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**IN THE TENNESSEE PUBLIC UTILITY COMMISSION**
**AT NASHVILLE, TENNESSEE**

| | | |
|---|---|---|
| **IN RE:** | ) | |
| | ) | |
| **PETITION OF TENNESSEE-AMERICAN** | ) | |
| **WATER COMPANY REGARDING** | ) | |
| **CHANGES TO THE QUALIFIED** | ) | |
| **INFRASTRUCTURE INVESTMENT** | ) | |
| **PROGRAM RIDER, THE ECONOMIC** | ) | **DOCKET NO. 23-00018** |
| **DEVELOPMENT INVESTMENT RIDER,** | ) | |
| **AND THE SAFETY AND ENVIROMENTAL** | ) | |
| **COMPLIANCE RIDER AND IN SUPPORT** | ) | |
| **OF THE CALCULATION OF THE 2023** | ) | |
| **CAPITAL RECOVERY RIDERS** | ) | |
| **RECONCILIATION** | ) | |

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**DIRECT TESTIMONY OF**

**DAVID N. DITTEMORE**

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May 26, 2023

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## I. <u>Background</u>

**Q1. PLEASE STATE YOUR NAME AND OCCUPATION FOR THE RECORD.**

**A1.** My name is David N. Dittemore. I am a self-employed consultant working in the utility regulatory sector.

**Q2. PLEASE PROVIDE A SUMMARY OF YOUR BACKGROUND AND PROFESSIONAL EXPERIENCE.**

**A2.** I received a Bachelor of Science Degree in Business Administration from the University of Central Missouri in 1982. I am a Certified Public Accountant licensed in Oklahoma (#7562). I was previously employed by the Kansas Corporation Commission ("KCC") in various capacities, including Managing Auditor, Chief Auditor, and Director of the Utilities Division. I was self-employed as a Utility Regulatory Consultant for approximately four years, representing primarily the KCC Staff in regulatory issues. I also participated in proceedings in Georgia and Vermont, evaluating issues involving electricity and telecommunications regulatory matters.

Additionally, during this time frame, I performed a consulting engagement for Kansas Gas Service ("KGS"), my subsequent employer. For eleven years, I served as Manager and subsequently Director of Regulatory Affairs for KGS, the largest natural gas utility in Kansas, serving approximately 625,000 customers. KGS is a division of One Gas, a natural gas utility serving about two million customers in Kansas, Oklahoma, and Texas. I joined the Tennessee Attorney General's Office in September 2017 as a Financial Analyst. In July 2021, I began my consulting practice.

I have been a Board Member of the Financial Research Institute (University of Missouri). I have also been a member of the NARUC Subcommittee on Accounting, the Vice-Chair of the Accounting Committee of the National Association of State of Utility Consumer Advocates ("NASUCA"), and an active participant in NASUCA's Natural Gas and Water Committees.

Overall, I have thirty years of experience in public utility regulation. I have presented testimony as an expert witness on many occasions. Attached as Exhibit DND-1 is a detailed overview of my background.

**Q3. HAVE YOU PREVIOUSLY PROVIDED TESTIMONY BEFORE THE TENNESSEE PUBLIC UTILITY COMMISSION ("TPUC" OR THE "COMMISSION")?**

**A3.** Yes. I have submitted testimony in many TPUC dockets.

**Q4. ON WHOSE BEHALF ARE YOU APPEARING?**

**A4.** I am appearing on behalf of the Consumer Advocate Division of the Tennessee Attorney General's Office ("Consumer Advocate").

## II. Purpose of Testimony

**Q5. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

**A5.** The purpose of my testimony is twofold. First, I am supporting the Consumer Advocate's recommended sur-credit to apply to the Company's Qualified Infrastructure Improvement Program Rider ("QIIP"), its Economic Development Investment Rider ("EDI") and its Safety and Environmental Compliance Rider ("SEC"), collectively referred to as the

TAWC Capital Investment Rider ("CIR"). Secondly, I support a recommendation requiring the Company to provide additional information to the Commission in its annual capital rider filings concerning the main breaks occurring on its system.

## III. Summary of Recommendations

**Q6. WHAT IS THE COMPANY REQUESTING IN THIS PROCEEDING?**

**A6.** The Company has requested a reduction to the collective negative CIR of ($9,694), producing an overall capital rider sur-credit of (.03%).

**Q7. WHAT IS THE RECOMMENDED CAPITAL RIDER REVENUE REQUIREMENT YOU ARE SUPPORTING?**

**A7.** I am supporting a credit reconciliation amount of ($624,061). The calculation supporting this recommendation is attached as Exhibit DND-2. Thus, I am recommending a decrease in rates that is $614,367[1] greater than that requested in the Company's initial filing or a reduction that is $596,577 greater than that reflected in the Company's revised reconciliation amount.[2]

**Q8. WHAT ARE THE INDIVIDUAL AND COMPOSITE OVERALL RIDER SURCHARGE PERCENTAGES YOU ARE SUPPORTING?**

**A8.** Shown below are the individual surcharge rider reconciliation percentages I am supporting:

| | |
|---|---|
| **QIIP** | (.32%) |
| **EDI** | .45% |

[1] The original TAWC proposal was a negative reconciliation amount of ($9,694). Compared with the Consumer Advocate proposal of ($624,061) it produces a difference of ($614,367).

[2] The revised TAWC proposal submitted in response to Consumer Advocate DR No. 1-23 reflects a negative reconciliation amount of ($27,484). Compared with the Consumer Advocate proposal of ($624,061) it produces a difference of ($596,577).

| | |
|---|---|
| **SEC** | (1.90%) |
| **Composite** | (1.77%) |

**Q9. EARLIER, YOU MENTIONED YOU WERE ALSO SUPPORTING ADDITIONAL REPORTING REQUIREMENTS TO BE INCLUDED IN FUTURE CAPITAL RIDER RECONCILIATION FILINGS REGARDING THE COMPANY'S MAIN BREAKS. IDENTIFY THE SPECIFIC INFORMATION YOU ARE RECOMMENDING THE COMMISSION REQUIRE GOING FORWARD.**

**A9.** I recommend the Company provide the following information concerning its main breaks:

a. Identify the number of main breaks occurring in the review period, split between those classified as repairs (charged as an operating expense) and those classified as replacement (recorded as Plant in Service);

b. The year-end main mileage in service, split by material type and by vintage categories identified below;

c. The number of main breaks by material type;

d. The number of main breaks by the vintage of pipe; > 100 years old; > 75 years but < 100 years; > 50 years, but < 75 years; < 50 years old; and

e. Amount spent on repairing and replacing main breaks, respectively.

I will provide the rationale for the additional reporting requirements later in my testimony.

## IV. Exhibits

**Q10. PLEASE IDENTIFY THE EXHIBITS YOU ARE SUPPORTING.**

**A10.** I am supporting the following Exhibits:

| | |
|---|---|
| **DND-1** | Educational Background and Professional Experience |
| **DND-2** | Consumer Advocate Capital Rider Reconciliation Revenue Requirement Proposal |
| **DND-3** | Earnings Test Calculation |
| **DND-4** | Materials and Supplies Adjustment |
| **DND-4.1** | Revenue Requirement Impact of Materials and Supplies Adjustment |

**DND-5** Excess Purchased Power and Chemicals Adjustment
**DND-6** Identification of TAWC Corrections
**DND-7** Capital Structure – Overall Rate of Return Calculation
**DND-8** Calculation of Consumer Advocate Rider Calculations

## V. Explanation of Adjustments

**Q11. PLEASE IDENTIFY THE ADJUSTMENTS YOU ARE SPONSORING.**

**A11.** I am sponsoring four adjustments to the Earnings Test calculation as outlined in Exhibit DND-3. The first adjustment removes the incremental level of Materials and Supplies requested by the Company beyond that level included in the Rate Base in its last general rate proceeding. The second adjustment removes that portion of chemical and purchase power expenses that are in excess of standards established by the Commission. The third adjustment combines three corrections identified by the Company in response to discovery requests issued by the Consumer Advocate. The fourth adjustment increases the Surcharge reconciliation (reduces the surcharge credit) due to using the calculated return on equity carried out to four digits rather than using a truncated authorized rate of return.

**Q12. WHAT IS THE PURPOSE OF THE EARNINGS TEST COMPONENT OF THE CAPITAL RIDER SURCHARGE CALCULATION?**

**A12.** The Earnings Test calculation is a consumer safeguard to ensure the Company does not simultaneously earn more than its authorized return while collecting the full calculated surcharge amount. The Earnings Test limits the collection of a capital rider surcharge to that level of revenue that does not exceed the Company's authorized rate of return. The Company's CIR is limited to that amount, allowing it to earn its authorized rate of return. In theory, the capital rider does not guarantee the Company earns its authorized rate of return. Instead, the Earnings Test ensures that the Company's earnings, including the capital rider surcharge, do not exceed the Commission's authorized earnings level.

**Q13. ARE YOU SPONSORING AN EXHIBIT THAT SETS OUT THE COMPANY'S CALCULATED EXCESS EARNINGS AS WELL AS THE LEVEL OF EXCESS EARNINGS YOU ARE SPONSORING?**

**A13.** Yes.

**Q14. PLEASE BEGIN BY DISCUSSING THE FIRST ADJUSTMENT YOU ARE SUPPORTING.**

**A14.** Adjustment No. 1 reduces Rate Base by $1,093,109 within the Earnings Test calculation, as shown in Exhibit DND-4. The revenue requirement impact of this adjustment is calculated on Exhibit DND-4.1. This adjustment is necessary to eliminate the amount of Materials and Supplies requested by TAWC in excess of that included in Rate Base in its most recent rate case, TRA[3] Docket No. 12-00049.

**Q15. PLEASE DESCRIBE HOW THE COMPANY HAS CALCULATED ITS REQUESTED MATERIALS AND SUPPLIES BALANCE WITHIN THE EARNINGS TEST CALCULATION.**

**A15.** The Company has utilized its 2022 thirteen-month average balance of Materials and Supplies within its overall Working Capital balance and eliminated the portion of Materials and Supplies embedded in the Rate Base underlying current rates.

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[3] The Tennessee Regulatory Authority, or TRA, is the predecessor agency to the TPUC, just as the Tennessee Public Service Commission or TPSC predated the TRA. While the nomenclature has changed, the scope and function of these entities has remained essentially the same.

**Q16. IF THE COMPANY IS UPDATING ITS MATERIALS AND SUPPLIES BALANCE TO 2022 LEVELS, WHY IS THIS OBJECTIONABLE?**

**A16.** The Company is singling out its 2022 balance of Materials and Supplies for unique treatment. Materials and Supplies are a component of the overall Working Capital element included in Rate Base. The remaining Company-claimed Working Capital balances were established in the Company's last base rate case. There is no rationale for treating its Materials and Supplies balance differently than the remainder of its Working Capital components. I have no objection to updating Working Capital balances from its last rate case to 2022 levels. However, the Company should not be permitted to selectively chose which balances it updates and which will continue to be based upon balances from its 2012 rate case.

**Q17. HAVE YOU BEEN ABLE TO DETERMINE THE COMPONENTS OF THE COMPANY'S WORKING CAPITAL BALANCE OF $3,409,884 INCORPORATED IN THE RATE BASE AUTHORIZED BY THE COMMISSION IN TRA DOCKET NO. 12-00049?**

**A17.** Yes. A review of workpapers from the last case provides information sufficient to reconcile the $3,409,884 balance of the Company's Working Capital balance within its Earnings Test calculation. This reconciliation is shown below:

[*Intentionally Blank – Table on Next Page*]

| Line No. | Table 1 | Company |
|---|---|---|
| 1 | Prepaid Expenses & Taxes | 577,696 |
| 2 | Materials & Supplies | 301,364 |
| 3 | Deferred Regulatory Expenses | 1,138,715 |
| 4 | Unamortized Debt Expense | 885,503 |
| 5 | Other Deferred Debits | 31,124 |
| 6 | Incidental Collections | -116,192 |
| 7 | Lead/Lag Study | 369,982 |
| | | |
| | **Company Position** | **3,188,192** |
| | | |
| | | |
| 8 | Effect of including TN income tax | (24,657) |
| 9 | Effect of use CAPD Property Tax amount | 246,349 |
| | | |
| | **Settlement** | **3,409,884** |
| | | |
| A/ | Docket 12-00049, "Working Capital.xlsx" | |

The Materials and Supplies balance included in TRA Docket 12-00049 was $301,364. This is the balance I am supporting within the overall Working Capital balance of $3,409,884 as a Rate Base component within the Earnings Test. The Company supports including all of the Working Capital balances from TRA Docket 12-00049 above, <u>except</u> the balance of Materials and Supplies. The Commission should not allow the Company to mix and match the sources of its Working Capital components within the Earnings Test calculation. If the Company wishes to update Working Capital balances to current levels, it should do so comprehensively and update all Working Capital components.

**Q18. DO YOU HAVE A RECOMMENDATION REGARDING THE PRESENTATION OF WORKING CAPITAL WITHIN THE COMPANY'S ANNUAL EARNINGS TEST?**

**A18.** Yes. I support an update of the Company's Working Capital balance included in the Earnings Test if it is done comprehensively. I recommend that the Commission require the Company to update all components of Working Capital, including its lead-lag study, in the next capital rider reconciliation factor filing. This requirement would allow the Company to earn a return on any components that have increased while ensuring that all aspects of Working Capital were updated uniformly.

**Q19. DESCRIBE ADJUSTMENT NO. 2 AND EXPLAIN WHY THE ADJUSTMENT IS NECESSARY.**

**A19.** Adjustment No. 2 eliminates $497,024 of excess purchased power and chemical costs from the Company's Operating and Maintenance expenses within the Earnings Test calculation. The calculation underlying this adjustment is outlined in Exhibit DND-5. This Exhibit is identical to the one supplied by the Company in TPUC Docket No. 23-00007.[4]

**Q20. DEFINE EXCESS PURCHASED POWER AND CHEMICAL COSTS.**

**A20.** The Commission has established a historic cap on the level of acceptable water losses in the provision of retail water service. The Commission has determined that the costs associated with water losses more than 15% of sales volumes should be absorbed by the Company, not its customers. The costs of water losses up to 15% of those volumes in excess of the Company's sales volumes have been found acceptable by the Commission. The excluded costs vary with the volume of water processed by the Company and include Purchased Power and Chemicals.[5]

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[4] Direct Testimony of Robert C. Lane, File <TAW_EXH_RCL_1_011723.xlsx", Tab "Support Workpaper", TPUC Docket No. 23-00007 (January 17, 2023).

[5] The Commission has historically applied the excess loss calculation to the expense categories of Purchased Power and Chemicals, and the proposed adjustment is limited to these two expense categories. However, it would also seem that Purchased Water and Waste Disposal costs would vary by the quantity of processed water. Whether Purchased Water and Waste Disposal costs should also be subject to the excess water calculation is one that may be investigated in the future.

**Q21. WHAT WAS THE ACTUAL UNACCOUNTED-FOR WATER PERCENTAGE DURING THE 2021 PERIOD?**

**A21.** The data I am using comes directly from the Company's information provided in TPUC Docket No. 23-00007, the Production Costs and Other Pass-Throughs Rider (PCOP) and covers the twelve months ending November 30, 2022.[6] The unaccounted-for water percentage was 26%, as outlined in Exhibit DND-5.

**Q22. HOW WAS THE ADJUSTMENT CALCULATED?**

**A22.** The system-delivered volumes were compared with the sales volumes, which indicated that non-revenue volumes were 26% greater than sales volumes. The difference between the actual non-revenue volumes of 26% and the allowed non-revenue volumes of 15% produces an excess water loss percentage of 11%. The inverse of this percentage, 89%, is then applied to the Company's actual Purchased Power and Chemical costs of $2,675,049 and $1,830,267, respectively, to determine the variable costs associated with the level of water loss that is permitted for recovery. The difference between the actual costs and those permissible under the 15% water loss cap produces excess water expenses of $497,024. The after-tax impact of this adjustment on the Earnings Test Operating Income is $367,127.

**Q23. DISCUSS THE IMPLICATIONS OF HAVING THE ADJUSTMENT CALCULATED BASED ON NON-CALENDAR YEAR DATA AND RELYING UPON COMPUTATIONS SUPPLIED IN THE COMPANY'S ANNUAL PCOP DOCKET.**

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[6] Direct Testimony of Robert C. Lane, File <TAW_EXH_RCL_1_011723.xlsx", Tab "Support Workpaper", TPUC Docket No. 23-00007 (January 17, 2023).

**A23.** The adjustment was taken directly from the Company's TPUC Docket No. 23-00007 data. The adjustment uses water loss and expense data for the twelve months ending November 30, 2022, and incorporates the adjustment into the calendar-year Earnings Test calculation. I do not believe using actual calendar year data would produce a materially different result. Further, this adjustment has the benefit of using the same data used and presented in the Company's PCOP docket; thus, consistency is maintained between the two dockets.

**Q24. IS IT NECESSARY TO INCORPORATE THIS ADJUSTMENT INTO THE EARNINGS TEST OF THE COMPANY BECAUSE THE PCOP DOCKET INCORPORATES THE UNACCOUNTED-FOR WATER LOSS PERCENTAGE WITHIN THOSE CALCULATIONS?**

**A24.** Yes. The excess Purchased Power and Chemical costs are contained in the total company expenses within the Earnings Test adjustment. Therefore, these costs would be effectively recovered by the Company absent the adjustment to eliminate such costs from the Earnings Test.

**Q25. HAS THE COMMISSION PREVIOUSLY ADDRESSED THE REGULATORY TREATMENT OF UNACCOUNTED-FOR WATER?**

**A25.** Yes. The Commission has addressed the appropriate water loss percentage in at least two Tennessee American Water Company proceedings. In its order in TRA Docket No. 08-00039, the Commission addressed the excessive water loss as follows:

> *Recognizing the importance of conserving water, which is one of the state's most valuable natural resources, the panel established a baseline efficiency*

*standard. Based on the evidence presented, the panel limited the unaccounted-for water percentage to fifteen percent.*[7]

The Commission also addressed excessive water loss in its order in TRA Docket No. 10-00189. This order states in the pertinent part:

*The Company's water loss increased from the 20.43% level requested in its last rate case (the twelve months ended March 2008) to 22.7% requested in this case. In its testimony, the Company stated it delayed part of its scheduled investment due to poor earnings. However, the Company included additional plant investment in this rate case. With the additional investment in the plant, it is reasonable to expect a decrease in water loss from current levels. The Authority determined that the baseline water loss percentage of 15% for TAWC, the same percentage established in the 2008 rate case, remains viable, and TAWC should continue to strive to meet this goal. Also, the Authority agreed with the evidence put forth by the CRMA, and supported by the CAPD that a 15% water loss was reasonable.*[8]

**Q26. PLEASE CONTINUE WITH AN EXPLANATION OF YOUR THIRD ADJUSTMENT TO THE COMPANY'S EARNINGS TEST.**

**A26.** The third adjustment I'm sponsoring combines three corrections identified by TAWC in responses to the Consumer Advocate's discovery requests. These adjustments are reflected in Exhibit DND-6 and total $17,126. First, in its response to Consumer Advocate DR No. 1-15, TAWC indicated it relied upon 2021 data rather than 2022 data for adjusting ADIT balances for excluded operating expense items. This portion of the adjustment increases the earning test excess of $729. The next adjustment eliminates the revenue requirement impact from the capitalized Annual Performance Plan (APP). This adjustment increases the revenue requirement to an excess of $5,464. These costs have been excluded from the calculation of the capital rider consistent with their treatment in TRA Docket No. 12-

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7 *Order*, p. 15, TRA Docket No. 08-00039 (January 13, 2009) (Exhibit DND-9).
8 *Final order*, p. 67, TRA Docket No. 10-00189 (April 27, 2012) (Exhibit DND-10).

00049. An adjustment to the APP portion of the reconciliation rider is also necessary, as explained by the Company in its response to Consumer Advocate DR No. 1-23. The reconciliation rider adjustment is $10,933 and is reflected on Exhibit DND-2, line 27.

**Q27. PLEASE ADDRESS YOUR FOURTH ADJUSTMENT TO THE EARNINGS TEST.**

**A27.** The fourth adjustment reduces excess earnings calculation by $15,021. The adjustment applies the actual authorized rate of return rather than the mathematically truncated rate of return of 7.23%. I have set forth the calculated rate of return applying the nominal capitalization values contained in the Commission's order in TRA Docket 12-00049 as reflected in Exhibit DND-7. Simply put, carrying out the overall rate of return beyond two decimal places (in percentage format) makes a material difference in calculating the authorized rate of return. The Company's Earnings Test calculation was based upon the truncated hard-coded overall rate of return of 7.23%. The expanded return is 7.2345%. The application of this return increases the authorized return, producing a reduction in the overall excess return.

**Q28. IS THERE AN INTEREST COMPONENT THAT APPLIES TO THE ADJUSTMENTS YOU ARE SPONSORING IN TESTIMONY?**

**A28.** Yes. The interest component of the Capital Rider reconciliation applies one-half of a year's interest to the total reconciliation amount at the annual rate of 7.75%. The resulting interest applied to the adjusted reconciliation amount supported by the Consumer Advocate is $23,280, or $22,219 more than contained in the original TAWC reconciliation request. This calculation is shown on line 31 of Exhibit DND-2.

**Q29. HAVE YOU COMPUTED THE INDIVIDUAL SURCHARGES THAT WOULD BE IMPLEMENTED UNDER YOUR PROPOSAL?**

**A29.** Yes. I have calculated the surcharges based upon my adjustments on Exhibit DND-8. As shown on line 10, my recommended total surcharge credit is (1.77%).

## VI. <u>Reporting Recommendations</u>

**Q30. PLEASE TURN TO YOUR RECOMMENDATION THAT EXPANDS THE REPORTING REQUIREMENT OF TAWC IN FUTURE CAPITAL RIDER FILINGS. DISCUSS WHAT PROMPTED YOU TO EXPAND THE COMPANY'S CAPITAL RIDER REPORTING REQUIREMENTS.**

**A30.** In its DR No. 1-8, the Consumer Advocate sought to determine the extent and impact of main breaks on the Company's operations by requesting the number of main breaks, the associated material type, and the age of the affected main. Table 2 below summarizes the results of the response to Consumer Advocate DR No. 1-8.

**Table 2**
**Main Break Analysis by Material Type and Vintage**

| | | | | | Age in Years | | | |
|---|---|---|---|---|---|---|---|---|
| **Main Breaks-Material Type** | **# of Breaks** | **Repair** | **Replace** | | **>100** | **>75<100** | **>50<75** | **<50** |
| Cast Iron | 135 | 24 | 111 | | 8 | 40 | 40 | 47 |
| DICL | 18 | 6 | 12 | | 0 | 1 | 2 | 15 |
| Galvanized | 58 | 12 | 46 | | 5 | 30 | 9 | 14 |
| HDPE | 4 | 3 | 1 | | 0 | 0 | 2 | 2 |
| PVC | 17 | 0 | 17 | | 0 | 0 | 13 | 4 |
| Steel | 3 | 3 | 0 | | 0 | 0 | 0 | 3 |
| Total | 235 | 48 | 187 | | 13 | 71 | 66 | 85 |

**Source: Response to Consumer Advocate Discovery Response No. 8**

**Q31. PLEASE DISCUSS THE DATA PROVIDED IN THE COMPANY'S RESPONSE TO THE CONSUMER ADVOCATE DR NO. 1-8.**

**A31.** The number of main breaks is a concern. Main breaks result in significant expenditures of capital to repair or replace. As noted above, approximately 80% of the 235 main breaks resulted in pipe replacement, with the remaining 20% resulting in a repair charged as an operating expense. Table 2 also identifies the vintage of the replaced pipe. Of note, thirteen main breaks involved pipes over one hundred years old, while 71 breaks, approximately 30% of the total, involved pipes between 75 and one hundred years old.

**Q32. ARE YOU CONCERNED WITH THE NUMBER OF MAIN BREAKS OCCURRING WITHIN THE TAWC SYSTEM?**

**A32.** Yes. Of course, main breaks are inevitable. The question becomes, what is a reasonable level of main breaks?

**Q33. WHAT IS THE IMPLICATION ON THE COMPANY'S OPERATIONS FROM A FINANCIAL STANDPOINT?**

**A33.** The Consumer Advocate issued DR No. 1-8(b) to determine the cost of the 235 main breaks. As outlined in this response, the Company has spent $395,894 on O&M costs and $2,150,845 in costs that were capitalized to Plant in Service. Customers bear the costs of these repairs and replacements. The additional plant in service is included in the Capital Rider reconciliation, and the additional O&M costs reduce the excess earnings routinely incurred by the Company, resulting in a reduction in the credit that otherwise would flow to ratepayers.

**Q34. DO YOU HAVE A SECONDARY CONCERN WITH THE REPAIR/REPLACEMENT OF MAIN BREAKS?**

**A34.** Yes. The costs incurred to repair/replace older pipes will need to be duplicated in the future. In some instances, that could be the very near future. Information obtained in the Company's response to Consumer Advocate DR No. 1-8 indicates that the length of pipe replacements associated with main breaks are in the range of 2 – 12 feet, with the average replacement length of approximately 4.5 feet. These short replacements do nothing to extend the life of the surrounding pipe and do not reduce future costs when the adjacent pipe is replaced. The entire pipe segment, including the recently replaced pipe, will be removed when the adjacent pipe is replaced. The previous costs incurred to replace the small footage of main will not have any value and will be retired well before its actual useful life has expired. The premature retirement of the recently installed small pipe segment will also increase future depreciation rates. The expectation is that the costs incurred in replacing newer vintage pipes may not need to be replaced for many years. However, I would expect the costs incurred to repair or replace pipe over 75 years to have a fairly short life, and that is certainly the case for pipe over 100 years old.

The retirement of the recently installed main does not reduce Rate Base. Utility accounting requires that retirements be recorded as a reduction to Plant in Service and a reduction to Accumulated Depreciation. These entries offset each other in the computation of Rate Base.

**Q35. ARE YOU AWARE OF ANY REGULATORY FILINGS OF TAWC AFFILIATES THAT SUGGEST CERTAIN PIPE MATERIALS ARE MORE PRONE TO BREAKAGE THAN OTHERS?**

**A35.** Yes. Attached as Exhibit DND-11 is the testimony of Krista Citron, testifying on behalf of Kentucky American Water Company in Kentucky Public Service Commission Case 2023-00030. Ms. Citron states as follows:

> **"***Review of the reported breaks from January 2012 to December 2016 indicated that main breaks on cast iron and galvanized mains represented 64% of all breaks. Since case iron main (lined and unlined) and galvanized material only represents 15.9% of the total inventory of mains in the ground, the break rate on these types of material is significantly higher than the other material in the system."*[9]

**Q36. WHAT REPORTING REQUIREMENTS ARE YOU RECOMMENDING?**

**A36.** I'm recommending the Company be required to submit the following information as part of its annual capital rider filing:

a. Identify the number of main breaks occurring in the review period, split between those classified as repairs (charged as an operating expense) and those classified as a replacement (recorded as Plant in Service);

b. The year-end main mileage in service, split by material type and by vintage categories identified below;

c. The number of main breaks by material type;

d. The number of main breaks by the vintage of pipe; > 100 years old; > 75 years but < 100 years; > 50 years, but < 75 years; < 50 years old; and

e. Amount spent on repairing and replacing main breaks, respectively.

**Q37. ARE YOU IMPLYING THAT THE COMPANY IS NOT ADEQUATELY CONSIDERING THE REQUESTED INFORMATION WHEN ESTABLISHING ITS ANNUAL PLANS FOR SCHEDULED MAIN REPLACEMENTS?**

**A37.** No, not at all. I strongly suspect the Company considers its pipe's material type, condition, and age when establishing its scheduled main replacement program. However, at the same time, I believe additional information regarding main breaks would be helpful to ensure all

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[9] Direct Testimony of Krista Citron at 4:23 – 5:4, Case No. 2023-00030 (March 1, 2023).

stakeholders understand the characteristics of the TAWC system. The costs to replace and repair aging infrastructure are significant and warrant this additional information as part of the annual filing. The requested information should be readily available and not represent a significant additional burden to the Company.

**Q38. DOES THIS CONCLUDE YOUR TESTIMONY?**

**A38.** Yes. However, I reserve the right to supplement my testimony if additional information becomes available.

**IN THE TENNESSEE PUBLIC UTILITY COMMISSION**
**AT NASHVILLE, TENNESSEE**

| | | |
|---|---|---|
| **IN RE:** | ) | |
| | ) | |
| **PETITION OF TENNESSEE-AMERICAN WATER COMPANY REGARDING CHANGES TO THE QUALIFIED INFRASTRUCTURE INVESTMENT PROGRAM RIDER, THE ECONOMIC DEVELOPMENT INVESTMENT RIDER, AND THE SAFETY AND ENVIROMENTAL COMPLIANCE RIDER AND IN SUPPORT OF THE CALCULATION OF THE 2023 CAPITAL RECOVERY RIDERS RECONCILIATION** | ) | **DOCKET NO. 23-00018** |

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**AFFIDAVIT**

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I, David Dittemore on behalf of the Consumer Advocate Division of the Attorney General's Office hereby certify that the attached Testimony represents my opinion in the above-referenced case and the opinion of the Consumer Advocate Division.

David N. Dittemore
**DAVID N. DITTEMORE**

Sworn to and subscribed before me

This 26th day of May, 2023.

TERRA ALLEN STATE OF TENNESSEE NOTARY PUBLIC HICKMAN COUNTY My Commission Expires JAN. 31, 2027

Terra Allen
NOTARY PUBLIC

My Commission Expires: January 31, 2027

**Exhibit DND-1**

**David Dittemore**

## Experience

**Areas of Specialization**
Approximately thirty-years experience in evaluating and preparing regulatory analysis, including revenue requirements, mergers and acquisitions, utility accounting and finance issues and public policy aspects of utility regulation. Presented testimony on behalf of my employers and clients in natural gas, electric, telecommunication and transportation matters covering a variety of issues.

Self-Employed; **Consultant July 1 - Current**; Responsible for providing evaluation of utility ratemaking issues on behalf of clients. Prepare analysis and expert witness testimony.

Tennessee Attorney General's Office; **Financial Analyst September, 2017 – June 2021;** Responsible for evaluation of utility proposals on behalf of the Attorney General's office including water, wastewater and natural gas utility filings. Prepare analysis and expert witness testimony documenting findings and recommendations.

Kansas Gas Service; **Director Regulatory Affairs 2014 - 2017; Manager Regulatory Affairs, 2007 - 2014**
Responsible for directing the regulatory activity of Kansas Gas Service (KOS), a division of ONE Gas, serving approximately 625,000 customers throughout central and eastern Kansas. In this capacity I have formulated strategic regulatory objectives for KOS, formulated strategic legislative options for KOS and led a Kansas inter-utility task force to discuss those options, participated in ONE Gas financial planning meetings, hired and trained new employees and provided recommendations on operational procedures designed to reduce regulatory risk. Responsible for the overall management and processing of base rate cases (2012 and 2016). I also played an active role, including leading negotiations on behalf of ONE Gas in its Separation application from its former parent, ONEOK, before the Kansas Corporation Commission. I have monitored regulatory earnings, and continually determine potential ratemaking outcomes in the event of a rate case filing. I ensure that all required regulatory filings, including surcharges are submitted on a timely and accurate basis, I also am responsible for monitoring all electric utility rate filings to evaluate competitive impacts from rate design proposals.

Strategic Regulatory Solutions; 2003 -2007
**Principal;** Serving clients regarding revenue requirement and regulatory policy issues in the natural gas, electric and telecommunication sectors

Williams Energy Marketing and Trading; 2000-2003
**Manager Regulatory Affairs;** Monitored and researched a variety of state and federal electric regulatory issues. Participated in due diligence efforts in targeting investor owned electric utilities for full requirement power contracts. Researched key state and federal rules to identify potential advantages/disadvantages of entering a given market.

MCI WorldCom; 1999 - 2000

**Manager, Wholesale Billing Resolution;** Manage a group of professionals responsible for resolving Wholesale Billing Disputes greater than $SOK. During my tenure, completed disputes increased by over 100%, rising to $1 50M per year.

Kansas Corporation Commission; 1984- 1999

**Utilities Division Director** - 1997 - 1999; Responsible for managing employees with the goal of providing timely, quality recommendations to the Commission covering all aspects of natural gas, telecommunications and electric utility regulation; respond to legislative inquiries as requested; sponsor expert witness testimony before the Commission on selected key regulatory issues; provide testimony before the Kansas legislature on behalf of the KCC regarding proposed utility legislation; manage a budget in excess of $2 Million; recruit professional staff; monitor trends, current issues and new legislation in all three major industries; address personnel issues as necessary to ensure that the goals of the agency are being met; negotiate and reach agreement where possible with utility personnel on major issues pending before the Commission including mergers and acquisitions; consult with attorneys on a daily basis to ensure that Utilities Division objectives are being met.

**Asst. Division Director** - 1996 - 1997; Perform duties as assigned by Division Director.

**Chief of Accounting** 1990 - 1995; Responsible for the direct supervision of9 employees within the accounting section; areas of responsibility included providing expert witness testimony on a variety of revenue requirement topics; hired and provided hands-on training for new employees; coordinated and managed consulting contracts on major staff projects such as merger requests and rate increase proposals;

**Managing Regulatory Auditor, Senior Auditor, Regulatory Auditor** 1984 - 1990; Performed audits and analysis as directed; provided expert witness testimony on numerous occasions before the KCC; trained and directed less experienced auditors on-site during regulatory reviews.

Amoco Production Company 1982 - 1984

**Accountant** Responsible for revenue reporting and royalty payments for natural gas liquids at several large processing plants.

**Education**

- B.S.B.A. (Accounting) Central Missouri State University
- Passed CPA exam; (Oklahoma certificate # 7562) - Not a license to practice

**Tennessee American Water Company**
**Docket No. 23-00018**
**Capital Rider Reconciliation**
**12/31/2022**
**Summary of Consumer Advocate Proposal**

**Exhibit DND-2**

| Line Number | Description | TAWC Total Average YTD 12/31/21 | CA Adjustments | CA Proposed Total Average YTD 12/31/21 |
|---|---|---|---|---|
| 1 | Additions Subject to Rider: | $140,063,354 | | $140,063,354 |
| 2 | Plus: Cost of Removal less Salvage | 22,951,282 | | $22,951,282 |
| 3 | Less: Contributions in Aid to Construction (CIAC) | 2,588,454 | | $2,588,454 |
| 4 | Less: Deferred Income Taxes | 15,737,307 | | $15,737,307 |
| 5 | Less: Accumulated Depreciation | 13,421,900 | | $13,421,900 |
| 6 | Net Investment Supplied Additions: | $131,266,975 | | $131,266,975 |
| 7 | | | | |
| 8 | Pre-Tax Authorized Rate of Return: | 8.45% | | 8.45% |
| 9 | Pre-Tax Return on Additions: | $11,093,966 | | $11,093,966 |
| 10 | | | | |
| 11 | Depreciation Expense on Additions: | 3,723,517 | | $3,723,517 |
| 12 | | | | |
| 13 | Property and Franchise Taxes Associated: | 1,769,250 | | $1,769,250 |
| 14 | | | | |
| 15 | Revenues: | 16,586,732 | | $16,586,732 |
| 16 | | | | |
| 17 | Revenue Taxes | 3.19% | | 3.19% |
| 18 | Capital Riders Revenues with Revenue Taxes | 17,133,461 | | $17,133,461 |
| 19 | | | | |
| 20 | APP Revenue Reduction | (35,063) | | ($35,063) |
| 21 | | | | |
| 22 | Total Capital Riders Revenues with Revenue Taxes | $17,098,398 | | $17,098,398 |
| 23 | | | | |
| 24 | | | | |
| 25 | Actual Capital Riders Revenues Billed | $ 15,040,591 | | $15,040,591 |
| 26 | | | | |
| 27 | (Over)/Under Capital Riders Revenue Billings | 1,964,705 | (10,933) | 1,953,772 |
| 28 | Budget to Actual Adjustment | 93,102 | | 93,102 |
| 29 | 2021 Reconciliation Amount | (892,000) | | ($892,000) |
| 30 | Earnings Test Adjustment | (1,175,140) | (580,515) | ($1,755,655) |
| 31 | Interest (Prime - 7.75%) | (361) | (22,919) | ($23,280) |
| 32 | Reconciliation Amount | (9,694) | (614,367) | ($624,061) |
| 33 | | | | |
| 34 | Authorized Capital Riders Revenues (9/12th) | $ 35,305,293 | | $35,305,293 |
| 35 | | | | |
| 36 | TAWC Proposed Reconciliation Factor | -0.03% | | -1.77% |

**Tennessee American Water Company**
**Capital Rider Reconciliation**
**Docket No. 23-00018**
**Consumer Advocate Adjustments to Earnings Test**
**12/31/2022**

**Exhibit DND-3**

| Line # | | TAWC Earnings Test Calculations 13Mth Average | To Eliminate Actual Materials and Supplies Adj No. 1 | To Remove Excess Production Costs > 15% Treatment Adj No. 2 | To Correct for Capitalized Incentive Compensation Adj No 3 | To Correct Rate of Return Calculation For Rounding Adj No. 4 | TAWC Pro-Forma |
|---|---|---|---|---|---|---|---|
| 1 | Additions: | | | | | | |
| 2 | Plant in Service | $423,305,654 | | | | | $423,305,654 |
| 3 | Plant Under Construction | 7,761,889 | | | | | $7,761,889 |
| 4 | Property Held For Future Use | 0 | | | | | $0 |
| 5 | Materials and Supplies | 1,093,109 | (1,093,109) | | | | $0 |
| 6 | Other Additions: | | | | | | $0 |
| 7 | Leased Utility Plant | 0 | | | | | $0 |
| 8 | Unamortized Painting - net | 0 | | | | | $0 |
| 9 | Working Capital C/ | 3,409,884 | | | | | $3,409,884 |
| 10 | | | | | | | |
| 11 | Total Additions | $435,570,536 | ($1,093,109) | $0 | $0 | $0 | $434,477,427 |
| 12 | | | | | | | |
| 13 | | | | | | | |
| 14 | Deductions: | | | | | | |
| 15 | Accumulated Depreciaton and Amortization | 106,556,928 | | | | | $106,556,928 |
| 16 | Accumulated Deferred Income Taxes | 51,225,494 | | | | | $51,225,494 |
| 17 | Unamortized Investment Credit - Pre 1971 | 0 | | | | | $0 |
| 18 | Customer Deposits | 0 | | | | | $0 |
| 19 | Other Deductions: | 0 | | | | | $0 |
| 20 | Contributions in Aid of Construction | 19,118,913 | | | | | $19,118,913 |
| 21 | Customer Advances for Construction | 8,167,361 | | | | | $8,167,361 |
| 22 | All Other | 1,620,519 | | | | | $1,620,519 |
| 23 | Jasper Highlands Reg. Liab. | 808,892 | | | | | $808,892 |
| 24 | | | | | | | |
| 25 | | | | | | | |
| 26 | Total Deductions | $187,498,108 | $0 | $0 | $0 | $0 | $187,498,108 |
| 27 | | | | | | | |
| 28 | Rate Base | $248,072,428 | ($1,093,109) | $0 | $0 | $0 | $246,979,319 |
| 29 | | Total | | | | | |
| 30 | Net Operating Income | $17,425,761 | $ (10,842) A/ | $ 367,127 B/ | $ 4,574 C/ | | $17,786,621 |
| 31 | Adjustments to NOI: | | | | | | |
| 32 | Allowance for funds used during construction | 226,927 | | | | | $226,927 |
| 33 | Adjustment to reflect effective federal | 0 | | | | | $0 |
| 34 | Income tax rate (debt assigned to parent) | 383,998 | | | | | $383,998 |
| 35 | Interest on customer deposits | 0 | | | | | $0 |
| 36 | Incentive Compensation | 685,173 | | | | | $685,173 |
| 37 | Lobbying Expenses | 65,283 | | | | | $65,283 |
| 38 | Lobbying - Salary | 16,512 | | | | | $16,512 |
| 39 | Labor - Non-recurring | 0 | | | | | $0 |
| 40 | Legal - Main Break | 0 | | | | | $0 |
| 41 | Adjusted Net Operating Income | $18,803,654 | ($10,842) | $ 367,127 | $4,574 | | $19,164,514 |
| 42 | Rate of return B/ | 7.58% | | | | | 7.76% |

**Tennessee American Water Company**
**Capital Rider Reconciliation**
**Docket No. 23-00018**
**Consumer Advocate Adjustments to Earnings Test**
**12/31/2022**

**Exhibit DND-3**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 43 | Rate of Return - 2022 | 7.58% | | | | | 7.76% |
| 44 | Authorized Rate of Return | 7.23% | | | | | 7.234492% |
| 45 | Authorized Adjusted Net Operating Income | $ 17,935,637 | ($79,032) | | | $ 11,094 | $ 17,867,699 |
| 46 | Actual 2021 Adjusted Net Operating Income | $ 18,803,654 | | | | | $19,164,514 |
| 47 | Above or (Below) Earnings | $ 868,017 | | | | | $ 1,296,814 |
| 48 | Gross-up Income Tax Rate/Tax Gross-up Values | 1.35382 | ($24,127) | $ 129,897 | $1,619 | $ 3,925 | 1.35382 |
| 49 | Revenue Requirement - Excess | $ 1,175,140 | $92,317 | $ 497,024 | $ 6,193 | $ (15,020) | $ 1,755,655 |

**Effective Tax Rate**

| | | |
|---|---|---|
| 50 | Tennessee Excise Tax Rate | 6.50% |
| 51 | Federal Income Subject to Tax | 93.50% |
| 52 | Federal Tax Rate | 21% |
| 53 | Effective Federal Tax Rate | 19.635% |
| 54 | Plus: Tennessee Exise Tax Rate | 6.50% |
| 55 | Effective Composite Rate | 26.135% |
| 56 | Reciprocal of Composite Tax Rate | 73.865% |
| 57 | Tax Gross-Up Factor | 1.35382 |

A/ Reflects Income tax expense impact from interest synchronization on Rate Base Adjustment.

B/ Reflects net of tax impact on Operating Income.

C/ See Exhibit 3. Reflects the net of tax difference between the Company's original earnings earnings test results and the revised results as reflected in response to Consumer Advocate response 1-23 (Attachment 1).

This adjustment incorporates two minor corrections noted by TAWC in response 1-15 and 1-23.

**Tennessee American Water Company**
**Capital Rider Reconciliation**
**Docket No. 23-00018**
**Consumer Advocate Adjustment No. 3 to Earnings Tst**
**12/31/2022**

**Exhibit DND-4**

| Line No. | | | | |
|---|---|---|---|---|
| | | **Materials and Supplies Requested by TAWC** | | |
| 1 | | Adjustment to Materials and Supplies | 1,093,109 | A/ |
| 2 | | Legacy Materials and Supplies | 301,364 | See below |
| 3 | | Total Materials and Supplies Requested by TAWC | 1,394,473 | B/ |
| 4 | | CA Recommendation - Use Legacy Balance | -301,364 | |
| 5 | | Adjustment to Rate Base within the Earnings Test | 1,093,109 | |
| | A/ | Petitioner's Exhibit - Earnings Test Materials and Supplies 13-Month Average, Line 5 | | |
| | | Sum of Petitioners Adjustment to Materials and Supplies and M&S Portion of Legacy Balance | | |
| | B/ | The TAWC Proposed M&S Balance reflects its 2022 13-Month Average Balance | | |

| | | Working Capital Components from 12-00049 | | |
|---|---|---|---|---|
| | | | **Company** | |
| 6 | | Prepaid Expenses & Taxes | 577,696 | C/ |
| 7 | | Materials & Supplies | 301,364 | C/ |
| 8 | | Deferred Regulatory Expenses | 1,138,715 | C/ |
| 9 | | Unamortized Debt Expense | 885,503 | C/ |
| 10 | | Other Deferred Debits | 31,124 | C/ |
| 11 | | Incidental Collections | -116,192 | C/ |
| 12 | | Lead/Lag Study | 369,982 | C/ |
| 13 | | **Company Position** | 3,188,192 | |
| 14 | | Effect of including TN income tax | (24,657) | |
| 15 | | Effect of use CAPD Property Tax amount | 246,349 | |
| 16 | | **Settlement** | 3,409,884 | |
| | C/ | Docket 12-00049, "Working Capital.xlsx" | | |

**Tennessee American Water Company**
**Capital Rider Reconciliation**
**Docket No. 23-00018**
**Calculation of Revenue Requirement**
**12/31/2022**

**Exhibit DND-4.1**

| **Item** | Rate Base Adj | Income Tax Expense Impact | Operating Income Required | Subtotal Operating Income Impact | Tax Gross-Up Factor | Revenue Requirement Impact |
|---|---|---|---|---|---|---|
| Reduce Materials and Supplies Balance | (1,093,109) | 10,842 | $ (79,032) | $ (68,190) | 1.35382 | $ (92,317) |

**Tennessee American Water Company**
**Docket No. 23-00007**
**For the Twelve Months Ending November 30, 2022**
**PCOP Actual Expenses**

**Exhibit DND-5**

| Line # | Description | A<br>**For the 12 Months Ending 11/30/2022** | B<br>****NRW Limited 12 Mos Ending 11/2022 (Column A, Lines 2 and 3 x Line 18 Recoverable %)** | **Excess Purchased Power Chemical Costs** |
|---|---|---|---|---|
| | **A/** | | | |
| 1 | Purchased Water Including Wheeling Charges | $116,289 | $116,289 | $0 |
| 2 | Purchased Power** | 2,675,049 | 2,379,939 | ($295,110) |
| 3 | Chemicals** | 1,830,267 | 1,628,353 | ($201,914) |
| 4 | Waste Disposal | 498,620 | 498,620 | $0 |
| 5 | TRA Inspection Fee | 234,103 | 234,103 | $0 |
| 6 | | | | |
| 7 | Total | $5,354,329 | $4,857,304 | ($497,024) |
| 8 | | | | |
| 9 | | | | |
| 10 | Water Sales in 100 Gallons | 95,018,328 | 95,018,328 | |
| 11 | | | | |
| 12 | Cost per 100 Gallons (Line 7 / Line 10) | $0.05635 | $0.05112 | |

| | **Recoverable % for Production Costs** | **For the 12 Months Ending 11/30/2022** | |
|---|---|---|---|
| 13 | Water Sales | 95,018,328 | **B/** |
| 14 | System Delivery | 128,458,614 | **B/** |
| 15 | Non-Revenue-Unaccounted for Water % [1 - (Line 13 / Line 14)] | 26.0% | |
| 16 | Non-Revenue-Unaccounted for Water % Authorized | 15.0% | |
| 17 | Variance (If Line 15 > Line 16 then Line 15 - Line 16) | 11.0% | |
| 18 | **Recoverable % (1 - Line 17)** | **89.0%** | |

**A/** Docket 23-00007,TAW_EXH_RCL_1_011723.xlsx, tab Link In
**B/** Docket 23-00007, Workpaper_Usage - 2022.xlsx

**Non-Revenue Unaccounted for Water is only applied to purchased power and chemicals.

| | |
|---|---|
| Reduction in Operating and Maintenance Costs | ($497,024) |
| Increase in Income Tax Expense due to Increase in Operating Income | $129,897 |
| Net Increase in Operating Income | $367,127 |

**Tennessee American Water Company**
**Capital Rider Reconciliation**
**Docket No. 23-00018**
**Consumer Advocate Adjustment No. 3 to Earnings Tst**
**12/31/2022**

**Exhibit DND-6**

| Line No. | Section | Item | Impact on Excess Earnings Test Calculation | | Source |
|---|---|---|---|---|---|
| 1 | I | To adjust ADIT for the exclusion of 2022 stock options rather than 2021. | $ (729) | * | Response to CA Request 1-15. |
| 2 | | Annual Performance Plan (APP) Revenue Reduction | $ (10,933) | # | Response to CA Request 1-23. |
| 3 | | Capitalized APP Costs | $ (5,464) | * | |
| 4 | | Subtotal - Reduction to Capital Rider Reconciliation | $ (17,126) | | |
| 5 | | TAWC Original Interest - Prime | $ (361) | | Petitioners Exhibit Reconciliation Rider; Exhibit Reconciliation Tab, line 31 |
| 6 | | TAWC Revised Interest - Prime | $ (1,025) | | Revised Petitioners Exhibit Reconciliation Rider; Exhibit Reconciliation Tab, line 31 |
| 7 | | Interest Credit - Revised Capital Rider | $ (664) | | |
| 8 | | Total TAWC Proposed Reduction to Capital Rider Reconciliation | $ (17,790) | | |
| | | * The total of these two items are reflected as Earnings Tests adjustments<br># This adjustment is reflected on DND-2, line 27; (Over/Under Capital Rider Revenue Billings) | | | |
| 9 | II | Earnings Test Impact from two TAWC Corrections @ | | | |
| 10 | | TAWC Revised Earnings Test Revenue Excess | $ 1,181,333 | | Source: TAWC response and Attachment to CA 1-23; |
| 11 | | TAWC Original Earnings Test Revenue Excess | $ 1,175,140 | | TAWC Original Earnings Test Exhibit |
| 12 | | Revenue Requirement Impact from Corrections | $ 6,193 | | Per Calculations from TAWC Revised vs. Original |
| 13 | | Effective Overall Income Tax Rate | 26.135% | | Exhibit DND-3 |
| 14 | | Less: Income Tax Expense | 1,619 | | |
| 15 | | Increase in Net Operating Income | 4,574 | | CA Adjustment 3 to Operating Income |
| 16 | | Multiplied by Tax Gross-up | 1.353821 | | |
| 17 | | Revenue Requirement Impact | 6,193 | | Total Impact on Capital Rider Reconciliation Amount |

@ The APP Revenue Adjustment impacts the (Over)/Under Capital Riders Revenue Component of the Capital Rider Reconciliation and is unrelated to the Earnings Test

**Tennessee American Water Company**
**Capital Rider Reconciliation**
**Docket No. 23-00018**
**Calculation of Agreed-Upon Capital Structure Docket 12-00049**
**12/31/2022**

**Exhibit DND-7**

Amounts per Settlement

| Line No. | Item | Percent of Total | Cost Rate | Weighted Cost | Sum/WTD Debt Cost | Tax Effected Cost of Capital |
|---|---|---|---|---|---|---|
| 1 | Subsidiary Short-Term Debt | 2.45% | 1.00% | 0.02450% | | 0.025% |
| 2 | Subsidiary Long Term Debt | 52.94% | 6.02% | 3.18699% | | 3.187% |
| 3 | Parent Short Term Debt | 0.85% | 1.00% | 0.00850% | | 0.009% |
| 4 | Parent Long Term Debt | 9.35% | 6.15% | 0.57503% | 3.79501% | 0.575% |
| 5 | Parent Preferred | 0.03% | 4.93% | 0.00% | | 0.001% |
| 6 | Parent Common Equity | 34.38% | 10.00% | 3.4380% | | 4.654% |
| 7 | Total | | | 7.2345% | | 8.4509% |

**Tennessee American Water Company**
**Qualified Infrastructure Improvement Program Rider (QIIP)**
**Economic Development Investment Rider (EDI)**
**Safety and Environmental Compliance Rider (SEC)**
**Reconciliation of the Calculation of Revenue Requirement**
**As of 12/31/2021**

**Exhibit DND-8**

| Line No. | | | QIIP | EDI | SEC | Total |
|---|---|---|---|---|---|---|
| 1 | Reconciliation Amount - Original Filing | | $ 297,467 | $ 194,523 | $ (501,684) | $ (9,694) |
| 2 | TAWC Sponsored Adjustments | | $ (11,872) | $ (1,016) | $ (4,903) | $ (17,791) |
| 3 | TAWC Revised Capital Rider Reconciliation Amount | | $ 285,595 | $ 193,507 | $ (506,587) | $ (27,485) |
| 4 | Eliminate Materials and Supplies | | $ (61,602) | $ (5,273) | $ (25,442) | $ (92,317) |
| 5 | Adjust Interest on Reconciliation Amount for Consumer Advocate Adjustments | B/ | $ (14,850) | $ (1,271) | $ (6,133) | $ (22,255) |
| 6 | To Eliminate Excess Production Costs | | $ (331,655) | $ (28,392) | $ (136,977) | $ (497,024) |
| 7 | Adjust to use actual vs. rounded rate of return | | $10,023 | $858 | $4,140 | $ 15,021 |
| 8 | Reconciliation Amount per Consumer Advocate | | $ (112,489) | $ 159,428 | $ (671,000) | $ (624,061) |
| 9 | Divided by Authorized Capital Riders Revenue (9/12s) per TAWC | | $35,305,293 | $35,305,293 | $35,305,293 | $35,305,293 |
| 10 | Surcharge Rider Reconciliation Percentages | | -0.32% | 0.45% | -1.90% | -1.77% |

A/ See response to CA 1-23
B/ Interest Adjustment on TAWC corrections is included in the TAWC Sponsored Adjustments Amount.

**BEFORE THE TENNESSEE REGULATORY AUTHORITY**

**NASHVILLE, TENNESSEE**

**January 13, 2009**

| | | |
|---|---|---|
| **IN RE:** | ) | |
| | ) | |
| **PETITION OF TENNESSEE AMERICAN WATER** | ) | **DOCKET NO.** |
| **COMPANY TO CHANGE AND INCREASE CERTAIN** | ) | **08-00039** |
| **RATES AND CHARGES SO AS TO PERMIT IT TO** | ) | |
| **EARN A FAIR AND ADEQUATE RATE OF RETURN** | ) | |
| **ON ITS PROPERTY USED AND USEFUL IN** | ) | |
| **FURNISHING WATER SERVICE TO ITS CUSTOMERS** | ) | |

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# ORDER

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## TABLE OF CONTENTS

This matter came before Chairman Tre Hargett, Director Eddie Roberson and Director Mary W. Freeman of the Tennessee Regulatory Authority (the "Authority" or "TRA"), the voting panel assigned to this docket, at a regularly scheduled Authority Conference held on September 22, 2008, for consideration of the *Petition* filed on March 14, 2008 by Tennessee American Water Company ("TAWC" or "the Company") in which the Company seeks Authority approval to increase rates. Upon consideration of the entire record, including all exhibits and the testimony of the witnesses, a majority of the panel concluded that the Company had a Revenue Deficiency of $1,655,541, which should be recovered through uniform increases to base rates and volumetric rates for all customer classes. These conclusions, as well as other decisions concerning the Revenues, Expenses, Taxes and Fees, Net Operating Income, Rate Base, Revenue Conversion Factor, and Rate of Return are fully discussed below.

## I. TRAVEL OF THE CASE

On March 14, 2008, Tennessee American Water Company filed its *Petition* seeking approval by the TRA of proposed increased rates, alleging that "[t]he Company's existing rates and charges will not provide, and cannot be made to provide, sufficient revenues to cover all the costs incurred in providing adequate quality water service including its cost of capital."[1] The Company sought "to place into effect customer rates that will produce an overall rate of return of 8.514% on a rate base of $119,881,506."[2] According to TAWC, the additional gross revenues would be approximately $7,644,859 for the attrition period ending August 31, 2009.[3]

TAWC is a public utility as defined in Tenn. Code Ann. § 65-4-101 and is engaged in providing residential, commercial, industrial and municipal water service, including public and private fire protection service to the City of Chattanooga and surrounding areas, serving

[1] *Petition*, p. 2 (March 14, 2008).
[2] *Petition*, p. 5 (March 14, 2008).
[3] *Petition*, pp. 4 and 6 (March 14, 2008).

approximately 74,535 customers as of November 30, 2007. The Company is subject to the jurisdiction and supervision of the TRA pursuant to Chapter 4 and Chapter 5 of Title 65 of the Tennessee statutes. The rates of the customers located in the State of Georgia are not regulated by the Public Service Commission of the State of Georgia, but are set by this Authority.[4]

TAWC is a wholly-owned subsidiary of American Water Works Company, Inc. ("AWWC"). AWWC is the largest water utility holding company in the United States, providing water and waste water services to 15.6 million people in thirty-two (32) states and Ontario, Canada.[5]

On March 31, 2008, the Authority issued a Data Request to TAWC requesting certain information in support of the *Petition* in accordance with the Minimum Filing Guidelines for a petition to increase rates. TAWC responded on April 11, 2008 requesting an extension of two weeks for questions 51, 52, 53, 66 and 73.

At a regularly scheduled Authority Conference held on April 7, 2008, Chairman Eddie Roberson, Director Tre Hargett and Director Ron Jones,[6] the panel assigned to this docket, voted unanimously to suspend the proposed tariff from April 13, 2008 to July 11, 2008, convene a contested case proceeding and appoint General Counsel or his designee as Hearing Officer for the purpose of preparing this matter for hearing, including handling preliminary matters and establishing a procedural schedule to completion.

On April 1, 2008, the Consumer Advocate and Protection Division of the Office of the Attorney General ("Consumer Advocate" or "CAPD") filed a Petition to Intervene. The Chattanooga Manufacturers Association ("CMA") and The City of Chattanooga ("the City") filed petitions to intervene on April 4, 2008 and April 16, 2008, respectively. The City based its

[4] *Petition*, p. 1 (March 14, 2008).
[5] *Petition*, p. 2 (March 14, 2008).
[6] Upon the expiration of Director Jones' term as a Director on July 1, 2008, Director Mary W. Freeman replaced former Director Jones on the voting panel in this docket.

intervention request on the assertion that "the City of Chattanooga is a customer of TAWC and the legal rights, duties, privileges, immunities or other legal interests of the City of Chattanooga and its citizens may be determined in these proceedings."[7] CMA asserted that, as a trade association in existence for 106 years and representing over 250 manufacturers and businesses, approval of the Company's request to increase certain rates and charges would "adversely affect ratepayers including, but not limited to CMA members and other similarly situated entities."[8] No objection or opposition was filed as to the petitions to intervene. On April 11, 2008, the Hamilton County Commission ("Commission") filed with the Authority Resolution 408-17, adopted by the Commission on April 10, 2008, opposing the rate increase sought by TAWC and asking the Authority to hold public hearings in Hamilton County regarding the requested rate increase.

On May 1, 2008, the Hearing Officer issued an Order granting the petitions of the Consumer Advocate, the City and CMA to intervene and establishing a procedural schedule.[9] The Hearing Officer's Order also provided for an initial round of discovery and permitted the Consumer Advocate to propound discovery requests in excess of the number prescribed in TRA Rule 1220-1-2-.11(5)(a), for a total of eighty questions during the first round of discovery. Finally, the Hearing Officer's Order directed the parties to submit an agreed proposed protective order or separate proposed protective orders by May 6, 2008.[10] After having failed to reach an agreed proposed protective order, TAWC and the Intervenors filed separate protective orders on May 6, 2008 for review by the Hearing Officer. The Intervenors also filed on May 6, 2008 a *Joint Motion to Modify the Procedural Schedule* and *Joint Objections of the Intervenors to*

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[7] *Petition to Intervene by the City of Chattanooga*, p. 2 (April 16, 2008).
[8] *Petition to Intervene by the Chattanooga Manufacturers Association*, p. 2 (April 3, 2008).
[9] *Order Granting Petitions to Intervene and Establishing a Procedural Schedule*, p. 4 (May 1, 2008).
[10] *Order Granting Petitions to Intervene and Establishing a Procedural Schedule*, p. 5 (May 1, 2008).

*Discovery Question Limitations for the Initial Round of Discovery* (*"Joint Objections"*). A Protective Order was entered by the Hearing Officer on May 23, 2008.

The Hearing Officer issued an Order on May 9, 2008 in response to the *Joint Objections* to provide guidance to the parties relative to the discovery process in the Procedural Schedule. The *Joint Objections* requested relief to lift the first-round discovery limitations. The Hearing Officer did not grant the relief requested, but was not opposed to the Intervenors pooling their discovery requests in the amount of one hundred sixty requests total, so as to maximize the total number of discovery requests propounded upon TAWC.[11]

Ultimately, the Consumer Advocate propounded discovery requests in excess of the 160 allotted along with a motion for permission to exceed the limit. TAWC filed an objection to the motion, but while the motion for additional discovery was being considered, the Company agreed to provide responses to the Consumer Advocate's additional discovery requests. Other parties, including TAWC, propounded discovery requests in the first round. During the course of discovery between the parties, numerous objections and motions regarding discovery requests and responses were filed by the parties.

Following a Status Conference on June 4, 2008 wherein these motions were considered, the Hearing Officer issued an *Agreed Order Regarding Discovery and Disposing of Certain Outstanding Motions Following June 4, 2008 Status Conference* ("*Agreed Order*"). The *Agreed Order* provided for the parties to file responses to discovery, resolve certain disputes and appear before the Hearing Office to argue any remaining disputes. To further facilitate the process of the discovery between the parties, a Status Conference was held on June 19 and 20, 2008, at which time the Hearing Officer heard oral arguments concerning discovery matters, including additional motions to compel and amendments to the Protective Order.

[11] *Order on Joint Objection to Discovery Question Limits in May 1, 2008 Order*, p. 3 (May 9, 2008).

After receiving requests from the Intervenors to expand the time for filing pre-filed testimony by four weeks, the Hearing Officer issued an *Order Granting, In Part, Joint Motion of Intervenors to Expand Time to Submit Testimony and Modifying the Procedural Schedule* on July 3, 2008. The Order extended the deadline for the Intervenors to file testimony to July 14, 2008 and modified the procedural schedule as to other filing dates to account for the additional time extended to the Intervenors.[12] On July 9, 2008, the Intervenors filed a joint petition seeking an interlocutory appeal of the Hearing Officer's July 3, 2008 Order and requesting additional time to file pre-filed testimony.

On July 11, 2008, TAWC filed its opposition to the joint petition for interlocutory review filed by the Consumer Advocate and the City as well as CMA's *Appeal of the Time Limits Set by the Hearing Officer*. TAWC stated that it acted fully in accordance with Hearing Officer's orders to bring this matter to completion within the statutory time frame. TAWC argued that the schedule proposed by the Intervenors would not allow it sufficient time to rebut pre-filed testimony and prepare for the final hearing.

The parties reached an agreement to extend the time for the Intervenors to file pre-filed testimony. Based on an agreement by the parties on July 11, 2008, the Hearing Officer modified the procedural schedule to accommodate all parties in this docket. The filing date for the Intervenors' pre-filed testimony was extended to July 18, 2008. The second round of discovery commenced on July 24, 2008 with responses or objections due on July 31, 2008.[13] In agreeing to the new amended procedural schedule, the Intervenors withdrew all outstanding motions of appeal.

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[12] *Order Granting, in Part, Joint Motion of Intervenors to Expand Time to Submit Testimony and Modifying Procedural Schedule*, p. 1 (July 3, 2008).
[13] *Order Further Modifying Procedural Schedules,* p. 2 (July 11, 2008).

Supplemental discovery responses and objections as to the first round of discovery continued to be filed by the Company and the Intervenors through July 17, 2008. The Intervenors submitted the pre-filed testimony of their witnesses and exhibits on July 18, 2008.

In accordance with the Hearing Officer's July 11, 2008 Order, a Status Conference was scheduled on August 4, 2008 to resolve outstanding discovery requests and to discuss settlement of issues. During the Status Conference, the parties reached resolution as to outstanding discovery matters as reflected in the Hearing Officer's August 15, 2008 Order. On August 13, 2008, the Company submitted its rebuttal testimony in accordance with the modified procedural schedule.

On August 15, 2008, a Pre-Hearing Conference was held, at which time certain pre-hearing matters were heard. On August 14, 2008, the City filed a motion to strike the Company's pre-filed testimony of Mark Manner on the grounds that the identity and nature of testimony of this witness was not timely disclosed by the Company. TAWC responded to the motion to strike stating that it was unaware of the need to use Mark Manner as a witness until the Intervenors had filed their pre-filed testimony and that the identity of the witness was disclosed as soon as possible. The Hearing Officer denied the motion to strike but permitted the Intervenors to rebut the testimony through their witnesses.[14]

On August 14, 2008, TAWC filed a motion in limine seeking to exclude certain portions of the testimony of an Intervenor witness, Michael J. Majoros on the ground that the witness lacked the requisite qualifications to testify as an expert regarding the Sarbanes-Oxley Act. The Hearing Officer denied TAWC's motion, ruling that the question of qualifications could be addressed through cross-examination of the witness.[15]

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[14] *See Order on August 15, 2008 Pre-Hearing Conference*, pp. 5-8 (August 29, 2008).
[15] *See Order on August 15, 2008 Pre-Hearing Conference*, pp. 8-9 (August 29, 2008).

Also on August 14, 2008, CMA filed a motion to strike portions of the Company's rebuttal testimony which CMA regarded as improperly adjusting certain expenses months after the initial rate increase filing without making additional adjustments for changes in other parts of the case. TAWC responded that it was not seeking to recover additional expenses and was not adjusting its overall rate increase request. The Hearing Officer denied CMA's motion to strike finding that under certain regulatory theories, regulators were required to take into consideration reasonable expected expenses and investments when setting rates.[16] An order permitting questions from the Authority Staff was issued on August 15, 2008.

## II. THE HEARING AND POST HEARING FILINGS

On July 31, 2008, the Authority issued a Notice of Hearing reflecting the decision of the panel to hold the hearing in Chattanooga, Tennessee for the week of August 18, 2008. The Hearing was held in Chattanooga on August 18, 2008 through August 22, 2008. The hearing was continued in Nashville on August 26, 2008 and concluded on August 27, 2008. Post-Hearing Briefs were filed on September 2, 2008. The panel heard testimony from Company witnesses: John Watson, Michael Miller, Sheila A. Miller, Robert Shiltz, Dr. Edward Spitznagel, Jr., Joe Van den Berg, Paul Herbert, John Spanos, Mark Manner and Michael Vilbert. Witnesses from the Consumer Advocate were: Dr. Steve Brown, Terry Buckner and Charles King. The City/CMA witnesses were Michael Majoros and Glynn Stoeffel, and CMA presented witness Michael Gorman.

As part of the Hearing in Chattanooga, the panel reserved certain times for public comment. Though several hours were set aside specifically for the panel to hear from members of the public, a limited number of comments were provided.

[16] *See Order on August 15, 2008 Pre-Hearing Conference*, pp. 9-11 (August 29, 2008).

During the Hearing, the Company revised its forecast several times, resulting in a final projected Revenue Deficiency of $7,748,953. The Consumer Advocate also revised its forecast during the Hearing, resulting in a final projected Revenue Surplus of $1,486,624.

## III. CRITERIA FOR ESTABLISHING JUST AND REASONABLE RATES

The Authority is obligated to balance the interests of the utilities subject to its jurisdiction with the interests of Tennessee consumers, i.e., it is obligated to fix just and reasonable rates.[17] The Authority must also approve rates that provide regulated utilities the opportunity to earn a just and reasonable return on their investments.[18]

The Authority considers petitions for a rate increase, filed pursuant to Tenn. Code Ann. § 65-5-203, in light of the following criteria:

1. The investment or rate base upon which the utility should be permitted to earn a fair rate of return;

2. The proper level of revenues for the utility;

3. The proper level of expenses for the utility; and

4. The rate of return the utility should earn.

Applying these criteria, and upon consideration of the entire record, including all exhibits and the testimony of the witnesses, the panel made the following findings and conclusions.

## IV. TEST PERIOD AND ATTRITION PERIOD

In a rate case, the Authority must decide the test period(s) which are appropriate. The test period establishes the operating results for which normalizing adjustments and known and reasonable changes are made to forecast operating results for the attrition period, based on current rates.

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[17] Tenn. Code Ann. § 65-5-201 (Supp. 2002).

[18] *See Bluefield Water Works and Improvement Company v. Public Service Commission of the State of West Virginia*, 262 U.S. 679, 43 S.Ct. 675 (1923).

The Company selected a historical test period of the twelve months ended November 30, 2007 and an attrition period of the twelve months ending August 31, 2009. The Consumer Advocate used a test period of the twelve months ended March 31, 2008 and an attrition period of the twelve months ending August 31, 2009.

The TRA is not limited to adopting one test period for use throughout this case. The panel found that either the normalized test period for the twelve months ended November 30, 2007 as proposed by the Company or the Consumer Advocate's March 31, 2008 normalized test period were both acceptable and voted to use the test period which best fits the individual items being forecasted.

Both the Company and the Consumer Advocate were in agreement as to the attrition period; the panel voted to adopt the forward looking attrition period of the twelve months ending August 31, 2009.

## V. CONTESTED ISSUES

The position of the parties and the determinations of the voting panel are set out below for each of the following contested issues: Section V(a) - Revenues, Section V(b) - Expenses, Section V(c) – Taxes and Fees, Section V(d) - Net Operating Income, Section V(e) – Rate Base, Section V(f) – Revenue Conversion Factor, Section V(g) – Rate of Return, Section V(h) – Revenue Deficiency, and Section V(i) – Rate Design.

### V(a). REVENUES

The Company projected attrition period Revenues at current rates of $37,142,460. To determine revenue, monthly rates/prices are multiplied by annualized volumes. The monthly meter rates differ based on billed volume of cubic feet. TAWC calculated the operating revenue based on a test period of the twelve months ended November 30, 2007. The operating revenue is based on metered sales, private fire service, miscellaneous service revenues, rents from property, and other water revenues. The Company used a bill analysis that reflected the actual billing determinants for the test year, the twelve months ended November 30, 2007.[19] Thereafter, TAWC made normalized test year adjustments, weather normalization adjustments for the residential and commercial customer classes, eliminated net change in accrued revenues, eliminated Walden's Ridge revenues, and added revenue to account for estimated customer growth during the attrition year.[20]

The Consumer Advocate projected attrition period Revenues of $39,492,768. For the residential and commercial classes, the Consumer Advocate forecasted number of bills per meter size and usage per block by trending the twelve month ended values for each at July 31, 2004, December 31, 2005, December 31, 2006, December 31, 2007, and March 31, 2008 through August 31, 2009 to arrive at its forecasted billing determinants for the attrition period. The Consumer Advocate made no normalizing adjustments.[21] For the industrial, other public authority, other water utilities, and fire service classes, the Consumer Advocate used test period amounts for the attrition period. The Consumer Advocate used a test period of twelve months ended March 31, 2008.

The panel adopted attrition period Revenues of $38,934,309. In doing so, the panel used a combination of the Company's, the Consumer Advocate's, and its own forecasts. The panel found neither the Company's nor the Consumer Advocate's methodology for forecasting residential and commercial average usage persuasive and instead performed its own analysis, examining average usage trends for the residential and commercial classes over the four years

[19] Sheila A. Miller, Pre-filed Direct Testimony, p. 5 (March 14, 2008).
[20] Sheila A. Miller, Pre-filed Direct Testimony, p. 6 (March 14, 2008).
[21] Terry Buckner, Pre-filed Direct Testimony, Workpapers R-Residential Trend and R-Commercial Trend (July 18, 2008). The Consumer Advocate filed revisions on August 15, 2008 making one normalizing adjustment to attrition period revenues for other water utilities.

ended March 31, 2005, 2006, 2007, and 2008. The Authority adopted residential class attrition period revenues based on this methodology and the Company's forecasted number of bills. For the commercial class, the analysis produced a result almost identical to the Company's forecast; therefore, the Authority adopted TAWC's commercial class attrition period revenue forecast.

As to the weather normalization adjustment ("WNA"), the Company made representations that the model it used in forecasting residential and commercial average usage had been previously adopted by the Authority. Notwithstanding an occasional concurrence by Intervenor witnesses, this assertion is incorrect. In earlier TAWC rate case dockets, Docket Nos. 03-00118[22] and 04-00288,[23] TAWC's revenues were settled. Although the parties in those dockets settled on the amounts proposed by TAWC, the settlements did not mention any agreed upon methodology for calculating those revenues. The Company's revenue forecast was adopted in Docket No. 06-00290; however, the Authority did not adopt or endorse TAWC's WNA model. In this docket, the panel did not adopt the Company's entire revenue forecast or the Company's WNA model. Nevertheless, the Authority adopted the Company's commercial class attrition period revenue in this docket because, despite disagreeing with the Company's methodology, the result was reasonable. In determining the attrition period Revenues, the panel found that the Walden's Ridge revenues should be included in the attrition period because all regulated revenues should be included, regardless of whether or not rates will change as a result of the rate case. Further, the panel found that the Walden's Ridge revenues should be treated consistently with the Signal Mountain revenues, which were included by the Company.

[22] *See In re: Petition of Tennessee American Water Company to Change and Increase Certain Rates and Charges so as to Permit It to Earn a Fair and Adequate Rate of Return on Its Property Used and Useful in Furnishing Water Service to Its Customers*, Docket No. 03-00118, *Final Order Approving Rate Increase and Rate Design and Approving Rates Filed by Tennessee American Water Company*, p. 13 (June 25, 2004).
[23] *See In re: Petition of Tennessee American Water Company to Change and Increase Certain Rates and Charges so as to Permit It to Earn a Fair and Adequate Rate of Return on Its Property Used and Useful in Furnishing Water Service to Its Customers*, Docket No. 04-00288, *Order Approving Settlement Agreement*, p. 7 (July 21, 2005).

### V(b). <u>EXPENSES</u>

#### V(b)1. SALARIES AND WAGES

The Company forecasted Salaries and Wages Expense of $5,058,987[24] during the attrition period. The Company's forecast is based on an increase of three employees from 111 to 114. Attrition year wage levels for the pay classes were calculated by prorating known wage rate increases that will occur during the attrition period. Union employees' wages are governed by the existing bargaining agreements. Non-union hourly and clerical employees' wage rates are increased 3.6% on April 1 of each year, and the current annual salaries of the salaried employees (who are exempt from overtime pay) are subject to wage increases on April 1 of each year.[25]

The Consumer Advocate forecasted Salaries and Wages Expense of $4,877,597.[26] The Consumer Advocate's forecasted attrition period expense is based on the actual March 31, 2008 employee count of 109 employees[27] and does not include any projected increase in employee levels during the attrition period. The Consumer Advocate priced out salaries and wages by individual employee, using the actual wage rates in effect as of March 2008 and projecting through the attrition period using known increases as identified by the Company.

The panel adopted the Consumer Advocate's forecast of $4,877,597 for the Salaries and Wages Expense during the attrition period. Consistent with recent Authority decisions, the panel adopted the forecast based upon a price-out of the current employees as of March 31, 2008, with 20.6% capitalized and reduced by the incentive payroll solely attributable to meeting financial goals. The panel further determined to adopt the current employee level of 109, rather than the

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[24] Sheila A. Miller, TN-TRA-02-Q001-Adjustment to Operation and Maintenance Expenses-Summary (May 28, 2008).
[25] Sheila A. Miller, Pre-filed Direct Testimony, pp. 7-8 (March 14, 2008).
[26] Terry Buckner, Pre-filed Direct Testimony, Exhibit CAPD, Schedule 5 (July 18, 2008).
[27] Terry Buckner, Pre-filed Direct Testimony, p. 39 (July 18, 2008).

Company's requested level of 114 employees, because public utilities can be subject to economic downturns and must hold the line on expenses and employee growth during lean times.

**V(b)2. PURCHASED WATER**

The Company forecasted Purchased Water Expense of $52,110. This amount represents four months of the 2008 Purchased Water budget of $51,762 and eight months of the 2009 Purchased Water budget of $52,284.[28]

The Consumer Advocate's original forecast for Purchased Water Expense was $52,230. This amount represents the actual twelve months ended March 31, 2008 expense grown by the Consumer Advocate's growth/inflation factor compounded to 14 months to compute a projected amount for the twelve months ending August 31, 2009.[29] Subsequently, the Consumer Advocate corrected its growth factor from 3.7% to 4.3%,[30] which increased CAPD's Purchased Water forecast from $52,230 to $52,621.

The panel adopted the Company's attrition period forecast of $52,110 for Purchased Water Expense which was based on the Company's expected needs for the attrition period. The panel found that the difference, less than one percent, between the Company's forecast and the Consumer Advocate's forecast, which was based upon twelve months of growth ended March 31, 2008 actual amount, confirmed the reasonableness of the Company's budgeted amount.

**V(b)3. FUEL AND POWER**

The Company originally projected total attrition year Fuel and Power Expense of $1,986,259. Subsequently, the Company adjusted its Fuel and Power Expense projection based on a decrease to the estimated Chattanooga Power Board rates effective April 1, 2008 from 7.5%

[28] Sheila A. Miller, TN-TRA-02-Q001-Purchased Water Summary (May 28, 2008).
[29] Terry Buckner, Pre-filed Direct Testimony, CAPD work papers, p. 179 (July 18, 2008).
[30] CAPD Responses to TRA Staff Data Request #7 (August 4, 2008).

(estimated) to 6% (actual), the current fuel cost adjustment ("FCA"), effective July 1, 2008 (which was not known to the Company when the case was filed) and a revised estimate of the FCA expected during the attrition period. The effect of the adjustment was to lower Fuel and Power Expense from $1,986,730 to $1,922,043, a decrease of $64,216.[31]

The Consumer Advocate originally forecasted $2,319,730 for Fuel and Power Expense.[32] This amount represents the actual twelve months ended March 31, 2008 expense for Purchased Power grown by the Consumer Advocate's growth/inflation factor compounded to fourteen months to compute a projected amount of $2,452,450 for the twelve months ending August 31, 2009. The Consumer Advocate then adjusted the amount by a 5.43% decrease to account for an unacceptable unaccounted-for water percentage. TAWC reported a lost and unaccounted-for percentage of 27.5% for the twelve months ended November 30, 2007[33] and 20.43% for the test period ended March 2008. The 20.43% figure is substantially higher than the 15% that the Consumer Advocate accepted as the recommended level.[34] Subsequently, the Consumer Advocate corrected its growth factor from 3.7% to 4.3%,[35] which increased the Consumer Advocate's Fuel and Power Expense forecast from $2,319,282 to $2,337,108.

The CMA objected to the late-filed inclusion of the Company's updated projection for the Fuel and Power expense. The CMA proposed that an acceptable lost and unaccounted-for water percentage should be no greater than 15% for an annual period for use in the calculation of Fuel and Power Expense. CMA asserted that the Company's level of unaccounted-for water is excessive because: [36]

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[31] TAWC Responses to TRA Staff Data Request #5 issued July 29, 2008. TN-TRA-05-Q001-Amended Exhibit (page 13 of 18) and TN-TRA-05-Q001-Attachment 6 (August 5, 2008).
[32] Terry Buckner, Pre-filed Direct Testimony, CAPD work papers, p. 180 (July 18, 2008).
[33] Michael Gorman, Pre-filed Direct Testimony, p. 14 (July 18, 2008).
[34] CAPD Responses to TRA Staff Data Request #9 (August 4, 2008).
[35] CAPD Responses to TRA Staff Data Request #7 (August 4, 2008).
[36] Michael Gorman, Pre-filed Direct Testimony, pp. 14-15 (July 18, 2008)

- "Survey of State Agency Water Loss Reporting Practices," a document published by American Water Works Association, shows that not one respondent allowed a percentage of 27.5%. Most specified a range of 10% to 15%.

- "Benchmarking Performance Indicators, Distribution System Water Loss," a document provided by the Company in its Supplemental Response to COC-4, indicates that the median range in the 25th to 75th percentile of reporting companies reflects distribution system water losses of typically less than 15%. This sample included utility companies in the West, South, Midwest and Northeast regions.

The CMA concluded that a water loss percentage of 27.5% makes TAWC one of the worst operating water systems, compared to those in either survey above.

Additionally, the CMA objected to the inclusion of the updated exhibits provided by TAWC on August 5, 2008 in response to Staff data requests. According to the CMA, "the Company inappropriately seeks to introduce 'single-issue' ratemaking into this proceeding."[37]

Recognizing the importance of conserving water, which is one of the state's most valuable natural resources, the panel established a baseline efficiency standard. Based on the evidence presented, the panel limited the unaccounted-for water percentage to fifteen percent. In so doing, the panel adopted $1,892,131 as the Fuel and Power Expense for the attrition period. The panel based this amount on the volumes associated with attrition period revenues of $38,873,946, which includes 463,797 CCF for water volumes delivered to Walden's Ridge,[38] adjusted to include the revised fuel and power rates submitted by the Company, and a water loss percentage of fifteen percent. In accepting the Company's revised fuel and power rates, the panel relied on *South Central Bell Telephone Co. v. Tennessee Public Service Commission*, wherein the Court of Appeals upheld a determination by the Chancellor that "the test period results must be adjusted to take into account known changes that are likely to occur in the immediate future."[39] The Court of Appeals held that the Tennessee Public Service Commission

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[37] *Chattanooga Manufacturers Association's Post-Hearing Memorandum of Law*, p. 2 (September 2, 2008).
[38] TAWC's Response to TRA Verbal Request made during the Hearing (August 27, 2008) Question No. 2.
[39] *South Cent. Bell Tel. Co. v. Tennessee Pub. Serv. Comm'n*, 579 S.W.2d 429, 434-35 (Tenn. Ct. App. 1979).

does not have to accept numbers offered by the public utility deemed by the Commission to be unnecessary, improvident or improper. Instead, the Commission should "take into consideration the estimated effect of reasonably expected expenses and investments."[40]

**V(b)4. CHEMICALS**

The Company originally projected total attrition year Chemical Expense of $1,049,272.[41] Subsequently, the Company adjusted its projection based on the new 2009 contract chemical prices. The effect of the adjustment was to increase Chemicals expense from $1,049,272 to $1,559,222.[42]

The Consumer Advocate initially forecasted $1,052,351 for Chemical Expense. This amount represents the actual twelve months ended March 31, 2008 expense for chemicals grown by the Consumer Advocate's growth/inflation factor compounded to fourteen months to compute a projected amount of $1,074,475 for the twelve months ending August 31, 2009.[43] The Consumer Advocate then adjusted the amount to account for an unacceptable unaccounted-for water percentage. TAWC reported a lost and unaccounted-for percentage of 20.43% for the test period ended March 2008. The 20.43% is substantially higher than the 15% that the CAPD accepted as the recommended level.[44] Subsequently, the Consumer Advocate corrected its growth factor from 3.7% to 4.3%,[45] which increased CAPD's Chemical Expense forecast from $1,052,351 to $1,060,227.

The CMA objected to the late-filed inclusion of the Company's updated projection for the Chemical Expense. The CMA proposed that an acceptable lost and unaccounted-for water percentage should be no greater than fifteen percent for an annual period for use in the

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[40] *Id.* at 435.
[41] Sheila A. Miller, Pre-filed Direct Testimony, p. 10 (March 14, 2008).
[42] *Tennessee American Water Company's Post Hearing Brief*, pp. 26-27 (September 2, 2008).
[43] Terry Buckner, Pre-filed Direct Testimony, CAPD work papers, pp. 185-186 (July 18, 2008).
[44] CAPD Responses to TRA Staff Data Request #9 (August 4, 2008).
[45] CAPD Responses to TRA Staff Data Request #7 (August 4, 2008).

calculation of Chemical Expense. By contrast, the Company recorded an unaccounted-for percentage of 27.5% for the twelve month period ended November 30, 2007.[46]

Consistent with its determination regarding the Fuel and Power Expense, the panel limited the unaccounted-for water percentage at fifteen percent. Further, in making its decision, the panel relied on *South Central Bell Telephone Co. v. Tennessee Public Service Commission*.[47] In so doing, the panel denied the CMA's motion to strike the Company's revised chemical rates and instead relied on the revisions as known and measurable amounts. The panel adopted $1,492,460 as the Chemical Expense for the attrition period. The panel based this amount on the volumes associated with attrition period Revenues of $38,873,946, adjusted to include the revised chemical rates submitted by the Company, and a water loss percentage of fifteen percent.

**V(b)5. WASTE DISPOSAL**

The Company forecasted Waste Disposal Expense of $179,088. This amount is based upon the actual amount paid during the test period of $161,721, adjusted to reflect a 3% increase effective October 2007 and another expected 3% increase effective April 2008, resulting in the attrition period adjustment of $17,367.[48]

The Consumer Advocate's original forecast for Waste Disposal Expense was $168,275. This amount was based upon the Company's booked amounts for the twelve months ended March 31, 2008 grown by the CAPD annual growth/inflation factor compounded to 14 months, to compute a projected amount for the twelve months ending August 31, 2009.[49] Subsequently, the Consumer Advocate corrected its growth factor from 3.7% to 4.3%,[50] which increased the Consumer Advocate's Waste Disposal Expense forecast from $168,275 to $169,535.

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[46] Michael Gorman, Pre-filed Direct Testimony, p. 14 (July 18, 2008).
[47] *South Cent. Bell Tel. Co. v. Tennessee Pub. Serv. Comm'n*, 579 S.W.2d 429 (Tenn. Ct. App. 1979).
[48] Sheila A. Miller, Pre-filed Direct Testimony, p. 10 (March 14, 2008) and Sheila A. Miller, TN-TRA-02-Q001-Wastedisposal-Summary (May 28, 2008).
[49] Terry Buckner, Pre-filed Direct Testimony, CAPD work papers, p. 188 (July 18, 2008).
[50] CAPD Responses to TRA Staff Data Request #7 (August 4, 2008).

The panel voted to adopt the Company's attrition period forecast of $179,088 because this amount reflected the actual increases in rates from the City of Chattanooga Sanitary Board.

**V(b)6. MANAGEMENT FEES**[51]

The Company projected attrition period Management Fees of $4,335,190. This amount is based on the historical test period expenses of $4,789,601 and the elimination of non-recurring expenses of $729,713.[52] In addition, the Company eliminated salary and salary-related overheads for the Non-Revenue Water ("NRW") Manager.[53] To the normalized historical test period amount, the Company applied an inflation factor of 3.5% per year to reflect the expected salary and salary-related overhead increases for the attrition period.[54] An additional adjustment was made to the attrition period forecast to reflect the difference between the FAS 87 pension expense billed to TAWC by AWWSC during the test period and the pension expense under ERISA.[55]

The Company also stated that it had retained the services of the firm of Booz Allen Hamilton ("Booz Allen") to perform the management audit of the charges allocated by the service company to TAWC, as directed by the Authority in Docket No. 06-00290. The Company asserted that the audit report (the "Booz Allen Report") attests that the allocated costs were prudent, that they were allocated to TAWC by a reasonable methodology, and that they

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[51] Management fees are the charges from American Water Works Service Company ("AWWSC") for services provided under the 1989 Service Company contract. Those services consist of services related to accounting, administration, communication, corporate secretarial, engineering, finance, human resources, information systems, operations, rates and revenue, risk management, water quality and other services as agreed to by the Company. These services are billed at cost to TAWC. *See* Michael A. Miller, Pre-filed Direct Testimony, p. 13 (March 14, 2008).

[52] Non-recurring expenses include the STEP project, the STAR project, the Business Change project, the Divestiture, and implementation costs related to Sarbanes-Oxley compliance.

[53] The Non-Revenue Manager has been transferred to Tennessee American and therefore his cost has been added to the direct employee cost at Tennessee American.

[54] Michael A. Miller, Pre-filed Direct Testimony, p. 11 (March 14, 2008).

[55] ERISA utilizes a cash basis for recording pension expense and is the method historically used by the TRA in the regulation of TAWC. The pension amount is based on the minimum contribution amount per the 2008 American Water Actuarial Study performed by the firm Towers/Perrin for the pension year ended June 30, 2008. Michael A. Miller, Pre-filed Direct Testimony, p. 12 (March 14, 2008).

were very reasonable when compared to other utilities.[56] The Booz Allen Report was filed in this docket along with the Company's *Petition.*

The Consumer Advocate forecasted Management Fees of $3,453,223 for the attrition period. The Consumer Advocate used the 2005 forecasted Management Fees of $3,062,940 from TRA Docket No. 04-00288 as its base. This amount was then grown at an annual inflation/growth rate of 3.87% in 2006, 3.23% in 2007, and 3.05% for 2008 and 2009, to arrive at its forecasted amount for the attrition period.[57] The Consumer Advocate argued that the growth in TAWC's management fees has far out-stripped inflation and has not produced the synergy in savings that the Company claimed would result by using the service company.[58]

The City retained the services of a consultant to review the Booz Allen Report filed in this case. The objective of this review was to form an opinion whether the management audit met the Sarbanes-Oxley ("SOX") requirements of the audit ordered by the Authority in Docket No. 06-00290. Based on its evaluation, the City recommended disallowance of all costs related to the Booz Allen Report and all AWWSC management fees and allocated costs until the Company obtains an audit that conforms to the specifications of the TRA and the new audit report is examined in a later proceeding.[59] The City claimed, in part, that Booz Allen is not an independent public accounting firm; Booz Allen did not conduct an "audit" as required by the TRA or SOX; and Booz Allen did not conduct an audit in conformance with the rules of the Public Accounting Oversight Board.[60] The CMA did not offer testimony on this issue, but stated that it supported the positions of the Consumer Advocate and the City relative to management fees.[61]

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[56] Michael A. Miller, Pre-filed Direct Testimony, pp. 11-14 (March 14, 2008).
[57] Terry Buckner, Pre-filed Direct Testimony, CAPD work papers, p. 189 (July 18, 2008).
[58] Transcript of Proceedings, v. XVI, p. 1649 (August 26, 2008).
[59] Michael J. Majoros, Pre-filed Direct Testimony, p. 3 (July 18, 2008).
[60] Michael J. Majoros, Pre-filed Direct Testimony, pp. 8-9 (July 18, 2008).
[61] *Chattanooga Manufacturers Association's Post Hearing Memorandum of Law*, p. 1 (September 2, 2008).

Because of unresolved questions regarding management fees assessed by the service company and requested by TAWC in Docket No. 06-00290, the TRA ordered TAWC to perform a management audit to determine whether all costs allocated to TAWC were incurred as a result of prudent or imprudent management decisions by TAWC's parent and to address the reasonableness of the methodology used to allocate costs to TAWC.[62] During the Hearing in this docket, the Company's witness testified, "The purpose here was very specific to provide an independent assessment of the costs incurred by TAWC of the service company costs that have been allocated and directly charged to Tennessee American from the service company."[63] In order to compare the costs incurred by AWWC and charged to TAWC, the Company stated that a set of peer companies was established for comparison. The Company asserted that, because there were no strictly water companies that could be used for comparison, the Company looked beyond and formulated a set of companies as peers for comparison. The study looked at the services performed by the parent to ensure there was no duplication or overlap of the services provided by TAWC. Further, the study reviewed the allocation factors, to determine whether the functions performed were necessary, budget and control mechanisms were in place and costs were benchmarked. The Company argued that the management audit was in compliance with SOX and similar to accepted audits performed in other states.[64]

A majority of the panel found that the management audit performed did not adequately address the issue of prudency of the management fees, and that the audit was not an independent audit as ordered in Docket No. 06-00290. The Booz Allen witness, Joe Van den Berg, who

[62] The Authority's June 10, 2008 Order in Docket No. 06-00290 stated at pages 26-27:

> Additionally, the panel concluded that TAWC should have a management audit performed in compliance with Sarbanes-Oxley requirements and submit the results to the Authority in one year or, if the audit is not complete in one year, submit a status report on the audit in one year. This audit should determine whether all costs allocated to TAWC were incurred as a result of prudent or imprudent management decisions by TAWC's parent and should address the reasonableness of the methodology used to allocate costs.

[63] Transcript of Public Hearing, v. 7, p. 840 (August 20, 2008).

[64] Transcript of Public Hearing, v. 7, pp. 841-856 (August 20, 2008).

performed the management audit required by the TRA also provided testimony on behalf of TAWC in other dockets, both before the TRA and other utility commissions. For this reason, the panel determined that the independence of the selected audit firm was impaired.[65] Further, the audit did not address the primary concerns of the Authority that the costs were the result of prudent management decisions. By admission of the Company's witness, the audit report was an "assessment" or review of the costs incurred by the American Water Works Service Company subject to potential allocation to TAWC.[66] The panel did not find a sufficient basis in the Company's testimony to support the Company's request that management fees should be increased by $355,365.

The record shows that from 2004 to the Company's forecasted attrition period in this docket, management fees have increased seventy-three percent during the five and one-half year time period. There was a fifty-nine percent increase between the 2004 fees and the fees approved in Docket No. 06-00290. Therefore, a majority of the panel[67] voted to set the Management Fee attrition year expense amount at $3,529,933. This amount was based on the Company's forecasted 2005 Management Fee amount from Docket No. 04-00288 as used by the Consumer Advocate in this docket. The majority of the panel voted to change the growth factor to include all customer growth instead of one-half of customer growth, as used by the Consumer Advocate.

Because the panel determined that the Company had not complied with the Authority's directive in Docket No. 06-00290, the panel ordered the Company to develop a Request For Proposal ("RFP") for a comprehensive management audit by an independent certified public

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[65] The Booz Allen witness testified for the Company in the last rate case.

[66] Joe Van den Berg, Pre-filed Direct Testimony, pp. 2-3 (March 14, 2008).

[67] Director Freeman did not vote with the majority. Instead, she found that management fees should be held to the same amount as that adopted in Docket No. 06-00290, $3,979,825. In support of her position, Director Freeman stated that the Company's audit of management fees that was ordered by the Authority in Docket No. 06-00290 did not provide evidence to support an increase in management fees. She further noted that numerous calculations in determining the Company's revenue deficiency would be impacted by her adoption of this figure.

accountant. The RFP for the audit shall include, but not be limited to, an investigation of AWWSC's management performance and decisions relating to internal processes and internal controls with an attestation and recommendation of any needed management changes and implementation thereof. Further, the audit shall evaluate and attest to the charges allocated to TAWC, including the efficiency of processes and/or functions performed on behalf of TAWC, as well as the accuracy and reasonableness of the allocation factors utilized.[68] This RFP should be filed in this docket no later than six months from September 22, 2008, for approval by the Authority. The issuance of the RFP shall occur subsequent to an approval of the RFP by the Authority.

Further, the panel determined that if, during the bidding process, the RFP results in a bid which might not yield a benefit to TAWC customers, the Authority could order that the management audit not be performed. In this regard, the panel discussed other alternatives available to the Authority, including the participation in a multi-state audit which may be authorized by regulatory agencies in those states served by companies owned by American Water Works Company.

**V(b)7. GROUP INSURANCE**

The Company projected Group Insurance Expense of $1,714,550.[69] This amount was calculated by applying the November 30, 2007 insurance rates to the employee coverage, based upon salary and wage information, and subtracting the employee contribution toward employee healthcare coverage. Consistent with a percentage of labor not charged to expense (20.28%, see

[68] The panel determined that the Company should contact Authority staff in the event the Company has any questions regarding the scope of the audit.
[69] Sheila A. Miller, TN-TRA-02-Q001-Group Insurance-Summary (May 28, 2008).

Section V(b)1, Salaries and Wages), this percentage of insurance costs was excluded from the group insurance expense.[70]

The Consumer Advocate initially projected Group Insurance Expense of $1,660,506. Group Insurance Expense is based upon the Company-booked amounts for the twelve months ended March 31, 2008 grown by the Consumer Advocate annual growth/inflation factor compounded to fourteen months to compute projected amounts for the twelve months ending August 31, 2009.[71] Subsequently, the Consumer Advocate corrected its growth factor from 3.7% to 4.3%,[72] which increased the Consumer Advocate's Group Insurance Expense from $1,660,506 to $1,672,934.

Consistent with its decision regarding the Salary and Wage Expense, the panel adopted the Consumer Advocate's forecasted Group Insurance Expense of $1,672,934 for the attrition period.

**V(b)8. PENSION EXPENSE**

The Company forecasted Pension Expense of $1,161,108 for the attrition period.[73] This amount represents the actual pension funding as of December 2008 of $1,456,476 less 20.28% that is capitalized.

The Consumer Advocate forecasted $1,156,422 for Pension Expense. The Consumer Advocate adopted the Pension funding amount of $1,456,476 that was allocated to TAWC based on the February, 2008 actuarial study filed by the company.[74] The Consumer Advocate's 20.60% capitalization factor was then applied to this amount and the capitalized portion was eliminated from Operations and Maintenance expenses.

[70] Sheila A. Miller, Pre-filed Direct Testimony, pp. 10-11 (March 14, 2008).
[71] Terry Buckner, Pre-filed Direct Testimony, CAPD work papers, pp. 193-195 (July 18, 2008).
[72] CAPD Responses to TRA Staff Data Request #7 (August 4, 2008).
[73] Shelia A. Miller, TN-TRA-02-Q001-Pensions-Summary (May 28, 2008).
[74] Terry Buckner, Pre-filed Direct Testimony, CAPD work papers, p. 197 (July 18, 2008).

Consistent with its decision regarding the Salary and Wage Expense which incorporated a 20.6% capitalization rate, the panel adopted the Consumer Advocate's forecasted Pension Expense of $1,156,442 for the attrition period.

**V(b)9. Regulatory Expense**

The Company projected $543,384 for Regulatory Expense in conjunction with this docket. This amount represents the total of the amortization of various rate case expenses sought by the Company in this case.[75]

The Consumer Advocate forecasted $341,868 for Regulatory Expense for the attrition period.[76] The Consumer Advocate expressed concern over the escalation of rate case costs, citing the allowed recovered expense amounts of $225,000 in Docket No. 03-00118 and $400,000 in Docket No. 06-00290, together with the $550,000 being sought in this case. The Consumer Advocate believes much of the Company's costs associated with these dockets are incurred for the protection of the shareholders' interests while being assessed to the ratepayer.[77]

The CMA projected Regulatory Expense of $287,111 for the attrition period. The CMA recommended amortizing the total expense of $861,333 over three years for a Regulatory Expense of $287,111 for the attrition period.[78] CMA recommended a consistent three-year amortization of all expenses for ease of tracking by the Authority.[79]

The Intervenors assert that the attorneys' fees claimed by TAWC as a part of the Company's regulatory or rate case expense are not reasonable and should not be granted. Both the City and the Consumer Advocate relied on the case of *House v. Edmondson*[80] in arguing that

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[75] Michael A. Miller, Pre-filed Direct Testimony, pp. 20-21 (March 14, 2008).
[76] Terry Buckner, Pre-filed Direct Testimony, pp. 50-51 (July 18, 2008).
[77] Terry Buckner, Pre-filed Direct Testimony, p. 51 (July 18, 2008).
[78] Michael Gorman, Pre-filed Direct Testimony, p. 18 (July 18, 2008).
[79] Michael Gorman, Pre-filed Direct Testimony, p. 18 (July 18, 2008).
[80] *See House v. Edmondson*, 245 S.W.3d 372 (Tenn. 2008).

under the "American rule" the Company should not be allowed to recover its own attorneys' fees in this proceeding.[81]

The panel found that it is appropriate for the shareholders to bear some of the expense of the Company's rate case. Rejecting the application of the *House* case, the panel noted that there is a clear distinction between the nature of the proceedings in *House* and the administrative nature of the proceedings in this docket. The panel noted that in the future the Authority should closely examine the costs associated with rate case filings to determine the portions to be recovered from rate payers and shareholders. The panel voted to allow one-half of this docket's rate case expense of $275,000 in the calculation of the Regulatory Expense. The panel voted to have one-half of the rate case expense, the cost of the service study, the cost of the depreciation study, and the unamortized balance of the previous case amortized over a three year period. Thus, the panel adopted $194,852 as the Regulatory Expense for the attrition period.

**V(b)10. INSURANCE OTHER THAN GROUP**

The Company's proposed level for Insurance Other Than Group Expense for the attrition year is $583,492 and is based on four months of the Company's 2008 budget and eight months of the Company's 2009 budget.[82] The Consumer Advocate's initial forecast of $530,410 for Insurance Other Than Group Expense is based upon the Company-booked amounts for the twelve months ended March 31, 2008 grown by the Consumer Advocate's annual growth/inflation factor compounded to fourteen months to compute projected amounts for the twelve months ending August 31, 2009.[83] Subsequently, the Consumer Advocate corrected its

[81] "The American rule provides that a party in a civil action may not recover attorney's fees absent a specific contractual or statutory provision providing for attorney's fees as a part of the prevailing party's damages." *House*, at p. 377, citing *John Kohl & Co. v. Dearborn & Ewing*, 977 S.W.2d 528, 534 (Tenn. 1998).
[82] Sheila A. Miller, TN-TRA-02-Q001-Insurance Other Than Group-Summary (May 28, 2008).
[83] Terry Buckner, Pre-filed Direct Testimony, CAPD work papers, pp. 202-205 (July 18, 2008).

growth factor from 3.7% to 4.3 %[84] which increased the Consumer Advocate's Insurance Other Than Group from $530,410 to $534,380.

The panel voted to adopt the Consumer Advocate's attrition period projection of $534,380 for Insurance Other than Group Insurance Expense to utilize the later test year.

**V(b)11. CUSTOMER ACCOUNTING**

The Company projected Customer Accounting Expense of $738,845. Customer Accounting Expense for the historical test year was $704,362. The Company applied the twenty-one month inflation factor of 3.94% to these expenses, excluding uncollectibles and normalizing adjustments for postage and wireless service to arrive at an increase of $15,381.[85]

The Consumer Advocate initially forecasted $758,111 in Customer Accounting Expense. This amount was based upon test year amounts for customer accounts with normalizing adjustments to annualize the Wireless Service First billing and account for inflation.[86] Subsequently, the Consumer Advocate corrected its growth factor from 3.7% to 4.3 %,[87] which increased CAPD's Customer Accounting from $758,111 to $763,785.

The panel voted to adopt the Consumer Advocate's Customer Accounting Expense of $763,785 for the attrition period to utilize the later test year including normalizing adjustments.

**V(b)12. UNCOLLECTIBLE EXPENSE**

The Company projected Uncollectible Expense of $531,590 for the attrition period.[88] The Company uncollectible percentage of 1.489% was derived by taking a three year average of the net charge-offs, less recoveries as a percentage of total revenues. That percentage was

[84] CAPD Responses to TRA Staff Data Request #7 (August 4, 2008).
[85] Sheila A. Miller, TN-TRA-02-Q001-Customer Accounting-Summary (May 28, 2008).
[86] Terry Buckner, Pre-filed Direct Testimony, CAPD work papers, pp. 206 (July 18, 2008).
[87] CAPD Responses to TRA Staff Data Request #7 (August 4, 2008).
[88] Sheila A. Miller, TN-TRA-02-Q001-Uncollectible Expense-Summary (May 28, 2008).

applied to the proposed revenue increase of $7,644,859 to arrive at the attrition year adjustment to uncollectible expense of $113,834.[89]

The Consumer Advocate forecasted $434,712 for Uncollectible Expense for the test period. This amount was calculated by multiplying the ratio of Uncollectible Expense and Revenue. The ratio of Uncollectible Expense is based upon Company-booked uncollectible amounts for the twelve months ended March 31, 2008 to total revenue of $39,519,255[90] shown on the March 31, 2008 TRA 3.06 monthly report filed by the Company. Subsequently, the Consumer Advocate corrected its revenue at current rates from $39,519,255 to $39,518,799[91] thereby decreasing its Uncollectible Expense projection from $434,712 to $434,707 for the test period.

The panel voted to adopt an Uncollectible Expense at current rates of $417,756 based upon the Company-booked amount for the twelve months ended November 30, 2007, plus a normalizing factor. The uncollectible factor of 0.011657 was used to reflect normalized test year uncollectibles divided by normalized test year total sales of water to allow for the incremental increase in Uncollectible Expense.

**V(b)13. RENT EXPENSE**

The Company projected attrition period Rent Expense of $11,336.[92] Rent expense for the historical test year was $30,037. The Company proposed four normalizing adjustments to this category of expense. The first adjustment eliminates the $75 extra quarterly payment for the easement of the Brainard Road Tank. The second adjustment eliminates expenses for a pager, postage equipment and truck radios in the amount of $23,767, contracts that the Company did not renew. The third adjustment is an elimination of miscellaneous office equipment that was

[89] Robert A. Shiltz, Pre-filed Direct Testimony, p. 4 (March 14, 2008).
[90] Terry Buckner Workpaper E-UNC-1 (July 18, 2008).
[91] CAPD Responses to TRA Staff Data Request #10 (July 29, 2008).
[92] Sheila A. Miller, TN-TRA-02-Q001-Rents-Summary (May 28, 2008).

moved to general office expense in the amount of $439 and a correction of three quarterly payments for copier rental that were charged to maintenance expense in the amount of $5,405; these two adjustments result in a net $4,966 increase. The fourth adjustment of $175 annualizes a new lease agreement for postage equipment.[93]

The Consumer Advocate initially projected attrition period Rent Expense of $17,487. This amount is based upon actual booked expense for the twelve months ended March 31, 2008, grown by its annual inflation/growth factor compounded to fourteen months, to compute projected amounts for the twelve months ending August 31, 2009.[94] The CAPD forecast does not include any normalizing adjustments that were presented by the Company. Subsequently, the Consumer Advocate corrected its growth factor from 3.7% to 4.3 %,[95] which increased its projected Rent Expense from $17,487 to $17,618.

The panel voted to adopt the Company's attrition period forecast of $11,336 for Rent Expense because this amount recognizes the test year amount adjusted for known and measurable changes during the attrition period.

**V(b)14. GENERAL OFFICE EXPENSE**[96]

The Company projected General Office Expense of $245,926[97] for the attrition period. Starting with an historical test year amount of $244,966, the Company made adjustments for known and measurable changes and normalization of postage and then applied an inflation factor of 2.3% to the expense (excluding postage).[98]

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[93] Robert A. Shiltz, Pre-filed Direct Testimony, p. 4 (March 14, 2008).
[94] Terry Buckner, Pre-filed Direct Testimony, CAPD work papers, pp. 218-220 (July 18, 2008).
[95] CAPD Responses to TRA Staff Data Request #7 (August 4, 2008).
[96] This expense category includes costs associated with the general expenses for the office. These include report forms, office supplies, computer supplies, overnight mail expenses, janitorial services, telephone expense, electrical expense, employee expenses, credit line fees, bank service charges, and other miscellaneous general office expenses.
[97] Sheila A. Miller, TN-TRA-02-Q001-General Office Expense-Summary (May 28, 2008).
[98] Robert A. Shiltz, Pre-filed Direct Testimony, p. 4 (March 14, 2008).

The Consumer Advocate projected attrition period General Office Expense of $254,139. The Consumer Advocate projection is based upon actual booked expense for the twelve months ended March 31, 2008 grown by the Consumer Advocate's annual growth/inflation factor compounded to fourteen months to compute projected amounts for the twelve months ending August 31, 2009.[99] Subsequently, the Consumer Advocate corrected its growth factor from 3.7% to 4.3 %[100] which increased the Consumer Advocate's General Office Expense from $254,139 to $256,041.

The panel voted to adopt the Consumer Advocate's projection for General Office Expense of $256,041 because this amount is based upon a later test period and applies an appropriate inflation factor.

**V(b)15. MISCELLANEOUS**

The Company originally projected Miscellaneous Expense of $1,990,204 for the attrition period. Subsequently, the Company corrected its inflation factor to 3.94%,[101] and thereby its projection to $2,028,760.[102] Ultimately, the Company reduced its projection from $2,028,760 to $2,018,623.[103] Miscellaneous expense for the historical test year totaled $1,931,046. The Company proposed seven adjustments to this category to arrive at its forecast.[104]

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[99] Terry Buckner, Pre-filed Direct Testimony, CAPD work papers, pp. 221-240 (July 18, 2008).

[100] CAPD Responses to TRA Staff Data Request #7 (August 4, 2008).

[101] The Company originally compounded its inflation factor to 12 months but then compounded the inflation factor to 21 months to properly reflect expense during the attrition period.

[102] Sheila A. Miller, TN-TRA-02-Q001-Miscellaneous Expenses-Summary (May 28, 2008).

[103] Originally the new inflation factor of 3.94% was applied to an ending balance that had also included the inflationary increase of the 2.3%. The Company made a correction which decreased TAWC's Miscellaneous Expense from $2,028,760 to $2,018,623.

[104] The Company proposes the following adjustments: (1) An adjustment reflecting the 3.94% inflation factor adjustment of $68,072 for all expenses except 401K expense, Defined Contribution expense and the Retiree Medical Reimbursement Plan; (2) A net adjustment of $52,949 applies to the 401K expense, Defined Contribution, and Retiree Medical Reimbursement; (3) An adjustment to eliminate penalties in the amount of $124,992 and lobbying expense of $15,601; (4) An adjustment to include a five year amortization of the management audit in the amount of $57,000 annually; (5) An adjustment to increase expense to annualize the maintenance fee to the Tennessee Department of Environment and Conservation in the amount of $22,645; (6) An adjustment of $27,000 to reflect the 2007 fuel cost at current fuel prices; and (7) An adjustment to reflect a security charge transferred from general office in the amount of $504. Robert A. Shiltz, Pre-filed Direct Testimony, p. 5 (March 14, 2008).

The Consumer Advocate originally projected attrition period Miscellaneous Expense of $1,789,687. The Consumer Advocate projection is based upon actual booked expense for the twelve months ended March 31, 2008, normalized based on information provided by the Company,[105] and grown by the Consumer Advocate's annual growth/inflation factor compounded to fourteen months to compute projected amounts for the twelve months ending August 31, 2009.[106] Subsequently, the Consumer Advocate corrected its growth factor from 3.7% to 4.3%[107] which increased the Consumer Advocate's Miscellaneous Expense from $1,789,687 to $1,802,072.

The panel adopted the Consumer Advocate's forecast of $1,802,072 for Miscellaneous Expense for the attrition period. The panel voted to adopt this amount because it was based on more recent normalized actual results and is consistent with the panel's findings regarding management fees by excluding amortization of the management audit cost from Miscellaneous Expense.

**V(b)16. OTHER MAINTENANCE EXPENSE**

This expense category covers costs associated with maintaining the property of the Company, including repair parts, tools, maintenance supplies, contracted services, paving, maintenance agreements, and other miscellaneous maintenance expenses. The Company projected Other Maintenance Expense of $936,345[108] for the attrition period. Maintenance expense for the historical test year was $1,211,604. After making adjustments and arriving at a normalized balance, the Company applied an inflation factor compounded to twelve months of

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[105] Normalizing adjustments were made for lobbying and penalties. *See* Response to TRA Data Request, August 4, 2008.
[106] Terry Buckner, Pre-filed Direct Testimony, CAPD work papers, pp. 241-282 (July 18, 2008).
[107] CAPD Responses to TRA Staff Data Request #7 (August 4, 2008).
[108] Sheila A. Miller, TN-TRA-02-Q001-Other Maintenance Expense-Summary (May 28, 2008).

2.3% to arrive at an attrition year adjustment of $20,720. Subsequently, the Company corrected its inflation factor to 3.94%, resulting in a corrected attrition year adjustment of $35,493.[109]

The Consumer Advocate projected attrition period Other Maintenance Expense of $815,968. The Consumer Advocate's projection is based upon actual booked expense for the twelve months ended March 31, 2008, and removing $402,495 in a normalizing adjustment[110] and grown by the Consumer Advocate's annual growth/inflation factor compounded to fourteen months to compute projected amounts for the twelve months ending August 31, 2009.[111] Subsequently, the Consumer Advocate corrected its growth factor from 3.7% to 4.3 %,[112] which increased CAPD's Other Maintenance Expense from $815,968 to $822,075.

The panel voted to adopt the Consumer Advocate's forecast for Other Maintenance Expense of $822,075 for the attrition period because this amount was based on more current actual results normalized and grown by an appropriate inflation factor.

### V(b)17. DEPRECIATION AND AMORTIZATION EXPENSE

The Company projected Depreciation and Amortization Expense for the attrition period of $4,730,347, which excludes the Utility Plant for Walden's Ridge. This projection is based on a test year expense of $4,915,650, test period adjustments of $131,855 and attrition period adjustments of negative $317,157.[113] The Company retained the firm of Gannett/Fleming to perform a depreciation study related to the assets utilized in providing water service to customers in Chattanooga. The Company applied the study's recommended depreciation ratios to all account balances to generate the depreciation expense forecast.[114] The depreciation study was filed in this docket. The Company used the straight line remaining life method of depreciation

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[109] Sheila A. Miller, TN-TRA-02-Q001-Other Maintenance Expense-Summary (May 28, 2008).
[110] This adjustment was provided by TAWC.
[111] Terry Buckner, Pre-filed Direct Testimony, CAPD work papers, pp. 283-289 (July 18, 2008).
[112] CAPD Responses to TRA Staff Data Request #7 (August 4, 2008).
[113] Sheila A. Miller Direct Testimony, Exhibit No. 2, Schedule 1(March 14, 2008).
[114] Transcript of Public Hearing, v. V, p. 593 (August 20, 2008).

with the average service life procedure to determine the proposed depreciation rates.[115] The Company asserts that this method results in systematic recovery of the asset cost over the remaining useful life of the asset.[116]

The Consumer Advocate projected Depreciation and Amortization Expense of $4,366,120[117] for the attrition period. The Consumer Advocate's projection is based upon March 31, 2008 Plant in Service balances and forecasted additions and retirements through the attrition period.[118] The Consumer Advocate filed a depreciation rate study using the Average Group Life procedure.[119] The Consumer Advocate claims the depreciation rate used can be the reciprocal of the estimated service life of the asset being retired.[120]

The panel voted to adopt the Consumer Advocate's forecast for Depreciation and Amortization Expense of $4,366,120 for the attrition period. The panel found this amount is based upon more recent actual balances at March 31, 2008, includes forecasted additions and retirements provided by the Company through the attrition period, and does not depreciate fully depreciated accounts. This results in an acceptable inflation factor that can be adjusted in newly calculated depreciation rates every five years and does not place the inflationary burden for the life of the asset on the current ratepayers.

### V(c). TAXES AND FEES

### V(c)1. GROSS RECEIPTS TAX

The Company stated that Gross Receipts Tax was based on projected jurisdictional revenues for TAWC including Other Operating revenues. The revenues, adjusted for the Franchise Tax, Excise Tax, and a $5,000 exemption, were multiplied by the current 3% tax rate

[115] John J. Spanos, Pre-filed Direct Testimony, p. 81 (March 14, 2008).
[116] John J. Spanos, Pre-filed Direct Testimony, p. 81 (March 14, 2008).
[117] Terry Buckner, Pre-filed Direct Testimony, Work paper E-DEP, page 298 (July 18, 2008).
[118] Terry Buckner, Pre-filed Direct Testimony, p. 54 (July 18, 2008).
[119] Charles W. King, Pre-filed Testimony, pp. 5-6 (July 18, 2008).
[120] Charles W. King, Pre-filed Testimony, p. 5 (July 18, 2008).

to arrive at the attrition year level. The forecasted amount was prepared using 83% of the Gross Receipts Tax Return based on 2007 revenues. The remaining 17% is based on 2008 budgeted revenues and adjusted for any rate increase included in this filing.[121]

The Consumer Advocate projected Gross Receipts Tax for the attrition period of \$357,833.[122] The Consumer Advocate forecasted amount is based the actual methodology used to calculate Gross Receipts Taxes split over the two tax periods in which the tax will be incurred.

The panel voted to adopt Gross Receipts Tax of \$357,833 for the attrition period revenue at current rates and an additional \$14,883 for the attrition period revenue at new rates because these amounts reflect the methodology actually used to calculate these taxes.

**V(c)2. TRA INSPECTION FEES**

The Company stated the TRA Inspection Fee is paid in advance and based on the previous year's revenues. This calculation was also matched to the attrition period in this rate filing. One-third (September 2008 through December 2008) was based on 2007 revenues and two thirds (January 2009 through August 2009) was based on projected 2008 jurisdictional revenues. The revenues were reduced by uncollectibles and a \$5,000 exemption to arrive at taxable revenues. The result was multiplied by the Tennessee statutory rates that were taken from the Company's 2007 return.[123]

The Consumer Advocate projected TRA Inspection Fees for the attrition period of \$75,588. The panel voted to adopt TRA Inspection fees for attrition period revenue at current rates of \$74,171 and an additional \$3,289 for the attrition period at new rates.

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[121] Sheila A. Miller, Pre-filed Direct Testimony, p. 12 (March 14, 2008).
[122] Terry Buckner, Pre-filed Direct Testimony, Workpaper T-OTAX7 (July 18, 2008).
[123] Sheila A. Miller, Pre-filed Direct Testimony, p. 12 (March 14, 2008).

### V(c)3. Property Taxes

The Company projected Property Taxes for the attrition period of $2,800,840.[124] The Consumer Advocate projected Property Taxes for the attrition period of $2,842,849. The panel voted to adopt Property Taxes of $2,896,268 for the attrition period. Accepting the Company's methodology, the Property Taxes adopted by the panel are based on an attrition period Rate Base of $121,689,263 and application of the effective tax rate of 2.38% calculated by the Company.

### V(c)4. Franchise Taxes

The Company used the balances at December, 2007 as a basis for one third of the attrition year tax and used the projected balance at December, 2008 as a basis for calculating the remaining two thirds. Those values were then multiplied by the statutory rate of $.25 per $100.[125]

The Consumer Advocate projected Franchise Taxes for the attrition period of $397,550.[126] The Consumer Advocate calculated Franchise Taxes using actual plant in service and accumulated depreciation net of forecasted plant additions and retirements.[127]

The panel voted to adopt Franchise Taxes of $400,236 for the attrition period. The amount is based on the ratio of the Franchise Taxes paid according to the Company's 2006 Franchise Tax return[128] to the twelve month-to-date average Rate Base of $100,295,787 as reported on the December, 2006 TRA Monthly 3.06 Surveillance Report (0.3289%) as applied to the attrition period average Rate Base of $121,689,263.

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[124] Sheila A. Miller, Pre-filed Direct Testimony, Exhibit No. 2, Schedule 5 (March 14, 2008).
[125] Sheila A. Miller, Pre-filed Direct Testimony, p. 13 (March 14, 2008).
[126] Terry Buckner, Pre-filed Direct Testimony, Workpaper T-OTAX8 (July 18, 2008).
[127] Terry Buckner, Pre-filed Direct Testimony, p. 55 (July 18, 2008).
[128] TAWC April 11, 2008 Response to Staff data request dated March 31, 2008 (Minimum Filing Guidelines, Item 13, TN-TRA-01-Q013, p. 21 of 47).

**V(c)5. FICA TAX**[129]

The Company projected FICA Tax of $378,917.[130] The Company forecasted its attrition period FICA Tax by applying the current tax rates to its attrition period Salaries and Wages.

The Consumer Advocate initially projected FICA Tax of $342,649.[131] The CAPD forecasted its attrition period FICA Tax by applying the current tax rates to its attrition period Salaries and Wages Expense. Subsequently, the Consumer Advocate revised its forecast to $366,896. The panel voted to adopt the Consumer Advocate's forecast of $366,896 for FICA Tax for the attrition period based upon its adoption of the Consumer Advocate's forecast for Salary and Wage Expense.

**V(c)6. UNEMPLOYMENT TAX**

The Company projected Unemployment Tax of $7,634.[132] The Company forecasted its attrition period Unemployment Tax by applying the current tax rates to its attrition period Salaries and Wages Expense. The Consumer Advocate projected Unemployment Tax of $7,270. The Consumer Advocate forecasted its attrition period Unemployment Tax by applying the current tax rates to its attrition period Salaries and Wages Expense.[133] The panel voted to adopt the Consumer Advocate's forecast of $7,270 for Unemployment Tax for the attrition period based upon its adoption of the Consumer Advocate's forecast for Salary and Wages Expense.

**V(c)7. STATE EXCISE TAX**

The panel agreed with the position adopted by the Consumer Advocate[134] that the timing differences for State Excise Tax as proposed by the Company would result in recovery of FAS 109 expenses that should be borne by future ratepayers. Therefore, the panel adopted an Excise

[129] Federal Insurance Contributions Act Tax.
[130] Sheila A. Miller, Pre-filed Direct Testimony, Exhibit 2, Schedule 5 (March 14, 2008).
[131] Terry Buckner, Pre-filed Direct Testimony, Exhibit CAPD-RTB, Schedule 8 (July 18, 2008).
[132] Sheila A. Miller, Pre-filed Direct Testimony, Exhibit 2, Schedule 5 (March 14, 2008).
[133] Terry Buckner, Exhibits, Schedule 6 (August 14, 2008).
[134] *Consumer Advocate Corrected Post-Hearing Brief*, p. 58 (September 3, 2008).

Tax for the attrition period of $434,632. This amount is calculated based upon forecasted results from operations at current rates for the attrition period, adjusted for interest expense, permanent differences and application of the statutory tax rate of 6.5%.

### V(c)8. FEDERAL INCOME TAX

The Company's calculation is different from the Consumer Advocate's because of the timing differences included by the Company for FAS 109 that are not included by the Consumer Advocate. The Consumer Advocate asserted that adopting the timing differences as proposed by the Company would result in recovery of expenses that the TRA has decided should be borne by future ratepayers.[135] The panel adopted Federal Income Tax for the attrition period of $2,111,835. This amount is based upon forecasted results from operations at current rates for the attrition period determined in this case adjusted for interest expense, permanent differences, excise tax and ITC amortization and application of the statutory tax rate of 35%.

### V(c)9. ALLOWANCE FOR FUNDS USED DURING CONSTRUCTION (AFUDC)

The Company's proposed amount for AFUDC is $463,690 and is based upon the Company's 2007/2008 budget. This adjustment was made to reflect the AFUDC as an above the line item for ratemaking purposes.[136]

The Consumer Advocate originally projected AFUDC for the attrition period of $150,312 based upon the actual twelve month-to-date amount reported on the November 2007 Monthly Surveillance Report filed with the TRA.[137] The Consumer Advocate revised its forecast to $463,690 based on information in updated exhibits submitted by the Company on August 14, 2008. The panel voted to adopt an AFUDC of $463,690 as proposed by the Company and agreed to by the Consumer Advocate.

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[135] *Consumer Advocate Corrected Post-Hearing Brief*, p. 58 (September 3, 2008).
[136] Robert A. Shiltz, Pre-filed Direct Testimony, pp. 5-6 (March 14, 2008).
[137] Terry Buckner, Pre-filed Direct Testimony, Workpaper E-REC-1 (July 18, 2008).

**V(d). NET OPERATING INCOME**

Based upon the preceding determinations, the panel found that Net Operating Income is $8,727,809 for the attrition period prior to the application of taxes for the additional attrition period revenues.

**V(e). RATE BASE**

**V(e)1. UTILITY PLANT IN SERVICE (UPIS)**

In its *Petition* and pre-filed direct testimony, the Company projected an average attrition period balance for UPIS of $203,998,392.[138] This amount is calculated by taking the UPIS balance per books at November 30, 2007 and adding its budgeted plant additions and retirements by month through August 31, 2009. The Company then calculated the average of its projected thirteen (13) months UPIS balance for the period ending August 31, 2009 to arrive at its UPIS for the attrition period.

In its direct testimony, the Consumer Advocate projected an average attrition period balance for UPIS of $209,341,111.[139] This amount is calculated by taking the UPIS balance per books at March 31, 2008 and adding TAWC's budgeted plant additions and retirements by month through August 31, 2009. The Consumer Advocate then calculated the average of its projected thirteen months UPIS balance for the period ending August 31, 2009 to arrive at its UPIS for the attrition period. The panel voted to adopt the Consumer Advocate's attrition period balance Utility Plant in Service of $209,341,111 because inclusion of Walden's Ridge Plant in Service of $4,455,821 and a later actual balance at March 31, 2008 better reflect the amount expected during the attrition period.

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[138] Sheila A. Miller, Pre-filed Direct Testimony, Exhibit 1, Schedule 2 (March 14, 2008).
[139] Terry Buckner, Pre-Filed Direct Testimony, Exhibit CAPD-RTB, Schedule 3 (July 18, 2008).

**V(e)2. CONSTRUCTION WORK IN PROGRESS ("CWIP")**

In its *Petition*, TAWC included an attrition period amount for CWIP of $9,083,000.[140] The Company calculated its CWIP amount by taking its CWIP balance per Company books at November 30, 2007 and forecasting its project work for utility plant that will not be in service as of August 31, 2009. [141] Subsequently, the Company proposed a CWIP amount of $6,968,779 based on a revised construction forecast and correction of an error in the CWIP beginning balance.

The Consumer Advocate forecasted CWIP using a thirteen month CWIP average based on the balance of $1,798,540 at March 31, 2008 and adding the monthly budgeted additions for Citico Phase I construction project.[142] The thirteen month average for the attrition year totaled $5,758,682.[143] Subsequently, the Consumer Advocate adjusted its attrition year CWIP to $5,284,789 to reflect the projects initially forecasted by the Company.

The City of Chattanooga and the CMA recalculated the Company's original CWIP amount of $9,083,000 to reflect a thirteen month average CWIP of $7,996,461. There were no adjustments to the CWIP amount for any corrections and/or adjustments proposed by the Company or CAPD.

The panel voted to adopt Consumer Advocate's attrition year CWIP amount of $5,284,789. This amount reflects the actual CWIP balance per books at March 31, 2008 plus the Company's originally forecasted monthly plant additions, capital spending and added projects.

**V(e)3. UTILITY PLANT CAPITAL LEASE**

The Company projected an average attrition period balance for Utility Plant Capital Lease of $1,590,500. This projection is based upon the balance per Company books at

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[140] Exhibit to *Petition*, Exhibit No. 1, Schedule 2, page 1 of 3 (March 14, 2008).
[141] Sheila A. Miller, Pre-filed Direct Testimony, Page 14 (March 14, 2008).
[142] Terry Buckner, Pre-Filed Direct Testimony, pp. 58-59 (July 18, 2008).
[143] CAPD Exhibit, Schedule 2 (July 18, 2008).

November 30, 2007 held constant.[144] In calculating its attrition year rate base, the Consumer Advocate included Utility Plant Capital Lease of $1,590,500 as projected by the Company.[145] The panel adopted the parties' agreed-upon amount for Utility Plant Capital Lease of $1,590,500 in the attrition period.

**V(e)4. WORKING CAPITAL**

In its *Petition*, the Company included $1,991,406 for working capital.[146] In its direct testimony[147] and Company exhibits, the Company stated it calculated working capital from the following: Average Cash of $214,257; Preferred Insurance, Prepaid Taxes and Materials and Supplies in the amount of $471,236; Deferred Regulatory Expense in the amount of $1,020,269; Unamortized Debt in the amount of $290,559; Other Deferred Debits totaling $852,184; Lead/ Lag Study of $604,000. The above components total $3,452,505 and represent the amount the Company states that it needs to fund daily operations. The Company, however, also receives sewer collections from customers in advance of payments being remitted to the State of Tennessee and City of Chattanooga. These Incidental Collections total $1,461,099.[148] These collections are deducted from the amount necessary to fund daily operations resulting in a working capital amount of $1,991,406 ($3,452,505 less $1,461,099).

In rebuttal testimony, the Company revised its forecast of working capital by eliminating average cash of $214,257, prepaid insurance of $97,506 and unamortized debt expense of $290,559.[149] The Company also changed its lead/lag study to reflect a 24.43 days lag for sewer billing. These adjustments revised the Company's working capital requirement to $1,139,171.[150]

[144] Sheila A. Miller, Pre-filed Direct Testimony, Exhibit 1, Schedule 2 (March 14, 2008).
[145] Terry Buckner, Pre-filed Direct Testimony, (July 18, 2008).
[146] Exhibit to *Petition*, Exhibit No. 1, Schedule 2, Page 1 of 3 (March 14, 2008).
[147] Sheila A. Miller, Pre-filed Direct Testimony, pp. 14-15 (March 14, 2008).
[148] Sheila A. Miller, Pre-filed Direct Testimony, Exhibit 1, Schedule 2 (March 14, 2008).
[149] Michael A. Miller, Rebuttal Testimony, p. 49 (August 14, 2008).
[150] Michael A. Miller, Rebuttal Testimony, p. 59 (August 14, 2008).

Subsequently, the Company stated it had inadvertently omitted the revised lag days for sewer billings and therefore projected a final working capital requirement is $1,164,171.

The Consumer Advocate forecasted a working capital requirement of $911,278 in its pre-filed testimony. The Consumer Advocate included thirteen month averages for the test period ended March 31, 2008 for the following items in developing its working capital requirement: Average Cash of $376,556, Prepaid Insurance of $93,244, Prepaid Taxes of $164,678 and Materials and Supplies of $315,711.[151] The Consumer Advocate forecasted $650,928 for Deferred Regulatory Expense.[152]

The Consumer Advocate stated that the Unamortized Debt expense was reported as $290,559 in error by TAWC because TAWC did not use a thirteen month average for the attrition period. The CAPD used a thirteen month average for computing its $232,405 Unamortized Debt Expense.[153] The Consumer Advocate also argued that fees for the Management Audit should be removed from other deferred debits and therefore not included in working capital. This reduces other deferred debits from the Company's amount to $595,689.[154]

The Consumer Advocate asserted that the lead/lag study provided by the Company should be altered to reflect the payment lag for the current portions of state excise tax and federal income tax based on the statutory payment requirements of a calendar year's liability paid. The Consumer Advocate used the Company's remaining lead/lag days in its calculation with its respective amounts for revenues, expenses and taxes. These changes resulted in a lead/lag forecasted amount of $835,058.[155] This change, along with the aforementioned balances used by the Consumer Advocate, resulted in a daily requirement of funds of $3,264,269. The incidental

[151] Terry Buckner, Pre-filed Direct Testimony, pp. 59-60 (July 18, 2008), CAPD Workpaper RB-Working Capital Requirement.
[152] Terry Buckner, Pre-filed Direct Testimony, pp. 61-62 (July 18, 2008).
[153] Terry Buckner, Pre-filed Direct Testimony, p. 61 (July 18, 2008).
[154] Terry Buckner, Pre-filed Direct Testimony, p. 61-62 (July 18, 2008).
[155] Terry Buckner, Pre-filed Direct Testimony, p. 63 (July 18, 2008).

collections calculated by the Consumer Advocate include not only sewer collections but also sales and use tax collections, resulting in incidental collections of $2,352,991. Subsequently, the Consumer Advocate revised its working capital requirement by eliminating cash and prepaid insurance. The Consumer Advocate also reduced its lead/lag amount by $131,941 to reflect updated operation and maintenance expenses and reduced incidental collections by $290,114. Finally, the Consumer Advocate corrected a working capital error of $76,221 to arrive at its final working capital forecast of $599,651.

The City of Chattanooga and CMA calculated a negative working capital balance of $1,686,347[156] by removing the average cash balance, deferred regulatory expense, and unamortized debt expenses, and other deferred debits from the working capital allowance.[157]

The panel voted to adopt a Working Capital Requirement of $318,827 for the attrition period. This amount is based upon eliminating both cash and prepaid insurance from working capital allowances and accepting the CAPD's amounts of prepaid taxes, materials and unamortized debt expense as of March 31, 2008, which better reflect amounts for the attrition period. The panel also accepted the CAPD's amount for other deferred debits, which excludes the $285,000 in fees related to the management audit. Consistent with the panel's decision for recovery of rate case expense, the panel included $584,556 of deferred rate case expense.

The Company used its 2002 lead/lag study in this case. The CAPD, City and Company suggested changes to the lead and lag days. The panel decided against changing a select few amounts without seeing an entire study and, therefore, did not adopt any recommended changes to the number of lead/lag days that were presented in the 2002 study. Accordingly, the 2002 lead/lag days were applied to the panel's adopted amounts for revenues, expenses and taxes. The panel also adopted the CAPD's calculation of incidental collections of $2,062,877.

[156] Michael Gorman, Pre-filed Direct Testimony, p. 5 (July 18, 2008).
[157] Michael Gorman, Pre-filed Direct Testimony, pp. 5-6 (July 18, 2008).

### V(e)5. Accumulated Depreciation

The Company projected accumulated depreciation for the attrition period of $63,563,205.[158] This amount was calculated by taking the accumulated depreciation balance at November 30, 2007 and adding monthly forecasted depreciation (using the Company's UPIS forecast) through the attrition period utilizing current depreciation rates through August 31, 2008 and the new rates from September 1, 2008 through August 31, 2009.

The Consumer Advocate projected accumulated depreciation for the attrition period of $62,426,348.[159] The methodology utilized by the Consumer Advocate is identical to that used by TAWC. The difference between the projections of the Company and the Consumer Advocate is attributable to the Consumer Advocate's use of a later accumulated depreciation balance at March 31, 2008, the inclusion of Walden's Ridge plant, and the utilization of different depreciation rates.

Consistent with its decision to adopt the Consumer Advocate's UPIS, depreciation rates and depreciation expense for the attrition period, the panel voted to adopt the Consumer Advocate's attrition year accumulated depreciation of $62,426,348.

### V(e)6. Retired work in process (RWIP)

The Company included a negative amount of $151,351 for RWIP in its rate base calculations.[160] The Consumer Advocate did not address RWIP in its direct testimony and did not include an amount in its rate base calculations. The panel voted to adopt the Company's unchallenged RWIP amount of $151,351.

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[158] Sheila A. Miller, Pre-filed Direct Testimony, Exhibit 1, Schedule 2 (March 14, 2008).
[159] Terry Buckner, Pre-filed Direct Testimony, pp. 64-65 (July 18, 2008).
[160] Exhibit to *Petition*, Exhibit No. 1, Schedule 2, Page 1 of 3 (March 14, 2008).

### V(e)7. Accumulated Amortization of Utility Capital Lease

The Company projected $1,139,858 for accumulated amortization of utility capital lease. This projection was calculated by taking the amount of accumulated balance per books at November 30, 2007 and adding monthly amortizations of the utility capital lease through the attrition period. The thirteen month average was then taken to derive the amount of attrition period accumulated amortization of utility capital lease. The Consumer Advocate accepted the Company's forecast. The panel adopted the agreed upon attrition period forecast for accumulated amortization of utility capital lease of $1,139,858.

### V(e)8. Accumulated Deferred Income Taxes (ADIT)

The Company projected an attrition period amount of $16,931,771 for ADIT in Exhibit No. 1, Schedule 2 of the *Petition*. The Consumer Advocate originally calculated ADIT of $17,533,305 by taking the actual balances as of March 31, 2008 and the projected balances through the attrition year. The change for the attrition year is the projected tax depreciation less book depreciation multiplied by the statutory and federal tax rates. Forecasted timing differences were spread evenly through the attrition period. A thirteen month average was calculated for the attrition year.[161] Subsequently, the Consumer Advocate amended its ADIT as it related to net negative salvage and restated its projection of ADIT as $15,242,359.[162]

The Company argued that the Consumer Advocate failed to take into account Financial Accounting Standard (FAS) 109 in its calculation of accumulated deferred income taxes. The Consumer Advocate stated that not only did the Company incorrectly apply FAS 109, but the Company's calculations do not use the appropriate enacted tax rates.[163] The Consumer Advocate

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[161] Terry Buckner, Pre-filed Direct Testimony, pp. 65-66 (July 18, 2008).
[162] CAPD Data Response (August 15, 2008).
[163] *Consumer Advocate and Protection Division's Post-Hearing Brief*, p. 56 (September 2, 2008).

also argued that amortization of regulatory assets would have the effect of circumventing Authority ratemaking decisions.

The panel adopted the Consumer Advocate's revised ADIT of $15,242,359 for the attrition period. In so doing, the panel rejected the Company's argument that application of FAS 109 had been misapplied by the Consumer Advocate. While financial accounting for tax purposes must conform to all financial accounting standards and requirements, including those set forth in FAS 109, the panel found there is different treatment of numerous items for regulatory purposes related to establishing rates including the application of FAS 109.

**V(e)9. CUSTOMER ADVANCES FOR CONSTRUCTION**

The Company projected an attrition period amount of $6,793,935 in Exhibit No. 1, Schedule 2 of the *Petition* for Customer Advances for Construction. According to this schedule, the Company took the balance per books at November 30, 2007 and added the projected amount of Customer Advances for Construction through the attrition period. A thirteen month average was then calculated to arrive at the attrition period amount.

The Consumer Advocate utilized the same approach, except that it began with the balance per books at March 31, 2008. The Consumer Advocate added the Company-provided changes in monthly Customer Advances for Construction through the attrition period. As a result, the Consumer Advocate projected a thirteen month average of $7,628,149 for Customer Advances for Construction for the attrition period.[164]

The panel voted to adopt the Consumer Advocate's projection of $7,628,149 for the attrition period for Customer Advances for Construction. The panel found that the Consumer Advocate's later test period was a more accurate reflection of the amount expected during the attrition period.

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[164] Terry Buckner, Pre-filed Testimony, Exhibit CAPD, Schedule 2, Workpaper RB-CAC (July 18, 2008).

### V(e)10. CONTRIBUTIONS IN AID OF CONSTRUCTION (CIAC)

The Company projected an attrition period amount of $8,399,016 for CIAC in Exhibit No. 1, Schedule 2 of the *Petition*. According to this schedule, the Company takes the balance per books at November 30, 2007 and adds the projected amount of CIAC through the attrition period. A thirteen month average was then calculated to arrive at the attrition period amount.

The Consumer Advocate utilized the same approach, except that it began with the balance per books at March 31, 2008. The Consumer Advocate added the Company-provided changes in monthly CIAC through the attrition period. As a result, the Consumer Advocate projected a thirteen month average of $8,459,113 for CIAC for the attrition period.[165]

The panel voted to adopt the Consumer Advocate's projection of $8,459,113 for the attrition period for CIAC. The panel determined the use of the Consumer Advocate's later test period is a more accurate reflection of the amount expected during the attrition period.

### V(e)11. UNAMORTIZED INVESTMENT TAX CREDIT ("UITC")

The Company projected an attrition period amount of $37,993 in Exhibit No. 1, Schedule 2 of the *Petition* for the Unamortized Investment Tax Credit. This projection is the balance per Company books at November 30, 2007, as the Company anticipated no change in this amount through the attrition period.

The Consumer Advocate projected $33,994 for the Unamortized Investment Tax Credit for the attrition period. This amount was calculated by taking the Company's November 30, 2007 balance, amortizing that amount through the attrition period, and then taking a thirteen month average.[166] Upon review of the Consumer Advocate's calculation, however, it appears that a twelve-month average was taken.

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[165] Terry Buckner, Pre-filed Testimony, Exhibit CAPD, Schedule 2, Workpaper RB-CAC (July 18, 2008).
[166] Terry Buckner, Pre-filed Testimony, Exhibit CAPD, Schedule 2, Workpaper RB-ITC (July 18, 2008).

The panel utilized the Consumer Advocate's approach and a thirteen month average and voted to adopt $34,123 for the attrition period Unamortized Investment Tax Credit.

**V(e)12. UTILITY PLANT ACQUISITION ADJUSTMENT**

The Company projected an attrition period amount of $67,365 in Exhibit No. 1, Schedule 2 of the *Petition* for the Utility Plant Acquisition Adjustment. This projection was based upon the balance per Company books at November 30, 2007 and adjusting the balance by the amount of amortization through the attrition period. The Consumer Advocate included the same amount in its exhibits.[167]

The panel voted to adopt $67,365 as the Utility Plant Acquisition Adjustment for the attrition period.

**V(f). REVENUE CONVERSION FACTOR**

The panel voted to adopt an overall Revenue Conversion Factor of 1.650838 based upon the Consumer Advocate's methodology, a Forfeited Discount Factor of 0.008470 to reflect the Normalized Test Year Late Payment Penalty divided by Normalized Test Year Total Sales of Water, an Uncollectible Factor to 0.011657 to reflect Normalized Test Year Uncollectibles divided by Normalized Test Year Total Sales of Water, state excise tax of 6.5%, and FIT of 35%.

**V(g). RATE OF RETURN (ROE)**

TAWC requested an overall rate of return of 8.514%.[168] Based upon its data, the Company proposed a capital structure for TAWC comprised of: 50.66% long-term debt; 5.20% short-term debt; 1.16% preferred equity; 24.71% common equity comprised of common stock; and 18.27% common equity in the form of retained earnings.[169]

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[167] Terry Buckner, Pre-filed Testimony, Exhibit CAPD, Schedule 2 (July 18, 2008).
[168] Michael A. Miller, Pre-filed Direct Testimony, Exhibit MAM-3 (March 14, 2008).
[169] Michael A. Miller, Pre-filed Direct Testimony, Exhibit MAM-3 (March 14, 2008).

TAWC proposed a short-term debt cost of 5.2% based upon market forecasts for 2009 and recent short-term debt rates from American Water Capital Corporation ("AWCC").[170] The proposed cost of long-term debt was 6.26% and includes a proposed $16 million debt offering at 6.0% to be issued in early 2009.[171]

In deriving its recommended cost of capital of 8.514%, TAWC claims that its return on equity should be set at 11.75%.[172] The Company estimated the cost of equity using the discounted cash flow ("DCF") model and two risk positioning models, the capital asset pricing model ("CAPM") and the empirical capital asset pricing model ("ECAPM").[173] Further, the Company argued that the appropriate capital structure to use in this case is the stand-alone capital structure of TAWC.[174]

Concerning the CAPM, the Company maintained that the Consumer Advocate inaccurately stated that the academic community no longer accepts the CAPM. Concerning the DCF model, the Company noted that analyst forecasts are better predictors of future earnings than historical growth.[175]

The Consumer Advocate recommended an overall cost of capital of 6.66%.[176] The 6.66% overall return is based upon a double-leveraged capital structure, the debt costs described above and a 7.5% equity return.

The Consumer Advocate employed a double-leverage methodology to determine the capital structure for TAWC. Based on data from the March 31, 2008 10-Q filing for TAWC's parent AWWC, the Consumer Advocate set the equity ratio at 42.96%, the long-term debt ratio

[170] Michael A. Miller, Pre-filed Direct Testimony, p. 5 and Exhibit MAM-3 (March 14, 2008).
[171] Michael A. Miller, Pre-filed Direct Testimony, pp. 5-7 (March 14, 2008).
[172] Michael A. Miller, Pre-filed Direct Testimony, p. 8 (March 14, 2008).
[173] Dr. Michael Vilbert, Pre-filed Direct Testimony, p. 2 and pp. 20-26 (March 14, 2008).
[174] Michael A. Miller, Pre-filed Rebuttal Testimony, p. 17 (August 13, 2008).
[175] Dr. Michael Vilbert, Pre-filed Rebuttal Testimony, p. 36 (August 13, 2008).
[176] Dr. Steve Brown, Pre-filed Direct Testimony, pp. 6-7 (July 18, 2008).

at 55.14% and the ratio of short-term debt at 1.9%.[177] The Consumer Advocate calculated the cost of short-term debt for AWWC using the average of the 30-day, three-month, and six-month LIBOR rate as of July 2008 which yielded 2.87%[178] The cost of long-term debt for AWWC was calculated by using data on debt series listed in its March 31, 2008 quarter-ended 10-Q. When individual debt items on the 10-Q are indicated as having variable rates or are debt series that were issued at different rates, the effective rate was calculated by averaging the weighted cost of debt evaluated at the end-points of the range of interest rates listed. As a result of this analysis, the Consumer Advocate arrived at a long-term debt cost of AWWC of 5.86%.[179]

As part of the double-leverage calculation, the Consumer Advocate asserted that 7.6% of TAWC's capitalization is provided by debt holders outside the AWWC corporate family.[180] By implication, 92.4% of TAWC capital is provided by AWWC. The Consumer Advocate argued that the appropriate equity return is 7.5% based upon an implementation of the DCF model using historical dividend growth.[181] The Consumer Advocate asserted that the DCF is preferable to the CAPM as it tracks the actual flow of payments to Company shareholders.[182]

The CMA and the City noted that TAWC's proposed capital structure is not consistent with the double-leverage capital structure adopted by the TRA in Docket No. 06-00290.[183] The CMA and the City proposed a capital structure for TAWC's parent AWWC comprised of 65.77% long-term debt, 5.09% short-term debt, 0.06% preferred stock, and 29.07% common stock.[184]

177 Dr. Steve Brown, Pre-filed Direct Testimony, pp. 4-6 (July 18, 2008).
178 Dr. Steve Brown, Pre-filed Direct Testimony, pp. 6-8 (July 18, 2008).
179 Dr. Steve Brown, Pre-filed Direct Testimony, pp. 1-2 (July 18, 2008).
180 Dr. Steve Brown, Pre-filed Direct Testimony, pp. 6-7 (July 18, 2008).
181 Dr. Steve Brown, Pre-filed Direct Testimony, pp. 17-19 (July 18, 2008).
182 Dr. Steve Brown, Pre-filed Direct Testimony, p. 16 (July 18, 2008).
183 Michael Gorman, Pre-filed Direct Testimony, p. 23 (July 18, 2008).
184 Michael Gorman, Pre-filed Direct Testimony, Exhibit MPG-8 (July 18, 2008).

To establish a long-term debt rate, the CMA and the City used the long-term debt cost of the subsidiary TAWC to proxy the long-term debt cost of AWWC.[185] The Intervenors estimated AWWC's short-term debt cost to be 3.25%, reflecting recent reductions in short-term interest rates.[186] With respect to the return on equity, the Intervenors estimated a range of equity returns from 9.0% to 10.7%.[187] Based upon this range of estimates, the Intervenors recommended the midpoint of the range -- 9.9% -- for use in this proceeding.[188] In forming his recommendation, the CMA's witness utilized proxy groups derived from water utilities and natural gas utilities.[189]

The panel determined that the Company's rate of return should be set using a double leveraged capital structure. To implement the double leverage methodology, the panel set the portion of TAWC's capitalization held by parties outside the American Water Works system to be 7.39% at a weighted cost of 8.36%. For the 92.61% of TAWC's capitalization provided by its parent company, the panel voted to adopt a capital structure consisting of 52.46% long-term debt, 2.66% short-term debt, 0.05% preferred stock and 44.83% equity. In addition, the panel adopted long-term debt cost of 6.26%, a short-term debt cost of 3.85%, and the cost of preferred stock of 5%. Further, the panel voted to adopt an equity return of 10.2%. Using these values, the panel adopted an overall rate of return of 7.99% for the Company.

**V(h). REVENUE DEFICIENCY**

Based upon the preceding determinations, the panel found that the Revenue Deficiency is $1,655,541 for the attrition period.

[185] Michael Gorman, Pre-filed Direct Testimony, p. 25 (July 18, 2008).
[186] Michael Gorman, Pre-filed Direct Testimony, p. 25 (July 18, 2008).
[187] Michael Gorman, Pre-filed Direct Testimony, pp. 47-48 (July 18, 2008).
[188] Michael Gorman, Pre-filed Direct Testimony, pp. 47-48 (July 18, 2008).
[189] Michael Gorman, Pre-filed Direct Testimony, pp. 27-28 (July 18, 2008).

### V(i). RATE DESIGN

The Company filed a Cost of Service Allocation Study as of November 30, 2007. The Study shows that under proposed rates Residential and Other Water Utilities (Wholesale Water Sales) are being subsidized by Commercial, Other Public Authority and Private Fire Protection.

The Company supported a rate design based upon an across-the-board uniform increase with the exception of Other Water Utilities. The percentage increase is less for the Other Water Utilities class because Signal Mountain and Walden's Ridge do not receive any portion of the rate increase. Within the Residential and Commercial classes, TAWC proposed different percentage rate increases for different service districts.

The Intervenors supported the same percentage rate increase across all customer classes and within each class. The City and CMA argued that the cost of service study examined and allocated costs at the rate class level not at the service district level. The Intervenors also criticized the cost study for improperly removing Walden's Ridge from the study without removing all of the associated costs.

The panel voted to deny the Company's proposed tariff and instructed the Company to file a new tariff within thirty days with new rates reflecting a 4.37% increase to the overall revenues in each class allocated as follows:

(1) a 4.37% increase to each base and volumetric rate for each customer class, with the exception of the Other Water Utilities class;

(2) a 4.37% increase to the rates for Catoosa and Fort Oglethorpe;

(3) a 12.77% increase to the rates for Signal Mountain at the earliest date allowed by the contract;

(4) a 12.77% increase to the rates for Walden's Ridge at the earliest date allowed by the contract; and

(5) a decrease to commercial revenues of approximately $75,000 effective September, 2009, to account for the additional revenue recovered by annualizing the Signal Mountain and Walden's Ridge rate increase.

**IT IS THEREFORE ORDERED THAT:**

1. The rates filed by Tennessee American Water Company on March 14, 2008 are denied.

2. For purposes of the rates herein, the test period shall be either the normalized test period for the twelve months ended November 30, 2007 or the March 31, 2008 normalized test period depending on which best fits the individual items being forecasted.

3. The forward looking attrition period shall be the twelve months ending August 31, 2009.

4. For purposes of the rates herein, the rate base is $121,689,263, and the net operating income is $8,727,809 at current rates.

5. Capitalization held by parties outside the American Water Works Company system is set at 7.39% with a cost of 8.36%.

6. A capital structure comprised of 44.83% equity, 52.46% long-term debt with such debt costing 6.26%, 2.66% short-term debt with such debt costing 3.85%, 0.05% preferred stock with such debt costing 5%, and an equity return of 10.2% is set for American Water Works Company, Tennessee American Water Company's parent.

7. For purposes of the rates herein, the capital structure and cost rates indicated above produce a fair rate of return of 7.99%.

8. For purposes of the rates herein, the Revenue Conversion Factor is 1.650838, resulting in a Revenue Deficiency of $1,655,541, the amount needed for the Company to earn a fair return on its investment during the attrition year.

9. The Revenue Deficiency shall be addressed by new rates reflecting a 4.37% increase to the overall revenues in each class allocated as follows:

(1) 4.37% increase to each base and volumetric rate for each customer class, with the exception of the Other Water Utilities class;

(2) 4.37% increase to the rates for Catoosa and Fort Oglethorpe;

(3) 12.77% increase to the rates for Signal Mountain at the earliest date allowed by the contract;

(4) 12.77% increase to the rates for and Walden's Ridge at the earliest date allowed by the contract; and

(5) decrease to commercial revenues of approximately $75,000 effective September 2009, to account for the additional revenue recovered by annualizing the Signal Mountain and Walden's Ridge rate increase.

10. Tennessee American Water Company shall develop a Request For Proposal ("RFP") for a comprehensive management audit by an independent certified public accountant and file the RFP in this docket no later than six months from September 22, 2008 for approval by the Authority before issuing the RFP.

11. Tennessee American Water Company is directed to file tariffs with the Authority that are designed to produce an increase of $1,655,541 in incremental revenues for service rendered and any tariffs necessary to be consistent with this Order.

12. The tariffs shall be filed within thirty days of the date of decision, September 22, 2008.

13. Any party aggrieved by the Authority's decision in this matter may file a Petition for Reconsideration with the Authority within fifteen days from the date of this Order.

14. Any party aggrieved by the Authority's decision in this matter has the right to judicial review by filing a Petition for Review in the Tennessee Court of Appeals, Middle Section, within sixty days from the date of this Order.

Tre Hargett, Chairman

Eddie Roberson, Director

Mary W. Freeman, Director[190]

[190] Director Freeman disagreed with the majority regarding the management fee and noted that numerous calculations in determining the Company's revenue deficiency would be impacted by her adoption of a different management fee. Otherwise, Director Freeman concurred with the majority.

**BEFORE THE TENNESSEE REGULATORY AUTHORITY**

**NASHVILLE, TENNESSEE**
**April 27, 2012**

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| **IN RE:** | ) | |
| | ) | |
| **PETITION OF TENNESSEE AMERICAN WATER** | ) | **DOCKET NO.** |
| **COMPANY FOR A GENERAL RATE INCREASE** | ) | **10-00189** |
| | ) | |

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# FINAL ORDER

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This matter came before Chairman Mary W. Freeman, Director Eddie Roberson and Director Sara Kyle of the Tennessee Regulatory Authority (the "Authority" or "TRA"), the voting panel assigned to this docket, at Authority Conferences held on April 4, 2011 and April 18, 2011, to consider the *Petition of Tennessee American Water Company for a General Rate Increase* ("*Petition*") initially filed on September 17, 2010.[1] In addition, at the August 22, 2011 Authority Conference, the panel considered the appropriate method by which TAWC may recover $275,000 in regulatory expenses, incurred during its previous rate case in Docket No. 08-00039, following reversal of the TRA's decision in that docket by the Court of Appeals on June 7, 2011.[2] Upon consideration of the entire record, including all exhibits and the testimony of the witnesses, the panel concluded that the Company had a revenue deficiency of $5,551,013, which should be recovered through increases in rates charged in all customer classes.[3] These conclusions, as well as the TRA's determinations concerning revenues, expenses, taxes and fees, Net Operating Income, Rate Base, Revenue Conversion Factor, and Rate of Return, are fully discussed below.

## I. TRAVEL OF THE CASE

Tennessee American Water Company ("TAWC" or the "Company") filed its *Petition* seeking TRA approval of its proposed increased rates, alleging that "[t]he Company's existing rates and charges will not provide, and cannot be made to provide, sufficient revenues to cover all the costs incurred in providing adequate quality water service including its cost of capital."[4] The Company sought to put into effect "customer rates that will produce an overall rate of return

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[1] The *Petition*, proposed tariffs and all pre-filed witness testimony of the Company were withdrawn and re-filed in this docket on September 23, 2010.
[2] The Court of Appeals issued its mandate in the appeal of *Tennessee American Water Co. v. Tenn. Regulatory Auth.*, 2011 WL 334678 (Tenn. Ct. App. Jan. 28, 2011) on June 7, 2011.
[3] A majority of the panel determined that the revenue deficiency was in the amount of $5,551,013 and Director Roberson voted against the majority on the following issues: Salaries and Wages, Utility Plant in Service, Rate of Return-Return on Equity, and Revenue Deficiency.
[4] *Petition*, p. 2 (September 23, 2010).

of 8.38% on a rate base of $125,472,973."[5] According to TAWC, its *Petition* would produce additional gross revenues of approximately $9,984,463 for the attrition period ended December 31, 2011, amounting to a 26.77% increase.[6] Following considerable discovery by the parties, and prior to the hearing, the Company amended the *Petition* to reflect a proposed revenue deficiency of $11,580,683, which would equate to a 31% increase.[7] Nevertheless, during the hearing on March 2, 2011, the Company stated that despite the updated numbers that were developed during the discovery process, "[t]he Company is not requesting more than the $9.9 million that it originally filed for."[8] In support of the *Petition*, TAWC filed extensive exhibits along with the pre-filed testimony of John S. Watson, Michael A. Miller, Sheila A. Miller, James Vander Weide, Patrick Baryenbruch, Paul R. Herbert and Dr. Edward L. Spitznagel, Jr.

TAWC is a public utility as defined in Tenn. Code Ann. § 65-4-101 and is engaged in providing residential, commercial, industrial, and municipal water service, including public and private fire protection service, to the City of Chattanooga and surrounding areas, serving approximately 75,000 customers as of March 31, 2010. The rates of TAWC customers located in Georgia are not regulated by the Public Service Commission of the State of Georgia, but instead are set by the TRA.[9] The Company is a wholly-owned subsidiary of American Water Works Company, Inc. ("AWWC"), which is headquartered in Voorhees, New Jersey. AWWC is the largest water holding company in the United States, providing water and wastewater services to sixteen million people in thirty-five states and two Canadian provinces.[10]

On September 21, 2010, the Consumer Advocate and Protection Division of the Office of the Attorney General (the "Consumer Advocate" or "CAPD") filed a petition to intervene. At a regularly scheduled Authority Conference held on September 27, 2010, the panel voted

[5] *Id.* at 11.
[6] *Id.* at 8.
[7] TAWC's Supplemental Revised Exhibit No. 1, Schedule 1 (February 22, 2011).
[8] Transcript of Proceedings, Vol. III B, p. 123 (March 2, 2011).
[9] *Petition*, p. 1.
[10] *Id.* at 2.

unanimously to convene a contested case proceeding, suspend the effective date of the tariffs, and appoint Chairman Freeman as Hearing Officer for the purpose of preparing this matter for hearing, including handling preliminary matters and establishing a procedural schedule to completion.[11] The Chattanooga Regional Manufacturers Association (the "CRMA") and the City of Chattanooga (the "City") filed petitions to intervene on October 4, 2010 and October 6, 2010, respectively. On October 12, 2010, the Hearing Officer issued an Order granting the interventions of the Consumer Advocate, the City, and the CRMA, and setting a status conference on October 18, 2010 to address any pending intervention petitions, identify issues, set a procedural schedule, and issue a Protective Order.[12]

On October 14, 2010, a petition to intervene was filed by the Utility Workers Union of America, AFL-CIO and UWUA Local 121 ("UWUA" or the "Union"), and on October 18, 2010, Walden's Ridge Utility District ("Walden's Ridge") and the City of Signal Mountain ("Signal Mountain"), a municipality, also filed a joint petition to intervene in this docket. Pursuant to special contracts with TAWC, Walden's Ridge and Signal Mountain purchase all of their water for distribution to their customers from TAWC.

A status conference was convened on October 18, 2010, at which time the parties submitted an agreed proposed protective order to the Hearing Officer. The Hearing Officer granted the UWUA's petition to intervene, but the joint petition of Walden's Ridge and Signal Mountain was filed too late to be considered during the status conference. Thereafter, motions were filed by the UWUA, the City, and the Consumer Advocate for permission to issue discovery requests exceeding the number set by TRA rule. In an Initial Order issued on November 12, 2010, the Hearing Officer established a preliminary procedural schedule, granted the joint petition of Walden's Ridge and Signal Mountain, and limited the Consumer Advocate

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[11] Transcript of Proceedings, pp. 42-43 (September 27, 2010).

[12] *See Order Granting Petitions to Intervene and Requiring the Parties to Submit a Proposed Procedural Schedule and Protective Order* (October 12, 2010).

to eighty initial requests, and the UWUA and the City to forty requests each, the limit set by TRA Rule 1220-1-2-.11(5)(a).[13] On November 15, 2010, the Hearing Officer entered the proposed protective order, which was subsequently amended pursuant to TAWC's unopposed motion.

The CAPD, the City, the CRMA, and the UWUA (collectively, the "Intervenors") filed pre-filed direct testimony on January 5, 2011. The CAPD submitted the testimony of William H. Novak, John Hughes, Dr. Christopher C. Klein, and Terry Buckner. The City filed the testimony of Kimberly H. Dismukes. The CRMA filed the testimony of Michael Gorman, and the UWUA filed the testimony of James Lewis. The CAPD filed a correction to the pre-filed testimony of Dr. Klein on January 24, 2011 and amended testimony from Mr. Buckner on January 31, 2011. On February 8, 2011, the Company filed the pre-filed rebuttal testimony of Dr. Spitznagel, Bernard L. Uffelman, Ms. Miller, Mr. Vander Weide, James I. Warren, Mr. Baryenbruch, Mr. Watson, Mr. Herbert and Mr. Miller. Following additional discovery, the Company filed Revised Exhibits on February 14, 2011. In addition, the Company filed supplemental revised exhibits on February 16, 2011, the revised rebuttal testimony of Mr. Miller on February 17, 2011, and final supplemental revised exhibits on February 22, 2011. The City filed amended testimony of Ms. Dismukes, along with revised schedules KHD-15 and KHD-17, on February 10, 2011. The Consumer Advocate filed the rebuttal testimony of Mr. Buckner on February 24, 2011 and several revisions to the testimony of Mr. Hughes on March 1, 2011.

Various filings were made in this docket in accordance with the procedural schedule, and discovery responses were supplemented and updated by TAWC and the intervening parties throughout the course of the docket. TAWC also responded to data requests from the TRA staff. In addition, on February 14, 2011 and February 16, 2011, TAWC filed revised supplemental

[13] Tenn. Comp. R. & Regs. 1220-1-2-.11(5)(a); *Order Granting Petitions to Intervene, Reflecting Action Taken at Status Conference and Establishing a Procedural Schedule*, p. 9 (November 12, 2010).

accounting exhibits and work papers to replace those that were submitted with earlier pre-filed testimony.

## I. Disputed Pre-Hearing Matters

During the pre-hearing process, the Hearing Officer resolved a variety of disputed matters that emerged between the parties, the most significant of which included the following:

### City's Motions to Compel Discovery

On November 18, 2010, the City filed a motion to compel, requesting that the Hearing Officer compel TAWC to respond to certain discovery requests. In this motion, the City asserted that TAWC refused to produce a log identifying the documents and information that TAWC had withheld from discovery based on a claim of privilege or protection, and the City asked that the Hearing Officer compel TAWC to comply with Tenn. R. Civ. P. 26.02(5).[14] The City filed a subsequent motion to compel on December 6, 2010.[15] The second motion, however, involved other discovery objections asserted by the City and did not relate to production of a privilege log.

On December 23, 2010, the Hearing Officer issued an Order finding that Tenn. R. Civ. P. 26.02(5) did not contain a provision that made the production of a "privilege log" mandatory.[16] Therefore, the Hearing Officer did not require the parties to prepare "privilege logs," concluding instead that a party that claims a privilege or protection from discovery should provide specific information about the items it has withheld and set forth its reasons for doing so.[17] Accordingly, the Hearing Officer ordered the parties to identify any information and/or documents withheld from discovery on grounds of privilege or protection, state the privilege or protection claimed,

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[14] *The City of Chattanooga's Motion to Compel Tennessee American Water Company to Respond to Discovery Requests*, pp. 3-4, § B (November 18, 2010).
[15] *The City of Chattanooga's Second Motion to Compel Tennessee American Water Company to Respond to Discovery Requests* (December 6, 2010).
[16] *Order on First Round Discovery Disputes*, pp. 18-19 (December 23, 2010).
[17] *Id.*

and describe the withheld materials with sufficient specificity so as to enable the Authority to evaluate "the applicability of the claimed privilege or protection."[18]

Thereafter, on December 30, 2010, TAWC filed its response, entitled *TAWC Privilege Log Document*. TAWC's privilege log charted ninety-six written communications and materials that TAWC determined to be responsive to discovery requests on which it asserted the applicability of a privilege or protection.[19] All of the communications and materials identified in TAWC's privilege log related in some respect to the management audit that had been ordered by the TRA in Docket No. 08-00039. TAWC acknowledged that it had withheld these communications and materials, which were classified as internal e-mail messages, chains of internal e-mail exchanges, documents, and attachments, on grounds of attorney-client privilege or work product, or both.[20]

On January 7, 2011, the City filed with the Authority a third motion to compel, in which the City asserted that TAWC's privilege log failed to comply with the Hearing Officer's December 23, 2010 Order because the log did not describe the materials withheld in a manner that enabled the parties or the TRA to determine the factual basis of TAWC's claims of attorney-client privilege and/or work product protection.[21] On January 14, 2011, the Company filed its response to the City's third motion to compel. In its response, TAWC contended that it had properly asserted its claims of attorney-client privilege and work product as to each item listed in its privilege log and that it had, in fact, gone beyond the requirements of the Hearing Officer's ruling on discovery by producing a privilege log that identified the sender of the communication

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[18] *Id.* at 19.
[19] *TAWC Privilege Log Document* (December 30, 2010).
[20] *Id.*
[21] *The City of Chattanooga's Third Motion to Compel Tennessee American Water Company to Respond to Discovery Requests,* pp. 4-5 (January 7, 2011).

and its recipients, provided the date and general subject matter, and set forth the privilege or protection asserted as its basis for withholding each item.[22]

TAWC asserted that all of the materials not produced consisted of documents or written descriptions of communications that had been exchanged internally between TAWC employees, or between TAWC employees and TAWC's parent company, AWWC, its affiliated service company American Water Works Service Company ("AWWSC"), state affiliate companies, or legal counsel.[23] Further, TAWC asserted that the internal email communications and documents, which all related to some aspect of the management audit, were intended to be confidential and were created in the course of ongoing litigation or in reasonable anticipation of litigation.[24] TAWC further asserted that it had provided the parties with all of the discoverable, non-privileged communications that had been exchanged between TAWC and the auditor, Schumaker & Co.[25]

TAWC stated that the sole purpose of the audit was to confirm or reject the reasonableness of the management fees sought by TAWC in contested litigation, and that any business-related purpose was incidental and ancillary.[26] According to TAWC, each item listed on its privilege log represented internal communication "about the TRA management audit, an audit that has little, if any, commercial or business purpose for the Company outside these contested rate cases."[27] For this reason, TAWC asserted that, under the work product doctrine, all of TAWC's internal correspondence relating to the Schumaker management audit would be protected from discovery.[28] Other documents withheld on grounds of attorney-client privilege,

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[22] *Tennessee American Water Company's Response to the City of Chattanooga's Third Motion to Compel,* pp. 3-4 (January 14, 2011).
[23] *Id.* at 7.
[24] *Id.* at 6.
[25] *Id.* at 4.
[26] *Id.* at 6.
[27] *Id.* at 8.
[28] *Id.* at 6.

according to TAWC, were confidential communications with in-house legal counsel concerning the audit and would also be exempt from disclosure.[29]

In a motion for leave to reply filed on January 18, 2011, the City contended that by merely providing conclusory statements, TAWC had not met its burden, as the party opposing discovery, to demonstrate a factual basis for its nonproduction of the email communications and documents at issue.[30] Further, the City asserted that merely sending copies of documents to in-house counsel does not conclusively establish attorney-client privilege or protection from discovery.[31] Rather, the party opposing discovery must demonstrate that the elements of the privilege or protection are present as to each item withheld.[32] On January 24, 2011, TAWC filed an affidavit by Mr. Miller to provide evidentiary support for its privilege log and to bolster its assertions of the attorney-client privilege and work product protection.[33] During the Status Conference held on January 24, 2011, the parties presented extensive oral argument before the Hearing Officer on the City's third motion to compel.

On February 25, 2011, the Hearing Officer issued an Order setting forth an extensive discussion of the attorney-client privilege, the work product doctrine and the use of privilege logs in asserting those protections in response to discovery requests.[34] The Hearing Officer provided substantive analysis of TAWC's privilege log and concluded that TAWC did not sufficiently describe the nature of the information that it had withheld to enable the Authority to make a determination as to the applicability of the privileges or protections asserted by TAWC.[35]

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[29] *Id.* at 7-8.
[30] *City of Chattanooga's Motion for Leave to Reply in Support of Its Third Motion to Compel,* pp. 2-3 (January 18, 2011).
[31] *Id.* at 3-4.
[32] *Id.*
[33] Michael Miller, Affidavit (January 24, 2011).
[34] *Order Reflecting Hearing Officer's Ruling with Respect to City of Chattanooga's Third Motion to Compel* (February 25, 2011).
[35] *Id.* at 16-27.

Further, the Hearing Officer found that TAWC's descriptions of the materials withheld consisted of a general categorization of communications that were a part of the audit process and did not provide a factual basis from which the Hearing Officer could readily determine the applicability of privilege.[36] Because TAWC had the burden of demonstrating that the communication or document was covered by privilege or otherwise protected, the application of privilege had to be clearly shown.[37] Further, the Hearing Officer concluded that such application of privilege had to be construed narrowly.[38]

Therefore, the Hearing Officer determined that for items as to which the attorney-client privilege was raised, TAWC was required to establish with objective facts or competent evidence that the communication was made in order to seek or give legal advice, and not for a business or other purpose, and was intended to be kept confidential, and the privilege had not been waived. Without such specificity, the Hearing Officer could not conclude, based on the subject matter descriptions that the items for which TAWC asserted attorney-client privilege or work product protection was, in fact, protected.[39] Nevertheless, recognizing the importance of maintaining a valid privilege or protection, the Hearing Officer ordered an *in camera* review of the communications and documentation listed in TAWC's privilege log to determine whether the attorney-client privilege or work product protection should attach to the materials.[40] The decision of the Hearing Officer was announced at a pre-hearing conference held on February 25, 2011. Counsel for TAWC agreed to meet with and provide the materials to the TRA's General Counsel for that purpose on February 27, 2011.

On February 27, 2011 and March 2, 2011, TRA General Counsel, accompanied by TRA Deputy General Counsel, conducted an *in camera* review of the materials referenced in TAWC's

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[36] *Id.*
[37] *Id.*
[38] *Id.*
[39] *Id.* at 27.
[40] *Id.*

privilege log. TRA counsel examined in detail all of the communications and documents noted or otherwise referred to in the privilege log. Mr. Miller, who serves as TAWC's Treasurer/ Comptroller was present with TRA counsel on March 2, 2011 and responded to questions and provided clarification as requested. Upon completion of the *in camera* review, TRA counsel concluded that the communications and documents identified in the privilege log had either been produced to the parties in discovery already or qualified for protection from discovery. The TRA's General Counsel subsequently conveyed those conclusions to counsel for TAWC and the City.

**Deposition and Testimony of Patricia Schumaker**

On January 12, 2011, TAWC filed a motion stating that as Schumaker & Company had prepared the comprehensive independent management audit ordered by the TRA, it requested that the TRA call Patricia H. Schumaker to present testimony in this case.[41] Specifically, TAWC wanted Ms. Schumaker to address the procedures, methodology and facts that support the conclusions contained in the audit because the intervening parties had indicated that they intended to call those same components of the audit into question.[42]

In addition, on January 18, 2011, the City filed its own motion requesting the setting of a deposition of Ms. Schumaker.[43] Both motions were addressed by the Hearing Officer during a status conference held on January 24, 2011. Subsequently, by letter dated January 28, 2011, the parties agreed on a procedure for taking Ms. Schumaker's deposition.[44] After ascertaining the availability of Ms. Schumaker and the parties, on February 11, 2011, the Hearing Officer issued an Order setting Ms. Schumaker's deposition for February 18, 2011,[45] in the Hearing Room of the TRA with General Counsel presiding over the deposition. The deposition of Ms. Schumaker

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[41] *Motion to Call Schumaker & Company to Present Testimony Regarding Its Affiliate Audit Report of Tennessee American Water Company for the Tennessee Regulatory Authority,* p. 1 (January 12, 2011).
[42] *Id.* at 3.
[43] *City of Chattanooga's Motion That Witness Be Ordered to Appear for Deposition,* p.1 (January 18, 2011).
[44] *Letter from Henry Walker to Chairman Mary W. Freeman* (January 28, 2011).
[45] *Order Setting the Deposition of Patricia H. Schumaker,* p. 2 (February 11, 2011).

was taken on February 18, 2011, with the City, the Consumer Advocate and TAWC participating in the questioning.

Following her deposition, the parties agreed that Ms. Schumaker would appear and provide testimony during the Hearing in Chattanooga on Tuesday, March 1, 2011. During the Pre-Hearing Conference held on February 25, 2011, the parties requested clarification as to the manner in which Ms. Schumaker would offer her testimony during the Hearing. Based on the parties' agreement, it was determined that counsel for TAWC would initially question Ms. Schumaker as an independent witness, followed by questioning by counsel for the intervening parties consistent with the order established during the Pre-Hearing Conference.[46]

**UWUA's Motion to Substitute Affiant and TAWC's Motion In Limine**

On February 7, 2011, the UWUA filed a motion requesting permission to substitute the sworn statement of Martin R. Blevins for that of Jerry Haddock, which had been attached to Mr. Lewis's pre-filed testimony.[47] Stating that Mr. Haddock's current job made it difficult for him to be available, the UWUA requested permission to present Mr. Blevins for examination during the hearing and include his testimony in the record.[48] According to the UWUA, Mr. Blevins was familiar with TAWC's valve maintenance program and could attest to the accuracy of Mr. Haddock's descriptions.[49] UWUA stated that it had only recently become aware of Mr. Blevins's availability and, thus, had acted in as timely a manner as possible in obtaining his sworn statement.[50]

In a response filed on February 14, 2011, TAWC contended that the UWUA's motion to substitute should be denied as improper and without any basis under the Tennessee Rules of

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[46] *See Order Establishing Procedure for Testimony of Patricia H. Schumaker*, p. 3 (February 28, 2011).
[47] *Motion to Substitute Affiant*, p. 1 (February 7, 2011).
[48] *Id.*
[49] *Id.*
[50] *Id.* at 2.

Civil Procedure, the Tennessee Rules of Evidence, or the TRA's Rules.[51] TAWC asserted that, as the Intervenors' pre-filed testimony was due by January 5, 2011, Mr. Blevins's statement was untimely under the November 12, 2010 procedural schedule.[52] TAWC also noted that, in fact, the UWUA had previously stated that it did not intend to call Mr. Haddock.[53] Nevertheless, less than three weeks before the Hearing, the UWUA had offered Mr. Blevins to provide testimony through the adoption of Mr. Haddock's statement.[54] TAWC further asserted that there was no legal basis for allowing a witness to "adopt" the affidavit of another individual; such adoption would constitute hearsay on three levels.[55] TAWC further noted that Mr. Haddock's written statement was not an affidavit as it was unsworn.[56]

The Hearing Officer denied the UWUA's motion to substitute, finding that Mr. Haddock's statement was not confirmed by oath or affirmation but was merely submitted as a signed statement attached to Mr. Lewis's pre-filed testimony.[57] The Hearing Officer also found that because Mr. Haddock had not been designated as a witness and the UWUA had not pre-filed any testimony from him, Mr. Blevins could not adopt Mr. Haddock's statement and then testify in person.[58] The Hearing Officer further determined that the UWUA's request was both prejudicial and improper.[59]

In conjunction with its response to the UWUA's motion, TAWC filed a motion in limine

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[51] *Tennessee American Water Company's Response in Opposition to the Utility Workers Union of America, AFL-CIO and UWUA Local 121's Motion to Substitute Affiant*, p. 1 (February 14, 2011).
[52] *Id.* The only pre-filed testimony filed by the UWUA was that of Mr. Lewis, which included a statement signed by Mr. Haddock in support of certain portions of Mr. Lewis's testimony. Mr. Haddock did not submit pre-filed testimony, and the UWUA never indicated that Mr. Haddock was intended to be a witness or provide testimony. *Id.* at 2.
[53] *Id.*
[54] *Id.*
[55] *Id.* at 2-3. First, Mr. Lewis was reciting his conversation with Mr. Haddock; second, Mr. Blevins was attesting to Mr. Haddock's statement; and, third, Mr. Haddock's unsworn statement was an out-of-court statement inadmissible as hearsay. *Id.*
[56] *Id.*
[57] *Order Denying the UWUA's Motion to Substitute Affiant and Granting TAWC's Motion in Limine to Strike the Statement of Jerry Haddock, Strike Certain Testimony of James Lewis, and to Exclude the Testimony of Martin Blevins*, pp. 3-4 (February 25, 2011).
[58] *Id.*
[59] *Id.*

on February 14, 2011 asking the Authority to strike both Mr. Haddock's unsworn statement and portions of Mr. Lewis's testimony.[60] TAWC also moved to exclude Mr. Blevins's testimony.[61] Stating that Mr. Lewis's testimony about its valve operations and maintenance was based solely on Mr. Haddock's unsworn statement, TAWC asked that Mr. Haddock's statement be stricken.[62] TAWC asserted that attaching it to Mr. Lewis's pre-filed testimony did not convert Mr. Haddock's statement into pre-filed testimony.[63] TAWC contended that Mr. Lewis did not have personal knowledge of valve operations and maintenance and merely relied on a conversation with Mr. Haddock.[64] TAWC also argued that Mr. Blevins's testimony should be excluded as hearsay and untimely.[65]

On February 25, 2011, the Hearing Officer issued an Order striking, as inadmissible hearsay, the portions of Mr. Lewis's pre-filed testimony that recounted his discussion with Mr. Haddock concerning valve operations and maintenance; the Hearing Officer further ruled that Mr. Lewis would not be permitted to adopt Mr. Haddock's statement or testify at the hearing.[66] Relying on Tenn. R. Evid. Rule 602, the Hearing Officer found that Mr. Lewis could not testify about TAWC's valve maintenance and operation for lack of personal knowledge.[67] The Hearing Officer struck Mr. Haddock's statement and ruled that Mr. Blevins would not be permitted to adopt Mr. Haddock's statement or testify, since the UWUA had not identified or pre-filed testimony from him.[68]

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[60] *Tennessee American Water Company's Motion In Limine to Strike the Statement of Jerry Haddock, Strike Certain Testimony of James Lewis, and to Exclude the Testimony of Marvin Blevins*, p. 1 (February 14, 2011).
[61] *Id.*
[62] *Id.*
[63] *Id.*
[64] *Id.*
[65] *Id.*
[66] *Order Denying the UWUA's Motion to Substitute Affiant and Granting TAWC's Motion in Limine to Strike the Statement of Jerry Haddock, Strike Certain Testimony of James Lewis, and to Exclude the Testimony of Martin Blevins*, pp. 6-7 (February 25, 2011).
[67] *Id.* at 6.
[68] *Id.* at 7.

On February 28, 2011, the UWUA filed a request to appeal the Initial Order.[69] Also that day, the parties presented oral argument on the Union's reconsideration request before the full panel prior to the hearing.[70] The Union explained that Mr. Haddock's statement was an exhibit to Mr. Lewis's testimony, and Mr. Haddock would not be available to attend the hearing.[71] Therefore, the Union asserted, it was necessary to replace Mr. Haddock with Mr. Blevins, who was also a former TAWC employee and had been Mr. Haddock's direct supervisor in valve maintenance.[72] The Union stated that Mr. Blevins would attest to Mr. Haddock's statement and was available to participate in the hearing.[73] The Union acknowledged that Mr. Haddock's statement was not notarized but stated that it included the representation, "I swear and affirm this statement is true to the best of my knowledge," and Mr. Blevins's statement adopting Mr. Haddock's statement was notarized.[74]

In addition, the Union contended that variances in the form of an affidavit are allowed when necessary to prevent injustice and urged the panel to consider the circumstances under which Mr. Haddock's statement was prepared.[75] Because of his new job as a truck driver, Mr. Haddock was not able to get a notary public to witness his statement.[76] The UWUA asserted that Mr. Haddock was merely a retired former TAWC employee and, under the circumstances, his statement should be accepted.[77] In addition, UWUA stated that Mr. Blevins was able to attest to Mr. Haddock's statements on the important issue of valve maintenance at TAWC.[78] The UWUA further stated that Mr. Blevins had been directly involved in the Company's valve maintenance

[69] *Petition for Appeal of the Hearing Officer's Initial Order Granting the City of Chattanooga's First Motion in Limine* (February 28, 2011).
[70] Transcript of Proceedings, Vol. I A, pp. 49-69 (February 28, 2011).
[71] *Id.* at 50.
[72] *Id.*
[73] *Id.*
[74] *Id.* at 49-50.
[75] *Id.* at 51.
[76] *Id.*
[77] *Id.* at 51-52.
[78] *Id.* at 52.

activities, could speak from personal knowledge, and had been Mr. Haddock's direct supervisor.[79] The UWUA also stated that the substance of the testimony had been made available to the Company in a timely manner.[80]

TAWC responded that it would be highly improper to allow Mr. Blevins to "adopt" the statement of Mr. Haddock because it constituted multiple levels of hearsay.[81] Further, TAWC asserted that Mr. Haddock's unsworn statement did not meet the requirements of Tennessee law and would not be allowed into evidence in court.[82] TAWC reiterated that Mr. Blevins's testimony was untimely filed.[83] TAWC also noted that Mr. Lewis was not an expert on valves and his current job duties were to handle arbitrations, negotiate contracts, and handle grievance procedures.[84] The inclusion of a signed statement of a former TAWC employee was clearly the Union's attempt to use an exception that applies only to expert testimony, but Mr. Lewis was not testifying as an expert.[85] Finally, the Company argued that it was highly prejudicial to bring Mr. Blevins into the proceeding only two and half weeks before the hearing, as it had not had an opportunity to conduct discovery in response to his testimony.[86]

The panel questioned the parties at length about Mr. Haddock's possible unavailability, the basis of Mr. Blevins's personal knowledge, the importance of the issues, and the potential prejudice to TAWC.[87] The panel voted to uphold, but modify, the Hearing Officer's Order.[88] The panel directed the UWUA to produce Mr. Haddock to testify and be cross-examined on the valve issues.[89] In the event Mr. Haddock was not available, the question of whether Mr. Blevins

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[79] *Id.* at 52-53.
[80] *Id.* at 54-55.
[81] *Id.* at 55.
[82] *Id.*
[83] *Id.* at 56.
[84] *Id.* at 57.
[85] *Id.*
[86] *Id.*
[87] *Id.* at 59-68.
[88] *Id.*
[89] *Id.*

would be permitted to testify was left open due to the importance of the valve maintenance issue and its possible impact on the setting of rates.[90]

**TAWC's Motion to Strike Consumer Advocate's Rebuttal Testimony**

On February 24, 2011, the Consumer Advocate filed rebuttal testimony from Mr. Buckner in response to certain testimony presented during Ms. Schumaker's deposition on February 18, 2011, and also to address the revised tax position of TAWC and an audit report prepared concerning New Jersey American Water Company.[91] In a motion in limine filed on February 25, 2011, TAWC moved to strike Mr. Buckner's rebuttal testimony including the attached audit of New Jersey American Water Company.[92]

The parties presented oral argument on this motion in limine during a Pre-Hearing Conference held on February 25, 2011. TAWC asserted that, contrary to the permissible scope of rebuttal testimony set forth following the deposition of Ms. Schumaker, the rebuttal testimony of Mr. Buckner, filed by the Consumer Advocate, was an improper attempt to put forth testimony concerning unrelated tax issues.[93] TAWC further asked that the audit report of New Jersey American Water Company be stricken as unreliable hearsay because it had not yet been considered, much less approved, by the New Jersey Board of Public Utilities and was not similar to the type of audit ordered by the TRA.[94] In response, the Consumer Advocate asserted that the New Jersey American Water Company audit was not being offered for the truth of the matters asserted therein, but instead was provided as an example for comparison with the audit of TAWC performed by Ms. Schumaker.[95] According to the Consumer Advocate, Mr. Buckner's testimony concerning the tax issues was filed due to the Company's change in position on those

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[90] *Id.*
[91] Terry Buckner, Pre-filed Rebuttal Testimony (February 24, 2011).
[92] *Tennessee American Water Company's Motion in Limine to Strike the Rebuttal Testimony of Terry Buckner and Attachment* (February 25, 2011).
[93] *See Order Granting, in Part, and Denying, in Part, Tennessee American Water Company's Motion in Limine to Strike Testimony of Terry Buckner and Attachment*, p. 1 (February 25, 2011).
[94] *Id.*
[95] *Id.*

issues as set forth in the pre-filed rebuttal testimony of Michael A. Miller filed on February 17, 2011.[96]

Based on the Company's second motion in limine and the arguments presented by the parties, the Hearing Officer determined that the New Jersey American Water Company audit and the rebuttal testimony of Mr. Buckner with respect to that audit should not be considered as evidence in this proceeding or be filed as part of the record.[97] Nevertheless, the Hearing Officer ruled that because the audit was not being offered for the truth of the matters asserted therein, the audit of New Jersey American Water Company could be used during cross-examination of witnesses but not filed as evidence.[98] The Hearing Officer also ruled that the rebuttal testimony of Mr. Buckner with respect to the tax issues should not have been filed with testimony to rebut the deposition testimony of Ms. Schumaker, but would be permitted as testimony offered to rebut TAWC's change in position.[99]

**THE CITY'S MOTION TO EXCLUDE TAWC'S REGULATORY EXPENSES ARISING FROM DOCKET NO. 08-00039**

On January 28, 2011, the Tennessee Court of Appeals issued its decision in *Tennessee American Water Co. v. Tennessee Regulatory Authority*, Case No. M2009-00553-COA-R12-CV, in which it affirmed in part, and reversed in part, the TRA's Final Order in TAWC's rate case filed in TRA Docket No. 08-00039. In its Opinion, the Court reversed the TRA's decision to limit TAWC to a recovery of one half, or $275,000, of its projected rate case expenses requested in Docket No. 08-00039, and ruled that TAWC should instead recover "the full amount of its proposed rate case expenses."[100] Thereafter, on February 8, 2010, TAWC amended its request for recovery of rate case expenses in this rate case proceeding (Docket No. 10-00189) to include

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[96] *Id.* at 2.
[97] *Id.* at 2-3.
[98] *Id.* at 3.
[99] *Id.* at 3.
[100] *Tennessee American Water Co. v. Tenn. Regulatory Auth.*, 2011 WL 334678, at *30 (Tenn. Ct. App. Jan. 28, 2011).

the rate case expenses previously denied in Docket No. 08-00039.[101] In a motion in limine filed on February 24, 2011, the City asserted that the rate case expenses associated with the Company's previous rate case in Docket No. 08-00039 were not properly before the Authority because the Authority's subject matter jurisdiction would not be reinstated until transmission of the mandate by the Court of Appeals, which had not yet been received as of February 8, 2010.[102]

Due to timing, TAWC did not have an opportunity to file a written response, but the Company presented oral argument before the Hearing Officer during the Pre-Hearing Conference held on February 25, 2011. In responding to the City's motion in limine, TAWC stated that the Authority should take judicial notice of the Court of Appeals' January 28, 2011 Opinion so as to include and expedite the Company's recovery of the unrecovered portion of its regulatory expenses incurred in Docket No. 08-00039.[103] TAWC argued that including in this rate case the regulatory expenses related to Docket No. 08-00039 was more efficient for the Company and the Authority, and that it would not be improper for the Authority to consider TAWC's accumulated deferred regulatory expenses with its current projected expenses, as a whole.[104] According to TAWC, the Authority's consideration in this docket of the Company's regulatory expenses, including those not recovered previously as part of Docket No. 08-00039, would not violate the jurisdictional parameters of the TRA.[105]

During the Pre-Hearing Conference held on February 25, 2011, the Hearing Officer informed the parties that the City's motion in limine was well-founded and, therefore, was granted. On February 25, 2011, the Hearing Officer issued an Order granting the City's motion

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[101] Michael A. Miller, Pre-Filed Rebuttal Testimony, pp. 75-79 (February 8, 2011).
[102] *City of Chattanooga's First Motion in Limine* (February 24, 2011).
[103] *Order Granting City of Chattanooga's First Motion in Limine*, p. 3 (February 25, 2011).
[104] *Id.*
[105] *Id.*

in limine, which reflected that ruling.[106] Later, TAWC raised the issue of rate case expense in Docket No. 08-00039 before the panel during the Hearing.

Thereafter, on March 16, 2011, the City filed with the Tennessee Supreme Court a request for permission to appeal the decision of the Court of Appeals. In light of this development, the panel remained firm in its decision and did not consider the $275,000 recovery in its initial deliberations. On May 25, 2011, the City's request for permission to appeal was denied by the Supreme Court, and the Court of Appeals issued its mandate to the Authority on June 7, 2011. On August 3, 2011, the Hearing Officer in this docket issued a notice of filing and deliberations, stating that the Authority would consider the method by which to allow TAWC to recover the unrecovered $275,000 rate case expense during the Authority Conference on August 22, 2011.[107] On August 22, 2011, a majority of the panel voted to allow recovery of the regulatory expense through a separate line item charge on customers' bills that will discontinue once the full amount was recovered.[108] A majority of the panel further directed that the amount should be recovered over a six-month period and be collected from all customer classes, resulting in a uniform surcharge of approximately $0.62 monthly.[109] The Company was directed to file tariffs implementing the surcharge, including all supporting calculations, within ten days and to work with TRA Staff on the line item language that would be acceptable to include in customers' bills.[110]

## II. <u>THE HEARING AND POST-HEARING FILINGS</u>

On January 31, 2011, the Authority issued a Notice of Hearing reflecting the panel's

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[106] *Id.*

[107] *Notice of Filing and Deliberations*, p. 1 (August 3, 2011).

[108] Transcript of Authority Conference, pp. 79, 82 (August 22, 2011). Director Kyle, who voted against the prevailing motion, made a motion instead to allow TAWC to recover the $275,000 through an increase in fixed monthly service charges and usage rates, as proposed by the Company, and to direct the Company to reduce the rates to current levels when the Company had collected the $275,000 and to file all documentation for the new rates up to $275,000 and work with David Foster and Pat Murphy of the TRA Staff. *Id.* at 79-81. This motion failed for lack of a second.

[109] *Id.* at 79.

[110] *Id.*

decision to hold the hearing in Chattanooga, Tennessee, during the week of February 28, 2011 through March 4, 2011.[111] On February 14, 2011, TAWC published the required notice of the Hearing in the *Chattanooga Times Free Press* and filed proof of publication with the Authority on February 23, 2011. The Hearing was held in Chattanooga, Tennessee, beginning February 28, 2011 through March 4, 2011, and reconvened in Nashville on March 7 and March 8, 2011. Participating in the Hearing were the following parties and their respective counsel:

> **Tennessee American Water Company – R. Dale Grimes, Esq., E. Steele Clayton, IV, Esq., David Killion, Esq., and Chad Jarboe, Esq.**, Bass, Berry & Sims, PLC, 150 Third Avenue South, Suite 2800, Nashville, TN 37201.
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> **Consumer Advocate and Protection Division – Ryan L. McGehee, Esq., Mary L. White, Esq., and Scott Jackson, Esq.,** Office of the Attorney General, 425 5th Ave. N., John Sevier Building, P.O. Box 20207, Nashville, TN 37202.
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> **City of Chattanooga, Tennessee – Frederick L. Hitchcock, Esq. and Willa B. Kalaidjian, Esq.,** Chambliss, Bahner & Stophel, P.C., 1000 Tallan Building, Two Union Square, Chattanooga, TN 37402; and **Michael A. McMahan, Esq.**, Office of the City Attorney, 100 East 11th Street, Suite 200, Chattanooga, TN 37402.
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> **Chattanooga Regional Manufacturers Association – Henry M. Walker, Esq.,** Bradley, Arant, Boult, Cummings, PLC, 1600 Division Street, Suite 700, P.O. Box 340025, Nashville, TN 37203; and **David C. Higney, Esq.**, Grant, Konvalinka & Harrison, P.C., 9th Floor, Republic Centre, 633 Chestnut Street, Chattanooga, TN 37450-0900.
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> **Utility Workers Union of America, AFL-CIO and UWUA Local 121 – Scott H. Strauss, Esq. and Katherine M. Mapes, Esq.,** Spiegel & McDiarmid LLP, 1333 New Hampshire Ave., NW, Washington, D.C. 20036.

During the Hearing, the Company presented the following witnesses: John Watson, Michael A. Miller, Sheila A. Miller, James Vander Weide, Patrick Baryenbruch, Paul R. Herbert, and Dr. Edward Spitznagel. Witnesses for the Consumer Advocate included Terry Buckner, John Hughes, Dr. Christopher C. Klein, and Hal Novak. Kimberly Dismukes testified on behalf of the City. The Union presented James Lewis and Marvin Blevins as witnesses. The CRMA

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[111] Upon consideration of the CRMA's request to hold the Hearing in this matter in Chattanooga, Tennessee (Letter, October 20, 2010), which was supported by all intervening parties and the Hamilton County Commission (Resolution No. 1110-13, October 4, 2010) and duly noting the concerns of the Petitioner (Letters, October 22, 2010 and November 12, 2010) *see also*, Transcript of Proceedings (January 24, 2011), during the regularly scheduled Authority Conference on January 24, 2011, the panel voted unanimously to convene the Hearing on the Merits in Chattanooga, Tennessee. *Id.* at 34-43.

presented the testimony of Michael Gorman based on its proposed agreement with the Company. Public Hearings were held at various times during the Hearing to give TAWC customers and members of the public an opportunity to address the panel. Though several hours were set aside specifically for public comment, a limited number of comments were provided.

Additionally, there were three appeals to the full panel of initial orders issued by the Hearing Officer, two filed by TAWC and one by the UWUA. TAWC appealed to the panel the Hearing Officer's granting of the City's February 24, 2011 motion in limine.[112] The panel unanimously affirmed the Hearing Officer's decision and ruled that, upon receipt of the mandate from the Court of Appeals, the TRA would act swiftly and take the necessary action.[113]

Further, TAWC appealed to the panel the Hearing Officer's February 25, 2011 ruling on the City's third motion to compel.[114] This matter was resolved off the record between the first and second days of the Hearing, and the panel did not take it up again during the Hearing.

Finally, the Union appealed the Hearing Officer's February 25, 2011 initial order on its motion to substitute affiant.[115] After hearing arguments of counsel on this issue, the panel voted to uphold the Hearing Officer's ruling, with the understanding that Mr. Blevins could be heard on matters about which he had personal knowledge, and Mr. Haddock would be heard if he became available.[116]

At the conclusion of the Hearing, Director Roberson expressed concern that the Authority should have a complete record on rate case expenses and moved that the Company be required to provide detailed evidence of rate case expenses in a separate hearing that would be held on March 28, 2011. The motion was approved unanimously by the panel. On March 16, 2011, the

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[112] *Petition for Appeal of the Hearing Officer's Initial Order Granting the City of Chattanooga's First Motion in Limine* (February 28, 2011).
[113] Transcript of Proceedings, Vol. I A, pp. 47-49 (February 28, 2011).
[114] *Tennessee American Water Company's Petition for Appeal of the Hearing Officer's Initial Order Granting the City of Chattanooga's Third Motion to Compel* (February 28, 2011).
[115] *Petition for Appeal of the Hearing Officer's Initial Order* (February 28, 2011).
[116] Transcript of Proceedings, Vol. I A, pp. 67-69 (February 28, 2011).

parties filed a joint motion in which the parties expressed their agreement to limit the amount of rate case expenses in this docket to the $645,000, the amount originally filed in the Company's *Petition.*[117] The agreement was reached in order to expedite the completion of the case within the statutory time required under Tenn. Code Ann. § 65-5-103. As part of the parties' agreement, TAWC further agreed to forego implementing its requested rates under bond until April 5, 2011 as provided in Tenn. Code Ann. § 65-5-103(b)(1).

On March 21, 2011, the parties filed post-hearing briefs. On March 22, 2011, the Hearing Officer issued an Order concluding that it was not necessary to proceed to hearing on the issue of rate case expense in light of the filing of the March 16, 2011 joint motion, which acted as a stipulation between the parties with respect to the necessity, reasonableness, and prudency of rate case expenses incurred by TAWC in this docket, and therefore, no additional evidence was necessary on the issue of rate case expense.[118] In addition, the Hearing Officer re-suspended the Company's tariffs through April 4, 2011.[119]

On March 28, 2011, the CRMA and TAWC filed a joint summary detailing the settlement they had announced during the hearing in Chattanooga on February 28, 2011.[120] In the settlement, the CRMA and TAWC agreed that all three classes of customers would receive an equal percentage of any rate increase.[121] TAWC explained that while the larger industrial customers would receive lower rate increases than smaller industrial customers, the result would be larger plant expansion and more economic growth in the Chattanooga area.[122] However, the settlement agreement between CRMA and TAWC affected only the rates within the industrial

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[117] *Joint Motion for Approval of Rate Case Expenses* (March 16, 2011).
[118] *Initial Order of the Hearing Officer Relating to Proof on Rate Case Expenses and the Joint Motion Filed by the Parties*, pp. 5-6 (March 21, 2011).
[119] *Id.* at 6.
[120] *Summary of Settlement between CRMA and TAWC* (March 28, 2011).
[121] *Id.* at 1.
[122] *Id.* at 1-2.

class.[123]

On April 4, 2011, this docket was convened for consideration of the settlement agreement filed by CRMA and TAWC. The panel directed TAWC to file two sets of tariffs; one set was to reflect an across-the-board increase on all customer classes and individual rates, and the other was to spread the revenue increase proportionately across all customer classes, including industrial customers.[124]

On April 7, 2011 the UWUA filed its objection to the tariffs filed by TAWC asserting that neither tariff incorporated reporting conditions with respect to staffing and valve maintenance issues, which had been placed on the Company by the Authority at the April 4, 2011 Authority Conference.[125] On April 14, 2011, TAWC responded in opposition to the Union's objection.[126]

During the regularly scheduled Authority Conference held on April 18, 2011, the panel voted to deny the Union's objections concerning TAWC's failure to incorporate staffing and valve maintenance reporting requirements into its tariffs, on the condition of TAWC's agreement to submit semi-annual reports concerning its staffing levels and valve operation and maintenance programs to the Utilities Division Chief on April 5th and October 5th of each year.[127] In addition, the panel reconsidered the settlement agreement that had been previously filed by CRMA and TAWC.[128] Thereafter, a majority of the panel voted to approve the settlement agreement of the CRMA and TAWC, and tariffs filed on April 6, 2011 reflecting an across-the-board increase.[129]

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[123] *Notice of Filing Amended Tariffs*, p. 2 (April 6, 2011).
[124] Transcript of Proceedings, p. 65 (April 4, 2011).
[125] *Objection to "Notice of Filing Amended Tariffs"* (April 7, 2011).
[126] *Tennessee American Water Company's Response in Opposition to UWUA's Objection to Notice of Filing Amended Tariffs* (April 14, 2011).
[127] Transcript of Proceedings, p. 10 (April 18, 2011).
[128] *Id.* at 11-12.
[129] Director Sara Kyle voted against the settlement agreement and moved to adopt the tariff to reflect an across-the-board increase to all customer classes and individual rates. Her motion failed for lack of a second. *Id.*

## III. CRITERIA FOR ESTABLISHING JUST AND REASONABLE RATES

In carrying out its ratemaking function, the Authority is obligated to balance the interests of the utilities subject to its jurisdiction with the interests of Tennessee consumers; it is obligated to fix just and reasonable rates.[130] The Authority must also approve rates that provide regulated utilities the opportunity to earn a just and reasonable return on their investments.[131]

The TRA is not bound to follow rate-making methodology that it has employed in the past.[132] Further, the Uniform Administrative Procedures Act authorizes the TRA to take notice of "generally recognized technical and scientific facts within the agency's specialized knowledge," and in the evaluation of evidence the agency is specifically authorized to utilize its "experience, technical competence, and specialized knowledge."[133] The TRA is not to be "hamstrung by the naked record" and can consider all relevant circumstances shown by the record, all recognized technical and scientific facts pertinent to the issue under consideration and may superimpose upon the entire transaction its own expertise, technical competence and specialized knowledge.[134]

The Authority considers a petition for a rate increase filed pursuant to Tenn. Code Ann. § 65-5-103 (2004) in light of the following criteria:

1. The investment or rate base upon which the utility should be permitted to earn a fair rate of return;

2. The proper level of revenues for the utility;

3. The proper level of expenses for the utility; and

4. The rate of return the utility should earn.

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[130] Tenn. Code Ann. § 65-5-101 (Supp. 2011).

[131] *See Bluefield Water Works and Improvement Company v. Public Service Comm'n of West Virginia*, 262 U.S. 679 (1923).

[132] *Tennessee American Water Co. v. Tenn. Regulatory Auth.*, 2011 WL 334678, at *25 (Tenn. Ct. App. Jan. 28, 2011); *CF Indus. v. Tennessee Pub. Serv. Comm'n*, 599 S.W.2d 536, 542-45 (Tenn. 1980).

[133] Tenn. Code Ann. §4-5-314 (2011).

[134] *Tennessee American*, 2011 WL 334678, at *26.

It is settled law that the TRA has discretion with regard to setting rates and may exercise this discretion in selecting among the test periods proposed or the use of different test periods altogether.[135] The TRA is not limited to adopting a single test period in order to make known and measurable adjustments to produce just and reasonable rates.[136]

The TRA has the discretion to use a historical test period, a forecast period, a combination of these where necessary, or any other accepted method of rate-making necessary to arrive at a fair rate of return.[137] The Tennessee Supreme Court has noted in this regard:

> [T]here is no statutory nor decisional law that specifies any particular approach that must be followed by the Commission. Fundamentally, the establishment of just and reasonable rates is a value judgment to be made by the Commission in the exercise of its sound regulatory judgment and discretion.[138]

There is no single, precise measure of the fair rate of return a utility is allowed an opportunity to earn. Therefore, the TRA must exercise its judgment in making an appropriate determination. The Authority, however, is not without guidance in exercising its judgment:

> A public utility is entitled to such rates as will permit it to earn a return on the value of the property which it employs for the convenience of the public equal to that generally being made at the same time and in the same general part of the country on investments in other business undertakings which are attended by corresponding risks and uncertainties; but it has no constitutional right to profits such as are realized or anticipated in highly profitable enterprises or speculative ventures. The return should be reasonably sufficient to assure confidence in the financial soundness of the utility and should be adequate, under efficient and economical management, to maintain and support its credit and enable it to raise the money necessary for the proper discharge of its public duties.[139]

In addition, the United States Supreme Court has determined that regulated firms are

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[135] *Tennessee American*, 2011 WL 334678, at * 20, *citing Powell Tel. Co. v. Tennessee Pub. Serv. Comm'n*, 660 S.W.2d 44, 46 (Tenn. 1983); *Am. Ass'n of Retired Persons v. Tennessee Pub. Serv. Comm'n*, 896 S.W.2d 127, 133 (Tenn. Ct. App. 1994).
[136] *Tennessee American*, 2011 WL 334678 at *3.
[137] *Id.* at *20.
[138] *Powell Tel. Co. v. Tenn. Pub. Serv. Comm'n*, 660 S.W.2d 44, 46 (Tenn. 1983); *citing CF Industries v. Tennessee Pub. Serv. Comm'n.*, 599 S.W.2d 536 (Tenn. 1980).
[139] *Bluefield Water Works & Improvement Company v. Public Service Commission*, 262 U.S. 679, 692-93 (1923); *see also Duquesne Light Co. v. Barasch*, 488 U.S. 299, 310 (1989).

entitled to a return that is "just and reasonable."[140] The rate a firm is permitted to charge should enable it "to operate successfully, to maintain its financial integrity, to attract capital, and to compensate investors for the risks assumed."[141]

The general standards to be considered in establishing the fair rate of return for a public utility are financial integrity, capital attraction and setting a return on equity that is commensurate with returns investors could achieve by investing in other enterprises of corresponding risk.[142] The utility's fair rate of return is the minimum return investors expect, or require, in order to make an investment in the utility.[143] The proper level of return on the Company's capital, including equity capital, must be commensurate with returns on investment in other enterprises having corresponding risk.[144]

Applying these criteria, and upon consideration of the entire record, including all exhibits and the testimony of the witnesses, the panel makes the following findings and conclusions.

## IV. TEST PERIOD AND ATTRITION PERIOD

Establishing a "test period," or "test year," allows the Authority to measure a utility's financial operations and investments over a specific twelve-month period. The test period is used to develop an "attrition year," which is the forecast period used to set rates. The test period takes into consideration revenues, expenses, and investments.

The Company used a normalized historical test period of the twelve months ended March 31, 2010 to forecast attrition period results.[145] The Company made normalizing adjustments to the test period to forecast the results for the attrition period of the twelve months ended December 31, 2011.[146] The CAPD, however, used the twelve months ended September

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[140] *Federal Power Comm'n v. Hope Natural Gas Co.*, 320 U.S. 591, 605 (1944).
[141] *Id.*
[142] *Id.* at 603.
[143] *Id.*
[144] *Id.*
[145] Sheila A. Miller, Pre-Filed Direct Testimony, p. 4 (September 23, 2010).
[146] *Id.*

30, 2010 as its test period for residential, commercial and all other revenue categories, with adjustments for known and reasonably anticipated changes through the attrition year ended December 31, 2011.[147]

The panel finds that both the normalized test period for the twelve months ended March 31, 2010, as proposed by TAWC, and the September 30, 2010 normalized test period, as proposed by Consumer Advocate, are acceptable test periods that best fit each of the individual items being forecasted.[148] Both the Company and the Consumer Advocate are in agreement as to the attrition period, and a majority of the panel votes to adopt the twelve months ended December 31, 2011 as the attrition period.[149]

## V. CONTESTED ISSUES

The positions of the parties and the determinations of the voting panel are set out below for each of the following contested issues related to the determination of a fair rate of return: Section V(A) – Revenues; Section V(B) – Expenses; Section V(C) – Taxes and Fees; Section V(D) - Net Operating Income; Section V(E) – Rate Base; Section V(F) – Revenue Conversion Factor; Section V(G) – Rate of Return; Section V(H) – Revenue Deficiency; and Section V(I) – Rate Design.

### V(A). REVENUE

In order to accurately calculate overall revenues, TAWC's revenues must be calculated for each class of service. This is a two-step process. First, the number of customers must be determined and thereafter, a growth factor is applied to the number of bills for the test period (typically based on historical trend) to arrive at a forecasted number of bills for the attrition period. The forecasted bills are then multiplied by the current rate for each location and class. The next step in the process is to calculate water usage revenue for the attrition period.

[147] John Hughes, Pre-Filed Direct Testimony, pp. 6,8 (January 5, 2011).
[148] Transcript of Proceedings, p. 63 (April 4, 2011).
[149] *Id.* at 63-65.

Generally, usage is forecasted for the attrition period in much the same way as the number of bills. The water usage is then multiplied by the tariffed usage rates to calculate usage revenue. The flat rate revenue amounts and water usage revenue amounts are added together along with any other revenues, such as forfeited discounts, to arrive at the total amount of revenue forecasted for the attrition period for a particular class of service. The goal in forecasting the number of billing determinants is to develop a forecast that reflects what can be reasonably expected to occur in the future, or the attrition period.

TAWC receives revenue from six customer classes: (1) residential; (2) commercial; (3) industrial; (4) other public authority; (5) other water utility; and (6) public and private fire service. TAWC serves the cities of Chattanooga, Lookout Mountain, Lakeview, Suck Creek, and Lone Oak, Tennessee and sells water to Fort Oglethorpe, Catoosa Utility District, Signal Mountain and Walden's Ridge, Tennessee. Other TAWC operating revenues include service fees, late payment penalties, rent sewer revenues, connection fees and miscellaneous fees.

TAWC projected revenues by starting with billing determinants for the test year ended March 31, 2010. Thereafter, five normalizing adjustments were made: "(1) normalized test year adjustments which include annualizing the rate increase for the following: Walden's Ridge effective June 1, 2009, Signal Mountain effective July 1, 2009, Fort Oglethorpe effective November 1, 2009 and a rate decrease for the commercial classification effective September 1, 2009; (2) weather normalization adjustment for the residential and commercial customer classes; (3) eliminating the net change in accrued revenues; (4) adjusting for a duplicate miscellaneous invoice sent March 2010 to one commercial customer; and (5) including revenue for the estimated number of new customers to be added during the attrition year."[150] TAWC estimated the number of new customers based on twenty-three years of historical data. Based on this data, the Company projected an annual growth rate for residential customers of twenty-six additional

[150] Sheila A. Miller, Pre-Filed Direct Testimony, p. 6 (September 23, 2010).

customers monthly.[151] For commercial customers, the Company projected an additional five customers per month. The Company's forecasted total by class was $37,296,457.[152]

The Company's expert, Dr. Edward L. Spitznagel, Jr., provided testimony on weather normalization usage per customer per day for both the residential and commercial customer classes in the attrition year.[153] Dr. Spitznagel stated that temperature and precipitation cause changes in water consumption and more water would be used in hotter and drier periods.[154] Dr. Spitznagel also pointed to the gradual introduction of water saving appliances that reduce water consumption as affecting usage.[155] He rejected temperature as a variable to use in his predictive models and instead, relied on the Palmer Modified Drought Index ("PMDI").[156]

The Company used a bill analysis that reflects the actual billing determinants for the historical test year and is adjusted to normalize any new customers, loss of customers, or changes in usage (for large users) that occurred in the historical test-year, including customer growth through the attrition year, and an adjustment in residential and commercial usage using weather normalized usage per customer per day.[157]

In rebuttal, on the question of weather normalized daily customer usage during the attrition year, Dr. Spitznagel criticized the CRMA's expert for using the previous five-year averages since it would result in an over-statement of future water consumption by failing to take into account declining water consumption trends.[158] Dr. Spitznagel also called into question the CRMA's expert's methodology and usage estimates.[159] Dr. Spitznagel performed various computations to demonstrate that CRMA witness Mr. Gorman's proposal was an inaccurate

[151] TAWC's Responses to the TRA's Data Requests Dated September 20, 2010, Question 13, TN-TRA-01-Q013-REVENUES, p. 47 (September 24, 2010).
[152] *Petition*, Exhibit No. 4, Schedule 1 (September 23, 2010).
[153] Dr. Edward L. Spitznagel, Jr., Pre-Filed Direct Testimony, p. 5 (September 23, 2010).
[154] *Id.* at 2
[155] *Id.* at 3.
[156] *Id.* at 4.
[157] Sheila A. Miller, Pre-Filed Direct Testimony, pp. 5-6 (September 23, 2010).
[158] Dr. Edward L. Spitznagel, Jr., Pre-Filed Rebuttal Testimony, pp. 1-2 (February 8, 2011).
[159] *Id.* at 1-2.

predictor of future water consumption because it used data from the period 2005 through 2009 and claimed that residential and commercial consumption are declining.[160]

Dr. Spitznagel criticized Mr. Novak for simply averaging the R-squares, which could be misleading and would not produce the appropriate measure of variation explained by his model.[161] Disputing Dr. Klein's contention that he was unfamiliar with and had ignored considerable literature on estimating water demand, Dr. Spitznagel stated that he has reviewed more than one hundred papers on water demand and found that few pertain precisely to weather normalization.[162] Dr. Spitznagel contended that the papers cited by Dr. Klein are not useful for normalizing average monthly water usage.[163]

CAPD expert Mr. Novak stated that he assisted in developing the current Weather Normalization Adjustment ("WNA") rules for gas utilities in Tennessee and had presented testimony on the development of the first ever-approved WNA for a public utility in the state of Virginia.[164] Mr. Novak also stated that he developed the TRA Staff's WNA model and has testified on WNA issues in numerous rate cases.[165] Mr. Novak testified that neither the TRA nor its predecessor, the Tennessee Public Service Commission ("TPSC"), has ever directly addressed or approved a WNA for TAWC and the Company's statements and conclusions on this issue are incorrect.[166] Mr. Novak stated that he adapted the Staff's WNA model for gas utilities to fully examine the impact of weather on the Company's rate case in TPSC Docket No. 89-15388 and used it to consider the impact of heating and cooling degree-days and rainfall on the residential and commercial sales volumes using linear regressions.[167] Mr. Novak concluded the correlation

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[160] *Id.* at 2-4.
[161] *Id.* at 5-6.
[162] *Id.* at 7.
[163] *Id.*
[164] William H. Novak, Pre-Filed Direct Testimony, p. 7 (January 5, 2011).
[165] *Id.*
[166] *Id.* at 8.
[167] *Id.* at 9.

factors he used were too poor to suggest a direct causal relationship between weather and water use; therefore, he disregarded the results.[168]

Mr. Novak stated that in TPSC Docket Nos. 91-05224, 93-02943, and 96-00969, all of which involved TAWC, the Company accepted the WNA model that he had proposed in the 1989 rate case.[169] Mr. Novak stated that to the best of his recollection, allowance for the impact of weather was excluded because there was no demonstrated direct causal relationship between weather and water sales.[170] The issues in those three cases were settled between the parties without any allowance for weather normalization.[171] He noted that in testimony before the Kentucky Public Service Commission the Company stated that it has been allowed to use a WNA in Tennessee since 1989.[172] While it is possible that TAWC has included a WNA in each of its petitions for rate increases since 1991, all of those rate cases except the last two were resolved through "black box" settlements with no specific resolution of any weather normalization issue.[173] Mr. Novak stated that the 2006 and 2008 rate cases, however, were fully litigated, with the Company's proposed WNA adjustments never being explicitly adopted by the TRA.[174]

Dr. Klein did not agree with Dr. Spitznagel's weather normalization study.[175] Dr. Klein contended that there is considerable literature on estimating water demand that Dr. Spitznagel was either unfamiliar with or had ignored.[176] Dr. Klein pointed out that Dr. Spitznagel included only weather as measured by the PMDI, but none of the studies cited in Dr. Spitznagel's

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[168] *Id.*
[169] *Id.* at 10.
[170] *Id.* at 11.
[171] *Id.* at 10.
[172] *Id.*
[173] *Id.* at 10-11.
[174] *Id.*
[175] Dr. Chris Klein, Pre-filed Direct Testimony, p. 19 (January 5, 2011).
[176] *Id.*

testimony made use of the index.[177] Thus, Dr. Spitznagel's results could be biased due to the failure to include all relevant variables.[178] Dr. Klein stated that Dr. Spitznagel used very little data, looking at only ten data points for each month, and that measures of good fit and statistical significance are generally unreliable for such small samples.[179]

The CAPD used the actual billing determinates reported for the twelve months ended September 30, 2010 as a basis to project forecasted attrition period revenues.[180] The CAPD's forecasted revenues listed by class totaled $38,399,479.[181] The CAPD disagreed with two areas of the Company forecasted operating revenue.[182] First, the CAPD argued that the WNA proposed by the Company should be disregarded in calculating operating revenue.[183] The total WNA adjustment calculated by TAWC for the year ended December 31, 2011 was $318,523.[184]

In forecasting residential revenues, the CAPD compiled monthly billing determinants for that class.[185] These billing determinants were then combined with data from previous TAWC rate cases filed in 2004 (Docket No. 04-00288), 2006 (Docket No. 06-00290), and 2008 (Docket No. 08-00039) because, in the CAPD's view, the data provided in those cases furnished an excellent history of billing determinants for use in trend analysis.[186] The CAPD's calculation of residential operating revenue, which excluded the Company's WNA revenue reduction, exceeded the Company's calculation by $867,880.[187]

In projecting commercial revenue, the CAPD established billing determinants by trending the number of meters and water usage history from the twelve month period beginning August

[177] *Id.* at 20.
[178] *Id.*
[179] *Id.*
[180] John Hughes, Pre-Filed Direct Testimony, pp. 6,8 (January 5, 2011).
[181] *Id.* at 3.
[182] *Id.* at 3-4.
[183] *Id.*
[184] *Id.*
[185] *Id.* at 6-7.
[186] *Id.*
[187] *Id.* at 8.

2003 through the twelve months ended September 2010 for Chattanooga, Lookout Mountain, Lakeview, and Suck Creek.[188] For Lone Oak, the CAPD used billing determinants from the twelve-month period beginning August 2006 through September 2010.[189] The CAPD's calculation for commercial operating revenue, which excluded the Company's proposed WNA, exceeded the Company's calculation by $147,361.[190]

In projecting industrial revenues, the CAPD established billing determinants by trending the number of meters and water usage history from January 2004 through the twelve months ended September 30, 2010.[191] The CAPD's calculation of industrial operating revenue exceeded that of the Company by $118,733.[192] The CAPD forecasted industrial revenues of $3,520,697 for the attrition period at current rates.[193]

In forecasting Other Public Authority Revenues, the CAPD applied the current rates to its test year billing determinates to arrive at its forecasted attrition period amount.[194] The CAPD contended that the volumetric billing determinants for other public authority revenues in the Chattanooga area have declined from a total of 1,216,889 cubic feet at the beginning of 2004 to a total of 1,025,432 cubic feet in 2009.[195] By using trend analysis on the historical billing determinants, the CAPD detected a decline in volumes and a resulting decline in other public authority revenues.[196] The CAPD forecasted Other Public Authority Revenues of $2,549,888 for the attrition period at current rates.[197]

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[188] *Id.*
[189] *Id.*
[190] *Id.* at 8-9.
[191] *Id.* at 4
[192] *Id.* at 10.
[193] *Id.* at 9.
[194] *Id.* at 10-11.
[195] *Id.*
[196] *Id.*
[197] *Id.*

The CAPD predicted a decline in Other Water Utility Revenue[198] to $1,293,805 during the attrition year ended December 31, 2011,[199] while TAWC estimated that this revenue would remain constant during the attrition period at the test period amount of $1,308,493, which was calculated for the twelve months ended March 31, 2010.[200] The CAPD used the more recent test year data for the year ended September 30, 2010.[201]

The CAPD noted a sharp decline in volumetric usage by Catoosa County during the test year ended September 30, 2010.[202] Based upon this decline, the CAPD forecasted Other Water Utility Revenue would decline by at least $14,688 during the attrition year, noting that the Catoosa Utility District Authority stopped purchasing water from TAWC in 2008.[203]

TAWC calculated Private Fire Service Operating Revenues of $1,735,066 for the attrition period while the CAPD projected $1,719,717.[204] Consistent with the methodology used for other classes of service, the CAPD used historical billing determinants.[205] The CAPD used the trend analysis technique for each pipe size to determine whether any attrition year estimates should be changed.[206] As a result, the CAPD determined that, although the total billing determinants are the same as those in TAWC's forecast, different pipe sizes produced different forecasted revenues.[207] Therefore, the CAPD's trend analysis of Private Fire Service Operating Revenues was $14,688 lower than the amount calculated by TAWC.[208] However, no testimony was offered on Public Fire Service Revenues or Other Operating Revenues. For these categories, the Company projected $1,517,135, and the CAPD projected $1,522,545, for the attrition period of

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[198] The class "Other Water Utility Operating Revenues" included the utility districts of Fort Oglethorpe, Catoosa, Signal Mountain, and Walden's Ridge.
[199] John Hughes, Pre-Filed Direct Testimony, pp. 6,8 (January 5, 2011).
[200] *Id.* at 11-12.
[201] *Id.*
[202] *Id.*
[203] *Id.*
[204] *Id.* at 12-13.
[205] *Id.*
[206] *Id.*
[207] *Id.*
[208] *Id.* at 12-13.

the twelve months ended December 31, 2011.[209] The CAPD amount is greater by an immaterial amount of $5,410.

Mr. Gorman, testifying for the CRMA, attested that Dr. Spitznagel's estimates of 135.93 gallons per customer per day for residential usage and 989.64 gallons per customer per day for commercial usage were simply too low.[210] In fact, the Company's own actual data indicated that Dr. Spitznagel had underestimated daily volume.[211] The CRMA contended that a normal residential consumption estimate of 144.2 gallons per customer per day more reasonably projected actual usage for a residential customer based on historical usage patterns yet still reflected continued water conservation gains.[212] To project the residential usage for Lookout Mountain and Lakeview, the CRMA calculated the percentage change between Mr. Gorman's residential usage estimate and Dr. Spitznagel's for the Chattanooga district and applied that percentage change to volumes that Dr. Spitznagel estimated for Lookout Mountain and Lakeview.[213] Mr. Gorman stated that TAWC's projection of 989.64 gallons per customer per day was not reasonable when compared to the Company's historical data.[214] CRMA recommended that attrition period commercial usage be based on the five-year average of 1,033.6 gallons per day per commercial customer because it was more reasonable and consistent with actual sales volume of commercial customers over the last ten years than the daily volume estimate of 989.64 gallons used by Dr. Spitznagel.[215] Additionally, over the last sixteen years, with the exception of 2009, the actual commercial usage substantially exceeded the estimate proposed by Dr. Spitznagel.[216] Additionally, CRMA pointed out that TAWC's expert used the

[209] John Hughes, Pre-Filed Direct Testimony, Workpaper R-Revenue Comparative Summary (January 5, 2011).
[210] Michael Gorman, Pre-Filed Direct Testimony, pp. 7-8 (January 5, 2011).
[211] *Id.*
[212] *Id.* at 9.
[213] *Id.*
[214] *Id.*
[215] *Id.*
[216] *Id.* at 9-10.

same database and analyzed data for the months of May to September 2009, which was the wettest year since 1895.[217]

TAWC claimed that it did not meet the TRA's revenue forecast adopted in the last rate case, Docket No. 08-00039, and that its revenues have actually decreased by $3.293 million.[218] TAWC claimed that this reduction in revenue accounts for 33.3% of the overall requested rate increase.[219] Nevertheless, in Docket No. 08-00039, the Company had forecasted revenues of $37,142,460 for the attrition period ended August 31, 2009.[220] The CAPD forecasted revenues of $39,492,768. The TRA adopted a revenue forecast of $38,934,309. A comparison of the actual results from TAWC's 3.06 report for the year ended August 31, 2009 (the attrition period used in Docket No. 08-00039) with the revenue figures forecasted by the parties and the TRA showed that the forecast prepared by the TRA was the most accurate. After performing several trend calculations on this historical data and an analysis of the past five years of residential and commercial customer accounts, the Authority accepts as reasonable four of TAWC's normalizing adjustments but excluded weather normalization, as further discussed below.

The Authority rejects the CAPD's projection of meters for the attrition period. During cross-examination, it was unclear which specific information the CAPD relied upon to make its projections, although there was some discussion of data from the 3.06 Monthly Reports. Further, during cross-examination by the Company, the CAPD's witness admitted to having made numerous errors[221] and inappropriate assumptions, and that recognition of these errors had prompted the CAPD to file amended testimony on February 25, 2011, March 1, 2011 and March 8, 2011. The CAPD's projections were found to contain numerous errors and could not be relied

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217 *Id.* at 10.
218 Michael A. Miller, Pre-Filed Direct Testimony, p. 6 (September 23, 2010).
219 *Id.*
220 *In re: Petition of Tennessee American Water Company to Change and Increase Certain Rates and Charges so as to Permit It to Earn a Fair and Adequate Rate of Return on Its Property Used and Useful in Furnishing Water Service to Its Customers,* Docket No. 08-00039, *Final Order*, p. 9 (January 13, 2009).
221 Transcript of Proceedings, Vol. IV B, pp. 133-134 (March 3, 2011).

upon with any degree of certainty. Therefore, the Authroity declines to adopt the CAPD's revenue forecast.

The Company's forecast for residential and commercial usage relied on Dr. Spitznagel's WNA model. In the previous rate case for TAWC, Docket No. 08-00039, the Authority made it clear that it had not previously adopted the Company's WNA mechanism.[222] The panel again rejects Dr. Spitznagel's WNA model as it was applied to the residential and commercial classes because the monthly regressions employed in the model have too few observations to be statistically reliable.

The CRMA's witness, Mr. Gorman, testified that the Company underestimated the level of revenues that it would earn at its current rates by overestimating the effect of a reduction in sales due to conservation.[223] He further stated that sales projections would be $1,217,115 more for the attrition period at current rates than forecasted by the Company.[224] However, the CMRA presented little evidence in the form of supporting schedules or workpapers to demonstrate or justify this assertion. For this reason, the Authority has been unable to verify Mr. Gorman's assertions and does not accept the forecast of revenues presented by CRMA.

The TRA determines that the most reasonable historical data upon which to base usage forecasts is contained in the Company's Rebuttal Exhibit MAM-10, Page 5. The moderate decline in usage per customer from 2005 through 2009 was demonstrated by data the Company provided; however, the TRA further notes that this decline has started to level off. This conclusion is based on what the TRA deems to be the most reliable data in the record for determining the future average residential and commercial usage per customer. The TRA's analysis is based on its calculations applying several methodologies used to examine probable future usage per customer, as well as an examination of the historical volumetric usage provided

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[222] *Final Order*, Docket No. 08-00039, p. 11 (January 13, 2009).
[223] Michael Gorman, Pre-Filed Direct Testimony, p. 7 (January 5, 2011).
[224] *Id.*

by TAWC in its Rebuttal Exhibit MAM-10. This data clearly demonstrates only a moderate decline in customer usage in recent years. While, as TAWC points out, the data may show usage declining substantially over the entire period 1986 through 2010, usage for residential customers has declined by only one-half gallon per day for the more recent period 2004 through September 2009.

The Company's test period usage was determined from the twelve months ended March 31, 2010 based on a review and analysis of five-year customer counts. The residential and commercial usage, as normalized and adjusted for the attrition period, represented reasonable usage for the test period. Again, the TRA declines to adopt weather normalized adjustments to revenue in forecasting usage.

TAWC and the CAPD both projected a small increase in the Industrial, Other Public Authority, Other Water Utilities, Public/Private Fire Service and Other Operating Revenues classifications from the test period to the attrition period. Little or no testimony was provided by either party on these revenues; however, the projected increases were immaterial. Further, the CAPD's revenue projections have been found to be unreliable in this rate case, having been revised by the CAPD's witness three times during the course of the docket. Therefore, the TRA adopts the projection of TAWC for these revenue classes.

Based on the foregoing, the TRA adopts an estimate of $37,614,978 for total operating revenues for the attrition period consisting of the following: (1) residential revenue of $15,555,318; (2) commercial revenue of $11,540,748; (3) industrial revenue of $3,401,964; (4) other public authority revenue of $2,556,253; (5) other water utility revenue of $1,308,493; (6) private fire service revenue of $1,735,066; (7) public fire service revenue of $0; and (8) other operating revenue of $1,517,135.

### V(A)1. AMERICAN WATER RESOURCES ("AWR") WATER AND SEWER PROTECTION PROGRAMS

During the course of the proceedings, the City raised certain issues concerning the Company's relationship, subsidization, and transfer of utility assets and benefits without compensation to its non-regulated affiliate company American Water Resources ("AWR").[225] AWR provides homeowner protection plans to TAWC customers and other AWWC utility customers.[226] These specialized protection programs include water line protection,[227] sewer line protection,[228] and in-home plumbing emergency protection services, which cover certain repairs to the water and/or sewer lines running from a home to the street and for plumbing repairs that occur within the home (lateral water and wastewater lines/facilities owned by the customer, not TAWC), and are designed to insulate homeowners from the unexpectedly high costs that can be associated with water or sewer line failures and in-home plumbing repairs.[229]

Under the *Agreement for Support Services between American Water Resources, Inc. and Tennessee American Water Company ("Service Agreement")* executed on May 1, 2004, TAWC bills to and collects from its mutual customers AWR protection plan charges, distributes AWR promotional marketing materials and customer surveys, and notifies AWR of claims and/or initiates repair services,[230] as follows:

> Billing and Collection. AWR shall provide [TAWC] with a list of enrolled customers in its Programs who have chosen to have charges from AWR included on their bill from [TAWC], and shall keep such list up to date. [TAWC] shall

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[225] Like TAWC, AWR is a wholly-owned subsidiary of AWWC.
[226] Kimberly H. Dismukes, Pre-filed Direct Testimony, pp. 10-11 (January 5, 2011); *see also* Michael A. Miller, Pre-filed Direct Testimony, Exhibit MAM-8, p. 26 of 143 (February 17, 2011).
[227] The Water Line Protection Program offered to TAWC customers, subject to its terms and conditions, provides a service to repair customer-owned water lines that leak or break due to normal wear and tear. TAWC's Responses to The TRA's Fourth Set of Data Requests, Question 152, TN-TRA-04-Q152-ATTACHMENT, p. 23 of 24 (*Service Agreement,* Appendix A) (February 18, 2011).
[228] The Sewer Line Protection Program offered to TAWC customers, subject to its terms and conditions, provides a service to clear or repair blocked customer-owned sewer lines that become clogged or blocked due to normal wear and usage. *Id.*
[229] Kimberly H. Dismukes, Pre-filed Direct Testimony, pp. 10-11 (January 5, 2011); *see also* Michael A. Miller, Pre-filed Direct Testimony, Exhibit MAM-8, p. 26 of 143 (February 17, 2011).
[230] TAWC's Responses to The TRA's Fourth Set of Data Requests, Question 152, TN-TRA-04-Q152-ATTACHMENT, pp. 11-13 & 24 of 24 (February 18, 2011) *(Service Agreement* § 6, pp. 8-10 & Exhibit 1).

> include such charges on the customer's bill and collect such charges from the customer until such time as the customer or AWR notifies [TAWC] that the customer is no longer receiving services from AWR or has elected a different payment option. [TAWC] shall forward collected payments from enrolled customers to AWR within fifteen days following the end of each calendar month for amounts collected during such month. . . . AWR shall be responsible for all collection efforts for non-payment by [TAWC] customers for AWR Programs.[231]

In performing its duty to provide billing and collections services, TAWC includes AWR protection plan charges on its regular bill to the customer, collects payments for such charges, along with its own charges for service, and forwards the payments to AWR.[232] Payments are applied first to utility services, and any remainder is thereafter credited to amounts owed to AWR.[233] Utility service will not be interrupted, stopped, or refused, as a result of non-payment of amounts owed to AWR, and AWR is responsible for all collection efforts necessary due to non-payment by TAWC customers for AWR programs.[234]

In addition, AWR is responsible for the administrative activities of the programs,[235] but TAWC agreed to manage and direct the distribution of materials related to the protection plan programs for its customers:

> Distribution of Promotional Materials. Upon request of AWR, [TAWC] shall manage and direct the distribution of informational and promotional materials regarding the Program to its customers. Such materials shall be developed by AWR and provided to [TAWC] in sufficient quantities and in a timely manner so as not to impede any planned distribution efforts by [TAWC]. The materials shall be distributed as a part of [TAWC]'s normal billing process, unless arrangements are made, at least sixty (60) days in advance, for a special mailing. The materials provided by AWR must be satisfactory in form and content to [TAWC], and nothing in this Agreement shall require [TAWC] to distribute any materials that are not satisfactory to [TAWC]. [TAWC] shall make all reasonable efforts to promptly notify AWR when additional quantities of promotional materials are

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[231] *Id.* at 12-13 of 24 (*Service Agreement,* § 6.1.3, pp. 9-10 & Exhibit 1).
[232] *Id.*
[233] *Id.*
[234] *Id.*
[235] Under § 10.4 of the *Service Agreement,* administration of the AWR protection plan programs include activities such as enrollment, billings, accounting, marketing, financial analysis and reporting. *See,* TAWC's Responses to The TRA's Fourth Set of Data Requests, TN-TRA-04-Q152-ATTACHMENT, p. 17 of 24 (February 18, 2011) (*Service Agreement* § 10.4, p. 14).

> needed. [TAWC] shall have the sole discretion to determine the customers who will receive the informational and promotional materials for the Program.[236]

All promotional and informational materials will be developed, produced, printed and supplied to TAWC, by AWR.[237] Further, AWR provides TAWC with the opportunity to review and approve of all materials in advance of distribution to customers.[238] All materials must be satisfactory to TAWC in form and content and TAWC is not compelled to distribute any materials that it does not determine to be satisfactory. TAWC retains control over the form and content of the AWR materials it distributes, and has discretion to determine which customers will receive these materials. In addition, TAWC reviews and has input as to AWR customer surveys prior to distributing such surveys to its customers.[239]

Finally, under the *Service Agreement,* TAWC has also agreed to provide AWR notification of possible claims:

> Notification of Claim. Should a [TAWC] associate, as a part of his/her normal duties, determine that a [TAWC] customer has a covered occurrence with the Customer's water or sewer service line, the [TAWC] associate shall notify AWR by calling a toll-free telephone number to be supplied by AWR. AWR shall then engage a qualified contractor to provide the covered services to the customer. AWR shall timely provide that necessary information to cause [TAWC]'s customer records to reflect when coverage is available.[240]

Thus, TAWC employees who determine, as part of their duties, that a customer has a covered water or sewer line occurrence are required to notify AWR, who then engages a qualified contractor to provide service in accordance with the protection plan.[241]

In its fee provision, the *Service Agreement* distinguishes the fee paid for billing and collection services from other services:

> 4.1 Fee. The fee paid to Utility by AWR for Services rendered pursuant to this Agreement shall be equal to one hundred and fifteen (115%) percent of the Fully

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[236] *Id.* at 11-12 of 24 (*Service Agreement,* § 6.1.1, pp. 8-9).
[237] *Id.* at 16 of 24 (*Service Agreement,* § 10.1, p. 13).
[238] *Id.*
[239] *Id.* at 24 of 24 (*Service Agreement,* § 6.1.4, p. 10, Exhibit 1(3)).
[240] *Id.* at 12 of 24 (*Service Agreement,* § 6.1.2, p. 9).
[241] *Id.*

> Distributed Costs incurred by Utility in providing the Services *except* for billing and collection services. The Fee for billing and collection services rendered by Utility as set forth in Paragraph 6.1.3 below shall be at a rate of $.405 per customer per billing period and apply in the aggregate to customers participating in one or more of AWR's Programs. The $.405 rate may be adjusted from time to time as determined by the agency having regulatory authority over Utility to be consistent with any other such billing and collection service rates charged by Utility, under tariff, to others.[242]

As noted, TAWC receives 40.5¢ per customer per billing period for the billing and collection services it renders on behalf of AWR. The *Service Agreement* allows for adjustment of this fee by the TRA in order maintain consistency with any other third-party billing and collection fee arrangements extended to others under the Company's tariff. Other, non-billing and collection, services performed by TAWC, as described in the *Service Agreement,* are to be paid at 115% of the Fully Distributed Costs.[243] The *Service Agreement* defines "Fully Distributed Costs" as follows:

> "Fully Distributed Costs" means costs determined in a manner that complies with the standards and procedures for the apportionment of special, joint, and common costs between the [TAWC] and any non-regulated entity in accordance with applicable regulations of the State commission or board having jurisdiction over the operations of [TAWC], except taxes as discussed in Section 5. A fully distributed costing methodology apportions the total costs of a group of services of products, including the authorized rate of return, among the individual services or products in that group.[244]

Thus, TAWC agreed, in summary, to provide billing and collection "at a rate of $.405 per customer per billing period" **and** to provide services other than billing and collection for "one hundred and fifteen (115%) percent of the Fully Distributed Costs incurred" by it.

Through the testimony of its expert witness, Ms. Kimberly H. Dismukes, the City asserted that AWR receives significant tangible and intangible benefits as a result of its affiliate relationship and association with TAWC and made specific recommendations:

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[242] *Id.* at 10 of 24 (*Service Agreement,* § 4.1, p. 7).
[243] For ratemaking purposes, the costs incurred and revenue received by TAWC as a result of providing service(s) are proper considerations for the TRA in setting just and reasonable rates.
[244] *Id.* at 8 of 24 (*Service Agreement,* § 1, p. 5).

AWR receives significant benefits as a result of its relationship with TAWC. I recommend that the TRA increase test year revenue by $1,071,281 for representing the revenue earned by AWR from the Protection Programs provided to TAWC customers. I also recommend that the TRA order a thorough examination of this affiliate relationship. Two areas need to be examined. First, procedures should be developed to ensure that costs are properly allocated to AWR to ensure that ratepayers do not subsidize this nonregulated affiliate. Second, the TRA should attribute revenue (through a royalty fee or other mechanism) to TAWC to ensure that ratepayers receive compensation for intangible and tangible benefits bestowed to the nonregulated Protection Programs offered to TAWC customers.[245]

As described in the *Service Agreement,* TAWC is to receive fee compensation for its billing and collection services[246] and payment of 115% of fully distributed costs for other services. Nevertheless, the City asserted that TAWC provides certain services and intangible assets that benefit AWR, for which it is not compensated.[247] These additional services include the use of TAWC's name and president's signature, logo, reputation, goodwill, corporate image, personnel, and customer names and addresses.[248] Ms. Dismukes highlighted TAWC's efforts to promote AWR's services:

As shown on pages 6, 10, and 13 of Schedule KHD-3, the letters sent to potential customers offering these protection programs were sent on TAWC's letterhead. Moreover, the letters were signed by the President of Tennessee American Water Company. In addition, the letters make strong statements about the potential financial consequences associated with a line break without the program.[249]

The City contended that the transfer of intangible assets and provision of services to AWR, without compensation, demonstrates that "[c]learly there is no arms-length relationship between TAWC and AWR's sale of these Protection Programs."[250] Ms. Dismukes stated:

There are substantial benefits to AWR for its affiliation with TAWC. These benefits include the use of TAWC's name and president's signature, logo, reputation, goodwill, and corporate image; being associated with a large, financially strong, well-entrenched water company; use of TAWC's personnel;

[245] Kimberly H. Dismukes, Pre-Filed Direct Testimony, p. 3 (January 5, 2011).
[246] The City noted that TAWC charged AWR $52,617 in 2007, $43,200 in 2008, $39,365 in 2009, and $40,900 for the twelve months ended September 30, 2010, for its provision of third-party billing services to AWR. *Id.* at 10.
[247] *Id.* at 14-17.
[248] *Id.* at 15.
[249] *Id.* at 14.
[250] *Id.* at 15.

> and use of TAWC's customer names and addresses. All of these benefits were developed as a result of the regulated operations of TAWC. However, AWR obtains these significant benefits because of its association with the regulated utility operations at no cost.[251]

Because of its unique association and direct affiliate relationship, AWR obtains free of charge the benefits of assets generated or developed through TAWC's regulated utility operations.[252] Further, TAWC's intangible assets, which are of significant value in the promotion and sale of AWR homeowner protection plans to TAWC customers, are not compensated under the *Service Agreement.* To compensate ratepayers, Ms. Dismukes recommended that TAWC's new rates reflect this relationship with AWR:

> Because of this, I recommend that the TRA increase test year revenue to include the revenue earned by AWR for the provision of these services that is applicable to TAWC. To estimate this amount, I distributed the AWR Home Services revenue to TAWC based upon its proportion of customers to the total number of regulated customers. My recommendation indicates that test year revenue should be increased by $1,071,281, as depicted on Exhibit KHD-4.
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> The TRA should require payment by AWR to TAWC of a royalty fee on the revenue of AWR attributable to tangible and intangible benefits bestowed by TAWC.[253]

Ms. Dismukes recommended that the Authority increase TAWC's test year revenue to include revenue earned by AWR, based upon the proportion of TAWC customers to AWR's total customer base.[254] The City asserted that AWR has 11,129 water line protection contracts, 6,410 sewer line protection contracts and 2,490 home plumbing contracts in Tennessee,[255] and that these programs were marketed through materials printed using TAWC's name and logo, and signed by the President of TAWC.[256] Ms. Dismukes distributed AWR Home Services revenue

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[251] *Id.*
[252] *Id.*
[253] *Id.* at 16.
[254] *Id.* at 16.
[255] *Id.* at 11; *see also* TAWC's First Supplemental Responses To The First Discovery Request And First Responses to the Supplemental Discovery Request Of The CAPD, TN-CAPD-01-Q77 and Q78 (December 2, 2010).
[256] *Id.* at 14 (Schedule KHD-3).

($47,532,000)[257] to TAWC using the ratio (.0225381) of TAWC Customers (74,774) to the total number of AWWC regulated customers (3,317,672).[258] As a result of this calculation, the City asserted that TAWC's test year revenue should be increased by $1,071,281 to account for revenue earned by AWR from its lucrative marketing arrangement with TAWC.[259] During cross-examination, Ms. Dismukes conceded that it would be appropriate to impute the earnings of AWR's Tennessee-specific operations to the revenues of TAWC to compensate the ratepayers.[260]

The City also asserted that the Authority should require AWR to pay a royalty fee to TAWC on the AWR revenue attributable to its use of TAWC's tangible and intangible assets.[261] Ms. Dismukes pointed out that payment of a royalty fee was consistent with the position taken by TAWC witness, Bernard L. Uffelman, in a book on cost allocation, in which Mr. Uffelman discusses the regulatory practice of requiring a non-regulated affiliate to pay a royalty or referral fee to its regulated utility affiliate for use of the utility's brand name and logo.[262] Finally, Ms. Dismukes recommended that the Authority order a thorough investigation of AWR operations and develop procedures to ensure that TAWC ratepayers do not subsidize AWR, an unregulated affiliate.[263]

The CAPD concurred with the City's assertion that additional revenue should be attributed to TAWC for certain services it performs on behalf of its affiliate, AWR.[264] Specifically, the CAPD agreed that AWR receives considerable benefits as a result of its

[257] As noted in footnote 20 in her pre-filed testimony, Ms. Dismukes obtained AWR Home Service revenue for 2008 from TAWC's response to Schumaker IR 02-39, Attachment 1. *See* Kimberly H. Dismukes, Pre-Filed Direct Testimony, Schedule KHD-4 (January 5, 2011).
[258] *Id.* at 16 (Schedule KHD-4).
[259] *Id.* at 3 (Schedules KHD-2, 3 and 4).
[260] Transcript of Proceedings, Vol. II C, p. 292 (March 1, 2011).
[261] *Id.* at 232, 241-43; *see also* Kimberly H. Dismukes, Pre-Filed Direct Testimony, pp.16-17 (January 5, 2011).
[262] Transcript of Proceedings, Vol. II C, pp. 232, 241-43 (March 1, 2011); *see also* Transcript of Proceedings, Vol. IV B, pp. 81-83 and Hearing Exhibit 53, p. 19 (March 3, 2011).
[263] Kimberly H. Dismukes, Pre-Filed Direct Testimony, p. 16 (January 5, 2011).
[264] *Consumer Advocate and Protection Division's Post-Hearing Brief,* pp. 15-16 (March 21, 2011).

affiliation with TAWC and the use of intangible assets, including TAWC's logo, in the marketing and sale of its products to TAWC customers.[265] Therefore, the CAPD joined with the City in urging the Authority to review the affiliate relationship between TAWC and AWR and consider imputing a portion of AWR's revenues to TAWC.[266]

In response to the City's and CAPD's contentions, the Company, through its witnesses, Mr. Michael A. Miller and Mr. John Watson, asserted that its only participation in the water line/service line protection programs was to provide third-party billing and collection services for AWR at the tariff rate approved by the TRA for such services, which is also the same rate charged to the City of Chattanooga Sanitary Board.[267] Mr. Miller asserted that as TAWC already bills its customers for water service, aside from incremental printing costs, TAWC incurs little, if any, additional cost in providing billing services to AWR:

> The Agreement indicates that TAWC will also bill AWR for any costs not covered by the billing fee at 115% of cost (Article 3.3.2 of the Affiliated Agreement). The Agreement also indicates that TAWC will distribute, upon the request of AWR, informational and promotional materials regarding the AWR programs to its customers though inserts in its billing envelopes, which is the same service TAWC would provide to its contract sewer billing customers upon request.
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> * * *
>
> Other than incremental cost to print additional information on the bill and collect the fees there is little, if any, additional costs incurred by TAWC.[268]

Mr. Miller acknowledged that the Company is not compensated for AWR's use of the signature of TAWC's President used on its marketing materials, and asserted that, under the *Service Agreement,* TAWC is entitled to compensation only when it incurs an additional cost,

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[265] *Id.*
[266] *Id.*
[267] Michael A. Miller, Revised Rebuttal Testimony Amendment, p. 95 (February 17, 2011); Transcript of Proceedings, Vol. VI A, p. 52 (March 7, 2011); *see also* TAWC's First Supplemental Responses to City of Chattanooga's First Discovery Request, TN-COC-01-Q39 and TAWC's First Supplemental Responses To The First Discovery Request And First Responses to the Supplemental Discovery Request Of The CAPD, TN-CAPD-01-Q77 and Q78 (December 2, 2010).
[268] Michael A. Miller, Pre-Filed Rebuttal Testimony, p. 96 (February 8, 2011).

and no such cost is incurred.[269] Mr. Watson contended that his endorsement and approval, as TAWC President, has little value or benefit to AWR in the marketing and sale of the protection plans to TAWC customers.[270] Rather, he asserted that the real benefits accrue to the customers in the important service they receive when, through the AWR marketing materials, they become educated of their responsibilities for certain water service/sewer lines and aware of the significant costs involved in maintaining and repairing those lines.[271]

TAWC asserted that it provides no services to AWR that are not covered by the contract billing fee and that such fees "more than adequately compensate" TAWC for the services it provides to AWR.[272] Nevertheless, Mr. Miller's contentions with Ms. Dismukes's recommendations were founded primarily on the claim that TAWC incurs no additional costs in providing services to AWR over or above what TAWC incurs for the regulated services TAWC is already providing to its customers:

> When any customer calls with a concern about a leak, TAWC employees respond initially. If the leak is identified on the customer's service line, they are so advised. . . . Because the Company's personnel always respond to a customer's service issue regarding a high bill or leak, TAWC does not incur any additional costs when it instructs the customer that the leak appears to be on the customer owned line and they need to call AWR if they have the service line protection with AWR.
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> * * *
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> TAWC has borne no cost for producing or sending that information to its customers.
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> The regulatory process is a cost-based process. While Ms. Dismukes perceives value for these attributes, there is no rate base value or expense recognition allowed by the TRA for them. Thus, TAWC recovers nothing from its regulated customers for these attributes or intangible assets. Therefore, there is no value for

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[269] *Id.* at 99 (February 18, 2011).
[270] Transcript of Proceedings, Vol. III A, pp. 83-84 (March 2, 2011).
[271] Michael A. Miller, Revised Pre-Filed Rebuttal Testimony Amendment, pp. 97-98 (February 17, 2011); *see also* Transcript of Proceedings, Vol. III A, pp. 83-84 (March 2, 2011).
[272] Michael A. Miller, Revised Pre-Filed Rebuttal Testimony Amendment, p. 101 (February 17, 2011).

> those intangible assets recovered from the rate payers, and they should not, and are not entitled to a lower rate from assets to which they do not contribute.[273]

Moreover, TAWC asserted that as there is no overt rate base value or expense recognition in the ratemaking process for intangible assets or attributes, ratepayers have not contributed to the development of such utility assets and, thus, are not entitled to any benefits that the Company may enjoy as a result of intangible assets.[274] Mr. Miller concluded:

> Therefore, because the customers bear no risk for the costs of AWR in the rates of TAWC they are not entitled to any portion of the revenue generated by the contracts between AWR and the customers who elect to accept AWR services.[275]

The Company also disputed the necessity of an investigation concerning the affiliate relationship between TAWC and AWR.[276] Relying on the Schumaker Audit Report, the Company asserted that the management auditors had already examined the relationship between TAWC and AWR and determined that the billing methodology was reasonable.[277] On February 19, 2011, in response to Question 150 in the TRA's Fourth Set of Data Requests, the Company filed income statements related to the AWR Service Line Protection services overall and specifically to their operations in the state of Tennessee as of December 31, 2010.[278]

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[273] *Id.* at 98-99.

[274] *Id.*

[275] *Id.* at 101. Mr. Miller made similar statements in response to TRA data request Question 168:

> Q. For the same years, what was the net effect on TAWC's financial results from the agreement with AWR?
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> A. The revenue from AWR is recorded in account number 403001.AW21 (above the line) and is included in the going-level revenue of this case. Therefore, the revenue from AWR serves to lower the amount of revenue required from the Company's regular water service tariffs. The Company does not track the incremental cost of billing and collecting services for AWR (or for any other third party billing customer, i.e. City of Chattanooga). Because TAWC would have to read the meters, print the bills, mail the bills, and collect the bills even if the third party billing contracts did not exist, other than the small incremental costs of third party billing and collecting (which is automated), the cost is well below the 40.5¢ charged for the service.

*See* TAWC's Responses to the TRA's Fifth Set of Data Requests, Question 168, TN-TRA-05-Q168 (February 22, 2011).

[276] *Id.* at 102; *see also TAWC's Post-Hearing Brief in Support of Its Petition to Change and Increase Certain Rates and Charges,* p. 25 (March 21, 2011).

[277] *Id.*

[278] TAWC's Responses to the TRA's Fourth Set of Data Requests, Question 150, with attached schedules TN-TRA-04-Q150-ATTACHMENT (February 18, 2011).

In fixing just and reasonable rates, the Authority adheres to its precedent and longstanding regulatory policy of looking beyond its regulated utility to consider the impact of the unregulated operations of its affiliate and parent companies.[279] Review of the record demonstrates that, contrary to TAWC's position, by contracting to provide its name and goodwill to AWR, TAWC transferred valuable intangible assets to an affiliate.[280] The regulatory consequences of such a transfer have been broadly recognized: "Where a utility derives benefit from the use of a non-rate-based asset paid for by the ratepayers, [the regulatory commission] may allocate part of the cost borne by the ratepayers to the shareholders."[281] Therefore, "[i]nsofar as the ratepayers have borne the costs for creating value in [the utility's] name and reputation, the ratepayers are entitled to a prudent use of those assets."[282]

In addition, notably under the heading "Notification of Claim," TAWC provided the services of its employees to AWR apart from billing and collection. This type of practice carries with it similar opportunities for improper subsidy:

> Regulated utilities also subsidize their subsidiaries and affiliates when the expertise and experience of the utilities' employees are placed at the disposal of the subsidiaries for consultation and advice. Since ratepayers have paid for these human resources through training, salaries, bonuses and other incentive programs, the diversion of employee resources on subsidiary and affiliate matters imposes costs on the ratepayers.[283]

Accordingly, it has been held that

> it is in the public interest to require [an unregulated affiliate] to compensate [a regulated utility] for the many intangible benefits its receives, including, but not limited to the following: the use of the [utility's] name; the use of the [utility's]

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[279] *See, e.g., TPSC v. Nashville Gas Company,* 551 S.W.2d 315 (Tenn. 1977) (holding that Commission is not bound to observe corporate charters, form of corporate structure, or stock ownership in regulating a public utility and in fixing fair and reasonable rates for its operations).

[280] *See In re: Affiliated Activities, Promotional Practices and Codes of Conduct of Regulated Gas and Electric Companies*, Maryland Pub. Serv. Comm'n, Case No. 8820, *Order* (July 1, 2000); *US West Communications, Inc. v. Washington Utils. and Transp. Comm'n*, 949 P.2d 1337, 1351 (Wash. 1997) (citing cases).

[281] *Rochester Tel. Corp. v. Pub. Serv. Comm'n of New York*, 660 N.E.2d 1112, 1117 (N.Y. 1995), *cited in BellSouth Advertising and Publ'g Corp. v. Tennessee Regulatory Auth.*, 2001 WL 134603, *42 (Tenn. Ct. App. Feb. 16, 2001) (Cottrell, J., dissenting), *rev'd* 79 S.W.3d 506 (Tenn. 2002).

[282] *Rochester Tel.,* 660 N.E.2d at 1117.

[283] *Id.*

> logo; reliance on the [utility's] reputation; immediate access to financing; and the ability to capitalize, through contractual arrangements, on a trained, skilled workforce.[284]

In setting TAWC's rates, the TRA is empowered to assess the adequacy of compensation for these benefits and to take steps to ensure that TAWC's customers are not being made to subsidize a non-regulated company without proper compensation. As stated by the Supreme Court of Washington, "[t]he general rationale for [a regulatory] Commission's authority to review transactions between affiliated companies is fear of collusion in the absence of arm's-length dealings."[285] The Court further stated:

> It does not matter . . . whether the utility paid the affiliate too much money for too little service or property, or whether . . . the utility gave the affiliate something of far greater value than the affiliate paid for in return. The effect in either situation is to give to the shareholders of the affiliate something of value at the expense of the ratepayers of the utility.[286]

These statements are consistent with Tennessee law, which recognizes the TRA's ability to exert jurisdiction over non-regulated affiliates of regulated utilities when necessary for proper ratemaking. As the Tennessee Supreme Court stated over thirty years ago, "a regulatory body, such as the Public Service Commission, is not bound in all instances to observe corporate charters and the form of corporate structure or stock ownership in regulating a public utility, and in fixing fair and reasonable rates for its operations."[287]

TAWC's implementation of the *Service Agreement* with AWR does not adequately compensate TAWC's customers for the disposition of intangible assets or for employee effort and expertise. First, TAWC's statement that it incurs no costs in providing its name and goodwill to AWR lacks credibility. Second, and more importantly, TAWC's implementation of the service contract deprives its customers of proper compensation. Although TAWC provides

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[284] *United Tel. Long Distance, Inc. v. Nichols*, 546 So.2d 717, 719 (Fla. 1989).
[285] *US West*, 949 P.2d at 1348.
[286] *Id.*
[287] *Tennessee Pub. Serv. Comm'n v. Nashville Gas Co.*, 551 S.W.2d 315, 319 (Tenn. 1977), *quoted in BellSouth Advertising and Publ'g Corp. v. Tennessee Regulatory Auth.*, 79 S.W.3d 506, 516 (Tenn. 2002) (recognizing the potential detriment to ratepayers in dealings with non-regulated affiliates).

billing and collection services for which it receives compensation from AWR, TAWC plainly provides other services as well. For example, TAWC has contracted to "manage and direct the distribution of informational and promotional materials regarding the [AWR] Program to [TAWC's] customers." The *Service Agreement* also provides that "[s]hould a Utility associate, as a part of his/her normal duties, determine that a Utility customer has a covered occurrence with the Customer's water or sewer service line, the Utility associate shall notify AWR by calling a toll-free telephone number to be supplied by AWR."

The fact that the *Service Agreement* separates AWR's compensation to TAWC into two components, a fee of $.405 per bill and a fee of 115% of fully distributed costs, acknowledges that TAWC is providing something of value to AWR other than billing and collection. The use of a fully distributed cost method of allocating costs between a regulated utility and its non-regulated affiliate has been deemed acceptable.[288] However, TAWC's position that it "incurs no additional costs" to provide these services is inconsistent with the provision that the fee paid by AWR for services other than billing and collection—services that are clearly part of the *Service Agreement*—will be based on TAWC's fully distributed costs of providing the service. Put simply, TAWC is not distributing the costs between itself and AWR as the *Service Agreement* requires.

More than one option exists for the appropriate regulatory treatment of a utility's disposition of a regulatory asset. One is the imputation of a royalty, an approach suggested by Ms. Dismukes and adopted in some instances.[289] Another may be the use of a contract calling for payment of fully distributed costs, properly applied.[290] TAWC's position, namely, that it incurs no additional costs and therefore has no costs to report, leaves the TRA without sufficient

[288] *See, e.g., In re: Affiliated Transactions*, 183 P.U.R.4th 277 (Md. P.S.C. February 23, 1998).
[289] *See, e.g., In re: St. Lawrence Gas Co., Inc.*, 183 P.U.R.4th 457, New York Pub. Serv. Comm'n, Case No. 97-G-0409, *Order* (January 22, 1998).
[290] This is the approach endorsed by the National Association of Regulatory Utility Commissioners ("NARUC") for allocating indirect costs: "The general method for charging indirect costs should be on a fully allocated cost basis." ROBERT L. HAHNE & GREGORY ALIFF, ACCOUNTING FOR PUBLIC UTILITIES, § 19.03[4][d] (2011).

information upon which to base a royalty. At the same time, this position denies TAWC's customers adequate compensation for the intangible assets.

Faced with the Company's broad dismissal of the AWR issue, the panel decided to impute to TAWC the net income generated from AWR's Tennessee water and sewer line protection programs.[291] This will insure that TAWC's regulated customers are adequately compensated for establishing the value of the asset TAWC transferred. While Ms. Dismukes's conception of this issue is basically sound, the TRA cannot accept her recommendation to impute $1,071,281, as this figure is based upon the total revenue of AWR from all water systems, not just those related to TAWC. Moreover, during cross-examination, Ms. Dismukes admitted that imputing the earnings of AWR's Tennessee-specific operations to the regulated side would be appropriate.[292] Accordingly, the panel concluded that the $306,611 net income generated from AWR's Tennessee water and sewer line protection programs shall be imputed to TAWC.

## V(B) EXPENSES

### V(B)1. SALARIES AND WAGES

The Company forecasted Salaries and Wages Expense of $5,680,299.[293] For current employees, wages for the twelve months ended March 31, 2010 were adjusted to account for the wage level to be paid during the attrition year.[294] The Company calculated the attrition year wage levels by prorating known wage rate increases that will occur during the attrition period.[295] For TAWC Union employees, whose current contract expires on October 31, 2011, the Company assumed a 3% increase effective November 1, 2011 consistent with the Union contract for the

[291] The use of imputation of income is broadly supported in regulatory decisions. *See US West*, 949 P.2d at 1351 and n. 9 (citing cases).
[292] Transcript of Proceedings, Vol. II C, p. 292 (March 1, 2011).
[293] *Petition*, Exhibit No. 2, Schedule 3 (September 23, 2010).
[294] *Id.* at 7.
[295] *Id.*

last five years.[296] For non-Union employees and current salaried employees, the Company calculated the rate based on a 3% wage increase to take effect on January 1, 2011.[297]

The Company sought to expand its employee level from the 109 employees accepted for ratemaking purposes in Docket No. 08-00039 to 110 employees.[298] According to TAWC witness Mr. Watson, the employee level of 110 reflects the number needed and required to meet the expected service levels during the attrition year.[299] Mr. Watson stated that each position had particular responsibilities that played an integral role within the Company; however, due to natural workforce turnover and a recently unplanned termination of ten employees, there were vacant positions.[300] These factors brought TAWC's actual employee numbers down, but TAWC was working diligently to fill the remaining positions.[301] Mr. Watson testified that as of the week of the hearing in this rate case TAWC's employee count was 108.[302]

The Company used a capitalization rate[303] of 15.83% to determine the amount of Salaries and Wages charged to operations and maintenance ("O&M") expense, based on the actual twelve-month average of capitalized labor as of March 2010 (the end of the test period used by TAWC).[304] The Company included Annual Incentive Plan ("AIP") costs of $146,640 in Salaries and Wages Expense. The Company stated that its AIP was changed in 2009 to make the entire individual employee AIP award applicable to each eligible employee's individual goals, which are not tied to the financial performance of TAWC or AWW.[305] The Company also stated that its incentive compensation program is part of its overall compensation plan and was established

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[296] *Id.* at 8.
[297] *Id.*
[298] John S. Watson, Pre-Filed Direct Testimony, p. 21 (September 23, 2010).
[299] John S. Watson, Pre-Filed Rebuttal Testimony, pp. 5-6 (February 8, 2011).
[300] *Id.* at 6.
[301] *Id.* at 6-7.
[302] Transcript of Proceedings, Vol. III A, p. 76 (March 2, 2011).
[303] The capitalization percentage represents the actual time charged to capital projects. The amount of capitalized salaries and wages removed from salaries and wages expense is accounted for (recovered) in rate base.
[304] TAWC's Responses to the TRA's Data Requests Dated September 20, 2010, TRA-01-Q031-ATTACHMENT, p. 2 (September 24, 2010).
[305] Michael A. Miller, Pre-Filed Rebuttal Testimony, p. 80 (February 8, 2011).

to motivate better employee performance. The overall compensation plan is claimed to be market-driven to result in benefits to TAWC's customers. Mr. Miller stated that a "performance based culture does benefit the customer, the employee (who meets high performance goals) and the shareholder."[306]

The CAPD forecasted Salaries and Wages Expense of $4,915,111 for the attrition period.[307] The CAPD argued that TAWC historically has not achieved or maintained the employment levels it forecasted.[308] The CAPD, therefore, opted to use the actual employee level of 104.[309] The CAPD priced out Salaries and Wages Expense using actual wage rates per employee, actual overtime hours as of September 2010, prospective payroll increases as of January 1 of each year pursuant to the Company's policy for salary and non-Union employees, and a 3% annual pay increase on November 1 each year for Union employees, pursuant to their contract.[310] Secondly, the CAPD eliminated 70% ($102,646) of the AIP costs from Salaries and Wages Expense.[311] The CAPD stated that 70% of the incentive payroll claimed by TAWC is based on financial performance measures and opined that any increase in regulated earnings will benefit solely the employees and the shareholders at the expense of the ratepayer.[312] The CAPD stated that it does not object to a mechanism that provides a reward for TAWC's employees for increasing earnings from regulated operations; however, the cost should be charged to those who reap the benefits, namely, the shareholders, and not the ratepayers.[313] The CAPD further noted that this treatment of incentive payroll is in accordance with established TRA precedent and decisions in several other States (Louisiana, Kentucky, Idaho, Connecticut, Illinois and

[306] *Id.* at 81.
[307] Terry Buckner, Pre-Filed Direct Testimony, Exhibit 1, Schedule 5, p. 5 of 9 (January 5, 2011).
[308] *Id.* at 4.
[309] *Id.* at 17.
[310] *Id.* at 13.
[311] *Id.* at 18.
[312] *Id.* at 19.
[313] *Id.*

Oklahoma) which have recently disallowed or limited plans of this type.[314] Additionally, the CAPD used a capitalization percentage[315] of 20.57%, which the CAPD based on the actual average capitalization rate TAWC experienced for the twelve months ended December 31, 2008.

The Union supported TAWC's request for approval to recover the "fully loaded and labor-related expenses" associated with 110 full-time employees but conditioned its support on a requirement that the Company maintain its full-time employee workforce at the 110-person level at all times.[316] The Union based its position on the assertion that (1) the Company testified that it is unable to conduct short and long-term activities in an efficient and cost-effective manner; (2) information provided by the Company showed that the current workforce is composed of a lower number of employees than previously accepted by the Authority; (3) TAWC has not maintained a union-represented workforce that is consistent with the level authorized by the authority; and (4) TAWC acknowledged that its current workforce is insufficient for the cost-effective conduct of either short-term or long-term activities, including valve maintenance.[317]

The Union further testified that TAWC's failure to conduct a valve operation and maintenance program could be significant in times of emergency situations, since the valve maintenance program helps to ensure easy valve location and proper functioning. A failure of this kind could have ripple effects leading to additional customer service disruptions in a larger area, continued water leakage, and considerable damage.[318] Moreover, the Union focused extensively on presenting evidence concerning the condition of valves and valve maintenance by TAWC and related these issues to employee levels at TAWC.

[314] *Id.*
[315] This represents the percentage of employee time spent working on capital projects.
[316] James Lewis, Pre-Filed Direct Testimony, pp. 2-4 (January 5, 2011).
[317] *Id.* at 3.
[318] *Id.* at 15-16.

As this discussion makes evident, the valve and valve maintenance issues brought by the Union became a central focus in this rate case in determining the proper employee levels at TAWC. Initially, these issues were raised by the Union through the Pre-filed Testimony of James Lewis, which was filed on January 5, 2011. Mr. Lewis, who is National Senior Representative for UWUA, Region II, is responsible for handling grievances, arbitrations, and contract negotiations in Florida, Maryland, Pennsylvania, Tennessee, Virginia and West Virginia, including in relation to the unionized portion of the workforce at TAWC.[319]

Attached to Mr. Lewis's pre-filed testimony was a written statement by Mr. Haddock concerning employee levels, valves and valve maintenance at TAWC. As stated previously, this statement was signed by Mr. Haddock but not notarized, yet the Union referred to it as an "affidavit." Thereafter, the Union filed a *Motion to Substitute Affiant* on February 7, 2011 to have a former employee, Mr. Blevins, adopt Mr. Haddock's statements. Mr. Blevins was Field Operations Supervisor for TAWC from 1992 until November 2010. The Hearing Officer denied the Union's motion by Order issued on February 25, 2011, but the Union raised its objection again on February 28, 2011,[320] the first day of the Hearing in Chattanooga, through a *Petition for Appeal of the Hearing Officer's Initial Order*.

The panel voted to uphold the Hearing Officer's Order denying the Union's motion to substitute Mr. Blevins for Mr. Haddock, but the panel allowed the UWUA to call Mr. Haddock as a witness to attest to his own statement regarding TAWC valves. However, the panel also stated that if Mr. Haddock was going to be unavailable, testimony on valves should be heard from Mr. Blevins, having been informed that he would be available during the hearing.[321] Mr. Haddock was subsequently discovered to be unavailable because he was in Washington State and could not return to Chattanooga in time for the hearing. Since TAWC witness Mr. Watson

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[319] *Id.* at 1-2.
[320] Transcript of Proceedings, Vol. I A, p. 49 (February 28, 2011).
[321] Transcript of Proceedings, Vol. II A, p. 6 (March 1, 2011).

had provided pre-filed rebuttal testimony on the valve issue, the panel determined that TAWC would not be unduly prejudiced[322] by the calling of Mr. Blevins, whom TAWC would have an opportunity to cross-examine. The panel upheld the Hearing Officer's ruling striking the portion of Mr. Lewis's statement that referred to Mr. Haddock's statement and excluding the signed statement of Mr. Haddock attached to Mr. Lewis's testimony (UWUA Exhibit 11).[323]

During the public comment period, Mr. Blevins offered comments specifically about a water main break that had occurred in Chattanooga the previous week and the problems TAWC has experienced with its valves.[324] Mr. Blevins discussed TAWC's valve inspection program, staffing, and his knowledge concerning its valve problems.[325] Additionally, as a result of the panel's determination that the valves and valve inspection program was important in this proceeding and testimony concerning this issue needed to be in the record, Mr. Blevins was permitted to testify on the record based on his own personal knowledge of TAWC's valve program. TAWC was also permitted to cross-examine Mr. Blevins.[326]

Also testifying for the Union, Mr. Lewis contended that TAWC's workforce level is not sufficient to continue to ensure safe, reliable, and high quality water services to customers[327] and that even if the TRA approves the employee level TAWC was requesting, TAWC may not fully staff its operations in the future.[328] Mr. Lewis suggested requiring TAWC to submit quarterly reports to the TRA showing both its authorized and its actual employment levels. Further, if TAWC should fail to maintain a workforce level consistent with the authorized number of employees, TAWC should be penalized.[329] This would serve to ensure that TAWC actually

[322] *Id.* at 7.
[323] Transcript of Proceedings, Vol. IV D, pp. 246-247 (March 3, 2011).
[324] *Id.* at 281.
[325] Transcript of Proceedings, Vol. I C, pp. 329-330 (February 28, 2011).
[326] *Id.* at 331-332.
[327] James Lewis, Pre-Filed Direct Testimony, p. 6 (January 5, 2011).
[328] *Id.* at 4.
[329] *Id.*

employs the number of employees that it has requested and, indeed, that it needs.[330]

Testifying for TAWC, Mr. Watson explained that workforce turnover had played a significant role in determining employee levels, and TAWC has been unable to avoid having unfilled positions.[331] Also, turnover at TAWC has been due to retirement, resignations, severance, terminations for cause, deaths, or other events beyond the Company's control, such as medical leave, military duty or personal relocations.[332] Mr. Watson stated that TAWC anticipated having employee levels of 110 full-time equivalents ("FTEs") for 2010-2011 on or about February 28, 2011.[333] TAWC had hired five additional employees, and three additional candidates had accepted offers of employment and were to be hired the week of February 21, 2011.[334]

In his rebuttal testimony, Mr. Watson stated that TAWC has had an ongoing valve inspection program in Tennessee for the past twelve years.[335] In addition, TAWC had invested in a new vehicle that was designed and equipped to provide a comprehensive approach to valve exercising and inspection, and employees have been trained on its use and operation,[336] TAWC keeps an extensive paper records system that contains distribution system valve information, valve maps, valve numbers, construction records, and valve inspection records, similar to a fire hydrant database.[337]

TAWC indicated that it would be willing to provide the number of employees on a quarterly report to the Authority.[338] The Consumer Advocate supported this idea.[339] Mr. Watson also stated that TAWC performs preventive valve maintenance, having set specific goals for

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[330] *Id.*
[331] John S. Watson, Pre-Filed Rebuttal Testimony, p. 8 (February 8, 2011).
[332] *Id.*
[333] *Id.*
[334] *Id.*
[335] John S. Watson, Pre-Filed Rebuttal Testimony, p. 26 (February 8, 2011).
[336] *Id.*
[337] Transcript of Proceedings, Vol. IV D, pp. 301-302 (March 3, 2011).
[338] Transcript of Proceedings, Vol. III A, pp. 34-35 (March 2, 2011).
[339] *Consumer Advocate and Protection Division's Post-Hearing Brief*, p. 22 (March 21, 2011).

2009 and 2010,[340] and had met its valve inspection/operation goals in 2010 except for smaller valves. According to Mr. Watson, TAWC was close to meeting its goal fully but was prevented by an employee's retirement.[341] Mr. Watson testified that additional employees had been hired, and once employee levels were at 110 FTEs, TAWC would be able to meet its valve maintenance goals by the end of 2011.[342]

The Company argued that it had been able to maintain its valves effectively, but it could not continue to perform proper valve operation and maintenance in the longer term without the additional staff requested in its *Petition*.[343] Until this point, TAWC had been able to sustain its valve maintenance program because of the weak economy and a decrease in housing starts in its service area and by shifting employees in other areas to valve maintenance functions.

During cross-examination, Mr. Watson agreed that TAWC's valve exercising, maintenance and inspection program is part of its obligation to operate its system in accordance with good utility practice and an appropriate program for a water utility.[344] Mr. Watson stated that he was not aware of any federal or state mandates for valves or valve maintenance.[345]

Mr. Blevins testified that some valves in TAWC's system had been in disrepair for a number of years.[346] He also stated that TAWC did not have enough employees handling valve maintenance, and often he had trouble finding valves that were sufficiently operational to allow TAWC to carry out a repair. [347] He stated that on occasion he had to conduct repairs without reducing water pressure because he was unable to turn off an inoperable valve.[348] He also testified that TAWC was aware that valves were inoperable and that valve issues had been

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[340] John S. Watson, Pre-Filed Rebuttal Testimony, pp. 26-27 (February 8, 2011).
[341] *Id.* at 27.
[342] *Id.* at 28.
[343] *Id.* at 27.
[344] Transcript of Proceedings, Vol. IV D, p. 319 (March 3, 2011).
[345] *Id.* at 319.
[346] *Id.* at 290-291.
[347] *Id.* at 291.
[348] *Id.* at 295.

discussed during TAWC departmental meetings and group discussions.[349]

In its post-hearing brief, TAWC claimed that the Intervenors were attempting to shift the focus to a variety of irrelevant topics during this rate case, such as TAWC's policies and procedures for inspecting and maintaining the valves.[350] TAWC asserted that Mr. Watson's testimony had disproved the Intervenors' allegations of deficiencies in the valve maintenance program.[351]

The Union replied in its post-hearing brief that the Company's alleged staffing and maintenance deficiencies compromise the quality of service it provides to its customers.[352] The Union stated that its main concern was the potential inclusion in rates of expenses associated with all eighty-two hourly employees being included in the Company's 110 FTE level.[353]

The Consumer Advocate recommended that TAWC be allowed only 104 employees, based on the average number of employees during the test period ended September 2010, because TAWC had a track record of not maintaining authorized employee levels.[354] The Consumer Advocate later modified its position to state that the maximum number of employees should be 107, and the TRA should require a monthly report of employees by name and position.[355]

Tenn. Code Ann. § 65-4-103 provides, in pertinent part, that the TRA has an obligation in setting rates "to take into account the safety, adequacy and efficiency or lack thereof of the service or services furnished by the public utility." Tenn. Code Ann. § 65-4-115 further provides that no public utility shall "provide or maintain any service that is unsafe, improper, inadequate or withhold or refuse any service which can reasonably be demanded and furnished when

[349] *Id.* at 296.
[350] *Tennessee American Water Company's Post-Hearing Brief in Support of Its Petition to Change and Increase Certain Rates and Charges*, p. 118 (March 21, 2011).
[351] *Id.* at 171.
[352] *Id.*
[353] *Id.*
[354] *Consumer Advocate and Protection Division's Post-Hearing Brief*, p. 21 (March 21, 2011).
[355] *Id.*

ordered by the Authority." TRA Rule 1220-4-3-.42(2) requires that a utility "shall make all reasonable efforts to prevent interruptions of service and when such interruptions occur shall endeavor to re-establish service with the shortest possible delay consistent with the safety to its customers and the general public." Both the noted uncertainties surrounding employee levels and the related issue of adequate valve maintenance implicate these regulatory requirements, and the TRA must necessarily consider these issues in setting TAWC's rates for water service.

Based on the record and foregoing considerations, a majority of the panel sets $5,279,477 for Salaries and Wages Expense during the attrition period.[356] As further discussed below, the Salaries and Wages Expense amount that is calculated by the majority utilizes a price out that consists of 110 employees, reflects a deduction of 20% of the current salary of the newly created Government Affairs Specialist position, a 50% reduction ($67,619) to AIP incentive payroll, the elimination in full of allocations to the Long Term Incentive Plan ("LTIP") ($11,403), and a 20.57% capitalization rate.

The Authority agrees that the calculation of Salaries and Wages Expense appropriately begins with 110 employees, but deducts the portion of the current salary of the Government Affairs Specialist that correlates to time spent performing the job function of political lobbying or legislative/governmental actions advocacy.[357] The Company's witness, Mr. Watson, TAWC President, testified that the Government Affairs Specialist position was a newly created position, which replaced a previously contracted service position, filled by the Company on August 30,

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[356] Director Roberson did not vote with the majority and files a separate opinion explaining his position. Additionally, Director Roberson voted to exclude from the calculation the position of Finance Manager because that employee's functions duplicate a portion of the function for finance services that are provided to TAWC by AWWSC. This would reduce TAWC's revenue requirement by $120,333. Transcript of Proceedings, p. 71 (April 4, 2011).

[357] Agreeing with the CAPD's position, Director Roberson moved to amend the pre-filed motion filed by Chairman Freeman to reflect a maximum allocation of 107 employees. Director Roberson derived this employee allocation based on the actual number of current TAWC employees (108) testified by Mr. Watson, President of TAWC, excluding the Government Affairs Specialist position and full salary paid to Mr. Kino Becton, TAWC's newly hired Government Affairs Specialist, who is a registered lobbyist in the State of Tennessee. The results of Director Roberson's amendment, had it succeeded, would have been to reduce the Salary & Wages Expense by an additional $163,944. *See,* Transcript of Proceedings, pp. 68-69 (April 4, 2011).

2010.[358] The duties of the Government Affairs Specialist include working closely with municipal officials, customers, and constituents on local issues, building relationships with state officials concerning activities, plans, and projects of interest to the Company, improving the Company's management of local and state issues, and monitoring changes in municipal, county, state and federal laws and regulations.[359] Mr. Watson estimated that 20% of the Government Affairs Specialist's time would be spent lobbying on behalf of TAWC and its customers.[360]

It is a well-established and long-standing policy of the TRA to disallow expenses related to lobbying when setting utility rates.[361] Consistent with its own policy and precedent, and that of most other state regulatory commissions throughout this country, the majority finds that expenses related to lobbying are expended for the benefit of the Company first and foremost, and are not necessary for the provision of safe and adequate service. Therefore, the majority concludes that insofar as 20% of the Governmental Affairs Specialist's time will be spent lobbying, it is reasonable for ratemaking purposes to deduct a proportional percentage of the current salary allocated to that position (20%).[362]

In addition, the Company testified that in 2009 and 2010, it scaled back some of its planned capital investment projects due to financial constraints following its last rate case order.[363] In light of the reduced completion of capital investment projects, the calculations for plant additions appear unusually low in the test periods used by both the Company and the CAPD and the Company's capitalization rate does not accurately reflect typical activity in this

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[358] John S. Watson, Pre-Filed Direct Testimony, p. 23 (September 23, 2010).
[359] *Id.* at 23-24.
[360] TAWC's First Supplemental Responses To The First Discovery Request And First Responses To The Supplemental Discovery Request Of The CAD Questions 53-126, TN-CAPD-SUPPLEMENTAL-Q086 (December 2, 2010).
[361] Reaffirming its policy and practice of disallowing lobbying expenses in ratemaking, the Tennessee Public Service Commission, which was the predecessor agency of the TRA, stated, "We still believe that the first obligation of the company's lobbyist is to act in a manner that is beneficial to the company, which may or may not be beneficial to the company's customers. We will continue our position that this is an improper expense for rate-making purposes." *In re S. Cent. Bell Tel. Co.*, 22 P.U.R.4th 281, 297 (Dec. 30, 1977); *see also*, 48 P.U.R.4th 493, 496 (Sept. 20, 1982).
[362] TAWC's Responses to the TRA's Data Requests Dated September 20, 2010, TN-TRA-01-Q013, Workpaper Labor 12 months ended 2010 (September 24, 2010).
[363] John S. Watson, Pre-Filed Direct Testimony, pp. 13-14 (September 23, 2010).

category. Therefore, the panel elects to use the CAPD's capitalization percentage of 20.57%. This percentage is the actual capitalization rate for the twelve months ended December 31, 2008, a period that better reflects normal plant additions.

The Company confirmed that its reported AIP amount of $146,640 includes an LTIP of $11,403 of Equity Compensation, leaving a balance of $135,237 as the intended AIP amount. The TRA disagreed with the Company's position that the total of AIP and LTIP costs ($146,640) should be included in Salaries & Wages Expense. However, the CAPD's proposal to remove 70% of these costs based on financial targets is also unsatisfactory because this is the overall amount of AIP available for payment in a given year, and once determined, employee performance is no longer tied to the overall financial goals of AWW.[364]

The TRA determined that one half of AIP ($67,619) should be included in Salaries and Wages, since both TAWC and its customers benefit from AIP through higher financial returns for the Company. Regarding the LTIP plan, this program provides executive or director compensation based on the financial performance of AWWC's stock price. No just and reasonable basis exists for charging ratepayers this type of compensation, which rewards TAWC solely on the basis of financial performance. For ratemaking purposes, therefore, LTIP should be eliminated.

Further, the panel required TAWC to submit semi-annual reports of its staffing levels to the TRA's Utility Division Chief. Specifically, each such report should include (1) the actual number of full-time equivalent employees for the previous period, by month; (2) an explanation of any differences between authorized and actual FTEs; and (3) the date(s) TAWC expects to fill any vacant positions. The panel also required the Company to submit a semi-annual report to the Utility Division Chief regarding its Valve Operation and Maintenance Program. Each semi-annual report should also include (1) the number of employees assigned to the valve program, by

[364] Michael A. Miller, Pre-Filed Rebuttal Testimony, pp. 80-81 (February 8, 2011).

month; (2) the target number of larger and smaller valves scheduled during the preceding period for inspection/operation and maintenance, by month; (3) the number of valves actually inspected/operated and maintained during the report period, by month; (4) the number of valves found to be in need of repair or replacement, by month; (5) the date for repair or replacement of such valves; and (6) if TAWC decided not to repair or replace those valves, the number of valves that were not repaired or replaced and the reason for not doing so.

### V(B)2. PURCHASED WATER

The Company forecasted Purchased Water Expense of $50,962. This amount represents the Company's 2011 purchased water budget.[365] The CAPD originally forecasted $47,708 for the attrition period.[366] This amount is based upon the Company's Income Statements for the twelve months ended September 30, 2010[367] and increased by the CAPD's growth/inflation factor of 1.51%,[368] which was later corrected to 1.40% growth factor.[369] The effect of this adjustment was to decrease Purchased Water Expense from $47,708 to $47,657.[370] On March 1, 2011, the CAPD filed amended testimony changing the residential customer growth factor from 0.89% to 1.05% (utilized to project revenues)[371] and this caused the CAPD's growth/inflation factor to change from 1.40% to 1.48%.[372] The effect of this adjustment was to increase Purchased Water Expense from $47,657 to $47,692.[373]

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[365] TAWC's Responses To The TRA's Second Data Requests Dated October 26, 2010, TN-TRA-02-Q092D-Purchase Water Summary, p. 1 of 28 (December 1, 2010).
[366] Terry Buckner, Pre-Filed Direct Testimony, Exhibit 1, Schedule 5, p. 5 of 9 (January 5, 2011).
[367] Terry Buckner, Pre-Filed Direct Testimony, Workpaper E-PW (January 5, 2011).
[368] Terry Buckner, Pre-Filed Direct Testimony, p. 12 (January 5, 2011).
[369] Terry Buckner, Non-Confidential Direct Testimony Amendment, Workpaper AMENDED E-PW (January 31, 2011).
[370] *Id.*
[371] John Hughes, Amendment to Amended Testimony filed February 25, 2011, Workpaper R-CUSTOMER GROWTH (March 1, 2011).
[372] Terry Buckner, Second Amendment to Direct Testimony, Workpaper AMENDED E-PW (Hearing Exhibit 90) (March 8, 2011).
[373] Terry Buckner, Second Amendment to Direct Testimony, Amended Exhibit 1, Schedule 5, p. 5 of 9 (Hearing Exhibit 90) (March 8, 2011).

The Authority adopts $47,692 as the Purchased Water Expense projection for the attrition period. The panel reasons that the Company provided its budgeted amount but did not supply supporting documentation for its number, and the CAPD's projection is based upon known and measurable changes and accounts for inflation.

### V(B)3. FUEL AND POWER

Fuel and Power Expense is the amount of fuel and power (electricity) necessary to pump TAWC's water to its customers. In order to calculate Fuel and Power Expense, the amount of water to be pumped, adjusted for an allowable water loss percentage, has to be determined. The Company projected total Fuel and Power Expense of $2,511,238 for the attrition period.[374] The calculation was based upon the expected volume of water pumped into the system during the attrition year, and the cost to pump and treat the water.[375] The Company estimated attrition year water sales of 9,878,253,000 gallons (13,171,004 CCF)[376] adjusted by a three year average of lost or unaccounted-for water of 22.70% to arrive at system delivery.[377] The Company used Chattanooga Electric Power Board ("EPB") tariff rates effective on October 1, 2009 adjusted for expected increases for the attrition year as indicated by the EPB. The Company stated that it had contacted an EPB representative during the summer of 2010 to determine rates going forward and was advised to expect 6% increases on both October 1, 2010 and October 1, 2011, along with Fuel Cost Adjustments that would continue monthly in 2010 and could level off or slightly decrease.[378] Later, the Company adjusted its projected attrition year Fuel and Power Expense

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[374] Sheila A. Miller, Pre-Filed Direct Testimony, p. 10 (September 23, 2010).
[375] *Id.* at 9.
[376] 13,171,004 CCF * 7.5 = 9,878,253,000 gallons
[377] TAWC's Responses to the TRA's Data Requests Dated September 20, 2010, TN-TRA-01-Q013-Fuel and Power, p. 3 (September 24, 2010).
[378] John S. Watson, Pre-Filed Direct Testimony, pp. 26-27 (September 23, 2010).

from $2,511,238 to $2,575,657. The Company increased Fuel and Power Expense by $64,419, as a result of using the updated EPB November 2010 Fuel Cost Adjustment.[379]

The Consumer Advocate projected total attrition period Fuel and Power Expense of $2,410,868.[380] The CAPD calculated this cost based on water sales volumes of 13,582,557 CCF[381] for the attrition year. The CAPD incorporated the Fuel Cost Adjustment as of November 1, 2010 and capped the amount of lost or unaccounted-for water loss at 15%, as established by Authority Order in Docket No. 08-00039. The CAPD stated that the cap utilized for lost or unaccounted-for water was the primary difference between the Company and CAPD forecasts of Fuel and Power Expense.[382] On March 1, 2011, the CAPD filed amended expert witness testimony changing its calculation of water sales for the attrition period, utilized in projecting revenues, from 13,582,557 CCF to 13,508,335 CCF.[383] This adjustment decreased the CAPD's calculation of Fuel and Power Expense from $2,410,868 to $2,397,694.[384]

Water that is lost or unaccounted for in the system is water that is still pumped and treated, and TAWC still incurs an expense for the fuel and power needed to pump it. Recovery of the cost of the fuel and power incurred to pump lost or unaccounted-for water is allowed through the setting of a percentage that is then applied to determine Fuel and Power Expense.

The CRMA proposed 15% as an acceptable lost and unaccounted-for water ("UFW") percentage for use in the calculation of both Chemicals Expense and Fuel and Power Expense.[385] The CRMA chose 15% for the following reasons:

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[379] TAWC's Responses To The TRA's Second Data Requests Dated October 26, 2010, Question 113, TN-TRA-02-Q113 (December 1, 2010).
[380] Terry Buckner, Pre-Filed Direct Testimony, p. 20 (January 5, 2011).
[381] Terry Buckner, Pre-Filed Direct Testimony, Workpaper E-FP (January 5, 2011).
[382] Terry Buckner, Pre-Filed Direct Testimony, p. 20 (January 5, 2011).
[383] Terry Buckner, Second Amendment to Direct Testimony, Workpaper AMENDED E-FP (Hearing Exhibit 90) (March 8, 2011).
[384] Terry Buckner, Second Amendment to Direct Testimony, Amended Exhibit 1, Schedule 5, p. 5 of 9 (Hearing Exhibit 90) (March 8, 2011).
[385] Michael Gorman, Pre-Filed Direct Testimony, p. 4 (January 5, 2011).

1. The American Water Works Association "Survey of State Agency Water Loss Reporting Practices" indicates that a reasonable lost water factor is 15% or less;
2. The water loss factor is consistent with the Authority's ruling in Docket No. 08-00039; and
3. The cost of replacing transmission lines is included in this filing, which the CRMA believes will bring the lost water factor down to a more reasonable level.[386]

In contrast, the Company recorded an unaccounted-for water percentage of 22.93% for the twelve-month period ended March 31, 2010.

The Company's water loss increased from the 20.43% level requested in its last rate case (the twelve months ended March 2008) to the 22.70% requested in this rate case. In its testimony, the Company stated it delayed part of its scheduled investment due to its poor earnings. However, the Company included additional plant investment in this rate case. With the additional investment in plant, it is reasonable to expect a decrease in water loss from current levels. The Authority determined that the baseline water loss percentage of 15% for TAWC, the same percentage established in the 2008 rate case,[387] remains viable, and TAWC should continue to strive to meet this goal. Also, the Authority agreed with the evidence put forth by the CRMA, and supported by the CAPD, that a 15% water loss was reasonable. Accordingly, the Authority determined the Fuel and Power Expense for the attrition period to be $2,277,057. This calculation was based on the Company's normalized usage during the test period of 13,132,968 CCF,[388] the rates in effect from the Chattanooga EPB plus the March 2011 Fuel Cost Adjustment, and a 15% water loss percentage.

The Authority uses the EPB's rates, as of October 2009, for the demand cost, energy cost, and the customer charge in the fuel and power calculation for the attrition year and did not include the Company's anticipated 6% increase in EPB rates that were forecasted, but unproven,

[386] *Id.* at 4-5.

[387] On appeal of this issue by TAWC, the Tennessee Court of Appeals affirmed the TRA's decision setting a 15% cap on UFW. *Tennessee Amer. Water Co. v. TRA*, 2011 WL 334678, * 27-28 (Jan. 28, 2011).

[388] *Petition*, Exhibit No. 4, Schedule 2 (September 23, 2010).

for implementation on October 1, 2010. Rather, EPB's actual rate on October 1, 2010 was verified, and the TRA included that $0.0063 current Fuel Cost Adjustment as of March 2011.

### V(B)4. CHEMICALS

Chemical Expense is the cost of chemicals purchased by TAWC necessary to treat the water prior to consumption. The Company initially projected Chemical Expense for the attrition period of $1,069,369. The Company used the attrition year water sales of 13,171,004 CCF,[389] adjusted by a three-year average percentage of lost or unaccounted-for water of 22.70% to arrive at a system delivery amount. The Company used the estimated 2011 contract chemical prices to calculate its Chemical Expense.[390] Later, the Company decreased projected attrition year Chemical Expense by $97,447, as a result of obtaining lower actual 2011 contract prices for chlorine and sodium hydroxide (caustic soda) than originally anticipated.[391] The effect of the adjustment was to decrease Chemical Expense from $1,069,369 to $971,922.[392]

The CAPD forecasted Chemical Expense for the attrition period of $930,961.[393] The CAPD calculated this cost based on water sales volumes of 13,582,557 CCF[394] and known contract prices for 2011.[395] The CAPD capped the amount of lost and unaccounted-for water loss at 15% and stated that its treatment of this expense was consistent with the Authority's Order in Docket No. 08-00039.[396] In amended testimony filed on March 8, 2011, the CAPD changed the water sales calculation for the attrition period that it used in projecting revenues from 13,582,557 CCF to 13,508,335 CCF[397] and decreased its Chemical Expense forecast from

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389 13,171,004 CCF * 7.5 = 9,878,253,000 gallons.
390 Sheila A. Miller, Pre-Filed Direct Testimony, p. 10 (September 23, 2010).
391 TAWC's Responses To The TRA's Second Data Requests Dated October 26, 2010, TN-TRA-02-Q117-Attachment 3, p. 3 (December 1, 2010).
392 *Id.*
393 Terry Buckner, Pre-Filed Direct Testimony, p. 21 (January 5, 2011).
394 Terry Buckner, Pre-Filed Direct Testimony, Workpaper E-CHEM 2 (January 5, 2011).
395 Terry Buckner, Pre-Filed Direct Testimony, Workpaper E-CHEM 1 (January 5, 2011).
396 Terry Buckner, Pre-Filed Direct Testimony, p. 20 (January 5, 2011).
397 Terry Buckner, Second Amendment to Direct Testimony, Workpaper AMENDED E-CHEM2 (Hearing Exhibit 90) (March 8, 2011).

$930,961 to $925,894.[398] The CAPD priced out chemicals using known prices for 2011. The CRMA proposed that a 15% lost and unaccounted-for water percentage was reasonable to use in the calculation of both Chemicals Expense and Fuel and Power Expense for the reasons previously discussed.[399]

The panel determines the Chemicals Expense for the attrition period to be $881,439. Because known and measurable changes are appropriately considered, it was necessary to include the new contract chemical prices in the calculation of the Chemicals Expense. The panel agreed with the CRMA and the CAPD that the Authority should maintain its precedent and set a lost and unaccounted-for water percentage no higher than 15%. Using 13,132,968 CCF as the Company's usage,[400] adjusting for actual contract chemical prices, and applying a 15% capped lost water percentage, the panel finds that Chemicals Expense totals $881,439 for the attrition period.

### V(B)5. WASTE DISPOSAL

The Company forecasted an attrition period Waste Disposal Expense of $197,386.[401] This amount is based upon the actual amount paid during the test period ended March 31, 2010. This amount ($183,965) was adjusted to reflect a 3% rate increase from the City of Chattanooga Sanitary Board effective January 1, 2010, a 2.75% increase effective October 1, 2010, and a 2.75% increase to be effective April 1, 2011, resulting in an adjustment of $13,421 for the attrition period.[402]

The CAPD projected an attrition period Waste Disposal Expense of $172,338.[403] The CAPD used actual book values of $169,774 as of September 30, 2010, which was reported in

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[398] Terry Buckner, Second Amendment to Direct Testimony, Amended Exhibit 1, Schedule 5, p. 5 of 9 (Hearing Exhibit 90) (March 8, 2011).
[399] Michael Gorman, Pre-Filed Direct Testimony, pp. 4-7 (January 5, 2011); *see also*, 8 V(B)3, Fuel and Power.
[400] *Petition*, TAWC Test Period Normalized Billing Determinants, Exhibit No. 4, Schedule 2 (September 23, 2010).
[401] *Petition*, Exhibit No. 2, Schedule 3 (September 23, 2010).
[402] Sheila A. Miller, Pre-Filed Direct Testimony, p. 11 (September 23, 2010).
[403] Terry Buckner, Pre-Filed Direct Testimony, Exhibit 1, Schedule 5, p. 5 of 9 (January 5, 2011).

TAWC's Income Statements, as the test period Waste Disposal Expense.[404] The CAPD increased the test period book value amount by one half of its calculated customer growth factor of .89% plus an inflation factor of .76%.[405] The CAPD later amended its growth factor to 1.4%,[406] and this decreased the CAPD's projected Waste Disposal Expense from $172,338 to $172,151.[407] Thereafter, the CAPD's amended testimony filed on March 1, 2011 changed the residential customer growth factor to be utilized in projecting revenues from 0.89% to 1.05%[408] and this caused the CAPD's growth/inflation factor to change from 1.40% to 1.48%.[409] The effect of this adjustment increased the CAPD's Waste Disposal Expense projection from $172,151 to $172,279.[410]

Considering the evidence in the record and adjusting for known and measurable changes in forecasting for the attrition period, the panel finds $194,993 appropriate for Waste Disposal Expense.

### V(B)6. MANAGEMENT FEES

The category of management fees consists of the charges incurred by TAWC for services provided to it by AWWSC in accordance with their 1989 Service Company Agreement. AWWSC is an affiliated service company established by AWWC to aid, assist, and advise the business operations of AWWC subsidiaries, which includes TAWC, by providing accounting, administration, communications, corporate secretarial, engineering, finance, human resources,

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[404] Terry Buckner, Pre-Filed Direct Testimony, Workpaper E-WASTE (January 5, 2011).
[405] Terry Buckner, Pre-Filed Direct Testimony, p. 12 (January 5, 2011).
[406] Terry Buckner, Non-Confidential Direct Testimony Amendment, Workpaper AMENDED E-WASTE (January 31, 2011).
[407] *Id.*
[408] John Hughes, Amendment to Amended Testimony filed February 25, 2011, Workpaper R-CUSTOMER GROWTH (March 1, 2011).
[409] Terry Buckner, Second Amendment to Direct Testimony, Workpaper AMENDED E-WASTE (Hearing Exhibit 90) (March 8, 2011).
[410] *Id.*

information systems, operations, rates and revenue, risk management, and water quality services.[411] These services are billed to ratepayers at-cost to TAWC.[412]

*Relevant Background*

On May 15, 2007, as part of its deliberations in TAWC's 2006 rate case, the Authority allocated recovery of management fees in the amount of $3,979,825, which was an amount that was slightly lower than the $4,064,421 that TAWC had requested in its petition.[413] Further, the Authority ordered TAWC to obtain a management audit that conformed to the mandates of the Sarbanes-Oxley ("SOX") regulation.[414] The stated purposes of the audit were two-fold: to obtain an independent assessment as to 1) whether the significantly increasing costs incurred by TAWC for management fees reflected prudent decisions on the part of management, and 2) whether the allocation methodology used to charge the costs of the services to TAWC was reasonable.[415]

On March 14, 2008, along with a petition for a rate increase, TAWC filed with the Authority an audit report prepared by Booz Allen Hamilton ("BAH").[416] During the proceeding that followed, the City challenged the independence of the BAH auditor and report, and contended that the audit had not been conducted as the TRA had required, nor in compliance with SOX. After a thorough review and hearing, the Authority held that the BAH report had failed to adequately address the issue of whether the management fees at issue resulted from

[411] *See In re: Tennessee American Water Company's Request for Proposal for a Management Audit,* Docket No. 09-00086, *Notice of Filing of Schumaker & Company's Affiliate Audit Report of Tennessee American Water Company for the Tennessee Regulatory Authority,* Schumaker & Company, Affiliate Audit Report ("Schumaker Audit Report"), p. 13 (September 10, 2010).
[412] *Id.*
[413] *See In re: Petition of Tennessee American Water Company to Charge and Increase Certain Rates and Charges so as to Permit It to Earn a Fair and Adequate Rate of Return on Its Property Used and Useful in Furnishing Water Service to Its Customers,* Docket No. 06-00290, *Order,* p. 26 (June 10, 2008).
[414] *Id.; See also* 15 U.S.C 98 (2002) (Named after Senator Paul Sarbanes and Representative Michael Oxley, who were its main architects, the Sarbanes-Oxley Act of 2002 introduced major changes in the regulation of corporate governance and financial disclosure. Effective in 2006, all publicly-traded companies were required to implement and report internal accounting controls to the SEC for compliance.)
[415] *Id.* at 27.
[416] *See In re: Petition of Tennessee American Water Company to Change and Increase Certain Rates and Charges so as to Permit It to Earn a Fair and Adequate Rate of Return on Its Property Used and Useful in Furnishing Water Service to Its Customers,* Docket No. 08-00039, *Petition* (March 14, 2008).

prudent decisions made by TAWC management, and further, that the audit had not been conducted by an independent auditor in conformity with SOX and as ordered by the TRA in Docket No. 06-00290.[417] Therefore, the Authority determined that TAWC's request of $4,335,190 in management fees was unsupported in the record, and instead allocated $3,529,933 to attrition year expense.[418] Because the Authority concluded that the audit did not comply with the TRA's directive in the 2006 rate case, it further declined to include recovery of the costs of the BAH audit in the rate case. Further, the Authority ordered TAWC to develop and submit for Authority approval, a Request for Proposal ("RFP") for a comprehensive management audit by an independent certified public accountant and set certain minimum requirements and procedural deadlines concerning the RFP.[419]

Following entry of the Authority's Order in Docket No. 08-00039, TAWC filed an appeal with the Tennessee Court of Appeals alleging, among other issues, that the TRA's decisions concerning the management audit and fees were arbitrary and capricious, an abuse of discretion, and erroneous. On January 28, 2011, the Court issued an Opinion in which it found that the decisions of the TRA were not in error, arbitrary, or capricious, but, rather, an appropriate exercise of the agency's discretion and affirmed the TRA's decisions on all of the challenges TAWC had raised concerning the management audit and fees.[420] Finding that because TAWC had failed to meet its burden of proof to show that the charges it had requested were prudent, the Court affirmed the Authority's decision to allocate management fees in an amount that was lower than had been requested by TAWC as an appropriate exercise of the TRA's discretion.[421] Further, the Court affirmed the TRA's decisions concerning its choice of methodology used to

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[417] *See In re: Petition of Tennessee American Water Company to Change and Increase Certain Rates and Charges so as to Permit It to Earn a Fair and Adequate Rate of Return on Its Property Used and Useful in Furnishing Water Service to Its Customers,* Docket No. 08-00039, *Order,* pp.18-22 (January 13, 2009).
[418] *Id.* at 18, 21.
[419] *Id.* at 21-22.
[420] *See Tennessee American Water Co. v. Tenn. Regulatory Auth.,* 2011 WL 334678, at *18-21 (Tenn. Ct. App. Jan. 28, 2011).
[421] *Id.* at *18.

forecast the fees, determinations concerning the lack of independence of BAH, TAWC's chosen auditor, the TRA's subsequent disregard of the BAH report, and disallowance of the costs related to the BAH report.[422]

After announcing its decision in Docket No. 08-00039, the Authority opened Docket No. 09-00086 to accommodate all filings related to the RFP.[423] The TRA Staff continued to work with TAWC in further developing the necessary parameters of the RFP throughout the audit proceedings, until the culmination and filing of the final report. On September 10, 2010, TAWC filed in Docket No. 09-00086 the final management audit report that had been prepared by Schumaker & Company.[424] On September 23, 2010, following a request by TAWC, the Authority entered a protective order in the docket file.[425] On September 27, 2010, TAWC filed the confidential Workpapers and Exhibits that Ms. Schumaker prepared and provided to TAWC in conjunction with the Schumaker Audit Report.[426] Despite ongoing activity in the docket, a request for intervention was not filed in Docket No. 09-00086 until January 2011.[427] On January 24, 2011, Chairman Freeman, acting as Hearing Officer, took official administrative notice in Docket No. 10-00189 of all filings that had been made in Docket No. 09-00086.

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[422] *Id.* at *19-21.

[423] *See In re: Petition of Tennessee American Water Company to Change and Increase Certain Rates and Charges so as to Permit It to Earn a Fair and Adequate Rate of Return on Its Property Used and Useful in Furnishing Water Service to Its Customers,* Docket No. 08-00039, *Order Moving Request for Proposal to New Docket* (July 16, 2009).

[424] *See In re: Tennessee American Water Company's Request for Proposal for a Management Audit,* Docket No. 09-00086, *Notice of Filing of Schumaker & Company's Affiliate Audit Report of Tennessee American Water Company for the Tennessee Regulatory Authority* (September 10, 2010). On December 9, 2010, TAWC filed a replacement disk of the Schumaker Audit Report, originally filed on September 10, 2010, asserting that the originally filed disk contained certain confidential information.

[425] *See In re: Tennessee American Water Company's Request for Proposal for a Management Audit,* Docket No. 09-00086, *Protective Order (As Modified,)* (September 23, 2010).

[426] *See In re: Tennessee American Water Company's Request for Proposal for a Management Audit,* Docket No. 09-00086, *Notice of Filing of Confidential and Proprietary Portions of Workpapers Related to Schumaker & Company's Affiliate Audit Report of Tennessee American Water Company for the Tennessee Regulatory Authority* (September 27, 2010).

[427] On January 6, 2011, following TAWC's filing of a *Motion to Approve and Adopt Schumaker & Company's Affiliate Audit Report of Tennessee American Water Company for the Tennessee Regulatory Authority*, the CAPD filed a petition to intervene in Docket No. 09-00086.

*Positions of the Parties in Docket No. 10-00189*

In the instant rate case, TAWC relied on the cost of service study, and the related testimony, of Mr. Patrick L. Baryenbruch, as well as, in part, upon the findings of the Schumaker Audit Report, to support its contentions that the $5,226,034 it projected in attrition period management fees were reasonable, necessary, and the result of prudent management decisions made by TAWC.[428] Through the study and testimony of Mr. Baryenbruch, the Company asserted that AWWSC's cost of $59.00 per customer was reasonable as compared to an average cost of $95.00 per customer for electric and combination electric/gas service companies.[429] In addition, TAWC had been charged the lower of cost or market for the administrative and professional services, which were vital, efficiently procured, and absent of any profit markup, resulting in substantial savings to the ratepayers and Company.[430] Further, the customer account services provided by the National Call Center are reasonable and fall below an average range of the study's electric comparison group.[431] Mr. Baryenbruch asserted that his study demonstrated that AWWSC's services are necessary, would be required even if TAWC were a stand-alone company, and that no redundancy or overlap exists in the services provided to TAWC.[432] Finally, Mr. Baryenbruch asserted that the Schumaker Audit Report affirmed his study's methodology as a reasonable approach to verifying that the service costs charged to TAWC do not harm ratepayers.[433]

TAWC also filed additional testimony prepared by Mr. Baryenbruch for the purpose of rebutting certain criticisms of Baryenbruch's study that were made by the City's witness, Ms.

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[428] Patrick Baryenbruch, Pre-filed Direct Testimony, attached Market Cost Comparison of Service Company Charges to Tennessee American Water Company 12-Months Ended March 31, 2010 (September 23, 2010).
[429] *Id.* at 4 of 8.
[430] *Id.* at 5-6 of 8.
[431] *Id.* at 6-7 of 8.
[432] *Id.* at 7 of 8.
[433] *Id.* at 7 of 8.

Kimberly H. Dismukes.[434] In response to Ms. Dismukes's criticisms concerning the use of electric and combination electric/gas companies, instead of water companies, as comparisons in analyzing the reasonableness of the service charges allocated to TAWC, Mr. Baryenbruch asserts that his methodology is reasonable because there is no publicly available cost information for water service companies.[435] In addition, very few water companies have a centralized service company arrangement, and those that do are not overseen by a single regulatory agency that requires a standard filing.[436] Further, Mr. Baryenbruch asserted that the differences in the operating and maintenance processes or functions between electric companies and water companies does not result in unreliable results because the study compares administrative and general expenses, rather than O&M expenses, which are similar across utility types.[437]

To calculate its projected management fees, the Company started with historical test-year expenses of $5.008 million, then eliminated a total of $46,230 in non-recurring and other properly excluded expenses to arrive at a normalized historical test-year amount of $4.962 million.[438] Next, the Company increased its normalized historical test-year amount using an annual inflation rate of 3% and adjusted the amount to account for the twenty-one (21) months remaining to the end of the attrition year.[439] The resulting calculation of $5.226 million in AWWSC charges for management fees was included in TAWC's rate case filing.[440]

TAWC's forecast of its 2011 attrition year management fees represented an increase of $1,659,901, or 46.55%, over and above its 2005 management fee expenses.[441] The Company asserted that compelling and justifiable reasons existed for the increases, which had occurred

[434] Patrick Baryenbruch, Rebuttal Testimony of Patrick Baryenbruch (February 8, 2011).
[435] *Id* at 4-5.
[436] *Id* at 5.
[437] *Id* at 5-16.
[438] Michael A. Miller, Pre-Filed Direct Testimony, p. 40 (September 23, 2010). Also note, as discussed previously in this *Final Order*, the Company used a historical test period ending March 31, 2010, and forecasted an attrition period of twelve months ending December 31, 2011.
[439] *Id.*
[440] *Id.*
[441] *Id.* at Exhibit MAM-10.

primarily due to a shift in functions from TAWC to AWWSC and increases in pension and group insurance costs related to financial market conditions, over which TAWC had little control.[442] In addition, an accounting change, in which the costs of capital assets now on the books of AWWSC were offset by the avoidance of those costs on the books of TAWC, contributed significantly to the increase.[443]

The Company filed testimony asserting that, from 2005 until the 2011 attrition year, ratepayers have saved $1.229 million because of the realignment and shifting of services from TAWC to AWWSC.[444] TAWC also asserted that customers benefitted from having (1) round-the-clock call center availability; (2) convenient automated Interactive Voice Response (IVR) contact with the call center; (3) on-line access to TAWC service personnel, which permits the scheduling of service orders at convenient times for the customers; and (4) improved efficiencies in the tracking of service orders and service employees.[445] Citing certain findings that were noted in section IV of the Schumaker Audit Report, the Company further maintained that the Schumaker Audit Report confirmed that the shifting of functions from TAWC to AWWSC had resulted in savings and service improvements to the benefit of TAWC's customers.[446]

Through its witness, Mr. Terry Buckner, the CAPD forecasted $3,653,946 in management fees for the attrition period.[447] In its calculations, the CAPD started with $3,529,933 as its base amount, which had been the management fees amount approved previously in Docket No. 08-00039, then increased this amount by the annual customer growth and GDP rate of 0.54% in 2009; 1.70% in 2010; and 1.60% for 2011.[448] The CAPD asserted that

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442 *Id.* at 46.
443 *Id.*
444 *Id.*
445 *Id.*
446 *Id.* at 47.
447 Terry Buckner, Second Amendment to Direct Testimony, Amended Exhibit 1, Schedule 5 (Hearing Exhibit 90) (March 8, 2011).
448 Terry Buckner, Non-Confidential Direct Testimony Amendment, p. 28 (January 31, 2011).

its calculation was consistent with the methodology adopted by the TRA in Docket No. 08-00039.[449]

Further, the CAPD asserted that TAWC's calculation of management fees was not just and reasonable because it included costs unnecessary for the provision of water service, including: (1) an over-allocation of charges to TAWC primarily based on non-cost causative factors; (2) AIP compensation, which is primarily based on financial goals; (3) Stock Based Compensation Expense, also known as LTIP compensation; (4) Business Development expense, which is devoted to non-regulated operations; (5) External Affairs expense, which is devoted to marketing, advertising, lobbying, and political influence; (6) contained non-recurring accounting charges for changes in financial reporting to the IRS; (7) double counted and overestimated payroll increases; (8) failed to comport with current economic conditions; and (9) included non-normalized salaries.[450]

Through its witness, Ms. Dismukes, the City recommended that three adjustments be applied to management fees. Ms. Dismukes testified that the study conducted by Mr. Baryenbruch, TAWC's witness, contained numerous flaws and failed to demonstrate that AWWSC's charges are necessary, just or reasonable. Ms. Dismukes asserted that just as the operations of electric and gas utilities are very different from water companies, likewise the expenses of electric and gas utilities are dissimilar and, therefore, not comparable to the service company charges of water companies.[451] She contended that Mr. Baryenbruch failed to provide evidence to support his comparative analysis of the service company charges of electric and gas utilities to the charges of AWWSC as appropriate or reliable.[452] Ms. Dismukes recommended a comparison of the AWWSC's charges with that of other water and combination

[449] *Id.*
[450] *Id.* at 29-30.
[451] Kimberly H. Dismukes, Pre-Filed Direct Testimony, pp. 4, 27-33 (January 5, 2011).
[452] *Id.* at 33-39.

water/wastewater utilities, and that the water company comparative analysis she had performed showed that the AWWSC charges were excessive.[453] As a result, Ms. Dismukes recommended that test year management fees be reduced by $4,089,360 in order to reflect a lower cost consistent with the costs incurred by comparable Class A water and combination water/wastewater companies.[454]

For these same reasons, Ms. Dismukes challenged Mr. Baryenbruch's comparison and findings concerning TAWC's customer service costs.[455] She asserted that the inherent differences that exist between water companies and electric and gas utilities would indicate that customer service costs should be less for water companies.[456] In keeping with her comparative approach and analysis using water companies, Ms. Dismukes recommended an additional reduction of $464,661 to expenses for excessive customer costs charged to the Company by AWWSC.[457] In addition, Ms. Dismukes asserted that the analysis employed in Schumaker Audit Report as to the reasonableness of the AWWSC charges in 2008, which compared the service charges of electric and electric/gas companies with AWWSC, an approach similar to that utilized by Mr. Baryenbruch, was similarly flawed and inappropriate and should be rejected by the TRA.[458] Ms. Dismukes further asserted that the analysis contained within the Baryenbruch study did not reliably support a finding that AWWSC's services were provided at the lower of cost or market, nor that the level of services provided by the service company would be required if TAWC were a stand-alone water company.[459]

Finally, Ms. Dismukes recommended the removal of a combined $94,658 for two categories of expenses, which she asserts the Company improperly included: business

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[453] *Id.* at 27-33.
[454] *Id.* at 43.
[455] *Id.* at 43-45.
[456] *Id.* at 4, 43-44.
[457] *Id.* at 4, 44-45; and *see* Transcript of Proceedings, Vol. II C, Hearing Exhibit 35 (March 1, 2011) (Ms. Dismukes revised her recommendation that customer account expenses be reduced from $676,655 to $464,661).
[458] *Id.* at 45-46.
[459] *Id.* at 46-49.

development and corporate government affairs.[460] Business development expenses consist of expenses that the Company claims were incurred for the purpose of growing revenue and customer base.[461] Ms. Dismukes testified that, although TAWC failed to quantify the benefits that customers received from its business development efforts, she had examined the expenses incurred for business development activities at both the regional and national levels and found that the costs incurred by TAWC for business development have not resulted in significant enhancements in customer growth for the Company.[462] Further, Ms. Dismukes contended that TAWC had failed to demonstrate that the business development expenses charged to it by AWWSC are just and reasonable, cost effective, or necessary for the provision of safe and reliable service.[463] Further, Ms. Dismukes asserted that both the Florida and California state regulatory commissions have disallowed expenses related to business development and acquisitions.[464] Therefore, she recommended that $82,861 in business development expenses should be removed from the expenses allocated for the attrition year.[465]

Ms. Dismukes further recommended that expenses related to legislative functions and advocacy performed by service company personnel in the Corporate Government Affairs unit should not be passed on to ratepayers. She asserted that regulators often disallow these types of expenses, and noted that both the Florida and California state commissions do not allow utilities to recover expenses of this type from ratepayers.[466] Ms. Dismukes recommended that the $11,797 charged for legislative functions of corporate government affairs be removed from expenses allocated for the attrition year.[467]

Michael Gorman, witness for CRMA, asserted that no witness for the Company has

[460] *Id.* at 5, 49-55.
[461] *Id.* at 50.
[462] *Id.* at 51-52.
[463] *Id.* at 52.
[464] *Id.* at 53-54.
[465] *Id.* at 53.
[466] *Id.* at 54.
[467] *Id.* at 54.

provided sufficient evidence to the support the substantial increase requested in the rate petition and, therefore, the increase is not known and measurable and should be rejected.[468]

*Findings and Conclusions*

Previously, in Docket No. 08-00039, the TRA determined management fees using the amount forecasted by the Company for its 2005 management fees, as originally filed in Docket No. 04-00288, and applied a growth factor.[469] Based on this methodology, in this case the CAPD utilized the management fees amount that was most recently ordered by the Authority in Docket No. 08-00039 as its base, then applied its recommended growth factor.[470] The Authority disagrees with the CAPD's contention that the methodology used by the TRA to forecast management fees in Docket No. 08-00039 established precedent in this Docket. The method utilized by the Authority to forecast management fees in Docket No. 08-00039 was necessary as a result of the lack of sufficient evidence in the record to support TAWC's forecasted management fees, due in large part to the Company's failure to file a management audit that complied with the requirements ordered by the Authority. Nevertheless, the TRA is not bound to a previously employed methodology when determining the allocations appropriate in future cases. This is particularly true when better, more recent or accurate evidence is presented by the parties or otherwise made part of the record, which would allow the TRA to more accurately forecast future results.

In Docket No. 08-00039, the TRA ordered a comprehensive management audit be conducted by an independent certified public accountant for the primary purposes of investigating the management performance and decisions relating to internal processes and controls of AWWSC and to evaluate that the allocation methodology, factors, and resulting costs

[468] Michael Gorman, Pre-filed Direct Testimony, p. 23 (January 5, 2011).
[469] *See In re: Petition of Tennessee American Water Company to Change and Increase Certain Rates and Charges so as to Permit It to Earn a Fair and Adequate Rate of Return on Its Property Used and Useful in Furnishing Water Service to Its Customers,* Docket No. 08-00039, *Order,* p. 21 (January 13, 2009).
[470] Terry Buckner, Non-Confidential Direct Testimony Amendment, p. 28 (January 31, 2011).

for services charged to TAWC were efficient, accurate, and reasonable.[471] To that end, the Authority initiated the proceedings in Docket No. 09-00086, and wherein, upon completion, was filed the Schumaker Audit Report.[472] In the instant case, both the CAPD and City offered testimony concerning the Schumaker Audit Report, its processes and results. Yet, while the CAPD noted certain concerns about the reliability of the audit, it does not completely reject the methodology utilized or credentials of the auditor.[473] Rather, the CAPD's testimony focuses more on other, alternative methodologies that might have been utilized instead but does not critically analyze the methods and processes employed by Schumaker & Company in its preparation of the Schumaker Audit Report.[474]

In its recent opinion, the Court of Appeals held that the TRA's decision to use the 2005 management fees to forecast fees in Docket No. 08-00039 was a "reasonable, temporary, solution to the dilemma faced [by the TRA] until TAWC could submit a proper management audit."[475] Here, the Authority acknowledges that a new management audit has been performed by Schumaker & Company in compliance with the requirements of the RFP, and that the findings set forth in detail in the Schumaker Audit Report state that the management fees and cost allocations charged to TAWC are reasonable and prudent. Even the City's witness, Ms. Dismukes, agreed that the use of customers to allocate costs to TAWC was acceptable, even though in her opinion other, more superior approaches could have been utilized.[476]

Further, despite the panel's agreement that Mr. Baryenbruch's study cannot be relied

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[471] *See In re: Petition of Tennessee American Water Company to Change and Increase Certain Rates and Charges so as to Permit It to Earn a Fair and Adequate Rate of Return on Its Property Used and Useful in Furnishing Water Service to Its Customers,* Docket No. 08-00039, *Order,* pp. 21-22 (January 13, 2009).
[472] *See In re: Tennessee American Water Company's Request for Proposal for a Management Audit,* Docket No. 09-00086, *Notice of Filing of Confidential and Proprietary Portions of Workpapers Related to Schumaker & Company's Affiliate Audit Report of Tennessee American Water Company for the Tennessee Regulatory Authority* (September 27, 2010).
[473] Terry Buckner, Non-Confidential Direct Testimony Amendment, pp. 23-25 (January 31, 2011).
[474] *Id.*
[475] *See Tennessee American Water Co. v. Tenn. Regulatory Auth.,* 2011 WL 334678, at *20 (Tenn. Ct. App. Jan. 28, 2011).
[476] Kimberly H. Dismukes, Pre-Filed Direct Testimony, pp. 3, 18-20 (January 5, 2011).

upon to conclude that AWWSC provides services at less than the prevailing market rate, the Authority disagrees with the City's contention that $4,089,360 of expenses in service costs should be eliminated from management fees. While the Authority agrees that there were flaws in Mr. Baryenbruch's study, especially as to the billed rates and number of hours billed to professionals, it cannot agree with the City's assertion that Mr. Baryenbruch's study, however flawed, thereby leads to the conclusion that there is no evidentiary basis upon which to allow recovery of a majority of the management fees requested by TAWC.

Therefore, upon consideration of the record, the Authority allocates recovery of $4,741,068 in management fees for the attrition period. It determines this amount based on the Company's normalized amount of management fees of $5,048,200[477] for the twelve months ended September 30, 2010,[478] then eliminates $172,295 for External Affairs expense, $89,720 for Business Development, 50% ($89,734) of the AIP, and adjusts the residual amount by an annual inflation rate of .76% compounded for fifteen months (or .95%).

In its elimination of expenses related to corporate government affairs, the Authority determines that because lobbying expenses are not necessary to the provision of safe and reliable water service, such expenses are appropriately disallowed for rate making purposes. Further, because the Authority concludes that it is not reasonable to allow recovery of an expense that does not enhance customer growth, business development expenses in the amount of $89,720 are eliminated from our calculations. The Authority agrees with TAWC's assertion that both the Company and its customers benefit from AIP through higher financial returns for the Company. For this reason, the Authority therefore approves recovery of one-half of the AIP and correspondingly eliminates 50% ($89,734) of AIP. The elimination of 50% of AIP is consistent

[477] TAWC's December 8th Supplemental Responses To The First Discovery Request And Supplemental Discovery Request Of The CAPD, Question 102, TN-CAPD-SUPPLEMENTAL2-Q102-ATTACHMENT 2 (December 8, 2010).
[478] As noted previously in this *Final Order,* the twelve months ending September 30, 2010 is consistent with the test period recommended and utilized by the CAPD.

with the Authority's removal of 50% of AIP from employee benefits.

Following the aforementioned adjustments to management fees, the panel applies an inflation factor of .95%[479] in order to calculate management fees for the attrition period. The panel utilizes an annual GDP Chained Price Deflator growth rate of .76% as of September 2010, divides this rate by twelve months, then multiplies by fifteen months to arrive at the December 2011 growth rate. The result of these calculations is $4,741,068 for allocation to management fees in this case.

### V(B)7. Group Insurance

The Company projected total Group Insurance Expense of $2,034,757.[480] This category included Group Insurance and Other Post Employment Benefits ("OPEB"). The Company forecasted Group Insurance expenses of $1,075,184.[481] This amount was calculated by applying March 31, 2010 insurance rates to 109[482] anticipated employees. The Company forecasted OPEB of $959,573 for the attrition period.[483] The Company's actuary, Towers/Watson, provided a letter which projects $1,140,000 for the total OPEBs.[484] The Company applied a 15.83% capitalization rate to the OPEBs to remove the capitalized portion of OPEBS from O&M Expense.

Subsequently, the Company adjusted its projection of Group Insurance Expense from $2,034,757 to $2,220,281 for the attrition period.[485] The Company updated the Group Insurance

[479] The mathematic calculation is demonstrated as follows: $5,048,200 - $172,295 - $89,720 - $87,734 = $4,696,451 (This number represents the balance of management fee calculation after the noted reductions, but before application of the growth factor).
[480] *Petition*, Exhibit No. 2, Schedule 3 (September 23, 2010).
[481] *Petition*, Exhibit No. 1, Schedule 3, p. 3 of 6 (September 23, 2010).
[482] There are 110 forecasted employees as stated above in the discussion of Salaries and Wages. One employee, however, opted out of the Group Insurance plan.
[483] *Petition*, Exhibit No. 1, Schedule 3, p. 3 of 6 (September 23, 2010).
[484] TAWC's Responses To The TRA's Second Data Requests Dated October 26, 2010, TN-TRA-02-Q92d-Attachment, p. 9 of 28 (December 1, 2010).
[485] TAWC's Responses To The TRA's Second Data Requests Dated October 26, 2010, TN-TRA-02-Q121-Attachment 2 (December 1, 2010).

portion to $1,260,708 to reflect October 1, 2010 insurance rates.[486] In rebuttal testimony, the Company further revised Group Insurance to $2,434,923 for the attrition period.[487] The Company then applied a capitalization factor of 15.83% to remove the capitalized portion from O&M Expenses.

The CAPD originally forecasted attrition period Group Insurance Expense of $2,166,396.[488] Subsequently, the CAPD adjusted its growth factor and changed the projection of Group Insurance Expense to $2,165,261,[489] including Group Insurance of $1,118,530 and OPEBs of $1,046,730.[490] Group Insurance of $1,118,530 was priced out based on October 1, 2010 insurance rates and 104 Employees.[491] The CAPD used the actual book value listed in TAWC's Income Statements for its test period of the twelve months ended September 30, 2010 as a starting point for OPEBs and then increased its estimate of OPEBS by its inflation factor plus one-half of the customer growth.[492] The CAPD filed amended testimony on March 1, 2011 in which it changed the residential customer growth factor utilized to project revenues from 0.89% to 1.05%,[493] and this caused the CAPD's growth/inflation factor to change from 1.40% to 1.48%.[494] The effect of this adjustment was to increase the CAPD's figure for Group Insurance Expense from $2,165,261 to $2,166,035.[495]

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[486] *Id.*
[487] TAWC's February 22nd Supplemental Revised Accounting Exhibits and Workpapers, Revised Exhibit No. 2, Schedule 3 (February 22, 2011).
[488] Terry Buckner, Pre-Filed Direct Testimony, Exhibit 1, Schedule 5, p. 5 of 9 (January 5, 2011).
[489] Terry Buckner, Non-Confidential Direct Testimony Amendment, Amended Exhibit 1, Schedule 5, p. 5 of 9 (January 31, 2011).
[490] Terry Buckner, Non-Confidential Direct Testimony Amendment, Workpaper AMENDED E-GI (January 31, 2011).
[491] Terry Buckner, Pre-Filed Direct Testimony, Workpaper E-GIA (January 5, 2011).
[492] Terry Buckner, Non-Confidential Direct Testimony Amendment, Workpaper AMENDED E-GI (January 31, 2011).
[493] John Hughes, Amendment to Amended Testimony filed February 25, 2011, Workpaper R-CUSTOMER GROWTH (March 1, 2011).
[494] Terry Buckner, Second Amendment to Direct Testimony, Workpaper AMENDED E-GI (Hearing Exhibit 90) (March 8, 2011).
[495] *Id.*

The TRA adopts an attrition period forecast of $2,111,420 for Group Insurance Expense, after removing the capitalized amount using a 20.57% capitalization percentage, again consistent with the panel's treatment of Salaries and Wages Expenses. This forecast consisted of $1,189,740 related to Group Insurance costs and $921,680 related to OPEBs. This amount was calculated by using the 109 employees (out of the 110 anticipated employees) enrolling in the plan and the October 1, 2010 insurance rates to price out the Group Insurance and then applying the CAPD's capitalization percentage of 20.57% consistent with Salaries and Wages Expense. The OPEB amount for the attrition period was based on contribution under the funding policy amount of $38,678,936 for AWWSC from the latest actuarial report. This amount was allocated from the service company to TAWC at 3%. The capitalized amount of TAWC's portion was then revised, using the CAPD's 20.57% capitalization percentage, again consistent with the treatment of Salaries and Wages Expenses.

**V(B)8. PENSION EXPENSE**

The Company initially forecasted Pension Expense of $1,645,113 for the attrition period.[496] This amount was taken from a letter written by the Company's actuary, instead of the annual actuarial report that has been used in past cases, which stated that the minimum ERISA contribution for the service company would be $109.8 million for 2011.[497] Based on this, the amount to be allocated to TAWC would be 1.78% or $1,954,440.[498] The Company then applied its capitalization factor of 15.83% to eliminate the capitalized portion from O&M Expenses to reach its initial forecast.[499] Subsequently, the Company revised Pension Expense from $1,645,113 to $2,062,140. The revision was a result of a quarterly update from the actuary to the Company, which updated the forecast of minimum pension contributions for the service

[496] *Petition*, Exhibit No.2, Schedule 3, p. 3 of 6 (September 23, 2010).
[497] TAWC's Responses to the TRA's Data Requests Dated September 20, 2010, TN-TRA-01-Q013-Labor, p. 12 (September 24, 2010).
[498] *Id.*
[499] Sheila A. Miller, Pre-Filed Direct Testimony, p. 7 (September 23, 2010).

company to $137.6 million. The Company revised Pension Expense and allocated TAWC's portion (1.78% of the minimum ERISA contribution, or $2,449,880) then reduced that amount by the Company's capitalization percentage of 15.83%.[500]

The CAPD forecasted $1,552,412 attrition period Pension Expense.[501] The CAPD adopted $1,954,440, which was the 1.78% Tennessee portion of the original pension funding amount calculated by the Company and then applied its capitalization percentage of 20.57% to eliminate the capitalized portion from O&M Expenses.[502] The CAPD stated that the quarterly update from the actuary, which the Company relied upon, had a footnote stating that $37 million is "[s]ubject to change pending the results of the July 1, 2011 valuation, which will be known in late August."[503] The CAPD stated that it is reluctant to set rates on a pension contribution which is not known by the actuary and is subject to change.[504]

The Authority adopts an attrition period forecast of $839,965 for Pension Expense. The Authority has historically included in rates the minimum required contribution as recommended in the latest actuarial report, rather than a preliminary estimate in a letter from the actuary. The actuarial report submitted by the Company recommended a minimum contribution of $59,409,620 as of July 1, 2009.[505] The Authority adopted Pension Expense for TAWC based on an allocation factor of 1.78% applied to recommended minimum contributions set forth in the latest actuary report. The Company's portion of ERISA minimum pension contribution was multiplied by the CAPD's capitalization percentage of 20.57% to arrive at attrition period Pension Expense of $839,965.

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[500] TAWC's December 17th Supplemental Responses To The CAPD's Discovery Requests, TN-CAPD-01-PART III-Q48-Supplemental Confidential Attachment 3 (December 17, 2010).
[501] Terry Buckner, Pre-Filed Direct Testimony, Workpaper E-PENSION (January 5, 2011).
[502] *Id.*
[503] Terry Buckner, Pre-Filed Direct Testimony, pp. 41-42 (January 5, 2011).
[504] *Id.* at 42.
[505] TAWC's Responses to the TRA's Data Requests Dated September 20, 2010, TRA-01-Q36-ATTACHMENT, pp. 55, 60 (Actuarial Report April 2010) (September 24, 2010).

### V(B)9. REGULATORY EXPENSE

The Company projected $379,918 in Regulatory Expense for the attrition period. This amount represents the total of the amortization of various rate case expenses sought by the Company and included in this case. The Company stated in its testimony that it was seeking the following:

1. Estimated cost of this case ($645,000) amortized over 3 years;
2. Estimated cost of service study for this case ($42,500) amortized over 3 years; and
3. 12 months of amortization of 2006 rate case, 2008 rate case, 2008 cost of service, and the 2008 depreciation study totaling $150,751.[506]

In rebuttal testimony, the Company projected $847,368 in Regulatory Expense for the attrition period, which is $467,450 higher than stated in the *Petition*.[507] Part of the difference related to the Tennessee Court of Appeals' decision reversing the Authority's disallowance of $275,000 in rate case expense from Docket No. 08-00039.[508] The Company proposed to include that rate case expense, which the Company had absorbed since September 2008, in the attrition year. The Company also increased the expected cost of this case from the $645,000 estimated in the *Petition* to a total of $1,240,492.[509] The Company updated the current rate case expense by (1) including the actual costs incurred to date as of January 31, 2011, (2) adding the estimated additional legal costs for the witnesses' rebuttal testimony, which included two new witnesses whose testimony was not originally anticipated, and (3) adding the estimated costs associated with conducting a full evidentiary hearing in Chattanooga.[510] The Company stated that these costs were reasonable based on the volume of discovery requests propounded by the Intervenors, the number of issues raised and addressed by the Intervenors in the testimony they presented, the

[506] Sheila A. Miller, Pre-Filed Direct Testimony, pp. 12-13 (September 23, 2010).
[507] TAWC's Revised Accounting Exhibits and Workpapers, Revised Exhibit No. 2, Schedule 3 (February 14, 2011).
[508] Michael A. Miller, Pre-Filed Rebuttal Testimony, p. 78 (February 8, 2011).
[509] *Id.*
[510] *Id.*

number of discovery disputes, the increased number of Intervenors, and the cost of moving the evidentiary hearing to Chattanooga.[511]

The CAPD projected Regulatory Expense for the attrition period of $195,284.[512] The CAPD stated in its testimony that its calculation of Regulatory Expense included the following:

1. Amortization for the cost of service studies performed in Docket No. 06-00290 at $8,004 per year and in Docket No. 08-00039 at $3,204 per year;
2. Amortization of the depreciation study in Docket No. 08-00039 amounting to $7,826 per year;
3. Amortization of rate case costs associated with Docket No. 08-00039 at $68,750; and
4. Estimated cost of this case ($322,500) amortized over three years at $107,500 for the attrition period.[513]

The CAPD did not include amounts for the cost of service study performed in the current docket. The CAPD eliminated this cost from its calculation of Regulatory Expenses asserting that (1) it is unacceptable to use "judgment factors" for a cost of service study because it would result in a cost of service study that cannot be independently verified or corroborated, and (2) the results of the cost of service study were not used by the Company in setting the proposed rates.[514] On March 8, 2011, the CAPD provided revised exhibits projecting Regulatory Expenses of $298,884, which included the following:

1. Amortization for the cost of service studies performed in Docket No. 06-00290 at $8,004 per year and in Docket No. 08-00039 at $3,204 per year;
2. Amortization of the depreciation study expense in Docket No. 08-00039, amounting to $7,826 per year;
3. Amortization of rate case costs associated with Docket No. 06-00290 ($44,433);
4. Amortization of rate case costs associated with Docket No. 08-00039 ($68,750); and
5. Amortization of the estimated cost of this case ($500,000) over three years at $166,667 for the attrition period.[515]

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[511] *Id.*
[512] Terry Buckner, Pre-Filed Direct Testimony, Exhibit 1, Schedule 5, p. 5 of 9 (January 5, 2011).
[513] *Id.* at 41-43 (January 5, 2011).
[514] William H. Novak, Pre-Filed Direct Testimony, p. 6 (January 5, 2011).
[515] Terry Buckner, Second Amendment to Direct Testimony, Workpaper AMENDED E-REG (Hearing Exhibit 90) (March 8, 2011).

On March 8, 2011, prior to the close of the Hearing, the City motioned to exclude from the record certain exhibits consisting of revised schedules and rebuttal testimony filed or offered by TAWC that purported to increase TAWC's revenue requirement from the $9.9 million originally petitioned to approximately $11.5 million, of which a portion reflected an increase in rate case expense from $645,000 to $1.2 million, which TAWC asserted was properly considered by the Authority in setting rates.[516] Despite denial of the motion by Chairman Freeman, TAWC offered additional explanation of its position as to the appropriate use of the revenue information by the TRA.[517] The City objected, and reasserted its position that that such evidence should not be included or considered in the record.[518]

Following the arguments of the parties, Director Roberson stated that over the years he had seen a significant and dramatic increase in the amount requested for rate case expenses and voiced his concern that in this case, the testimony, exhibits, and responses to data requests failed to provide a sufficient evidentiary record upon which the TRA could base a decision on the issue of rate case expense requested by the Company.[519] Citing the Court of Appeals recent Opinion in which it reversed the TRA's decision to cut in half the rate case expenses allowed in Docket No. 08-00039, finding that such decision was arbitrary due to a lack of specific evidence in the record and Final Order, Director Roberson moved that the Company provide detailed evidence of its rate case expenses, including itemized bills from experts, attorneys, and Company witnesses, to demonstrate that the rate case expenses being claimed are necessary, reasonable, and prudent.[520] Director Roberson further moved to direct the Company to file this evidence through

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[516] Transcript of Proceedings, Vol. VII B, pp. 114-115 and pp. 119-128 (March 8, 2011) (concerning City's "third item" for discussion).
[517] *Id.* at 119-121, 123-124.
[518] *Id.* at 121-123.
[519] *Id.* at 124-125, 127.
[520] *Id.* at 125-126 (citing *Tennessee American Water Co. v. TRA,* 2011 WL 334678 *27 (January 28, 2011) (holding that the record and Final Order did not explain which specific expenses the TRA deemed unnecessary, improvident, or improper, or that the Authority closely examined the costs associated with the rate case to determine the portion

affidavits or supplemental testimony, which was to be accompanied by bills, invoices, or other supporting documentation, and to grant the Intervenors an opportunity to respond through affidavits, live testimony, or supporting documentation, if necessary, so that the TRA would have a complete record on rate case expenses on the basis of which the Authority would closely examine the costs associated with this rate case.[521] Finally, Director Roberson moved that the Authority hear limited testimony with the appropriate cross-examination of witnesses in an expedited hearing to be held on March 28, 2011 exclusively on the issue of rate case expense.[522] The motion was approved unanimously by the panel.

On March 16, 2011, the parties filed a *Joint Motion for Approval of Rate Case Expenses* in which the parties agreed to limit the amount of rate case expenses approved in this docket to $645,000, as filed in the Company's original *Petition*. All of the parties in this docket asked that the Authority approve the agreed amount as the final rate case expenses to be recovered by TAWC without the necessity of further proof and in lieu of a separate proceeding on the issue. The parties' agreement reflected an effort to expedite the completion of the case and, thereby, avoid the possibility of TAWC implementing the full amount of its rate request under bond prior to April 5, 2011.[523] On March 22, 2011, the Hearing Officer entered an Initial Order[524] that found that the filing of the *Joint Motion* acted as a stipulation of the parties as to the issue of the rate case expense to be recovered in this case and concluded that no further proceedings, including the filing of testimony or convening of a hearing for the purpose of cross-examination

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to be recovered by rate payers, and further admonishing that such examination should have taken place and its results included in the record and Final Order).

[521] *Id.* at 126-127.

[522] *Id.*

[523] The Company would have been entitled to implement under bond the full amount of the requested rate increase under Tenn. Code Ann. § 65-5-103 (2004) in the event that the TRA did not render a final decision within six months of the Company's filing of its *Petition*.

[524] *Initial Order of Hearing Officer Relating to Proof on Rate Case Expenses and the Joint Motion Filed by the Parties*, pp. 5-6 (March 22, 2011).

of evidence, were necessary.[525] Furthermore, the decision to accept the amount proposed was within the purview of the voting panel assigned in this docket, and in light of this development, convening a separate proceeding on the issue of rate case expense at this time imposed an additional and unnecessary expense on the parties and, possibly, on the ratepayers of TAWC.[526]

During the hearing, the panel adopted an attrition period forecast of $277,880 for regulatory expenses. This included:

1. Amortization of attrition year unamortized balance of rate case costs associated with Docket No. 08-00039 of $146,139 for an annual cost of $48,713;
2. Cost of this case ($645,000) amortized over three years starting in April for an annual cost of $215,000; and
3. Estimated cost of service study for this case ($42,500) amortized over three years for an annual cost of $14,167.

In addition, this matter came before the panel during the regularly scheduled Authority Conference held on August 22, 2011, for consideration of the method by which recovery of $275,000 in regulatory fees due the Company following reversal of the TRA's decision in Docket No. 08-00039 by the Court of Appeals.[527] A majority of the panel voted to allow recovery of the $275,000 regulatory expense through a separate line item charge on customer bills, which will discontinue once the full amount has been recovered.[528] The Company was directed to file tariffs to include the surcharge, including all supporting calculations, within ten days and to work with the TRA Staff on the acceptable line item language for inclusion in customers' bills.[529]

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[525] *Id.*
[526] *Id.*
[527] The Court of Appeals issued its mandate in that appeal on June 7, 2011.
[528] Director Kyle moved to allow TAWC to recover the $275,000 through a temporary increase in fixed monthly service charges and usage rates, as proposed by the Company, which would reduce to current levels when the Company had collected the $275,000 in full, and directed that the Company file all documentation for the new rates and work with David Foster, Chief, and Pat Murphy, Deputy Chief, of the TRA's Utilities Division. This motion failed for lack of a second.
[529] Transcript of Proceedings, p. 79 (August 22, 2011).

### V(B)10. Insurance other than Group

The Company proposed $485,904 for the attrition period in Insurance Other than Group Expense.[530] The attrition period expense is calculated using the Company's 2010 actual insurance premiums of $477,086.92, less the Auto Liability Insurance of $28,300.36, for a total premium amount of $448,786.56 in 2010. The Company then adjusted the premiums for inflationary increases, which were provided by AWWC's insurance broker based upon the current commercial insurance market conditions.[531]

The CAPD forecasted $322,262 for the attrition period in Insurance Other than Group Expense.[532] The CAPD started its calculation using the September 30, 2010 income statement balances from Insurance General Liability, Insurance Workman's Compensation, and Insurance Other,[533] then applied a growth factor of 1.51%.[534] Later, the CAPD revised its growth factor to 1.40% and adjusted Insurance Other than Group Expense to $321,913.[535] The CAPD filed amended testimony on March 1, 2011, which changed the residential customer growth factor utilized in projecting revenues from 0.89% to 1.05%.[536] This amendment caused the CAPD's growth/inflation factor to change from 1.40% to 1.48%,[537] and increased Insurance Other than Group Expense from $321,913 to $322,151.[538]

The Authority adopts the CAPD's attrition period forecast of $322,151 for Insurance Other than Group because it reflected a verified downward trend of actual insurance premiums

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[530] TAWC's Supplemental Revised Accounting Exhibits and Workpapers, Revised Exhibit No. 2, Schedule 3, p. 13 of 37 (February 16, 2011).
[531] TAWC's Responses To The TRA's Second Data Requests Dated October 26, 2010, Question 125 (December 1, 2010).
[532] Terry Buckner, Pre-Filed Direct Testimony, Exhibit 1, Schedule 5, p. 5 of 9 (January 5, 2011).
[533] Terry Buckner, Pre-Filed Direct Testimony, Workpaper E-OI (January 5, 2011).
[534] Terry Buckner, Pre-Filed Direct Testimony, p. 12 (January 5, 2011).
[535] Terry Buckner, Non-Confidential Direct Testimony Amendment, Workpaper AMENDED E-OI (January 31, 2011).
[536] John Hughes, Amendment to Amended Testimony filed February 25, 2011, Workpaper R-Customer Growth (March 1, 2011).
[537] Terry Buckner, Second Amendment to Direct Testimony, Workpaper AMENDED E-OI (Hearing Exhibit 90) (March 8, 2011).
[538] *Id.*

over the last three years. It is also based upon a later test year amount and has been adjusted upwards for inflation. For these reasons, the Authority adopts $322,151 for the attrition period in Insurance Other than Group Expense.

### V(B)11. CUSTOMER ACCOUNTING

The Company projected $857,278 for Customer Accounting Expense. Customer Accounting Expense for the historical test year was $836,303. The Company applied an inflation factor of 3.58% to these expenses (excluding uncollectibles and normalizing adjustments for postage service totaling $3,348) to arrive at an increase of $17,627.[539] The Company stated that the projected postage increase of $3,348 is primarily the result of an increase in postage costs beginning May 2009.

The CAPD forecasted $841,387 for the attrition period in Customer Accounting Expense.[540] The CAPD adopted the general ledger balance for the twelve months ended September 30, 2010, made normalized adjustments for postage in the amount of $3,809,[541] and increased the result by one half of the customer growth of 0.89% plus the annual GDP Chained Price Deflator growth rate of 0.76%.[542] The CAPD later corrected its growth factor to 1.4%.[543] The effect of this adjustment was a decrease in Customer Accounting Expense from $841,387 to $840,475.[544] In amended testimony, the CAPD adjusted the residential customer growth factor that it utilized in projecting revenues from 0.89% to 1.05%, which caused the CAPD's

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[539] TAWC's Responses To The TRA's Second Data Requests Dated October 26, 2010, TN-TRA-02-Q92d-ATTACHMENT, p. 13 of 28 (December 1, 2010).
[540] Terry Buckner, Pre-Filed Direct Testimony, Exhibit 1, Schedule 5, p. 5 of 9 (January 5, 2011).
[541] Terry Buckner, Pre-Filed Direct Testimony, Workpaper E-CA (January 5, 2011).
[542] Terry Buckner, Pre-Filed Direct Testimony, p. 12 (January 5, 2011).
[543] Terry Buckner, Non-Confidential Direct Testimony Amendment, Workpaper AMENDED E-CA (January 31, 2011).
[544] *Id.*

growth/inflation factor to change from 1.40% to 1.48%.[545] This adjustment increased Customer Accounting Expense from $840,475 to $841,097.[546]

Thereafter, the panel adopted a Customer Accounting Expense projection in the amount of $841,097 for the attrition year. This projection is based upon a later test period, including normalizing adjustments, and better reflects the proper amount for the attrition period.

### V(B)12. UNCOLLECTIBLE EXPENSE

The Company projected Uncollectible Expense of $198,122 for the attrition period at current rates. In its calculation, the Company started with its historical test period amount of $202,677 and subtracted $8,343 from this figure to arrive at a normalized test period expense of $194,334. Then, the Company added $3,788 of attrition year adjustments to arrive at a projected expense of $198,122.[547]

The CAPD forecasted $250,290 for Uncollectible Expense for the attrition period.[548] This amount represented the actual uncollectible write-off balance for the twelve months ended September 30, 2010.[549]

The panel adopts an Uncollectible Expense amount at current rates of $198,122. This amount is based upon the amount booked by the Company for the twelve months ended March 31, 2010, plus a normalizing adjustment and attrition year adjustment at current rates. Any incremental increase in Uncollectible Expense will be accounted for by the application of the Revenue Conversion Factor.

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[545] Terry Buckner, Second Amendment to Direct Testimony, Workpaper AMENDED E-CA (Hearing Exhibit 90) (March 8, 2011).
[546] *Id.*
[547] TAWC's Responses To The TRA's Second Data Requests Dated October 26, 2010, Question 92, TN-TRA-02-Q092d-ATTACHMENT, p. 14 of 28 (December 1, 2010).
[548] Terry Buckner, Pre-Filed Direct Testimony, Exhibit 1, Schedule 5, p. 5 of 9 (January 5, 2011).
[549] Terry Buckner, Pre-Filed Direct Testimony, Workpaper E-UNC (January 5, 2011).

### V(B)13. RENT EXPENSE

Rent Expense consisted of rental costs for such items as mobile radios, postage equipment, copiers, and land. The Company projected an attrition period Rent Expense of $8,706.[550] Rent Expense for the historical test year ended March 31, 2010, was $9,799. The Company incorporated three adjustments within this category of expense. The first adjustment eliminated the Oce Imagistics copier lease cost. The second adjustment eliminated the rental at the Chattanoogan Hotel, because this is a non-recurring expense.[551] The third and fourth adjustments normalized the ice machine rental and the Canon™ copier rental to include a full twelve month period, which resulted in a negative adjustment of $1,093.[552]

The CAPD projected a Rent Expense of $8,436 for the attrition period.[553] The CAPD started with the general ledger balance for the twelve months ended September 30, 2010 for the Real Property Rent Expense and Equipment Rent Expense. Then the CAPD applied normalizing adjustments to Equipment Rent Expense, causing a reduction in the amount of $408.[554]

The panel adopts $8,436 for Rent Expense as it is based on a later test period and includes normalizing adjustments.

### V(B)14. GENERAL OFFICE EXPENSE

The Company projected General Office Expense of $217,933[555] for the attrition period.[556] The Company started with the test year amount of $210,461[557] and made three adjustments. The first adjustment annualized the sewer bill in the amount of a $166 increase because the test

[550] Sheila, A. Miller, Pre-Filed Direct Testimony, p. 14 (September 23, 2010).
[551] *Id.*
[552] *Id.*
[553] Terry Buckner, Pre-Filed Direct Testimony, Exhibit 1, Schedule 5, p. 5 of 9 (January 5, 2011).
[554] Terry Buckner, Pre-Filed Direct Testimony, Workpaper E-RENT p. 41 (January 5, 2011).
[555] This expense category includes costs associated with the general expenses for the office. These include report forms, office supplies, computer supplies, overnight mail expenses, janitorial services, telephone expense, electrical expense, employee expenses, credit line fees, bank service charges, and other miscellaneous general office expenses.
[556] Sheila A. Miller, Pre-Filed Direct Testimony, p. 15 (September 23, 2010).
[557] *Id.* at 14.

period reflected only eleven months of the increase.[558] The second was to eliminate a $180 duplicate payment of membership dues.[559] The third was to add $52 for miscellaneous postage expense to reflect an increase that had been effective as of May 2009.[560] Then the Company applied an inflation factor of 3.58% to all expenses excluding postage. The result of these adjustments was a net adjustment in General Office Expense of $7,472.

The CAPD projected General Office Expense of $218,450 for the attrition period.[561] The CAPD began its calculations using the book value General Office Expense as it is reported in TAWC's Income Statements as of September 30, 2010, and made two normalizing adjustments. The first normalizing adjustment eliminated duplicate payments of membership dues in the amount of $80.[562] The second adjustment normalized Janitorial Expense to include an additional month of service in the amount of $449.[563] The CAPD then applied an inflation factor and a growth factor to the normalized test period for a net increase to the test period of $3,249.[564] The CAPD subsequently corrected and applied its growth factor to 1.40%.[565] This adjustment caused General Office Expense to decrease from $218,450 to $218,213.[566] In its amended testimony filed on March 1, 2011, the CAPD changed the residential customer growth factor it utilized in projecting revenues from 0.89% to 1.05%.[567] This caused the CAPD's growth/inflation factor to

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[558] TAWC's Responses To The TRA's Second Data Requests Dated October 26, 2010, Question 92, TN-TRA-02-Q092d, p. 18 of 28 (December 1, 2010).
[559] *Id.*
[560] *Id.*
[561] Terry Buckner, Pre-Filed Direct Testimony, Exhibit 1, Schedule 5, p. 5 of 9 (January 5, 2011).
[562] Terry Buckner, Pre-Filed Direct Testimony, Workpaper E-GO (January 5, 2011).
[563] *Id.*
[564] *Id.*
[565] Terry Buckner, Non-Confidential Direct Testimony Amendment, Workpaper AMENDED E-GO (January 31, 2011).
[566] *Id.*
[567] John Hughes, Amendment to Amended Testimony filed February 25, 2011, Workpaper R-Customer Growth (March 1, 2011).

change from 1.40% to 1.48%[568] and increased its figure for General Office Expense from $218,213 to $218,374.[569]

The panel adopts General Office Expense of $218,374 for the attrition year because it is based upon a later test period, includes normalizing adjustments, and better reflects anticipated expenses incurred during the attrition period.

### V(B)15. MISCELLANEOUS EXPENSE

The Company projected Miscellaneous Expense of $2,005,675 for the attrition period. The Company started with its actual Miscellaneous Expense of $1,945,947 as of March 31, 2010 and made six adjustments to this category.[570] The Company's overall net adjustment to Miscellaneous Expense was $59,728[571]

The CAPD forecasted Miscellaneous Expense of $1,956,125 for the attrition period.[572] The CAPD started by using the book values listed in TAWC's Income Statements for the twelve months ended September 30, 2010 and making five normalizing adjustments. The CAPD subsequently corrected its growth factor to 1.40%.[573] The effect of this adjustment was to decrease Miscellaneous Expense from $1,956,125 to $1,954,046.[574] The CAPD filed amended testimony on March 1, 2011, which changed the residential customer growth factor it utilized in projecting revenues from 0.89% to 1.05%.[575] This resulted in a change in the CAPD's

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[568] Terry Buckner, Second Amendment to Direct Testimony, Workpaper AMENDED E-GO (Hearing Exhibit 90) (March 8, 2011).
[569] *Id.*
[570] Sheila A. Miller, Pre-Filed Direct Testimony, pp. 15-16 (September 23, 2010).
[571] TAWC's February 22nd Supplemental Revised Accounting Exhibits and Workpapers, Revised Exhibit No. 2, Schedule 3 (February 22, 2011).
[572] Terry Buckner, Pre-Filed Direct Testimony, Exhibit 1, Schedule 5, p. 5 of 9 (January 5, 2011).
[573] Terry Buckner, Non-Confidential Direct Testimony Amendment, Workpaper AMENDED E-MISC (January 31, 2011).
[574] *Id.*
[575] John Hughes, Amendment to Amended Testimony filed February 25, 2011, Workpaper R-Customer Growth (March 1, 2011).

growth/inflation factor from 1.40% to 1.48%,[576] which increased Miscellaneous Expense from $1,954,046 to $1,955,463.[577]

The Authority, whenever possible, strives to use known and measurable information in forecasting for the attrition period. In calculating Miscellaneous Expense, the CAPD did not make normalizing adjustments for the increase in fuel cost. That being the case, the Company's forecast of $2,005,675 forms a better basis for Miscellaneous Expense, as it reflects the actual increases in gasoline cost.

The Company and the CAPD proposed including amortization of the Management Audit of $190,000 over five years (or $38,000 per year) as part of their forecast of Miscellaneous Expense for the attrition period. The Company, the CAPD, and the City all agreed to split equally the $6,960 deposition costs incurred in deposing Ms. Schumaker in preparation for the Hearing. The CRMA did not question the witness and did not agree to split the costs of the deposition.[578] In addition, the costs of Ms. Schumaker's appearance at the Hearing totaled $6,160.[579] Accordingly, Miscellaneous Expense should include the actual cost of the Management Audit ($184,964),[580] the Company's portion of the deposition cost ($2,320), and $6,160 for Ms. Schumaker's hearing expenses, all of which are amortized over five years. Therefore, the panel adopts Miscellaneous Expense for the attrition period in the amount of $2,006,364.

### V(B)16. OTHER MAINTENANCE EXPENSE

The Other Maintenance Expense category includes costs associated with maintaining the property of the Company, including repair of parts and tools, maintenance supplies, contracted

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[576] Terry Buckner, Second Amendment to Direct Testimony, Workpaper AMENDED E-MISC (Hearing Exhibit 90) (March 8, 2011).
[577] *Id.*
[578] Transcript of Proceedings, Vol.VII B, p. 136 (March 08, 2011).
[579] *Id.*
[580] TAWC's Responses To The TRA's Second Data Requests Dated October 26, 2010, TN-TRA-02-Q131-ATTACHMENT (December 1, 2010).

services, paving, maintenance agreements, and other miscellaneous maintenance expenses. The Company projected Other Maintenance Expense of $1,110,317 for the attrition period. Maintenance Expense for the historical test year was $1,042,628. The Company made one adjustment in the amount of $44,838 for an anticipated increase in paving expenses due to new materials that are now required by the City. The Company then applied its inflation factor of 3.58% to the normalized test year balance, for an adjustment of $22,851.[581]

The CAPD forecasted $1,143,925 in Other Maintenance Expense for the attrition period.[582] The CAPD started with the book balance of Other Maintenance Expense for the twelve months ended September 30, 2010[583] and increased it by one half of the customer growth of 0.89% plus the annual GDP Chained Price Deflator growth rate of 0.76%.[584] The CAPD subsequently adjusted its growth factor to 1.40%.[585] The effect of this adjustment was a decrease in Other Maintenance Expense from $1,143,925 to $1,142,685.[586] In amended testimony, the CAPD made a change to the residential customer growth factor it utilized to project revenues from 0.89% to 1.05%.[587] This changed the CAPD's growth/inflation factor from 1.40% to 1.48%.[588] The effect of this adjustment was an increase in General Office Expense from $1,142,685 to $1,143,531.[589]

Accordingly, the panel adopts $1,143,531 for Other Maintenance Expense because this calculation is based upon a later test year and more accurately reflects inflation.

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[581] Sheila A. Miller, Pre-Filed Direct Testimony, p. 16 (September 23, 2010).
[582] Terry Buckner, Pre-Filed Direct Testimony, Exhibit 1, Schedule 5, p. 5 of 9 (January 5, 2011).
[583] Terry Buckner, Pre-Filed Direct Testimony, Workpaper E-MAINT (January 5, 2011).
[584] Terry Buckner, Pre-Filed Direct Testimony, p. 12 (January 5, 2011).
[585] Terry Buckner, Non-Confidential Direct Testimony Amendment, Workpaper AMENDED E-MAINT (January 31, 2011).
[586] *Id.*
[587] John Hughes, Amendment to Amended Testimony filed February 25, 2011, Workpaper R-Customer Growth (March 1, 2011).
[588] Terry Buckner, Second Amendment to Direct Testimony, Workpaper AMENDED E-MAINT (Hearing Exhibit 90) (March 8, 2011).
[589] *Id.*

**V(B)17. DEPRECIATION EXPENSE**

TAWC projected Depreciation and Amortization Expense for the attrition period of $4,880,048.[590] TAWC's projection was based upon its March 31, 2010 Plant in Service balances and forecasted additions and retirements through the attrition period, using current depreciation rates.

The CAPD projected Depreciation and Amortization Expense of $4,703,804[591] for the attrition period. The CAPD's projection was based upon the Company's September 31, 2010 Plant in Service balances, forecasted additions and retirements through the attrition period,[592] and the current depreciation rates multiplied by a thirteen-month average of depreciable property through the end of the attrition year.[593]

The Authority adopts the CAPD's projected amount of $4,703,804 for the attrition period Depreciation Expense because it is based upon more recent actual balances as of September 30, 2010, including forecasted additions and retirements provided by the Company through the attrition period and does not depreciate the fully depreciated accounts.

**V(C). <u>TAXES AND FEES</u>**

The category of Taxes other than Income includes the following: Gross Receipts Tax, TRA Inspection Fee, Property Tax, Franchise Tax, FICA Tax, and Unemployment Tax. These taxes are discussed in the following sections.

**V(C)1. GROSS RECEIPTS TAX**

The Company projected $529,961 for the attrition period in Gross Receipts Tax.[594] The Company stated that its Gross Receipts Tax was based on projected jurisdictional revenues for

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[590] TAWC's Supplemental Revised Accounting Exhibits and Workpapers, Revised Exhibit No. 2, Schedule 1 (February 22, 2010).
[591] Terry Buckner, Pre-Filed Direct Testimony, Workpaper E-DEPRECIATION, p. 54 (January 5, 2011).
[592] Terry Buckner, Pre-Filed Direct Testimony, pp. 45-46 (January 5, 2011).
[593] *Id.*
[594] TAWC's Responses to the TRA's Data Requests Dated September 20, 2010, Question 13, TN-TRA-01-Q013-GENERAL TAXES, p. 8 (September 24, 2010).

TAWC including Other Operating revenues. The revenues, adjusted for the Franchise Tax, Excise Tax, and a $5,000 exemption, were multiplied by the current 3% tax rate to arrive at the attrition year level. The forecasted amount was calculated using 50% of the Gross Receipts Tax Return based on 2009 revenues. This return was due July 2010 for the taxable period ended June 2011. The remaining 50% was based on 2010 budgeted revenues. This approach properly matched the Gross Receipts Tax with the attrition period in this case.[595]

The CAPD projected $704,308 for the attrition period in Gross Receipts Tax.[596] The CAPD based its calculation of gross receipts for the first half of the attrition period on state gross receipts tax paid in August 2010, which are derived from gross receipts for the fiscal year ended December 31, 2009.[597] The CAPD forecasted the second half of the attrition period gross receipts based on actual gross receipts for the twelve months ended September 30, 2010, as stated on the Company's September 2010 TRA 3.06 Report. The CAPD then adjusted revenues by the $5,000 exemption and multiplied the remaining taxable receipts by the current 3% tax rate. The CAPD adjusted taxes payable by deducting the amount of Franchise Tax, but did not apply any State Excise Tax. The CAPD calculated $0 State Excise Taxes due in 2009, based on the effect of offsetting net operating losses from prior years.[598]

The panel adopts $704,308 for the attrition period forecast for Gross Receipts tax, because this amount is calculated using the proper and most accurate methodology.

**V(C)2. TRA INSPECTION FEES**

The panel determines that the TRA Inspection Fee for the attrition period revenue at current rates is $116,262. This projection for the TRA Inspection Fee is based on forecasted

[595] Sheila A. Miller, Pre-Filed Direct Testimony, p. 18 (September 23, 2011).
[596] Terry Buckner, Pre-Filed Direct Testimony, Workpaper T-OTAX7 (January 5, 2011).
[597] *Id.*
[598] *Id.*

revenue of $37,921,589 for the attrition period, reduced by uncollectibles of $198,122 and a $5,000 exemption to arrive at taxable revenues, and then multiplied by the statutory rate.

### V(C)3. Property Taxes

The Company projected Property Taxes of $2,936,068 for the attrition period.[599] The Company started its calculation of Property Taxes for the test year in the amount of $2,380,025. The Company then normalized the test period by increasing this figure by 19% to account for a known property tax increase enacted by the City of Chattanooga which is effective in the attrition year resulting in a normalized adjustment of $242,895.[600] The Company calculated an effective property tax, which included that increase, and applied the effective rate to the thirteen-month average attrition year Construction Work in Progress ("CWIP")[601] for the attrition period adjustment of $313,148, to arrive at $2,936,068 in property taxes for the attrition period.[602] In Rebuttal Testimony, the Company adjusted its 13-month average attrition year CWIP due to a retirement error in the original filing.[603] This correction to CWIP changed Property Taxes for the attrition period from $2,936,068 to $2,800,043.[604]

The CAPD projected Property Taxes of $2,572,725 for the attrition period.[605] In its calculation, the CAPD used a ratio of 2009/2010 taxes paid for the Company's Georgia property and a ratio of 2009/2010 assessments for its Tennessee property, multiplied by the 2010 tax rates.[606]

The Authority adopts Property Taxes for the attrition period of $2,572,725 as projected by the CAPD because it utilizes a later, more timely assessment period.

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[599] *Petition*, Exhibit No. 2, Schedule 5 (September 23, 2010).
[600] Sheila A. Miller, Pre-Filed Direct Testimony, p. 17 (September 23, 2010).
[601] *Id.*
[602] *Id.*
[603] Sheila A. Miller, Pre-Filed Rebuttal Testimony, pp. 14-15 (February 8, 2011).
[604] TAWC's Supplemental Revised Accounting Exhibits and Workpapers, Revised Exhibit No. 2, Schedule 5 (February 16, 2011).
[605] Terry Buckner, Pre-Filed Direct Testimony, p. 47 (January 5, 2011).
[606] *Id.*

### V(C)4. Franchise Taxes

The Company projected Franchise Taxes of $377,690 for the attrition year.[607] The Company utilized its taxable basis as of December 2010 for five-sixths of the attrition year tax, and its projected taxable basis as of December 2011 for one sixth of the attrition year tax. Those values were then multiplied by the statutory rate of $.25 per $100.[608]

The CAPD projected Franchise Taxes of $391,255 for the attrition period.[609] The CAPD calculated Franchise Tax using a forecasted December 31, 2011 plant in service and accumulated depreciation net of forecasted plant additions and retirements.[610] The CAPD then multiplied its calculation for projected taxable basis by the statutory rate of $.25 per $100.

The Authority adopts Franchise Taxes of $391,255 for the attrition period, as projected by the CAPD, because it is based upon more recent data.

### V(C)5. FICA Tax

The Company projected FICA Tax of $421,089[611] utilizing applicable wages that are subject to payroll taxes, then applied the appropriate tax rates to arrive at its total for FICA Tax. A capitalization percentage of 15.83% was applied to the total FICA Tax to arrive at its normalized year FICA Tax.[612]

The CAPD projected FICA Tax of $370,627 by forecasting its attrition period FICA Tax and applying the current tax rates to its calculation of attrition period Salaries and Wages. The CAPD then applied a capitalization rate of 20.57%.[613]

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[607] TAWC's Responses to the TRA's Data Requests Dated September 20, 2010, Question 13, TN-TRA-01-Q013-GENERAL TAXES, p. 2 (September 24, 2010).
[608] *Id.*
[609] Terry Buckner, Pre-Filed Direct Testimony, Workpaper T-OTAX8 (January 5, 2011).
[610] Terry Buckner, Pre-Filed Direct Testimony, p. 48 (January 5, 2011).
[611] TAWC's Responses To The TRA's Second Data Requests Dated October 26, 2010, TN-TRA-02-Q92f-ATTACHMENT, Exhibit No. 2, Schedule 5, p. 1 of 9 (December 1, 2010).
[612] *Id.* at 9 of 9.
[613] Terry Buckner, Pre-Filed Direct Testimony, Workpaper T-OTAX3 (January 5, 2011).

The Authority adopts $397,217 for FICA Tax for the attrition period because this forecast is consistent with the price-out calculation for Salaries and Wages Expense for 110 employees and applies a capitalization percentage of 20.57%.

### V(C)6. Unemployment Tax

The Company projected Unemployment Tax of $17,685.[614] The Company forecasted its attrition period Unemployment Tax by multiplying 110 employees by the appropriate tax base, and applying the current tax rate. The Company then applied a capitalization percentage of 15.83%.

The CAPD projected Unemployment Tax of $15,778.[615] The CAPD performed empirical calculations on a forecasted average of 104 Tennessee employees for the test period ended September 2010. The CAPD multiplied 104 employees by the appropriate tax base and current tax rate, and applied a capitalization percentage of 20.57%.[616]

The Authority adopts $16,688 for Unemployment Tax for the attrition period. This forecast is consistent with the forecast of Salaries and Wages Expense for 110 employees and a capitalization percentage of 20.57%.

### V(C)7. State Excise Tax

The Authority adopts an Excise Tax amount of $223,534 for the attrition period. This amount is calculated using forecasted results from operations at current rates for the attrition period, and adjusted for interest expense, permanent differences, and applies the statutory tax rate of 6.5%. Additionally, the state excise tax was included on the amount of the projected revenue deficiency.

[614] *Petition*, Exhibit No. 2, Schedule 5 (September 23, 2011).
[615] Terry Buckner, Second Amendment to Direct Testimony, Amended Exhibit 1, Schedule 6, p. 6 of 9 (Hearing Exhibit 90) (March 8, 2011).
[616] Terry Buckner, Pre-Filed Direct Testimony, Workpaper E-PAY-4A, p.7 (January 5, 2011).

### V(C)8. Federal Income Tax

The Authority adopts Federal Income Tax of $1,672,871 for the attrition period. This amount is calculated using the forecasted results from operations at current rates for the attrition period, and adjusted for interest expense, permanent differences, excise tax, ITC amortization, then applies the statutory tax rate of 35%, and recognizes the reversal of the FAS 109 regulatory asset in the amount of $623,832. The FIT tax is also included on the amount of the projected revenue deficiency.

### V(C)9. Allowance for Funds Used During Construction (AFUDC)

CWIP may be appropriately included in utility rate base, and the Company is allowed to earn a return on this type of investment. The return, or income, generated by this investment, however, will not be realized until a future date, which is beyond the attrition period. Therefore, it is necessary to remove the return (the cost of debt) on CWIP from the attrition period so that current customers do not pay for expenses related to future income. Here, the Company's budgeted capital additions were used in its calculations of CWIP. As this is the case, the Company's associated budgeted AFUDC should also be adopted.

The Company proposed the amount of $204,000 for AFUDC for the attrition period. This adjustment was made to reflect the AFUDC as an above the line item for ratemaking purposes.[617] The CAPD concurred with the Company's position.[618]

Therefore, the TRA adopts $204,000 for AFUDC for the attrition period, as proposed by both the Company and the CAPD.

[617] *Petition*, Exhibit No. 2, Schedule 3 (September 23, 2010).
[618] Terry Buckner, Pre-Filed Direct Testimony, Exhibit 1, Schedule 3, p. 3 of 9 (January 5, 2011).

### V(D). NET OPERATING INCOME

Based on the foregoing determinations, the Authority finds that TAWC's Net Operating Income is $5,937,860 for the attrition period prior to the application of taxes for additional attrition period revenues.

### V(E). RATE BASE

Rate base is the total of the investor funded or supplied plant, facilities, and other investments used by the utility in providing service to its customers. Rate base is the investment base to which a fair rate of return is applied in order to determine the Company's net operating income requirement. Relying on its revised accounting exhibits, TAWC proposed a rate base amount of $120,967,931.[619] In its *Petition*, the Company stated that it used a test period ending March 31, 2010, made normalizing adjustments, and then projected the results to determine an attrition year of the twelve months ended December 31, 2011.[620] The Consumer Advocate asserted that the Authority should approve an attrition year rate base of $115,042,041.[621] For the reasons set forth below, the Authority adopts a rate base of $118,459,808 for the attrition year ended December 31, 2011.

#### V(E)1. UTILITY PLANT IN SERVICE ("UPIS")

In direct testimony, the Company projected an average attrition period balance for Utility Plant in Service ("UPIS") of $226,384,490.[622] TAWC President, Mr. Watson, testified that the projected UPIS will be used and useful and attributed the majority of the increase to two major projects. The first project is an upgrade of the Citico Treatment Plant that the Company states is necessary due to the Tennessee Department of Environment and Conservation's findings

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[619] TAWC's February 22nd Supplemental Revised Accounting Exhibits and Workpapers, Revised Exhibit No. 1, Schedule 1 (February 22, 2011).
[620] *Petition*, p. 4 (September 23, 2010).
[621] Terry Buckner, Second Amendment to Direct Testimony, Amended Exhibit 1, Schedule 1, p. 1 of 9 (Hearing Exhibit 90) (March 8, 2011).
[622] TAWC's February 22nd Supplemental Revised Accounting Exhibits and Workpapers, Revised Exhibit No. 1, Schedule 2, p. 1 of 3 (February 22, 2011).

regarding the need for a chemical off-loading facility. The second project consists of the replacement of one eight-inch steel water main and one twelve-inch water main in the Lookout Mountain service area. The total cost for both projects is $8.3 million.[623]

To calculate its UPIS, TAWC used account balances as of March 31, 2010 and included projected net additions and retirements. The Company then utilized its projected monthly account balances for the period December 1, 2010 through December 31, 2011 to calculate a thirteen-month average and forecast an attrition year balance of $226,384,490.[624]

The CAPD's calculation used test year balances as of September 30, 2010 and then applied the forecasted additions and retirements provided by TAWC in order to determine monthly amounts for plant in service through the attrition period ended December 31, 2011. The CAPD also used a thirteen-month average to arrive at a projected amount of $225,496,165.[625]

Although TAWC is correct in its assertion that the use of an alternative test year, such as proposed by an Intervenor, requires more work on the part of the utility in providing more recent financial information, the Authority disagrees that differing test years, after application of the proper adjustments, would result in "essentially the same"[626] attrition year amounts. In order for these amounts to be the same, all projections would have to be almost identical to the actual recorded amount, which is highly unlikely to occur for every account. The panel agrees with the CAPD that the use of more recent information often provides results that are a more accurate representation of what can be expected to occur on a going-forward basis.

For these reasons, the TRA finds that the later test period and normalizing adjustments made by the CAPD are likely to be more representative of future amounts for UPIS. Therefore,

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[623] John S. Watson, Pre-Filed Direct Testimony, pp. 5-6 (September 23, 2010).
[624] Sheila A. Miller, Pre-Filed Direct Testimony, pp. 19-20 (September 23, 2010).
[625] Terry Buckner, Non-Confidential Direct Testimony Amendment, p. 50 (January 31, 2011).
[626] Michael A. Miller, Pre-Filed Direct Testimony, p. 18 (September 23, 2010).

the panel adopts UPIS in the amount of $225,496,165 for the attrition period ending December 31, 2011.[627]

### V(E)2. Construction Work In Progress

TAWC initially reported CWIP as $4,201,421, but later filed amended exhibits that decreased its CWIP amount by $1,165,021 to account for certain retirements.[628] Additional adjustments were made to CWIP expenditures in the amount of $1,545,192 in order to reflect an accurate amount actually spent during the annual period.[629] TAWC asserts that the CAPD did not appropriately consider the timing of the Company's capital spending throughout the year. Specifically, the CAPD utilized a later test period ending September 30, 2010, but failed to adjust for capital expenditures that had not taken place by the end of December 2010.

TAWC made adjustments to increase the capital expenditure amounts for CWIP by the difference between what TAWC projected would be spent by the end of December 2010 ($11,974,692) and the actual expenditures made by the end of December 2010 ($10,429,500) and spread the difference ($1,545,192) over the twelve months ended December 31, 2011.[630]

The CAPD forecasted CWIP in the amount of $2,681,318, using the later test period ending September 30, 2010.[631] In its post-hearing brief, the CAPD asserted that because of the interrelationship between CWIP and UPIS, capital spending projects should be accounted for in CWIP as they are being constructed and moved from CWIP to UPIS once the asset is placed into service.[632]

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[627] Director Roberson voted that the capital additions for the Citico treatment plant project of $5,301,305 be removed from rate case calculations, and that such an adjustment will reduce the overall revenue requirement by $753,736, including the reduced depreciation expense, accumulated depreciation, and the resulting tax effects (not including any adjustments to the accumulated deferred income taxes). He also stated that such projects will be allowed as it is implemented and a Hearing Officer will review and approve such requests by TAWC. Transcript of Proceedings, pp. 73-75 (April 4, 2011).
[628] Sheila A. Miller, Pre-Filed Rebuttal Testimony, p. 14 (February 8, 2011).
[629] *Id.*
[630] *Id.*
[631] Terry Buckner, Pre-Filed Direct Testimony, p. 50 (January 5, 2011).
[632] *Consumer Advocate and Protection Division's Post-Hearing Brief*, pp. 61-62 (March 21, 2011).

After all of the final exhibits and testimony had been filed, the parties' use of different test periods and treatment of capital projects, which the Company stated had not yet occurred as of the end of December 2010, revealed that the difference between the parties amounted to approximately $1.5 million. Upon review of the record, the TRA finds that TAWC did not provide any verifiable documentation to demonstrate that $1.5 million was not spent and, therefore, should be added to CWIP during the attrition period. Therefore, the panel agrees with the CAPD that moving the amounts from CWIP to UPIS is not necessary to prevent double counting for this projected amount.[633] Additionally, the Authority agrees that using a later test period as used by the CAPD is appropriate and adopts a CWIP balance of $2,681,318.

### V(E)3. Utility Plant Capital Lease

The Company projected an average attrition period balance of $1,590,500 for Utility Plant Capital Lease. TAWC's booked amounts for the period ended March 31, 2010, were adjusted to reflect through the end of the attrition period and averaged for the thirteen months ending December 31, 2011.[634] As the known amount of annual leases does not fluctuate and would not be affected by using different test periods, no difference exists between the parties as to the calculation of Utility Plant Capital Lease. After reviewing the financial data, the TRA determines that Utility Plant Capital Lease for the attrition period is $1,590,500.

### V(E)4. Working Capital

Working capital consists of the amount of funds needed to meet the Company's daily expenditures and a variety of non-plant investments. Working capital is necessary to sustain the ongoing operations of the utility until those expenditures can be recovered through revenues received from customers.

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[633] *Id.*

[634] Sheila A. Miller, Pre-Filed Direct Testimony, pp. 21-22 (September 23, 2010).

TAWC included Prepaid Taxes, Materials and Supplies, Deferred Regulatory Expense, Unamortized Debt Expense, Other Deferred Debits, Lead-Lag Study and Incidental Collections in Working Capital.[635] The following schedule shows the respective positions of the parties:

| | TAWC[636] | CAPD[637] | Difference |
|---|---|---|---|
| Prepaid Taxes | 284,235 | 414,322 | (130,087) |
| Materials and Supplies | 254,110 | 215,798 | 38,312 |
| Deferred Regulatory Exp. | 1,228,535 | 458,486 | 770,049 |
| Unamortized Debt Exp. | 460,845 | 460,842 | 3 |
| Other Deferred Debits | 280,983 | 280,997 | (14) |
| Lead-Lag Study | 987,000 | 640,976 | 346,024 |
| Incidental Collections | (1,562,812) | (1,562,481) | (331) |
| Total Working Capital | 1,932,896 | 908,940 | 1,023,955 |

TAWC projected Prepaid Taxes of $284,235 based upon a thirteen-month average balance for the test year ending March 31, 2010.[638] The CAPD projected Prepaid Taxes using a test period ended September 30, 2010 and a thirteen-month average, resulting in Prepaid Taxes of $414,322.[639]

TAWC projected Material and Supplies based upon a thirteen-month average balance for the test year ended March 31, 2010, which resulted in $254,110.[640] The CAPD projected Materials and Supplies of $215,798 using a test period ending September 30, 2010 and a thirteen-month average.[641]

In rebuttal testimony, TAWC increased its Deferred Regulatory Expense to $1,228,535[642] and asserted that this revised amount was a better projection and included the additional costs it anticipated incurring as a result of the Hearing having been located in Chattanooga. TAWC's

635 Sheila A. Miller, Pre-Filed Direct Testimony, pp. 20-21 (September 23, 2010).
636 TAWC's February 22nd Supplemental Revised Accounting Exhibits and Workpapers, Revised Exhibit No. 1, Schedule 3, p. 1 of 6 (February 22, 2011).
637 Terry Buckner, Second Amendment to Direct Testimony, Workpaper AMENDED RB-WORKING CAPITAL REQUIREMENT (Hearing Exhibit 90) (March 8, 2011).
638 TAWC's February 22nd Supplemental Revised Accounting Exhibits and Workpapers, Revised Exhibit No. 1, Schedule 3, p. 1 of 6 (February 22, 2011).
639 Terry Buckner, Pre-Filed Direct Testimony, Workpaper RB-PREPAID TAXES, p. 99 (January 5, 2011).
640 TAWC's February 22nd Supplemental Revised Accounting Exhibits and Workpapers, Revised Exhibit No. 1, Schedule 3, p. 1 of 6 (February 22, 2011).
641 Terry Buckner, Pre-Filed Direct Testimony, Workpaper RB-M&S, p. 98 (January 5, 2011).
642 TAWC's February 22nd Supplemental Revised Accounting Exhibits and Workpapers, Revised Exhibit No. 1, Schedule 3, p. 1 of 6 (February 22, 2011).

revised expense of $1,228,535 reflected a thirteen month average of unamortized balances as of December 31, 2011. To calculate this amount, TAWC used $1.2 million as the total cost for this rate case, and added $275,000 from its prior rate case (Docket No. 08-00039),[643] the unamortized balance of $23,773 for its cost of service study, and $3,010 for its depreciation study.[644]

In its amended schedules, Consumer Advocate projected $458,486 for Deferred Regulatory Expense. Nevertheless, the supporting schedule it filed consisted of $458,486 in Deferred Rate Case Expense, $3,009 for the Deferred Depreciation Study, and $12,533 for the Deferred Cost of Service Study, which totals $474,028.[645] The CAPD attributed the difference primarily to TAWC's having used $1.2 million as the rate case cost for this docket and adding the $275,000 rate case costs incurred in Docket No. 08-00039; whereas, the CAPD used the rate case costs approved by the Authority. The CAPD asserted that TAWC should not be allowed to include excessive rate case expenses that the TRA had not approved.[646] TAWC responded that rate cases benefit shareholders as well as utilities.[647]

As noted above, Director Roberson expressed concern during the Hearing regarding regulatory fees and moved to require additional information be filed to substantiate TAWC's request in this case.[648] Director Roberson further proposed that an expedited hearing be held on this matter, which was approved unanimously by the panel.[649] Subsequently, on March 16, 2011, the parties filed a Joint Motion for Approval of Rate Case Expense stipulating to the Company's recovery of $645,000 in rate case expense. This stipulated amount includes a total Deferred Regulatory Expense in the amount of $630,897, which consists of $589,165 for rate

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643 Discussed supra; *see Tenn. Amer. Water Co. v. TRA*, 2011 WL 334678 (Tenn. Ct. App. Jan. 28, 2011).
644 TAWC's Responses To The TRA's Fifth Data Request Dated Feb. 15, 2011, Question 170, TN-TRA-05-Q170-ATTACHMENT (February 22, 2011).
645 Terry Buckner, Second Amendment to Direct Testimony, Workpaper AMENDED RB-DEFERRED REGULATORY (Hearing Exhibit 90) (March 8, 2011).
646 Terry Buckner, Pre-Filed Direct Testimony, p. 51 (January 5, 2011).
647 Michael A. Miller, Pre-Filed Rebuttal Testimony, pp. 76-79 (February 8, 2011).
648 Transcript of Proceedings, Vol. VII B, pp. 126-127 (March 8, 2011).
649 *Id.* at 127.

case expense, $38,723 for the cost of service study expense, and $3,010 for depreciation study expense.

TAWC projected its Unamortized Debt Expense based upon an account balance as of March 31, 2010, adding its new debt, and subtracting cumulative amortizations to arrive at monthly amounts for a thirteen-month average.[650] The CAPD used the same methodology as the Company with a starting account balance as of September 30, 2010.[651]

TAWC projected its Other Deferred Debits using a thirteen-month average of the unamortized monthly transition costs of the Customer Call Center, which totals $204,399, and the Shared Services Center costs in the amount of $76,584.[652] The CAPD projected close to the same amount of Other Deferred Debits using the actual booked amounts of the Company.[653]

Testifying for TAWC, Mr. Miller stated that Working Capital was calculated consistent with the Authority's ruling on this category in Docket No. 08-00039. He further noted that the amount projected included a provision based on the Lead-Lag Study performed by the Company in this case totaling $987,000.[654] The CAPD utilized the amount of the Lead-Lag Study provided by the Company but adjusted it to reflect a thirty-seven-day lag for the payment of state excise tax and federal income tax. The CAPD's witness, Mr. Buckner, stated that this methodology would align the payments with the corresponding statutory requirements. Using its forecasted revenue, expenses, and the tax lag adjustment, CAPD forecasted the Lead-Lag total to be $640,976.[655]

[650] Sheila A. Miller, Pre-Filed Direct Testimony, p. 21 (September 23, 2010).
[651] Terry Buckner, Pre-Filed Direct Testimony, Workpaper RB-UNAMORTIZED DEBT EXPENSE, p. 100 (January 5, 2011).
[652] Sheila A. Miller, Pre-Filed Direct Testimony, p. 21 (September 23, 2010).
[653] Terry Buckner, Pre-Filed Direct Testimony, Workpaper RB-OTHER DEFERRED DEBITS, p. 97 (January 5, 2011).
[654] TAWC's February 22nd Supplemental Revised Accounting Exhibits and Workpapers, Revised Exhibit No. 1, Schedule 3, p. 1 of 6 (February 22, 2011).
[655] Terry Buckner, Second Amendment to Direct Testimony, Workpaper AMENDED RB-WORKING CAPITAL REQUIREMENT (Hearing Exhibit 90) (March 8, 2011).

Mr. Gorman, who testified for the City, asserted that Working Capital should be reduced by $2 million because the adjustment is necessary to reflect the removal of the unamortized debt expense, elimination of the non-cash items, and the use of different expense lag for various expenses, including management fees, in the Lead-Lag Study. Further, Mr. Gorman asserted that the unamortized debt expense was already included in the debt interest, and thus, its inclusion in working capital would allow TAWC double recovery of this expense. Further, Mr. Gorman set the expense lag for Depreciation and Amortization, Deferred Taxes, Net Earnings, Amortizations and Uncollectibles equal to the revenue lag. He then used a different expense lag for Management Fees and Gross Receipts taxes, asserting that the charges from the parent company should not be prepaid. Finally, Mr. Gorman asserted that Depreciation and Amortization, Deferred Taxes, Net Earnings, Amortizations and Uncollectibles should be removed from the Lead-Lag study because they are not cash expenses and, therefore, do not create a Cash Working Capital requirement.[656]

In rebuttal, TAWC asserted that the CAPD's adjustments to the Lead-Lag for income tax payments were inaccurate because they were based upon textbook recommendations that do not reflect the Company's current payment schedule.[657] TAWC also disagreed with Mr. Gorman's position, noting that its management contract with AWWSC requires advance payments. Further, TAWC asserted that Mr. Gorman failed to consider that if there were a lag in the payment to AWWSC, AWWSC would incur a lag in revenues that would then be passed back to TAWC. TAWC contended that the adjustment for uncollectibles that Mr. Gorman proposed was incorrect and represented the same position proposed by the CRMA in Docket No. 08-00039, which was not accepted by the TRA.[658] In addition, TAWC stated that it outlays cash when it purchases the non-cash items for depreciation and amortization and, therefore, the depreciation and

[656] Michael Gorman, Pre-Filed Direct Testimony, pp. 14-20 (January 5, 2011).
[657] Michael A. Miller, Pre-Filed Rebuttal Testimony, p. 52 (February 8, 2011).
[658] *Id.* at 53-54.

amortization allotment has already recovered the Company's initial cash investment. Finally, TAWC conceded that the gross receipts shown on the Lead-Lag were incorrect and corrected the service period in its rebuttal testimony.[659]

Considering the above, the panel adopts working capital in the amount of $1,675,829, broken down as follows:

| | |
|---|---|
| Prepaid Taxes | $414,322 |
| Materials and Supplies | 215,798 |
| Deferred Regulatory Expense[660] | 852,847 |
| Unamortized Debt Exp. | 460,842 |
| Other Deferred Debits | 280,997 |
| Lead-Lag Study | 1,013,504 |
| Incidental Collections | (1,562,481) |
| Total Working Capital | $1,675,829 |

With regard to these components, other than the Deferred Regulatory Expense and Lead-Lag amounts, the difference between the parties is attributable to the use of different test periods.

The category of Deferred Regulatory Expense consists of the unamortized balances of Regulatory Fees, Depreciation Study Expense, Management Audit Costs, deposition costs, and Cost of Service Studies. The panel finds that Regulatory Fees should be calculated using a thirteen-month average of the unamortized approved regulatory fees from Dockets No. 06-00290 and No. 08-00039, plus the thirteen-month average of the unamortized balance of the stipulated amount of $645,000. The panel further finds that Depreciation Study Expense should be calculated using the thirteen-month average of the unamortized balances from Docket Nos. 06-00290, 08-00039, and this docket. The use of these methods results in the panel's adoption of $852,847 for Deferred Regulatory Expenses within Working Capital.

Based upon the record, contrary to the CRMA's arguments, the panel finds that it is appropriate to include uncollectibles as an offset to revenues, the prepayment of Management charges, and Gross Receipt Taxes in the Lead-Lag Study. The panel does not agree that

[659] *Id.* at 55-56.
[660] This figure includes the cost of the management audit and the cost of Ms. Schumaker's deposition.

depreciation does not require a cash outlay and, therefore, should not be included in the Lead-Lag Study. Therefore, the panel adopts $1,013,504 for the Lead-Lag Study expense within Working Capital.

### V(E)5. ACCUMULATED DEPRECIATION

The Company projected $72,578,044 for a thirteen-month average of Accumulated Depreciation. To calculate this amount, TAWC started with the historical balance of Accumulated Depreciation as of March 31, 2010 and applied actual depreciation rates to project monthly balances for the period ending December 31, 2011.[661]

The CAPD used the historical booked Accumulated Depreciation as of September 30, 2010, then applied current depreciation rates to determine monthly amounts through December 31, 2011. A thirteen-month average was calculated resulting in $73,137,622 as the final amount for Accumulated Depreciation.[662]

The differences between the parties as to Accumulated Depreciation are attributable to the use of different test periods. The Authority adopts the projection of $73,137,622 for Accumulated Depreciation based upon the later test period used by the CAPD.

### V(E)6. ACCUMULATED AMORTIZATION OF UTILITY CAPITAL LEASE

There was no difference calculated between the parties on Accumulated Amortization of Utility Plant Capital Lease. Just as with the Capital Lease amounts, this amount agrees because the lease amounts are known and do not fluctuate. Therefore, this amount is not affected as a result of the use of different test periods. After reviewing the financial data, the Authority adopts $1,387,268 for the attrition period.

[661] Sheila A. Miller, Pre-Filed Direct Testimony, pp.21-22 (September 23, 2010).
[662] Terry Buckner, Pre-Filed Direct Testimony, Workpaper RB-ACCUMULATED DEPRECIATION, p. 102 (January 5, 2011).

## V(E)7. Accumulated Deferred Income Taxes (ADIT)

In its *Petition*, TAWC filed Accumulated Deferred Income Taxes ("ADIT") on a non-SFAS 109 basis and asserted that the Authority recognized SFAS 109 accounting as to ADIT. Nonetheless, TAWC did not recognize the amortizations associated in calculating the federal income tax expense in the 2008 rate case. In addition, TAWC included a deferred expense and an expense related to the tax accounting treatment of "Capitalized Repairs" consistent with FIN 48.[663] Subsequently, on February 22, 2011, TAWC revised its estimated ADIT amount to be consistent with SFAS 109. The subsequent filing resulted in two primary differences between TAWC and the CAPD related to ADIT: the treatment of SFAS 109[664] and FIN 48[665] recognition.

As summarized by TAWC, SFAS 109 addresses the flow-through rate recovery of pre-1981 property.[666] The difference between straight-line method depreciation and the accelerated depreciation that is allowed by the IRS creates a timing difference.[667] As the ratepayers received the benefit of accelerated depreciation, a regulatory asset must be established to account for the timing difference and to facilitate the appropriate reversal in subsequent years.[668]

Until the reversal of depreciation, SFAS 109 allows the Company to reduce its ADIT by the amount of the regulatory assets, which allows the Company to earn a return on the timing difference until reversal.[669] As the timing difference reverses, the regulatory asset account steadily is reduced and the income tax expense steadily increases.[670] Because the Company's current taxes for rate recovery have always included the additional income taxes paid to the IRS

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[663] Michael Miller, Pre-Filed Direct Testimony, p. 58 (September 23, 2010).
[664] Financial Accounting Standards Board (FASB) Statement No. 109.
[665] Financial Accounting Standards Board Interpretation No. 48.
[666] Michael A. Miller, Pre-Filed Rebuttal Testimony, p. 36 (February 8, 2011).
[667] *Id.* at 35.
[668] Accelerated depreciation temporarily reduces current income tax expense, thus reducing the expense that must be recovered from ratepayers. *Id.* at 39.
[669] *Id.*
[670] *Id.*

on the reversal of the pre-1981 property by the TRA under the APB11[671] approach to rate recovery, the Company established the SFAS 109 tax assets as regulatory assets under the provisions of SFAS 71, which allows regulatory assets to be established if future rate recovery is probable.[672]

In accordance with FIN 48, AWWC changed the accounting method it used for recording repairs and maintenance. Instead of capitalizing the costs, as it had previously done, TAWC deducted the costs in the current year.[673] This change creates an uncertainty regarding the lawfulness of the deduction.[674] FIN 48 allows the creation of a reserve for a portion of the capitalized repairs in order to allow payment of any future potential tax liability.[675] FIN 48 requires the Company to identify any uncertain tax positions, evaluate them, and determine whether the IRS is likely to sustain a deduction.[676] If uncertainty exists, FIN 48 allows the Company to exclude this amount as a deduction from rate base, thus earning a return on a potential repayment.[677]

The CAPD originally filed a calculation of ADIT that did not adjust the amount of regulatory assets or include capitalized repairs.[678] Later, the CAPD amended its ADIT calculation to include the regulatory assets, but continued to include capitalized repairs in ADIT.[679] Additionally, the CAPD included a timing difference for Capitalized Repairs and Post-80 depreciation in its calculations. The CAPD did not offer testimony to explain why these adjustments were necessary.

[671] Accounting Principles Board Opinion 11.
[672] Michael A. Miller, Pre-Filed Rebuttal Testimony, p. 39 (February 8, 2011).
[673] *Id.* at 41.
[674] FIN 48, § A26.
[675] James I. Warren, Pre-Filed Rebuttal Testimony, p. 35 (February 8, 2011).
[676] *Id.*
[677] Michael A. Miller, Pre-Filed Rebuttal Testimony, p. 41 (February 8, 2011).
[678] *Id.*
[679] *Id.*

The TRA agrees with TAWC that the CAPD's amended filing appropriately reduced rate base by the total of the Company's ADITs (liabilities) as is reflected on the Company's financial statements using the SFAS 109 approach. Nevertheless, the CAPD failed to appropriately offset this amount by the SFAS 109 (regulatory) assets to account for reversal of the timing differences related to the pre-1981 flow-through property.

The TRA, therefore, agrees with both TAWC and the CAPD that, consistent with SFAS 109 and SFAS 71, regulatory asset accounts should be recognized when computing ADIT, and adopts the SFAS 109 approach to calculating income taxes, which recognizes regulatory assets in determining the ADIT balance. The TRA also agrees with TAWC that FIN 48 amounts represent a tax that the Company owes, with interest, as to previously filed tax returns. No documentation or justification was provided that the repairs deduction for federal income tax expense is uncertain or may not result in reversal. Further, there were no challenges made to the calculation of this FIN 48 amount. Therefore, the TRA concludes that the capitalized repairs deduction should not be used to reduce rate base. Thus, utilizing the regulatory assets in its determination of the ADIT balance and applying FIN 48, the TRA adopts Accumulated Deferred Income Tax in the amount of $22,638,057.

### V(E)8. Customer Advances for Construction

Initially, TAWC and the CAPD disagreed as to the proper amount for Customer Advances for Construction. On February 8, 2011, although TAWC filed rebuttal testimony on its projected attrition period amount, which included exhibits, a discrepancy remained between TAWC's calculation and the CAPD's proposed amounts. On February 22, 2011, TAWC filed a revised exhibit that contained an updated amount of $5,786,757 for Customer Advances for Construction, but did not include any testimony to support the change.[680] Nevertheless these

[680] TAWC's Supplemental Revised Accounting Exhibits and Workpapers, Revised Exhibit No. 1, Schedule 2, p. 1 (February 22, 2011).

revisions demonstrate an agreement between the TAWC and CAPD on the amount. Based on a review of the financial data, and considering that the parties are now in agreement, and the reasons noted previously concerning the appropriate test period, the Authority adopts $5,786,757 as the total of Customer Advances for Construction.

### V(E)9. Contributions in Aid of Construction

TAWC and the CAPD also initially disagreed regarding the amount to be used for Contributions in Aid of Construction ("CIAC"). On February 8, 2011, TAWC filed rebuttal testimony with exhibits, wherein TAWC's revised amount still differed from the amount projected by the CAPD. On February 22, 2011, TAWC filed a revised exhibit with an updated amount of $9,932,550 for CIAC, without any testimony to support the change.[681] With the second revision, TAWC and the CAPD agree as to the projected total. Considering the financial data, the fact that the parties are now in agreement, and the reasons noted previously as to the appropriate test period, the Authority adopts $9,932,550, as proposed by TAWC and the CAPD, for the CIAC amount.

### V(E)10. Unamortized Investment Tax Credit ("UITC")

Initially, there was disagreement between TAWC and the CAPD regarding the proper amount to be used for Unamortized Investment Tax Credits. Nonetheless, on February 8, 2011, TAWC filed a rebuttal exhibit that contained an attrition period amount that is identical to that determined by the CAPD, but did not file supporting testimony.[682] Based on a review of the financial data, the fact that the parties are now in agreement, and reasons previously noted as to the appropriate test period, the TRA adopts $26,899 for Unamortized Investment Tax Credits.

### V(E)11. Utility Plant Acquisition Adjustment

The differences between the parties as to the Utility Plant Acquisition Adjustment are due

[681] *Id.*
[682] Michael A. Miller, Pre-Filed Rebuttal Testimony, Exhibit MAM-9 (February 8, 2011).

to the use of different test periods. Upon review of the financial data and for the reasons previously noted regarding the appropriate test period, the Authority adopts $74,850 for Utility Plant Acquisition Adjustment.

### V(F). REVENUE CONVERSION FACTOR

Based upon the CAPD's methodology, the panel adopts an overall Revenue Conversion Factor of 1.643037 for the attrition year, a Forfeited Discount Factor of 0.0081 to reflect the CAPD's Normalized Test Year Late Payment Penalty/CAPD's Normalized Test Year Total Sales of Water, an Uncollectible Factor of 0.0066 to reflect the CAPD's Normalized Test Year Uncollectibles/CAPD's Normalized Test Year Total Sales of Water, a state excise tax of 6.5%, and an FIT of 35%.

### V(G). RATE OF RETURN

To establish a fair rate of return, the following three steps are performed: (1) determination of an appropriate capital structure; (2) calculation of the cost rates of each component of the capital structure: (i) short-term debt, (ii) long-term debt, (iii) preferred equity, and (iv) common equity; and (3) computation of the overall cost of capital using a weighted average of the component rates to account for the proportion of each component.[683]

TAWC requested an overall rate of return of 8.38%.[684] The Company's request was based upon the capital structure of TAWC. The Company proposed a capital structure for TAWC that consisted of: 51.386% long-term debt; 3.453% short-term debt; 1.126% preferred equity; 24.345% common equity in the form of common stock; and 19.690% common equity in the form of retained earnings.[685] TAWC proposed a short-term debt cost of 1.9% based upon market forecasts for 2011 and recent short-term debt rates from American Water Capital

[683] The legal basis on which the Authority determines a utility's fair rate of return is set forth in Section III, above.
[684] Michael A. Miller, Pre-Filed Direct Testimony, Exhibit MAM-5 (September 23, 2010).
[685] *Id.*

Corporation ("AWCC").[686] The proposed cost of long-term debt is 6.2% and includes a proposed $9 million debt offering at 6.212%, which is anticipated to be issued in late 2010, and an $8.0 million issue at 6.612% targeted for November 2011.[687]

In deriving its recommended cost of capital of 8.38%, TAWC claimed that its return on equity should be set at 11.5%, as it is within the range of equity returns suggested by Company witness Dr. Vander Weide.[688] Dr. Vander Weide used the Capital Asset Pricing Model ("CAPM") and the Discounted Cash Flow ("DCF") model to determine the appropriate cost of capital for TAWC.[689] Dr. Vander Weide also employed risk premium models based upon the required spread above a fixed income instrument, like a utility bond, to form his cost of equity recommendation.[690]

When choosing growth rates for use in the DCF analysis, Dr. Vander Weide used forecasts by stock analysts, rather than historical measures, in reliance on economic research suggesting that analyst forecasts are the best estimates of investors' expectations.[691] He also included a 5% allowance for flotation costs in his DCF analysis.[692]

Dr. Vander Weide used a sample of water companies and found that the average DCF cost of equity is 12.3%,[693] which was found to increase to 13.3% when the average is computed with weights based upon market capitalization.[694] When the DCF model is applied to his sample of natural gas utilities, the average cost of equity is 11.1%, and falls to 10.9% when calculated on a market weighted basis.[695] He proposed a cost of equity estimate of 11.2% using the ex post

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686 *Id.*
687 *Id.*
688 *Id.*
689 Dr. James H. Vander Weide, Pre-Filed Direct Testimony, p.3 (September 23, 2010).
690 *Id.* at 29.
691 *Id.* at 18.
692 *Id.* at 20.
693 *Id.* at 25.
694 *Id.* at 25-26.
695 Dr. James H. Vander Weide, Pre-Filed Direct Testimony, p. 28 and Schedule 2-1 (September 23, 2010).

risk premium method.[696] Based upon the results of his DCF analysis of water and natural gas companies, and using an ex ante risk premium and ex post risk premium analysis, Dr. Vander Weide determined a cost of equity for TAWC is in the range of 10.9% to 12.3%[697]

Dr. Vander Weide criticized CAPD witness Dr. Klein's DCF analysis and claimed that it is inappropriate to use an annual DCF model instead of a quarterly DCF model.[698] Dr. Vander Weide further stated that the CAPD did not properly implement the DCF model because it did not adjust the current yield component of the calculation by the expected growth rate,[699] which, in his view, leads to an understatement of the cost of equity of 25 basis points.[700] He also criticized Dr. Klein's use of Value Line forecasts of dividend growth, asserting that they are inferior to analysts' estimates of earnings growth.[701] He argued that the CAPD should have used earnings growth estimates instead of dividend growth forecasts, claiming that earnings growth forecasts are more accurate.[702]

Dr. Vander Weide argued that the use of double-leverage is inconsistent with financial theory.[703] Additionally, TAWC witness Mr. Miller asserted that the use of double-leverage is inappropriate and could prevent the Company from recovering its true cost of capital.[704] Mr. Miller noted that Dr. Klein did not implement double leverage in the same way the TRA has done in previous TAWC rate cases.[705] Mr. Miller asserted that Dr. Klein used the stand-alone capital structure for TAWC, adjusted to impose the cost of capital for AWW Parent (i.e. a non-consolidated entity) to total equity of TAWC,[706] which, in Mr. Miller's opinion resulted in a

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[696] *Id.* at 37.
[697] *Id.* at 44-45.
[698] *Id.* at 7-8.
[699] *Id.* at 8-9.
[700] Dr. James H. Vander Weide, Pre-Filed Rebuttal Testimony, pp. 8-9 (February 8, 2011).
[701] *Id.* at 9.
[702] *Id.* at 9-10.
[703] *Id.* at 24-30.
[704] Michael Miller, Revised Pre-Filed Rebuttal Testimony Amendment, p. 19 (February 17, 2011).
[705] *Id.* at 21-22.
[706] *Id.* at 18.

drastic decrease in the equity ratio of the capital structure relative to the approach adopted by the TRA in previous cases.[707] Mr. Miller further stated that the CAPD's use of a historical average capital structure is inappropriate because it is not consistent with the known and measurable test,[708] and that the CAPD's technique artificially inflates the impact of low-cost short term debt on TAWC's capital structure.[709]

As stated above, CAPD witness Dr. Chris Klein utilized a double-leverage methodology that imputed the capital structure and associated cost of capital of TAWC's parent AWWC to the equity portion of TAWC's capital structure.[710] Dr. Klein recommended using the historical capital structures of both TAWC and AWWC in his double-leverage calculation.[711] Dr. Klein's historical capital structure for TAWC contains 6.45% short-term debt, 48.71% long-term debt, 1.24% preferred stock and 43.6% equity.

Dr. Klein adopted the costs of short-term debt, long-term debt, and preferred stock for TAWC, as was proposed by Company witness Mr. Miller,[712] and posited the cost of long-term debt for TAWC's parent to be 6.27%.[713] The CAPD estimated the cost of equity for AWWC using the familiar DCF and CAPM models. Like TAWC witness Dr. Vander Weide, Dr. Klein used proxy groups from both the water and natural gas industry.[714]

For his DCF estimates, Dr. Klein uses historical dividend data to estimate dividend growth of 5% for AWWC.[715] Using the dividend yield range of 3.5% to 3.7%, Dr. Klein computes DCF cost of equity estimates for AWWC with a range of 8.5% to 8.7%.[716] Dr. Klein

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707 *Id.* at 21-22.
708 *Id.* at 25.
709 *Id.*
710 Dr. Christopher C. Klein, Corrected Pre-Filed Direct Testimony, p. 5 (January 24, 2011).
711 *Id.*
712 *Id.*
713 *Id.* at Corrected Exhibit p. 2 of 19; *see also* Dr. Christopher C. Klein, Corrected Pre-Filed Direct Testimony, p. 9 (January 24, 2011).
714 Dr. Christopher C. Klein, Corrected Pre-Filed Direct Testimony, pp. 10-11 (January 24, 2011).
715 *Id.* at 12.
716 *Id.*

indicates that the "... minimum DCF cost of equity for AWWC is approximately 8.6%. This is similar to the midpoint of the DCF range for natural gas utilities (8.65%) and just lower than the midpoint for large water companies (9.1%)."[717]

For the CAPM, Dr. Klein selects his proxy for risk-free interest rates to be the yield on 5 year Treasury bonds which was 2.1% at the time his testimony was filed.[718] Dr. Klein sets the market risk premium at 7.1% using data taken from the familiar 2010 Ibbotson SBBI Stocks, Bonds, Bills and Inflation Valuation Yearbook. Dr. Klein indicates that the BETA statistic of AWWC, as reported by Value Line, is 0.65.[719] Using this data, Dr. Klein calculates an equity return of 6.72% for AWWC. Dr. Klein notes that "... the comparable water and natural gas utilities all have very similar CAPM cost of equity estimates between 6.36% and 7.78%."[720] Dr. Klein notes that current low interest rates may lead to an understatement of the required equity return.[721] Dr. Klein further notes that there is some evidence that the CAPM may underestimate the cost of equity for firms, like utilities, that have BETA statistic less than one.[722] Dr. Klein observes that it is reasonable to expect that the cost of equity for utilities is still less than the market portfolio (BETA =1) which he calculates as 9.2%.[723]

Dr. Klein ultimately recommends a 9.0% ROE for AWWC as it is the midpoint of the range his CAPM and DCF estimates taken as a group.[724] Dr. Klein also notes that his 9.0% equity return recommendation is within the bounds of his DCF estimates for water utilities (9.1%) and natural gas utilities (8.65%).[725]

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[717] *Id.*
[718] *Id.* at 14-15.
[719] *Id.* at 7 of 19.
[720] *Id.* at 15.
[721] *Id.*
[722] *Id.*
[723] *Id.* at 14-15.
[724] *Id.* at 15-16.
[725] *Id.*

Dr. Klein disputed several of the conclusions reached by Dr. Vander Weide. First, Dr. Klein stated that some of the companies used in TAWC's comparison group were not representative of TAWC or AWWC.[726] He also took issue with the risk premium analysis that formed the basis of TAWC's CAPM estimates. He questioned TAWC's reliance on long-term Treasury bonds, which, he stated introduces interest rate risk and, thus, cannot be risk free.[727] Finally, Dr. Klein criticized TAWC's use of quarterly dividend payments and flotation costs.

CRMA Witness, Mr. Gorman, noted that the TRA has a long-standing practice of using a double-leveraged capital structure in setting TAWC's overall cost of capital.[728] Mr. Gorman argued that TAWC's requested 11.5% equity return is not reasonable relative to the 10.2% equity return awarded in the last rate case.[729] To support his argument, Mr. Gorman provided data to show that authorized returns on equity for electric and gas utilities, as well as utility bond yields on "A" and "Baa" rated instruments, have decreased since TAWC's last rate filing.[730]

The Union suggested that TAWC's equity return should be penalized if it does not maintain the staffing levels established by the TRA. Mr. Lewis opined, ". . . [if] the Company fails to maintain a workforce level consistent with its authorized level, absent a showing of exigent circumstances, TAWC should be subject to a penalty. The penalty, could, for example, take the form of a reduction in the return on equity component of its rates."[731]

### V(G)1. Capital Structure

The TRA traditionally recognizes the importance of the parent-subsidiary relationship when determining capital structure. To reflect the relationship between TAWC and its parent company, the panel uses double-leverage capital structure methodology. The TRA was not persuaded by the Company's witnesses, Dr. Vander Weide's and Mr. Miller's, criticism of the

[726] *Id.* at 16-17.
[727] *Id.* at 17-18.
[728] Michael Gorman, Pre-Filed Direct Testimony, p. 22 (January 5, 2011).
[729] *Id.*
[730] *Id.*
[731] James Lewis, Pre-filed Direct Testimony (Public Version), p. 20 (January 5, 2011).

use of the double-leverage methodology. The Company failed to offer any new arguments in this case that would persuade the Authority to depart from its well-established precedent.

To implement the double-leverage calculation, it is necessary to determine the elements of TAWC's capitalization that are held by AWWC and those held by outside parties. In making these calculations, the TRA adopts the calculation of Mr. Miller that 6.81% of TAWC's capitalization is debt held by entities outside the AWWC corporate family. The next step in implementing the double-leverage methodology is to determine the capital structure of the TAWC's parent company, AWWC. The calculated historical capital structure for AWWC, set forth by CAPD Witness Dr. Klein, is deemed to be the appropriate structure to use in this proceeding.[732] Therefore, the TRA finds that the capital structure for AWWC is composed of 2.63% short-term debt, 53.13% long-term debt, 0.25% preferred stock, and 43.99% common equity. Given the impact of the crisis in the financial markets, the use of a historical capital structure for AWWC will be more reflective of its long run capital structure than using a single point in time to determine its capital structure.

**V(G)2. <u>COST OF DEBT</u>**

TAWC witness Mr. Miller's approach of measuring spreads between the Federal Funds rate and rates for outstanding short-term debt and then applying those spreads to forecasts of the Federal Funds rate, is inherently reasonable and provides a mechanism for incorporating prospective changes in often volatile short-term interest rates into the rate-setting process. Mr. Miller used the same approach in forecasting short-term debt rates as was used in the previous TAWC rate case. CAPD witness Dr. Klein deemed Mr. Miller's estimates to be reasonable for use in his own analysis. Thus, the TRA adopts a short-term debt rate of 1.9% for use in this proceeding. Additionally, the panel adopts a long-term debt rate of 6.27% as proposed by Dr. Klein, who concluded that this percentage represents that 6.27% is the embedded cost of

[732] Dr. Christopher C. Klein, Corrected Pre-filed Direct Testimony, Corrected Exhibit p. 4 of 19 (January 24, 2011).

AWWC's debt. The rate is very similar to the 6.2% figure for the subsidiary, TAWC, which would be expected to have a cost of debt that is very similar to that of its parent.

### V(G)3. RETURN ON EQUITY

Finally, the last piece of information needed to determine the weighted cost of capital for AWWC is the appropriate equity return. TAWC requested an 11.5% equity return. CAPD witness Dr. Klein proposed a 9% equity return. CRMA witness Mr. Gorman does not make a specific recommendation, but he argued that the Company's requested return is unreasonable. There is no simple single-step process for setting the appropriate equity return. Therefore, the TRA looks at the results of the parties' models, prevailing economic conditions, and other factors that may provide evidence about the risk of investing in either AWWC or TAWC.

The TRA considered the CAPM result for AWWC. For its CAPM calculation, the Authority adopts a risk-free return of 4.75% for use in the CAPM calculation as proposed by Dr. Vander Weide and used in his CAPM analysis. For the market risk premium, the Authority uses the 7.1% long-run risk premium produced by Ibbotson Associates and referenced by Dr. Klein. This risk premium statistic is slightly below the mid-point of the two risk premium statistics, 6.7% and 7.75%, used by Dr. Vander Weide in his CAPM analysis. Finally, the Authority uses the Beta value of 0.65 for AWWC found in Dr. Klein's testimony. With the information described above, the result is an equity return for TAWC's parent of 9.4%, which is 80 basis points below the 10.2% equity return adopted by the TRA in the last TAWC rate case. This figure increases to 9.8% when using the Beta statistic used in Dr. Vander Weide's analysis. The TRA considers the 9.4% equity return estimate to be a useful floor in setting the equity return in this proceeding.

The TRA disagrees with Dr. Vander Weide's complete rejection of the CAPM and finds that the low Beta statistics associated with comparable companies and AWWC, provides useful information as to the risk of water companies relative to the market. While both witnesses assert that the CAPM may underestimate the cost of equity for firms with low Beta statistics, the TRA has used the CAPM with such values in the past and no new theory or empirical evidence has been presented to discourage the TRA from adopting the practice again in this case.

The Authority does not adopt Dr. Vander Weide's use of the quarterly DCF model, and instead uses the simple annual DCF model because unlike the quarterly model, the annual model does not inflate the implied cost of equity. The Authority does not adopt the ex ante and ex post risk premium results reached by Dr. Vander Weide because they are not specific to AWWC, the water proxy group, or the natural gas proxy group upon which he based his analysis. The TRA and its predecessor, the Tennessee Public Service Commission, have rejected adding flotation costs to the return on equity when there is no accompanying stock issuance.[733] During the hearing, TAWC witness Mr. Miller indicated that he is unaware of an offering by AWW.[734] According to TAWC, it planned to issue $0.622 million and $2 million in equity in both 2011 and 2012, respectively.[735] Since AWW holds the common stock of TAWC, the equity issuance is an internal transaction and, therefore, it is not necessary to include flotation costs.

The Authority does not agree with the CAPD's CAPM calculations because CAPD used short-term interest rates as a proxy for risk-free return. Instead, the Authority prefers to use longer-term interest rates as a proxy for risk-free return as it more closely matches the expected life of a security, such as a stock or an investment in utility plant. Further, short-term interest rates are likely to increase from the current unprecedented low levels that have been set by the Federal Reserve to combat the recent economic downturn.

TAWC witness Mr. Miller suggested that there has been a predictable spread between A-rate utility bonds and equity returns awarded by state commissions. Using this relationship,

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[733] *See In re: Petition of Chattanooga Gas Company for Approval of Adjustment of its Rates and Charges and Revised Tariff*, Docket No. 04-00034, *Order*, pp. 57-58 (October 20, 2004).
[734] Transcript of Proceedings, Vol. VI B, pp.171-172 (March 7, 2011).
[735] TAWC's Responses to the TRA's Data Requests Dated September 20, 2010, Question 82 (October 4, 2010).

based on current bond rates, Mr. Miller calculated a 10.36% equity return if the average spread is maintained.[736] The Authority finds Mr. Miller's testimony to be useful in setting the equity return, as it provided useful information on equity returns awarded to comparable companies. Mr. Miller calculated the average equity return awarded since June 2009 to AWWC subsidiaries to be 10.36%.[737] When restricting Mr. Miller's analysis to decisions with orders issued in 2010, the average awarded equity return decreased to 9.95%. In the most recent decision listed in Mr. Miller's exhibit, Kentucky American was awarded a 9.7% return on December 14, 2010.[738]

Given the range of equity estimates provided by the witness and recent decisions reached by other state regulatory commission, the Authority adopts a 10% equity return in this proceeding. Relative to the last TAWC rate proceeding, AWWC has become less risky as measured by its Beta statistic, thus implying that the required equity return has decreased since the last case. While the most recent decision in the Kentucky American case was a 9.7% equity return, the TRA is concerned that interest rates will generally be increasing as government monetary policy normalizes.

The Authority rejects the Union's suggestion that equity return be adjusted if employment levels fall below the level authorized by the TRA. First, many factors outside the control of TAWC, such as retirements, can alter employment levels. The Company demonstrated at the Hearing that a lengthy process is required to hire for union positions, which can result in vacancies and could result in further delays in meeting authorized employment levels. Secondly, altering base rates to account for employment levels will be costly to implement. Finally, the Authority was concerned that implementing an equity return adjustment

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[736] Michael A. Miller, Pre-Filed Rebuttal Testimony, Rebuttal Exhibit MAM-5 (February 8, 2011).
[737] *Id.*
[738] *Application of Kentucky-American Water Company for an Adjustment of Rates Supported by a Fully Forecasted Test Year*, Case No. 2010-00036, Kentucky Public Service Commission, *Order*, p. 71 (December 14, 2010).

to employment levels might introduce inefficiencies into the operations of TAWC by requiring the Company to maintain specific employment levels even when not warranted.

Based on its analysis of relevant debt and equity costs, The Authority determines that an equity return of 10% and overall cost of capital of 7.83% based upon a double-leveraged capital structure is just and reasonable.[739]

### V(H). REVENUE DEFICIENCY

Based upon the preceding findings, a majority of the panel[740] determines that the Revenue Deficiency is $5,551,013 for the attrition period.[741]

### V(I). RATE DESIGN

The Company requested a $9.984 million increase in annual revenues, which is approximately equal to a 26.77% increase in rates. The requested rates would increase the Chattanooga tariff rates, the Lakeview tariff rates, and the Lookout Mountain tariff rates.[742] With few exceptions, the base rate for these areas would increase approximately 27% to 28%. The Company also recommended merging the mountain-serving areas into one tariff to reflect the similar characteristics of those areas.[743] The proposed volumetric usage increases vary greatly for these three locations depending on the service area and rate band.[744] The Company requested that tariff rates be established for Suck Creek and Lone Oak.[745] In addition, the Company recommended that it be allowed to merge the tariffs for Lone Oak and Suck Creek into the Mountain Tariff by adopting the basic blocking structure and volumetric rates.[746]

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[739] Director Roberson dissented and voted that the return on equity be set at 9.65% and an overall rate of return of 7.68%. This would reduce the revenue increase necessary by $282,961. Transcript of Proceedings, p. 76 (April 4, 2011).

[740] Director Roberson dissented from the majority's calculation of the dollar amount, but agrees with the methodology used to perform the calculation.

[741] Director Roberson voted to adopt a revenue deficiency for the Company of $4,242,134, thereby reducing the total rate increase from 14.76% to 11.29% for customers. Transcript of Proceedings, p. 76 (April 4, 2011).

[742] John S. Watson, Pre-Filed Direct Testimony, p. 4 (September 23, 2010).

[743] Paul R. Herbert, Pre-Filed Direct Testimony, p. 11 (September 23, 2010).

[744] *Petition*, Exhibit No. 4, Schedule 2 (September 23, 2010).

[745] John S. Watson, Pre-Filed Direct Testimony, p. 4 (September 23, 2010).

[746] Paul R. Herbert, Pre-Filed Direct Testimony, p. 11 (September 23, 2010).

Further, the Company requested that individual rates be set for four large resale customers that receive service under special contracts approved by the TRA. The sale for resale customers are the Town of Signal Mountain, Tennessee, Walden's Ridge Utility District, Tennessee, City of Fort Oglethorpe, Georgia, and the Catoosa Utility District Authority, Catoosa County, Georgia.[747] The CAPD asserted that ". . . any change in revenue requirements ordered by the TRA in this docket [should] be spread uniformly to all customer classes and customer locations."[748]

Following the initial announcement by TAWC and the CRMA on February 28, 2011 that a settlement had been reached between them, the CRMA later submitted a summary of the proposed settlement agreement during the conclusion of the hearing on March 8, 2011, a copy of which was attached to that day's transcript[749] The settlement agreement proposed to increase the meter charges and volumetric rates of TAWC's small industrial customers, while, in turn, decreasing the meter charges and volumetric rates of larger industrial customers. The settlement affirmed that the other parties actively involved in this case do not object to the proposed settlement. As proposed, the settlement agreement applied exclusively between TAWC and the members of the CRMA. In its petition to intervene, the CRMA stated that it represents ". . . 250 manufacturers and businesses supporting and servicing the local area's manufacturing sector."[750]

On March 25, 2011, a *Notice of Convening Panel* was issued, providing public notice that the panel would be convening on April 4, 2011 to deliberate the merits of the *Petition.*[751] During the proceedings held on April 4, 2011, as to the proposed settlement agreement, the panel determined that not all industrial customers of TAWC were also members of the CRMA, and that filing the proposed settlement during the hearing did not provide adequate notice or

[747] John S. Watson, Pre-Filed Direct Testimony, p. 3 (September 23, 2010).
[748] Terry Buckner, Pre-Filed Direct Testimony, pp. 62-63 (January 5, 2011).
[749] *Summary of Settlement between CRMA and TAWC* (March 28, 2011).
[750] *Petition to Intervene by the Chattanooga Manufacturers Association* (October 4, 2010).
[751] *Notice of Convening Panel* (March 25, 2011).

opportunity for response to non-members. In addition, the settlement was submitted late during the hearing proceedings, and neither party had presented a witness to testify as to the terms and conditions of the settlement, thereby preempting an opportunity for the Authority to ask questions concerning the proposed settlement agreement.[752]

While it appeared that the proposed settlement would likely be revenue neutral within the industrial class of consumers, except insofar as it seems that smaller users will absorb a higher percentage of the revenue increase than larger users, the panel was not able to determine its effects on individual users within the class. This issue had not been discussed by the parties, and the proposals included within the settlement were not raised during the discovery process. TAWC is the only party that provided testimony as to possible rate designs, but its testimony related more to what a minimal impact its requested rate increase would have on existing customers and did not provide a comparison of rates or a proper distribution of any potential revenue changes.

After due consideration and review of the record, the Authority declined to approve the proposed settlement because it was filed improperly as an exhibit, failed to include necessary information as to the structure and impacts of the proposals therein, and was designed to affect only rates within the industrial customer class.[753] As a result, the Authority requested that the Company file two separate price-out tariffs that reflected the impacts of the proposed rate results and approved revenue changes: one tariff that demonstrated the impacts to rates in the event that the settlement agreement was denied, and one tariff that showed the impacts to rates should the panel approve the settlement agreement.[754] On April 6, 2011, TAWC filed both price-out tariffs as ordered by the Authority.

[752] The parties later filed a *Summary of Settlement between CRMA and TAWC* in the docket file on March 28, 2011.
[753] Transcript of Proceedings, pp. 8-9 (April 4, 2011).
[754] *Id.* at 84.

On April 7, 2011, the UWUA filed an objection to the tariffs and asserted that both of the proposed tariffs failed to incorporate the reporting conditions related to staffing and valve maintenance issues that had been previously ordered by the Authority during its April 4, 2011, Authority Conference. On April 14, 2011, TAWC filed its response in opposition to the UWUA's objection. During its regularly scheduled Authority Conference held on April 18, 2011, the Authority overruled the UWUA's objection to the tariffs with regard to TAWC's failure to incorporate staffing and valve maintenance reporting requirements, and based on TAWC's agreement with a request by the UWUA, the panel ordered that the semiannual staffing and valve maintenance reports be filed on April 5th and October 5th of each year. The panel reasoned that the reporting requirements will be included in the Final Order and it is inappropriate and contrary to past practices of the TRA to include such terms in the tariff. Subsequently, the Authority approved the proposed settlement agreement filed by the CRMA and TAWC and the filed tariff that reflected the terms of the settlement agreement.[755]

Next, the Authority denied the Company's originally proposed tariff and ordered the Company to file a new tariff within thirty (30) days with new rates sufficient to produce incremental revenues in the amount of the revenue deficiency, as noted above. The Authority ordered that the tariff filing must be accompanied by a detailed price-out reflecting the new rates based upon attrition year billing determinates and accurately producing incremental revenues in the amount of the revenue deficiency approved by the Authority when compared to attrition year billing determinates at current rates.

**IT IS THEREFORE ORDERED THAT:**

1. The rates filed by the Tennessee American Water Company on September 23, 2010, are denied.

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[755] Director Kyle voted against the settlement agreement and moved to adopt the tariff to reflect an across-the-board increase to all customer classes and individual rates. Transcript of Proceedings, p. 12 (April 18, 2011).

2. For purposes of the rates set forth herein:

(a) The test period utilized shall vary according to the Authority's determinations herein as to the period that best fits each of the individual items being forecasted.

(b) The attrition period shall be for the twelve months ended December 31, 2011.

(c) The rate base is set at $118,459,808 and the net operating income is $5,937,860 at current rates.

(d) Capitalization of debt held by parties outside of the American Water Works Company, the corporate parent of Tennessee American Water Company, system is 6.81%, with a cost of 8.30%.

(e) The capital structure for American Water Works Company is composed of 43.99% common equity, 53.13% long-term debt, 2.63% short-term debt, and 0.25% preferred stock.

(f) An equity return of 10%[756] and an overall rate of return of 7.83% based upon a double-leveraged capital structure, are just and reasonable and hereby set for Tennessee American Water Company.

3. The Revenue Conversion Factor is 1.643037, and results in a Revenue Deficiency of $5,551,013, which allows the Company an opportunity to earn a fair return on its investment during the attrition year.[757]

4. The Revenue Deficiency shall be implemented by uniform percentage increases to base rates and volumetric rates for all customer classes.

5. (a) Tennessee American Water Company shall submit semi-annual staffing level reports to the Utility Division Chief on April 5th and October 5th of each year. Such reports shall include (1) the actual number of full-time equivalent employees for the previous period, by

[756] Director Roberson dissented from the decision of the majority of the panel.
[757] Director Roberson dissented from the decision of the majority of the panel.

month, (2) an explanation concerning any differences between the authorized and actual full-time equivalent employees, and (3) a date by which Tennessee American Water Company expects to fill any vacant positions.

(b) Tennessee American Water Company shall also semi-annually report to the Utility Division Chief concerning the progress of its valve operation and maintenance program. The report shall include (1) the current number of employees assigned to the valve program, by month, (2) the number of larger and smaller valves targeted for inspection, operation, and maintenance during the previous period, by month, (3) the number of valves actually inspected, operated, and maintained during the current period, by month, (4) the number of valves discovered or known to be in need of repair or replacement, by month, (5) the date of repair or replacement of such valves, and (6) in the event that Tennessee American Water Company did not to repair or replace certain valves, the number of valves that were not repaired or replaced and a detailed explanation of the reason(s) that action was not taken.

6. Tennessee American Water Company is hereby directed to file a tariff with the Authority that implements recovery of $275,000 in regulatory expense through a separate line item charge that will be reflected on customer bills in all customer classes for a six-month period and will automatically cease upon full recovery.

7. Tennessee American Water Company is hereby directed to file with the Authority tariffs that produce an increase of $5,551,013 in incremental revenues for service rendered, and any other tariffs necessary and consistent with this Order.

8. All tariffs shall be filed within thirty days.

9. Any party aggrieved by the decision of the Tennessee Regulatory Authority in this matter may file a Petition for Reconsideration within fifteen days of the date of this Order.

10. Any party aggrieved by the decision in this matter has the right to judicial review by filing a Petition for Review in the Tennessee Court of Appeals, Middle Section, within sixty

days of the date of this Order.

Mary W. Freeman, Chairman

* * *

Eddie Roberson, Director[758]

Sara Kyle, Director

[758] Director Roberson declined to vote with the majority in granting TAWC a revenue requirement in the amount of $37,614,978 for the reasons set forth in his *Concurrence and Dissent of Director Eddie Roberson* filed herewith. Director Roberson voted with the majority in approving the rate design as set forth above.

**COMMONWEALTH OF KENTUCKY**

**BEFORE THE PUBLIC SERVICE COMMISSION**

**IN THE MATTER OF:**

| | | |
|---|---|---|
| **APPLICATION OF KENTUCKY-** | ) | |
| **AMERICAN WATER COMPANY TO** | ) | **CASE NO. 2023-00030** |
| **AMEND TARIFF TO** | ) | |
| **REVISE QUALIFIED INFRASTRUCTURE** | ) | |
| **PROGRAM CHARGE** | | |

**DIRECT TESTIMONY OF KRISTA CITRON, SENIOR PROJECT ENGINEER FOR KENTUCKY-AMERICAN WATER COMPANY, INC.**

**Filed: March 1, 2023**

## I. INTRODUCTION

**Q. Please state your name, position, and business address.**

A. My name is Krista Citron. I am the Senior Project Engineer for Kentucky-American Water Company, Inc. ("KAW" or "the Company"). My business address is 2300 Richmond Road, Lexington, Kentucky 40502.

**Q. Have you previously filed testimony at the Kentucky Public Service Commission ("Commission")?**

A. Yes. I filed written testimony before the Kentucky Public Service Commission in Case No. 2021-00090, Case No. 2021-00376, Case No. 2022-00032, and Case No. 2022-00328. I also provided hearing testimony at the Commission in the June 2, 2021 hearing for Case No. 2021-00090.

**Q. Please state your educational and professional background.**

A. I earned my Bachelor of Science in Civil Engineering from Vanderbilt University in Nashville, Tennessee in 2007 and my Master of Science, also in Civil Engineering, from the University of Kentucky in Lexington, Kentucky in 2008. I am a registered Professional Engineer in the states of Kentucky and Tennessee.

I have been employed as an engineer by KAW since 2017. Prior to that, I worked at CDP Engineers in Lexington, Kentucky for 8 years as a Project Engineer, overseeing municipal water, wastewater, and stormwater improvement projects. I am an active member of the Kentucky Society of Professional Engineers (KSPE) and the KY/TN section of the American Water Works Association (AWWA).

**Q. What is the purpose of your direct testimony?**

A. The purpose of my testimony is to describe the proposed investment for the Qualified Infrastructure Program Rider ("QIP Rider") approved by this Commission in KAW's last rate case (Case No. 2018-00358). I will describe the projects KAW plans to complete that are eligible for recovery under the QIP Rider. This is the fourth QIP filing so it is for QIP Rider Year 4 which is the period from July 1, 2023 to June 30, 2024. Projects for QIP Rider Year 1 were approved in Case No. 2020-00027, projects for QIP Rider Year 2 were approved in Case No. 2021-00090, and projects for QIP Rider Year 3 were approved in Case No. 2022-00032.

## II. QIP ELIGIBLE UTILITY PLANT AND PROPOSED PROJECTS

**Q. Please define the categories for QIP Eligible Utility Plant.**

A. QIP eligible utility plant includes Distribution Infrastructure and Water Treatment Infrastructure. They are both defined terms in KAW's tariff on file with the Commission at Sheet No. 48.

**Q. Please describe eligible Distribution Infrastructure.**

A. Eligible distribution infrastructure includes distribution and transmission system structures and improvements, mains and valves installed as replacements for existing facilities; hydrants, distribution tanks; services, meters and meter installations; and power generation and pumping equipment installed as replacements for existing facilities; and unreimbursed funds related to capital projects to relocate facilities required by governmental infrastructure projects.

**Q. Please describe eligible Water Treatment Infrastructure.**

A. Eligible water treatment infrastructure includes source of supply and water treatment structures, pipe and equipment including sampling equipment, SCADA ("Supervisory Control and Data Acquisition") equipment, and power generation and pumping equipment installed as replacements for existing facilities.

**Q. Do the projects proposed in this case for QIP Year 4 fall under QIP Eligible Utility Plant categories?**

A. Yes. In the Commission's June 17, 2020 order in Case No. 2020-00027, the Commission approved the "Budget Line B: QIP Mains Replaced/Restored" projects. Replacing hydrants, valves, and service lines that are **incidental** to the main replacements as part of the Budget Line B projects was also approved by the Commission. The Commission furthermore said the following related to future QIP Applications:

> For all future QIP applications after QIP 2, the Commission finds that the amount of main replacement included in QIP projects should be consistent with the amount proposed and approved in Case No. 2018-00358, and should be based on a 25-year replacement cycle. The Commission further finds that, based on the 25-year replacement cycle, Kentucky-American should limit future QIP scheduled main replacement to 10-13 miles of main replaced each year.[1]

KAW has therefore proposed only Budget Line B: QIP Mains Replaced/Restored projects in all subsequent QIP Rider cases, and is proposing only Budget Line B: QIP Mains Replaced/Restored items in this case. The total length of the proposed projects is 12.01 miles. Those projects are based on a 10-13 miles per year rate to meet the 25-year replacement goal. These investments are to replace aging infrastructure that is non-revenue producing. This means infrastructure that does not produce additional revenue (no new customers). Examples of infrastructure that would produce additional revenue are main extensions for new development and new services or new meters for new customers.

**Q. What work is associated with Budget Line B: QIP Mains Replaced/Restored?**

A. The work includes the scheduled replacement, renewal or improvement of existing water mains, including valves, hydrants, and other appurtenances incidental to the water main

[1] Case No. 2021-00090, June 21, 2021 Order, p. 12.

replacement. Work under this line is the planned and scheduled proactive replacement of water main that has been determined to reach its useful life or is causing service problems to the adjacent area serviced by the main. Water main replaced under this line item will result in a more robust, reliable water distribution system. By replacing aging water main infrastructure on a proactive rather than reactive basis, the distribution system will provide direct customer benefits in the form of improved and sustained water quality, improved fire protection, fewer service disruptions and lower operating and maintenance costs over time.

KAW plans to spend approximately $20.1M to replace various size water mains as part of 47 projects during the QIP 4 forecasted period of July 1, 2023 to June 30, 2024. KAW will replace approximately 63,415 feet or 12.01 miles of main during the period. These projects are not only important in addressing the aging infrastructure needs of the community, but they also allow for the replacement of cast iron and galvanized steel lines that are leaking or have a high potential for failure. This should help KAW to reduce its levels of "unaccounted for" water.

**Q. What are the proposed projects that are included with Budget Line B: QIP Mains Replaced/Restored?**

A. KAW has identified 47 projects that are outlined in Exhibit 1 and shown in Exhibit 2.

**Q. Why is the majority of the main being replaced cast iron?**

A. In Case No. 2018-00358, KAW requested approval of a QIP rider to make incremental capital improvements to replace its aging mains that otherwise would not be replaced in a timely manner. In that proceeding, the Company analyzed main break history from January 2012 to December 2016. Review of the reported breaks from January 2012 to December

2016 indicated that main breaks on cast iron and galvanized mains represented 64% of all breaks. Since cast iron main (lined and unlined) and galvanized material only represents 15.9% of the total inventory of mains in the ground, the break rate on these types of material is significantly higher than the other material in the system. The break rate per mile of main shows that cast iron main had a break rate of 1.1 breaks per mile of main compared to ductile iron, which only saw a break rate of 0.04 breaks per mile of main from January 2012 to December 2016.

**Q. What impacts are expected from additional Line B spending in the forecast period?**

A. It is anticipated that removing cast iron and galvanized steel from the distribution system will help to reduce the number of water main breaks. Given the disproportionate number of breaks caused by these two pipe materials, removing cast iron and galvanized mains will have the biggest impact on the number of main breaks and help ensure the reliability of water service to KAW customers.

**Q. How did KAW select the projects proposed in this case?**

A. Projects are selected using the pipeline prioritization model along with external drivers such as paving schedules, customer impact, and other construction considerations. Combining the prioritization model results with external drivers allows KAW to maintain an adaptable replacement program which allows for the efficient use of available resources.

The prioritization model is updated annually. As first described in Brent O'Neill's Direct Testimony, Exhibit 2, pages 12-13, in Case No. 2018-00358, the prioritization model consists of an electronic database which is used to assess and prioritize main replacement projects. The inputs to the model consist of eight criteria which are each ranked on a scale of 1 to 5 and individually weighted between 5 and 15 points out of a possible 100.

Please see Exhibit 3 which illustrates the ranking matrix for these eight criteria. These inputs are dynamic and are therefore updated to create the most accurate assessment of system conditions. Each year, the criteria for low pressure, number of main break/leaks, fire flow, age, water quality and customer impact need to be checked and/or updated as conditions can change resulting in a possible adjustment to the replacement priority of a given water main. The updated prioritization model itself is attached as Exhibit 4.

For QIP Year 4, projects were selected using additional factors which are: the pavement condition rating and coordination with upcoming LFUCG sanitary sewer projects. The pavement condition rating is a measure of how much useful life is remaining on any given section of roadway. For example, a road with twenty-five percent of its useful life left is likely in need of paving. Using Geographical Information Systems ("GIS"), the prioritization model ranking and the pavement condition rating were overlaid on a map of KAW's infrastructure, and projects were selected from among the streets that both ranked higher on the prioritization model and were rated as having poor pavement conditions. The goal of this additional step is to identify segments of KAW's mains that are located within roadways that are likely to be paved in the near future. This was done intentionally to better coordinate paving restoration requirements with LFUCG, and to select streets that would be good candidates for paving sharing between KAWC and LFUCG or other utilities. The timing of QIP Year 4 offered an additional opportunity to coordinate the replacement of existing cast iron mains in conjunction with two LFUCG sanitary sewer projects, on Dove

Run Road and Greentree Road/Court. The ability to align QIP projects with other utilities results in more efficient construction and less disturbance to residents.

While QIP has focused on the replacement of cast-iron and galvanized mains, a replacement project of 16" Pre-stressed Concrete Pipe along Rosemont Garden with new 16" ductile iron pipe has also been included. It is prudent and in the best interest of our customers to continually evaluate the replacement of mains based on both the likelihood of failure and consequence of failure, while also considering opportunities to find cost savings through activities such as paving partnerships and streamlined utility replacement planning in Rights-Of-Way. This particular section of main has experienced two recent main breaks and has a high consequence of failure for customers due to the large main diameter. Additionally, there is a parallel 6" cast iron water main along this same segment of roadway dating back to 1939, and the inclusion of this replacement project will allow KAW to eliminate the cast iron and prevent repeated main breaks on the concrete pipe. The miles of main replaced/proposed to be replaced has been updated below.

| Miles of Proposed Replacements by Material Types - QIP Years 1-5 | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Material Type | | | | | | |
| QIP Year | Cast Iron | Asbestos Cement | PVC | Ductile Iron | Galvanized | Other | Total by Year[2] |
| 1 | 6.2 | | | | | | 6.2 |
| 2 | 14.2 | 0.6 | 0.07 | | | 0.07 | 14.9 |
| 3[1] | 12.1 | 0.2 | 0.06 | | 0.4 | 0.1 | 12.8 |
| 4[1] | 12.1 | 0.7 | | | 0.3 | 0.2 | 13.3 |
| 5[1] | 12.6 | 0.1 | | | 0.2 | 0.1 | 13.0 |
| Total by Type | 57.2 | 1.6 | 0.13 | 0 | 0.9 | 0.5 | |

[1] - Specific project areas for QIP years 3-5 were identified using the method described above.
[2] – Some areas include parallel water mains, so the footage retired is greater than the proposed footage to be installed.

**Q. What is the estimated cost per foot of main proposed for the QIP Year 4 projects?**

A. The cost per foot of the proposal for QIP Year 4 is estimated to be $318 per linear foot. The costs for design of the Year 4 projects and the materials orders are generally known and are reflected in this estimate, but QIP Year 4 contractor bid pricing is not yet known. Therefore, the approximate cost per linear foot for construction and restoration is an estimate based on the most recent QIP Year 3 project bids from contractors.

**Q. What steps has KAW taken to control the cost-per-foot of main replaced?**

A. For QIP Year 4 projects, KAW has chosen several of the more complex project areas. The water mains in these areas are among the oldest still remaining in the system, and their location in heavily trafficked downtown areas makes them more difficult to replace. Thus, the cost per linear foot for the QIP Year 4 projects is higher on average than prior years.

Among the QIP Year 3 projects, two were identified as candidates for the new water main to be installed in the utility strip or beneath the sidewalk. While the concrete and driveway/sidewalk restoration costs for these types of projects may be more than initially estimated, reducing the amount of pavement disturbed is expected to offset the estimated cost significantly. Moving into QIP Year 4 projects, the engineering design firms were instructed to evaluate each project for the potential to utilize the utility strip or sidewalk areas rather than the roadway. KAW will review the final costs for these projects compared to the estimated costs had they been installed under pavement.

KAW continues to utilize national contracts that leverage American Water Works Service Company's ("Service Company") volumes to secure discounts and thus minimize cost increases for material such as piping, fittings, and service line materials. In addition, we can leverage our scale to have the shortest delivery lead times in the industry. Because of the supply chain challenges facing KAW and the construction industry in general, KAW has proactively sought out and secured the materials needed for QIP Year 4 projects on the most economical terms available to ensure that materials would be available when projects were ready to begin construction, and to minimize cost increases. This proactive approach also helps to ensure KAW can complete all proposed QIP Year 4 projects in a timely manner and in accordance with the proposed schedule at a lower cost. However, material costs have increased and are anticipated to continue to increase, by as much as 12-50 percent for direct materials such as hydrants, service line, and pipe.

KAW has also expanded our list of bidders for QIP projects. We continue to proactively seek out additional contractors and have executed two new paving and restoration contracts. The contractors and their contact information are listed in Exhibit 5.

Regarding utility coordination with external entities, KAW has continued to engage with other utilities to determine if there are opportunities to coordinate our construction. The maps in the attached Exhibit 2 are distributed to other utilities for their review. In several cases, KAW has learned of a planned replacement project for another utility and we have been able to successfully work around each other's schedules.

KAW has continued to work with LFUCG to identify ways to improve coordination on pavement restoration. These efforts are explained in more detail below.

**Q. Has the recent inflation trend affected the cost of KAW's QIP projects, and, if so, what steps has KAW taken to minimize those effects?**

A. KAW has been subject to rising costs in several areas. The cost of materials has been impacted not just by inflation, but also by shortages and shipping delays, explained in more detail below. The average cost-per-foot of project design work performed by consultants as well as of construction work performed by contractors have also risen year over year. KAW has worked to minimize these effects by bundling projects on adjacent streets or in the same geographical areas. This allows design firms to provide better pricing for tasks that can be performed concurrently—such as survey work—instead of providing a separate price for each individual street. The same process applies to construction contractors as well. By bundling projects in the same vicinity, contractors can mobilize equipment to one primary location instead of several different locations, ultimately reducing the overall costs.

**Q. Have KAW's QIP projects been affected by the current global supply chain challenges, and, if so, what steps has KAW taken to minimize those effects?**

A. Yes, global supply chain and transportation issues continue to be challenging. KAW experienced a significant increase in delivery lead times and pricing increases in 2021. KAW has worked diligently with supply chain and vendors on reducing material lead times, accepting partial deliveries, working with alternative suppliers, and placing material orders for QIP work sufficiently in advance. KAW modified designs to accept the installation of 6" diameter pipe in lieu of 4" pipe, as the 4" diameter pipe is more costly and had significantly longer lead times. The Service Company supply chain group has diligently worked with vendors and suppliers to obtain favorable commitments for materials cost and delivery, helping to ensure that the cost effects to KAW are minimized.

**Q. Part of KAW's cost-per-foot is the expense of pavement restoration that must be performed after KAW replaces a main in a public road. What specifically has KAW done to control and minimize its pavement restoration expense in QIP Year 3 projects and what is KAW going to do to control those costs in QIP Year 4?**

A. The paving restoration requirements on public roadways within Lexington are outlined in LFUCG's Chapter 17C of the Code of Ordinances and in the Standard Drawings, of which 200, 201-1, 201-2, 201-4, 300, 301, 302, 303, 304, 307-1, 307-2 primarily relate to 17C. While general details and guidance are outlined in these documents, the restoration requirement is ultimately determined post construction, immediately prior to paving, based on the judgment of the LFUCG representative. KAW recognizes that beneficial partnerships with LFUCG and coordination with other utilities through effective communication, planning, performance, and continuous process improvement is critical to reducing paving costs. While we have not realized a significant quantifiable reduction in paving costs yet, KAW continues to focus on this issue. Throughout the implementation of QIP Year 3 and in development of QIP Year 4 projects, KAW continues to engage LFUCG at multiple levels of business and government to advocate for judicious paving requirements and to find opportunities for efficiencies towards the minimization of paving costs to KAW ratepayers through the following activities:

- LFUCG Utility Coordination Committee Meetings ("UCCM"): KAW staff attends every UCCM meeting. During these meetings, KAW presents our list of upcoming planned replacement projects and seeks input from other utilities present. In part due to KAW's feedback, future UCCM meetings will be more project- and coordination-focused between utilities and LFUCG in executing and planning the replacement program projects, with the goal to minimize paving costs and construction disruptions, while still maintaining maintained safe, quality roadways for the community.
- Paving Share Agreement: KAW, together with other utilities, has requested consideration of LFUCG completing the paving using their contractor and pricing. A draft of this

agreement is currently under review by LFUCG, but the anticipated outcome is a formal method for utility companies and LFUCG to identify the areas where a pave-share makes sense and to quantify the percentages of restoration responsibility. KAW advocated for the pre-existing LFUCG pavement rating to be considered as part of the post construction restoration requirements in an effort to align the paving restoration to the 5-foot trench width detail in the LFUCG Standard Details (for roadways over a certain paving rating). The paving condition rating is a factor KAW has considered during the planning process. While the utilization of the pavement rating to move towards a more standard, cost-sensitive, approach in establishing the restoration extents is not currently utilized, the consideration of the paving rating in planning is beneficial in coordinating partnering opportunities for the LFUCG paving pilot mentioned above.

- Project Coordination Meetings: LFUCG also hosts bi-monthly project coordination meetings for their storm and sanitary sewer departments. KAW staff attends every one of these meetings and provides information about upcoming projects or coordination needs. The project coordination meetings have been beneficial to find opportunities to cost share on paving with other utilities and are necessary to coordinate construction timing. While KAW has requested a future LFUCG paving list to align our project planning with opportunities to complete main replacements in streets already planned to be paved within LFUCG's budget, due to LFUCG's budget timing this list is not available prior to establishing the QIP project list. Therefore, KAW's project list has been a primary driver for cost sharing opportunities.
- Weekly Paving Meeting: During the months that the asphalt plants are open and operating, LFUCG and LFUCG's designated paving contractor host weekly meetings to review what

streets will be paved that week. KAW staff regularly attends these meetings and shares information within KAW and from KAW back to LFUCG and the paving contractor. The content of these meetings is focused on near-term paving, not long-term planning.

- Utilization of Pavement Rating in Project Planning: As previously discussed, KAW utilized the pavement rating from LFUCG in conjunction with the pipeline prioritization model in order to select streets that were both highly ranked in the model and likely to need new pavement within the next few years. This allows KAW to be as cost-efficient as possible with the selection of the project list regarding final pavement and restoration requirements. Furthermore, KAW has engaged several relevant departments within LFUCG earlier in our planning process. The group includes Streets & Roads, Engineering, and Water Quality. At the time the initial list of projects is identified, the list is shared with this group from LFUCG and they have the opportunity to provide any comments, feedback, or coordination suggestions. This step has already provided multiple benefits by allowing us to accelerate or delay proposed projects based on upcoming LFUCG work, and it has been the primary means by which we have identified streets that are eligible for paving sharing with LFUCG.
- Utility Partnering Opportunities: Once QIP projects have been identified in the planning phase, the maps and locations are shared with other utilities, such as Columbia Gas. Columbia Gas does the same, sharing their planned projects with KAW. This allows KAW to determine if other utilities have upcoming projects in the same vicinity. In several cases, we have been able to coordinate our construction schedules in these areas to minimize the disruption to residents. This information-sharing has also helped highlight some streets that may need to be moved up or down on the priority ranking based on other utilities' planned

work. Additionally, KAW and other utilities regularly share construction plans on shared streets so that all parties can ensure, where possible, that their intended route does not create new points of conflict.

- QIP Project Walkthroughs and Reviews: For every QIP main replacement project, the site is walked and reviewed by LFUCG's inspector along with the KAW construction representative and contractor. The final paving and restoration requirements are defined during this site walkthrough. KAW requested a pre-construction walkthrough to establish an anticipated restoration scope, but because the 17-C ordinance is performance-based and relies heavily on the actual disturbance areas post construction, a determination of this nature was deemed premature. To help KAW, our design firms, and our contractors better anticipate and estimate the disturbance limits of the QIP projects, LFUCG's Municipal Senior Engineer for the Division of Engineering has provided training on the 17-C ordinance and associated design documents and paving policies to all involved. KAW has implemented this training as an annual requirement for our design firms and contractors that work on QIP projects.
- KAW Paving Pilot: Beginning with some of the QIP Year 2 projects and continuing through present, KAW has been piloting the use of a third-party paving contractor for all final restoration and paving activities. The goal of this pilot is to evaluate the effectiveness and efficiency of using a single paving contractor to provide all the final restoration, regardless of the selected contractor for the main installation work. This will also benefit KAW and LFUCG with a single point of contact for any paving and restoration concerns and provide consistency in process and paving performance. KAW has also executed an

agreement with a second paving and restoration contractor to provide supplementary assistance on QIP projects.

**Q. Please provide a status report of the progress KAW has made in completing the projects the Commission approved in Case No. 2022-00032 (the QIP Year 3 case).**

A. As of January 2023, approximately 5.5 miles of the QIP Year 3 projects are in-service, and another 7.0 miles are currently under construction or expected to begin construction over the next month. All projects are expected to be in-service prior to the end of the QIP Year 3 on June 30, 2023 with three exceptions: Greenwood Avenue, Bradley Court, and Edinburgh Court. These roadways, totaling approximately 0.3 miles of QIP Year 3 replacements, were paved by LFUCG during the 2022 paving season and as such, KAW is unable to disturb the new pavement for a minimum of 12 months pursuant to LFUCG Ordinance 17C-19(e)(5). A summary of the in-service QIP Year 2 and QIP Year 3 projects is included in Exhibit 6.

**Q. Does KAW's Application in this case comply with the Commission's Order in Case No. 2022-00032 to include "end-of-period" updates to QIP Rider Year 3 projects which reflect actual construction costs occurred as of January 31, 2023 and forecasted construction costs for the remaining five months (February 1, 2023-June 30, 2023)?**

A. Yes. KAW has included actual construction costs through January 31, 2023 in its calculations for this filing. For QIP Year 2 projects, those amounts include post-in-service spend that has occurred between July 1, 2022 and January 31, 2023. For QIP Year 3 projects, those amounts include actual in-service spend between July 1, 2022 and January 31, 2023 as well as forecasted construction costs for work that will occur between February 1, 2023 and June 30, 2023. A summary of the in-service QIP Year 2 and QIP Year 3 projects is included in Exhibit 6. Forecast costs were based on current material prices, bid numbers (where known), and quotes for paving (where known).

## IV. CALCULATION OF QIP PERCENTAGE

**Q. What witness is responsible for the calculation of the QIP Rider amount that results from these infrastructure improvements?**

A. KAW witness Jeffrey Newcomb covers the calculation of the requested QIP Rider amount in his direct testimony.

## III. CONCLUSION

**Q. What is your recommendation for the Commission?**

A. I recommend that the Commission approve this petition for the QIP Rider amount as proposed.

**Q. Does this conclude your testimony?**

A. Yes, it does.

## VERIFICATION

**COMMONWEALTH OF KENTUCKY )**
**) SS:**
**COUNTY OF FAYETTE )**

The undersigned, Krista Citron, being duly sworn, deposes and says that she is the Senior Project Engineer for Kentucky-American Water Company, that she has personal knowledge of the matters set forth in the foregoing testimony and that the answers contained therein are true and correct to the best of her information, knowledge and belief.

**Krista E. Citron**

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 1st day of March, 2023.

Notary Public

My Commission Expires:
July 31, 2025
ID# KYNP26988

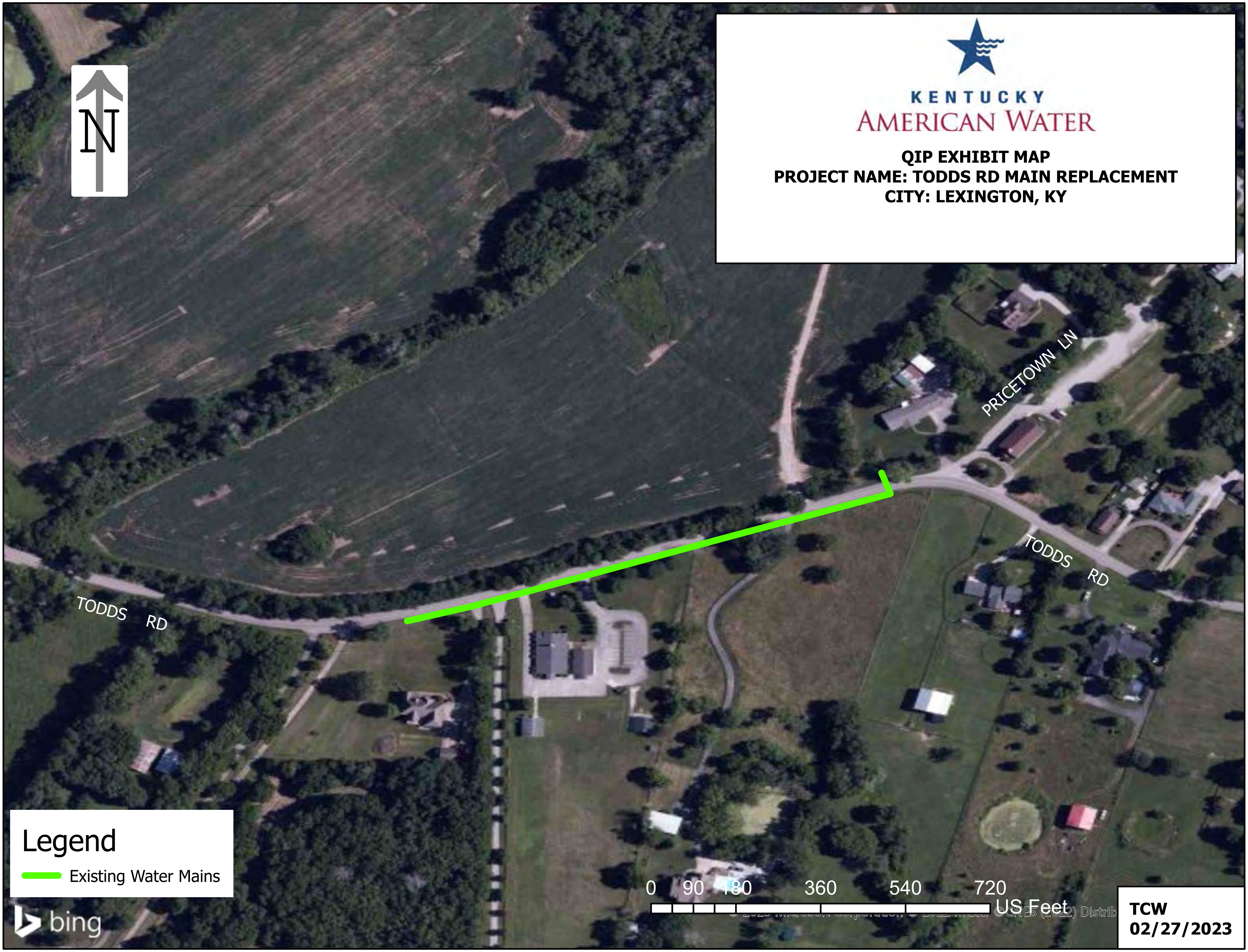
MOLLY MCCLEESE VAN OVER
NOTARY PUBLIC
COMMONWEALTH OF KENTUCKY
ID # KYNP26988
MY COMMISSION EXPIRES JULY 31, 2025

QIP Year 4 Project List

| # | NAME | WBS NUMBER | LOCATION | PROJECT LENGTH (FT) | PRIORITIZATION MODEL RANKING | PAVEMENT RATING | O'NEILL EXHIBIT 2 | < 4" Main | | | 4" Main | | | 6" Main | | | 8" Main | | | >= 12" Main | | | # BREAKS (PAST 10 YEARS) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Est. Linear Feet Retired | Est. Age of Main Retired | Material Type | Est. Linear Feet Retired | Est. Age of Main Retired | Material Type | Est. Linear Feet Retired | Est. Age of Main Retired | Material Type | Est. Linear Feet Retired | Est. Age of Main Retired | Material Type | Est. Linear Feet Retired | Est. Age of Main Retired | Material Type | |
| 1 | Todds Road @ Pricetown Ln | R12-02B2.23-P-0002 | FAYETTE | 850 | 270 | 40%-55% | | 850 | 1955 | CI/Galv | | | | | | | | | | | | | 1 |
| 2 | Samuel Ln | R12-02B2.23-P-0003 | FAYETTE | 575 | 305 | 25%-40% | Year 3 - Project 2 | 575 | 1957 | CI | | | | | | | | | | | | | 0 |
| 3 | Uhlan Ct | R12-02B2.23-P-0004 | FAYETTE | 390 | 280 | 0%-10% | Year 1 - Project 26 | 390 | 1937 | CI | | | | | | | | | | | | | 2 |
| 4 | Adair/Madison/Gess (Owenton) | R12-30B2.23-P-0002 | OWEN | 2215 | 300/300/285 | 40%-55% | | 855 | 1969 | Galv | 435 | 1969 | CI | 925 | 1969 | CI | | | | | | | 6 |
| 5 | Strathmore Rd | R12-02B2.23-P-0006 | FAYETTE | 970 | 275 | 40%-55% | Year 1 - Project 20 | 970 | 1936 | CI | | | | | | | | | | | | | 0 |
| 6 | Eastin Rd/Grandin Rd | R12-02B2.23-P-0007 | FAYETTE | 1000 | 265/275 | 55%-70% | | | | | | | | 1210<br>1000 | 1936<br>1952 | CI<br>AC | | | | | | | 3 |
| 7 | Ranier Dr | R12-02B2.23-P-0008 | FAYETTE | 715 | 250 | 55%-70% | | | | | | | | 715 | 1958 | CI | | | | | | | 0 |
| 8 | Sulphur Ln | R12-02B2.23-P-0009 | FAYETTE | 730 | 285 | 55%-70% | Year 2 - Project 15 | 730 | 1955 | CI | | | | | | | | | | | | | 0 |
| 9 | N Cleveland Rd | R12-02B2.23-P-0010 | FAYETTE | 2620 | 310 | 40%-55% | | 2620 | 1955 | CI | | | | | | | | | | | | | 2 |
| 10 | Centerville Ln/Boone Ln | R12-02B2.23-P-0011 | FAYETTE | 1865 | 280/285 | 10%-25% | Year 2 - Project 9 | 1865 | 1955 | CI | | | | | | | | | | | | | 0 |
| 11 | Dove Run Rd | R12-02B2.23-P-0012 | FAYETTE | 930 | 200 | 55%-70% | | | | | | | | 264 | 1970 | CI | 666 | 1970 | CI | | | | 0 |
| 12 | Greentree Rd/Cir/Ct | R12-02B1.22-P-0004 | FAYETTE | 5765 | 260/310/280 | 10%-25% | Year 3 - Project 35 | 600 | 1967 | CI | | | | 500 | 1967 | CI | 3820 | 1967 | CI | 845 | 1967 | CI | 14 |
| 13 | Campsie Pl/Ct | R12-02B2.23-P-0014 | FAYETTE | 775 | 280 | 25%-40% | | | | | 260 | 1906 | CI | 515 | 1906 | CI | | | | | | | 0 |
| 14 | Ohio St | R12-02B2.23-P-0015 | FAYETTE | 1575 | 260 | 40%-55% | | | | | | | | 800<br>775 | 1905<br>1915 | CI<br>CI | | | | | | | 0 |
| 15 | Johnson Ave | R12-02B2.23-P-0016 | FAYETTE | 780 | 255 | 25%-40% | | | | | | | | 780 | 1902 | CI | | | | | | | 0 |
| 16 | Silver Maple Way | R12-02B2.23-P-0017 | FAYETTE | 795 | 265 | 25%-40% | | | | | | | | | | | 795 | 1901 | CI | | | | 0 |
| 17 | E Seventh St - N Lime to Maple | R12-02B2.23-P-0018 | FAYETTE | 1190 | 260 | 25%-40% | | | | | | | | 1190 | 1900s | CI | | | | | | | 0 |
| 18 | Bermuda Ave | R12-02B2.23-P-0019 | FAYETTE | 605 | 255 | 40%-55% | | 605 | 1938 | CI | | | | | | | | | | | | | 1 |
| 19 | Locust Ave | R12-02B2.23-P-0020 | FAYETTE | 1760 | 280 | 25%-40% | | | | | 1100 | 1911 | CI | 1265 | 1938 | CI | | | | | | | 2 |
| 20 | Old Leestown | R12-02B2.23-P-0021 | FAYETTE | 1790 | 275 | 55%-70% | | 1790 | 1949 | CI | | | | | | | | | | | | | 4 |
| 21 | Curley Ave | R12-02B2.23-P-0022 | FAYETTE | 345 | 240 | 40%-55% | | | | | | | | 345 | 1897 | CI | | | | | | | 0 |
| 22 | Wilson St - Curley to Eastern | R12-02B2.23-P-0023 | FAYETTE | 402 | 230 | 40%-55% | | | | | | | | 402 | 1897 | CI | | | | | | | 0 |
| 23 | Corral St - Elm Tree to Race | R12-02B2.23-P-0024 | FAYETTE | 1033 | 260 | 25%-40% | | | | | | | | 733<br>300 | 1905<br>1927 | CI<br>CI | | | | | | | 0 |
| 24 | E Second St - Elm Tree to Race | R12-02B2.23-P-0025 | FAYETTE | 1120 | 250 | 55%-70% | | | | | | | | 80<br>300<br>380<br>360 | 1884<br>1903<br>1913<br>1914 | CI<br>CI<br>CI<br>CI | | | | | | | 1 |
| 25 | Eastern Ave - E Third to before E Short | R12-02B2.23-P-0026 | FAYETTE | 1100 | 230 | 40%-55% | | | | | | | | | | | 1100 | 1884 | CI | | | | 0 |
| 26 | Gunn St | R12-02B2.23-P-0027 | FAYETTE | 488 | 255 | 25%-40% | Year 1 - Project 8 | 100 | 1926 | CI | | | | 388 | 1926 | CI | | | | | | | 0 |
| 27 | Caulder Rd | R12-02B2.23-P-0028 | FAYETTE | 1235 | 215 | 70%-85% | | | | | | | | | | | 1235 | 1961 | CI | | | | 1 |
| 28 | Keeneland Ct | R12-02B2.23-P-0029 | FAYETTE | 785 | 235 | 55%-70% | Year 3 - Project 10 | 300 | 1961 | CI | | | | 485 | 1961 | CI | | | | | | | 0 |
| 29 | Hot Springs Ct | R12-02B2.23-P-0030 | FAYETTE | 710 | 235 | 40%-55% | Year 3 - Project 10 | 185 | 1961 | CI | | | | 525 | 1961 | CI | | | | | | | 0 |
| 30 | Hialeiah Ct | R12-02B2.23-P-0031 | FAYETTE | 714 | 235 | 55%-70% | Year 3 - Project 10 | 212 | 1961 | CI | | | | 502 | 1961 | CI | | | | | | | 0 |
| 31 | Niagara (to Trout) and Trent (intersect to inte | R12-02B2.23-P-0032 | FAYETTE | 4027 | 225 | 10%-25% | Year 4 - Project 17 | 307 | 1972 | CI | | | | 262 | 1972 | CI | 3088<br>370 | 1972<br>1980 | CI<br>CI | | | | 1 |
| 32 | Maryland Ave | R12-02B2.23-P-0033 | FAYETTE | 1144 | 250 | 25%-40% | | | | | 575<br>254 | 1893<br>1903 | CI<br>CI | 347 | 1893 | CI | 552 | 1966 | CI | | | | 2 |
| 33 | W Second St (Old Gtown to Jefferson) | R12-02B2.23-P-0034 | FAYETTE | 916 | 250 | 25%-40% | | | | | 172 | 1884 | CI | 462<br>300 | 1884<br>1902 | CI<br>CI | 621 | 1929 | CI | | | | 0 |
| 34 | Jefferson St (W Short to W Third) | R12-02B2.23-P-0035 | FAYETTE | 1775 | 230 | 70%-85% | | | | | | | | | | | 1475 | 1909-1910 | CI | | | | 0 |
| 35 | Tower Plz | R12-02B2.23-P-0036 | FAYETTE | 412 | 230 | 55%-70% | | | | | | | | 412 | 1938 | CI | | | | | | | 0 |
| 36 | Delmar Ave/Boonesboro Ave/Bell Pl/Bell Ct | R12-02B2.23-P-0037 | FAYETTE | 2281 | 235/265 | 25%-40% | | | | | 984 | 1905 | CI | 1030 | 1905 | CI | 516<br>526 | 1969<br>1972 | CI<br>CI | | | | 1 |
| 37 | Russell Ave/E & W Bell Cts/Sayre Ave | R12-02B2.23-P-0038 | FAYETTE | 3380 | 275 | 0%-25% | Year 1 - Project 1 | 150 | 1904 | CI | 700 | 1904-1905 | CI | 1730 | 1905 | CI | 800 | 1969 | CI | | | | 1 |
| 38 | Forest Ave/Skain St/Indiana Ave | R12-02B2.23-P-0039 | FAYETTE | 2658 | 250/210/245 | 55%-70% | | | | | 410 | 1905 | CI | 1227<br>175<br>350 | 1902-1903<br>1969<br>1972 | CI<br>CI<br>CI | 975 | 1969 | CI | | | | 1 |
| 39 | Cross St | R12-02B2.23-P-0040 | FAYETTE | 400 | 230 | 25%-40% | | | | | | | | 190 | 1910 | CI | | | | 420 | 1947 | AC | 0 |
| 40 | Pine St | R12-02B2.23-P-0041 | FAYETTE | 2040 | 275 | 25%-40% | Year 5 - Project 38 | | | | 700 | 1884 | CI | 600 | UNK | CI | | | | 2050 | 1947 | AC | 2 |
| 41 | Merino St | R12-02B2.23-P-0042 | FAYETTE | 753 | 235 | 55%-70% | Year 5 - Project 30 | | | | | | | 753 | 1884 | CI | | | | | | | 1 |
| 42 | Patterson St | R12-02B2.23-P-0043 | FAYETTE | 691 | 230 | 55%-70% | | | | | | | | 691 | 1910 | CI | | | | | | | 0 |
| 43 | Spring St | R12-02B2.23-P-0044 | FAYETTE | 377 | 230 | 40%-55% | | | | | | | | 377 | 1903 | CI | | | | | | | 0 |
| 44 | Dunaway St | R12-02B2.23-P-0045 | FAYETTE | 632 | 235 | 40%-55% | | | | | | | | 632 | 1900s | CI | | | | | | | 0 |
| 45 | Maxwell (Broadway to Cross) | R12-02B2.23-P-0046 | FAYETTE | 2042 | 230 | 55%-70% | | | | | | | | | | | 2042 | 1884 | CI | | | | 0 |
| 46 | Old Sweet Owen | R12-30B1.21-P-0002 | OWEN | 3000 | 275 | 55%-70% | | 3394 | 1969 | CI/Galv | | | | | | | | | | | | | 0 |
| 47 | Rosemont Garden | R12-02B2.23-P-00XX | FAYETTE | 1060 | 235 | 55%-70% | | | | | | | | 1000 | 1939 | CI | | | | 1060 | 1955 | PCCP | 4 |

KENTUCKY AMERICAN WATER

**QIP EXHIBIT MAP**
**PROJECT NAME: TODDS RD MAIN REPLACEMENT**
**CITY: LEXINGTON, KY**

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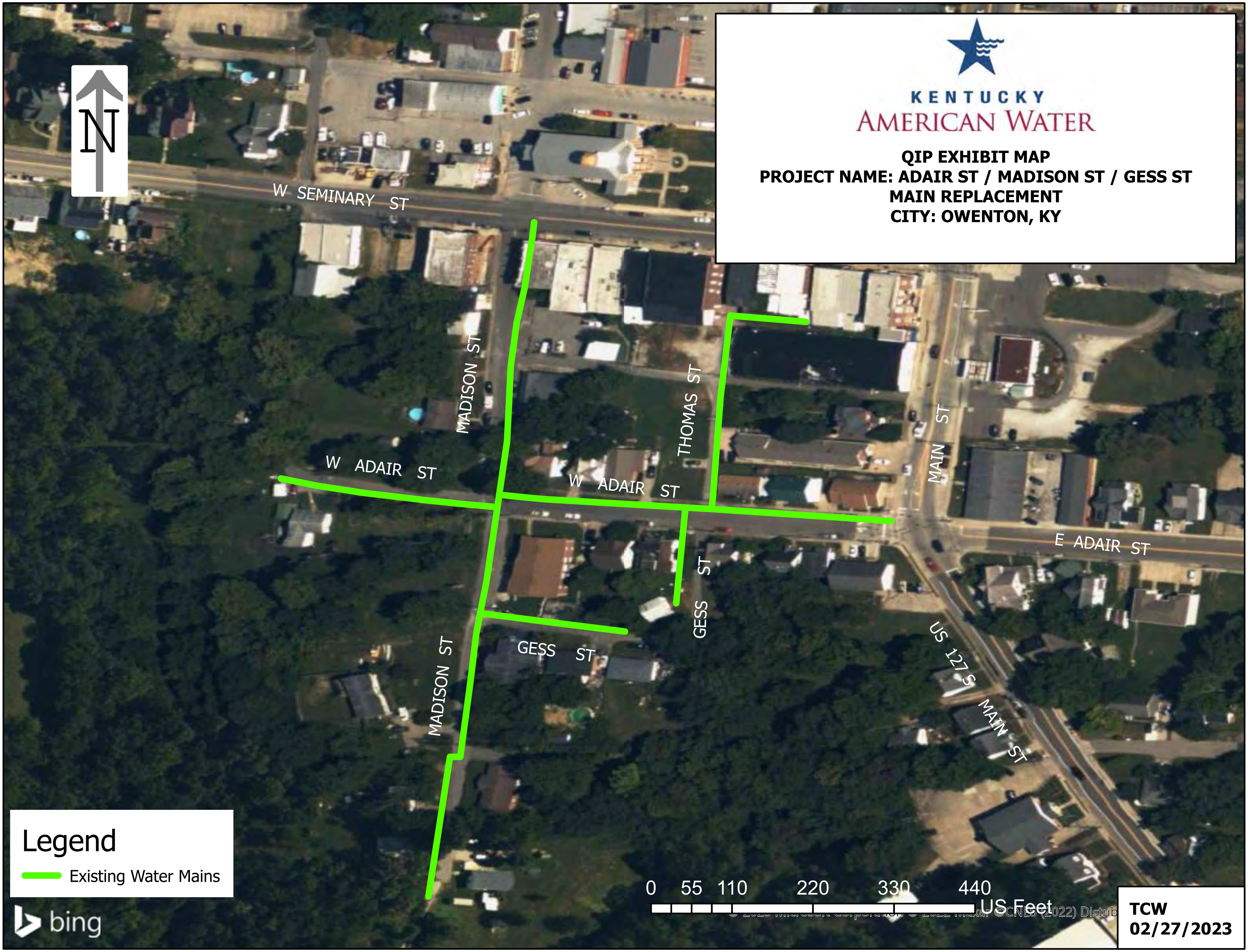
KENTUCKY
AMERICAN WATER
QIP EXHIBIT MAP
PROJECT NAME: SAMUEL LN MAIN REPLACEMENT
CITY: LEXINGTON, KY
N
HUFFMAN MILL PIKE
HUFFMAN MILL PIKE
SAMUEL LN
Legend
Existing Water Mains
0 55 110 220 330 440
US Feet
bing
TCW
02/27/2023


N
KENTUCKY
AMERICAN WATER
QIP EXHIBIT MAP
PROJECT NAME: UHLAN CT MAIN REPLACEMENT
CITY: LEXINGTON, KY
RED MILE RD
UHLAN CT
S BROADWAY
S BROADWAY
VIRGINIA AVE
Legend
Existing Water Mains
0 55 110 220 330 440
US Feet
bing
TCW
02/27/2023


KENTUCKY
AMERICAN WATER
QIP EXHIBIT MAP
PROJECT NAME: ADAIR ST / MADISON ST / GESS ST
MAIN REPLACEMENT
CITY: OWENTON, KY
N
W SEMINARY ST
MADISON ST
THOMAS ST
MAIN ST
W ADAIR ST
W ADAIR ST
E ADAIR ST
GESS ST
GESS ST
MADISON ST
US 127 S
MAIN ST
Legend
Existing Water Mains
bing
0 55 110 220 330 440
US Feet
TCW
02/27/2023


N
KENTUCKY
AMERICAN WATER
QIP EXHIBIT MAP
PROJECT NAME: STRATHMORE RD MAIN REPLACEMENT
CITY: LEXINGTON, KY
BROOKMEADE DR
EASTIN RD
MARIEMONT DR
GRANDIN RD
STRATHMORE RD
MANHATTAN DR
BRYAN STATION RD
Legend
Existing Water Mains
0 90 180 360 540 720
US Feet
bing
TCW
02/27/2023


N
KENTUCKY
AMERICAN WATER
QIP EXHIBIT MAP
PROJECT NAME: EASTIN RD / GRANDIN RD
MAIN REPLACEMENT
CITY: LEXINGTON, KY
BROOKMEADE DR
EASTIN RD
SIERRA DR
MARIEMONT DR
RANIER DR
STRATHMORE RD
GRANDIN RD
MANHATTAN DR
BRYAN STATION RD
Legend
Existing Water Mains
0 90 180 360 540 720
US Feet
bing
TCW
02/27/2023

KENTUCKY AMERICAN WATER

**QIP EXHIBIT MAP**
**PROJECT NAME: RANIER DR MAIN REPLACEMENT**
**CITY: LEXINGTON, KY**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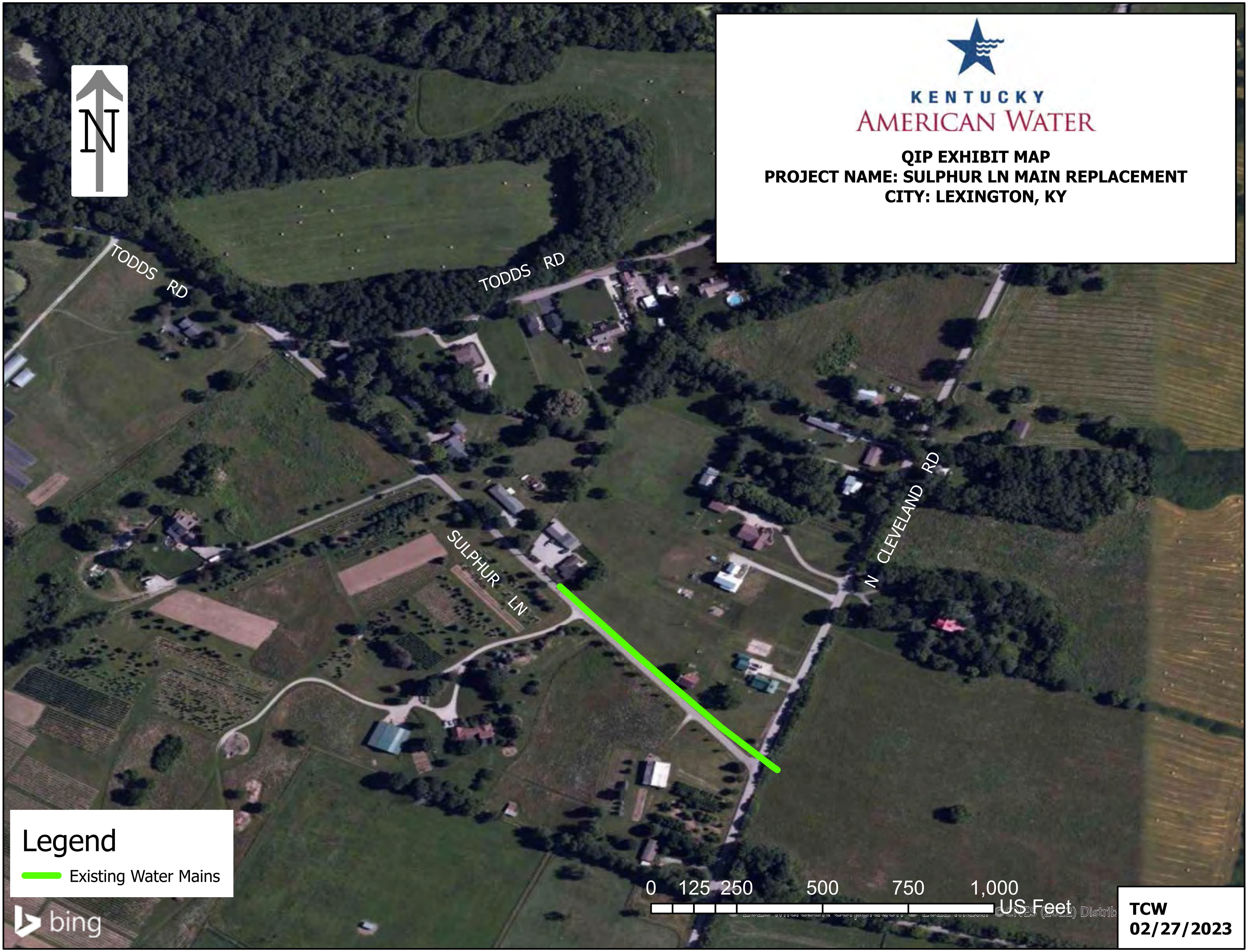

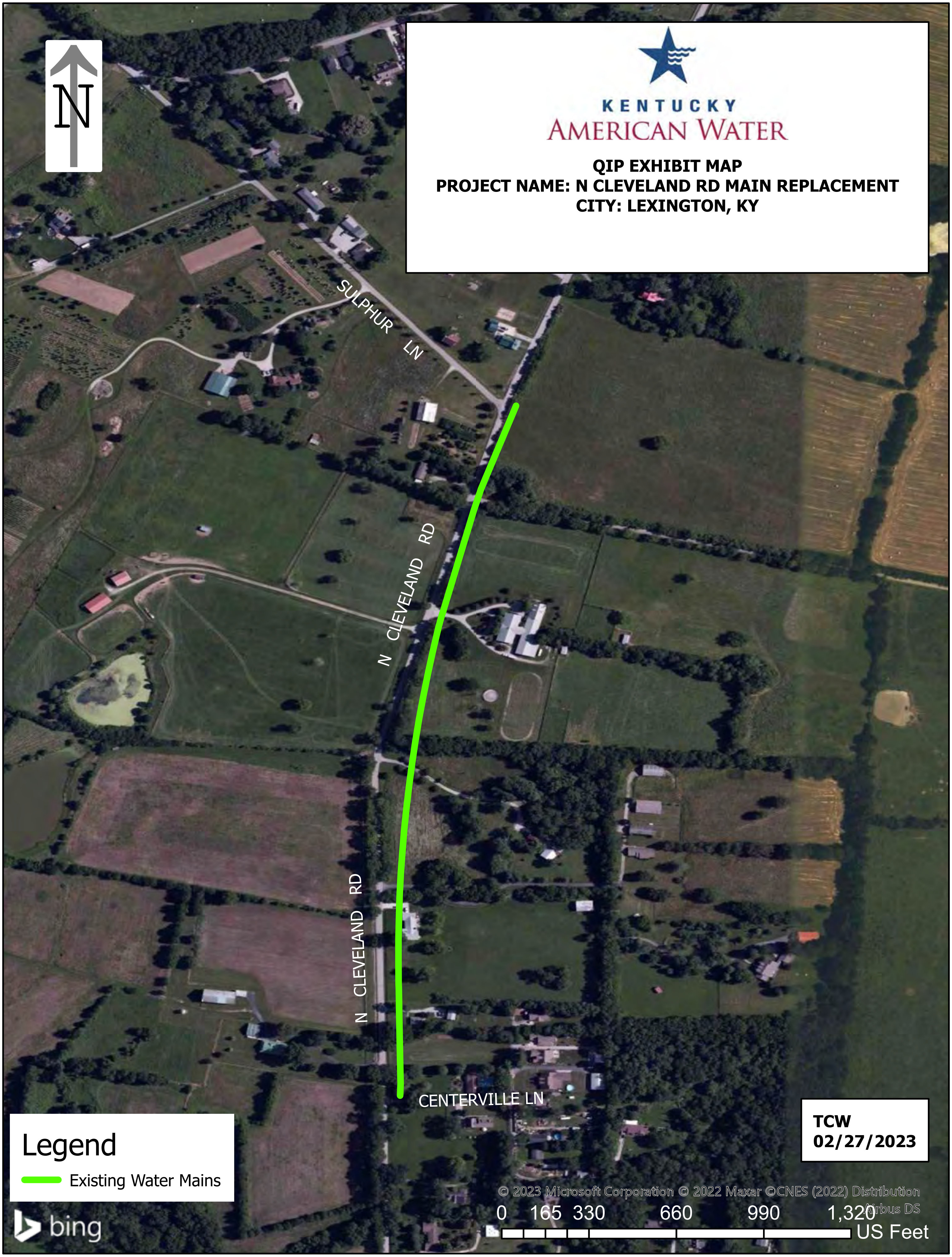
KENTUCKY
AMERICAN WATER
QIP EXHIBIT MAP
PROJECT NAME: N CLEVELAND RD MAIN REPLACEMENT
CITY: LEXINGTON, KY
N
SULPHUR LN
N CLEVELAND RD
N CLEVELAND RD
CENTERVILLE LN
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Legend
Existing Water Mains
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0 165 330 660 990 1,320
US Feet
bing

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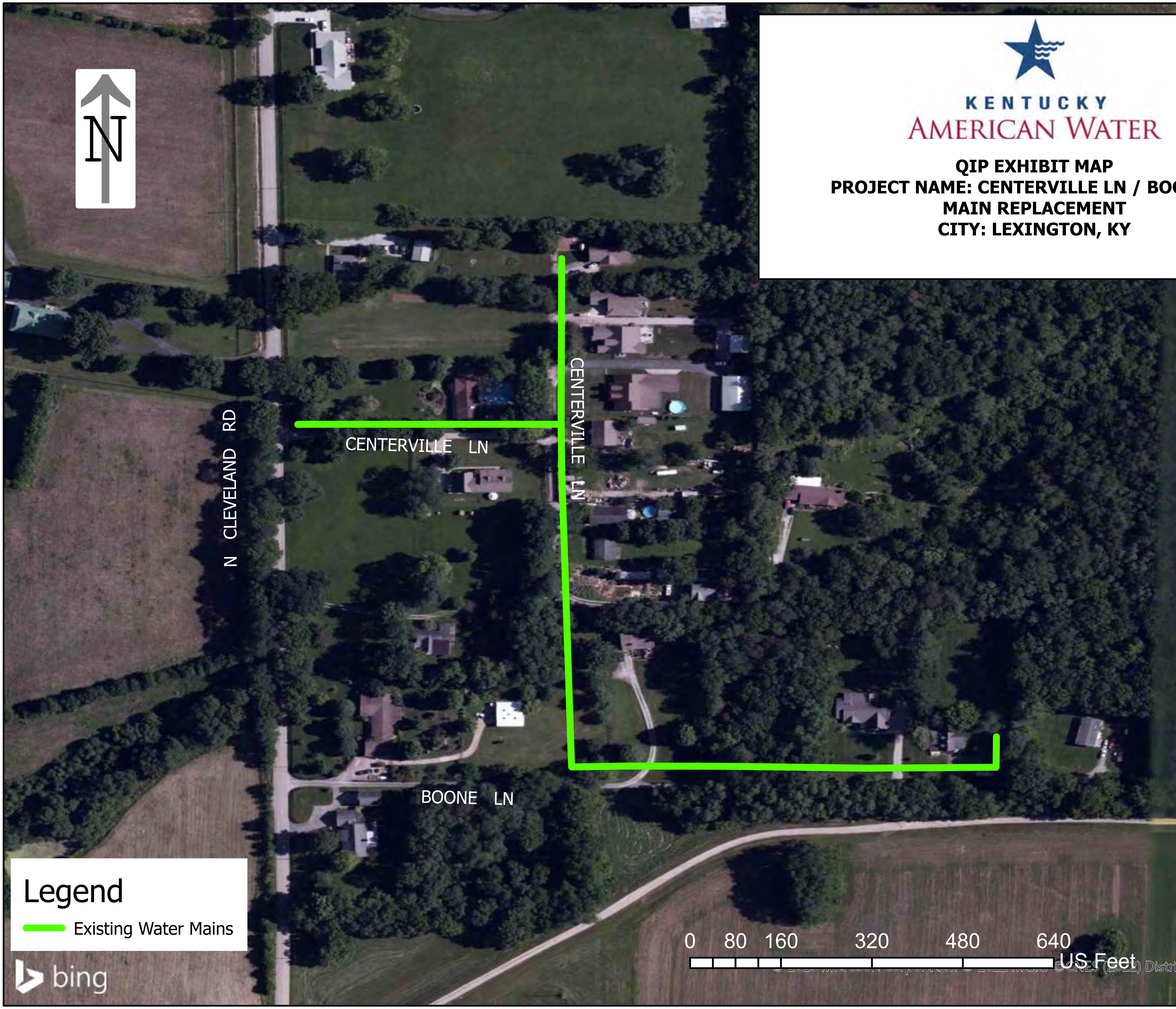
**QIP EXHIBIT MAP**
**PROJECT NAME: CENTERVILLE LN / BOONE LN**
**MAIN REPLACEMENT**
**CITY: LEXINGTON, KY**

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N
KENTUCKY
AMERICAN WATER
QIP EXHIBIT MAP
PROJECT NAME: GREENTREE RD / GREENTREE CIRCLE / GREENTREE PL / GREENTREE CT MAIN REPLACEMENT
CITY: LEXINGTON, KY
E NEW CIRCLE RD
GREENTREE CIRCLE
GREENTREE CT
GREENTREE PL
GAINESWAY DR
DIXIANA DR
GREENTREE RD
SPENDTHRIFT RD
CLAIBORNE WAY
WHITEHALL PL
CASTLETON WAY
CENTRE PKWY
OLYMPIA RD
GREENTREE RD
WILLOWOOD RD
TCW
02/27/2023
Legend
Existing Water Mains
0 215 430 860 1,290 1,720
US Feet
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KENTUCKY AMERICAN WATER

**QIP EXHIBIT MAP**
**PROJECT NAME: CAMPSIE PL / CAMPSIE CT**
**MAIN REPLACEMENT**
**CITY: LEXINGTON, KY**


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KENTUCKY
AMERICAN WATER
QIP EXHIBIT MAP
PROJECT NAME: JOHNSON AVE MAIN REPLACEMENT
CITY: LEXINGTON, KY
N
W FIFTH ST
N UPPER ST
W FOURTH ST
N LIMESTONE
JOHNSON AVE
E FIFTH ST
N MARTIN LUTHER KING BLVD
E FOURTH ST
SILVER MAPLE WAY
Legend
Existing Water Mains
0 85 170 340 510 680
US Feet
bing
TCW
02/27/2023

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KENTUCKY AMERICAN WATER

**QIP EXHIBIT MAP**
**PROJECT NAME: E SEVENTH ST MAIN REPLACEMENT**
**CITY: LEXINGTON, KY**


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KENTUCKY AMERICAN WATER

**QIP EXHIBIT MAP**
**PROJECT NAME: BERMUDA AVE MAIN REPLACEMENT**
**CITY: LEXINGTON, KY**


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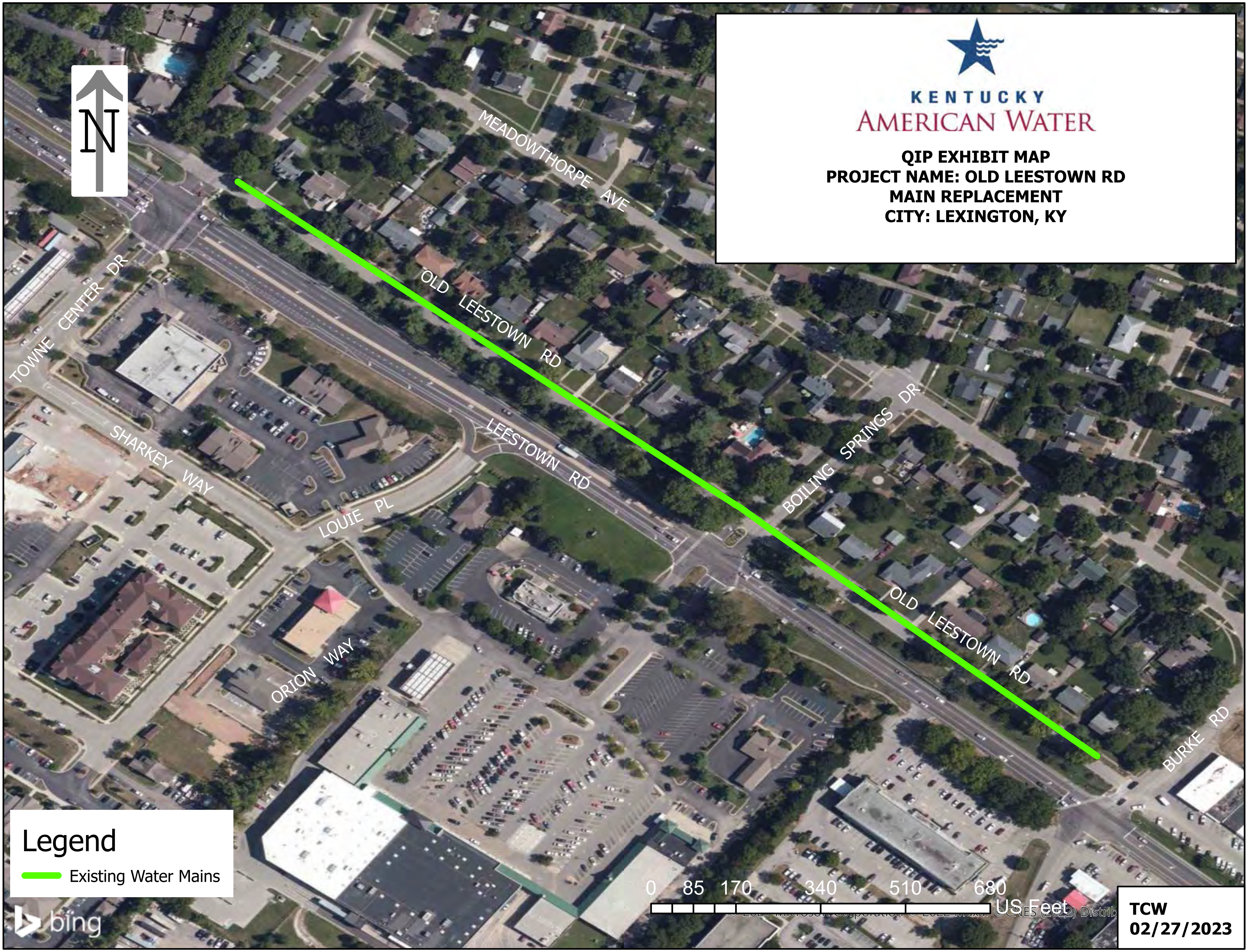
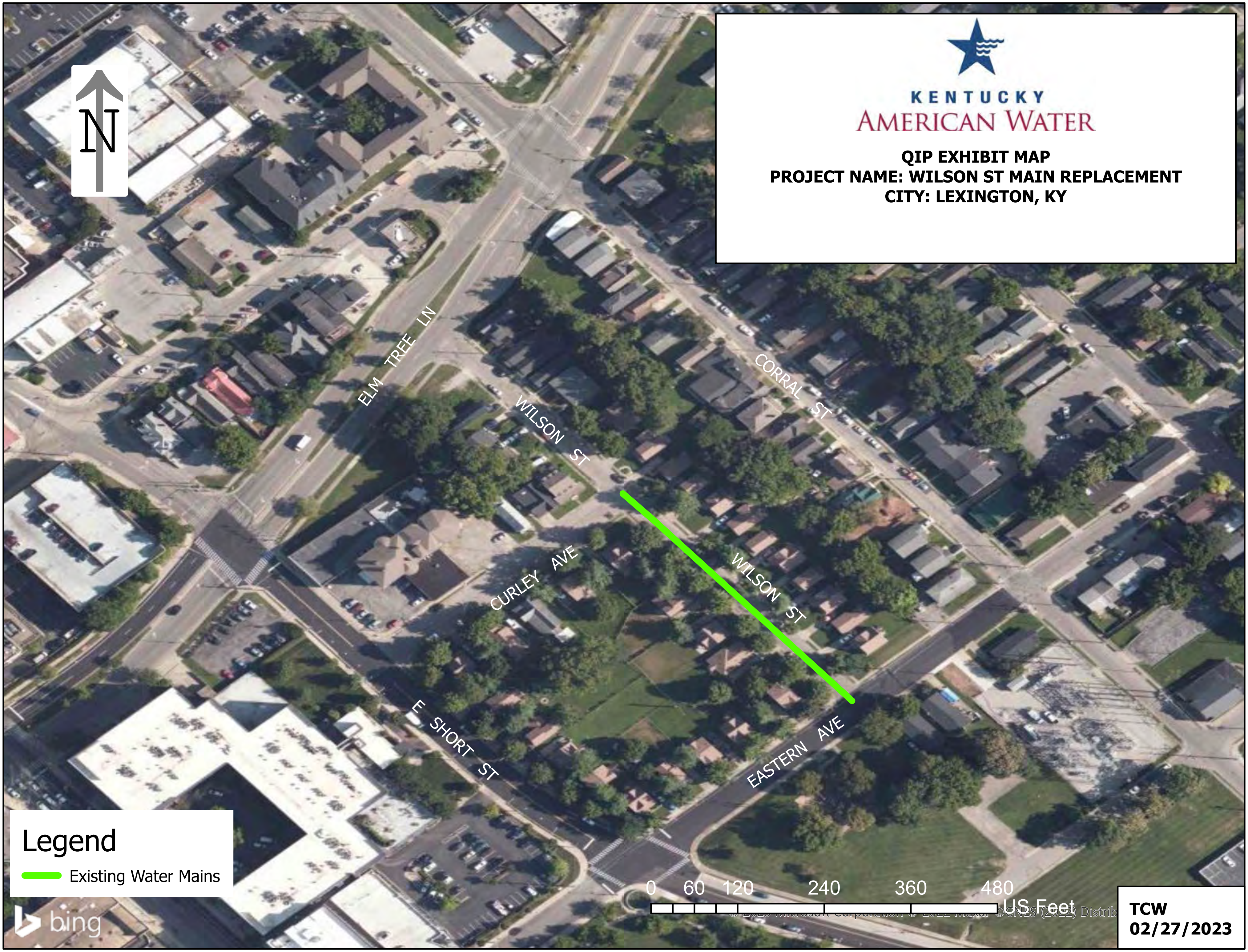
KENTUCKY
AMERICAN WATER
QIP EXHIBIT MAP
PROJECT NAME: LOCUST AVE MAIN REPLACEMENT
CITY: LEXINGTON, KY
N
N LIMESTONE
LOCUST AVE
BLUE GRASS AVE
HIGHLAWN AVE
CARLISLE AVE
EDGELAWN AVE
DEVONIA AVE
ORION WAY
BRYAN AVE
Legend
Existing Water Mains
0 85 170 340 510 680
US Feet
bing
TCW
02/27/2023



KENTUCKY
AMERICAN WATER
QIP EXHIBIT MAP
PROJECT NAME: OLD LEESTOWN RD
MAIN REPLACEMENT
CITY: LEXINGTON, KY
N
MEADOWTHORPE AVE
OLD LEESTOWN RD
TOWNE CENTER DR
SHARKEY WAY
LEESTOWN RD
LOUIE PL
BOILING SPRINGS DR
OLD LEESTOWN RD
ORION WAY
BURKE RD
Legend
Existing Water Mains
0 85 170 340 510 680
US Feet
bing
TCW
02/27/2023


N
KENTUCKY
AMERICAN WATER
QIP EXHIBIT MAP
PROJECT NAME: CURLEY AVE MAIN REPLACEMENT
CITY: LEXINGTON, KY
ELM TREE LN
WILSON ST
CORRAL ST
CURLEY AVE
WILSON ST
E SHORT ST
EASTERN AVE
Legend
Existing Water Mains
0 60 120 240 360 480
US Feet
bing
TCW
02/27/2023


KENTUCKY
AMERICAN WATER
QIP EXHIBIT MAP
PROJECT NAME: WILSON ST MAIN REPLACEMENT
CITY: LEXINGTON, KY
N
ELM TREE LN
WILSON ST
CORRAL ST
CURLEY AVE
WILSON ST
E SHORT ST
EASTERN AVE
Legend
Existing Water Mains
0 60 120 240 360 480
US Feet
bing
TCW
02/27/2023


KENTUCKY
AMERICAN WATER
QIP EXHIBIT MAP
PROJECT NAME: CORRAL ST MAIN REPLACEMENT
CITY: LEXINGTON, KY
N
ELM TREE LN
CORRAL ST
E SECOND ST
EASTERN AVE
CURLEY AVE
WILSON ST
CORRAL ST
RACE ST
EASTERN AVE
E SHORT ST
Legend
Existing Water Mains
0 70 140 280 420 560
US Feet
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02/27/2023

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KENTUCKY AMERICAN WATER

**QIP EXHIBIT MAP**
**PROJECT NAME: EASTERN AVE MAIN REPLACEMENT**
**CITY: LEXINGTON, KY**


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KENTUCKY
AMERICAN WATER
QIP EXHIBIT MAP
PROJECT NAME: GUNN ST MAIN REPLACEMENT
CITY: LEXINGTON, KY
N
ELM TREE LN
E THIRD ST
OHIO ST
GUNN ST
CHESTNUT ST
ELM TREE LN
E SECOND ST
RACE ST
E THIRD ST
EASTERN AVE
CORRAL ST
Legend
Existing Water Mains
0 55 110 220 330 440
US Feet
bing
TCW
02/27/2023

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KENTUCKY AMERICAN WATER

**QIP EXHIBIT MAP**
**PROJECT NAME: KEENELAND CT MAIN REPLACEMENT**
**CITY: LEXINGTON, KY**


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KENTUCKY AMERICAN WATER

**QIP EXHIBIT MAP**
**PROJECT NAME: HOT SPRINGS CT MAIN REPLACEMENT**
**CITY: LEXINGTON, KY**


Legend

Existing Water Mains

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KENTUCKY
AMERICAN WATER
QIP EXHIBIT MAP
PROJECT NAME: HIALEIAH CT MAIN REPLACEMENT
CITY: LEXINGTON, KY
N
APPIAN WAY
OCTAVIAN CIRCLE
VENETIAN CIRCLE
CENTRE PKWY
CAULDER RD
KEENELAND CT
GOLDEN GATE PARK
HOT SPRINGS CT
HIALEIAH CT
ATOKAD PARK
ARMSTRONG MILL RD
AK SAR BEN PARK
Legend
Existing Water Mains
0 90 180 360 540 720
US Feet
bing
TCW
02/27/2023

N
KENTUCKY
AMERICAN WATER
QIP EXHIBIT MAP
PROJECT NAME: NIAGARA DR / TRENT BLVD
MAIN REPLACEMENT
CITY: LEXINGTON, KY
RIVER PARK DR
TRENT BLVD
NIAGARA DR
NIAGARA DR
NIAGARA DR
TRENT BLVD
NIAGARA DR
NIAGARA DR
RED RIVER DR
DIX DR
ARBOR DR
TRENT BLVD
MAN O WAR BLVD
HOT SPRINGS CT
TROUT CT
TROUT CT
Legend
Existing Water Mains
TCW
02/27/2023
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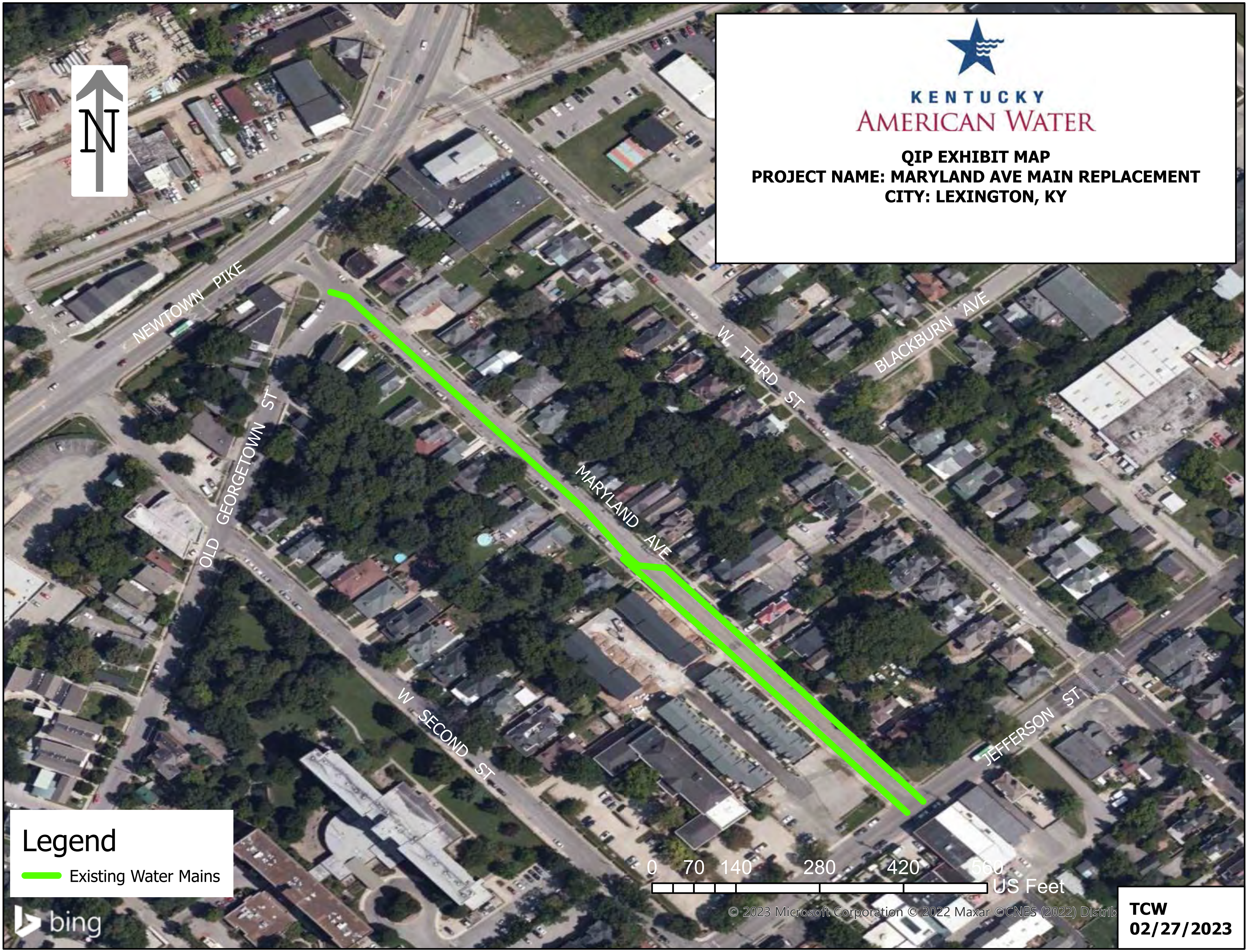
0 110 220 440 660 880
US Feet
bing


KENTUCKY
AMERICAN WATER
QIP EXHIBIT MAP
PROJECT NAME: MARYLAND AVE MAIN REPLACEMENT
CITY: LEXINGTON, KY
N
NEWTOWN PIKE
OLD GEORGETOWN ST
W THIRD ST
BLACKBURN AVE
MARYLAND AVE
W SECOND ST
JEFFERSON ST
Legend
Existing Water Mains
0 70 140 280 420 560
US Feet
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KENTUCKY
AMERICAN WATER
QIP EXHIBIT MAP
PROJECT NAME: W SECOND ST MAIN REPLACEMENT
CITY: LEXINGTON, KY
N
NEWTOWN PIKE
OLD GEORGETOWN ST
W SECOND ST
MARYLAND AVE
W THIRD ST
JEFFERSON ST
BALLARD ST
Legend
Existing Water Mains
0 70 140 280 420 560
US Feet
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KENTUCKY AMERICAN WATER

**QIP EXHIBIT MAP**
**PROJECT NAME: JEFFERSON ST MAIN REPLACEMENT**
**CITY: LEXINGTON, KY**


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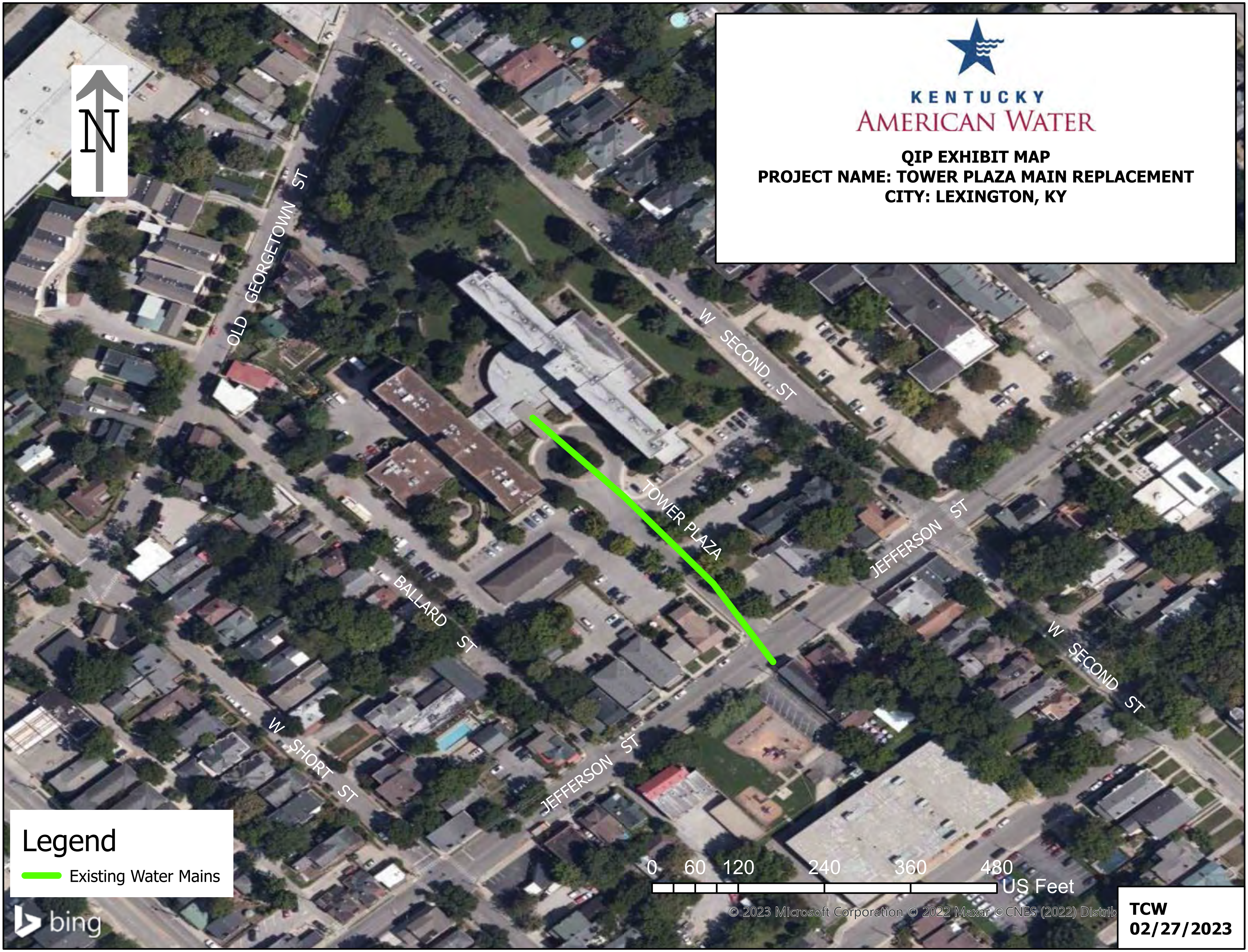
KENTUCKY AMERICAN WATER

QIP EXHIBIT MAP
PROJECT NAME: TOWER PLAZA MAIN REPLACEMENT
CITY: LEXINGTON, KY



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KENTUCKY AMERICAN WATER

**QIP EXHIBIT MAP**
**PROJECT NAME: DELMAR AVE / BOONESBORO AVE / BELL PL / BELL CT MAIN REPLACEMENT**
**CITY: LEXINGTON, KY**


KENTUCKY
AMERICAN WATER
QIP EXHIBIT MAP
PROJECT NAME: RUSSELL AVE / E BELL CT / W BELL CT /
SAYRE AVE MAIN REPLACEMENT
CITY: LEXINGTON, KY
N
MIDLAND AVE
INDIANA AVE
SKAIN ST
FOREST AVE
FOREST AVE
RUSSELL AVE
BELL PL
BOONESBORO AVE
BELL CT
W BELL CT
SAYRE AVE
E BELL CT
BELL CT
E MAIN ST
WALTON AVE
WALTON AVE
FRANKLIN AVE
Legend
Existing Water Mains
0 90 180 360 540 720
US Feet
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KENTUCKY AMERICAN WATER
QIP EXHIBIT MAP
PROJECT NAME: CROSS ST MAIN REPLACEMENT
CITY: LEXINGTON, KY
N
W HIGH ST
W HIGH ST
WAY
LEWIS
OLIVER
CROSS ST
MALONEY ALLEY
W MAXWELL ST
MADISON PL
PINE ST
Legend
Existing Water Mains
0 60 120 240 360 480
US Feet
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02/27/2023


KENTUCKY
AMERICAN WATER
QIP EXHIBIT MAP
PROJECT NAME: PINE ST MAIN REPLACEMENT
CITY: LEXINGTON, KY
N
W HIGH ST
CROSS ST
W MAXWELL ST
MADISON PL
OLIVER LEWIS WAY
PINE ST
MERINO ST
PATTERSON ST
W MAXWELL ST
PINE ST
SPRING ST
DUNAWAY ST
SPRING ST
S BROADWAY
Legend
Existing Water Mains
0 112.5 225 450 675 900
US Feet
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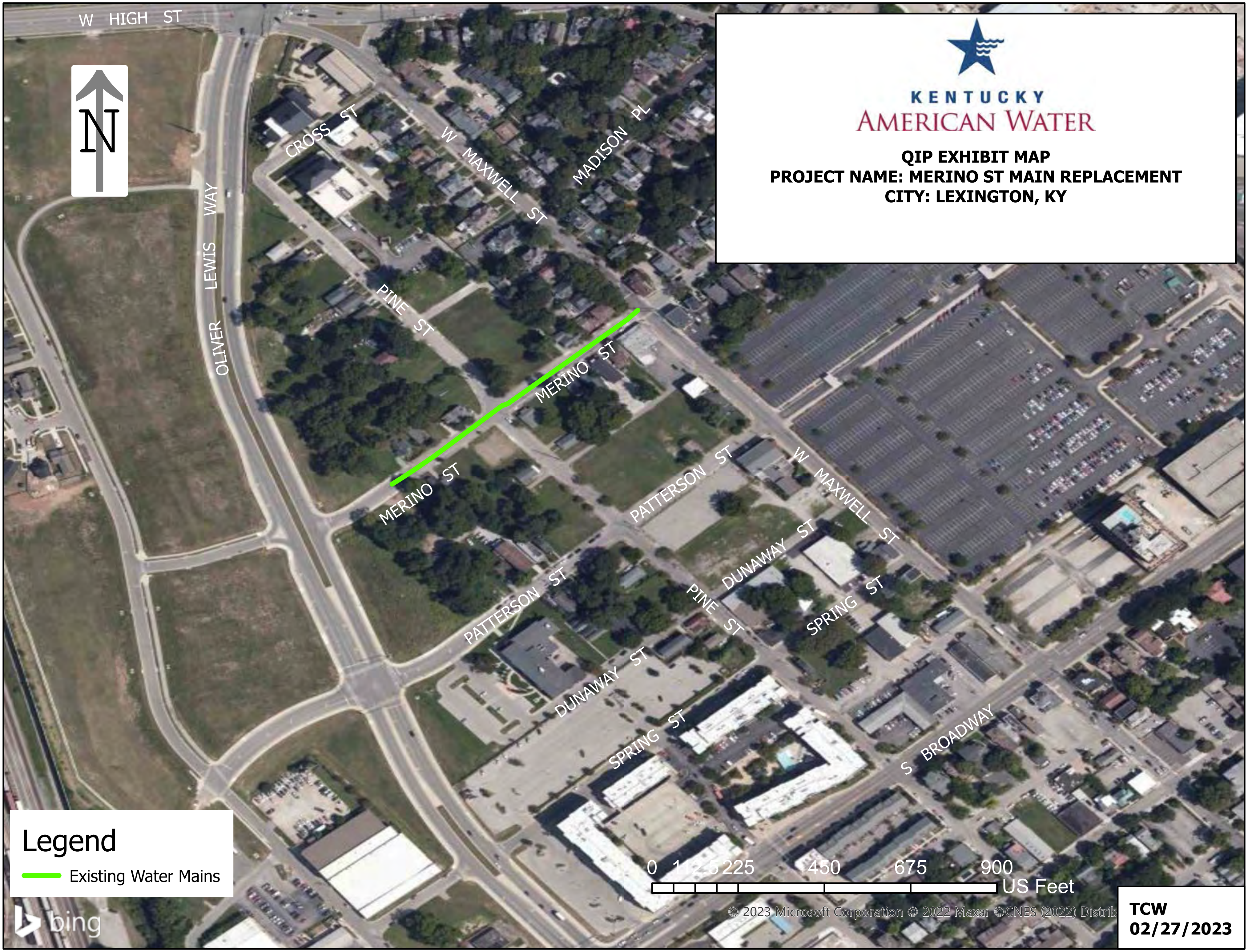
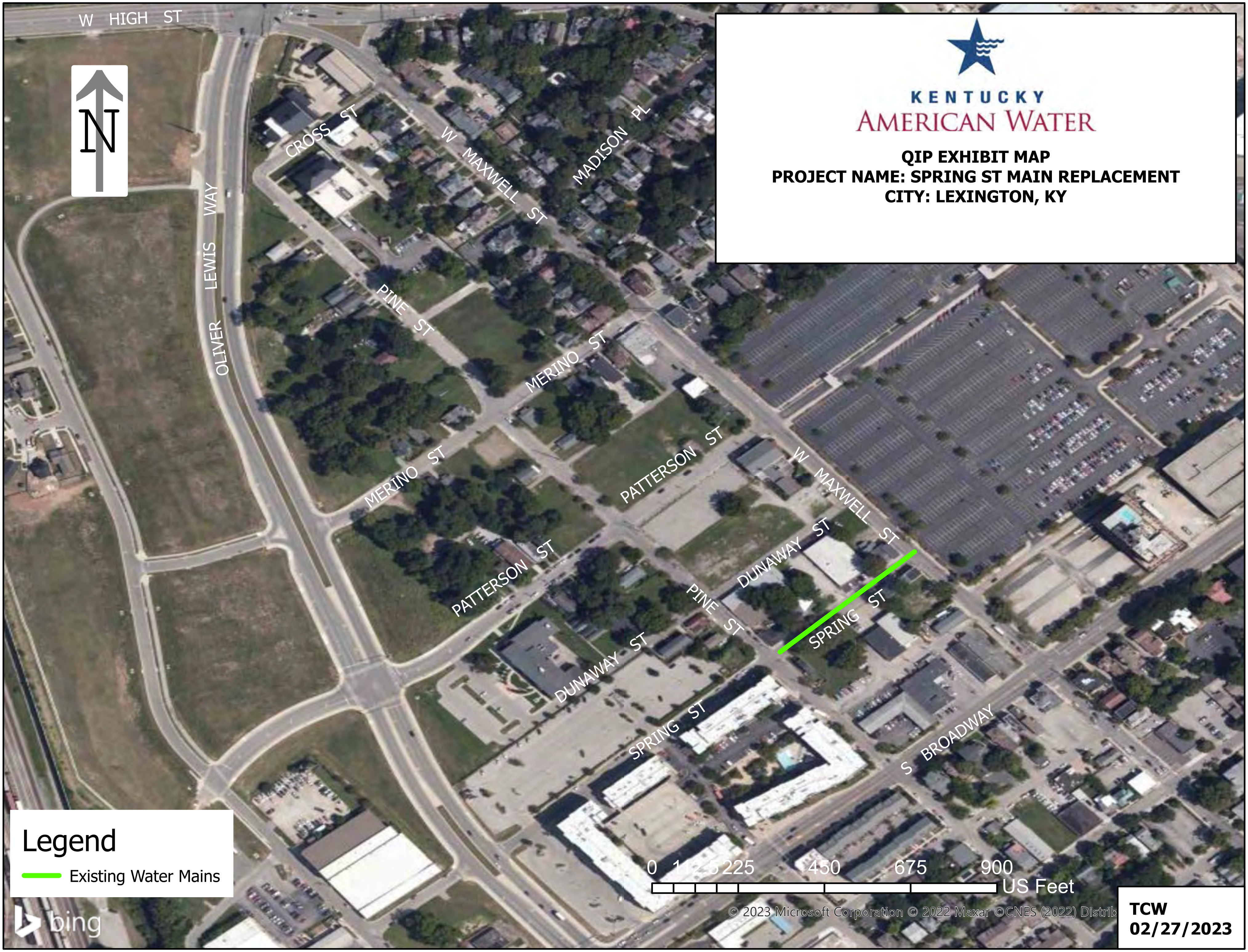
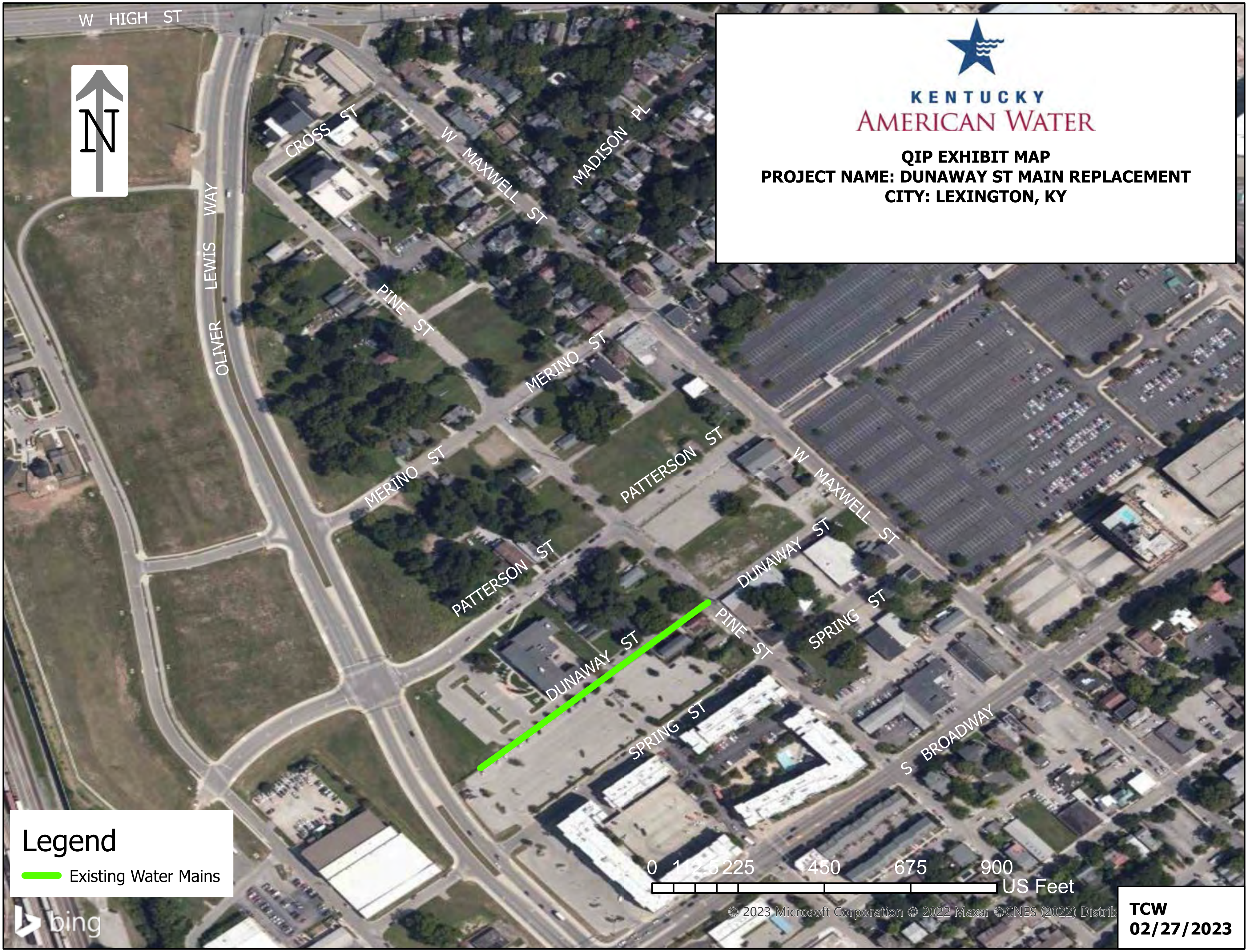



KENTUCKY
AMERICAN WATER
QIP EXHIBIT MAP
PROJECT NAME: PATTERSON ST MAIN REPLACEMENT
CITY: LEXINGTON, KY
N
W HIGH ST
CROSS ST
W MAXWELL ST
MADISON PL
LEWIS WAY
OLIVER
PINE ST
MERINO ST
PATTERSON ST
DUNAWAY ST
SPRING ST
S BROADWAY
Legend
Existing Water Mains
0 112.5 225 450 675 900
US Feet
© 2023 Microsoft Corporation © 2022 Maxar ©CNES (2022) Distrib
bing
TCW
02/27/2023

Exhibit DND - 11




KENTUCKY
AMERICAN WATER
QIP EXHIBIT MAP
PROJECT NAME: DUNAWAY ST MAIN REPLACEMENT
CITY: LEXINGTON, KY
N
W HIGH ST
CROSS ST
W MAXWELL ST
MADISON PL
OLIVER LEWIS WAY
PINE ST
MERINO ST
MERINO ST
PATTERSON ST
PATTERSON ST
W MAXWELL ST
DUNAWAY ST
DUNAWAY ST
PINE ST
SPRING ST
SPRING ST
S BROADWAY
Legend
Existing Water Mains
0 112.5 225 450 675 900
US Feet
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TCW
02/27/2023

KENTUCKY AMERICAN WATER

QIP EXHIBIT MAP
PROJECT NAME: W MAXWELL ST MAIN REPLACEMENT
CITY: LEXINGTON, KY




TCW
02/27/2023

Exhibit DND - 11


KENTUCKY
AMERICAN WATER
QIP EXHIBIT MAP
PROJECT NAME: ROSEMONT GARDEN
MAIN REPLACEMENT
CITY: LEXINGTON, KY
N
SOUTHBEND DR
LANE ALLEN RD
CLAYS MILL RD
LONE OAK DR
MITCHELL AVE
ROSEMONT GARDEN
LAFAYETTE PKWY
PICADOME PARK
CLAYS MILL RD
MITCHELL AVE
SPRINGRIDGE DR
SOUTHLAND DR
ROSEMONT GARDEN
ROSEMILL DR
Legend
Existing Water Mains
0 112.5 225 450 675 900
US Feet
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bing
TCW
02/27/2023

# MAIN REPLACEMENT CRITERIA

| *Criteria (Max. Points)* | *Weight* | *Rating* | | | | |
|---|---|---|---|---|---|---|
| | | *1* | *2* | *3* | *4* | *5* |
| Low Pressure (75) | 15x | 50 psi or greater | 50 psi to 45 psi | 45 psi to 40 psi | 40 psi to 35 psi | < 35 psi |
| Number of Breaks/Leaks (75) | 15x | 0 breaks/5-year avg. | 1-2 breaks/5-year avg. | 3-4 breaks/5-year avg. | 5-6 breaks/5-year avg. | < 6 breaks/5-year avg. |
| Fire Flow (50) | 10x | Greater than 1,500 gpm (Blue) | 1,500 to 1,000 gpm (Green) | 999 gpm to 500 gpm (Yellow) | Less than 500 gpm (Red) | Known problems |
| Age (75) | 15x | 1995 or later | 1980 to 1994 | 1970 to 1979 | 1960 to 1969 | 1959 and prior |
| Material Type (75) | 15x | DI/RCP | PVC/HDPE | Transite/AC | CI/CLCI | Gal. / Steel |
| Size of Main (50) | 10x | 8 inch and above | 6 inch | 4 inch | 2 inch to 3 inch | Main smaller than 2 inch |
| Water Quality (75) | 15x | Flushing but not routine | Monthly Flushing | Bi weekly Flushing | Weekly (or more frequent) Flushing | Continuous Flushing (w/ discussion) |
| Customer Impact (25) | 5x | less than 2 customers | 2 to 10 customers | 11 to 20 customers | greater than 20 customers | School/Hospital (Critical Customer) |

| | | | *Ratings (1-5)* | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Street/Project | Address | City | Low Pressure | Number of Breaks/Leaks (data from Jan 2017-June 2022) | Fire Flow | Age | Material Type | Size of Main | Water Quality | Customer Impact | Total Weighted Score | Comments | COMPLETE | QIP YEAR | CASE NO. 2018-00358 |
| Highlawn Ave | Bluegrass Ave to end | Lexington | 2 | 5 | 4 | 5 | 4 | 4 | 2 | 3 | 365 | 2" CI | Y | QIP YEAR 2 | |
| Westgate Dr | Entire Street | Lexington | 2 | 5 | 2 | 5 | 4 | 4 | 1 | 4 | 335 | 2" and 6" CI; 6" from 1937 | Y | QIP YEAR 2 | CASE YEAR 5 |
| Lincoln Ave | Entire Street | Lexington | 2 | 3 | 4 | 5 | 4 | 4 | 1 | 4 | 325 | 2" and 6" CI | | IN DESIGN | CASE YEAR 1 |
| McCubbing Dr | Entire Street | Lexington | 2 | 3 | 4 | 5 | 4 | 4 | 1 | 3 | 320 | 2" CI | | | CASE YEAR 1 |
| Benwood Dr | Entire Street | Lexington | 4 | 2 | 4 | 5 | 4 | 2 | 1 | 4 | 320 | 8" CI | Y | QIP YEAR 2 | |
| Montavesta Rd | Old Crow to End | Lexington | 2 | 5 | 2 | 4 | 4 | 4 | 1 | 4 | 320 | 2" and 8" CI | Y | QIP YEAR 2 | CASE YEAR 4 |
| Winchester Rd | 5000 and 5200 Blocks | Lexington | 3 | 3 | 4 | 5 | 4 | 1 | 1 | 4 | 310 | 8" CI | Y | QIP YEAR 1 | CASE YEAR 2 |
| Fern Ave | 1100 Block | Lexington | 2 | 1 | 5 | 5 | 4 | 5 | 1 | 3 | 310 | 1" CI | | | CASE YEAR 5 |
| N Cleveland Rd | Portion from Centerville to Sulphur | Lexington | 3 | 2 | 4 | 4 | 4 | 5 | 1 | 2 | 310 | 1.25" and 6" CI | | QIP YEAR 4 | CASE YEAR 2 |
| Greentree Cir | Entire Street | Lexington | 2 | 3 | 5 | 4 | 4 | 4 | 1 | 2 | 310 | 2" CI | | QIP YEAR 4 | CASE YEAR 3 |
| Clays Mill Road | Stratford to Harrodsburg Rd | Lexington | 1 | 5 | 2 | 5 | 4 | 2 | 1 | 5 | 305 | 6" CI and AC | Y | QIP YEAR 2 | |
| Pensacola Dr | Entire Street | Lexington | 1 | 2 | 5 | 5 | 4 | 4 | 1 | 4 | 305 | 2" CI | Y | COMPLETE | CASE YEAR 1 |
| Samuel Ln | Entire Street | Lexington | 2 | 1 | 5 | 5 | 4 | 5 | 1 | 2 | 305 | 1" CI | | QIP YEAR 4 | CASE YEAR 3 |
| Lindy Ln | Entire Street | Lexington | 4 | 2 | 4 | 5 | 3 | 2 | 1 | 4 | 305 | 8" CI and AC | Y | QIP YEAR 2 | |
| Delmont Dr | Entire Street | Lexington | 2 | 3 | 2 | 5 | 4 | 4 | 1 | 3 | 300 | 2" CI | Y | QIP YEAR 1 | CASE YEAR 1 |
| Halls Ln | Entire Street | Lexington | 2 | 3 | 2 | 5 | 4 | 4 | 1 | 3 | 300 | 2" CI | Y | QIP YEAR 1 | CASE YEAR 2 |
| Bluegrass Ave | N Limestone to Highlawn | Lexington | 2 | 2 | 2 | 5 | 4 | 4 | 2 | 3 | 300 | 4" and 6" CI | Y | QIP YEAR 2 | |
| American Ave | Entire Street | Lexington | 1 | 5 | 2 | 5 | 4 | 2 | 1 | 4 | 300 | 6" CI - 1935 | Y | QIP YEAR 3 | |
| Adair St | Entire Street | Owenton | 2 | 2 | 3 | 4 | 5 | 5 | 1 | 2 | 300 | | | QIP YEAR 4 | |
| Madison St | Entire Street | Owenton | 2 | 2 | 3 | 4 | 5 | 5 | 1 | 2 | 300 | | | QIP YEAR 4 | |
| Preston Ave | Entire Street | Lexington | 2 | 1 | 4 | 5 | 4 | 4 | 1 | 4 | 295 | 2" and 6" CI | | IN DESIGN | CASE YEAR 1 |
| Greenwood Ave | Entire Street | Lexington | 2 | 2 | 2 | 5 | 4 | 5 | 1 | 3 | 295 | 1" and 8" CI | DELAY | QIP YEAR 3 | CASE YEAR 5 |
| Birkenhead Cir | Entire Street | Lexington | 2 | 3 | 5 | 3 | 4 | 4 | 1 | 2 | 295 | 2.25" and 6" CI | Y | QIP YEAR 3 | CASE YEAR 4 |
| Avon Ave | Entire Street | Lexington | 2 | 2 | 2 | 5 | 4 | 4 | 1 | 4 | 290 | 2" and 6" CI | Y | QIP YEAR 1 | CASE YEAR 1 |
| Elizabeth St | Sioux to Waller | Lexington | 2 | 2 | 2 | 5 | 4 | 4 | 1 | 4 | 290 | 2", 8", 16" CI | | | CASE YEAR 5 |
| Elizabeth St | Waller to end | Lexington | 2 | 2 | 2 | 5 | 4 | 4 | 1 | 4 | 290 | 2", 8", 16" CI | Y | QIP YEAR 1 | CASE YEAR 5 |
| Hamilton Park | Entire Street | Lexington | 1 | 3 | 2 | 5 | 4 | 4 | 1 | 4 | 290 | 2", 4", 6" CI | Y | QIP YEAR 2 | CASE YEAR 1 |
| Memory Ln | Entire Street | Lexington | 2 | 1 | 4 | 5 | 4 | 4 | 1 | 3 | 290 | 2" and 6" CI | Y | QIP YEAR 2 | CASE YEAR 5 |
| Arceme Ave | Entire Street | Lexington | 1 | 2 | 4 | 5 | 4 | 3 | 1 | 5 | 290 | 4" and 6" CI; from 1930s; School | Y | QIP YEAR 1 | |
| Whitney Ave | Entire Street | Lexington | 1 | 2 | 4 | 5 | 4 | 4 | 1 | 3 | 290 | 2" and 6" CI | Y | QIP YEAR 2 | CASE YEAR 1 |
| Aurora Ave | Entire Street | Lexington | 1 | 2 | 4 | 5 | 4 | 2 | 2 | 4 | 290 | 6" CI | Y | QIP YEAR 2 | |
| Aylesford Place | Entire Street | Lexington | 1 | 3 | 4 | 5 | 4 | 2 | 1 | 4 | 290 | 6" CI; replace w/ 8" DI; replace with approximately 1,500' of 8" DI | | QIP YEAR 3 | |
| Linden Walk/Rose Lane | Entire Street (Linden Walk)/Linden Walk to Aylesford Place (Rose Lane) | Lexington | 1 | 3 | 4 | 5 | 4 | 2 | 1 | 4 | 290 | 6" CI; replace with 1,900' of 8" DI | | QIP YEAR 3 | |
| Chiles Ave | Entire Street | Lexington | 1 | 3 | 2 | 5 | 4 | 4 | 1 | 4 | 290 | 2" CI - 1938 | | QIP YEAR 3 | |
| Breathitt Ave | Entire Street | Lexington | 1 | 3 | 2 | 5 | 4 | 4 | 1 | 4 | 290 | 2" CI - 1938 | | QIP YEAR 3 | |
| Old Richmond Rd | 7300 Block | Lexington | 1 | 3 | 5 | 4 | 4 | 3 | 1 | 3 | 290 | 4" CI | | | CASE YEAR 3 |
| National Ave | Entire Street | Lexington | 1 | 5 | 2 | 3 | 4 | 4 | 1 | 4 | 290 | 2" and 6" CI | Y | QIP YEAR 2 | CASE YEAR 5 |
| Anderson St | Entire Street | Lexington | 2 | 3 | 5 | 2 | 4 | 4 | 1 | 4 | 290 | 2" CI | | QIP YEAR 3 | CASE YEAR 5 |
| Kastle Rd | Entire Street | Lexington | 2 | 1 | 2 | 5 | 4 | 5 | 1 | 4 | 285 | 1" and 4" CI | | | CASE YEAR 1 |
| Hunter Cir | Entire Street | Lexington | 2 | 2 | 2 | 5 | 4 | 4 | 1 | 3 | 285 | 2" CI | | | CASE YEAR 3 |
| Blue Ash Dr | Entire Street | Lexington | 2 | 2 | 2 | 5 | 4 | 4 | 1 | 3 | 285 | 2" CI | Y | QIP YEAR 2 | CASE YEAR 2 |
| Johnsdale Dr | Entire Street | Lexington | 1 | 3 | 2 | 5 | 4 | 4 | 1 | 3 | 285 | 2.25" CI | Y | QIP YEAR 2 | CASE YEAR 5 |
| Crescent Ave | Entire Street | Lexington | 2 | 1 | 4 | 5 | 4 | 3 | 1 | 4 | 285 | 4" and 6" CI; 4" from 1925 | Y | QIP YEAR 1 | |
| Given Ln | Entire Street | Lexington | 1 | 1 | 4 | 5 | 4 | 4 | 2 | 2 | 285 | 6" CI | Y | QIP YEAR 2 | |
| White Ave | 200 Block | Lexington | 1 | 1 | 5 | 5 | 4 | 4 | 1 | 3 | 285 | 2" CI | | | CASE YEAR 1 |
| Boone Ln | 4800 Block | Lexington | 1 | 1 | 5 | 5 | 4 | 4 | 1 | 3 | 285 | 2" CI | | QIP YEAR 4 | CASE YEAR 2 |
| Sulphur Ln | 5000 Block | Lexington | 1 | 1 | 5 | 5 | 4 | 4 | 1 | 3 | 285 | 2.25" CI | | QIP YEAR 4 | CASE YEAR 2 |
| Malabu Ct | Entire Street | Lexington | 1 | 3 | 2 | 5 | 4 | 4 | 1 | 3 | 285 | 2" CI | | QIP YEAR 3 | CASE YEAR 3 |
| Stanley Ave | Entire Street | Lexington | 1 | 2 | 4 | 5 | 4 | 4 | 1 | 2 | 285 | 2" CI | Y | QIP YEAR 3 | |
| Melrose Avenue | Entire Street | Lexington | 1 | 2 | 4 | 5 | 4 | 3 | 1 | 4 | 285 | | | IN DESIGN | |
| Wyatt Pkwy | Entire Street | Lexington | 4 | 2 | 2 | 5 | 3 | 2 | 1 | 4 | 285 | 8" CI and AC | Y | QIP YEAR 2 | |
| Gess St | Entire Street | Owenton | 1 | 2 | 3 | 4 | 5 | 5 | 1 | 2 | 285 | | | QIP YEAR 4 | |
| Delmont Ct | Entire Street | Lexington | 2 | 2 | 2 | 5 | 4 | 4 | 1 | 2 | 280 | 2" CI | Y | QIP YEAR 1 | CASE YEAR 3 |
| Forest Park Rd | 100 Block | Lexington | 2 | 2 | 2 | 5 | 4 | 3 | 1 | 4 | 280 | 4" and 8" CI | | | CASE YEAR 5 |
| University Ave | Entire Street | Lexington | 2 | 2 | 2 | 5 | 4 | 3 | 1 | 4 | 280 | 4" CI; from 1925 | Y | QIP YEAR 1 | |
| State St | Entire Street | Lexington | 2 | 2 | 2 | 5 | 4 | 3 | 1 | 4 | 280 | 4" and 16" CI; 4" from 1925 | Y | QIP YEAR 1 | |
| Appletree Ln | Entire Street | Lexington | 1 | 1 | 4 | 5 | 4 | 4 | 1 | 4 | 280 | 2" and 6" CI | Y | QIP YEAR 2 | CASE YEAR 1 |
| Courtney Ave | Entire Street | Lexington | 1 | 1 | 4 | 5 | 4 | 4 | 1 | 4 | 280 | 2" and 6" CI | Y | QIP YEAR 2 | CASE YEAR 2 |
| Euclid Ave | Entire Street | Lexington | 1 | 2 | 4 | 5 | 4 | 2 | 1 | 5 | 280 | 6" and 12" CI; 6" from 1914 and 12" from 1937; in conjunction with LFUCG project | | | CASE YEAR 5 |
| Uhlan Ct | 400 Block | Lexington | 1 | 1 | 5 | 5 | 4 | 4 | 1 | 2 | 280 | 2" CI | | QIP YEAR 4 | CASE YEAR 1 |
| Emery Ct | Entire Street | Lexington | 1 | 1 | 5 | 5 | 4 | 4 | 1 | 2 | 280 | 2" CI | Y | QIP YEAR 2 | CASE YEAR 2 |
| Westwood Ct | 200 Block | Lexington | 1 | 1 | 5 | 5 | 4 | 4 | 1 | 2 | 280 | 2" CI | | | CASE YEAR 5 |
| Woodland Ave | Entire Street | Lexington | 1 | 3 | 4 | 5 | 4 | 2 | 1 | 2 | 280 | 6" CI; from 1891 | Y | QIP YEAR 3 | |
| Centerville Ln | Entire Street | Lexington | 1 | 1 | 4 | 5 | 4 | 5 | 1 | 2 | 280 | | | QIP YEAR 4 | CASE YEAR 2 |
| Campsie Pl/Ct | Entire Street | Lexington | 2 | 1 | 4 | 5 | 4 | 3 | 1 | 3 | 280 | | | QIP YEAR 4 | |
| Locust Ave | Entire Street | Lexington | 3 | 1 | 2 | 5 | 4 | 3 | 1 | 4 | 280 | Coordination with LFUCG sewer project | | QIP YEAR 4 | |

| | | | Ratings (1-5) | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Street/Project | Address | City | Low Pressure | Number of Breaks/Leaks (data from Jan 2017-June 2022) | Fire Flow | Age | Material Type | Size of Main | Water Quality | Customer Impact | Total Weighted Score | Comments | COMPLETE | QIP YEAR | CASE NO. 2018-00358 |
| Croyden Ct | Entire Street | Lexington | 2 | 1 | 5 | 4 | 4 | 4 | 1 | 2 | 280 | 2" CI | Y | QIP YEAR 2 | CASE YEAR 3 |
| Woodside Cir | Entire Street | Lexington | 2 | 1 | 5 | 4 | 4 | 4 | 1 | 2 | 280 | 2" CI | | QIP YEAR 3 | CASE YEAR 3 |
| Jade Cir | Entire Street | Lexington | 2 | 1 | 5 | 4 | 4 | 4 | 1 | 2 | 280 | 2" CI | | | CASE YEAR 3 |
| Granite Cir | Entire Street | Lexington | 2 | 1 | 5 | 4 | 4 | 4 | 1 | 2 | 280 | 2" CI | | | CASE YEAR 3 |
| Cricklewood Ct | Entire Street | Lexington | 1 | 2 | 5 | 4 | 4 | 4 | 1 | 2 | 280 | 2" CI | | | CASE YEAR 3 |
| Berwin Ct | 3500 Block | Lexington | 2 | 1 | 5 | 4 | 4 | 4 | 1 | 2 | 280 | 2.25" CI | | | CASE YEAR 3 |
| Ipswich Ct | 3400 Block | Lexington | 1 | 2 | 5 | 4 | 4 | 4 | 1 | 2 | 280 | 2.25" CI | | | CASE YEAR 3 |
| Paddock Ct | Entire Street | Lexington | 2 | 1 | 5 | 4 | 4 | 4 | 1 | 2 | 280 | 2.25" CI | | | CASE YEAR 3 |
| Penway Ct | Entire Street | Lexington | 2 | 1 | 5 | 4 | 4 | 4 | 1 | 2 | 280 | 2.25" CI | | | CASE YEAR 3 |
| Kirk Ct | Entire Street | Lexington | 2 | 1 | 5 | 4 | 4 | 4 | 1 | 2 | 280 | 2" CI | | | CASE YEAR 3 |
| Black Arrow Ct | Entire Street | Lexington | 2 | 1 | 5 | 4 | 4 | 4 | 1 | 2 | 280 | 2.25" CI | | | CASE YEAR 3 |
| Lilydale Ct | Entire Street | Lexington | 2 | 1 | 5 | 4 | 4 | 4 | 1 | 2 | 280 | 2.25" CI | | | CASE YEAR 4 |
| Kelsey Ct | Entire Street | Lexington | 1 | 2 | 5 | 4 | 4 | 4 | 1 | 2 | 280 | 2.25" CI | Y | QIP YEAR 2 | CASE YEAR 3 |
| Greentree Ct | 1100 Block | Lexington | 2 | 3 | 2 | 4 | 4 | 4 | 1 | 2 | 280 | 2" CI | | | CASE YEAR 3 |
| Margo Ct | Entire Street | Lexington | 2 | 2 | 5 | 3 | 4 | 4 | 1 | 2 | 280 | 2.25" CI | | | CASE YEAR 4 |
| Jamaica Ct | Entire Street | Lexington | 2 | 2 | 5 | 3 | 4 | 4 | 1 | 2 | 280 | 2.25" CI | | | CASE YEAR 4 |
| Jannelle Ct | Entire Street | Lexington | 2 | 2 | 5 | 3 | 4 | 4 | 1 | 2 | 280 | 2.25" CI | | QIP YEAR 3 | CASE YEAR 4 |
| Ralston Lane | Entire Street | Winchester | 1 | 2 | 5 | 2 | 2 | 4 | 5 | 2 | 280 | 2" PVC; Continuous Flushing | | | |
| Campbell Ln | 800 Block | Lexington | 2 | 3 | 5 | | 4 | 4 | 3 | 2 | 280 | 2" CI | Y | QIP YEAR 2 | CASE YEAR 5 |
| Rosemill Dr | Entire Street | Lexington | 1 | 2 | 2 | 5 | 4 | 4 | 1 | 4 | 275 | 2" CI & 6" CI; replace with 1,150' of 8" DI | | | |
| Burnett Ave | Entire Street | Lexington | 2 | 1 | 2 | 5 | 4 | 4 | 1 | 4 | 275 | 2" and 6" CI | Y | QIP YEAR 1 | CASE YEAR 1 |
| Lackawanna Rd | Entire Street | Lexington | 1 | 2 | 2 | 5 | 4 | 4 | 1 | 4 | 275 | 2" CI | Y | COMPLETE | CASE YEAR 1 |
| Cooper Dr | 600 Block | Lexington | 2 | 2 | 2 | 5 | 4 | 2 | 1 | 5 | 275 | 6" and 12" CI | | | CASE YEAR 1 |
| Clayton Ave | Entire Street | Lexington | 1 | 2 | 2 | 5 | 4 | 4 | 1 | 4 | 275 | 2" and 6" CI | Y | QIP YEAR 2 | CASE YEAR 1 |
| Lansdowne Cir | 700 Block | Lexington | 2 | 1 | 2 | 5 | 4 | 5 | 1 | 2 | 275 | 1" CI | | | CASE YEAR 2 |
| Westwood Dr | 100 Block | Lexington | 1 | 2 | 2 | 5 | 4 | 4 | 1 | 4 | 275 | 2" CI | | | CASE YEAR 5 |
| Rosemill Dr | Southgate to Clays Mill | Lexington | 1 | 2 | 2 | 5 | 4 | 4 | 1 | 4 | 275 | 2" and 6" CI | | | CASE YEAR 5 |
| Sayre Ave | Entire Street | Lexington | 1 | 1 | 4 | 5 | 4 | 4 | 1 | 3 | 275 | 2" and 4" CI | | QIP YEAR 4 | CASE YEAR 1 |
| Strathmore Rd | 300 Block | Lexington | 1 | 1 | 4 | 5 | 4 | 4 | 1 | 3 | 275 | 2" CI | | QIP YEAR 4 | CASE YEAR 1 |
| Conn Terrace | Entire Street | Lexington | 2 | 1 | 4 | 5 | 4 | 2 | 1 | 4 | 275 | 6" CI and 6" AC | Y | QIP YEAR 1 | |
| Gazette Ave | Entire Street | Lexington | 2 | 1 | 4 | 5 | 4 | 2 | 1 | 4 | 275 | 6" CI; from 1927 | Y | QIP YEAR 1 | |
| Monroe Ave | Entire Street | Lexington | 2 | 1 | 4 | 5 | 4 | 2 | 1 | 4 | 275 | 6" CI; from 1936 | | IN DESIGN | |
| Pine St | 500 Block | Lexington | 2 | 1 | 5 | 5 | 4 | 2 | 1 | 2 | 275 | 6" CI; from 1926 | | QIP YEAR 4 | CASE YEAR 5 |
| Camden Ave | 1400 Block | Lexington | 1 | 2 | 2 | 5 | 4 | 4 | 1 | 4 | 275 | 2" CI | Y | QIP YEAR 3 | CASE YEAR 1 |
| Florence Ave | Entire Street | Lexington | 1 | 2 | 2 | 5 | 4 | 4 | 1 | 4 | 275 | 2" CI - 1938 | | QIP YEAR 3 | |
| Elsmere Park | Entire Street | Lexington | 1 | 2 | 4 | 5 | 4 | 2 | 1 | 4 | 275 | 6" CI - 1901, 1904 | Y | QIP YEAR 3 | |
| Grandin Rd | Entire Street | Lexington | 3 | 2 | 2 | 5 | 4 | 2 | 1 | 2 | 275 | | | QIP YEAR 4 | |
| Old Leestown Rd | Entire Street | Lexington | 1 | 2 | 2 | 5 | 4 | 4 | 1 | 4 | 275 | | | QIP YEAR 4 | |
| E Bell Ct | Entire Street | Lexington | 1 | 1 | 4 | 5 | 4 | 4 | 1 | 3 | 275 | | | QIP YEAR 4 | |
| W Bell Ct | Entire Street | Lexington | 1 | 1 | 4 | 5 | 4 | 4 | 1 | 3 | 275 | | | QIP YEAR 4 | |
| Russell Ave | Entire Street | Lexington | 1 | 1 | 4 | 5 | 4 | 4 | 1 | 3 | 275 | | | QIP YEAR 4 | |
| Old Sweet Owen | E Adair St to dead end | Owenton | 1 | 1 | 3 | 4 | 5 | 5 | 1 | 3 | 275 | | | QIP YEAR 4 | |
| King Arthur Dr | 3400 Block | Lexington | 1 | 3 | 2 | 4 | 4 | 4 | 1 | 4 | 275 | 2" CI | Y | QIP YEAR 2 | CASE YEAR 3 |
| Wilderness Rd | Most of Street | Lexington | 2 | 1 | | 5 | 5 | 4 | 1 | 4 | 270 | 2" Galvanized | | | |
| Morrison Ave | 400 Block | Lexington | 2 | 1 | 2 | 5 | 4 | 4 | 1 | 3 | 270 | 2" CI | | COMPLETE | CASE YEAR 1 |
| Briar Hill Rd | N Cleveland to Avon | Lexington | 2 | 2 | 2 | 5 | 4 | 2 | 1 | 4 | 270 | 6" CI | | | CASE YEAR 2 |
| Leisure Ln | Entire Street | Lexington | 2 | 1 | 2 | 5 | 4 | 4 | 1 | 3 | 270 | 6" CI | Y | QIP YEAR 2 | |
| N Ashland Ave | National Ave to Cramer Ave | Lexington | 1 | 1 | 4 | 5 | 4 | 2 | 2 | 3 | 270 | 6" CI | Y | QIP YEAR 2 | |
| Ash St | Whitney Ave to Georgetown Rd | Lexington | 1 | 2 | 4 | 5 | 4 | 2 | 1 | 3 | 270 | 6" CI | Y | QIP YEAR 2 | |
| Michigan St | Whitney Ave to Georgetown Rd | Lexington | 1 | 2 | 4 | 5 | 4 | 2 | 1 | 3 | 270 | 6" CI | Y | QIP YEAR 2 | |
| Wittland Ln | Entire Street | Lexington | 1 | 1 | 5 | 5 | 4 | 2 | 1 | 4 | 270 | 6" CI; some from 1922 | Y | QIP YEAR 1 | |
| Lone Oak Dr | Entire Street | Lexington | 1 | 2 | 2 | 5 | 4 | 4 | 1 | 3 | 270 | 2" CI | | QIP YEAR 3 | CASE YEAR 2 |
| Kentucky Avenue | Euclid Ave-Maxwell St | Lexington | 1 | 3 | 2 | 5 | 4 | 2 | 1 | 4 | 270 | 6" CI; replace w/ 8" DI | Y | QIP YEAR 3 | |
| Toner St | Entire Street | Lexington | 1 | 2 | 4 | 5 | 4 | 2 | 1 | 3 | 270 | 6" CI - 1905 | Y | QIP YEAR 3 | |
| Hart Road | | Lexington | 1 | 2 | 4 | 5 | 4 | 2 | 1 | 3 | 270 | 6" CI | | IN DESIGN | |
| Dudley Road | | Lexington | 1 | 2 | 4 | 5 | 4 | 2 | 1 | 3 | 270 | 6" CI | | IN DESIGN | |
| Todd's Road | @ Pricetown Ln | Lexington | 1 | 1 | 3 | 5 | 4 | 5 | 1 | 2 | 270 | | | QIP YEAR 4 | |
| Colchester Dr | Entire Street | Lexington | 2 | 2 | 2 | 4 | 4 | 4 | 1 | 3 | 270 | 2.25" and 8" CI | Y | QIP YEAR 2 | CASE YEAR 3 |
| Beulah Park | Entire Street | Lexington | 2 | 3 | 2 | 3 | 4 | 4 | 1 | 3 | 270 | 2.25" and 6" CI | Y | QIP YEAR 3 | CASE YEAR 4 |
| Tillybrook Ct | Entire Street | Lexington | 2 | 1 | 2 | 5 | 4 | 4 | 1 | 2 | 265 | 2" CI | | | CASE YEAR 3 |
| Shirlee Ct | Entire Street | Lexington | 2 | 1 | 2 | 5 | 4 | 4 | 1 | 2 | 265 | 2" CI | | | CASE YEAR 3 |
| Hill Rise Ct | Entire Street | Lexington | 2 | 1 | 2 | 5 | 4 | 4 | 1 | 2 | 265 | 2" CI | Y | QIP YEAR 1 | CASE YEAR 3 |
| Bradford Dr | Entire Street | Lexington | 1 | 2 | 3 | 5 | 4 | 2 | 1 | 4 | 265 | 6" CI | | | |
| Silver Maple Way | Entire Street | Lexington | 1 | 1 | 4 | 5 | 4 | 1 | 2 | 4 | 265 | 8" CI; Reference 4th St/Chestnut St Flushing; tied to N Martin Luther King Blvd Replacement | | QIP YEAR 4 | |
| Bradley Ct | Entire Street | Lexington | 1 | 2 | 2 | 5 | 4 | 4 | 1 | 2 | 265 | 2" and 6" CI | DELAY | QIP YEAR 3 | CASE YEAR 5 |
| Warren Ct | Entire Street | Lexington | 1 | 2 | 4 | 5 | 4 | 2 | 1 | 2 | 265 | 6" CI - 1913 | Y | QIP YEAR 3 | |

| | | | Ratings (1-5) | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Street/Project | Address | City | Low Pressure | Number of Breaks/Leaks (data from Jan 2017-June 2022) | Fire Flow | Age | Material Type | Size of Main | Water Quality | Customer Impact | Total Weighted Score | Comments | COMPLETE | QIP YEAR | CASE NO. 2018-00358 |
| Eastin Rd | Retire services only | Lexington | 2 | 2 | 2 | 5 | 4 | 2 | 1 | 3 | 265 | Retire services only | | QIP YEAR 4 | |
| Boonesboro Ave | Entire Street | Lexington | 1 | 1 | 4 | 5 | 4 | 3 | 1 | 3 | 265 | | | QIP YEAR 4 | |
| Bell Pl/Ct | Entire Street | Lexington | 1 | 1 | 4 | 5 | 4 | 3 | 1 | 3 | 265 | | | QIP YEAR 4 | |
| Feltner Ct | Entire Street | Lexington | 1 | 3 | 2 | 4 | 4 | 4 | 1 | 2 | 265 | 2.25" CI | Y | QIP YEAR 2 | CASE YEAR 3 |
| Williamsburg Ct | Entire Street | Lexington | 1 | 1 | 5 | 4 | 4 | 4 | 1 | 2 | 265 | 2" CI | | | CASE YEAR 3 |
| Range Ct | Entire Street | Lexington | 1 | 1 | 5 | 4 | 4 | 4 | 1 | 2 | 265 | 2" CI | Y | QIP YEAR 1 | CASE YEAR 3 |
| Kimberlite Ct | Entire Street | Lexington | 1 | 1 | 5 | 4 | 4 | 4 | 1 | 2 | 265 | 2" CI | | | CASE YEAR 3 |
| Durham Ct | Entire Street | Lexington | 1 | 1 | 5 | 4 | 4 | 4 | 1 | 2 | 265 | 2" CI | | | CASE YEAR 3 |
| Saybrook Ct | Entire Street | Lexington | 1 | 1 | 5 | 4 | 4 | 4 | 1 | 2 | 265 | 2" CI | | | CASE YEAR 3 |
| Tanner Ct | Entire Street | Lexington | 1 | 1 | 5 | 4 | 4 | 4 | 1 | 2 | 265 | 2" CI | | | CASE YEAR 3 |
| Havelock Cir | Entire Street | Lexington | 1 | 1 | 5 | 4 | 4 | 4 | 1 | 2 | 265 | 2.25" CI | Y | QIP YEAR 3 | CASE YEAR 3 |
| Whitemark Ct | 4000 Block | Lexington | 1 | 1 | 5 | 4 | 4 | 4 | 1 | 2 | 265 | 2.25" CI | | | CASE YEAR 4 |
| Ormond Cir | 3500 Block | Lexington | 1 | 1 | 5 | 4 | 4 | 4 | 1 | 2 | 265 | 2" CI | | | CASE YEAR 4 |
| Cobyville Ct | Entire Street | Lexington | 2 | 3 | 2 | 3 | 4 | 4 | 1 | 2 | 265 | 2.25" and 6" CI | Y | QIP YEAR 2 | CASE YEAR 4 |
| Saginaw Ct | Entire Street | Lexington | 2 | 1 | 5 | 3 | 4 | 4 | 1 | 2 | 265 | 2.25" CI | | | CASE YEAR 3 |
| Lisa Cir | Entire Street | Lexington | 1 | 2 | 5 | 3 | 4 | 4 | 1 | 2 | 265 | 2.25" CI | | | CASE YEAR 4 |
| Mona Ct | Entire Street | Lexington | 2 | 1 | 5 | 3 | 4 | 4 | 1 | 2 | 265 | 2.25" CI | | | CASE YEAR 4 |
| Versie Ct | Entire Street | Lexington | 2 | 1 | 5 | 3 | 4 | 4 | 1 | 2 | 265 | 2" CI | | QIP YEAR 3 | CASE YEAR 4 |
| Tammy Ct | Entire Street | Lexington | 2 | 1 | 5 | 3 | 4 | 4 | 1 | 2 | 265 | 2.25" CI | | | CASE YEAR 4 |
| Laverne Ct | Entire Street | Lexington | 2 | 1 | 5 | 3 | 4 | 4 | 1 | 2 | 265 | 2.25" CI | | | CASE YEAR 4 |
| Grevey Ct | Entire Street | Lexington | 2 | 1 | 5 | 3 | 4 | 4 | 1 | 2 | 265 | 2.25" CI | | | CASE YEAR 4 |
| Lynnwood Ct | Entire Street | Lexington | 2 | 1 | 5 | 3 | 4 | 4 | 1 | 2 | 265 | 2.25" CI | | | CASE YEAR 4 |
| Woodston Ct | Entire Street | Lexington | 1 | 2 | 5 | 3 | 4 | 4 | 1 | 2 | 265 | 2.25" CI | | | CASE YEAR 4 |
| Clearwood Ct | Entire Street | Lexington | 2 | 1 | 5 | 3 | 4 | 4 | 1 | 2 | 265 | 2.25" and 6" CI | | | CASE YEAR 4 |
| Waters Edge Pl | Entire Street | Lexington | 1 | 2 | 5 | 3 | 4 | 4 | 1 | 2 | 265 | 2.25" CI | | | CASE YEAR 4 |
| Bass Ct | Entire Street | Lexington | 2 | 1 | 5 | 3 | 4 | 4 | 1 | 2 | 265 | 2.25" CI | | | CASE YEAR 4 |
| Swoonalong Ct | Entire Street | Lexington | 1 | 2 | 5 | 3 | 4 | 4 | 1 | 2 | 265 | 2.25" CI | | | CASE YEAR 4 |
| Gunbow Ct | Entire Street | Lexington | 2 | 1 | 5 | 3 | 4 | 4 | 1 | 2 | 265 | 2.25" CI | | QIP YEAR 3 | CASE YEAR 4 |
| Pittman Creek Ct | Entire Street | Lexington | 2 | 1 | 5 | 3 | 4 | 4 | 1 | 2 | 265 | 2.25" CI | | | CASE YEAR 5 |
| Timberhill Ct | Entire Street | Lexington | 2 | 1 | 5 | 3 | 4 | 4 | 1 | 2 | 265 | 2.25" CI | Y | QIP YEAR 2 | CASE YEAR 5 |
| Elderberry Ct | Entire Street | Lexington | 2 | 1 | 5 | 3 | 4 | 4 | 1 | 2 | 265 | 2.25" CI | Y | QIP YEAR 2 | CASE YEAR 5 |
| La Somme Dr & Riviera Rd | Entire Street | Lexington | 1 | 3 | 5 | 2 | 4 | 3 | 1 | 4 | 265 | 4" CI | | | |
| Wabash Dr | 100 Block | Lexington | 1 | 1 | 2 | 5 | 4 | 4 | 1 | 4 | 260 | 2" CI | Y | COMPLETE | CASE YEAR 1 |
| Old Vine St | 300 Block | Lexington | 2 | 2 | 2 | 5 | 4 | 2 | 1 | 2 | 260 | 6" CI | | | CASE YEAR 5 |
| Devonia Ave | Entire Street | Lexington | 1 | 1 | 4 | 5 | 4 | 2 | 1 | 4 | 260 | 6" CI; from 1930s | Y | QIP YEAR 1 | |
| Carlisle Ave | Entire Street | Lexington | 1 | 1 | 4 | 5 | 4 | 2 | 1 | 4 | 260 | 6" CI; from 1930s | Y | QIP YEAR 1 | |
| Elm St | Charles St to Georgetown Rd | Lexington | 1 | 1 | 5 | 5 | 4 | 2 | 1 | 2 | 260 | 6" CI | Y | QIP YEAR 2 | |
| Kentucky Ave | Entire Street | Lexington | 1 | 3 | 2 | 5 | 4 | 2 | 1 | 2 | 260 | 6" CI; from 1895 | Y | QIP YEAR 3 | |
| Standish Way | South end | Lexington | 1 | 2 | 2 | 5 | 4 | 3 | 1 | 3 | 260 | 4" and 6" CIU - 1947 | Y | QIP YEAR 3 | |
| Southern Ave | Entire Street | Lexington | 1 | 1 | 4 | 5 | 4 | 3 | 1 | 2 | 260 | 4" CI | Y | QIP YEAR 3 | |
| Campbell St | Entire Street | Lexington | 1 | 2 | 2 | 5 | 4 | 3 | 1 | 3 | 260 | 4" and 6" CI - 1908, 1914 | | QIP YEAR 3 | |
| Ohio St | Entire Street | Lexington | 1 | 1 | 4 | 5 | 4 | 2 | 1 | 4 | 260 | Coordination with LFUCG sewer project | | QIP YEAR 4 | |
| E Seventh St | N Limestone to Maple St | Lexington | 1 | 1 | 4 | 5 | 4 | 2 | 1 | 4 | 260 | | | QIP YEAR 4 | |
| Corral St | Elm Tree to Race St | Lexington | 1 | 1 | 4 | 5 | 4 | 2 | 1 | 4 | 260 | | | QIP YEAR 4 | |
| Greentree Pl | Entire Street | Lexington | 2 | 1 | 2 | 4 | 4 | 4 | 1 | 4 | 260 | 2" CI | | | CASE YEAR 3 |
| Greentree Rd | Entire Street | Lexington | 2 | 3 | 2 | 4 | 4 | 1 | 1 | 4 | 260 | 12" CI | | | |
| Barbados Ln | Entire Street | Lexington | 2 | 1 | 2 | 4 | 4 | 4 | 1 | 4 | 260 | 2.25" CI | | | CASE YEAR 3 |
| Clair Rd | Entire Street | Lexington | 2 | 1 | 2 | 4 | 4 | 4 | 1 | 4 | 260 | 2" CI | Y | QIP YEAR 2 | CASE YEAR 4 |
| Central Ave | 600 Block | Lexington | 2 | 2 | 2 | 4 | 4 | 3 | 1 | 3 | 260 | 4" and 8" CI | | | CASE YEAR 5 |
| Barksdale Dr | Entire Street | Lexington | 1 | 2 | 2 | 4 | 4 | 4 | 1 | 4 | 260 | 2.25" and 6" CI | Y | QIP YEAR 2 | CASE YEAR 3 |
| Briarwood Dr | Entire Street | Lexington | 1 | 2 | 2 | 4 | 4 | 4 | 1 | 4 | 260 | 8" CI | | QIP YEAR 3 | |
| Redwood Dr/Cir | Entire Street | Lexington | 1 | 2 | 2 | 4 | 4 | 4 | 1 | 4 | 260 | 2" and 8" CI | | QIP YEAR 3 | |
| Greentree Rd | Armstrong to New Circle | Lexington | 1 | 3 | 1 | 4 | 4 | 3 | 1 | 5 | 260 | Coordination with LFUCG sewer project | | QIP YEAR 4 | CASE YEAR 3 |
| Kilrush Dr | 1100 Block | Lexington | 2 | 4 | 2 | 3 | 4 | 1 | 1 | 4 | 260 | 8" CI | Y | QIP YEAR 2 | CASE YEAR 3 |
| Cayman Ln | 3600 Block | Lexington | 1 | 2 | 4 | 3 | 4 | 4 | 1 | 3 | 260 | 2.25" and 6" CI | | | CASE YEAR 4 |
| Macadam Dr | Entire Street | Lexington | 1 | 1 | 5 | 3 | 4 | 4 | 1 | 4 | 260 | 2" and 8" CI | | | CASE YEAR 5 |
| Maywood Park | Entire Street | Lexington | 2 | 2 | 2 | 3 | 4 | 4 | 1 | 4 | 260 | 2" CI | | QIP YEAR 3 | CASE YEAR 4 |
| Ox Hill Dr | Entire Street | Lexington | 2 | 2 | 2 | 3 | 4 | 4 | 1 | 4 | 260 | 2" and 6" CI | | QIP YEAR 3 | CASE YEAR 4 |
| Tanforan Dr | Entire Street | Lexington | 1 | 3 | 2 | 3 | 4 | 4 | 1 | 4 | 260 | 2" and 8" CI | | QIP YEAR 3 | CASE YEAR 4 |
| Martin Ave | Entire Street | Lexington | 2 | 2 | 4 | 2 | 4 | 4 | 1 | 3 | 260 | 2" CI | | QIP YEAR 3 | CASE YEAR 5 |
| Gentry Road | 177-550 | Winchester | 2 | 3 | 5 | 2 | 2 | 5 | 1 | 2 | 260 | 1.5" PVC | | | |
| Haley Rd | Small Section | Lexington | 2 | 2 | | 5 | 4 | 4 | 1 | 1 | 255 | 2" CI | | | CASE YEAR 2 |
| Rolling Hills Ct | 3500 Block | Lexington | 2 | 1 | | 5 | 4 | 5 | 1 | 2 | 255 | 1" CI | | | CASE YEAR 2 |
| New Zion Rd | 100 Block | Lexington | 2 | 1 | 1 | 5 | 4 | 4 | 1 | 2 | 255 | 2.25" CI | | | CASE YEAR 3 |
| Newtown Pike | Louden Ave-Charles Ave | Lexington | 1 | 2 | 2 | 5 | 4 | 2 | 1 | 4 | 255 | 6" CI; replace with approximately 1,800' of 8" DI | | | |
| Shawnee Pl | 100 Block | Lexington | 1 | 1 | 2 | 5 | 4 | 4 | 1 | 3 | 255 | 2" CI | | | CASE YEAR 1 |
| Willowlawn Ave | 1300 Block | Lexington | 1 | 1 | 2 | 5 | 4 | 4 | 1 | 3 | 255 | 2" CI | Y | QIP YEAR 2 | CASE YEAR 1 |

| | | | Ratings (1-5) | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Street/Project | Address | City | Low Pressure | Number of Breaks/Leaks (data from Jan 2017-June 2022) | Fire Flow | Age | Material Type | Size of Main | Water Quality | Customer Impact | Total Weighted Score | Comments | COMPLETE | QIP YEAR | CASE NO. 2018-00358 |
| Rainbow Rd | 2000 Block | Lexington | 1 | 1 | 2 | 5 | 4 | 4 | 1 | 3 | 255 | 2.25" CI | | | CASE YEAR 2 |
| Bradford Cir | 200 Block | Lexington | 1 | 1 | 2 | 5 | 4 | 4 | 1 | 3 | 255 | 2" CI | | | CASE YEAR 3 |
| Ridgeway Rd | Entire Street | Lexington | 1 | 1 | 2 | 5 | 4 | 4 | 1 | 3 | 255 | 2" and 6" CI; 2" from 1927 and 6" from 1928 | | | CASE YEAR 5 |
| Russell Cave Rd | 1400 Block | Lexington | 1 | 3 | 2 | 5 | 4 | 1 | 1 | 3 | 255 | 8" and 12" CI | | | CASE YEAR 5 |
| Transcript Ave | Entire Street | Lexington | 2 | 1 | 2 | 5 | 4 | 2 | 1 | 4 | 255 | 6" and 8" CI; from 1935 | Y | QIP YEAR 1 | |
| Sherman Ave | Entire Street | Lexington | 2 | 1 | 2 | 5 | 4 | 2 | 1 | 4 | 255 | 6" CI; from 1935 | | IN DESIGN | |
| Perry St | 200 Block | Lexington | 1 | 1 | 4 | 5 | 4 | 2 | 1 | 3 | 255 | 6" CI | | | CASE YEAR 1 |
| Gunn St | 300 Block | Lexington | 1 | 1 | 4 | 5 | 4 | 2 | 1 | 3 | 255 | 6" CI | | QIP YEAR 4 | CASE YEAR 1 |
| Warnock St | 200 Block | Lexington | 1 | 1 | 4 | 5 | 4 | 2 | 1 | 3 | 255 | 6" CI | | | CASE YEAR 1 |
| Castlewood Dr | Entire Street | Lexington | 1 | 1 | 4 | 5 | 4 | 2 | 1 | 3 | 255 | 6" and 8" CI | | | CASE YEAR 5 |
| Douglas Ave | Entire Street | Lexington | 1 | 2 | 2 | 5 | 4 | 2 | 1 | 4 | 255 | 6" CI - 1938 | | QIP YEAR 3 | |
| Johnson Ave | Entire Street | Lexington | 2 | 1 | 2 | 5 | 4 | 2 | 1 | 4 | 255 | | | QIP YEAR 4 | |
| Bermuda Ave | Entire Street | Lexington | 1 | 1 | 2 | 5 | 4 | 4 | 1 | 3 | 255 | | | QIP YEAR 4 | |
| Gentry Ln | Small Section | Lexington | 2 | 2 | | 4 | 4 | 5 | 1 | 2 | 255 | 1" CI | | | CASE YEAR 3 |
| N Limestone St | E. Loudon Ave - New Circle Rd | Lexington | 1 | 3 | 2 | 4 | 4 | 2 | 1 | 4 | 255 | 6" CI & 12" CI; replace with 3,700' of 12" DI | | | |
| Heather Ct | Entire Street | Lexington | 1 | 2 | 2 | 4 | 4 | 4 | 1 | 3 | 255 | 2" CI | Y | QIP YEAR 2 | CASE YEAR 3 |
| Thistleton Cir | Entire Street | Lexington | 1 | 2 | 2 | 4 | 4 | 4 | 1 | 3 | 255 | 2" CI | Y | QIP YEAR 2 | CASE YEAR 3 |
| Martinique Ln | Entire Street | Lexington | 2 | 1 | 2 | 4 | 4 | 4 | 1 | 3 | 255 | 2.25" and 6" CI | | | CASE YEAR 3 |
| Derby Dr | 200 Block + Court | Lexington | 2 | 2 | 2 | 3 | 4 | 4 | 1 | 3 | 255 | 2.25" and 6" CI | Y | QIP YEAR 3 | CASE YEAR 2 |
| Crewe Ct | Entire Street | Lexington | 1 | 2 | 4 | 3 | 4 | 4 | 1 | 2 | 255 | 2.25" and 6" CI | Y | QIP YEAR 2 | CASE YEAR 4 |
| Atokad Park | Entire Street | Lexington | 2 | 2 | 2 | 3 | 4 | 4 | 1 | 3 | 255 | 2.25" and 6" CI | Y | QIP YEAR 3 | CASE YEAR 4 |
| Ferguson St | Entire Street | Lexington | 2 | 3 | 2 | 2 | 4 | 4 | 1 | 3 | 255 | 2" and 8" CI | | QIP YEAR 3 | CASE YEAR 5 |
| Columbus Ln | Entire Street | Lexington | 1 | 1 | | 5 | 5 | 4 | 1 | 3 | 250 | 2" Galvanized | | | |
| Uttinger Ln | Entire Street | Lexington | 1 | 1 | | 5 | 5 | 4 | 1 | 3 | 250 | 2" Galvanized | | | |
| Raven Cir | Entire Street | Lexington | 2 | 1 | | 5 | 4 | 4 | 1 | 3 | 250 | 2" CI | | | CASE YEAR 3 |
| Lamont Ct | Entire Street | Lexington | 1 | 1 | 2 | 5 | 4 | 4 | 1 | 2 | 250 | 2" CI | | | CASE YEAR 2 |
| Longview Dr | 500 Block | Lexington | 1 | 2 | 2 | 5 | 4 | 2 | 1 | 3 | 250 | 6" CI | | | CASE YEAR 5 |
| Oak Hill Dr | 1100 Block | Lexington | 2 | 1 | 2 | 5 | 4 | 2 | 1 | 3 | 250 | 6" CI | | | CASE YEAR 5 |
| Orion Way | Entire Street | Lexington | 1 | 1 | 3 | 5 | 4 | 2 | 1 | 4 | 250 | 6" CI; from 1930s | Y | QIP YEAR 1 | |
| Ransom Ave | Entire Street | Lexington | 1 | 1 | 4 | 5 | 4 | 2 | 1 | 2 | 250 | 6" CI; from 1911 | | | |
| Shreve Ave | Entire Street | Lexington | 1 | 1 | 4 | 5 | 4 | 2 | 1 | 2 | 250 | 6" CI; from 1910 | | | |
| Booker St | Entire Street | Lexington | 1 | 1 | 4 | 5 | 4 | 2 | 1 | 2 | 250 | 6" CI | Y | QIP YEAR 2 | |
| Grand Ave | Entire Street | Lexington | 1 | 1 | 5 | 5 | 4 | 1 | 1 | 2 | 250 | 8" CI; from 1884 | | | |
| Headley Ave | Entire Street | Lexington | 1 | 2 | 2 | 5 | 4 | 2 | 1 | 3 | 250 | 6" CI - 1903, 1936 | | QIP YEAR 3 | |
| Chrysalis Ct | Entire Street | Lexington | 1 | 1 | 4 | 5 | 4 | 2 | 1 | 2 | 250 | 6" CI | Y | QIP YEAR 3 | |
| Sheila Ct | Entire Street | Lexington | 1 | 1 | 4 | 5 | 4 | 2 | 1 | 2 | 250 | 6" AC - 1983 | Y | QIP YEAR 3 | |
| Harken Ct | Entire Street | Lexington | 1 | 1 | 4 | 5 | 4 | 2 | 1 | 2 | 250 | 2" Service? | Y | QIP YEAR 3 | |
| Chelan Ct | 100 Block | Lexington | 1 | 1 | 2 | 5 | 4 | 4 | 1 | 2 | 250 | 2" CI | | | CASE YEAR 5 |
| Ranier Dr | Entire Street | Lexington | 2 | 1 | 2 | 5 | 4 | 2 | 1 | 3 | 250 | | | QIP YEAR 4 | |
| E Second St | Elm Tree to Race St | Lexington | 1 | 1 | 3 | 5 | 4 | 2 | 1 | 4 | 250 | | | QIP YEAR 4 | |
| Maryland Ave | Entire Street | Lexington | 1 | 1 | 2 | 5 | 4 | 3 | 1 | 4 | 250 | | | QIP YEAR 4 | |
| W Second St | Old Georgetown to Jefferson | Lexington | 1 | 1 | 2 | 5 | 4 | 3 | 1 | 4 | 250 | | | QIP YEAR 4 | |
| Forest Ave | Entire Street | Lexington | 1 | 1 | 2 | 5 | 4 | 3 | 1 | 4 | 250 | | | QIP YEAR 4 | |
| Gaines Village Dr | Entire Street | Owenton | 1 | 2 | | 4 | 5 | 4 | 1 | 3 | 250 | 2" Galvanized | | QIP YEAR 3 | |
| Old Dobbin Cir | Entire Street | Lexington | 2 | 1 | 2 | 4 | 4 | 4 | 1 | 2 | 250 | 2" CI | | | CASE YEAR 3 |
| Edinburgh Ct | Entire Street | Lexington | 2 | 1 | 2 | 4 | 4 | 4 | 1 | 2 | 250 | 2" CI | DELAY | QIP YEAR 3 | CASE YEAR 3 |
| Shiloh Ct | Entire Street | Lexington | 2 | 1 | 2 | 4 | 4 | 4 | 1 | 2 | 250 | 2" CI | | | CASE YEAR 3 |
| Flintridge Cir | 3400 Block | Lexington | 2 | 1 | 2 | 4 | 4 | 4 | 1 | 2 | 250 | 2" CI | | | CASE YEAR 3 |
| Montavesta Ct | Entire Street | Lexington | 2 | 1 | 2 | 4 | 4 | 4 | 1 | 2 | 250 | 2" CI | Y | QIP YEAR 2 | CASE YEAR 4 |
| Cummins Ct | Entire Street | Lexington | 1 | 2 | 2 | 4 | 4 | 4 | 1 | 2 | 250 | 2" CI | | | CASE YEAR 4 |
| King Arthur Ct | Entire Street | Lexington | 1 | 2 | 2 | 4 | 4 | 4 | 1 | 2 | 250 | 2" CI | Y | QIP YEAR 2 | CASE YEAR 3 |
| Bowen Ct | Entire Street | Lexington | 1 | 2 | 2 | 4 | 4 | 4 | 1 | 2 | 250 | 2.25" and 6" CI | Y | QIP YEAR 2 | CASE YEAR 3 |
| Old Crow Ct | Entire Street | Lexington | 1 | 2 | 2 | 4 | 4 | 4 | 1 | 2 | 250 | 2" and 6" CI | Y | QIP YEAR 2 | CASE YEAR 4 |
| Cardigan Ct | 600 Block | Lexington | 1 | 2 | 2 | 4 | 4 | 4 | 1 | 2 | 250 | 2.25" CI | Y | QIP YEAR 3 | CASE YEAR 3 |
| Paige Ct | 2100 Block | Lexington | 2 | 1 | 2 | 4 | 4 | 4 | 1 | 2 | 250 | 2.25" and 6" CI | | | CASE YEAR 5 |
| Tabago Ct | Entire Street | Lexington | 1 | 3 | 2 | 3 | 4 | 4 | 1 | 2 | 250 | 2.25" and 6" CI | | | CASE YEAR 3 |
| Leitner Ct | Entire Street | Lexington | 2 | 2 | 2 | 3 | 4 | 4 | 1 | 2 | 250 | 2.25" and 6" CI | Y | QIP YEAR 2 | CASE YEAR 4 |
| Fraserdale Ct | Entire Street | Lexington | 1 | 1 | 5 | 3 | 4 | 4 | 1 | 2 | 250 | 2.25" and 6" CI | Y | QIP YEAR 2 | CASE YEAR 4 |
| Lookout Cir | Entire Street | Lexington | 1 | 1 | 5 | 3 | 4 | 4 | 1 | 2 | 250 | 2" CI | Y | QIP YEAR 2 | CASE YEAR 4 |
| Wem Ct | Entire Street | Lexington | 1 | 1 | 5 | 3 | 4 | 4 | 1 | 2 | 250 | 2" CI | | | CASE YEAR 4 |
| Harris Ct | Entire Street | Lexington | 1 | 1 | 5 | 3 | 4 | 4 | 1 | 2 | 250 | 2.25" CI | | | CASE YEAR 4 |
| Grant Ct | Entire Street | Lexington | 1 | 1 | 5 | 3 | 4 | 4 | 1 | 2 | 250 | 2" CI | | | CASE YEAR 4 |
| Hollow Creek Ct | Entire Street | Lexington | 1 | 1 | 5 | 3 | 4 | 4 | 1 | 2 | 250 | 2" CI | | | CASE YEAR 4 |
| Graig Ct | Entire Street | Lexington | 1 | 1 | 5 | 3 | 4 | 4 | 1 | 2 | 250 | 2.25" CI | | | CASE YEAR 4 |
| Harmony Ct | Entire Street | Lexington | 1 | 1 | 5 | 3 | 4 | 4 | 1 | 2 | 250 | 2.25" CI | | | CASE YEAR 4 |
| Elkwood Ct | Entire Street | Lexington | 1 | 1 | 5 | 3 | 4 | 4 | 1 | 2 | 250 | 2.25" CI | Y | QIP YEAR 2 | |
| Moundview Ct | Entire Street | Lexington | 2 | 2 | 2 | 3 | 4 | 4 | 1 | 2 | 250 | 2" and 6" CI | | QIP YEAR 3 | CASE YEAR 4 |

| | | | *Ratings (1-5)* | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Street/Project** | **Address** | **City** | **Low Pressure** | **Number of Breaks/Leaks (data from Jan 2017-June 2022)** | **Fire Flow** | **Age** | **Material Type** | **Size of Main** | **Water Quality** | **Customer Impact** | **Total Weighted Score** | **Comments** | **COMPLETE** | **QIP YEAR** | **CASE NO. 2018-00358** |
| Tanforan Ct | Entire Street | Lexington | 1 | 3 | 2 | 3 | 4 | 4 | 1 | 2 | 250 | 2" CI | | QIP YEAR 3 | |
| North Cleveland Road | 1301-2999 | Lexington | 2 | 1 | 5 | 3 | 3 | 3 | 1 | 4 | 250 | 4" AC | | | |
| North Cleveland Road | 176-584 | Lexington | 3 | 2 | 5 | 2 | 2 | 4 | 1 | 2 | 250 | 2" PVC | | | |
| Avenue of Champions | Entire Street | Lexington | 1 | 1 | 2 | 5 | 4 | 2 | 1 | 5 | 245 | 6" and 12" CI; 6" from 1914 and 12" from 1937; in conjunction with LFUCG project | Y | COMPLETE | |
| Kenton St | Entire Street | Lexington | 1 | 1 | 2 | 5 | 4 | 3 | 1 | 3 | 245 | 4" and 6" CI - 1903, 1909 | | QIP YEAR 3 | |
| Indiana Ave | Entire Street | Lexington | 1 | 1 | 2 | 5 | 4 | 3 | 1 | 3 | 245 | | | QIP YEAR 4 | |
| Sutherland Dr | 3500 Block | Lexington | 1 | 1 | 2 | 4 | 4 | 4 | 1 | 4 | 245 | 2.25" and 8" CI | | | CASE YEAR 4 |
| Lancelot Ln | Greenlawn to Camelot | Lexington | 1 | 1 | 2 | 4 | 4 | 4 | 1 | 4 | 245 | 8" CI | Y | QIP YEAR 2 | |
| Carson Ct | Entire Street | Lexington | 1 | 1 | 5 | 4 | 4 | 2 | 1 | 2 | 245 | 6" CI | Y | QIP YEAR 2 | |
| Plainview Rd | Small Section | Lexington | 2 | 1 | 2 | 4 | 4 | 4 | 1 | 1 | 245 | 2" CI | | | CASE YEAR 3 |
| Montavesta Road | 2917-2994 | Lexington | 1 | 4 | 2 | 3 | 4 | 1 | 1 | 4 | 245 | 8" CL | Y | QIP YEAR 2 | |
| Oaklawn Park | Entire Street | Lexington | 2 | 1 | 2 | 3 | 4 | 4 | 1 | 4 | 245 | 2" CI | | QIP YEAR 3 | CASE YEAR 4 |
| Narragansett Park | Entire Street | Lexington | 2 | 1 | 2 | 3 | 4 | 4 | 1 | 4 | 245 | 2" and 6" CI | | QIP YEAR 3 | CASE YEAR 4 |
| Golden Gate Park | Entire Street | Lexington | 2 | 1 | 2 | 3 | 4 | 4 | 1 | 4 | 245 | 2.25" and 6" CI | Y | QIP YEAR 3 | CASE YEAR 4 |
| Kenil Ct | Entire Street | Lexington | 2 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 245 | 1" CI | | | CASE YEAR 4 |
| Valley Farm Dr and Ct | Entire Street | Lexington | 1 | 2 | 2 | 3 | 4 | 4 | 1 | 4 | 245 | 2.25" and 8" CI | Y | QIP YEAR 2 | CASE YEAR 4 |
| Chris Dr and Ct | Entire Street | Lexington | 1 | 2 | 2 | 3 | 4 | 4 | 1 | 4 | 245 | 2.25" and 6" CI | Y | QIP YEAR 2 | CASE YEAR 4 |
| Tisdale Dr and Ct | Entire Street | Lexington | 1 | 4 | 2 | 3 | 4 | 1 | 1 | 4 | 245 | 8" CI | Y | QIP YEAR 2 | |
| Gingertree Cir | 3500 Block | Lexington | 1 | 1 | 4 | 3 | 4 | 4 | 1 | 3 | 245 | 2" and 6" CI | | | CASE YEAR 4 |
| Aldershot Dr | 3400 Block | Lexington | 1 | 2 | 2 | 3 | 4 | 4 | 1 | 4 | 245 | 2.25" and 8" CI | Y | QIP YEAR 3 | CASE YEAR 3 |
| Canonero Dr | Entire Street | Lexington | 1 | 2 | 2 | 3 | 4 | 4 | 1 | 4 | 245 | 2.25" and 6" CI | Y | QIP YEAR 3 | CASE YEAR 4 |
| Newtown Pike | 3500-4305 | Lexington | 1 | 3 | 5 | 3 | 3 | 2 | 1 | 2 | 245 | 6" AC | | | |
| Richmond Ave | 300 Block | Lexington | 1 | 1 | 2 | 5 | 4 | 2 | 1 | 4 | 240 | 6" CI | Y | QIP YEAR 2 | CASE YEAR 1 |
| Folkstone Dr | Plainview to RR track | Lexington | 1 | 2 | 2 | 5 | 4 | 1 | 1 | 3 | 240 | 16" CI | | | CASE YEAR 3 |
| Curry Ave | Most of Street | Lexington | 1 | 1 | 2 | 5 | 4 | 2 | 1 | 4 | 240 | 6" and 8" CI; 6" is from 1901 | | | CASE YEAR 4 |
| Glenn Pl | Entire Street | Lexington | 1 | 1 | 2 | 5 | 4 | 2 | 1 | 4 | 240 | 6" CI; some from 1930s | Y | QIP YEAR 1 | |
| Montclair Dr | Tates Creek Rd to end | Lexington | 1 | 1 | 2 | 5 | 4 | 2 | 1 | 4 | 240 | 6" CI | Y | QIP YEAR 2 | |
| Curley Ave | Entire Street | Lexington | 1 | 1 | 3 | 5 | 4 | 2 | 1 | 2 | 240 | | | QIP YEAR 4 | |
| Lakeshore Dr | Backside of RR to Island | Lexington | 1 | 2 | 2 | 5 | 4 | 1 | 1 | 3 | 240 | 16" CI; from 1912 | | | |
| Journal Ave | Entire Street | Lexington | 2 | 1 | 2 | 5 | 3 | 2 | 1 | 4 | 240 | 6" AC | Y | QIP YEAR 1 | |
| Carson Dr | Entire Street | Lexington | 1 | 1 | 5 | 4 | 4 | 1 | 1 | 3 | 240 | 8" CI | DELAY | QIP YEAR 3 | |
| Floyd Dr | Small Cluster | Lexington | 1 | 1 | 2 | 4 | 4 | 5 | 1 | 1 | 240 | 1" CI | | | CASE YEAR 5 |
| Bedinger Ct | Entire Street | Lexington | 2 | 2 | 1 | 3 | 4 | 4 | 1 | 2 | 240 | 2.25" and 6" CI | Y | QIP YEAR 2 | CASE YEAR 4 |
| Yarmouth Ct | Entire Street | Lexington | 2 | 2 | 1 | 3 | 4 | 4 | 1 | 2 | 240 | 2" CI | Y | QIP YEAR 2 | CASE YEAR 3 |
| Grant Pl | Entire Street | Lexington | 2 | 1 | 2 | 3 | 4 | 4 | 1 | 3 | 240 | 2" CI | | | CASE YEAR 4 |
| Bridgeport Dr | Entire Street | Lexington | 2 | 1 | 2 | 3 | 4 | 4 | 1 | 3 | 240 | 2.25" and 6" CI | | | CASE YEAR 4 |
| Costigan Dr | Entire Street | Lexington | 1 | 2 | 2 | 3 | 4 | 4 | 1 | 3 | 240 | 2.25", 6", 8" CI | Y | QIP YEAR 2 | CASE YEAR 4 |
| Von List Way | Entire Street | Lexington | 1 | 2 | 2 | 3 | 4 | 4 | 1 | 3 | 240 | 2" and 8" CI | | | CASE YEAR 4 |
| Kelsey Dr and Pl | Entire Street | Lexington | 2 | 3 | 2 | 3 | 4 | 1 | 1 | 3 | 240 | 8" CI | Y | QIP YEAR 2 | CASE YEAR 3 |
| Ascot Park | Entire Street | Lexington | 1 | 2 | 2 | 3 | 4 | 4 | 1 | 3 | 240 | 2" and 6" CI | Y | QIP YEAR 3 | CASE YEAR 4 |
| Gemini Trail Road | Entire Street | Georgetown | 2 | 5 | | 3 | 3 | 1 | 1 | 4 | 240 | 6" & 8" AC | | | |
| Merino St | 500 Block | Lexington | 1 | 1 | 2 | 5 | 4 | 2 | 1 | 3 | 235 | 6" CI; from 1884 | | QIP YEAR 4 | CASE YEAR 5 |
| Summit Dr | Montclair Dr to Cooper Dr | Lexington | 1 | 1 | 2 | 5 | 4 | 2 | 1 | 3 | 235 | 6" CI | Y | QIP YEAR 2 | |
| Scoville Dr | Montclair Dr to Cooper Dr | Lexington | 1 | 1 | 2 | 5 | 4 | 2 | 1 | 3 | 235 | 6" CI | Y | QIP YEAR 2 | |
| Eldemere Dr | Montclair Dr to Cooper Dr | Lexington | 1 | 1 | 2 | 5 | 4 | 2 | 1 | 3 | 235 | 6" CI | Y | QIP YEAR 2 | |
| Colonial Dr | John Alden to Mayflower | Lexington | 1 | 1 | 2 | 5 | 4 | 2 | 1 | 3 | 235 | 6" CIU and CIL - 1947 | Y | QIP YEAR 3 | |
| Dunaway St | Entire Street | Lexington | 1 | 1 | 2 | 5 | 4 | 2 | 1 | 3 | 235 | | | QIP YEAR 4 | |
| Rosemont Garden | Southland Dr to Clays Mill Rd | Lexington | 1 | 2 | 2 | 5 | 3 | 1 | 1 | 5 | 235 | | | QIP YEAR 4 | |
| Hialeiah Ct | Entire Street | Lexington | 1 | 1 | 2 | 4 | 4 | 4 | 1 | 2 | 235 | 2.25" and 6" CI | | QIP YEAR 4 | CASE YEAR 3 |
| Hot Springs Ct | Entire Street | Lexington | 1 | 1 | 2 | 4 | 4 | 4 | 1 | 2 | 235 | 2.25" and 6" CI | | QIP YEAR 4 | CASE YEAR 3 |
| Cross Keys Ct | Entire Street | Lexington | 1 | 1 | 2 | 4 | 4 | 4 | 1 | 2 | 235 | 2" CI | Y | QIP YEAR 2 | CASE YEAR 3 |
| Sheffield Ct | Entire Street | Lexington | 1 | 1 | 2 | 4 | 4 | 4 | 1 | 2 | 235 | 2" CI | Y | QIP YEAR 2 | CASE YEAR 3 |
| Gentry Rd | 100 Block | Lexington | 1 | 2 | 2 | 4 | 4 | 2 | 1 | 3 | 235 | 6" CI | | | CASE YEAR 3 |
| Gayle Cir | Entire Street | Lexington | 1 | 1 | 2 | 4 | 4 | 4 | 1 | 2 | 235 | 2" CI | | | CASE YEAR 3 |
| Waycrosse Cir | Entire Street | Lexington | 1 | 1 | 2 | 4 | 4 | 4 | 1 | 2 | 235 | 2" CI | | | CASE YEAR 3 |
| Toronto Rd | 100 and 200 Blocks | Lexington | 2 | 2 | 2 | 4 | 4 | 1 | 1 | 2 | 235 | 12" CI | | | CASE YEAR 3 |
| Middlesex Ct | 2800 Block | Lexington | 1 | 1 | 2 | 4 | 4 | 4 | 1 | 2 | 235 | 2.25" CI | | | CASE YEAR 3 |
| Halsted Ct | 1500 Block | Lexington | 1 | 1 | 2 | 4 | 4 | 4 | 1 | 2 | 235 | 2" and 6" CI | | | CASE YEAR 3 |
| Kildare Ct | Entire Street | Lexington | 1 | 1 | 2 | 4 | 4 | 4 | 1 | 2 | 235 | 2" CI | | | CASE YEAR 3 |
| Butternut Hill Ct | Entire Street | Lexington | 1 | 1 | 2 | 4 | 4 | 4 | 1 | 2 | 235 | 2.25", 6", 8" CI | | | CASE YEAR 3 |
| Keeneland Ct | 1300 Block | Lexington | 1 | 1 | 2 | 4 | 4 | 4 | 1 | 2 | 235 | 2.25" and 6" CI | | QIP YEAR 4 | CASE YEAR 3 |
| Montgomery Ave | 600 Block | Lexington | 1 | 2 | 2 | 4 | 4 | 2 | 1 | 3 | 235 | 6" CI | | | CASE YEAR 5 |
| Daniel Ct | 2000 Block | Lexington | 1 | 1 | 2 | 4 | 4 | 4 | 1 | 2 | 235 | 2" and 6" CI | | | CASE YEAR 4 |
| Victoria Way | 4000 Block | Lexington | 2 | 1 | 2 | 3 | 4 | 4 | 1 | 2 | 235 | 2" and 8" CI | | | CASE YEAR 3 |
| Rittenhouse Ct | 1900 Block | Lexington | 2 | 1 | 2 | 3 | 4 | 4 | 1 | 2 | 235 | 2" and 6" CI | | | CASE YEAR 4 |
| Fogo Ct | Entire Street | Lexington | 2 | 1 | 2 | 3 | 4 | 4 | 1 | 2 | 235 | 2.25" and 6" CI | Y | QIP YEAR 2 | CASE YEAR 4 |
| Karen Ct | Entire Street | Lexington | 2 | 1 | 2 | 3 | 4 | 4 | 1 | 2 | 235 | 2.25" CI | | | CASE YEAR 4 |

| Street/Project | Address | City | Low Pressure | Number of Breaks/Leaks (data from Jan 2017-June 2022) | Fire Flow | Age | Material Type | Size of Main | Water Quality | Customer Impact | Total Weighted Score | Comments | COMPLETE | QIP YEAR | CASE NO. 2018-00358 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Ratings (1-5) | | | | | | | | | | | | |
| Heaton Ct | Entire Street | Lexington | 1 | 2 | 2 | 3 | 4 | 4 | 1 | 2 | 235 | 2.25" CI | Y | QIP YEAR 2 | CASE YEAR 5 |
| Wood Valley Ct | Entire Street | Lexington | 1 | 2 | 2 | 3 | 4 | 4 | 1 | 2 | 235 | 2.25" and 8" CI | | QIP YEAR 3 | CASE YEAR 4 |
| Personality Ct | Entire Street | Lexington | 1 | 2 | 2 | 3 | 4 | 4 | 1 | 2 | 235 | 2" CI | | QIP YEAR 3 | CASE YEAR 4 |
| Delmar Ave | Entire Street | Lexington | 1 | 1 | 4 | 3 | 4 | 3 | 1 | 3 | 235 | | | QIP YEAR 4 | |
| Newtown Pike | 4305-4626 | Lexington | 2 | 2 | 2 | 3 | 3 | 4 | 1 | 2 | 235 | 3" AC | | | |
| Sidwell Lane | 204-dead end | Lexington | 2 | 2 | 5 | 2 | 2 | 4 | 1 | 2 | 235 | 2" PVC | | | |
| E Main St | MLK to Richmond Rd | Lexington | 1 | 1 | 2 | 5 | 4 | 1 | 1 | 4 | 230 | 12" and 16" CI; 2x16" from 1900 and 1909 | | | CASE YEAR 5 |
| Wilson St | Curley to Eastern | Lexington | 1 | 1 | 2 | 5 | 4 | 2 | 1 | 2 | 230 | | | QIP YEAR 4 | |
| Eastern Ave | E Third to E Short | Lexington | 1 | 1 | 2 | 5 | 4 | 1 | 1 | 4 | 230 | | | QIP YEAR 4 | |
| Jefferson St | W Short to W Third | Lexington | 1 | 1 | 2 | 5 | 4 | 1 | 1 | 4 | 230 | | | QIP YEAR 4 | |
| Tower Plz | Entire Street | Lexington | 1 | 1 | 2 | 5 | 4 | 2 | 1 | 2 | 230 | | | QIP YEAR 4 | |
| Cross St | Entire Street | Lexington | 1 | 1 | 2 | 5 | 4 | 2 | 1 | 2 | 230 | | | QIP YEAR 4 | |
| Patterson St | Entire Street | Lexington | 1 | 1 | 2 | 5 | 4 | 2 | 1 | 2 | 230 | | | QIP YEAR 4 | |
| Spring St | Entire Street | Lexington | 1 | 1 | 2 | 5 | 4 | 2 | 1 | 2 | 230 | | | QIP YEAR 4 | |
| Maxwell St | Broadway to Cross St | Lexington | 1 | 1 | 2 | 5 | 4 | 1 | 1 | 4 | 230 | | | QIP YEAR 4 | |
| Eastland Parkway | E Cantrill Dr - Biloxi Ct | Lexington | 1 | 2 | 2 | 4 | 4 | 1 | 1 | 4 | 230 | 8" CI | | | |
| Pennebaker Dr | Entire Street | Lexington | 1 | 2 | 2 | 4 | 4 | 1 | 1 | 4 | 230 | 8" CI | | | |
| Bryanwood Pkwy | Entire Street | Lexington | 1 | 2 | 2 | 4 | 4 | 1 | 1 | 4 | 230 | 8" CI | | QIP YEAR 3 | |
| Old Richmond Rd | 7641-Durbin Ln | Lexington | 1 | 3 | | 4 | 3 | 3 | 1 | 4 | 230 | 4" AC; replace with 8,500' of 6" DI | | | |
| Bahama Road | 2030-Winchester Rd. | Lexington | 1 | 3 | 2 | 3 | 4 | 1 | 1 | 4 | 230 | 8" CI | | | |
| Latonia Park | Entire Street | Lexington | 1 | 1 | 2 | 3 | 4 | 4 | 1 | 4 | 230 | 2.25" CI | | | CASE YEAR 4 |
| Bellmeade Rd | Entire Street | Lexington | 1 | 1 | 2 | 3 | 4 | 4 | 1 | 4 | 230 | 2" and 6" CI | | | CASE YEAR 4 |
| Pepperhill Rd | Gingertree to Simcoe | Lexington | 2 | 2 | 2 | 3 | 4 | 1 | 1 | 4 | 230 | 8" CI | | | |
| Mirahill Dr | Entire Street | Lexington | 1 | 1 | 2 | 3 | 4 | 4 | 1 | 4 | 230 | 2.25" and 6" CI | Y | QIP YEAR 2 | CASE YEAR 5 |
| Wyse Sq | Entire Street | Lexington | 1 | 1 | 4 | 3 | 4 | 2 | 1 | 4 | 230 | 6" CI | | | |
| Osage Ct | Entire Street | Lexington | 1 | 1 | 5 | 3 | 4 | 2 | 1 | 2 | 230 | 6" CI | | | CASE YEAR 3 |
| Burton Road | 578-1457 | Georgetown | 2 | 3 | | 3 | 3 | 3 | 1 | 4 | 230 | 4" & 3" AC; replace with 10,200' of 6" DI | | | |
| Schoolhouse Lane | Entire Street | Winchester | 1 | 2 | | 2 | 2 | 4 | 5 | 2 | 230 | 2" & 3" PVC; Continuous Flushing | | | |
| Breckenwood Dr | Small Section | Lexington | 1 | 1 | | 5 | 4 | 4 | 1 | 1 | 225 | 2" CI | | | CASE YEAR 2 |
| W Main St | Vine to Old Georgetown | Lexington | 1 | 2 | | 5 | 4 | 1 | 1 | 4 | 225 | 8" CI; from 1884 | | | |
| Eastland Drive | Industry Rd-New Circle Rd | Lexington | 2 | 2 | | 4 | 4 | 1 | 1 | 4 | 225 | 8" CI | | | |
| Meadow Lane | 950-1199 | Lexington | 1 | 1 | 2 | 4 | 4 | 2 | 1 | 4 | 225 | 6" CL | | | |
| Beacon Hill Rd | 1900 Block | Lexington | 2 | 1 | 2 | 4 | 4 | 1 | 1 | 3 | 225 | 8" CI | | | CASE YEAR 2 |
| Terrace View Dr | Entire Street | Lexington | 2 | 1 | 2 | 4 | 4 | 1 | 1 | 3 | 225 | 8" CI | Y | QIP YEAR 1 | CASE YEAR 3 |
| Cardiff Ln | Entire Street | Lexington | 1 | 2 | 2 | 4 | 4 | 1 | 1 | 3 | 225 | 8" CI - 1969 | Y | QIP YEAR 3 | |
| Rebel Rd | 2000 Block + Court | Lexington | 1 | 1 | 2 | 3 | 4 | 4 | 1 | 3 | 225 | 2" CI | | | CASE YEAR 2 |
| Mulberry Dr and Ct | Entire Street | Lexington | 1 | 1 | 2 | 3 | 4 | 4 | 1 | 3 | 225 | 2" and 8" CI | Y | QIP YEAR 2 | CASE YEAR 3 |
| Waterford Park | 3200 Block | Lexington | 1 | 1 | 2 | 3 | 4 | 4 | 1 | 3 | 225 | 2.25" and 6" CI | | QIP YEAR 3 | CASE YEAR 4 |
| Fraserdale Dr | Entire Street | Lexington | 1 | 2 | 2 | 3 | 4 | 2 | 1 | 4 | 225 | 6" CI | Y | QIP YEAR 2 | |
| Ak-sar-ben Park | Entire Street | Lexington | 1 | 1 | 2 | 3 | 4 | 4 | 1 | 3 | 225 | 2" and 6" CI | Y | QIP YEAR 3 | CASE YEAR 4 |
| Codell Dr | Woodhill to Palumbo | Lexington | 1 | 1 | 2 | 3 | 4 | 4 | 1 | 3 | 225 | 8" CI | Y | QIP YEAR 2 | |
| Leesburg-Newtown Road | 100-1899 | Paris | 2 | 3 | | 3 | 3 | 3 | 1 | 3 | 225 | 4" AC | | | |
| Niagara Dr | Trout to End | Lexington | 1 | 2 | 2 | 2 | 4 | 4 | 1 | 3 | 225 | 2" and 8" CI | | QIP YEAR 4 | CASE YEAR 4 |
| Caywood Dr | Entire Street | Lexington | 1 | 2 | 1 | 4 | 4 | 1 | 1 | 4 | 220 | 8" CI | Y | QIP YEAR 2 | |
| Tateswood Dr | 600 Block | Lexington | 1 | 1 | 2 | 4 | 4 | 2 | 1 | 3 | 220 | 6" CI | | | CASE YEAR 3 |
| Turner Station Road | Entire Street | Lexington | 1 | 1 | 4 | 4 | 3 | 2 | 1 | 2 | 220 | 6" AC | | | |
| Lewis St | Entire Street | Lexington | 2 | 1 | 2 | 3 | 4 | 2 | 1 | 3 | 220 | 6" CI | | | CASE YEAR 3 |
| Kilkenny Ct | Entire Street | Lexington | 1 | 1 | 2 | 3 | 4 | 4 | 1 | 2 | 220 | 2" CI | | | CASE YEAR 3 |
| Plumtree Ct | 2400 Block | Lexington | 1 | 1 | 2 | 3 | 4 | 4 | 1 | 2 | 220 | 2.25" and 6" CI | | | CASE YEAR 4 |
| Thornberry Ct | 2400 Block | Lexington | 1 | 1 | 2 | 3 | 4 | 4 | 1 | 2 | 220 | 2.25" and 6" CI | | | CASE YEAR 4 |
| Woodlake Way | Entire Street | Lexington | 2 | 1 | 2 | 3 | 4 | 2 | 1 | 3 | 220 | 6" CI | | | CASE YEAR 4 |
| Warwick Ct | Entire Street | Lexington | 1 | 1 | 2 | 3 | 4 | 4 | 1 | 2 | 220 | 2" and 6" CI | | | CASE YEAR 4 |
| Brandon Ct | Entire Street | Lexington | 1 | 1 | 2 | 3 | 4 | 4 | 1 | 2 | 220 | 2" CI | | | CASE YEAR 4 |
| Windwood Ct | Entire Street | Lexington | 1 | 1 | 2 | 3 | 4 | 4 | 1 | 2 | 220 | 2.25" and 6" CI | Y | QIP YEAR 2 | CASE YEAR 5 |
| Winnipe Ct | Entire Street | Lexington | 1 | 1 | 2 | 3 | 4 | 4 | 1 | 2 | 220 | 2" and 6" CI | | | CASE YEAR 4 |
| Newtown Pike | 3290-3500 | Lexington | 1 | 2 | 5 | 3 | 3 | 1 | 1 | 2 | 220 | 8" AC | | | |
| Montrose Drive | Entire Street | Lexington | 1 | 1 | 2 | 4 | 4 | 1 | 1 | 4 | 215 | 8" CI; replace w/ approx. 1,000 of 8" DI | | | |
| Caywood Cir | Entire Street | Lexington | 1 | 1 | 2 | 4 | 4 | 2 | 1 | 2 | 215 | 6" CI | Y | QIP YEAR 2 | |
| Woodstock Cir | Entire Street | Lexington | 1 | 1 | 2 | 4 | 4 | 2 | 1 | 2 | 215 | 6" CI | | QIP YEAR 3 | |
| Caulder Rd | Entire Street | Lexington | 1 | 1 | 2 | 4 | 4 | 1 | 1 | 4 | 215 | | | QIP YEAR 4 | |
| Kilkenny Dr | End of Street | Lexington | 1 | 2 | 2 | 3 | 4 | 1 | 1 | 4 | 215 | 8" CI | | | |
| Moore Dr | Entire Street | Lexington | 1 | 2 | 2 | 3 | 4 | 1 | 1 | 4 | 215 | 12" CI | | | CASE YEAR 5 |
| Bassett Ave | Entire Street | Lexington | 2 | 1 | 2 | 3 | 4 | 1 | 1 | 4 | 215 | 8" CI | | IN DESIGN | |
| Stephen Foster Dr | Ox Hill to End | Lexington | 1 | 2 | 2 | 3 | 4 | 1 | 1 | 4 | 215 | 8" CI | | QIP YEAR 3 | |
| Grace Dr | Entire Street | Lexington | 1 | 2 | 2 | 3 | 4 | 2 | 1 | 2 | 215 | 6" CI | Y | QIP YEAR 3 | |
| River Park Dr | Centre Pkwy to Armstrong Mill | Lexington | 1 | 2 | 2 | 3 | 4 | 1 | 1 | 4 | 215 | 8" CI | Y | QIP YEAR 3 | |
| Lakeshore Dr | Island | Lexington | 1 | 2 | 2 | 3 | 4 | 1 | 1 | 4 | 215 | 12" CI | | | |

| | | | *Ratings (1-5)* | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Street/Project** | **Address** | **City** | **Low Pressure** | **Number of Breaks/Leaks (data from Jan 2017-June 2022)** | **Fire Flow** | **Age** | **Material Type** | **Size of Main** | **Water Quality** | **Customer Impact** | **Total Weighted Score** | **Comments** | **COMPLETE** | **QIP YEAR** | **CASE NO. 2018-00358** |
| Wilderness Rd | Entire Street | Lexington | 2 | 2 | 2 | 3 | 3 | 1 | 1 | 4 | 215 | 8" AC | | | |
| Iron Works Pike | 1600-289 | Lexington | 1 | 1 | 5 | 3 | 3 | 1 | 1 | 4 | 215 | 8" AC | | | |
| Coolidge St | Entire Street | Lexington | 1 | 1 | 4 | 2 | 4 | 2 | 1 | 4 | 215 | 6" CI | | QIP YEAR 3 | |
| Robertson St | 300 Block | Lexington | 1 | 2 | 4 | | 4 | 4 | 1 | 3 | 215 | 2" and 6" CI | | IN DESIGN | CASE YEAR 5 |
| Trepassey Ct | Entire Street | Lexington | 1 | 1 | 1 | 3 | 4 | 4 | 1 | 2 | 210 | 2.25" and 6" CI | | | CASE YEAR 5 |
| Hedgewood Ct | Whole Complex | Lexington | 1 | 1 | 2 | 3 | 4 | 2 | 1 | 4 | 210 | 6" and 8" CI | | | CASE YEAR 4 |
| Skain St | Entire Street | Lexington | 1 | 1 | 2 | 3 | 4 | 3 | 1 | 2 | 210 | | | QIP YEAR 4 | |
| Jane St | Entire Street | Lexington | 1 | 1 | 4 | 2 | 4 | 2 | 1 | 3 | 210 | 6" and 8" CI | | QIP YEAR 3 | |
| Lagonda Ave | Entire Street | Lexington | 1 | 1 | 2 | 3 | 4 | 2 | 1 | 3 | 205 | 6" CI | | | CASE YEAR 1 |
| US 25 | Hurricane Hall Rd-Lisle Rd | Lexington | 1 | 3 | | 3 | 3 | 2 | 1 | 4 | 205 | 6" AC | | | |
| Spruce St | 200 Block | Lexington | 2 | 1 | 2 | 2 | 4 | 2 | 1 | 3 | 205 | 6" CI | Y | QIP YEAR 1 | CASE YEAR 1 |
| Aqueduct Dr | Half of Street | Lexington | 1 | 1 | 2 | 3 | 4 | 1 | 1 | 4 | 200 | 8" CI | | | |
| Merrimac Dr | Entire Street | Lexington | 1 | 1 | 2 | 3 | 4 | 1 | 1 | 4 | 200 | 8" CI | Y | QIP YEAR 2 | |
| Dove Run Rd | Entire Street | Lexington | 1 | 1 | 2 | 3 | 4 | 2 | 1 | 2 | 200 | Coordination with LFUCG sewer project | | QIP YEAR 4 | |
| Newtown Pike | 4626-5022 | Lexington | 2 | 1 | | 3 | 3 | 4 | 1 | 2 | 200 | 2 1/4" AC | | | |
| Carriage Lane | Entire Street | Lexington | 1 | 2 | 2 | 3 | 3 | 1 | 1 | 4 | 200 | 8" AC | | | |
| Grassy Creek Drive | 3881-3929 | Lexington | 1 | 2 | 1 | 3 | 3 | 1 | 1 | 4 | 190 | 8" AC | | | |
| Elk Lake | | Owenton | 2 | 1 | | 3 | 2 | 3 | 1 | 5 | 190 | Various water mains | | | |
| Georgetown Rd | 6000-14200 | Owenton | 2 | 1 | | 3 | 2 | 3 | 1 | 4 | 185 | 4" | | | |
| Leestown Road | Scott Co. | Georgetown | 1 | 3 | 2 | 2 | 2 | 1 | 1 | 3 | 180 | 8" C900 PVC | | | |
| Carrick Pike | 100-1698 | Georgetown | 1 | 3 | 1 | 2 | 2 | 1 | 1 | 4 | 175 | 8" C900 & PVC | | | |
| Deer Haven Lane | 1000-1361 | Lexington | 1 | 2 | 2 | 2 | 2 | 1 | 1 | 4 | 170 | 12" PVC | | | |
| KY 330 | 2600 | Owenton | 2 | 1 | | 3 | 2 | 2 | 1 | 2 | 165 | Road has slipped and affected the ability to maintain the main | | | |

## QIP Contractors Contact Information

| Contractor | Main Contact Person | Person to Copy | Additional Person to Copy | Additional Person to Copy |
|---|---|---|---|---|
| **CJ Hughes** [redacted] | Dave Combs [redacted] | Shawn Clark [redacted] | Chris Combs [redacted] | CJH Bids [redacted] |
| **Dix Construction Mgt.** [redacted] | Justin Dix [redacted] | Tracie Thom [redacted] | [redacted] | |
| **Ed Hall** [redacted] | Tyler Hall [redacted] | Ed Hall [redacted] | Bob Walters [redacted] | |
| **Infrastructure Systems** [redacted] | Jon Stalker [redacted] | | | |
| **Lagco, Inc.** [redacted] | Bruce Kuntz [redacted] | Jarrod Conn [redacted] | Blake Johnson [redacted] | |
| **Little Creek Construction** [redacted] | Tom Colley [redacted] | Becky Tolliver [redacted] | Ellen Colley [redacted] | |
| **MAC Construction** [redacted] | John Kraft [redacted] | | | |
| **Revivify** [redacted] | David Treece [redacted] | Brett Collins [redacted] | | |
| **RT Infrastructure** [redacted] | Jason Tirey [redacted] | | | |
| **TFH, LLC** [redacted] | Zane Friley [redacted] | Tom Friley [redacted] | | |
| **Todd Johnson** [redacted] | Jeremy Johnson [redacted] | Linda Johnson [redacted] | Hunter Jefferies [redacted] | Amanda Johnson [redacted] |
| **HG Wilson & Sons Contracting** [redacted] | Chris [redacted] | | | |
| **Tri State Paving** [redacted] | David Corns [redacted] | Bill Corns [redacted] | | |

| QIP Year | Project Name | WBS Number(s) | Total Linear Feet | Estimated Project Cost | Total Project Cost as of June 30, 2022 | Variance as of June 30, 2022 | Plant Additions July 2022-January 2023 | Variance including July 2022-January 2023 | Reason for Variance |
|---|---|---|---|---|---|---|---|---|---|
| 2 | Thistleton Circle | R12-02B2.20-P-0020 | 276 | $73,140 | $32,019 | ($41,121) | $0 | ($41,121) | **Reason for Variance:** Actual linear footage installed was less than estimated. Water main installation work performed by Kentucky American Water crews. |
| 2 | Crosskeys Court | R12-02B2.20-P-0021 | 230 | $60,950 | $50,801 | ($10,149) | $0 | ($10,149) | **Reason for Variance:** Water main installation work was performed by Kentucky American Water crews. Actual linear footage installed was less than estimated, and the water main was able to be installed largely in the utility strip rather than under pavement, both of which resulted in cost savings. |
| 2 | Croyden Court | R12-02B2.20-P-0022 | 482 | $127,730 | $159,471 | $31,741 | $0 | $31,741 | **Reason for Variance:** Estimated cost included 4' paving width; actual pavement required was full curb-to-curb width plus all cul-de-sacs. Water main installation work performed by Kentucky American Water crews. |
| 2 | Fairway - Phase I | R12-02B2.20-P-0010 R12-02B2.21-P-0050 R12-02B2.21-P-0051 | 2,940 | $775,000 | $1,191,832 | $416,832 | $84,591 | $501,423 | **Reason for Variance:** Additional cold patch (temporary asphalt) was required along the entire length of the project prior to final pavement restoration**.** Proposed connection points along Henry Clay Blvd required full intersection pavement restoration. More service lines required replacement compared to estimated. |
| 2 | Wyatt Avenue | R12-02B2.20-P-0024 R12-02B2.21-P-0028 R12-02B2.21-P-0029 R12-02B2.21-P-0030 | 4,050 | $1,532,500 | $1,134,090 | ($398,410) | ($1,941) | ($400,351) | **Reason for Variance:** Actual linear footage installed was less than estimated. Amount of pavement restoration required was in line with pavement restoration estimates. Pending final paving. |
| 2 | Bluegrass/Highlawn | R12-02B2.20-P-0026 | 1,017 | $625,000 | $359,423 | ($265,577) | ($2,762) | ($268,339) | **Reason for Variance:** Actual linear footage installed was less than estimated. Post-June 30 paving restoration work is not reflected in total project cost. The paving for this project is being cost-shared with LFUCG. |
| 2 | Codell Drive | R12-02B2.20-P-0027 R12-02B2.21-P-0036 R12-02B2.21-P-0037 | 5,476 | $1,312,500 | $1,408,343 | $95,843 | $251,917 | $347,760 | **Reason for Variance:** Approximately 250 additional linear feet of main were installed compared to estimated. Amount of pavement restoration required was in line with pavement restoration estimates. |
| 2 | N Ashland/Aurora | R12-02B2.20-P-0028 R12-02B2.21-P-0034 R12-02B2.21-P-0035 | 5,255 | $1,000,000 | $698,858 | ($301,142) | $791,595 | $490,453 | **Reason for Variance:** Approximately 800 additional linear feet of main were installed compared to estimated. |
| 2 | National Avenue | R12-02B2.20-P-0029 | 3,100 | $875,000 | $806,461 | ($68,539) | ($59,034) | ($127,573) | **Reason for Variance:** Some paving was completed in fall 2022. Pending final paving in spring 2023. |
| 2 | Whitney/Ash | R12-02B2.20-P-0030 R12-02B2.21-P-0039 R12-02B2.21-P-0040 R12-02B2.21-P-0041 R12-02B2.21-P-0042 R12-02B2.21-P-0043 | 6,720 | $1,650,000 | $2,017,587 | $367,587 | $1,002,936 | $1,370,523 | **Reason for Variance:** Approximately 120 additional linear feet of main were installed compared to estimated. Additional cold patch (temporary asphalt) was required along the entire length of the project prior to final pavement restoration. Nearly all service lines required replacement compared to estimated. |
| 2 | Clays Mill Road - Phase II | R12-02B2.21-P-0018 R12-02B2.21-P-0019 R12-02B2.21-P-0020 | 7,220 | $1,575,000 | $1,804,892 | $229,892 | $259,317 | $489,209 | **Reason for Variance:** Additional main installation costs required due to a storm sewer alignment change. Additional costs incurred on project to uncover valve boxes covered by LFUCG's roadway contractor during project. The paving for this project is being cost-shared with LFUCG. |
| 2 | Montclair Drive | R12-02B2.21-P-0002 | 2,200 | $550,000 | $527,192 | ($22,808) | $245,670 | $222,862 | **Reason for Variance:** Curb-to-curb paving was required, although the paving for this project was cost-shared with LFUCG. |
| 2 | Summit Drive | R12-02B2.21-P-0003 R12-02B2.21-P-0052 R12-02B2.21-P-0053 | 2,850 | $725,000 | $788,952 | $63,952 | $148,250 | $212,202 | **Reason for Variance:** Kentucky American Water encountered several brittle house service lines that failed upon re-connection. Curb-to-curb paving was required, although the paving for this project was cost-shared with LFUCG. |
| 2 | Valley Farm | R12-02B2.21-P-0015 | 5,306 | $1,350,000 | $1,437,054 | $87,054 | $181,753 | $268,807 | **Reason for Variance:** Estimated cost included 5' paving width; actual pavement required was full lane width (~8'). |
| 2 | Colchester/Barksdale | R12-02B2.21-P-0016 R12-02B2.21-P-0031 R12-02B2.21-P-0032 R12-02B2.21-P-0033 | 3,555 | $925,000 | $911,958 | ($13,042) | $284,044 | $271,002 | **Reason for Variance:** Actual linear footage installed was less than estimated. Estimated paving cost included 5' paving width; actual pavement required was full lane width (~8'). |

| QIP Year | Project Name | WBS Number(s) | Total Linear Feet | Estimated Project Cost | Total Project Cost as of June 30, 2022 | Variance as of June 30, 2022 | Plant Additions July 2022-January 2023 | Variance including July 2022-January 2023 | Reason for Variance |
|---|---|---|---|---|---|---|---|---|---|
| 2 | Campbell Lane | R12-02B2.21-P-0004 | 507 | $275,000 | $222,708 | ($52,292) | $25,405 | ($26,887) | **Reason for Variance:** Actual linear footage installed was less than estimated. |
| 2 | Westgate/Hamilton Park | R12-02B2.21-P-0005 R12-02B2.21-P-0054 | 3,600 | $900,000 | $609,347 | ($290,653) | $1,288,405 | $997,752 | **Reason for Variance:** Estimated paving cost included 5' paving width; actual pavement required was full curb-to-curb in most areas. |
| 2 | Lancelot | R12-02B2.21-P-0007 R12-02B2.21-P-0055 | 2,500 | $617,500 | $612,822 | ($4,678) | $497,688 | $493,010 | **Reason for Variance:** Estimated paving cost included 5' paving width; actual pavement required was full curb-to-curb in most areas. |
| 2 | Kilrush/Caywood | R12-02B2.21-P-0008 R12-02B2.21-P-0056 R12-02B2.21-P-0057 R12-02B2.21-P-0058 | 5,239 | $1,567,500 | $1,012,319 | ($555,181) | $1,155,123 | $599,942 | **Reason for Variance:** Estimated paving cost included 5' paving width; actual pavement required "parking lane widths" of ~6' plus all intersections and full cul-de-sac bulbs. |
| 2 | Merrimac/Fogo/Crewe | R12-02B2.21-P-0012 R12-02B2.21-P-0044 R12-02B2.21-P-0045 | 3,041 | $860,000 | $484,693 | ($375,307) | $966,571 | $591,264 | **Reason for Variance:** Estimated paving cost included 5' paving width; actual pavement required "parking lane widths" of ~6' plus all intersections and full cul-de-sac bulbs. |
| 2 | Tisdale/Fraserdale | R12-02B2.21-P-0013 R12-02B2.21-P-0059 R12-02B2.21-P-0060 | 5,056 | $1,322,500 | $1,575,173 | $252,673 | $128,819 | $381,492 | **Reason for Variance:** Estimated paving cost included 5' paving width; actual pavement required "parking lane widths" of ~6' plus all intersections and full cul-de-sac bulbs. |
| 2 | Montavesta Road | R12-02B2.21-P-0009 R12-02B2.21-P-0046 R12-02B2.21-P-0047 R12-02B2.21-P-0048 R12-02B2.21-P-0049 | 3,904 | $1,087,500 | $374,878 | ($712,622) | $443,507 | ($269,115) | **Reason for Variance:** Paving restoration is scheduled for spring of 2023. Water main installation work was performed by Kentucky American Water crews. |
| 3 | Birkenhead Dr/Ct | R12-02B2.21-P-0014 | 1700 | $450,500 | | | $694,795 | $244,295 | **Reason for Variance:** Estimated paving cost included 8' paving width; actual pavement required was in line with widths but also included intersections and full cul-de-sac bulbs. |
| 3 | Cardiff Dr | R12-02B2.21-P-0062 | 1100 | $291,500 | | | $307,524 | $16,024 | **Reason for Variance:** Estimated paving cost included 8' paving width; actual pavement required was in line with widths but also included intersections and full cul-de-sac bulbs. |
| 3 | Aldershot Dr | R12-02B2.21-P-0063 | 1200 | $318,000 | | | $389,414 | $71,414 | **Reason for Variance:** Estimated paving cost included 8' paving width; actual pavement required was in line with widths but also included intersections and full cul-de-sac bulbs. |
| 3 | Cardigan Ct | R12-02B2.21-P-0064 | 500 | $132,500 | | | $195,817 | $63,317 | **Reason for Variance:** Estimated paving cost included 8' paving width; actual pavement required was in line with widths but also included intersections and full cul-de-sac bulbs. |
| 3 | Colonial Dr | R12-02B2.21-P-0010 | 2400 | $636,000 | | | $538,911 | ($97,089) | **Reason for Variance:** Project is still underway, pending completion of restoration work in spring 2023. |
| 3 | Standish Way | R12-02B2.21-P-0065 | 2200 | $583,000 | | | $266,134 | ($316,866) | **Reason for Variance:** Project is still underway, pending completion of restoration work in spring 2023. |
| 3 | River Park Dr | R12-02B2.21-P-0070 | 1950 | $516,750 | | | $525,864 | $9,114 | **Reason for Variance:** Project is still underway, pending completion of service line and restoration work. This area is a potential paving cost-share with LFUCG. |
| 3 | Golden Gate Park | R12-02B2.21-P-0071 | 500 | $132,500 | | | $74,705 | ($57,795) | **Reason for Variance:** Project is still underway, pending completion of service line and restoration work. This area is a potential paving cost-share with LFUCG. |
| 3 | Atokad Park | R12-02B2.21-P-0072 | 650 | $172,250 | | | $96,973 | ($75,277) | **Reason for Variance:** Project is still underway, pending completion of service line and restoration work. This area is a potential paving cost-share with LFUCG. |
| 3 | Beulah Park Ct | R12-02B2.21-P-0073 | 350 | $92,750 | | | $71,897 | ($20,853) | **Reason for Variance:** Project is still underway, pending completion of service line and restoration work. This area is a potential paving cost-share with LFUCG. |
| 3 | Ak Sar Ben Park | R12-02B2.21-P-0074 | 800 | $212,000 | | | $105,421 | ($106,579) | **Reason for Variance:** Project is still underway, pending completion of service line and restoration work. This area is a potential paving cost-share with LFUCG. |

| QIP Year | Project Name | WBS Number(s) | Total Linear Feet | Estimated Project Cost | Total Project Cost as of June 30, 2022 | Variance as of June 30, 2022 | Plant Additions July 2022-January 2023 | Variance including July 2022-January 2023 | Reason for Variance |
|---|---|---|---|---|---|---|---|---|---|
| 3 | Ascot Park | R12-02B2.21-P-0075 | 750 | $198,750 | | | $102,260 | ($96,490) | **Reason for Variance:** Project is still underway, pending completion of service line and restoration work. This area is a potential paving cost-share with LFUCG. |
| 3 | Kentucky Ave South | R12-02B2.21-P-0076 | 1500 | $397,500 | | | $888,523 | $491,023 | **Reason for Variance:** Nearly all service lines along this road required full replacement and additional plumbing services. This area is a temporary concrete restoration pilot project with LFUCG. |
| 3 | Kentucky Ave North | R12-02B2.21-P-0077 | 1570 | $416,050 | | | $513,730 | $97,680 | **Reason for Variance:** Nearly all service lines along this road required full replacement and additional plumbing services. This area is a temporary concrete restoration pilot project with LFUCG. |
| 3 | Woodland Ave North | R12-02B2.21-P-0078 | 1600 | $424,000 | | | $628,073 | $204,073 | **Reason for Variance:** Nearly all service lines along this road required full replacement and additional plumbing services. This area is a temporary concrete restoration pilot project with LFUCG. |
| 3 | American Ave | R12-02B2.21-P-0079 | 2100 | $556,500 | | | $329,110 | ($227,390) | **Reason for Variance:** Project is still underway, pending completion of service line and restoration work. |
| 3 | Southern Ave | R12-02B2.21-P-0080 | 650 | $172,250 | | | $64,033 | ($108,217) | **Reason for Variance:** Project is still underway, pending completion of service line and restoration work. |
| 3 | Camden Ave | R12-02B2.21-P-0081 | 550 | $145,750 | | | $53,526 | ($92,224) | **Reason for Variance:** Project is still underway, pending completion of service line and restoration work. |
| 3 | Stanley Ave | R12-02B2.21-P-0082 | 400 | $106,000 | | | $55,201 | ($50,799) | **Reason for Variance:** Project is still underway, pending completion of service line and restoration work. |
| 3 | Lone Oak Dr/Southbend Dr | R12-02B2.21-P-0083 | 1750 | $463,750 | | | $244,908 | ($218,842) | **Reason for Variance:** Project is still underway, pending completion of service line and restoration work. |
| 3 | Canonero/Gunbow/Personality | R12-02B2.21-P-0097 | 1340 | $355,100 | | | $370,590 | $15,490 | **Reason for Variance:** Project is still underway, pending completion of service line and restoration work. |
| 3 | Derby Dr | R12-02B2.21-P-0100 | 890 | $235,850 | | | $39,668 | ($196,182) | **Reason for Variance:** Project is still underway, pending completion of restoration work in spring 2023. |
| 3 | Chrysalis Ct | R12-02B2.22-P-0007 | 350 | $92,750 | | | $106,679 | $13,929 | **Reason for Variance:** Slight additions to materials and pavement quantities. |
| 3 | Toner St/Sheila Ct/Harken Ct | R12-02B2.22-P-0010 | 900 | $238,500 | | | $330,838 | $92,338 | **Reason for Variance:** Nearly all service lines along this road required full replacement and additional plumbing services. This area is a historic area and additional protection measures were needed during restoration. |
| 3 | Elsmere Park | R12-02B2.22-P-0011 | 850 | $225,250 | | | $402,293 | $177,043 | **Reason for Variance:** Nearly all service lines along this road required full replacement and additional plumbing services. This area is a historic area and additional protection measures were needed during restoration. |

| Total Linear Feet / Total Miles | Total Estimated Project Costs | Total Project Costs as of June 30, 2022 | Total Variances | Plant Additions July 2022-January 2023 | Variance including July 2022-January 2023 |
|---|---|---|---|---|---|
| 103,074<br>19.5 | $27,352,570 | $18,220,871 | -$1,565,949 | $15,088,742 | $5,957,043 |