PETITIONER'S EXHIBIT GS-1

TENNESSEE-AMERICAN WATER COMPANY, INC

DOCKET NO. 22- 00072

DIRECT TESTIMONY

OF

GRADY STOUT, P.E.

ON

CHANGES TO THE QUALIFIED INFRASTRUCTURE IMPROVEMENT PROGRAM RIDER, ECONOMIC DEVELOPMENT INVESTMENT RIDER AND SAFETY AND ENVIRONMENTAL COMPLIANCE RIDER

SPONSORING PETITIONER'S EXHIBITS

Petitioner's Exhibit 2022 SCEP – GS

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Grady Stout and my business address is 1500 Riverside Drive, Chattanooga, Tennessee 37406.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by the Tennessee-American Water Company ("TAWC" or "Company") in the role of Director, Engineering.

Q. HAVE YOU PREVIOUSLY FILED TESTIMONY BEFORE THIS OR ANY OTHER COMMISSION?

A. Yes. I submitted testimony in a number of TPUC matters, including Docket Nos. 20-00011, 20-00128, 21-00030, and 22-00021.

Q. PLEASE STATE YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND.

I received a B.S. degree in Civil Engineering from Tennessee Technological University in 2011. I am a licensed Professional Engineer in the State of Tennessee. Upon graduation from Tennessee Technological University, I began working with Tysinger, Hampton, & Partners, an engineering consultant firm in Johnson City, Tennessee. While with this firm, I served as the inspector over the Little Milligan Water System project that included the installation of wells, a chemical building, a storage tank, and distribution system. In 2012, after the project was complete, I became a Construction Project Manager for Bob Stout Construction Company, Inc. In this role I was the project manager of a 16" water main replacement project. I began working with TAWC in 2013 as an Engineer in the Engineering Department. My primary role was to design and manage water main replacements and other production projects in the Chattanooga, Whitwell, and Suck Creek

districts of TAWC. In 2016, I was promoted to Project Manager. In this role I had both engineering and managerial responsibilities, along with managing relationships of key stakeholders, elected officials, and regulators. In 2019, I was again promoted to Manager of Engineering of TAWC. In January 2020, I was promoted to Interim Vice President of Operations. After serving as Interim Vice President of Operations until April of 2020, I returned to my duties of Manager of Engineering. In May of 2022 I was promoted to Director, Engineering. I am an active member of American Water Works Association (AWWA), American Society of Civil Engineers (ASCE), and served as the 2020 President of the Chattanooga Engineer's Club.

Q. WHAT ARE YOUR DUTIES AS DIRECTOR, ENGINEERING?

A. I am responsible for the coordination and administration of the TAWC Engineering Department. This includes the planning, development, and implementation of all aspects of construction projects. My responsibilities include working with developers for all new main extensions, replacement of existing mains, water treatment plant upgrades and modifications, as well as new construction and improvement to network facilities. I also coordinate technical assistance to all other TAWC departments as needed and oversee the capital budget development and implementation. I report directly to the President of TAWC.

Q. WHAT TOPICS WILL YOUR TESTIMONY ADDRESS?

A. In addition to describing TAWC's Capital Investment Plan, I will present the planned investment Qualified Infrastructure Investment Program Rider ("QIIP"), Economic

Development Investment ("EDI") Rider, and the Safety and Environmental Compliance ("SEC") Rider for 2022.

Q. PLEASE DESCRIBE TAWC CAPITAL INVESTMENT PLAN FOR THE FORECAST PERIOD?

A. The Company's Capital Investment Plan can be divided into two distinct areas: 1) Recurring Projects ("RP") and 2) Major Projects identified as Investment Projects ("IP"). Typically, Major Projects are those having a Company investment of $250,000 or greater. A copy of the 2022 Strategic Capital Expenditures Plan ("SCEP") is attached to my testimony as **Petitioner's Exhibit 2022 SCEP – GS.**

Q. HOW IS THE CAPITAL INVESTMENT PLAN DEVELOPED?

A. Capital planning needs are addressed in both the short term (one year) and longer term (five years). Projects are prioritized using objective criteria that validate the need for a project and assess the risk of not performing the project. A key component of this planning technique is that it is flexible and can be adjusted when required to address new needs, such as unplanned equipment failures, large or sudden growth of a service area, or new regulatory requirements. TAWC's Engineering Department develops a proposed capital budget with input from Operations Supervisors and Project Managers and then shares the plan with the TAWC President and the TAWC Vice President of Operations for their review and approval. The proposed capital budget is also shared with the American Water Works Service Company ("AWW" or "Service Company") for review of the reasonableness of the projects proposed and their forecasted costs. Although the Service Company may make suggestions with respect to that budget, TAWC ultimately determines

the Capital Investment Plan and approves the plan. This process is the basis for the capital expenditures reflected in the Company's Investment Plan.

Q. PLEASE DESCRIBE THE RECURRING PROJECTS THAT ARE INCLUDED WITHIN THE COMPANY'S CAPITAL INVESTMENT PLAN AS IT RELATES TO THE QIIP, EDI AND SEC PROGRAMS?

A. The Recurring Projects that are included within the Company's Capital Investment Plan and are related to the riders includes smaller main projects for reinforcement and replacement, replacement of hydrants and valves, service line and meter setting replacements, security improvements, plant control improvements, projects to replace and maintain treatment facilities and equipment and new mains, hydrants and valves to assist with economic development.

Q. PLEASE DESCRIBE THE FACTORS USED IN THE PREPARATION OF THE FORCAST PERIOD AS IT RELATES TO THE RECURRING PROJECTS THAT ARE INCLUDED WITHIN THE COMPANY'S CAPITAL INVESTMENT PLAN?

A. TAWC uses engineering criteria based on accepted engineering standards and practices to determine the amount of work needed on the distribution system or the treatment facilities that provide adequate capacity and appropriate levels of reliability. The identified work will enable TAWC to provide safe, adequate and reliable service to its Customers to meet their domestic, commercial and industrial needs; provide flows adequate for fire protection; and satisfy all regulatory and safety requirements. The criteria for evaluating the need for the recurring projects include engineering requirements; consideration of national, state, and local trends; environmental impact evaluations; and water resource management. The

criteria are developed from regulations, professional standards and TAWC engineering policies and procedures.

Main replacement projects or new main installations are designed to meet two conditions of service. They are expected to deliver projected peak hour Customer demands while maintaining system pressures at 25 psi or greater in accordance with TPUC pressure requirements (Chapter 1220-4-3.41) and to provide adequate fire flow identified by the Insurance Services Office (ISO) while maintaining distribution system pressure at 20 psi or greater.

TAWC utilizes historical and forecasted data to develop the program costs based on the determined level of work for each RP line.

Q. PLEASE DESCRIBE HOW INVESTMENT PROJECTS ARE INCLUDED WITHIN THE COMPANY'S CAPITAL INVESTMENT PLAN?

A. Investment Projects (IP) are typically projects greater than $250,000 that the Company describes as Major Projects. These projects represent investments that are needed to meet environmental or water quality regulations, infrastructure capacity expansion or rehabilitation and to ensure a safe working environment. These projects allow the Company to ensure that they are able to meet the service demands of the community, ensure regulatory compliance and ensure the reduction of asset failure.

This determination of including an IP within the investment plan starts with a process that begins with the development of the anticipated demand projections of the system, the identification of improvements needed to meet those demands and a review of the current facilities located in the system. This process is documented through the Comprehensive Planning Study ("CPS") and is the basis for the development of Ips. TAWC utilizes the

CPS study along with a review of changes in the needs of the system that may have occurred since the development of the CPS and develops the schedule of projects within the Capital Investment Plan. TAWC plans these to bring about the correct prioritization and distribution of capital spending for the various needs of the business.

Q. IN DEVELOPING ITS CAPITAL INVESTMENT PLAN, DOES THE COMPANY CONSIDER CUSTOMER IMPACT IN ADDITION TO CUSTOMER BENEFIT?

A. Yes. The Capital Investment Plan takes into account historical spending as well as proposed improvements as documented through the CPS and knowledge of other current system needs. During the planning process, projects are strategically staggered over a five-year period to balance spending and ensure TAWC continues to provide safe, adequate, and reliable service to its Customers. Projects are chosen and scheduled in a prudent manner in order to balance the critical need for replacing aging infrastructure with system safety and reliability as well as Customer benefit.

Q. PLEASE DESCRIBE THE COMPANY'S RECENT PERFORMANCE FOR ITS CAPITAL INVESTMENT PLAN DURING THE USE OF QIIP, EDI AND SEC PROGRAMS?

A. TAWC is projecting to deliver its capital investment plan with the QIIP, EDI, and SEC programs during the period of 2014 to 2021 by slightly exceeding the budget by 2.17% on a cumulative basis over the period. Net capital rider investment budgets, actual capital investment deliveries, and variances to budgets by year are shown in the table below.

TAWC Net Rider Budget vs Actual Rider Capex for 2014 through 2021				
Year	Budget	Actual	Variance	
2014	$ 18,337,559	$ 18,205,874	$ (131,685)	-0.72%
2015	$ 17,539,272	$ 19,160,770	$ 1,621,498	9.24%
2016	$ 12,429,427	$ 12,940,387	$ 510,960	4.11%
2017	$ 12,033,965	$ 12,323,574	$ 289,609	2.41%
2018	$ 13,053,960	$ 13,546,799	$ 492,839	3.78%
2019	$ 19,285,896	$ 18,843,693	$ (442,203)	-2.29%
2020	$ 23,205,517	$ 22,340,421	$ (865,096)	-3.73%
2021	$ 16,699,656	$ 18,102,887	$ 1,403,231	8.40%
Cumulative	$ 132,585,252	$ 135,464,405	$ 2,879,153	2.17%

Since the inception of the Capital Riders, over 135 million dollars have been invested in critical water infrastructure projects which support the safety and reliability of the TAWC treatment and distribution systems for its Customers. The Capital Riders have also assisted the Company in achieving regulatory compliance with zero notices of violation. For example, during 2014 and 2015, the Company constructed a dewatering facility to ensure regulatory compliance with revised wastewater effluent standards under the City of Chattanooga's EPA Wastewater Consent Decree. The new facility reduced naturally occurring levels of zinc in the Citico Plant's effluent to ensure the City and the Company achieved compliance with pretreatment standards under the Wastewater Consent Decree. Adherence to capital management processes have allowed the Company to manage this budget very closely to the yearly net rider budget and minimize deviations in the capital investment plan for the QIIP, EDI, and SEC programs. This shows that the capital riders are working as intended for the benefit of the Company's Customers, the community, and TAWC .

Q. CAN YOU ELABORATE ON THE YEARLY VARIANCES BETWEEN THE NET RIDER BUDGET AND THE NET RIDER ACTUAL?

A. Certainly. Since 2014, the Company has been able to successfully manage rider eligible projects to within 2.17% of budgeted costs on a cumulative basis. These variances have been kept very low because the Company uses a highly structured program to monitor project progress and spend. Countless variables can impact the cost and progress of capital projects. These variables include, but are not limited to, weather, fluctuations in material costs, special permitting requirements, site conditions, and availability of construction crews. During the year, capital expenditures are closely managed to ensure estimated project costs and schedules are met. Closely monitoring these project costs and schedules has allowed the Company to very accurately deliver the capital budgets it has proposed.

Q. HOW DOES THE RIDER SPEND PROPOSED FOR 2022 COMPARE TO PRIOR YEARS?

A. On a net basis, the budgeted rider spend for 2022 is estimated to be approximately $20.4M. This is about $2.3M more than the actual amount for 2021 and $1.9M less than the actual spend in 2020. See the table below for historical net rider spend since 2014.

TAWC Net Rider Capex 2014 - 2022		
Year	Budgeted	Actual
2014		$18,205,874
2015		$19,160,770
2016		$12,940,387
2017		$12,323,574
2018		$13,546,799
2019		$18,843,693
2020		$22,340,421
2021		$18,102,887
2022	$20,425,116	

Q. THE PROPOSED SURCHARGE ADJUSTMENT FOR 2022 IS 6.01%. WHAT CONTRIBUTES TO THIS PROPOSED ADJUSTMENT?

A. As mentioned in my testimony above, the proposed 2022 capital rider spend is more than the 2014-2021 average yearly net rider spend. However, several significant projects went in-service in the later part of 2021 and are therefore included in the 13-month average for 2022. This roll forward effect from 2021 has a significant impact on the percentage of the overall proposed surcharge for 2022.

Q. WHAT 2021 PROJECTS ARE HAVING A SIGNIFICANT IMPACT ON THE 2022 PROPOSED SURCHARGE?

A. The most significant of these projects are Filter House #2 Rehabilitation and the Replacement of the Citico High Service Header Valve. The Filter House #2 project rehabilitated the structure of Citico Filter Building, ensuring continued operational ability. The header valve project replaced valves and pipe that were in poor operating condition, and provided operational flexibility at the Citico Water Treatment Plant, increasing system resiliency. Other significant 2021 projects that impact the 2022 proposed surcharge include increased spending on several reoccurring projects or RP budget lines, including Budget Line B – Mains Replaced.

Q. WILL THESE PROJECTS IMPACT FUTURE YEARS?

A. No. These projects will roll off the 13-month average in 2022.

Q. WHAT IS THE TOTAL ROLL FORWARD AMOUNT FOR ALL OF THE PROJECTS PLACED IN-SERVICE DURING THE LATER PART OF 2021 THAT ARE INCLUDED IN THE 13-MONTH AVERAGE FOR 2022?

A. The total roll forward in-service amount from July 2021 through December of 2021 is $13,308,087

Q. CAN YOU DESCRIBE HOW THE CAPITAL INVESTMENT PLAN IS MONITORED DURING THE YEAR?

A. Since 2003, the entire American Water system has used a process for the development and review of capital expenditures that has incorporated industry best practices. TAWC, like its sister companies, has benefitted from that process. The process includes a regional Capital Program Management Committee ("CPMC") to ensure capital investment plans meet the strategic intent of the business. In turn, this process ensures that capital expenditure plans are integrated with operating expense plans and provides more effective controls on budgets and individual capital projects.

The CPMC includes TAWC's President, Vice President of Operations, Director, Engineering, Engineering Project Managers, Financial Analyst, and Capital Coordinator. The CPMC meets monthly. The CPMC receives capital expenditure plans from project managers and approves them as required by the process. Once budgets are approved, the CPMC meets monthly to review capital expenditures compared to budgeted levels. Discussions are held on variances to budgets that include the reason for the variance and suggestions to bring the budget lines back in line with the approved budget.

If changes in the budgets are required due to changes in priorities or unexpected expenditures, the CPMC reviews the request for changes and approves the movement of

available capital from other budget lines to offset the changes in the capital spend. All projects, including normal recurring items, have an identified project manager responsible for processing the stages of the project. The focus of the CPMC, along with the monthly meetings, has allowed TAWC to be more flexible with changes that inevitably occur during the course of implementation of projects while providing oversight on capital expenditures.

As an added level of coordination, a Functional Review Meeting ("FRM") Committee meets monthly to sign-off on projects and review spending. This committee includes TAWC's Vice President of Operations, the TAWC Director, Engineering, TAWC Engineering Project Managers, TAWC Operations Specialists, and the appropriate Operation supervisors and project managers. The purpose of the committee is to review projects that are moving forward to the next step of approval, or that require a change. This allows the project manager and operational area supervisors to communicate about the project on a monthly basis and help coordinate projects from initial development through in-service as compared to the approved budget and spending plan.

Both of these committees allow a continuous review of capital expenditures as unexpected projects arise or the need to adjust projects to offset delays in other projects. The use of the CPMC and FRM process allows TAWC to immediately address an increase or decrease in projected spending in each line and make appropriate adjustments to maintain the overall capital spend.

QUALIFIED INFRASTRUCTURE INVESTMENT PROGRAM

Q. WHAT IS THE QUALIFIED INTRASTRUCTURE INVESTMENT PROGRAM?

A. A substantial portion of the TAWC's distribution infrastructure is between 50 and 100 years old and is nearing the end of its useful service life. The pace of infrastructure

replacement is a continuing concern for TAWC. The anticipated level of necessary distribution infrastructure improvement projects is increasing at a rapid pace. This is due, in part, to the advanced age of the Company's water facilities. While the United States Environmental Protection Agency[1] ("EPA") has opined that the state of Tennessee will require more than $10 billion in combined water and wastewater infrastructure investment over the next 20 years, a Tennessee Department of Environment and Conversation report (the "TN H2O Report[2]") predicts an even greater need - $15.6 billion – to accommodate Tennessee's projected growth.

The Qualified Infrastructure Investment Program (QIIP) is an alternative ratemaking mechanism that allows TAWC to recover costs associated with the replacement of critical infrastructure in a more efficient manner. The QIIP more accurately reflects the ongoing investments and improvements that are made in the water distribution and production systems versus the less frequent but larger step increases that would result from a base rate increase without QIIP. The timely recovery of the fixed costs of infrastructure replacement through the QIIP provides an incentive for increased and continued levels of capital replacement. This results in a stronger and more reliable water distribution and production system for both current and future Customers. TAWC is focusing its replacement program on small diameter mains and mains that have shown a chronic level of breaks. These types

[1] *See* EPA, "Clean Watersheds Needs Survey 2012 Report to Congress," p. A-2, Table A-1 (Jan. 2016) (available at https://www.epa.gov/cwns/clean-watersheds-needs-survey-cwns-2012-report-and-data) ($1.55B for wastewater); EPA, "Drinking Water Needs Survey Sixth Report to Congress," p.36, Exhibit 2.1 (March 2018) (available at https://www.epa.gov/dwsrf/epas-6th-drinking-water-infrastructure-needs-survey-and-assessment) ($8.76B for drinking water).

[2] Tenn. Dept. of Environment and Conservation, "TN H2O: Tennessee's Roadmap to Securing the Future of Our Water Resources," p.39 (Nov. 2018) (available at https://www.tn.gov/environment/program-areas/wr-water-resources/tnh2o/the-2018-tn-h2o-plan.html) ("TN H2O Report") ("Meeting those [future infrastructure] needs and the need to repair or replace existing infrastructure will require an estimated investment of $15.6 billion between now and 2040.").

of mains are responsible for the majority of the distribution system leaks and failures. The need to replace service lines, meters, hydrants, treatment structures, pumps and equipment is critical to maintaining public safety and imperative to maintaining a reliable system.

Q. WHAT ARE THE BUDGET LINES THAT ARE INCLUDED UNDER THE QUALIFIED INFRASTRUCTURE INVESTMENT PROGRAM FOR 2021?

A. The budget lines that are included in the QIIP are Line B - Mains Replaced, Line C - Mains Unscheduled, Line D - Mains Relocated, Line F - Hydrants and Valves Replaced, Line H - Services Replaced, Line J - Meters Replaced, and Line R - Capitalized Tank Rehabilitation/Painting. These budget lines represent investment to replace aging infrastructure that is non-revenue producing. This means infrastructure that does not produce additional revenue by adding 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 MAINS REPLACED - LINE B AND WHY DOES IT FALL UNDER THE QIIP?

A. This investment plan line includes the scheduled replacement, renewal or improvement of existing water mains, including valves and other appurtenances, that are necessary to perform the work. Work under this line is the planned and scheduled proactive replacement of water main that has been determined to have reached its useful life or is causing service problems to the area serviced by the main. Water main replaced under Main Replaced – Line B will result in a stronger more reliable and resilient water distribution system. By replacing the aged water main infrastructure on an accelerated basis, and 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. TAWC believes that this type of replacement work is appropriate and should be included in the QIIP. believes that this type of replacement work is appropriate and should be included in the QIIP. believes that this type of replacement work is appropriate and should be included in the QIIP. believes that this type of replacement work is appropriate and should be included in the QIIP. believes that this type of replacement work is appropriate and should be included in the QIIP. believes that this type of replacement work is appropriate and should be included in the QIIP. believes that this type of replacement work is appropriate and should be included in the QIIP.

Q. WHAT IS THE PROPOSED REPLACEMENT SCHEDULE FOR WATER MAIN REPLACEMENTS ASSOCIATED WITH LINE B?

A. TAWC plans to spend approximately $2,250,000 to replace various size water mains within fifteen (15) projects during 2022. TAWC will replace approximately 14,235 feet of main during the period. These projects are not only important in addressing the aging infrastructure needs of the community, but also allows the Company to take a leadership role in reducing its carbon footprint. By replacing infrastructure that is leaking or has a high potential for failure, TAWC is able to reduce the amount of water that is produced and reduce the amount of electricity that is used. The overall result is a reduction in the amount of fossil fuel generation required for Company facilities.

Q. WHAT ARE THE PROPOSED PROJECTS THAT ARE INCLUDED IN THE WATER MAIN REPLACEMENTS ASSOCIATED WITH LINE B?

A. TAWC currently has included the following projects as part of the scheduled work associated with Line B:

1. Install 1,400 linear feet of 8-inch ductile iron water main along the 900 to 1200 block of Belmeade Avenue to replace 2-inch galvanized main.
2. Install 1,300 linear feet of 6-inch ductile iron main along the 4900 to 5000 block of Carolyn Lane to replace 2-inch cast iron main.
3. Install 725 linear feet of 4-inch ductile iron pipe along the 2400 block of Bird Street to replace 2-inch galvanized line.
4. Install 700 linear feet of 6-inch ductile iron main along the 3800 block of Cherwood Lane to replace 1.25-inch galvanized main.
5. Install 1,000 linear feet of 8-inch ductile iron main along the 4000 block of Ealy Road to replace 2-inch cast iron main.
6. Install 325 linear feet of 4-inch ductile iron main along the 2400 block of Wilhoit Street to replace 2-inch galvanized main.
7. Install 1,320 linear feet of 6-inch ductile iron main along the 2600-2700 blocks of E 17th Street to replace 2-inch cast iron main.
8. Install 340 linear feet of 8-inch ductile iron main and 460 linear feet of 6-inch ductile iron main along the 2800-2900 blocks of Noa Street to replace 2-inch galvanized main.
9. Install 460 linear feet of 8-inch ductile iron main along the 3200 block of South Street to replace 2-inch galvanized main.
10. Install 1,800 linear feet of 6-inch ductile iron main along the 0-100 blocks of Tuxedo Circle.
11. Install 1,120 linear feet of 6-inch ductile iron main along Portview Circle to replace 2-inch galvanized main.
12. Install 800 linear feet of 6-inch ductile iron main along the 3300 block of Idlewild Drive to replace 2-inch galvanized main.
13. Install 800 linear feet of 6-inch ductile iron main along the 2800 block of Hamby Circle to replace 1-inch galvanized main.
14. Install 1,100 linear feet of 8-inch ductile iron main along the 8000 block of Karr Street to replace 2.25-inch cast iron main.
15. Install 585 linear feet of 6-inch ductile iron main along the 100 block of Brookfield Avenue to replace 2-inch cast iron main.

Q. WHY IS THE MAJORITY OF THE MAIN BEING REPLACED CAST IRON AND GALVANIZED?

A. Within the TAWC distribution system, cast iron main and galvanized main represents approximately 47.8% of the total footage of main. However, these two types of pipe material have experienced approximately 83.2% of all the breaks within the system during the period of 2011-2021. Over the past several years, TAWC has concentrated on replacing cast iron and galvanized main to begin the process of removing the main to start to reduce the number of main breaks the system experiences. TAWC expects this effort of replacing cast iron and galvanized main will continue for several decades as the approximately 694 miles of this material is removed from the system.

Q. WHAT IMPACT HAVE MAIN REPLACEMENT PROJECTS FROM THE B LINE HAD ON CAST IRON AND GALVANIZED MAINS?

A. Between 2014 and December 2021, the percentage of galvanized and cast iron water mains in the TAWC distribution system has dropped from 54.2% in 2014 to 47.8% in December 2021. Removing these mains from the distribution system has had a positive impact on system reliability. While the overall number of main breaks have decreased, the percentage of breaks caused by galvanized and cast iron main has increased, going from a 10 year average of 83.2% to a 2021 average of 86.2%. These are indications that main replacement projects through Budget Line B are having an impact on decreasing Customer disruptions due to main breaks, but the need for replacing galvanized and cast iron remains high.

Q. WHAT IMPACTS ARE EXPECTED FROM ADDITIONAL LINE B SPENDING IN 2022?

A. It is expected that these additional main replacement projects will continue the positive trends described above. Reducing the amount of galvanized and cast iron mains in the TAWC distribution system should continue to drive down the total number of main breaks as the percentage of these pipes in the distribution system decreases. The average yearly main breaks from 2007-2013 was 458 main breaks per year. Comparatively, the average yearly main breaks from 2014-2021 was 328 main breaks per year. These trends represent a real benefit to Customers and help decrease the Company's carbon footprint.

Q. HOW DOES THE PROPOSED 2022 SPEND COMPARE TO RECENT YEARS SPEND ASSOCIATED WITH LINE B?

A. TAWC anticipates spending slightly less on main replacements during 2022 than it has in recent years. The proposed 2022 expenditures for Line B, is about $154,760 less than the five-year average taken between 2017 and 2021 of $2,404,760. This line has been increasing over the past few years to focus on replacing water mains. This increase is due to the ability of TAWC to refocus on replacing water main that is nearing its useful life following several major rehabilitation projects at the Citico Water Treatment Plant that were intended to improve the facility's ability to reliably meet regulatory requirements.

Q. DOES THE COMPANY EXPECT THAT ALL OF THE PROJECTS LISTED ABOVE WILL BE COMPLETED DURING 2022?

A. TAWC anticipates that the projects listed above will be completed during 2022. However, based on history, TAWC understands that some projects may be delayed or moved into next year due to unexpected circumstances. TAWC recognizes that implementation of the capital infrastructure program requires significant management, as project timelines may be shifted by factors outside of TAWC's control.

Q. WHY ARE CERTAIN MAIN REPLACEMENT PROJECTS DELAYED AND PLACED IN THE NEXT YEAR?

A. During the year, unexpected changes in priorities occur due to outside influences or recognition of unfavorable trends that are occurring that affects infrastructure. The majority of the changes are caused by unexpected conflicts between the Company's infrastructure and outside agency projects that require the water main in specific locations to be relocated. The other significant driver for changes in priorities involves the recognition of a trend for increasing main breaks on a section of water main that requires the main to be replaced sooner than expected. In both of these cases, a new project is initiated to address the need to relocate or replace the water main. Since these projects were not identified during the original budgeting process, the need to offset the new projects' expected costs are required to ensure that the overall Company budget is maintained. As a result, projects that were originally identified within the budget are changed or delayed to accommodate the new projects.

Q. WHAT IS THE PROCESS FOR APPROVING THESE CHANGES?

A. Throughout the year, TAWC actively manages each budget line to ensure that the overall spending is consistent with the approved budget levels. The management of the budget lines is carried out during monthly Capital Program Management Committee Meetings that compare the current capital expenditures to the budgeted levels. If changes in the budgets are required due to changes in priorities or unexpected changes in projects, the committee reviews the need for the changes and approves the movement of available capital from other budget lines to offset the changes in capital spend and maintain the overall projected spend for the year.

Q. WHAT WORK IS ASSOCIATED WITH UNSCHEDULED MAIN REPLACMENTS - LINE C AND WHY DOES IT FALL UNDER THE QIIP?

A. This investment plan item includes the unscheduled replacement or restoration of existing water mains, including valves and other appurtenances that are necessary to perform the work. The work associated with the Unscheduled Main Replacements of Line C is similar to that of Main Replaced on Line B and addresses water mains that have started to experience chronic issues. However, unlike the Main Replaced on Line B, the work associated in Line C is a result of an unexpected failure of the main or valve that causes impact to the Customer and requires immediate work to correct the failure. The nature of the work is a reaction to an unexpected event. The work associated in Line C cannot be planned and scheduled, thus TAWC considers this work as unscheduled. The majority of work associated with Line C is replacement of water mains that have experienced an unscheduled break or failure, and the Company has determined that the replacement of a section of the main will allow the service life of the main to be extended rather than just repairing the failure with a temporary clamp and replacing the main through Line B. The Company believes that this type of replacement work is appropriate and should be included in the QIIP.

Q. WHAT IS THE PROPOSED REPLACEMENT RATE FOR WATER MAIN REPLACEMENTS ASSOCIATED WITH THE UNSCHEDULED MAIN REPLACEMENTS OF LINE C?

A. TAWC plans to spend approximately $1,709,415 to replace various size water mains during unscheduled events. This number is slightly more than the five-year average of $1,704,782 for 2017-2021. While we have experienced fewer main breaks, we have seen

an increase in average cost per main break. This is largely due to an increase in restoration cost driven by material and paving ordinances changes. As we replace sections of main, the existing main will be more stable and the life of the main will be extended, which will allow for a more concentrated effort for main replacements on mains that have a larger history of breaks.

Q. WHAT BENEFIT HAS TAWC SEEN WITH THE WATER MAIN REPLACEMENTS ASSOCIATED WITH UNSCHEDULED MAIN REPLACEMENTS OF LINE C AND MAIN REPLACEMENTS OF LINE B?

A. TAWC had a 27% reduction in water main breaks during 2021 (265) when compared to the ten-year average from 2011 to 2020 (362). TAWC contributes this reduction, in part, due to the focus on replacing main with a chronic history of main breaks rather than the previous initiative of repairing mains. TAWC further believes that the reduction in the average number of main breaks between 2011 and 2021 is directly correlated to the level of spending in the Unscheduled Main Replacement of Line C and Main Replacements of Line B.

Q. WHAT WORK IS ASSOCIATED WITH MAINS RELOCATED - LINE D AND WHY DOES IT FALL UNDER THE QIIP?

A. This budget line includes the relocation of existing water mains, including valves and other appurtenances, which are necessary due to ongoing municipal or state agency projects. These costs are not reimbursable. The work associated with the Main Relocated –Line D is a replacement of infrastructure that is impacted by improvements being proposed by municipal or state agency that causes a conflict with the Company's infrastructure. The Customer benefits by work associated with the Main Relocated – Line D since the

replacement main that is installed to eliminate the conflict with the municipal or state agency projects is typically a newer main that is stronger and more reliable than the main being replaced. TAWC believes this type of relocation work is appropriate and should be included in QIIP.

Q. WHAT MAINS HAVE BEEN INDENTIFIED FOR RELOCATION THAT IS ASSOCIATED WITH LINE D?

A. TAWC plans to spend approximately $46,149 to replace various size water mains within the distribution system that is required to be relocated due to the work of a municipal or state agency. Historically, the five-year average spend (2017-2021) for this category has been $538,326. The 2022 spend is well below the five-year average. The average spend has been driven by large Tennessee Department of Transportation (TDOT) projects. TAWC is not aware of any large TDOT projects. TAWC is aware of one Chattanooga Department of Transportation (CDOT) manhole improvements project, where TAWC will require relocation of existing infrastructure.

Q. WHAT WORK IS ASSOCIATED WITH HYDRANTS AND VALVES REPLACED - LINE F AND WHY DOES IT FALL UNDER THE QIIP?

A. This line item includes the replacement of leaking, failed or obsolete hydrants, including hydrant assemblies and valves that are Company funded. Through the replacement of hydrants and valves that have been determined to not function properly through ongoing inspections allows TAWC to maintain public safety and ensure the distribution system is able to provide adequate and reliable service to the community. Since the work is associated with the replacement of infrastructure to maintain public safety and provide reliable service, the Company believes it is appropriate and should be included in QIIP.

Q. WHAT IS THE PROPOSED REPLACEMENT SCHEDULE FOR HYDRANTS AND VALVES?

A. TAWC plans to spend approximately $750,000 to replace hydrants and valves. Of this amount, TAWC plans to spend a majority of this amount on replacing 6 large diameter broken valves that have been identified during valve inspections over the past several years. The estimate to replace these valves is $490,788. Within this line, TAWC expects to replace 62 hydrants that have been determined during inspections to be damaged or in need of extensive repair. The estimate to replace these hydrants is $259,212. The amounts proposed for Line F during 2021 is higher to the 3-year average spend between 2019 and 2021 of $369,132. The increased spend is due to a focus of addressing large diameter broken valves.

Q. WHAT BENEFIT HAS LINE F SPENDING HAD ON VALVES AND HYDRANTS?

A. From 2014 through 2021, the Company has replaced 433 fire hydrants and 997 valves. These replacements are identified through routine valve and hydrants inspections, which allows TAWC to proactively replace assets found to be damaged or broken. This budget line provides a significant benefit to Customers through increased system reliability and ensures fire hydrants are ready to be operated in the event of a fire.

Q. WHAT WORK IS ASSOCIATED WITH SERVICES REPLACED - LINE H AND WHY DOES IT FALL UNDER THE QIIP?

A. This investment plan item includes the replacement of water services or the small diameter pipe that connects the Customer to the Company's distribution main. The work includes the replacement of the water service between the Company's distribution main and the Customer's property line, including the replacement of corporation stops, or shut-off

valves. The replacement of water service that is causing reduction in water service or concerns with water quality are included in the work performed within this spending line. By replacing these services, the Company can provide better service to Customers. TAWC believes this type of replacement work is appropriate to maintain reliable service to Customers and should be included in QIIP.

Q. WHAT IS THE PROPOSED REPLACEMENT SCHEDULE FOR SERVICES WITHIN LINE H?

A. TAWC plans to spend approximately $553,556 to replace services during this period. Based on the average cost per service replacement of $3,500, TAWC will replace approximately 158 services. The anticipated spend of $553,556 during 2022 is lower than the three-year average spend of $673,468 between 2019 and 2021.

Q. WHAT IS THE WORK ASSOCIATED WITH METERS REPLACED - LINE J AND WHY DOES IT FALL UNDER THE QIIP?

A. This investment plan item includes the replacement or improvement of existing Customer meters and meter settings with or without technology changes. The work associated with this spending line allows for the replacement of meters and meter settings that are nearing the end of their useful service life and could cause service disruptions or inconveniences to a Customer if they were to fail. The Company believes this type of replacement work is appropriate to maintain reliable service to a Customer and should be included in QIIP.

Q. WHAT IS THE PROPOSED REPLACEMENT SCHEDULE FOR METERS?

A. The total estimated meter replacement cost for the period is $1,852,352. Based upon an average cost of meter replacements of approximately $270 per meter, TAWC will replace approximately 6,860 meters.

Q. HOW DOES THIS COMPARE TO PAST YEARS OF METER REPLACEMENTS?

A. The proposed 2022 investment of $1,852,352 is a decrease as compared to the three-year average between 2019 and 2021 of $2,810,490. Spending on this budget line substantially increased in 2019 due to a high number of meters reaching the end of their useful life. Therefore, the three-year average is higher than normal. If you remove the above normal year of meter replacements in 2019 and look at the five-year average of 2014-2018 of $1,373,215, the 2022 spend is comparable. The transition to Automatic Meter Reading ("AMR") will be completed by 2023, providing Customers with increased confidence they are being billed correctly for the amount of water they use. Also, efficiencies gained through less manual meter reads means that Company personnel can be re-tasked to maintaining AMR equipment and be positioned to respond to Customer inquiries more efficiently.

Q. WHAT IS THE WORK ASSOCIATED WITH CAPITALIZED TANK REHABILITATION/ PAINTING – LINE R AND WHY DOES IT FALL UNDER THE QIIP?

A. This investment plan item includes the rehabilitation and painting of water storage tanks within the distribution system. Performance of periodic rehabilitation and painting of these water storage tanks maintains the ability of the water distribution system to provide reliable service and ensure the system is able to meet the demands during peak Customer demand periods and during firefighting periods. In addition, this rehabilitation work allows the system to ensure that it is able to provide safe water to its Customers. Through the rehabilitation of the tank, the system's reliability is maintained and should be included in QIIP.

Q. DISCUSS THE WORK ASSOCIATED WITH CAPITALIZED TANK REHABILITATION/ PAINTING INCLUDED WITH LINE R?

A. TAWC plans to spend $1,886,318 on three tank rehabilitations in 2022. The three tanks scheduled for rehabilitation are Missionary Ridge 1 and 3 Tanks, and Lookout Mountain 2 Tank. The three-year average for capitalized tank rehabilitation/painting is $955,076 for the years 2019 to 2021. The 2022 spend is higher than average. Rehabilitations of the Missionary Ridge 1 and 3 Tanks are capital intensive due to their large sizes.

Q. ARE THERE ANY CAPITAL INVESTMENT PROJECTS ("IP") THAT ARE INCLUDED UNDER THE QUALIFIED INFRASTRUCTURE INVESTMENT PROGRAM?

A. Yes. TAWC has two Capital Investment Projects that will be placed in service during 2022. The projects are Lookout Valley System Redundancy Piping Upgrades, and Dunlap Interconnect.

Q. CAN YOU EXPLAIN THE LOOKOUT VALLEY SYSTEM REDUNDANCY PLAN AND WHAT THE PIPING UPGRADE PROJECT CONSISTS OF AND HOW IT WILL BENEFIT CUSTOMERS?

A. Certainly. The Lookout Valley System Redundancy Plan is a multi-project plan that will span multiple years and improve reliability in TAWC's Lookout Valley Pressure System. The Lookout Valley System Redundancy Plan includes a new booster pump station, water main river crossing, multiple water storage tanks, piping upgrades, and upgrades to an existing booster pump station. The phase of the Piping Upgrades involves installing approximately 2,700 linear feet of 16-inch ductile iron pipe between the Citico Tank site, and the future Lookout Valley Booster Station. This section of main will provide the

hydraulic capacity for flows between the tank site and booster station to send water from the Citico Pressure Zone to the Lookout Valley Pressure Zone. The Piping Upgrade will improve fire flow along Moccasin Bend Road near the Moccasin Bend Wastewater Treatment Plant. The spend for this project will be approximately $581,000 and will go into service in December of 2022.

Q. IS THERE ANY DOWNSIDE OR RISK TO NOT MOVING FORWARD WITH THE LOOKOUT VALLEY SYSTEM REDUNDANCY PLAN AT THIS TIME?

A. Yes, the risks associated with not moving forward with this project can be broken down into two types. 1) System Capacity, and 2) Aging Infrastructure. The Lookout Valley System is one of the fastest growing zones for TAWC. A study was performed in 2019 that looked at current capacity and population growth for the Lookout Valley Zone. This study predicts if trends continue, the current system will be under capacity before the year 2030. The other issue is that there is a bottleneck in how the system receives its water. All water for the Lookout Valley Zone goes through a single booster station called the St. Elmo Booster Station. This booster station is over 75 years old and needs electrical improvements. To make these improvements, a redundant feed is required to serve the Lookout Valley Zone while the St. Elmo Booster Station is offline for rehabilitation.

Q. CAN YOU EXPLAIN WHAT THE DUNLAP INTERCONNECT PROJECT CONSISTS OF AND HOW IT WILL BENEFIT CUSTOMERS?

A. The Dunlap Interconnect project is for the installation of a water main and interconnect meter vault between the City of Dunlap's water system and Tennessee American Water's Whitwell water system. The project consists of approximately 5,000 linear feet of 8-inch water main along Alvin York Highway. The interconnect will allow both systems to

purchase water from the other in times of emergency. Not only does the project provide resiliency for both systems, but it will also extend service to residents in the area previously not served. The spend for this project is $682,691 and is expected to be placed into service in December of 2022.

Q. ARE THERE ANY QIIP IP PROJECTS THAT WILL START IN 2022 THAT WILL GO IN TO SERVICE IN FUTURE YEARS AFTER 2022?

A. Yes. Some projects can span multiple years from planning/design to construction completion. TAWC plans to spend an estimated $1,997,450 for design, planning, permitting, and construction on multiple projects that will go in to service after 2022.

ECONOMIC DEVELOPMENT INVESTMENT PROGRAM

Q. WHAT IS THE ECONOMIC DEVELOPMENT INVESTMENT RIDER?

A. This rider provides a mechanism to recover the operational expenses, capital costs or both related to the expansion of infrastructure for the purpose of economic development. With economic development opportunities being limited and the competition for each development fierce, the rider allows infrastructure to be expanded or enhanced to respond quickly and equitably to economic development that will benefit all of the consumers.

Q. WHAT ARE THE BUDGET LINES THAT ARE INCLUDED UNDER THE ECONOMIC DEVELOPMENT INVESTMENT RIDER?

A. The budget lines that are included in the Economic Development Investment Rider are Line A - Mains New and Line E - Hydrants and Valves New. These budget lines support the economic development of the community and place the distribution system in a position to aid new development within the service area.

Q. WHAT WORK IS ASSOCIATED WITH MAINS NEW - LINE A AND WHY IS THIS APPROPRIATE FOR THE EDI RIDER?

A. This line item includes new water mains, valves, and other appurtenances that are necessary to perform the work that assist with the economic growth of the community. This work includes the installation of new infrastructure to expand or extend the distribution system that supports economic growth in the community and is appropriate to be included within the EDI Rider.

Q. WHAT OTHER WORK IS ASSOCIATED WITH MAIN NEW – LINE A AND WHY IS THIS ADDITIONAL WORK APPROPRIATE FOR THE EDI RIDER?

A. In addition to the extension or expansion of the distribution system to assist with an economic development project, Line A work can also be related to the extension or expansion of new mains that position the distribution system to be able to support future growth of the community. In addition, Line A work includes new mains that provide new transmission capacity, provide reliability, or establish an additional pressure gradient. This work is considered appropriate for the EDI Rider because it enhances the distribution system and allows it to respond quickly to future growth of the community. These types of projects promote growth and are designed to accommodate future growth in the surrounding areas. Among other ways, the Customer benefits from these projects through their enhancement of the distribution system and improvement in reliability.

Q. WHAT IS THE PROPOSED INVESTMENT ANTICIPATED FOR NEW WATER MAIN ASSOCIATED WITH LINE A.

A. TAWC has no scheduled projects under new mains with Line A for 2022.

Q. WHAT WORK IS ASSOCIATED WITH NEW HYDRANTS AND VALVES – LINE E AND WHY IS THIS APPROPRIATE FOR THE EDI RIDER?

A. This investment plan item includes the installation of new hydrants, including hydrant assemblies and valves that are installed on existing mains or installed in conjunction with main extension projects, which are Company funded. This item generally includes all public hydrants. This work is associated with the installation of new infrastructure to foster economic development by providing new fire protection or enhancing fire protection in currently served areas. Improved infrastructure in existing older service areas, including fire protection, is a key to redevelopment in economic growth and is appropriate to be included within the EDI Rider.

Q. WHAT IS THE PROPOSED SCHEDULE FOR NEW HYDRANTS AND VALVES?

A. TAWC plans to spend approximately $181,075 on a combination of 22 new hydrants and 10 valves. This is a slightly less than the three-year average between 2019 and 2021 of $206,803. TAWC believes that with the improving economic health of the communities served the level of investment will increase to serve the growing economic development.

Q. ARE THERE ANY CAPITAL INVESTMENT PROJECTS (IP) INCLUDED UNDER THE ECONOMIC DEVELOPMENT RIDER?

A. Yes, TAWC has one Capital Investment Project that will be placed in service during 2022. That project is the Black Creek Tank Project.

Q. CAN YOU EXPLAIN WHAT THE BLACK CREEK TANK CONSISTS OF AND HOW IT WILL BENEFIT CUSTOMERS?

A. Gladly. The Black Creek Tank project is a new 150,000-gallon glass lined steel water storage tank, that will provide needed water storage and fire flow capacity for the growing community along the top of Aetna Mountain. The spend for this project will be approximately $512,135 and will go into service in June of 2022.

SAFETY AND ENVIRONMENTAL COMPLIANCE RIDER

Q. WHAT IS THE SAFETY AND ENVIORNMENTAL COMPLAINCE RIDER?

A. In addition to the need for capital investment for replacement of aging infrastructure, and the need for investment in infrastructure for economic development, water and wastewater utilities are continually faced with the additional infrastructure investment requirements to meet safety and environmental compliance mandates from state and federal government. The United States Environmental Protection Agency is continually increasing water quality standards for potable drinking water and discharge requirements for wastewater facilities. Other regulatory agencies from time to time change safety and environmental compliance requirements that lead to the need for further infrastructure investment. TAWC believes that environmental compliance investments are specifically related to the safety of the drinking water and in the public interest.

Q. WHAT ARE THE BUDGET LINES THAT ARE INCLUDED UNDER THE SAFETY AND ENVIRONMENTAL COMPLIANCE PROGRAM RIDER?

A. The budget lines that are included in the Safety and Environmental Compliance Rider are Line L - SCADA Equipment and Systems, Line M - Security Equipment and Systems and Line Q - Process Plant Facilities and Equipment. These budget lines support the improvement of safety and enhances the environmental compliance of the system.

Q. WHAT WORK IS ASSOCIATED WITH SCADA EQUIPMENT AND SYSTEMS - LINE L AND HOW IS IT RELATED TO THE SEC?

A. This investment item is for the installation or replacement of existing SCADA Equipment and Systems. The acronym SCADA can be defined in several slightly different ways. However, TAWC generally prefers the definition as System Control and Data Acquisition, which is the computerized system for monitoring and operating the treatment plants and network facilities. By making investment in the monitoring and control system for the treatment plants and the network facilities, TAWC is better positioned to meet safety and environmental requirements and is appropriate to be included in the SEC.

Q. WHAT IS THE PROPOSED INVESTMENT ANTICIPATED TO SCADA ASSOCIATED WITH LINE L?

A. TAWC plans to spend approximately $85,590 on various SCADA improvements throughout the system. A majority of the spending will be associated with replacement work at remote sites. In addition, some licensing fees are required to maintain SCADA (Supervisory Control and Data Acquisition) software. This is less than the three-year average spend of 149,924 for the years between 2019 and 2021.

Q. WHAT WORK IS ASSOCIATED WITH SECURITY EQUIPMENT AND SYSTEMS - LINE M AND HOW IS IT RELATED TO THE SEC?

A. This investment item is associated with the security equipment and systems that are employed at the TAWC facilities. This may include fencing, alarm systems, cameras, barricades, electronic detection or locking systems, software, or other assets related directly to security. These improvements allow TAWC to maintain its security system and follow the Homeland Security Directive 9 to *"develop robust, comprehensive, and fully coordinated surveillance and monitoring systems."* TAWC believes it is paramount that its facilities are monitored actively. These improvements will maintain the equipment and allow current technology to be employed in order to provide safe drinking water and protect its infrastructure, and are appropriate to be included in the SEC.

Q. WHAT IS THE PROPOSED SCHEDULE FOR SECURITY EQUIPMENT AND SYSTEMS?

A. TAWC plans to spend approximately $200,000 on a combination of upgrades to existing security systems to improve the security of the existing facilities. TAWC believes this level of spend on the installation and enhancement of the facility security systems will ensure a sufficient level of health and safety risk reduction for the Company's employees.

Q. WHAT WORK IS ASSOCIATED WITH PROCESS PLANT FACILITIES AND EQUIPMENT – LINE Q AND HOW IS IT RELATED TO THE SEC?

A. This investment line item is for the new purchase or replacement of existing components of water supply, water treatment, water pumping, water storage, and water pressure regulation facilities, including associated building components and equipment. Replacements may be planned or made because of failure or may include improvements.

Through the investment in the improvements associated with this spending line, TAWC is better positioned to comply with federal and state safety and environmental compliance requirements to provide safe and reliable water service. To facilitate compliance with federal and state requirements, these investments are appropriate to be included in the SEC.

Q. WHAT IS THE PROPOSED SCHEDULE FOR PROCESS PLANT FACILITIES AND EQUIPMENT IMPROVEMENTS WITHIN LINE Q?

A. TAWC plans to spend approximately $1,620,040 within the Process Plant Facilities and Equipment Improvements within Line Q. This level of investment is a slight decrease in the line compared with the five-year average spending of $1,685,547 over the period of 2017 to 2021. Larger items projected for 2022 include replacing the carbon in Filters 4,7 and 8 as well as Aldrich Units 3 and 4. As well as the replacement of the Influent, Back Wash, and Drain Line valve actuators for Filter House #2.

Q. BESIDES THE REPLACEMENT OF PROCESS PLANT FACILITIES AND EQUIPMENT DUE TO A FACILITY OR PIECE OF EQUIPEMENT BEING AT THE END OF ITS USEFUL LIFE, WHAT BENEFITS DOES WORK PERFORMED UNDER LINE Q PROVIDES?

A. A majority of the work performed by TAWC within Line Q is the replacement of older equipment with new equipment that is far more efficient than the original equipment. This allows TAWC to produce water more efficiently and use less electricity and allows the Company to take a leadership role in reducing its carbon footprint. TAWC has elected to include both replacement and new items in this line specifically that are critically necessary to continue to meet water quality regulations.

Q. ARE THERE ANY CAPITAL INVESTMENT PROJECTS (IP) INCLUDED UNDER THE SAFETY AND ENVIRONMENTAL COMPLIANCE RIDER?

A. Yes. The Whitwell Raw Water Intake Improvements Project is for needed repairs to the raw water intake structure located along the Sequatchie River, East of TAWC's Whitwell Water Treatment Plant. This project consists of upgrading and replacing the intake screens located in the river, installation of new intake pumps, structural and safety improvements to the intake structure, a new power supply to the intake, and access to the structure during flooding. These improvements will make the intake more resilient to allow for continued service for the Whitwell Service Area. It will also make the intake structure safer for TAWC employees during future maintenance and inspections. TAWC plans to spend $4,215,371 for this project.

Q. ARE THERE ANY SEC IP PROJECTS THAT WILL START IN 2022 THAT WILL GO IN TO SERVICE IN FUTURE YEARS AFTER 2022?

A. Yes. Some projects can span multiple years from the design and planning phase to the end of construction. TAWC plans to spend an estimated $482,800 for design, planning, permitting and construction on one IP project that will go in to service after 2022.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes.

STRATEGIC CAPITAL EXPENDITURE PLAN
PROGRAM

Business Unit	Tennessee
Revision Date	6/17/2022
Description	TN 2022 Jan-May Actuals & Jun-Dec Forecast

Business Unit	Rider	Business Unit No.	Project Title			2022 1	2	3	4	5	6
Tennessee	**None**	**DV**	**Projects Funded by Others**			**$125,947**	**$269,580**	**$8,335**	**$2,039**	**$223,628**	**$467,500**
Tennessee	EDI	A	Mains - New			2,736	(12,536)	(22,569)	(0)	(17,800)	10,000
Tennessee	QIIP	B	Mains - Replaced / Restored			279,432	440,218	13,479	(10,481)	162,495	300,000
Tennessee	QIIP	C	Mains - Unscheduled			174,865	41,571	230,978	275,580	50,559	115,000
Tennessee	QIIP	D	Mains - Relocated			0	(0)	0	0	0	225
Tennessee	EDI	E	Hydrants, Valves, and Manholes - New			(13,096)	50,428	69,169	64,696	(78,129)	17,500
Tennessee	QIIP	F	Hydrants, Valves, and Manholes - Replaced			14,624	86,940	102,964	73,370	67,613	65,000
Tennessee	None	G	Services and Laterals - New			99,980	(42,022)	473,156	282,451	183,281	207,579
Tennessee	QIIP	H	Services and Laterals - Replaced			19,904	89,225	31,480	42,065	58,566	45,000
Tennessee	None	I	Meters - New			334	9,006	0	0	88,203	6,284
Tennessee	QIIP	J	Meters - Replaced			289,505	1,676	(96)	0	0	1,047,352
Tennessee	None	K	ITS Equipment and Systems			104,047	34,921	100,797	(373)	134,459	278,893
Tennessee	SEC	L	SCADA Equipment and Systems			0	0	0	0	0	12,568
Tennessee	SEC	M	Security Equipment and Systems			(0)	2,302	0	0	0	29,698
Tennessee	None	N	Offices and Operations Centers			0	0	4,820	0	0	0
Tennessee	None	O	Vehicles			2,729	158,620	(88,831)	0	65,805	113,110
Tennessee	None	P	Tools and Equipment			3,409	0	26,622	36,599	6,539	17,649
Tennessee	SEC	Q	Process Plant Facilities and Equipment			129,722	151,987	104,824	7,923	84,760	127,773
Tennessee	QIIP	R	Capitalized Tank Rehabilitation/Painting			302	15,702	0	0	5,534	355,000
Tennessee	None	S	Engineering Studies			0	0	0	0	0	13,292
			Total Recurring Projects			1,234,440	1,297,618	1,055,127	773,869	1,035,512	3,229,423
			ACQUISITIONS								
			Total Acquisitions								
			INVESTMENT PROJECTS	**Total**	**In Service Date**						
Tennessee	SEC	I26-020051	Replace Switch Gear - Citico		11/30/2023						45,000
Tennessee	QIIP	I26-020060	Replace High Svc Header Valve - Cit		10/29/2021	110,166	31,596	169,301	3,975	71,978	25,000
Tennessee	QIIP	I26-020062	Filter House #2 Rehab		11/30/2021	24,883	45,611	5,130	(2,930)	(98)	0
Tennessee	QIIP	I26-020063	River Gorge Transmission Mains		11/30/2021	(260)	(23)	0	0	0	0
Tennessee	QIIP	I26-020064	River Gorge Booster Station		12/30/2020	(2,017)	(172)	0	0	(3,626)	0
Tennessee	QIIP	I26-020067	Lookout Valley Redun - Citico Tank		11/30/2023						450
Tennessee	QIIP	I26-020068	Lookout Valley Redun - River Crossing		11/30/2023						22,000
Tennessee	QIIP	I26-020069	Lookout Valley Redun - Piping Upgrade		12/30/2022						365,376
Tennessee	EDI	I26-020071	Black Creek Tank		6/30/2022						502,135
Tennessee	SEC	I26-020073	Citico Plant Generator Installation		12/31/2027						400
Tennessee	QIIP	I26-020074	Bonny Oaks Main Relocation		6/30/2026						0
Tennessee	EDI	I26-020076	The Bend Phase 1 - Main Ext		5/30/2023						0
Tennessee	SEC	I26-050001	Raw Water Intake Improvements - Whitwell		12/30/2022						257,371
Tennessee	SEC	I26-050003	Whitwell Clearwell		4/30/2024						19,000
Tennessee	QIIP	I26-050008	Magnolia Main Extenstion		8/30/2023						10,000
Tennessee	QIIP	I26-050009	Dunlap Interconnect		12/30/2022						184,476
Tennessee	QIIP	I26-050006	Hwy 283 Main Ext		5/27/2020	0	0	0	(1,189)	0	0
Tennessee	QIIP	I26-020045	Removal WBS		11/26/2019						0
Tennessee	QIIP	I26-020077	Lookout Valley Redun - Booster Station		11/30/2023						0
			Total Investment Projects			**$132,772**	**$77,012**	**$174,431**	**($145)**	**$68,253**	**$1,431,208**
			Contributions			0	0	(39,287)	(3,445)	(34,981)	(5,000)
			Advances			(5,476)	(600)	(405,562)	(66,854)	(472,272)	0
			Total Refunds			0	83,069	6,734	0	13,735	50,000
				Gross		**$1,367,212**	**$1,374,630**	**$1,229,559**	**$773,724**	**$1,103,765**	**$4,660,631**
						(5,476)	82,469	(438,115)	(70,299)	(493,518)	45,000
				Net		**$1,361,736**	**$1,457,099**	**$791,443**	**$703,424**	**$610,247**	**$4,705,631**
				Gross minus Post Acq		**$1,367,212**	**$1,374,630**	**$1,229,559**	**$773,724**	**$1,103,765**	**$4,660,631**
						(5,476)	82,469	(438,115)	(70,299)	(493,518)	45,000
				Net minus Post Acq		**$1,361,736**	**$1,457,099**	**$791,443**	**$703,424**	**$610,247**	**$4,705,631**

STRATEGIC CAPITAL EXPENDITURE PLAN
PROGRAM

Business Unit	Tennessee
Revision Date	6/17/2022
Description	TN 2022 Jan-May Actuals & Jun-Dec Forecast

U.S. $

Business Unit	Rider	Business Unit No.	Project Title	7	8	9	10	11	12	Total 2022
Tennessee	**None**	**DV**	**Projects Funded by Others**	**$285,500**	**$508,000**	**$426,000**	**$636,000**	**$300,000**	**$531,500**	**$3,784,030**
Tennessee	EDI	A	Mains - New	10,000	10,000	10,000	10,169			(0)
Tennessee	QIIP	B	Mains - Replaced / Restored	275,000	275,000	240,000	100,000	100,000	74,858	2,250,000
Tennessee	QIIP	C	Mains - Unscheduled	115,000	115,000	115,000	115,000	175,000	185,861	1,709,415
Tennessee	QIIP	D	Mains - Relocated	21,120	21,285	3,060	229	230	0	46,149
Tennessee	EDI	E	Hydrants. Valves. and Manholes - New	17,500	13,000	13,000	10,000	8,000	9,007	181,075
Tennessee	QIIP	F	Hydrants. Valves. and Manholes - Replaced	65,000	65,000	60,000	50,000	50,000	49,488	750,000
Tennessee	None	G	Services and Laterals - New	205,819	207,430	206,711	210,575	176,748	177,765	2,389,472
Tennessee	QIIP	H	Services and Laterals - Replaced	45,000	45,000	45,000	45,000	45,000	42,316	553,556
Tennessee	None	I	Meters - New	6,269	6,318	6,296	6,381	6,427	6,456	141,973
Tennessee	QIIP	J	Meters - Replaced	85,000	100,000	100,000	100,000	80,000	48,916	1,852,352
Tennessee	None	K	ITS Equipment and Systems	198,811	172,748	180,210	192,277	240,638	122,671	1,760,097
Tennessee	SEC	L	SCADA Equipment and Systems	0	0	59,728	13,294	0	0	85,590
Tennessee	SEC	M	Security Equipment and Systems	28,000	28,000	28,000	28,000	28,000	28,000	200,000
Tennessee	None	N	Offices and Operations Centers	5,224	0	5,246	0	0	0	15,290
Tennessee	None	O	Vehicles	0	63,177	220,352	148,891	321,360	0	1,005,212
Tennessee	None	P	Tools and Equipment	11,338	17,744	11,387	18,347	11,625	11,678	172,938
Tennessee	SEC	Q	Process Plant Facilities and Equipment	447,161	117,930	264,422	0	0	183,539	1,620,040
Tennessee	QIIP	R	Capitalized Tank Rehabilitation/Painting	275,000	260,000	255,000	245,000	245,000	229,779	1,886,318
Tennessee	None	S	Engineering Studies	13,259	13,363	13,317	13,497	13,595	13,656	93,978
										0
			Total Recurring Projects	2,110,000	2,038,994	2,262,729	1,942,659	1,801,623	1,715,491	20,497,485
			ACQUISITIONS							
			Total Acquisitions							
			INVESTMENT PROJECTS							
Tennessee	SEC	I26-020051	Replace Switch Gear - Citico	45,000	45,000	45,000	45,000	45,000	45,000	315,000
Tennessee	QIIP	I26-020060	Replace High Svc Header Valve - Cit	0	0	0	0	0	0	412,015
Tennessee	QIIP	I26-020062	Filter House #2 Rehab	0	0	0	0	0	0	72,596
Tennessee	QIIP	I26-020063	River Gorge Transmission Mains	0	0	0	0	0	0	(283)
Tennessee	QIIP	I26-020064	River Gorge Booster Station	0	0	0	0	0	0	(5,816)
Tennessee	QIIP	I26-020067	Lookout Valley Redun - Citico Tank	28,000	22,000	28,000	278,000	28,000	28,000	412,450
Tennessee	QIIP	I26-020068	Lookout Valley Redun - River Crossing	222,000	35,000	35,000	35,000	35,000	280,000	664,000
Tennessee	QIIP	I26-020069	Lookout Valley Redun - Piping Upgrade	92,000	131,000	92,000	64,000	64,000	5,000	813,376
Tennessee	EDI	I26-020071	Black Creek Tank	10,000	0	0	0	0	0	512,135
Tennessee	SEC	I26-020073	Citico Plant Generator Installation	400	400	400	400	400	400	2,800
Tennessee	QIIP	I26-020074	Bonny Oaks Main Relocation	0	0	0	0	0	0	0
Tennessee	EDI	I26-020076	The Bend Phase 1 - Main Ext	0	0	0	0	25,000	25,000	50,000
Tennessee	SEC	I26-050001	Raw Water Intake Improvements - Whitwell	662,000	560,000	684,000	684,000	684,000	684,000	4,215,371
Tennessee	SEC	I26-050003	Whitwell Clearwell	19,000	19,000	19,000	18,000	18,000	53,000	165,000
Tennessee	QIIP	I26-050008	Magnolia Main Extenstion	10,000	183,000	10,000	10,000	0	0	223,000
Tennessee	QIIP	I26-050009	Dunlap Interconnect	0	111,888	112,562	113,241	110,000	110,000	742,167
Tennessee	QIIP	I26-050006	Hwy 283 Main Ext	0	0	0	0	0	0	(1,189)
Tennessee	QIIP	I26-020045	Removal WBS	0	0	0	0	0	0	0
Tennessee	QIIP	I26-020077	Lookout Valley Redun - Booster Station	11,000	11,000	89,000	277,000	294,000	16,000	698,000
			Total Investment Projects	**$1,099,400**	**$1,118,288**	**$1,114,962**	**$1,524,641**	**$1,303,400**	**$1,246,400**	**$9,290,622**
			Contributions	(5,000)	(5,000)	(5,000)	(5,000)	0	0	(102,713)
			Advances	(590,000)	0	0	0	0	0	(1,540,764)
			Total Refunds	50,000	50,000	50,000	35,000	25,000	4,000	367,538
										0
			Gross	**$3,209,400**	**$3,157,282**	**$3,377,691**	**$3,467,300**	**$3,105,023**	**$2,961,891**	**$29,788,106**
				(545,000)	45,000	45,000	30,000	25,000	4,000	(1,275,940)
			Net	**$2,664,400**	**$3,202,282**	**$3,422,691**	**$3,497,300**	**$3,130,023**	**$2,965,891**	**$28,512,167**
			Gross minus Post Acq	**$3,209,400**	**$3,157,282**	**$3,377,691**	**$3,467,300**	**$3,105,023**	**$2,961,891**	**$29,788,106**
				(545,000)	45,000	45,000	30,000	25,000	4,000	(1,275,940)
			Net minus Post Acq	**$2,664,400**	**$3,202,282**	**$3,422,691**	**$3,497,300**	**$3,130,023**	**$2,965,891**	**$28,512,167**

STATE OF Tennessee)
)
COUNTY OF Hamilton)

BEFORE ME, the undersigned authority, duly commissioned and qualified in and for the State and County aforesaid, personally came and appeared Grady Stout, being by me first duly sworn deposed and said that:

He is appearing as a witness on behalf of Tennessee-American Water Company before the Tennessee Public Utility Commission, and if present before the Commission and duly sworn, his testimony would be as set forth in his pre-filed testimony in this matter.

Grady Stout

Sworn to and subscribed before me
this 8 day of July, 2022.

Kathryn Robinson
Notary Public

My Commission Expires: 10/20/2024

CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing was served via U.S. Mail or electronic mail upon:

Vance L. Broemel, Esq.
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Financial Division, Consumer Advocate Unit
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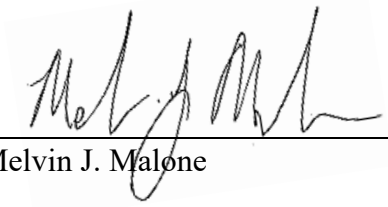
This the 8th day of July 2022.



Melvin J. Malone