Projected<br/>6/30/2024</u> | <u>Projected<br/>6/30/2025</u> |
|--|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>Cash &amp; Investments -</b>                |                                |                                |                                |                                |                                |                                |
| <b>Beginning Balance</b>                       | <b>743,188</b>                 | <b>833,388</b>                 | <b>924,253</b>                 | <b>995,955</b>                 | <b>1,045,450</b>               | <b>1,093,354</b>               |
| Sources of Funds                               |                                |                                |                                |                                |                                |                                |
| Water & Sewer Sales **                         | 521,557                        | 530,103                        | 588,873                        | 644,793                        | 653,339                        | 661,885                        |
| Other Revenues                                 | 47,058                         | 47,058                         | 47,058                         | 47,058                         | 47,058                         | 47,058                         |
| Interest Income                                | 877                            | 877                            | 877                            | 877                            | 877                            | 877                            |
| SRF Loan                                       | -                              | -                              | 2,300,000                      | -                              | -                              | -                              |
| <b>Total Sources of Funds</b>                  | <b>569,492</b>                 | <b>578,038</b>                 | <b>2,936,808</b>               | <b>692,728</b>                 | <b>701,274</b>                 | <b>709,820</b>                 |
| Uses of Funds                                  |                                |                                |                                |                                |                                |                                |
| Operating Expenses                             | 564,873                        | 572,754                        | 611,247                        | 649,935                        | 660,072                        | 670,412                        |
| Depreciation                                   | (85,581)                       | (85,581)                       | (114,331)                      | (143,081)                      | (143,081)                      | (143,081)                      |
| Interest Expense                               | -                              | -                              | 19,738                         | 37,766                         | 36,026                         | 34,256                         |
| Principal Payment                              | -                              | -                              | 48,452                         | 98,614                         | 100,353                        | 102,124                        |
| Capital Outlay                                 | -                              | -                              | 2,300,000                      | -                              | -                              | -                              |
| <b>Total Uses of Funds</b>                     | <b>479,292</b>                 | <b>487,173</b>                 | <b>2,865,105</b>               | <b>643,234</b>                 | <b>653,370</b>                 | <b>663,711</b>                 |
| <b>Cash &amp; Investments - Ending Balance</b> | <b>833,388</b>                 | <b>924,253</b>                 | <b>995,955</b>                 | <b>1,045,450</b>               | <b>1,093,354</b>               | <b>1,139,463</b>               |

\*\* Includes revenue from suggested rate increase

NOTE: This synopsis from beginning funds to ending funds does not include accounts receivable, accounts payable, fixed asset or any other adjustments made to the balance sheet. This is a "cash basis" summary.

**RESOLUTION NO. 2020-\_\_\_\_\_**

**A RESOLUTION TO ESTABLISH CAPITALIZATION THRESHOLDS FOR ASSETS TO BE RECORDED AS CAPITAL ASSETS IN THE CITY'S FINANCIAL STATEMENTS**

WHEREAS, the City of Watertown, Tennessee (the City) desires to formally adopt the capitalization thresholds at which its assets have historically been capitalized and recorded as capital assets in the City's financial statements; and

WHEREAS, the City desires to establish appropriate capitalization thresholds and service lives for its water system assets which are consistent with the directives of the Water and Wastewater Financing Board for municipal water systems.

NOW, THEREFORE, BE IT RESOLVED by the Mayor and Board of Aldermen that:

(a) **Capitalization Thresholds.** The capitalization thresholds for the City's assets are a cost of \$ \_\_\_\_\_ and an estimated useful life of one year. Land and Construction in Progress are capitalized but not depreciated. The costs of normal maintenance and repairs that do not add to the value of the asset or materially extend asset lives are not capitalized.

(b) **Asset Cost Basis.** Capital assets shall be recorded at historical cost when the cost is reasonably determinable. If historical cost data is not determinable, an estimated historical cost will be used.

- (1) Actual Cost – This cost will include the purchase or construction cost (which can be obtained through invoice, purchase order, and paid check files) and charges necessary to place the asset into service at its intended location. Such necessary costs may include costs such as freight and transportation, site preparation expenditures, interest costs, professional fees, and legal claims directly attributable to asset acquisition.
- (2) Estimated Cost – This cost will be based on as much documentary evidence as can be found to support the cost, such as interviews with vendors selling such assets engineers, or other personnel and price level adjustments based on the Consumer Price Index for each asset.
- (3) Donated Cost – These assets will be based on their estimated fair market value at time of acquisition. A determination as to the fair market value basis will be included with property records.
- (4) Interest on Debt Issued – Interest on debt issued for the construction of an asset will be capitalized as part of the asset's cost to the extent of the interest that was incurred during the construction period only.

(c) **Depreciation.**

- (1) Depreciation is a method for allocating the cost of capital assets over their useful lives. Generally accepted accounting principles dictate that the value of the capital asset must be written off as an expense over the useful life of the asset.
- (2) Annual depreciation expense will be calculated using the straight-line method.
- (3) When the asset is disposed of, the actual date of disposal is disregarded, and the disposal date is the end of the month prior to the month of disposal (i.e. no depreciation is taken for the month of disposal).
- (4) The salvage value of an asset is an estimate made by management of what the value of an asset will be at the end of its useful life. If the City intends to utilize a capital asset until it is literally worthless, a salvage value of zero (0) will be assigned.

(d) **Useful Lives of Capital Assets**

| <u>Asset Type</u>  | <u>Useful Life in Years</u> |
|--|-----------------------------|
| Land and Easements   | No depreciation             |
| Infrastructure (Other than Water Plant in Service)             | 40 - 50                     |
| Buildings  | 10 - 50                     |
| Furniture and Fixtures   | 5 - 10                      |
| <b>Water Plant in Service and Wastewater Plant in Service:</b> |                             |
| Buildings (Office and Plant)                                   | 30 - 50                     |
| Equipment and Tools  | 10 - 15                     |
| Furniture and Fixtures   | 5 - 10                      |
| Machinery, Equipment and Service Vehicles                      | 5 - 15                      |
| Pumps and Treatment Equipment                                  | 15 - 20                     |
| Transportation Equipment                                       | 5 - 10                      |
| Water Lines and Storage  | 40 - 50                     |
| Well / Dam   | Engineer's Estimate         |

Adopted this \_\_\_\_ day of \_\_\_\_\_, 2020

\_\_\_\_\_  
Mayor

Attest: \_\_\_\_\_  
City Recorder



NEW POLICY FOR ADJUSTMENT OF WATER AND SEWER BILLS

The utility system will take the average of the three previous months from the leak bill. Divide by two and add that amount back to the amount of the average bill of the previous three months.

This can be done once per twelve month period.

On tax relief the water and sewer bill with a leak will be adjusted to normal average monthly bill.

Water and sewer customer needs to provide proof that correctiva means have been taken to repair leak and prevent futher leaks.

EXAMPLE

Leak Bill \$84.99            12,330 Gallons

|   |               |              |
|---|---------------|--------------|
| Step 1: Average of three previos months | 33.94         | 3990 gallons |
|   | 32.96         | 3810 gallons |
|   | 33.45         | 3680 gallons |
|   | <u>101.35</u> |              |

Average \$33.78

Step 2:    84.99  
           -33.78  
           51.21

Step 3:    2  $\overline{)51.21}$   
               4  
               11  
               10  
               12  
               12  
               1

Step 4:    25.60  
           +33.78  
           59.38

\$59.38 is the total after adjustment

Leak was in April of 93 no more adjustments until April of 94.

# Board Discussion