EXHIBIT Q

MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH

WATER SYSTEM ASSETS

FAIR MARKET VALUE APPRAISAL

AT

JULY 8, 2022

Prepared by:

GANNETT FLEMING

Gannett Fleming
Valuation and Rate Consultants, LLC

Corporate Headquarters
207 Senate Avenue
Camp Hill, PA 17011
P 717.763.7211 | **F** 717.763.8150

gannettfleming.com

September 6, 2022

Via email to WCPackerJr@essential.co

Mr. William C. Packer
Vice President Controller
Aqua Pennsylvania, Inc.
762 W. Lancaster Ave
Bryn Mawr, PA 19010

Dear Mr. Packer:

Fair Market Value Appraisal

In accordance with your request, we have prepared a fair market value appraisal of the Municipal Authority of the Borough of Shenandoah's water system assets ("Water System") as of July 8, 2022.

Fair market value is defined as "the price, expressed in terms of cash equivalents, at which property would change hands between a hypothetical willing and able buyer and a hypothetical willing and able seller, acting at arm's length in an open and unrestricted market, when neither is under compulsion to buy or sell and when both have reasonable knowledge of the relevant facts." (The International Glossary of Business Valuation Standards)

Based on our analysis, as described in the attached appraisal report, the estimate of the fair market value of the Water System, as of July 8, 2022, is $25,221,000 (rounded).

Our appraisal was developed consistent with the Uniform Standards of Professional Appraisal Practices. Our fair market value appraisal of the Wastewater System was based on the Cost, Market, and Income Approaches to valuation. We used seven methods under the Cost, Market, and Income Approaches to valuation: Original Cost Method, Replacement Cost Method, Capitalization of Earnings Method, Market Multiple Discounted Cash Flow Method, Capitalization Discounted Cash Flow Method, Market Multiples Method, and the Selected Transactions Method.

The attached narrative appraisal presents our findings and conclusions regarding the fair market value of the Water System's assets of July 8, 2022. The report describes the valuation methodologies employed and the Exhibits that present the valuation results.

The results of the analyses and calculations completed for each applicable approach are detailed throughout the report and the Exhibits and are summarized as follows:

Valuation Approach	Indicated Value
Cost Approach	$32,959,909
Income Approach	23,862,553
Market Approach	21,419,087

We thank Aqua for this opportunity to provide valuation services in connection with the fair market value appraisal of the Water System's assets.

Respectfully Submitted,

GANNETT FLEMING VALUATION
AND RATE CONSULTANTS, LLC

HAROLD WALKER, III
Manager, Financial Studies

HW:mle

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INTRODUCTION

Introduction and Summary. The following narrative report presents our findings and conclusions regarding the fair market value of the water system assets of the Municipal Authority of the Borough of Shenandoah as of July 8, 2022. The report describes the valuation methodologies employed and the Exhibits that present the valuation results. Based upon the analyses, we believe the fair market value of the Municipal Authority of the Borough of Shenandoah's water system assets is $25.2 million ($25,221,000 rounded). This conclusion is based upon the values suggested by the Cost, Income, and Market approaches. During our analysis we found indications of value that ranged from $21.4 million to $33.0 million. However, most of the appropriate indicated values approximated $25.2 million.

Description of the Assignment. Gannett Fleming Valuation and Rate Consultants, LLC was retained by Aqua Pennsylvania, Inc. ("Aqua") to estimate the fair market value of the Municipal Authority of the Borough of Shenandoah's water system assets ("Water System") as of July 8, 2022.

Standard and Premise of Value. The fair market value appraisal of the Water System complies with the Uniform Standards of Professional Appraisal Practices, employing the cost, market, and income approaches. Fair market value is defined as "the price, expressed in terms of cash equivalents, at which property would change hands between a hypothetical willing and able buyer and a hypothetical willing and able seller, acting at arm's length in an open and unrestricted market, when neither is under compulsion to buy or sell and when both have reasonable knowledge of the relevant facts."[1]

1 The International Glossary of Business Valuation Standards

As stated, the standard of value for this engagement is fair market value. The premise of value is the going concern. The going concern premise of business value assumes that the business will continue running normally using all its assets to produce income and will continue operating beyond the valuation date.

We valued the Water System's assets as a group under the premise that the assets collectively comprise an ongoing operating business enterprise. Additionally, in accordance with 66 Pa. C.S. Section 1329, the original source of funding for any part of the Water System's assets was not relevant to the determination of the value of said assets.

Subject Interest. The consideration in this transaction is a 100% interest in the Municipal Authority of the Borough of Shenandoah's water operations, which means that the buyer would be able to control the Water System's operations going forward. This subject interest is marketable but is not a liquid interest. The binding agreement governing this transaction is the asset purchase agreement.

Intended Use of the Valuation. The intended use of the valuation is to comply with 66 Pa. C.S. Section 1329, Valuation of Acquired Water and Wastewater Systems and conduct a fair market value appraisal of the Water System in compliance with the Uniform Standards of Professional Appraisal Practices, employing the cost, market, and income approaches. Although our appraisal is intended to estimate fair market value, we assume no responsibility for the inability of the seller or buyer to obtain a sale or purchase contract at that price.

Client and Users. The client is Aqua Pennsylvania, Inc. The intended users of the valuation are Aqua Pennsylvania, Inc., and the Pennsylvania Public Utility Commission ("PUC").

Jurisdictional Exceptions. In accordance with 66 Pa. C.S. Section 1329, and PUC rules, the acquiring public utility and selling utility jointly retain a licensed engineer to conduct an

assessment of the tangible assets of the system ("Engineering Assessment") to be acquired. The Engineering Assessment is required to be used by the appraiser in determining fair market value. The Engineering Assessment provides both a condition assessment and original cost inventory of the assets.

Extraordinary Assumptions. There were no extraordinary assumptions required for this appraisal.

Hypothetical Conditions. There were no hypothetical conditions assumed for this appraisal.

Limiting Conditions. We accepted all information and data provided by Aqua and or Municipal Authority of the Borough of Shenandoah ("Authority") and/or the Borough of Shenandoah ("Shenandoah") as it pertains to this assignment "as is" after a limited review. That is, we neither audited nor verified any data, engineering assessment, financial record or operating data provided for this assignment. We assumed all title to all assets included in the appraisal is good and marketable, no hidden defects in the property or soil and no hazardous conditions or materials exist which could affect the assets. We are not an environmental consultant or auditor, and we take no responsibility for any actual or potential environmental liabilities. We have not made a specific compliance survey or analysis of the subject property to determine whether it is subject to, or in compliance with, the American Disabilities Act of 1990, and this valuation does not consider the effect, if any, of noncompliance.

The economic and industry information and data included in this report have been obtained from various printed or electronic reference sources that we believe to be reliable. We have not performed any corroborating procedures to substantiate that information and data.

Site Inspection. We viewed or observed the Water System's facilities on August 26, 2022**.** We also relied on engineering assessment of the Water System's facilities report, "Municipal Authority of the Borough of Shenandoah Water System Engineering Assessment and Original Cost, Borough of Shenandoah, Schuylkill County, PA" and related files prepared by Pennoni Associates Inc., to confirm the condition of the Water System's property and equipment.

Fiduciary Duty. Gannett Fleming has a fiduciary duty to, and does provide a thorough, objective, and fair market valuation using the cost, market, and income approaches in accordance with 66 Pa. C.S. Section 1329 and Pennsylvania laws.

Gannett Fleming attests that it does not derive any material financial benefit from the sale of, or purchase of, a selling utility other than fees for services rendered. Gannett Fleming also verifies it does not have any immediate family members who are directors, officers or employees of either an acquiring public utility, entity or selling utility within a 12-month period of the date of hire to perform this appraisal. We further affirm that Gannett Fleming is not directly or indirectly owned, partnered or in any way affiliated with a water/wastewater distribution company.

Sources of Information. The following sources of information were reviewed during the assignment:

"Municipal Authority of the Borough of Shenandoah Water System Engineering Assessment and Original Cost, Borough of Shenandoah, Schuylkill County, PA" and related files prepared by Pennoni Associates Inc.;

Aqua/Authority/Shenandoah provided electronic files (e.g., PDF and Excel);

Water System's Customer data;

Water System's Fee Schedule;

Water System's Permits;

Inspection Reports;

PA DEP Drinking Water Outreach Assistance Program Assessment and Recommendations

Asset Purchase Agreement;

Municipal Authority of the Borough of Shenandoah's Audited/DCED Financials (2018 - 2021);

Municipal Authority of the Borough of Shenandoah's 2022 Budget;

Primary Facility Reports, for the years 2018-2021;

Blue Chip Financial Forecasts;

US Census Bureau, various data files;

Value Line Investment Survey; and

S&P Capital IQ.

Description of the Borough of Shenandoah. The Borough of Shenandoah is located in northern Schuylkill County, in east central Pennsylvania. The Borough of Shenandoah is bordered by Mahanoy Township on its east, West Mahanoy Township on its north and west, and Gilberton Borough on the south. The Borough of Shenandoah is the 43rd largest land mass of Schuylkill County's 67 municipalities and was the 6th most populous with 4,873 people (2015) and 3,159 housing units (2015). Borough of Shenandoah consists of 1.5 square miles and lies approximately 10 miles north of Pottsville, and approximately 63 miles north-northeast of Harrisburg, Pennsylvania. According to U.S. Census figures, the Borough of Shenandoah's population shrank 16.3% from 2010 to 2020, while population in Pennsylvania grew 2.4% and Schuylkill County shank 1.4%.

Description of the Water System. The Water System directly serves 2,899 existing residential, commercial, industrial, and institutional accounts in the Borough of Shenandoah, West

Mahanoy Township, and Girardville Borough in Schuylkill County. The Municipal Authority of the Borough of Shenandoah owns and operates the Water System which consists of a water treatment plant ("WTP"), four public water supply reservoirs, four water storage tanks, four booster stations, two pressure reducing stations and approximately 49 miles of water mains, associated infrastructure and appurtenances, and related land and land rights.

The Water System's WTP, located in West Mahanoy Township, is designed to treat 3.1 million gallons per day ("MGD") of raw water with a hydraulic capacity of 4.0 MGD. In 2021, the WTP's treated 1.6 MGD. The WTP's treatment process consists of lime, alum, sodium hydroxide, alum, activated carbon, potassium permanganate and zinc orthophosphate addition for treatment, four adsorption clarifiers, four mixed media filters, six sludge drying beds, inclined plate settler for sludge, and chlorine gas for disinfection. The WTP complex was constructed in 1993 and consists of the main treatment building, a high service pump station and an 850,000-gallon ground storage tank.

The Water System's four public water supply reservoirs are comprised of the Raven Run Dams No. 2 and No. 3 and Ringtown Dams No. 5 and No. 6. Raven Run Dam No. 2 is a Class C-2 earthen embankment dam, and Raven Run Dam No. 3 is a Class C-1 earthen embankment dam; both are located in West Mahanoy Township. Ringtown Dams No. 5 and No. 6. are Class B-1 earthen embankment dams located in Union Township.

The Water System's four water storage tanks include the WTP's 850,000-gallon steel ground storage tank (installed 1993), the Kehly Run Tank 1,000,000-gallon welded steel round storage tank (installed 1991), the Turkey Run Tank is a 150,000-gallon elevated storage tank (installed 1974), and the Swatara Road Standpipe 500,000-gallon welded steel storage tank

(installed 1978). The Water System's four booster stations include the High End Pump Station, Turkey Run Pump Station, Pump Station No. 7, and Pump Station No. 5.

The Water System's 257,067 linear feet of water mains consist of 1-inch, 2-inch, 3-inch, 4-inch, 6-inch, 8-inch, 10-inch, 12-inch, 16-inch, and 24-inch diameter pipe which was installed between 1885 to 1993. About 45% of the mains are 4-inch or less, 38% are 6-inch or 8-inch, 8% 10-inch or 12-inch, and 9% are 16-inch or 24-inch. About 53% of the mains were installed between 1885 and 1920, 30% in the 1940s, 9% in the 1950s, and 4% in the 1980s and 1990s. The mains consist of 90% cast iron pipe ("CIP"), 5% ductile iron pipe ("DIP") and 5% transite, or asbestos-cement pipe ("AC").

The Water System's unaccounted for water was about 60% in 2018 and 2019 and decreased to about 56% in 2021.[2] The Water System does not track its internal use of water for backwash and the biannual system flushing of the distribution system, etc. which exacerbates unaccounted for water. Regardless of this fact, the Water System's unaccounted for water is above typical water system water loss.

The Water System's inventory includes 2,904 active water service meters, 1,636 of which were installed between 2018 and 2021. The average age of the Water System's existing water service meters decreased from 16-years to 5-years during the four years 2018 and 2021.[3]

The Municipal Authority of the Borough of Shenandoah utilizes a proprietary fund type measurement to account for the Water System's operations. The Municipal Authority of the Borough of Shenandoah's audited/DCED financial statements reflect the use of the full accrual

2 See the Water System's Primary Facility Reports filed with the Commonwealth of Pennsylvania Department of Environmental Protection, Bureau of Safe Drinking Water Planning and Conservation Division for the years 2018-2021.

3 Primary Facility Reports, for the years 2018-2021.

accounting, which measures revenues when earned and expenses when a liability is incurred, regardless of the timing of related cash flows. For the fiscal year ended September 30, 2021 (shown on Exhibit 1) the Water System reported revenues of $2.069 million and expenses of $1.947 million. At the same point in time, the Water System was capitalized with $7.266 million of fund equity and $5.854 million of debt was attributable to the Water System. At the same point in time, the Water System had total assets of $14.089 million, including $11.252 million of net utility plant.

The Water System is exempt from PUC regulation as a municipal utility. The Water System's rate requirements are established by the needed funds to run the system. Most municipalities, including Water System, use a Government Accounting Standards Board ("GASB") process of accounting or the PA Department of Community and Economic Development ("DCED") versus Financial Accounting Standards Board ("FASB") method of accounting used by investor-owned utilities ("IOU"). Municipalities are not typically concerned with the return on and the return of their investments of their utility systems since they deem they are providing a public service to their taxpayers. Municipalities typically expense (i.e., maintenance expense) renewals replacement, and customer collection services capital expenditures and they do not typically fully account for the replacement of all capital assets which are all typically capitalized (i.e., construction of capital asset, construction expenditure, etc.) and "booked" at original cost by IOUs. For these reasons, we do not believe Water System's financial statements should be fully relied upon without recognizing their limitations.

As shown on page 1 of Exhibit 2, the Water System provides service directly to 2,899 customers in the Borough of Shenandoah (95%), West Mahanoy Township (4%), and Girardville Borough (1%). The Water System provides service to a population of 6,166 people and services

to approximately 3,288 Equivalent Dwelling Units ("EDU").

Demographics and Growth for the Water System. As shown on Exhibit 3, Table 3.1, according to U.S. Census figures, the U.S. population grew 7.4% from 2010 to 2020, and the population in Pennsylvania grew 2.4%. During this same period, Schuylkill County's population decreased by 3.5%, the Borough of Shenandoah's population decreased 16.3%, and the population of all three municipalities that are provided service by the Water System decreased by 11.9% (Exhibit 3, Table 3.2). Borough of Shenandoah's population growth was ranked 2,448 of the 2,572 municipalities in Pennsylvania and the three municipalities that are provided service by the Water System's population growth rate would be ranked 2,297 of the 2,572 municipalities in Pennsylvania.

The Census Bureau and planning agencies provide population projections for future time periods. Population projections are a primary indicator of expected future growth, and they help determine predictable demand for utility services, housing, roads, business services and facilities. The Pennsylvania Department of Environmental Protection ("DEP") publishes population projections for the Borough of Shenandoah, West Mahanoy Township, and Girardville Borough which comprise the Water System's service area.

As shown on Page 2 of Exhibit 3, Table 3.3, the Borough of Shenandoah's population growth is projected to decrease 18.5% from 2020 through 2040. The Borough of Shenandoah's projected population growth places them in the lower 5 percent or 5th percentile of the 2,572 municipalities analyzed by DEP. The three municipalities that are provided service by the Water System's population growth rate would be ranked 2,466 of the 2,572 municipalities, equal to the lower 5 percent, or 5th percentile of the 2,572 municipalities analyzed by DEP.

Currently, there are approximately 8,434 people (Exhibit 2) in the Water System's service

area and 8,209 people in households. There are 3,364 occupied housing units in the Water System's service area, and the ratio of people to households is 2.44 persons per household. The Water System's service area density is 2.1 people per customer based on an estimated service area population of 6,166 and 2,899 customers.[4] The Water System's service area density is lower than the 3.5 per customer density of water and water systems (see Table 2 in this report) indicating higher market penetration.

HISTORY AND NATURE OF THE BUSINESS

Economic Outlook. The valuation date (July 8, 2022) is the specific date at which the value of the Water System is based. Generally, only the circumstances existing at the valuation date and events occurring up to the valuation date are considered. Events which could affect the value may occur after the valuation date.

An outbreak of a new strain of coronavirus was first reported in Wuhan, China in late 2019 and quickly spread around the world. A coronavirus is a kind of common virus that causes an infection in sinuses, or upper throat. The World Health Organization ("WHO") declared the spread of the infection a pandemic. The WHO named the virus SARS-CoV-2, and the disease COVID-19.

We do not believe the appraised value of the long-lived Water System assets is materially impacted by COVID-19 or its related relatively short-term events and does not significantly affect the determination of value as of the specified valuation date of July 8, 2022. In the valuation of any company, the general economic outlook as of the valuation date is important since it influences how investors perceive alternative investment opportunities at that point in time. As part of our

4 The service area density for ultimate customers is 2.2 people per customer.

analysis, we considered the forecasts for the U.S. economy that prevailed as of July 8, 2022. We focused on the forecasts and economic commentary presented in Blue Chip Financial Forecasts in the July 1, 2022 edition. Some of these economic forecasts are presented in Table 1.

Economic Indicators

	Latest Qtr	Consensus Forecasts	
	2Q 2022	3Q 2022	4Q 2022
Key Assumptions			
Real GDP	2.9	2.1	1.6
GDP Price Index	5.9	5.2	3.9
Consumer Price Index	7.6	6.0	3.8
Interest Rates			
3-mo. Treasury Bills	1.08	2.3	3.0
10 Year Notes	2.93	3.3	3.5
30 Year Notes	3.04	3.5	3.6
Aaa Corporate Bond Yield	4.30	4.7	5.0
Baa Corporate Bond Yield	4.97	5.6	6.0
State & Local Bonds	3.87	4.0	4.3
Home Mortgage Rate	5.23	5.7	5.9

Table 1

Industry Review. A review of the industry in which the company operates is important in determining value. The trends and stability of the specific economic environment affecting operations need to be reviewed to gain further insight regarding the prospects and risks associated with the industry and each company.

The water utility industry has a Standard Industrial Classification ("SIC") code of 4941 (Water Supply), has water utilities, and includes establishments primarily engaged in distributing water for sale for residential, commercial, and industrial uses. Government controlled

establishments such as municipal service districts and public utilities dominate the industry. Private companies or IOUs are active in the construction and improvement of water supply facilities and infrastructure. There are currently 11,283 U.S. Businesses with a SIC code of 4941.

The water supply industry is the most fragmented of the major utility industries with more than 53,000 community water systems in the U.S. (82% of which serve less than 3,300 customers). The nation's water systems range in size from large municipally owned systems, such as the New York City water system that serves approximately 9 million people, to small systems, where a few customers share a common well.

A comparative industry to the water supply industry is the wastewater utility industry. The wastewater utility industry has a Standard Industrial Classification ("SIC") code of 4952 (Sewerage Systems), has sewer utilities, and includes establishments primarily engaged in the collection and disposal of wastes conducted through a sewer system, including such treatment processes as may be provided. There are currently 2,104 U.S. Businesses with a SIC code of 4952.

The wastewater utility industry is a fragmented industry, although not as fragmented as the water supply industry. According to the U.S. Environmental Protection Agency's ("EPA") most recent survey of publicly owned wastewater treatment facilities in 2012, there are approximately 15,000 such facilities in the nation, serving approximately 76% of the U.S. population. Eighty percent of domestic wastewater systems are government owned rather than IOUs. Currently, there are no wastewater utility companies that have actively traded stock.

An estimated 14% of all water suppliers are managed or owned by IOUs. IOUs consist of companies with common stock that is either actively traded or inactively traded, as well as companies that are closely held, or not publicly traded. Currently (December 31, 2021), there are only about nine investor-owned water utility companies with publicly traded stock in the U.S.

The water utility industry and wastewater utility industry's increased compliance with state and federal water purity levels and large infrastructure replacements are driving consolidation of the water utility and wastewater utility industries. Because many water utility and wastewater utility operations do not have the means to finance the significant capital expenditures needed to comply with these requirements, many have been selling their operations to larger, financially stronger operations.

The larger IOUs have been following an aggressive acquisition program to expand their operations by acquiring smaller water and wastewater systems. Generally, they enter a new market by acquiring one or several water or wastewater utilities. After their initial entry into a new market, the larger investor-owned water utility companies continually seek to expand their market share and services through the acquisition of water and wastewater utility businesses and operations that can be integrated with their existing operations. Such acquisitions may allow a company to expand market share and increase asset utilization by eliminating duplicate management, administrative, and operational functions. Acquisitions of small, independent utilities can often add earning assets without necessarily incurring the costs associated with the Safe Drinking Water Act ("SDWA") if such acquisitions are contiguous to the potential purchaser.

In summary, the result of increased capital spending, to meet the SDWA and CWA requirements[5] and to replace the aging infrastructure of many systems, has moved the water and wastewater industries toward consolidation. Moreover, Federal and State regulations and controls

5 The SDWA, or Safe Drinking Water Act, is the principal federal law in the United States intended to ensure safe drinking water for the public. Pursuant to the act, the EPA is required to set standards for drinking water quality and oversee all states, localities, and water suppliers who implement these standards. The CWA, or Clean Water Act, is the primary federal law in the United States governing water pollution. The CWA's objective is to restore and maintain the chemical, physical, and biological integrity of the nation's waters by preventing point and nonpoint pollution sources, providing assistance to publicly owned treatment works for the improvement of wastewater treatment, and maintaining the integrity of wetlands.

concerning water quality are still in the process of being developed and it is not possible to predict the scope or the enforceability of regulations or standards which may be established in the future, or the cost and effect of existing and potential regulations and legislation upon the water and wastewater systems. However, as a small sized water system, the Water System faces the cost of compliance with significantly limited financial resources, competing for financial needs against other municipal services and the general unwillingness of elected officials to raise taxes when compared to larger IOU water utilities.

QUANTITATIVE AND QUALITATIVE ANALYSIS

Comparison Review. The comparison review considers the financial and operating statistics for the Water System, and a group of companies ("Comparable Group") that operate in the same basic or similar industry as the Water System. Since no marketplace exists for the common stock of the Water System, an alternative to estimate the value of the Water System is to analyze the price investors are willing to pay for the publicly traded common stock of companies that are like the Water System. We list the Comparable Group chosen for study in Table 2.

The companies in the Comparable Group were selected based upon: (1) the availability of financial information; (2) inclusion in the S&P Capital IQ database; (3) a July 8, 2022 market value of common stock, the product of multiplying the closing stock price by the number of common shares outstanding, greater than $350.0 million; (4) a July 8, 2022 total enterprise value (the sum of market value, preferred stock and total debt) greater than $550.0 million; (5) were not the subject of a known acquisition at July 8, 2022; (6) with a Standard Industrial Classification (SIC) of 4941 (i.e., Water Supply Facilities and Infrastructure) and (7) with a North American Industry Classification System (NAICS) of 221310 (i.e., Water Supply and Irrigation Systems).

The eight companies ("Comparable Group") that met the criteria for selection are listed in Table 2.

	Acquisition Date Size Statistics			
	Revenues (Mill. $)	Customers	Population	Customer Density
Municipal Authority of the Borough of Shenandoah	$1.990	2,899	6,166	2.1
Comparable Group				
American States Water Co	$498.853	287,500	1,000,000	3.5
American Water Works Co Inc	3,930.000	3,530,000	14,000,000	4.0
Artesian Resources -CL A	90.859	100,640	326,700	3.2
California Water Service Gp	790.909	547,600	2,000,000	3.7
Essential Utilities, Inc.	1,878.144	1,820,049	5,000,000	2.7
Middlesex Water Co	143.141	121,300	500,000	4.1
SJW Corp	573.686	398,000	1,526,000	3.8
York Water Co	55.119	73,144	204,000	2.8
Median	$536.270	342,750	1,263,000	3.5

Table 2

We believe that similar economic, industry and business risks have affected the Comparable Group as those faced by the Water System. However, consideration must be given to the fact that no two companies are exactly alike. Table 2 presents comparative statistics regarding total revenues, customers, population of the area served, and customer density (population ÷ customers). On average, the Comparable Group are larger than the Water System. The relative size difference between the group and the Water System suggests that the risk of the Water System is greater than the Comparable Group. We will discuss the difference in risk resulting from size later in this report.

Financial Review. We conducted a financial review that considered the financial and operating statistics for the Water System and the Comparable Group for the three-year period, 2019 to 2021. It is our opinion that the economic, industry and business risks affecting the Comparable Group selected are similar to those faced by the Water System. However, consideration must be given to the fact that no two companies are exactly alike.

The determination of reasonable water rates and sewer rates for the Comparable Group is subject to rate regulation. For the Comparable Group, rate regulation serves as a substitute for competition in the marketplace since utility companies are precluded from exercising complete control over the price to be charged their customers. Under rate regulation, a cost of service formula is used to set the price for service charged to customers. The cost of service formula equates revenues to the sum of annual operating expenses, taxes other than income, depreciation expense, income taxes, and the product of the rate base times a fair rate of return.

It is the responsibility of the utility seeking changes in rates to present sufficient evidence to their regulators in support of their request. Historically, the Water System's rates have not considered a fair rate of return nor taxes. That is, the Water System's rates would have been higher, and their financial results would have been healthier if they included a provision for a fair rate of return and taxes. Consequently the results of the Water System's historical financial performance shown on Exhibits 4 and 6 should be viewed with this knowledge.

Financial Benchmark Analysis. To gain insight into the risk differences between the Water System and the Comparable Group, we reviewed financial ratios and coverages. Unfortunately, there is no single measure that best indicates investment risk from an investor's perspective. However, from a creditor's viewpoint, the best measure of investment risk is debt rating. The debt rating process generally provides a good measure of investment risk for common

stockholders because the factors considered in the debt rating process are usually relevant factors that a common stock investor would consider in assessing the risk of an investment.

The types of financial benchmarks applied by credit rating agencies such as Standard and Poor's ("S&P") for rating IOU public utility debt are broader than the traditional measure of financial risk, leverage. Besides reviewing the amounts of leverage employed (i.e., percentage of debt used in the capital structure), S&P also focuses on earnings protection and cash flow adequacy. During the period 2019-2021, the Water System's financial benchmark ratios show (Exhibit 4) higher investment risk than the Comparable Group based on coverage and cash flow.

Risk Analysis. From an operations standpoint, the Water System and the Comparable Group are indistinguishable. Both are required to meet SDWA and CWA requirements and are also required to provide safe and reliable services to their customers.

A basic premise of finance is the tradeoff between risk and return. That is, the higher the perceived risk, the higher the required return. Conversely, the lower the perceived risk, the lower the required return.

As mentioned previously, size is a determinant of risk. Based on size, the Water System's risk is higher than the Comparable Group given Water System's relatively small size. Table 2 details the size difference between the Water System and the Comparable Group. As shown on Table 2, the Water System is many times smaller than the Comparable Group.

Size is a determinant of risk because the loss of a large customer impacts a small company much more than a large company because a large customer of a small company usually accounts for a larger percentage of the small company's sales. Further, a larger company has much more diversification in customer mix, economic conditions, source of supplies, weather, demographic, and financing than the Water System. Because the larger Comparable Group has a more diverse

geographic operation than the Water System, it enables them to sustain earnings fluctuations caused by adverse weather conditions in one portion of its service territory. Further, the larger Comparable Group has a more diverse customer base and is less susceptible to local downturns associated with regional economic conditions than the Water System.

Exhibit 5, Table 5.1, provides an illustration which shows company size has been inversely related to returns and the volatility of their common stock. Specifically, Ibbotson Associates sorted 2,966 publicly traded common stocks based on size of market value (market price multiplied by the number of shares) and placed them into four different portfolios (quartiles). The common stock quartile return, and the resultant size premium, column B, increased at an increasing rate as you move from a larger stock quartile to a smaller stock quartile. Similarly, the total risk, or standard deviation of annual returns (a measure of risk), also increased with decreasing company size (column C).

The Comparable Group's market value on July 8, 2022, ranged from $469 million to $27,419 million as shown on Table 5.2 of Exhibit 5. Based on their market value, the Comparable Group's median market quartile was 2. Water System's market value would place them in quartile 4 based upon Water System's financial statements and since the largest company in quartile 4 on Table 5.1 had a market value of $452 million.

The change in risk adjusted common stock return rate between quartile 2 and quartile 4 (column J) is 1.80 percentage points (3.45% - 1.65%). The results of the illustration shown on Exhibit 5 suggests the Water System's common equity cost rate could be about 1.80 percentage points higher than the Comparable Group. The history of common stock returns indicates small company stocks are riskier than large company stocks because as one moves from the larger to smaller quartiles, the standard deviation (a measure of risk) of returns increases. Historically,

common stock investors have been compensated for taking on this additional risk by the higher returns provided by small company stocks.

In general, it is reasonable to expect small companies to be more risky than large ones. Exhibit 5 shows small company stocks have been riskier over a long period of time than larger company stocks due to the various advantages that larger companies have over smaller companies. For example, small capitalized firms generally have less access to capital and, overall, not as many financial resources. Further, small capitalized stocks have lower trading liquidity than larger ones.

The bond market, particularly the corporate bond market, also differentiates between large and small bond issues, where many large institutional investors such as pension funds and insurance companies require large blocks of bonds for liquidity and performance. Because of this size preference, smaller bond issuers often pay a cost rate premium when compared to larger bond issuers.

A higher return requirement for companies the size of Water System translates into a higher capitalization rate. All else being equal, a higher capitalization rate will produce a lower value. However, all things are seldom equal as shown by the array of market multiples for the companies that comprise the Comparable Group (Exhibit 18, page 2). As shown on Exhibit 18, the Comparable Group's current market multiples do not suggest a higher capitalization rate due to size as there are numerous other risks affecting the Comparable Group's market values.

Property Plant and Equipment Analysis. The Water System can best be characterized as a fully integrated water system ("integrated system").[6] The Water System does not have the

6 A fully integrated system is characterized as having both collection/distribution assets and treatment assets.

number of large treatment facilities that the Comparable Group. The Water System's gross property, plant and equipment is in relatively good condition given its age (Exhibit 6, Table 6.1) with 56% of their gross property, plant and equipment remaining undepreciated while 78% of the Comparable Group's gross property, plant and equipment remained undepreciated.[7]

Property Plant and Equipment Analysis for Contributions. Most regulatory commissions determine rates for utilities based on a cost of service formula reflective of gross plant, property, and equipment less accumulated depreciation (i.e., net property, plant, and equipment) being roughly equal to investor provided capital (i.e., debt and equity capital) plus "cost free" capital such as customer contributions. Under 66 Pa. C.S. Section 1329 (Valuation of Acquired Water and Wastewater Systems), the original source of funding for any part of the assets of a selling utility is not relevant to determining the value of a selling utility's assets.

We found a 19% (100% - 81%) difference between the Comparable Group's net property, plant and equipment and the Comparable Group's investor provided capital on the valuation date (Exhibit 6, page 1, Table 6.2). The difference between the Comparable Group's net property, plant and equipment and the Comparable Group's investor provided capital is comprised of "cost free" capital such as customer contributions.[8] This is evidenced by the 19% difference in the Comparable Group's net property, plant and equipment and the Comparable Group's investor provided capital (Exhibit 6, page 1, Table 6.2). Additionally, we verified known components of the Comparable Group's "cost free" capital by reviewing their individual balance sheets (Exhibit 6, page 1, Table 6.2) at year-end 2021.

7 The Water System's gross and net property, plant and equipment is developed on Exhibit 7.
8 Under rate regulation "cost free" capital, such as customer contributions, is subtracted from plant assets in determining the dollar amount of property on which a utility may earn a "fair rate of return" and therefore, "cost free" capital has no economic value to investors.

We did not analyze the Water System's property, plant, and equipment for "cost free" capital, or customer contributions, because the original source of funding for any part of the assets of a selling utility is irrelevant to the valuation process under 66 Pa. C.S. Section 1329.

Capital Expenditures Analysis. The level of capital expenditures required for business purposes is an indicator of risk. Over the last four years, the Comparable Group had annual capital expenditures of about 9% of net plant (Exhibit 6, page 2, Table 6.3). During this same time, 2019-21, the Water System had annual capital expenditures of about between 0% to 5% of net plant. Therefore, the Water System historical capital spending was below the Comparable Group's median.

Growth Rate Analyses. Higher growth rates are an indication of less risk. A review of the growth rates in revenue and operating income, reveal that the Water System's has been growing less than the Comparable Group (Exhibit 6, page 4, Table 6.4) over the last three years, but operating income plus depreciation has been growing more. Prospectively, the Water System's growth rates should lag the Comparable Group's without increased rates and a higher level of planned capital additions.

Profit Margin Analyses. Higher profit margins are an indication of less risk. We compared earnings before interest and taxes ("EBIT") to revenues to see how successful the Water System's management has been at generating income from the operation of the business. We also compared operating profitability or earnings before interest, tax, depreciation, and amortization ("EBITDA") divided by total revenue to gain a clearer view of the Water System's core profitability. The Water System's EBITDA profit margins are lower than the Comparable Group's indicating more risk. Similarly, the Water System's EBIT profit margins are lower indicating more risk (Exhibit 6, page 5, Table 6.5).

VALUATION

The purpose of this valuation is to comply with 66 Pa. C.S. Section 1329 (Valuation of Acquired Water and Water Systems) and conduct a fair market value appraisal of the Water System's assets as of July 8, 2022 in compliance with the Uniform Standards of Professional Appraisal Practices, employing the cost, market, and income approaches. Consequently, three basic valuation approaches were considered in this analysis: the cost approach, the income approach, and the market approach.

The Cost Approach. In general terms, the cost approach measures value by determining the amount of money required to replace the future service capability of an asset. The cost approach is based on the premise that an informed purchaser will not pay more for a property than the cost of constructing an equally desirable substitute property, minus applicable depreciation, and assuming no undue delay.

The cost approach can include the use of the: original cost method; trended original cost method; reproduction cost method; and replacement cost method. From these cost bases, the calculated accrued depreciation (accumulated depreciation) is subtracted.

The original cost method begins with determining the original cost new ("OCN") measure of the cost of the assets when first constructed. The OCN is based on (1) a review and summary of the utility's accounting records, contractors' invoices and bid tabulations to determine the most appropriate data sources of each type of asset; (2) and the "pricing out" of assets using unit costs for each vintage year that property was placed in service.

Under the trended cost method, the trended original cost ("TOC") measures the reproduction cost by multiplying the OCN by specific cost indices. The TOC is based on (1) a review and summary of the OCN at each location to determine those elements that would be replaced-in-kind, those that would be replaced with current methods and technologies and those that would not be replaced; (2) the selection of cost indexes and the calculation of trended original cost for those elements that would be replaced-in-kind; and (3) the estimation of the cost to purchase or construct those elements that would be replaced with current methods and technologies. The TOC is a procedure for estimating reproduction cost new of property and is sometimes used as a substitute for reproduction cost method and may be considered a form of the reproduction cost method, though not as precise.

The reproduction cost method begins with determining the reproduction cost new ("RPCN") by determining the current cost of constructing identical new property. The replacement cost method begins with estimating the replacement cost new ("RCN") based on approximating the current cost of replacing service of existing property with similar new property having the nearest equivalent utility to the property being valued (as defined by the *International Glossary of Business Valuation Terms*).

The RPCN and the RCN methods include the research and verification of the inventory of a company's tangible personal property. Upon verification of the inventory, current material costs, current construction costs, engineering costs, administration costs, interest during construction, and entrepreneurial profit[9] are applied to the inventory listing in order to determine the RPCN and to determine the RCN.

9 The administration costs and entrepreneurial profit are those of the contractors and engineers. The cost of overhead of the entity having the assets constructed can also be included. Generally overhead costs are allocated as part of an asset's cost, and usually represent at least 5% to 15% of infrastructure asset total costs.

The RPCN method assumes the assets would be recreated under the conditions existing at the date certain or valuation date, using the exact materials, standards, design, layout, and quality of workmanship used to create the original assets. The RCN assumes the assets would be recreated under the conditions existing at the date certain or valuation date, using similar materials, current standards, under current conditions with similarly functional property.

From these cost bases (i.e., OCN, TOC, RPCN and RCN), the calculated accrued depreciation (accumulated depreciation) is subtracted ("LD"). The calculated accrued depreciation is based on the assets' attained ages, and the service life of the assets. The cost bases of depreciable assets are reduced annually by the accumulated depreciation to reflect the loss in the service value of the assets since being constructed.

Depreciation represents the loss in property value from: physical deterioration; functional obsolescence; and external obsolescence. The accrued depreciation represents the sum of the annual depreciation amounts that would have been charged for depreciation at a point in time. Accrued depreciation is a calculated amount that would be in the book reserve account at a point in time using the current depreciation parameters (i.e., average service life). The average service lives of depreciable assets are based on the materials used for construction and how long the depreciable assets are likely to meet service demands.

The range of survivor characteristics usually experienced by utility and industrial properties is encompassed by a system of generalized "survivor curves" known as the Iowa type curves. The accrued depreciation ratio from a survivor curve is a concept that is used to estimate the consumed service capacity of plant at a point in time. The survivor curve is used to find the applicable accrued depreciation factors of the assets to result in the total accumulated depreciation.

The Original Cost Method. For this report, the Borough of Shenandoah provided us a copy of the Engineer's assessment report "Municipal Authority of the Borough of Shenandoah Water System Engineering Assessment and Original Cost, Borough of Shenandoah, Schuylkill County, PA" and related files prepared by Pennoni Associates Inc., the Water System's inspection reports, the Water System's water quality reports, and the Water System's Primary Facility Reports, to confirm the condition of the Water System's property and equipment. We utilized the Engineering Assessment and calculated the Original Cost and Related Accrued Depreciation of the Water System as of July 8, 2022 ("OCNLD Study") shown on Exhibit 7.

Page 1 of Exhibit 7 summarizes the original cost and related accrued depreciation by account for the Water System as of July 8, 2022. The original cost was brought forward from page 2 of Exhibit 7 and the accrued depreciation from page 3 of Exhibit 7.

The original cost of the Water System was determined from the Engineering Assessment and is summarized on page 2 of Exhibit 7. A summarizing analysis of the original cost of the Water System by account and vintage year is shown on Exhibit 8.

The accrued depreciation calculation, shown on page 3 of Exhibit 7, was based on recognized methods using estimated survivor characteristics and the straight-line depreciation method. The estimated survivor curves are those used by other Pennsylvania regulated water companies and the material and age of the assets. The average service life procedure was used to apply the methods of depreciation to group properties for which a survivor curve was used to recognize the existence of life dispersion. The detailed calculations of accrued depreciation applicable to original cost by account and vintage are included in Exhibit 8.

The results of the OCNLD Study established that the OCN of the Water System's utility plant in service as of July 8, 2022 was not less than $19.4 million ($19,380,636 rounded). The

OCNLD Study also determined a theoretical calculated accrued depreciation reserve of the utility plant in service of $8.6 million ($8,595,893 rounded) as of July 8, 2022. After factoring in the OCNLD Study's accrued depreciation reserve, the OCNLD of Water System's utility plant in service as of July 8, 2022 was determined to be $10.8 million ($19,380,636 - $8,595,893 = $10,784,743).

The Replacement Cost Method. We utilized the OCN to calculate the trended original cost (TOC) measures, or the replacement cost of the depreciable assets (RCN), by multiplying the OCN by specific preliminary transition factors.[10] The transition factors included both cost changes measured during TOC process and preliminary obsolescence, so all RPCN values were valued on an RCN basis. The result of this analysis is shown in the Replacement Cost and Related Accrued Depreciation of the Water System as of July 8, 2022 ("RCNLD Study") shown on Exhibit 9.

Page 1 of Exhibit 9 summarizes the replacement cost new and related accrued depreciation by account for the Water System as of July 8, 2022. The replacement cost new was brought forward from page 2 of Exhibit 9 and the accrued depreciation from page 3 of Exhibit 9.

The replacement cost new of the Water System (see Exhibit 10) was calculated by trending the original cost measures by multiplying the OCN by Handy-Whitman indices and preliminary obsolescence factors.[11] A summarizing analysis of the replacement cost new of the Water System by account and vintage year and related preliminary transition factors is shown on Exhibit 10.[12]

The accrued depreciation calculation, shown on page 3 of Exhibit 9, was based on recognized methods using estimated survivor characteristics and the straight-line depreciation

10 We used the TOC method because the mandated use of the Engineering Assessment's original cost essentially dictates the use of TOC over the reproduction cost or the replacement cost methods.
11 See the Accrued Depreciation and Obsolescence section of this report for a further discussion.
12 All land and land rights were valued at original cost.

method. The estimated survivor curves are those used in the OCNLD Study. The average service life procedure was used to apply the methods of depreciation to group properties for which a survivor curve was used to recognize the existence of life dispersion. The detailed calculations of accrued depreciation applicable to replacement cost new by account and vintage are included in Exhibit 11.

The results of the RCNLD Study established that the preliminary RCN of the Water System's utility plant in service as of July 8, 2022 was not less than $135.1 million ($135,122,557 rounded). The RCNLD Study also determined a theoretical calculated accrued depreciation reserve of the utility plant in service of $89.3 million ($89,285,934 rounded) as of July 8, 2022. After factoring in the RCNLD Study's accrued depreciation reserve, the preliminary RCNLD of Water System's utility plant in service as of July 8, 2022 was determined to be $45.8 million ($135,122,557 - $89,285,934 = $45,836,623).

The results of the OCNLD and preliminary RCNLD Cost Approaches show a range of value for the Water System of $10.8 million to $45.8 million and collectively, indicated a preliminary value of $45.8 million ($45,836,623 rounded) for the Water System based on the results of the preliminary RCNLD.

Benchmark Metrics. Besides providing an indication of value based upon a cost method, the OCN and OCNLD can also be used to calculate meaningful benchmark metrics. These benchmark metrics are utilized to evaluate the reasonableness of other indications of value produced by alternative valuation methods, including the cost method itself. For example, the Comparable Group's market value of common equity plus minority interest, preferred stock, and total debt net of cash and cash equivalents ("Enterprise Value") is currently 1.75-times (Exhibit 18, page 2) their OCNLD or net property, plant and equipment. Similarly, the Comparable

Group's Enterprise Value is currently 1.39-times (Exhibit 18, page 2) their OCN or gross property, plant and equipment.

The above-mentioned property, plant and equipment "multiples" may understate the multiple applicable to the Water System because some of the Comparable Group's property, plant and equipment includes assets that were originally financed with "cost free" capital such as customer contributions.[13] Subtracting customer contributions ("CIAC") from the Comparable Group's property, plant and equipment (Exhibit 18, page 3) based on differences between investor provided capital and OCN results in CIAC adjusted multiples of 1.95-times OCNLD and 1.55-times OCN for the Comparable Group.

Multiplying the Water System's OCN of $19.4 million by the Comparable Group's 1.39-times OCN multiple or the 1.55-times contributions adjusted OCN multiple indicates a range of market value of $27.0 million to $30.1 million for the Water System, dissimilar to the preliminary RCNLD of $45.8 million. Further, multiplying the Water System's OCNLD of $10.8 million by the Comparable Group's 1.75-times OCNLD multiple or the 1.95-times contributions adjusted OCNLD multiple indicates a range of market value of $18.9 million to $21.1 million for the Water System, below the preliminary RCNLD of $45.8 million.[14] Using a similar technique, we multiplied the Water System's number of customers of 2,899 by the Comparable Group's $10,052-times customer multiple and produced a market value of $29.1 million, which is below the

13 Under rate regulation "cost free" capital, such as customer contributions, is subtracted from plant assets in determining the dollar amount of property on which a utility may earn a "fair rate of return" and therefore, "cost free" capital has no economic value to investors.

14 The range of benchmark metrics values suggested for the Water System are not a substitute for an appraisal. However, the referenced range of market values for the Water System can be a meaningful metric to evaluate the reasonableness of other indication of value produced by other valuation methods.

preliminary RCNLD of $45.8 million.[15]

Accrued Depreciation and Obsolescence. The accrued depreciation reflects the total loss in value from RCN due to physical deterioration, functional and economic obsolescence. The physical deterioration was accounted for with our determination of average service lives of depreciable assets. The average service lives used in determining the preliminary RCNLD reflect the materials used for construction, age, and the average length of time the depreciable assets are likely to meet service demands.

Functional obsolescence ("FO") is a "form of deterioration due to a feature in the property that is no longer useful or functional, resulting in a loss of value for the entire property."[16] FO is sometimes evident due to increased operating costs, increased maintenance costs, lost profits and for a water utility, excess unaccounted for water. According to page 1 of the Engineering Assessment, the "[c]onditions of the above ground facilities varies from fair to very good based on the age and/or completion of recent improvements."[17] Additionally, the Engineering Assessment did not find any utility assets that were no longer useful or functional.[18]

We previously discussed the Water System's excess unaccounted for water. The source of the Water System's excess unaccounted for water has not been identified to date, and therefore, the cost of remedying the unaccounted for water is not known. Additionally, the Water System's

15 Customers "multiples" may understate the multiple applicable to the Water System because some of the Comparable Group's property, plant and equipment includes assets that were originally financed with "cost free" capital, such as customer contributions, which diminishes the value of a customer.

16 "Physical Deterioration: The loss in value of a real estate property due to the physical wearing out of a building," *Corporate Finance Institute*, Updated October 3, 2021. Accessed 6/20/22. https://corporatefinanceinstitute.com/resources/knowledge/other/physical-deterioration/

17 The Engineering Assessment concluded that Pump Station No. 7 was the only above ground asset to be in fair condition.

18 The Engineering Assessment classified the caretaker house and related well as non-utility property, and we excluded same from our appraisal.

treatment and pumping costs limit the economic justification of correcting the problem. The Water System's power, chemical and pumping costs totaled $215,758 (2020) and equate to $382.55 per million gallons (2020).[19] In 2021 the Water System had 318.930 million gallons of unaccounted for water, including water used for internal purposes, which equates to an annual cost of $122,006 for unaccounted for water. Using the range of capitalization rates we use in our Income Approach, discussed later in this report, of 3.81% to 10.51% we determined the value of the Water System's unaccounted for water to be in the range of $1.1 million to $3.2 million. Therefore, the maximum economical cost of resolving unaccounted for water is currently in the range of $1.1 million to $3.2 million and we conclude $2.0 million for FO after recognizing some unaccounted for water is used for internal purposes. Based on this FO analysis, we reduced the preliminary RCNLD of $45.8 million by $2.0 million and produced preliminary RCNLD after FO of $43.8 million (Exhibit 9 page 4).

Economic obsolescence ("EO") refers to the loss of value that is caused by factors that are external to the property.

> Economic obsolescence (EO) is the loss of value resulting from external economic factors to an asset or group of assets. EO is often encountered in valuation work performed for financial reporting purposes, bankruptcy emergence and in other practice areas when dealing with companies in capital-intensive industries. Identifying, measuring and **applying the adjustment for EO can be a complex and iterative process**, requiring expertise and interaction across multiple valuation disciplines, including real property, personal property, business valuation and intangible asset valuation.[20] (Emphasis added)
>
> EO manifests itself in the profit margin of business. If the operating margin of an asset or group of assets is below what provides a sufficient economic return to the

19 Separate power, chemical and pumping costs were not shown in the 2021 financial statements.
20 Mickle, Joseph and Sapnas, Charles. "Perspectives, Economic Obsolescence: Discover Loss of Value Caused by External Factors," *Valuation Research Corporation*. Accessed 6/20/22. https://www.valuationresearch.com/pure-perspectives/economic-obsolescence-determining-loss-value-caused-external-factors/#:~:text=Economic%20obsolescence%20(EO)%20is%20the,companies%20in%20capital%2Dintensive%20industries.

> supporting assets, and there is a difference between the existing operating level/capacity and a sufficient operating/level capacity, EO may be an issue.[21]

To evaluate EO we compared our preliminary RCNLD value of $45.8 million to the maximum economic values calculated in our Income and Market Approaches, discussed later in this report, and conclude EO is suggested (Exhibit 9 page 4). The maximum economic value calculated in our Income and Market Approaches of $31.3 million is $14.5 million less than our preliminary RCNLD value of $45.8 million.[22] In our conclusion of value, discussed later in this report, we give 75% weight to the indicated values produced by the two economic approaches, Income and Market. Therefore, we assign 75% weighting to the $14.5 million ($45.8 million - $31.3 million = $14.5 million) difference in establishing $10.9 million for EO. Based on our EO analysis, we reduced the preliminary RCNLD after FO value of $43.8 million by $10.9 million and conclude a RCNLD value of $33.0 million (Exhibit 9 page 4).

Cost Approach Conclusion. On page 4 of Exhibit 9 we reduced our RCN indicated value of $135.1 million for accrued depreciation in reaching our RCNLD conclusion. The RCNLD's accrued depreciation reflects the total loss in value from RCN due to physical deterioration, functional and economic obsolescence. We ascribed $89.3 million physical deterioration, $2.0 million functional obsolescence, and $10.9 million economic obsolescence in reaching our $33.0 million RCNLD conclusion. The results of the RCNLD method of $33.0 million ($32,959,909 rounded) form the basis for our Cost Approach conclusion, shown on Exhibit 9, page 4. Based on this result, the Cost Approach to valuation indicates a value of $33.0 million for the Water System's based on the RCNLD method.

21 "Perspectives, Economic Obsolescence: Discover Loss of Value Caused by External Factors".
22 The maximum economic value of $31.3 million is shown on page 1 of Exhibit 19.

The Income Approach. Capitalizing or discounting a future income stream to a present value provides an indication of the value of a security or asset. The capitalization or discount rate reflects future growth, business risk, economic factors, financial risk, and industry risk of the assets. The theory behind the income approach is that the value of a business is the future economic benefit that ownership will provide.

The two most common methods of the income approach to valuation are the capitalization of earning or cash flow method and the discounted cash flow method ("DCF"). The capitalization of earning method converts a single base economic income number to a value by dividing it by a capitalization rate. The capitalization of earnings is best suited when the future earnings, or cash flow, can be predicted. The implicit assumption in the capitalization of earning method is that the cash flow is a perpetuity, and the capitalization rate is a constant.

The DCF method uses estimates of future free cash flow and discounts them to arrive at a present value or price of the cash flows. Generally, the DCF analysis begins with an estimate of the Debt Free Net Cash Flow over the next five to twenty years along with a terminal value. In each year, the Debt Free Net Cash Flow is comprised of projected EBIT, minus income taxes, plus projected depreciation, and amortization, minus projected changes in net cash working capital, and minus projected capital expenditures. The second element of the DCF analysis is the determination of an appropriate discount rate.

The capitalization rate used in the capitalization of earnings method and the discount rate used in the DCF method are related. The discount rate is the market participant's opportunity cost rate related to the risk of the cash flows. For the Water System, the market participants are assumed to include IOU and larger regional municipal authorities ("MUNI"). For the Water System, the appropriate discount rate is the current municipal revenue bond yield on July 8, 2022

of 3.81%. The appropriate IOU discount rate is the current net of tax overall cost of capital (weighted average cost of capital) on July 8, 2022 and ranges from 7.54% to 10.51%.[23] The capitalization rate is simply the discount rate minus the expected growth rate. If no growth is assumed, the capitalization rate is equal to the discount rate.

The capitalization of earnings method is generally a reasonable approach for valuing the Water System as it is currently owned (i.e., non-IOU) and operated. However, change in ownership of the Water System to a MUNI or IOU produces a myriad of problems for both the capitalization of earnings method and the DCF Method because any future cash flow estimates would be hypothetical or estimated due to the uncertain nature that would accompany new ownership including future rates, future expenses, future capital expenditures, taxes, and regulation.

For a MUNI, the appropriate discount rate is the current municipal revenue bond, 3.81%, because debt is the only major source of capital available to finance an acquisition (Exhibit 23, pages 2-6). Although a MUNI likely carries equity on their books (balance sheet), all existing equity is already invested in other assets and therefore, cannot be used to finance an acquisition.[24] For valuation purposes, an embedded cost of debt, or the historical cost of all debt issuances outstanding is not used because this capital is already invested in assets. Whereas the marginal cost of debt, 3.81%, at the valuation date is used in accordance with accepted valuation practices and used for market valuation purposes.

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23 Both the American Society of Appraisers, ASA Business Valuation Standards, 2009, and the National Association of Certified Valuation Analysts, Professional Standards, 2007, use the same definition: "Weighted Average Cost of Capital (WACC). The cost of capital (discount rate) determined by the weighted average, at market values, of the cost of all financing sources in the business enterprise's capital structure."

24 For example, when a municipal or government entity, such as the Commonwealth of Pennsylvania, finance construction of a road or bridge, they only consider the marginal debt cost despite having "equity" reflected on their books (balance sheet).

As discussed previously, for an IOU, the appropriate discount rate is the net of tax overall cost of capital (weighted average cost of capital), 7.54% to 10.51% (Exhibit 23, pages 2-8). In this instance, the net of tax overall cost of capital (weighted average cost of capital) is based on the Comparable Group's market value capital structure of 24.9% debt and 75.1% equity, a market cost of debt of 4.94% and a range of market cost of equity of 8.87% to 12.82%.[25] The Comparable Group's net of tax overall cost of capital (weighted average cost of capital) is used as a proxy to conform to the "hypothetical buyer" or "hypothetical seller" of fair market valuation. Use of the buyer's net of tax overall cost of capital (weighted average cost of capital) would produce an investment valuation, not a fair market valuation.[26]

We began the Income Approach for the Water System by first determining the Debt Free Net Cash Flow to be capitalized or discounted. The Debt Free Net Cash Flow is comprised of EBIT, minus income taxes, plus depreciation and amortization, plus or minus projected changes in net cash working capital, less projected capital expenditures. The development of Water System's Debt Free Net Cash Flow begins on Exhibit 1 and ends on Exhibits 12 through 16.

Differences in accounting practices exist between GASB, DCED and FASB because there are differences in their purpose. The GASB's and DCED's impetuses are to make sure government entities are accountable for the money they receive from the public or taxpayers, while the FASB's focus is to help investors and creditors make decisions. These differences in

25 For example, see http://www.investinganswers.com/financial-dictionary/financial-statement-analysis/weighted-average-cost-capital-wacc-2905. Also see http://www.wallstreetmojo.com/weighted-average-cost-capital-wacc/ , or http://accountingexplained.com/misc/corporate-finance/wacc .

26 We did not use the 6.73% Comparable Group's DSIC (distribution system improvement charge) related net of tax overall cost of capital in our valuation because a "hypothetical buyer" cannot finance an acquisition at such a rate and therefore, its use would provide a meaningless result. Where the 6.73% DSIC related cost was determined based the Comparable Group's book value capital structure of 49.1% debt and 50.9% equity, a cost of debt of 4.94% and a DSIC cost of equity of 9.80%. We note the 6.73% Comparable Group's DSIC related net of tax overall cost of capital falls below the 7.54% to 10.51% range of discount rates used in our Income Approach.

accounting objectives between GASB, DCED and FASB can present a problem when it comes to comparing the financial statements of entities that are either publicly or privately owned, such as the Water System and the Comparable Group.

Exhibit 1 presents the Water System's financial information contained in their financial statements, so it is more consistent with the Comparable Group and more practical for valuation purposes. The information on Exhibit 1 was used to develop Exhibits 12 through 16. As noted previously, the Water System's financial statements and their rates did not include taxes nor a fair rate of return. Accordingly, on Exhibits 13 through 16 we adjusted the Water System's post-2022 financial information for pro forma expenses and returns to be reflective of a MUNI or IOU ownership.

The Capitalization of Earnings Method. The capitalization of earnings method begins with an estimate of the income or cash flow producing capabilities of the business (Exhibit 12) for a recent time period and assumes current ownership and operations. We began the capitalization of earnings method for the Water System by first determining the Debt Free Net Cash Flow to be capitalized. The Debt Free Net Cash Flow is comprised of current EBIT, minus income taxes, plus current depreciation, and amortization, minus projected changes in net cash working capital, and minus projected capital expenditures. Specifically, our capitalization of earnings method capitalizes Water System's current (budget 2022) Debt Free Net Cash Flow. The second element of the capitalization of earnings method is the determination of an appropriate capitalization rate. Our analysis uses the current municipal revenue bond yield on July 8, 2022 of 3.81% (Exhibit 12, line 24) as the capitalization rate. We typically do a second capitalization of earnings calculation based on a capitalization rate reflective of some growth. However, in this instance we did not

assume any growth due to the demographics of the service area and our quantitative and qualitative analysis.

For pro forma 2022, we adjusted the Water System's Debt Free Net Cash Flow (Exhibit 12, lines 23 and 28) to include the average 2019-2021 capital expenditure to get a clearer picture of Debt Free Net Cash Flow. Exhibit 12 shows the results of the capitalization of earnings method. For the Water System, the capitalization of earnings method using a 3.81% capitalization rate (no growth) indicates a value of $0.6 million and -$4.2 million (negative) on pro forma 2022 results. Collectively, for the Water System, we believe the no growth scenario is the most probable result based on current ownership and operations and therefore, the capitalization of earnings method suggests a value of -$4.2 million (negative) based on pro forma 2022 results due to the existence of negative debt free net cash flow. Negative debt free net cash flow is indicative of a system which requires adjustments to their rates if they plan to remain operational.

The DCF Method. For the Water System, the DCF method considers two types of discounted cash flow analyses, the EBIT and EBITDA terminal value model ("Market Multiple DCF") and the capitalization of terminal value model ("Capitalization DCF"). We show the results of these models on Exhibits 13 through 16.

The DCF method begins with an estimate of the income or cash flow producing capabilities of the business. Specifically, our DCF methods use estimates of the results of the Water System's operations over the next 20 years. We use two different assumptions for the Water System's future operations in the DCF methods: MUNI ownership shown on Exhibits 13 and 15; and IOU ownership shown on Exhibits 14 and 16.

Under the MUNI ownership the discount rate is the current 3.81% municipal revenue bond yield and under the IOU ownership the discount rate is the current net of tax overall cost of capital,

reflecting the upper and lower range of the net of tax overall cost of capital for the Comparable Group of 7.54% to 10.51%. For the Capitalization DCF, the capitalization rate reflects only a scenario of no additional growth (i.e., discount rate = capitalization rate) under MUNI ownership and no growth under IOU ownership due to the demographics of the service area.

We computed the Market Multiple DCF terminal values by multiplying the Water System's projected EBITDA and EBIT by the Comparable Group's adjusted multiples of 13.9-times and 20.7-times, respectively. We computed the Capitalization DCF terminal value by dividing the projected Debt Free Net Cash Flow by the capitalization factor. The capitalization factor is equal to the discount rate minus assumed growth in projected Debt Free Net Cash Flow.

Exhibit 13 shows the results of the DCF method under the MUNI ownership scenario. The results of the Capitalization DCF shown on Exhibit 13 show a value for the Water System of $11.6 million. The results of the Market Multiple DCF shown on Exhibit 13 show a value of $10.9 million. Collectively, the DCF method based on the MUNI ownership scenario indicates a value of $11.2 million for the Water System based no growth assumption.

Exhibit 14 shows the results of the DCF method under the IOU ownership scenario. The results of the Capitalization DCF shown on Exhibit 14 show a range of value for Water System of $5.2 million to $7.3 million. The results of the Market Multiple DCF shown on Exhibit 14 show a range of value of $6.8 million to $9.5 million. Collectively, the DCF method based on the IOU ownership scenario and a no growth assumption indicates a value of indicates a value of $7.1

million for the Water System.[27]

The DCF method based on the MUNI ownership scenario indicates a value of $11.2 million and the DCF method based on the IOU ownership scenario indicates a value of $7.1 million. Collectively, the DCF method indicates a value of $9.1 million based on OCNLD.

Change in ownership of the Water System to a MUNI or an IOU produces a myriad of problems for the DCF Method. Under a MUNI purchase, future cash flow estimates are uncertain because they would reflect the actual price paid for the acquisition. Under an IOU purchase and the associated regulation by the PUC, future cash flow estimates are uncertain since regulation by the PUC would result in an unknown determination of rate base and the related depreciation and authorized/achieved earning levels. In the current instance, we know the Market Approach and the Cost Approach (RCNLD) indicate values considerably higher than the OCNLD value.

Therefore, Exhibits 13 and 14 are recalculated on Exhibits 15 and 16 to reflect revenues and cash flows derived from an earnings base between the values indicated by the RCNLD and the Market Approach. Exhibit 15 shows the results of the DCF method under the MUNI ownership scenario. The results of the Capitalization DCF shown on Exhibit 15 show a value for the Water System of $29.5 million. The results of the Market Multiple DCF shown on Exhibit 15 show a value of $25.9 million. Collectively, the DCF method based on the MUNI ownership scenario indicates a value of $27.7 million for the Water System based on the no growth assumption.

27 If we used the 6.73% Comparable Group's DSIC (distribution system improvement charge) related net of tax overall cost of capital in our valuation shown on Exhibit 14, the results of the Capitalization DCF would show a value for Water System of $8.2 million. Further, the results of the Market Multiple DCF would show a value of $10.5 million and collectively, the DCF method based on the IOU ownership scenario and a no growth assumption indicates a value of $9.4 million for the Water System. The DCF method based on the MUNI ownership scenario indicates a value of $11.2 million and the DCF method based on the IOU ownership scenario indicates a value of $9.4 million. Collectively, the DCF method indicates a value of $10.3 million based on OCNLD.

Exhibit 16 shows the results of the DCF method under the IOU ownership. The results of the Capitalization DCF shown on Exhibit 16 show a range of value for Water System of $15.0 million to $21.3 million. The results of the Market Multiple DCF shown on Exhibit 16 show a range of value of $18.8 million to $26.1 million. Collectively, the DCF method based on the IOU ownership scenario and a no growth assumption indicates a value of $20.0 million for the Water System.[28]

The DCF method based on the MUNI ownership scenario indicates a value of $27.7 million and the DCF method based on the IOU ownership scenario indicates a value of $20.0 million. Collectively, the DCF method indicates a value of $23.9 million ($23,862,553 rounded) based on the Income Approach as summarized on Exhibit 17.

The Market Approach. There are two methods of doing the Market Approach to valuation: the market multiples method; and the selected transaction method. We developed both the market multiples method and the selected transaction method in our valuation analysis.

The Market Multiples Method. The market multiples method valuation begins by reviewing market price data of corporations engaged in the same or a similar line of business as the Water System. We relied upon market data for the Comparable Group for these purposes since they are equally affected by similar economic, industry, and business risks as the Water System. Since no marketplace exists for the common stock of the Water System, an alternative to estimate the value of the Water System is to analyze the price investors are willing to pay for

28 If we used the 6.73% Comparable Group's DSIC (distribution system improvement charge) related net of tax overall cost of capital in our valuation shown on Exhibit 16, the results of the Capitalization DCF would show a value for Water System of $24.0 million. Further, the results of the Market Multiple DCF would show a value of $28.8 million and collectively, the DCF method based on the IOU ownership scenario and a no growth assumption indicates a value of $26.4 million for the Water System. The DCF method based on the MUNI ownership scenario indicates a value of $27.7 million and the DCF method based on the IOU ownership scenario using DSIC indicates a value of $26.4 million. Collectively, the DCF method indicates a value of $27.0 million when DSIC is considered.

the publicly traded common stock of companies that are similar to the Water System. The specific market price data reviewed includes the market value of common equity plus minority interest, preferred stock, and total debt net of cash and cash equivalents (i.e., Enterprise Value). Where the market value of common equity is the product of multiplying the closing stock price by the number of common shares outstanding. The Enterprise Value provides an indication of the value of the entire business. The Enterprise Value multiples ("Market Multiples") are shown on Exhibit 18. For the Comparable Group, the Market Multiples were calculated as of July 8, 2022 based on the latest twelve months of financial data available at the appraisal date.

We used the Comparable Group's Enterprise Value on July 8, 2022 and calculated Market Multiples of: revenue ("Revenue"); EBITDA; EBIT; gross property plant and equipment ("GPPE"); net property plant and equipment ("NPPE"); investor provided capital ("ICAP"); utility customers ("Customers"); and population of the area served ("Population").

The next step in the market multiples method valuation was applying the Comparable Group's Market Multiples to corresponding financial and operating statistics of the Water System. The Comparable Group's Market Multiples reflect their capitalization rate of each financial and operating statistic. For example, a Market Multiple of EBIT of 16.14 times equates to a capitalization of EBIT of 6.20% (1 ÷ 16.14 = 6.20%). Each capitalization rate is unique to the entity and the statistic being evaluated and reflects the growth and investment risk of the entity.

We believe that similar economic, industry and business risks have affected the Comparable Group as those faced by the Water System. However, consideration must be given to the fact that no two companies are exactly alike. On average, the utilities in the Comparable Group are larger than the Water System. The relative size difference between the Comparable Group and Water System suggests that the risk to investors of the Water System is higher than the

Comparable Group. Further, based upon our quantitative and qualitative analysis, we concluded that the Water System has more risk than the Comparable Group.

Accordingly, the Comparable Group's Market Multiples are not directly applicable to the Water System. We assumed the higher risk due to the Water System's size is added to the higher risk found in our quantitative and qualitative analysis. This combined risk was assumed to result in the Water System being 30% more risky than the Comparable Group and produces an 70% (100% - 30%) base risk adjustment to the Comparable Group's Market Multiples. We applied the 70% base risk adjustment to all financial multiples. For example, the Comparable Group's ICAP multiple was multiplied by 70% to produce a lower multiple applicable to the Water System to account for risk differences.

The Comparable Group's Market Multiples of Revenue, EBITDA, and EBIT were adjusted for the base risk adjustment to produce multiples applicable to the Water System (Exhibit 18, page 3). The Comparable Group's Market Multiples of GPPE and NPPE were adjusted for the base risk adjustment and for their percentage of property plant and equipment (Exhibit 18, page 3) financed with "cost free" capital such as contributions because "cost free" capital should not be part of this valuation process. The Comparable Group's Market Multiples of Customers and Population were adjusted for the type of assets of the Water System, earnings rate, and growth.

The net risk adjustments to the Comparable Group's Market Multiples are shown on page 1 of Exhibit 18. The adjustments to the Comparable Group's Market Multiples are: 70% of ICAP (more risk/lower growth); 78% of GPPE (more risk/lower growth and contributions); 78% of NPPE (more risk/lower growth and contributions); 70% of Revenue (more risk/lower growth); 70% of EBIT; 70% EBITDA (more risk/lower growth); 79% of Customers (growth, earning rate, and contributions); and 79% Population (growth, earning rate, and contributions).

Page 1 of Exhibit 18 shows the market multiples method indicated values based on: Revenue, EBIT and EBITDA (collectivity called "Income Statement Items"); ICAP, GPPE and NPPE (collectivity called "Capital Items"); and Customers and Population (collectivity called "Demographics Items"). For most municipal utilities, the indicated values based on Income Statement Items are far below the indicated values that are based on Capital Items and those based on Demographics Items. We attribute this to the dollars of Revenue, EBIT and EBITDA do not reflect any provision for taxes while the multiples for the Comparable Group do.[29] Consequently, we do not believe the results of the multiples of Revenue, EBIT and EBITDA are meaningful and should not be used for municipal utilities.

In the market multiples method, the meaningful Market Multiples of the Comparable Group are used to develop an indicated value of the Water System. This is accomplished by multiplying the Water System's financial and operating data by the Comparable Group's median Market Multiples (Exhibit 18, page 1). The results of the market multiples method (Exhibit 18, page 1) show a range of value for the Water System of $17.9 million to $19.2 million and collectively, indicate value of $18.5 million based on the meaningful Market Multiples.

The Selected Transactions Method. The selected transactions method entails analyzing certain public information relating to selected transactions involving the purchase or sales of businesses involved in the same or similar business line. The number of selected transactions available for review is limited because most acquisitions in the water and wastewater industry involve small acquisitions for which no public information exits. Additionally, not all transactions are comparable since some purchase prices may only involve the acquisition of the

29 The Revenue, EBIT and EBITDA for the Water System also do not include a fair rate of return.

common stock, purchase prices may be net of cash and others may only involve assets. In any of these instances, the derived multiples (e.g., purchase price as a multiple of: Revenues; EBITDA; EBIT; etc.) would understate (overstate) the multiples involving a purchase price for an entire business enterprise (common stock) or business assets.

The selected transactions method provides a valuation of a business, or assets, at the time the acquisition of that business was completed, rather than the appraisal date market value (July 8, 2022). The change in the Comparable Group's market multiples of NPPE and ICAP, shown in Figure 1, illustrates the change in market valuation over a recent 72-month period.[30] In Figure 1 the Comparable Group's market multiples of NPPE and ICAP were indexed to July 8, 2022 valuation multiples so that the July 8, 2022 valuation multiples have an index value of 100.

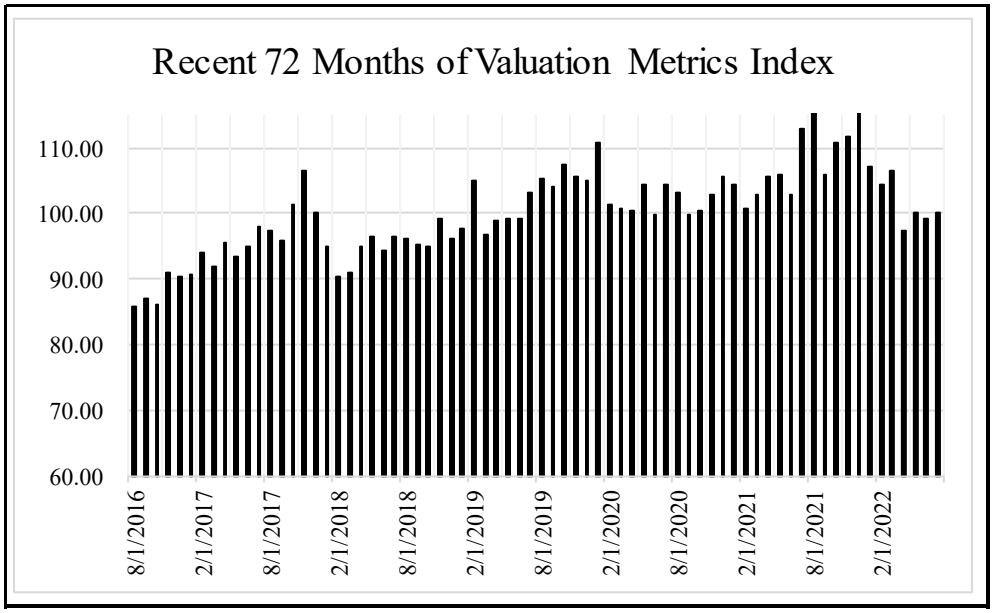


Figure 1

30 Note that Figure 1 only depicts change in market valuations based on NPPE and ICAP. Other metrics (e.g., EBIT, Customers, etc.) may reveal different changes in market valuations.

The index of the Comparable Group's appraisal date (July 8, 2022) valuation multiples is 3% above the 2022's lowest levels and 7% below the 2022's highest levels and 3% above the 2021's lowest levels and 17% below 2021's highest levels. The index of the Comparable Group's July 8, 2022 valuation multiples is 3% higher than 2020's lowest levels and 11% below 2020's highest levels, are 3% higher than 2019's lowest levels and 7% below 2019's highest levels, are 10% higher than 2018's lowest levels and 1% above 2018's highest level, are 10% higher than 2017's lowest levels and 7% below 2017's highest level, and are 9% to 14% higher than 2016's multiples' index.

Because of the rapid rise in valuation multiples since early 2016 we limited our search for selected transactions to: (1) those that occurred in 2016 or later; (2) purchases of water or sewer systems; (3) assets being purchased; and (4) those that did not discount "cost free" capital/customer contributions in the valuation. The selected transactions that met the stated selection criteria are shown on pages 2 and 3 of Exhibit 19.

Using certain public information, we calculated sales price multiples of selected transactions involving the purchase or sale of businesses that met the stated selection criteria. The calculated sales price multiples included transactions multiples of: ICAP; GPPE; NPPE; Revenue; EBITDA; EBIT; Customers; and Population. As shown on pages 2 and 3 of Exhibit 19, the selected transactions method indicated values based on the Income Statement Items are far different than the Water System's selected transactions method indicated values based on Capital Items and those based on Demographics Items. We attribute this to the fact the selling utilities'

dollars of Income Statement Items do not reflect any provision for taxes.[31] Consequently, we do not believe the results of the multiples of Income Statement Items are meaningful.

The selected transaction method relies on and reflects information that was known, ex-ante, at the time the winning purchase bid (price) was offered, and the metrics used are time period sensitive. For example, bids made in 2016 only reflects metrics from 2015 since the results of 2016 could not be known at the time of the bids. The selected transaction method ex-ante information (metrics) is shown on page 2 of Exhibit 19. Complete information only exists for a few of the transactions, with only Customers and Population having ample data for all transactions as is evident from the information shown (Exhibit 19, page 2). Therefore, we supplemented the ex-ante data with ex-post information of GPPE and NPPE (collectivity called "Asset Items") as shown on page 3 of Exhibit 19.

In the selected transactions method, the significant selected transactions multiples of the selling utilities are used to develop an indicated value of the Water System. This process is accomplished by multiplying the Water System's financial and operating data by the selling utilities' transactions multiples (Exhibit 19, pages 2 and 3).

The results of the selected transactions method (Exhibit 19, page 1) show a range of value for the Water System of $20.9 million to $24.7 million when all transactions are considered and a range of value of $24.0 million to $28.2 million when fully integrated assets (excluding wholesale) are solely considered. We determined an indicated value of $24.3 million for the Water System using the selected transactions method by considering the results of all transactions, $22.8 million,

31 Further, Revenue, EBIT and EBITDA for the Water System also do not include a fair rate of return.

and the results of the fully integrated assets (excluding wholesale) of $25.6 million (Exhibit 19, page 1).[32]

Wall Street Transactions. In 2018 two IOUs, Connecticut Water Service, Inc. ("Connecticut Water") and SJW Group, announced a planned merger with Connecticut Water being acquired by SJW through a stock purchase (stock swap). SJW Group's purchase of Connecticut Water was approved in late 2019. Similarly, in 2021 two IOUs, were involved in another transaction which involved Aquarion Company, parent of Aquarion Water Company, completing its acquisition of the New England Service Company, Inc. ("NESC") through a stock purchase (stock swap).[33] Again in 2022 two IOUs, were involved in another transaction which involved Aquarion Company, parent of Aquarion Water Company, announcing its acquisition of The Torrington Water Company, Inc. ("TORW") through a stock purchase (stock swap). Connecticut Water, NESC and TORW were publicly traded as was the stock they received in the transactions.

Although these acquisitions are not directly applicable to the Water System, they do provide a range of indicated value for the Water System (Exhibit 20, page 1) which we relied on as checks. In these selected transactions, the significant selected transactions multiples of the selling utilities, Connecticut Water, NESC, and TORW are used to develop an indicated value of the Water System. This is accomplished by multiplying the Water System's financial and operating data by the selling utilities' transactions multiples. The results of the Connecticut Water

32 The appraisal gave 25% weight to the collection/distribution assets selected transactions results and 75% weight to the integrated systems (excluding wholesale) transactions results. We did so due to the small sample size of integrated systems (excluding wholesale) transactions and the fact that similar multiples occurred in both the collection/distribution systems and integrated systems selected transactions, therefore, consideration was given to both.

33 NESC was the sole stockholder of four regulated water companies operating in three separate states.

selected transactions (Exhibit 20, page 2) show a range of value for the Water System of $20.3 million when the reported significant selected transactions multiples are considered and a value of $28.6 million when the reported significant selected transactions multiples have been adjusted for "cost free" capital. The results of the NESC selected transactions (Exhibit 20, page 3) show a range of value for the Water System of $16.3 million when the reported significant selected transactions multiples are considered and a value of $24.5 million when the reported significant selected transactions multiples have been adjusted for "cost free" capital. The TORW selected transactions (Exhibit 20, page 4) show a range of value for the Water System of $24.7 million when the reported significant selected transactions multiples are considered and a value of $37.1 million when the reported significant selected transactions multiples have been adjusted for "cost free" capital.

Collectively, the Wall Street selected transactions indicate values of $24.5 million to $37.1 million, which are similar to the values found by the market multiples method of $18.5 million and the selected transaction method of $24.3 million for the Water System.[34]

The Market Approach is summarized on Exhibit 21. The results of the market multiples method (Exhibit 18) indicate value of $18.5 million. The results of the selected transactions method (Exhibit 19) indicate value of $24.3 million. Based on the aforesaid results, the Market Approach to valuation indicates a value of $21.4 million for the Water System based on the results of the market multiples method and the selected transactions method (Exhibit 21).

34 We note Connecticut Water, NECS and TORW were fully integrated companies, as is Water System. Additionally, they were publicly traded, which the Water System is not, and therefore, may overstate the value for the Water System. However, these transactions were stock transactions, which may understate the value for the Water System's asset purchase.

Conclusion. We summarize our findings for the Water System on Exhibit 22. Our finding for the Water System is based on the Cost, Market, and Income Approaches to valuation. We used seven methods under the Cost, Market, and Income Approaches to valuation: Original Cost Method, Replacement Cost Method, Capitalization of Earnings Method, Market Multiple Discounted Cash Flow Method, Capitalization Discounted Cash Flow Method, Market Multiples Method, and the Selected Transactions Method.

The results from the market multiple discounted cash flow method and the capitalization discounted cash flow method form the basis for our Income Approach. Our Market Approach is supported by the market multiples method and selected transactions method. The results from the original cost method form the basis for our replacement cost method, and both methods form the basis for our Cost Approach.

We considered the results of each approach as an indicator of value individually, or as independent indicators of value. Therefore, all three approaches to valuation were given consideration in arriving at our estimate of the fair market value conclusion. We gave less weight to the Cost Approach due to the magnitude of our determination of functional and economic obsolescence. We gave equal weight to the indicated values produced by the two economic approaches, Income and Market, as we believe they best measure the Water System's value. Based on these facts, our conclusion regarding the fair market value is $25.2 million. Our conclusion regarding the fair market value can be described by the weights and the specific results of the three approaches to valuation that are shown on Exhibit 22. The results of our analyses, shown on Exhibit 22, indicate a range of value for the Water System of $21.4 million to $33.0 million and collectively indicate a fair market value of $25,221,000 for the Water System.

APPENDIX A - QUALIFICATIONS

APPENDIX A

Professional Qualifications
of
Harold Walker, III
Manager, Financial Studies
Gannett Fleming Valuation and Rate Consultants, LLC.

EDUCATION

Mr. Walker graduated from Pennsylvania State University in 1984 with a Bachelor of Science Degree in Finance. His studies concentrated on securities analysis and portfolio management with an emphasis on economics and quantitative business analysis. He has also completed the regulation and the rate-making process courses presented by the College of Business Administration and Economics Center for Public Utilities at New Mexico State University. Additionally, he has attended programs presented by The Institute of Chartered Financial Analysts (CFA).

Mr. Walker was awarded the professional designation "Certified Rate of Return Analyst" (CRRA) by the Society of Utility and Regulatory Financial Analysts. This designation is based upon education, experience, and the successful completion of a comprehensive examination. He is also a member of the Society of Utility and Regulatory Financial Analysts (SURFA) and has attended numerous financial forums sponsored by the Society. The SURFA forums are recognized by the Association for Investment Management and Research (AIMR) and the National Association of State Boards of Accountancy for continuing education credits.

Mr. Walker is also a licensed Municipal Advisor Representative (Series 50) by Municipal Securities Rulemaking Board (MSRB) and Financial Industry Regulatory Authority (FINRA).

BUSINESS EXPERIENCE

In 1996, Mr. Walker joined Gannett Fleming Valuation and Rate Consultants, LLC. In his capacity as Manager, Financial Studies and for the past 25 years, he has continuously studied rates of return requirements for regulated firms. In this regard, he supervised the preparation of rate of return studies in connection with his testimony and in the past, for other individuals. He also assisted and/or developed dividend policy studies, nuclear prudence studies, calculated fixed charge rates for avoided costs involving cogeneration projects, financial decision studies for capital budgeting purposes and developed financial models for determining future capital requirements and the effect of those requirements on investors and ratepayers, valued utility property and common stock for acquisition and divestiture, and assisted in the private placement of fixed capital securities for public utilities.

Head, Gannett Fleming GASB 34 Task Force responsible for developing Governmental Accounting Standards Board (GASB) 34 services and educating Gannett Fleming personnel and

Gannett Fleming clients on GASB 34 and how it may affect them. The GASB 34 related services include inventory of assets, valuation of assets, salvage estimation, annual depreciation rate determination, estimation of depreciation reserve, asset service life determination, asset condition assessment, condition assessment documentation, maintenance estimate for asset preservation, establishment of condition level index, geographic information system (GIS) and data management services, management discussion and analysis (MD&A) reporting, required supplemental information (RSI) reporting, auditor interface, and GASB 34 compliance review.

In 2004, Mr. Walker was elected to serve on the Board of Directors of SURFA. Previously, he served as an ex-officio directors as an advisor to SURFA's existing President. In 2000, Mr. Walker was elected President of SURFA for the 2001-2002 term. Prior to that, he was elected to serve on the Board of Directors of SURFA during the period 1997-1998 and 1999-2000. Currently, he also serves on the Pennsylvania Municipal Authorities Association, Electric Deregulation Committee.

Prior to joining Gannett Fleming Valuation and Rate Consultants, LLC., Mr. Walker was employed by AUS Consultants - Utility Services. He held various positions during his eleven years with AUS, concluding his employment there as a Vice President. His duties included providing and supervising financial and economic studies on behalf of investor owned and municipally owned water, wastewater, electric, natural gas distribution and transmission, oil pipeline and telephone utilities as well as resource recovery companies.

Mr. Walker was also the Publisher of C.A. Turner Utility Reports from 1988 to 1996 while employed at AUS Consultants - Utility Services. C.A. Turner Utility Reports is a financial publication which provides financial data and related ratios and forecasts covering the utility industry. From 1993 to 1994, he became a contributing author for the Fortnightly, a utility trade journal while employed at AUS Consultants - Utility Services. His column was the Financial News column and focused mainly on the natural gas industry.

EXPERT TESTIMONY

Mr. Walker has submitted testimony or been deposed on various topics before regulatory commissions and courts in 26 states including: Arizona, California, Colorado, Connecticut, Delaware, Hawaii, Idaho, Illinois, Indiana, Kentucky, Maryland, Massachusetts, Michigan, Missouri, New Hampshire, Nevada, New Jersey, New York, North Carolina, Oklahoma, Pennsylvania, Rhode Island, South Carolina, Vermont, Virginia, and West Virginia. His testimonies covered various subjects including: fair market value, the taking of natural resources, appropriate capital structure and fixed capital cost rates, depreciation, fair rate of return, purchased water adjustments, synchronization of interest charges for income tax purposes, valuation, cash working capital, lead-lag studies, financial analyses of investment alternatives, benchmarking, and fair value.

PROFESSIONAL AFFILIATIONS

Society of Utility and Regulatory Financial Analysts
- Board of Directors, 1996-2000, 2005-2008
- President, 2000-2002
- Treasurer, 1996-1998

National Association of Water Companies
Pennsylvania Municipal Authorities Association
- Electric Deregulation Committee

TECHNICAL PUBLICATIONS & PRESENTATIONS

Walker, Harold. Panelist "Now is the Time to Maximize Your Utility's Value." Presented at the Pennsylvania Association of Township Supervisors 97th Annual State Convention, April 2019.

Walker, Harold. Panelist "Fair Market Acquisitions Debate." Presented at National Association of Regulatory Utilities Commissioners Winter Policy Summit, February 2019.

Walker, Harold. Panelist "Fair Market Value Legislation." Presented at the National Association of Water Companies Water Summit, October 2018.

Walker, Harold. Panelist "Leveraging Water & Sewer to Address Roads, Schools, and Pension Obligations." Presented at the Maryland Association of Counties 2018 Summer Conference, August 2018.

Walker, Harold. Panelist "Is the Glass Half Full or Half Empty? Valuing Municipal Water Acquisitions." Presented at the Mid-Atlantic Conference of Regulatory Utilities Commissioners 23rd Annual Education Conference, June 2018.

Walker, Harold. "Valuation and Inventory of Governmental Assets Under GASB 34." Presented at the Society of Depreciation Professionals 21st Annual Conference, September 2007.

Walker, Harold. "The Paradox of State Regulatory Opinions and Investor Behavior." Presented at the National Association of Water Companies New England Chapter conference, November 2006.

Walker, Harold. "Valuation and Inventory Under GASB 34." Presented at the Government Finance Officers Association South Central Pennsylvania Regional Chapter conference, August 2003.

Walker, Harold. "Valuation and Inventory under GASB 34." Presented at the Government Finance Officers Association Southeastern Pennsylvania Regional Chapter conference, April 2002.

Walker, Harold. "GASB 34 & Your Infrastructure." *The Authority,* August 2001, Volume XXXII, No. 4, pages 10-13.

Walker, Harold. "Managing Risk." Conference Chairperson, presented at the Society of Utility & Regulatory Financial Analysts 33rd Financial Forum, April 2001.

Walker, Harold. "Paying for Your MSW System - Waste Generation Fees." Presented at the Federation of New York Solid Waste Association Solid Waste/Recycling Conference and Trade Show, May 2001.

Walker, Harold. "Statement No. 34 of the Government Accounting Standards Board." Presented at the Pennsylvania Association of Township Supervisors 79th Annual State Convention, April 2001.

Walker, Harold. "Cost of Capital Issues." Presented at the National Association of Water Companies New England Chapter conference, October 2000.

Walker, Harold, Timothy Hartman, and Mark Everett. "Waste Generation Study: Life After Flow Control." Presented at Waste Con 2000, October 1999.

Walker, Harold, and Timothy Hartman. "The Enhancement of Revenues Through a Waste Generation Study." Presented at SWANA's Planning and Management Symposium, July 1999.

COMPLIANCE & APPRAISAL CERTIFICATION

Compliance with Uniform Standards of Professional Appraisal Practice (USPAP) 2020-2021*

Fulfillment of Requirements for a Personal Property Appraisal and Report

- **State the identity of the client and any intended users, by name or type:**

  The client is Aqua Pennsylvania, Inc. The intended users of the valuation are Aqua Pennsylvania, Inc., and the Pennsylvania Public Utility Commission ("PUC").

- **State the intended use of the appraisal**

  The intended use of the valuation is to comply with 66 Pa. C.S. Section 1329, Valuation of Acquired Water and Wastewater Systems and conduct a fair market value appraisal of the Water System in compliance with the Uniform Standards of Professional Appraisal Practices, employing the cost, market, and income approaches.

- **Describe information sufficient to identify the property, real, personal, and intangible, involved in the appraisal, including the physical and economic property characteristics relevant to the assignment.**

  The Municipal Authority of the Borough of Shenandoah owns and operates the Water System which consists of a water treatment plant ("WTP"), four public water supply reservoirs, four water storage tanks, four booster stations, two pressure reducing stations and approximately 49 miles of water mains, associated infrastructure and appurtenances, and related land and land rights. The Water System directly serves 2,899 existing residential, commercial, industrial, and institutional accounts in the Borough of Shenandoah, West Mahanoy Township, and Girardville Borough in Schuylkill County.

  The Water System's WTP, located in West Mahanoy Township, is designed to treat 3.1 million gallons per day ("MGD") of raw water with a hydraulic capacity of 4.0 MGD. In 2021, the WTP's treated 1.6 MGD. The WTP's treatment process consists of lime, alum, sodium hydroxide, alum, activated carbon, potassium permanganate and zinc orthophosphate addition for treatment, four adsorption clarifiers, four mixed media filters, six sludge drying beds, inclined plate settler for sludge, and chlorine gas for disinfection. The WTP complex was constructed in 1993 and consists of the main treatment building, a high service pump station and an 850,000-gallon ground storage tank.

  The Water System's four public water supply reservoirs are comprised of the Raven Run Dams No. 2 and No. 3 and Ringtown Dams No. 5 and No. 6. Raven Run Dam No. 2 is a Class C-2 earthen embankment dam, and Raven Run Dam No. 3 is a Class C-1 earthen embankment dam; both are located in West Mahanoy Township. Ringtown Dams No. 5 and No. 6. are Class B-1 earthen embankment dams located in Union Township.

*- On February 19, 2021, The Appraisal Foundation's Appraisal Standards Board (ASB) announced that the current edition of the Uniform Standards of Professional Appraisal Practice (USPAP) would be extended by one year. The 2020-2021 USPAP will now be effective until December 31, 2022.

The Water System's four water storage tanks include the WTP's 850,000-gallon steel ground storage tank (installed 1993), the Kehly Run Tank 1,000,000-gallon welded steel round storage tank (installed 1991), the Turkey Run Tank is a 150,000-gallon elevated storage tank (installed 1974), and the Swatara Road Standpipe 500,000-gallon welded steel storage tank (installed 1978). The Water System's four booster stations include the High End Pump Station, Turkey Run Pump Station, Pump Station No. 7, and Pump Station No. 5.

The Water System's 257,067 linear feet of water mains consist of 1-inch, 2-inch, 3-inch, 4-inch, 6-inch, 8-inch, 10-inch, 12-inch, 16-inch, and 24-inch diameter pipe which was installed between 1885 to 1993. About 45% of the mains are 4-inch or less, 38% are 6-inch or 8-inch, 8% 10-inch or 12-inch, and 9% are 16-inch or 24-inch. About 53% of the mains were installed between 1885 and 1920, 30% in the 1940s, 9% in the 1950s, and 4% in the 1980s and 1990s. The mains consist of 90% cast iron pipe ("CIP"), 5% ductile iron pipe ("DIP") and 5% transite, or asbestos-cement pipe ("AC").

The Water System's land and land rights include land used for water treatment plant ("WTP"), four public water supply reservoirs, four water storage tanks, four booster stations, two pressure reducing stations and approximately 49 miles of water mains, associated infrastructure and appurtenances and multiple easements and rights-of-way necessary to operate the Water System.

- **State the real property interests appraised**

  The Water System's land and land rights agreements necessary to access its property.

- **State the type and definition of value and cite the source of the definition, including whether the opinion of value is in terms of cash or of financing terms equivalent to cash, or based on non-market financing or financing with unusual conditions or incentives**

  Fair market value is defined as:

  > "The price, expressed in terms of cash equivalents, at which property would change hands between a hypothetical willing and able buyer and a hypothetical willing and able seller, acting at arm's length in an open and unrestricted market, when neither is under compulsion to buy or sell and when both have reasonable knowledge of the relevant facts." The International Glossary of Business Valuation Standards

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Compliance with Uniform Standards of Professional Appraisal Practice (USPAP) 2020-2021*

Fulfillment of Requirements for a Personal Property Appraisal and Report

- **State the effective date of the appraisal and the date of the report**

  The effective date of the appraisal is as of July 8, 2022, and the appraisal report date is September 6, 2022.

- **Describe sufficient information to disclose to the client and any other intended users of the appraisal the scope of work used to develop the appraisal**

  Gannett Fleming Valuation and Rate Consultants, LLC was retained by Aqua Pennsylvania, Inc. ("Aqua") to estimate the fair market value of the Municipal Authority of the Borough of Shenandoah's water system assets ("Water System") as of July 8, 2022.

  The intended use of the valuation is to comply with 66 Pa. C.S. Section 1329, Valuation of Acquired Water and Wastewater Systems and conduct a fair market value appraisal of the Water System in compliance with the Uniform Standards of Professional Appraisal Practices, employing the cost, market, and income approaches.

  As stated, the standard of value for this engagement is fair market value. The premise of value is the going concern. The going concern premise of business value assumes that the business will continue running normally using all its assets to produce income and will continue operating beyond the valuation date.

  We valued the Water System's assets as a group under the premise that the assets collectively comprise an ongoing operating business enterprise. Additionally, in accordance with 66 Pa. C.S. Section 1329, the original source of funding for any part of the Water System's assets was not relevant to the determination of the value of said assets.

  We accepted all information and data provided by Aqua and or Municipal Authority of the Borough of Shenandoah ("Authority") and/or the Borough of Shenandoah ("Shenandoah") as it pertains to this assignment "as is" after a limited review. That is, we neither audited nor verified any data, engineering assessment, financial record or operating data provided for this assignment. We assumed all title to all assets included in the appraisal is good and marketable, no hidden defects in the property or soil and no hazardous conditions or materials exist which could affect the assets.

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The appraisal considered all three approaches to value: the cost, income, and market. Briefly the scopes of work for each are as follows:

The cost approach utilized the original cost method and replacement cost method. The reproduction cost method was calculated by trending (trended cost method) the asset inventory developed by Pennoni Associates Inc. from its original cost new inventory. The original cost method determined the original cost new measure of the cost of the assets when first constructed. The original cost new inventory was trended using the Handy Whitman Index of Public Utility Construction Costs for the water industry to produce the reproduction cost new and converted to replacement cost new after obsolescence was factored. The calculated accrued depreciation was determined for the original cost new and for the replacement cost new. The calculated accrued depreciation was based on the assets' attained ages, and the service life of the assets. The cost basis of depreciable assets was reduced annually by the accumulated depreciation to reflect the loss in the service value of the assets since being constructed. All land and land rights were valued at original cost.

Income Approach - The income approach utilized the capitalization of earning (cash flow) method and the discounted cash flow method. The capitalization of earning method converted a single base economic income number to a value by dividing it by a capitalization rate. The discounted cash flow method used estimates of future debt free net cash flow and discounted them to arrive at a present value or price of the cash flows. The capitalization rate and the discount rate were developed based on market debt and equity rates at the appraisal date. The discounted cash flow method reflected two types of discounted cash flow analyses, the EBIT and EBITDA terminal value model and a capitalization of terminal value model.

Market Approach - The market approach was developed based on the market multiples method and the selected transaction method. The market multiples method was based on the market price data of publicly traded corporations engaged in the same or a similar line of business as the Water System. The market price data of these comparable publicly traded corporations was used to calculate the market multiples for the comparable publicly traded corporations at the appraisal date. The selected transactions method used certain public information relating to the purchase or sales of businesses involved in the same or a similar business line as the Water System to calculated market multiples at the time of transaction (sale/purchase). The calculated market multiples determined by the market multiples method and the selected transaction method were then multiplied by the

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corresponding the Water System financial and operating statistic to produce an indicated value for the Water System.

Reconciliation of the Valuation Approaches - The fair market value conclusion was based on reconciliation of each of the three approaches to value and the intended purpose of the appraisal.

- **Clearly and conspicuously:**
  - **State all extraordinary assumptions and hypothetical conditions;**

    There were no extraordinary assumptions required or hypothetical conditions in this appraisal.

  - **State that their use might have affected the assignment results**

    Not applicable.

- **Clearly and accurately disclose all assumptions, extraordinary assumptions, hypothetical conditions, and limiting conditions used in the assignment**

  Not applicable.

- **Describe the information analyzed, the appraisal procedures followed, and the reasoning that supports the analyses, opinions, and conclusions**

  See scope of work above.

- **State the use of the real estate existing as of the date of value and the use of the real estate reflected in the appraisal**

  The Water System's land and land rights include land used for a water treatment plant, four public water supply reservoirs, four water storage tanks, four booster stations, two pressure reducing stations and approximately 49 miles of water mains, associated infrastructure and appurtenances and multiple easements and rights-of-way necessary to operate the Water System.

*- On February 19, 2021, The Appraisal Foundation's Appraisal Standards Board (ASB) announced that the current edition of the Uniform Standards of Professional Appraisal Practice (USPAP) would be extended by one year. The 2020-2021 USPAP will now be effective until December 31, 2022.

The Water System's land and land rights were assumed to be used for the operation of the Water System for the appraisal.

- **State and describe the support and rationale for the appraiser's opinion of the highest and best use of the real estate**

  All land and land rights were assumed to be used for the operation of the Water System for the appraisal, were valued at original cost, and not at highest and best use of the real estate.

- **State and explain any permitted departures from specific requirements of STANDARD 1 and the reason for excluding any of the usual valuation approaches. The appraisal then becomes a limited appraisal - a limited appraisal report must contain a prominent section that clearly identifies the extent of the appraisal process performed and the departures taken**

  No departures for Standard 1 were made.

- **Include a signed certification in accordance with Standards Rule 2-3**

  See attached for signed certification.

*- On February 19, 2021, The Appraisal Foundation's Appraisal Standards Board (ASB) announced that the current edition of the Uniform Standards of Professional Appraisal Practice (USPAP) would be extended by one year. The 2020-2021 USPAP will now be effective until December 31, 2022.

APPRAISAL CERTIFICATION

Schuylkill, Pennsylvania

Municipal Authority of the Borough of Shenandoah

Water System Assets

Fair Market Value Appraisal Report

As of July 8, 2022

Gannett Fleming Valuation and Rate Consultants, LLC certify that, to the best of its knowledge and belief:

— The statements of fact contained in this report are true and correct.

— The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions, and are our personal, impartial, and unbiased professional analyses, opinions, and conclusions.

— Gannett Fleming Valuation and Rate Consultants, LLC has not performed an appraisal of the Municipal Authority of the Borough of Shenandoah's water system prior to this current appraisal.

— Gannett Fleming Valuation and Rate Consultants, LLC, nor its professional staff has any present or prospective interest in the property that is the subject of this report and has no interest or bias with respect to the parties involved.

— We have no bias with respect to the property that is the subject of this report or to the parties involved with this assignment.

— Our engagement in this assignment is not contingent upon developing or reporting predetermined results.

— Our compensation for completing this assignment is not contingent upon the development or reporting of a predetermined value or direction in value that favors the cause of the client, the amount of the value opinion, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this appraisal.

— Our analyses, opinions, and conclusions were developed, and this report has been prepared, in conformity with the Uniform Standards of Professional Appraisal Practice (2020-2021)

APPRAISAL CERTIFICATION

Schuylkill, Pennsylvania

Municipal Authority of the Borough of Shenandoah

Water System Assets

Fair Market Value Appraisal Report

As of July 8, 2022

— The signers of this report relied upon Gregory R. Herbert, Rate Analyst at Gannett Fleming Valuation and Rate Consultants, LLC, who viewed or observed the property that is the subject of this report.

— Individuals providing significant appraisal assistance to the person signing this certification include: John J. Spanos, President, Joanna Lappin, Depreciation Analyst and Gregory R. Herbert, Rate Analyst at Gannett Fleming Valuation and Rate Consultants, LLC.

Gannett Fleming Valuation and Rate Consultants, LLC

By,



HAROLD WALKER, III

Manager, Financial Studies

EXHIBITS

The Municipal Authority of the Borough of Shenandoah Water System Assets
Selected Audited Financial Information

	12-Months Ended September 30:			
	2018	2019	2020	2021
Gross property, plant & equipment	19,951,653	20,365,532	20,606,371	21,134,020
Accumulated depreciation	8,951,277	9,262,917	9,553,236	9,881,773
Net property, plant & equipment	11,000,376	11,102,615	11,053,135	11,252,247
Assets	14,978,995	14,801,526	14,346,929	14,089,286
Debt Current	216,437	225,367	234,665	244,348
Debt	6,313,563	6,088,197	5,853,532	5,609,183
Equity	7,374,464	7,404,683	7,244,756	7,266,174
Total Capital	13,904,464	13,718,247	13,332,953	13,119,705
OPERATING REVENUES				
Charges for services	1,930,320	2,050,863	1,926,472	2,069,499
Other operating income	6,888	7,388	1,122	0
TOTAL OPERATING REVENUES	1,937,208	2,058,251	1,927,594	2,069,499
Expenses	1,711,296	1,524,614	1,659,366	1,618,095
Depreciation	339,100	314,353	328,537	328,537
TOTAL OPERATING EXPENSES	2,050,396	1,838,967	1,987,903	1,946,632
CAPX	39,957	413,879	276,344	527,649
Interest	99,365	258,973	250,141	242,248
Principal	540,302	216,436	225,367	234,665

Comment: The 2021 depreciation expense was assumed to be equal to 2020 because the DCED report did not itemize depreciation. The 2021 CAPX is estimated based on changes in reported plant value due to lack of data.

Source of Information: Audited/DCED Financial Statements (2018-2021)

The Municipal Authority of the Borough of Shenandoah Water System Assets
Population, Housing Units, Customer Count, EDUs and Flows

	Total
Population in Houses (2022)	8,209
Occupied Housing Units (2022)	3,364
Average Size	2.44

Population to Customers	2.1
Customers to Housing Units	86%

Customers (2021)	Customers	Average Customer Consumption
Retail Customers		
Residential	2,652	36,145
Commercial	200	78,981
Industrial	5	3,824,981
Public	39	586,181
Other	3	33,821,265
Total	2,899	
Total EDUs	3,288	

Population and Housing Units (2022)

	Total Population	Population in Households	Occupied Housing Units	Persons Per Housing Unit	Estimated Population Served
Shenandoah Borough	4,333	4,206	1,690	2.49	4,333
Girardville Borough	1,305	1,305	548	2.38	79
West Mahanoy Twp	2,796	2,698	1,126	2.40	1,754
Total	8,434	8,209	3,364	2.44	6,166

TABLE 3.1 US Population Census Counts, 2010 & 2020

State	Population 2010	Population 2020	Percentage Change
Alabama	4,779,736	5,024,279	5.1%
Alaska	710,231	733,391	3.3%
Arizona	6,392,017	7,151,502	11.9%
Arkansas	2,915,918	3,011,524	3.3%
California	37,253,956	39,538,223	6.1%
Colorado	5,029,196	5,773,714	14.8%
Connecticut	3,574,097	3,605,944	0.9%
Delaware	897,934	989,948	10.2%
District of Columbia	601,723	689,545	14.6%
Florida	18,801,310	21,538,187	14.6%
Georgia	9,687,653	10,711,908	10.6%
Hawaii	1,360,301	1,455,271	7.0%
Idaho	1,567,582	1,839,106	17.3%
Illinois	12,830,632	12,812,508	-0.1%
Indiana	6,483,802	6,785,528	4.7%
Iowa	3,046,355	3,190,369	4.7%
Kansas	2,853,118	2,937,880	3.0%
Kentucky	4,339,367	4,505,836	3.8%
Louisiana	4,533,372	4,657,757	2.7%
Maine	1,328,361	1,362,359	2.6%
Maryland	5,773,552	6,177,224	7.0%
Massachusetts	6,547,629	7,029,917	7.4%
Michigan	9,883,640	10,077,331	2.0%
Minnesota	5,303,925	5,706,494	7.6%
Mississippi	2,967,297	2,961,279	-0.2%
Missouri	5,988,927	6,154,913	2.8%
Montana	989,415	1,084,225	9.6%
Nebraska	1,826,341	1,961,504	7.4%
Nevada	2,700,551	3,104,614	15.0%
New Hampshire	1,316,470	1,377,529	4.6%
New Jersey	8,791,894	9,288,994	5.7%
New Mexico	2,059,179	2,117,522	2.8%
New York	19,378,102	20,201,249	4.2%
North Carolina	9,535,483	10,439,388	9.5%
North Dakota	672,591	779,094	15.8%
Ohio	11,536,504	11,799,448	2.3%
Oklahoma	3,751,351	3,959,353	5.5%
Oregon	3,831,074	4,237,256	10.6%
Pennsylvania	12,702,379	13,002,700	2.4%
Rhode Island	1,052,567	1,097,379	4.3%
South Carolina	4,625,364	5,118,425	10.7%
South Dakota	814,180	886,667	8.9%
Tennessee	6,346,105	6,910,840	8.9%
Texas	25,145,561	29,145,505	15.9%
Utah	2,763,885	3,271,616	18.4%
Vermont	625,741	643,077	2.8%
Virginia	8,001,024	8,631,393	7.9%
Washington	6,724,540	7,705,281	14.6%
West Virginia	1,852,994	1,793,716	-3.2%
Wisconsin	5,686,986	5,893,718	3.6%
Wyoming	563,626	576,851	2.3%
Total - States & D.C.	308,745,538	331,449,281	7.4%

Source: STATS Indiana, using U.S. Census Bureau data

TABLE 3.2 Pennsylvania Population Census by County and Municipality, 2010 & 2020

Geographic Area	Population 2010	Population 2020	Percentage Change	Municipal Growth Rank
Pennsylvania	12,702,379	13,002,700	2.4%	-
Schuylkill County	148,289	143,049	-3.5%	-
Shenandoah Borough	5,071	4,243	-16.3%	2,448 out of 2,572
Girardville Borough	1,519	1,308	-13.9%	2,385 out of 2,572
West Mahanoy Township	2,872	2,785	-3.0%	1,402 out of 2,572
System Total	9,462	8,336	-11.9%	2,297 out of 2,572

Source: U.S. Census Bureau,Census 2020 Redistricting Data (Public Law 94-171) Summary File.

TABLE 3.3 Forecasted Population by Municipality, 2020-2040

	Population			Percentage Change		
	Estimate 2020	Forecast 2030	Forecast 2040	2020 to 2030	2030 to 2040	2020 to 2040
Shenandoah B	4,615	4,199	3,761	-9.0%	-10.4%	-18.5%
Girardville B	1,382	1,258	1,126	-9.0%	-10.5%	-18.5%
West Mahanoy T	2,614	2,378	2,130	-9.0%	-10.4%	-18.5%
System Total	8,611	7,835	7,017	-9.0%	-10.4%	-18.5%

Source: Department of Environmental Protection.

Comparison of Credit Market Financial Risk Metrics
For Municipal Authority of the Borough of Shenandoah Water System Assets
And the Comparable Group
2019 - 2021 (1)

	Municipal Authority of the Borough of Shenandoah Water System Assets			Comparable Group		
	2021	2020	2019	2021	2020	2019
Debt Service Coverage	0.9	0.6	1.1	2.3	2.4	2.0
Pre-Tax Interest Coverage - Including AFC(2)(x)	0.5	-0.2	0.8	4.4	3.7	3.6
Post-Tax Interest Coverage - Including AFC(2)(x)	0.5	-0.2	0.8	3.7	3.2	2.9
GCF / Interest Coverage(3)(x)	1.9	1.1	2.1	5.9	5.2	4.7
GCF / Tot. Debt(4)(%)	3.6	0.3	4.4	18.2	15.9	15.8
GCF / Construction(5)(%)	39.6	6.5	66.4	73.2	72.2	63.0

Notes: (1) Average of the achieved results for each individual company based upon the financials as originally reported.
(2) Represents the number of times available earnings, including AFC, cover all interest charges.
(3) GCF or gross cash flow (sum of net income, depreciation, amortization, net deferred income taxes and investment tax credits, less AFC), plus interest charges, divided by interest charges.
(4) GCF (see note 3) as a percentage of total debt.
(5) The percent of GCF (see note 3) which cover gross construction expenditures.

Source: 2019-21 Annual Reports
S&P Capital IQ
EXHIBIT 1

Municipal Authority of the Borough of Shenandoah Water System Assets
Illustrating the Impact of Size on Risk and Retun
Through Common Stock Returns

TABLE 5.1 Change in Return and Risk for Size-Quartiles Portfolio of the NYSE/AMEX/NASDAQ Common Stocks (1)

	A	B	C	D	E	F	G	H	I	J
									Beta Adjusted	
Market Quartile	Market Quartile Name	Average Quartile Premium 1926-20 (%)	Standard Deviation of Return (%)	Change in Quartile Premium (%)	Largest Market Value in the Quartile (Mill $)	Quartile Beta	Comparison Group Beta	Beta Ratio	Quartile Size Premium (%)	Change in Quartile Premium (%)
(Largest Stocks)										
1	Large-Cap	0.00	19.9	--	1,966,079	1.00	0.75	75%	0.00	
2	Mid-Cap	2.48	24.3	2.48	13,179	1.13	0.75	66%	1.65	1.65
3	Low-Cap	3.95	28.5	1.47	2,446	1.23	0.75	61%	2.41	0.76
4	Mico-Cap	6.21	38.5	2.26	452	1.35	0.75	56%	3.45	1.04
(Smallest Stocks)										

Notes: (1) 2020 Stocks, Bonds, Bills, and Inflation (SBBI) Yearbook

TABLE 5.2 Recent Market Values and Ibbotson Associates Market Quartiles for the Comparable Group

	7/8/2022 Market Value (Mill $)	Market Quartile Name	Market Quartile
Comparable Group			
American States Water Co	3,035	Mid-Cap	2
American Water Works Co Inc	27,419	Large-Cap	1
Artesian Resources -Cl A	469	Low-Cap	3
California Water Service Gp	2,981	Mid-Cap	2
Essential Utilities, Inc.	12,022	Mid-Cap	2
Middlesex Water Co	1,562	Low-Cap	3
SJW Corp	1,897	Low-Cap	3
York Water Co	590	Low-Cap	3
Median	2,439	Low-Cap	3

Municipal Authority of the Borough of Shenandoah Water System Assets
Property Plant & Equipment Analysis
Capital Expenditures Analysis
Growth Rate Analyses
Profit Margin Analyses

TABLE 6.1 Property Plant & Equipment Analysis

(Current Know Statistics)

	Gross Property, Plant & Equipment	Net Property, Plant & Equipment	Percentage of Property, Plant & Equipment Not Depreciated
	(Millions of $)		
Municipal Authority of the Borough of Shenandoah Water System Assets *	$19.381	$10.785	56%
Comparable Group			
American States Water Company	$2,262.295	$1,669.085	74%
American Water Works Company	27,872.000	21,489.000	77%
Artesian Resources Corporation	792.379	622.626	79%
California Water Service Group	4,261.451	2,887.415	68%
Essential Utilities, Inc.	12,882.910	10,440.989	81%
Middlesex Water Company	1,079.458	873.682	81%
SJW Group	3,735.674	2,558.665	68%
The York Water Company	492.086	390.597	79%
Median			78%

* - Developed on Exhibit 7.

TABLE 6.2 Property Plant & Equipment Analysis for Contributions

(As of 3/31/2022)

	Net Property, Plant & Equipment	Investor's Capital	Percentage of Property, Plant & Equipment Net of Contributions	2021 Percentage of Known "Cost Free" Capital
	(Millions of $)			
Comparable Group				
American States Water Co	$1,669.085	$1,331.945	80%	22%
American Water Works Co Inc	21,489.000	18,266.000	85%	20%
Artesian Resources -CL A	622.626	353.016	57%	40%
California Water Service Gp	2,887.415	2,280.721	79%	27%
Essential Utilities, Inc.	10,440.989	11,382.495	109%	21%
Middlesex Water Co	873.682	713.094	82%	26%
SJW Corp	2,558.665	2,634.890	103%	26%
York Water Co	390.597	307.419	79%	27%
Median			81%	26%

Municipal Authority of the Borough of Shenandoah Water System Assets
Property Plant & Equipment Analysis
Capital Expenditures Analysis
Growth Rate Analyses
Profit Margin Analyses

TABLE 6.3 Capital Expenditures Analysis

	PP&E-Total Net (Millions of $)				Capital Expenditures (Millions of $)			
	2021	2020	2019	2018	2021	2020	2019	2018
Municipal Authority of the Borough of Shenandoah Water System Assets	$11.252	$11.053	$11.103	$11.000	$0.528	$0.276	$0.414	$0.040
Comparable Group								
American States Water Co	$1,645.218	$1,557.936	$1,458.595	$1,304.683	$144.515	$130.423	$151.940	$126.561
American Water Works Co Inc	21,176.000	19,805.000	18,335.000	17,409.000	1,764.000	1,822.000	1,654.000	1,586.000
Artesian Resources -CL A	594.633	563.817	535.013	502.527	40.814	34.277	40.677	49.053
California Water Service Gp	2,849.059	2,654.027	2,409.873	2,220.873	293.194	298.651	273.770	271.707
Essential Utilities, Inc.	10,300.796	9,573.211	6,358.657	5,930.326	1,020.519	835.642	550.273	495.737
Middlesex Water Co	881.299	813.014	722.044	628.476	79.378	105.619	89.125	72.094
SJW Corp	2,518.530	2,356.988	2,230.343	1,365.771	233.933	195.323	164.325	135.973
York Water Co	383.626	344.365	313.993	299.871	46.400	33.299	20.537	16.882

	Capital Expenditures / PP&E-Total Net			
	2021	2020	2019	2018
Municipal Authority of the Borough of Shenandoah Water System Assets	5%	2%	4%	0%
Comparable Group				
American States Water Co	9%	8%	10%	10%
American Water Works Co Inc	8%	9%	9%	9%
Artesian Resources -CL A	7%	6%	8%	10%
California Water Service Gp	10%	11%	11%	12%
Essential Utilities, Inc.	10%	9%	9%	8%
Middlesex Water Co	9%	13%	12%	11%
SJW Corp	9%	8%	7%	10%
York Water Co	12%	10%	7%	6%
Median	9%	9%	9%	10%

Municipal Authority of the Borough of Shenandoah Water System Assets
Property Plant & Equipment Analysis
Capital Expenditures Analysis
Growth Rate Analyses
Profit Margin Analyses

	Revenues				EBITDA			
	2021	2020	2019	2018	2021	2020	2019	2018
	(Millions of $)				(Millions of $)			
Municipal Authority of the Borough of Shenandoah Water System Assets	$2.069	$1.928	$2.058	$1.937	$0.451	$0.268	$0.534	$0.226
Comparable Group								
American States Water Co	$498.853	$488.243	$473.869	$436.816	$185.064	$171.044	$164.085	$144.803
American Water Works Co Inc	3,930.000	3,777.000	3,610.000	3,440.000	1,306.476	1,154.957	1,102.741	917.849
Artesian Resources -CL A	90.859	88.141	83.595	80.411	433.284	387.423	380.137	340.460
California Water Service Gp	790.909	794.307	714.557	698.196	30.401	25.800	26.382	25.061
Essential Utilities, Inc.	1,878.144	1,462.698	889.692	838.091	147.867	140.577	127.710	122.709
Middlesex Water Co	143.141	141.592	134.598	138.077	38.056	33.947	35.841	28.720
SJW Corp	573.686	564.526	420.482	397.699	86.302	83.532	68.003	63.335
York Water Co	55.119	53.852	51.578	48.437	25.743	24.780	24.359	21.800

	EBIT			
	2021	2020	2019	2018
	(Millions of $)			
Municipal Authority of the Borough of Shenandoah Water System Assets	$0.123	($0.060)	$0.219	($0.113)
Comparable Group				
American States Water Co	$145.090	$133.840	$128.372	$104.140
American Water Works Co Inc	1,274.000	1,297.000	1,230.000	1,159.000
Artesian Resources -CL A	28.031	27.979	25.106	23.946
California Water Service Gp	139.248	143.065	109.924	119.686
Essential Utilities, Inc.	615.095	456.424	357.241	329.531
Middlesex Water Co	35.241	37.699	34.318	37.766
SJW Corp	107.206	117.296	70.089	89.694
York Water Co	22.182	23.069	22.335	21.232

Municipal Authority of the Borough of Shenandoah Water System Assets
Property Plant & Equipment Analysis
Capital Expenditures Analysis
Growth Rate Analyses
Profit Margin Analyses

TABLE 6.4 Growth Rate Analyses

	Revenue Growth			EBITDA Growth		
	2021	2020	2019	2021	2020	2019
Municipal Authority of the Borough of Shenandoah Water System Assets	7.3%	-6.3%	6.2%	68.3%	-49.8%	136.3%
Comparable Group						
American States Water Co	2.2%	3.0%	8.5%	8.2%	4.2%	13.3%
American Water Works Co Inc	4.1%	4.6%	4.9%	13.1%	4.7%	20.1%
Artesian Resources -CL A	3.1%	5.4%	4.0%	11.8%	1.9%	11.7%
California Water Service Gp	-0.4%	11.2%	2.3%	17.8%	-2.2%	5.3%
Essential Utilities, Inc.	28.4%	64.4%	6.2%	5.2%	10.1%	4.1%
Middlesex Water Co	1.1%	5.2%	-2.5%	12.1%	-5.3%	24.8%
SJW Corp	1.6%	34.3%	5.7%	3.3%	22.8%	7.4%
York Water Co	2.4%	4.4%	6.5%	3.9%	1.7%	11.7%
Median	2.3%	5.3%	5.3%	10.0%	3.1%	11.7%

	EBIT Growth		
	2021	2020	2019
Municipal Authority of the Borough of Shenandoah Water System Assets	-305.0%	-127.4%	-293.8%
Comparable Group			
American States Water Co	8.4%	4.3%	23.3%
American Water Works Co Inc	-1.8%	5.4%	6.1%
Artesian Resources -CL A	0.2%	11.4%	4.8%
California Water Service Gp	-2.7%	30.1%	-8.2%
Essential Utilities, Inc.	34.8%	27.8%	8.4%
Middlesex Water Co	-6.5%	9.9%	-9.1%
SJW Corp	-8.6%	67.4%	-21.9%
York Water Co	-3.8%	3.3%	5.2%
Median	-2.3%	10.7%	5.0%

Municipal Authority of the Borough of Shenandoah Water System Assets
Property Plant & Equipment Analysis
Capital Expenditures Analysis
Growth Rate Analyses
Profit Margin Analyses

TABLE 6.5 Profit Margin Analyses

	EBITDA / Revenue - Margin		
	2021	2020	2019
Municipal Authority of the Borough of Shenandoah Water System Assets	21.8%	13.9%	25.9%
Comparable Group			
American States Water Co	37.1%	35.0%	34.6%
American Water Works Co Inc	33.2%	30.6%	30.5%
Artesian Resources -CL A	476.9%	439.5%	454.7%
California Water Service Gp	3.8%	3.2%	3.7%
Essential Utilities, Inc.	7.9%	9.6%	14.4%
Middlesex Water Co	26.6%	24.0%	26.6%
SJW Corp	15.0%	14.8%	16.2%
York Water Co	46.7%	46.0%	47.2%
Median	29.9%	27.3%	28.6%

	EBIT / Revenue - Margin		
	2021	2020	2019
Municipal Authority of the Borough of Shenandoah Water System Assets	5.9%	-3.1%	10.6%
Comparable Group			
American States Water Co	29.1%	27.4%	27.1%
American Water Works Co Inc	32.4%	34.3%	34.1%
Artesian Resources -CL A	30.9%	31.7%	30.0%
California Water Service Gp	17.6%	18.0%	15.4%
Essential Utilities, Inc.	32.8%	31.2%	40.2%
Middlesex Water Co	24.6%	26.6%	25.5%
SJW Corp	18.7%	20.8%	16.7%
York Water Co	40.2%	42.8%	43.3%
Median	30.0%	29.3%	28.6%

Source: S&P Capital IQ
EXHIBIT 1

THE BOROUGH OF SHENANDOAH
THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH WATER SYSTEM ASSETS

SUMMARY OF ORIGINAL COST AND ACCRUED DEPRECIATION
OF WATER SYSTEM AS OF JULY 8, 2022

ACCOUNT	DESCRIPTION	ORIGINAL COST	ACCRUED DEPRECIATION
(1)	(2)	(3)	(4)
303.20	LAND & LAND RIGHTS SUPPLY	17.00	
303.30	LAND & LAND RIGHTS TREATMENT	22,000.00	
303.40	LAND & LAND RIGHTS TRANS AND DIST	22,663.00	
304.20	STRUCTURES AND IMPROVEMENTS PUMPING	847,229.00	402,995
304.30	STRUCTURES AND IMPROVEMENTS TREATMENT	2,615,285.93	977,278
304.40	STRUCTURES AND IMPROVEMENTS TRANS AND DIST	109,065.50	28,424
305.00	COLLECTING AND IMPOUNDING RESERVOIRS	6,902,326.90	2,467,189
311.00	PUMPING EQUIPMENT	348,595.89	119,365
320.00	WATER TREATMENT EQUIPMENT	5,050,136.40	2,662,562
330.41	DISTRIBUTION STANDPIPES - TANKS	1,638,229.72	777,822
330.42	DISTRIBUTION STANDPIPES - ELEVATED TANKS	179,000.00	116,828
331.40	TRANS AND DIST MAINS	816,870.36	409,957
333.40	SERVICES	84,006.24	41,722
334.40	METERS	54,182.24	28,983
335.40	HYDRANTS	48,828.40	27,765
340.10	OFFICE FURNITURE AND EQUIPMENT	77,088.87	75,936
340.20	OFFICE EQUIPMENT - COMPUTERS AND PERIPHALS	4,495.00	4,495
341.00	TRANSPORTATION EQUIPMENT	303,829.92	248,738
343.00	TOOLS, SHOP AND GARAGE EQUIPMENT	192,550.00	167,018
346.30	COMMUNICATION EQUIPMENT	55,324.59	29,905
347.00	SECURITY EQUIPMENT	8,910.97	8,911
	TOTAL COMPANY	**19,380,635.93**	**8,595,893**

THE BOROUGH OF SHENANDOAH
THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH WATER SYSTEM ASSETS

SUMMARY OF ANALYSIS OF ORIGINAL COST
OF WATER SYSTEM AS OF JULY 8, 2022

ACCOUNT	DESCRIPTION	ORIGINAL COST
(1)	(2)	(3)
303.20	LAND & LAND RIGHTS SUPPLY	17.00
303.30	LAND & LAND RIGHTS TREATMENT	22,000.00
303.40	LAND & LAND RIGHTS TRANS AND DIST	22,663.00
304.20	STRUCTURES AND IMPROVEMENTS PUMPING	847,229.00
304.30	STRUCTURES AND IMPROVEMENTS TREATMENT	2,615,285.93
304.40	STRUCTURES AND IMPROVEMENTS TRANS AND DIST	109,065.50
305.00	COLLECTING AND IMPOUNDING RESERVOIRS	6,902,326.90
311.00	PUMPING EQUIPMENT	348,595.89
320.00	WATER TREATMENT EQUIPMENT	5,050,136.40
330.41	DISTRIBUTION STANDPIPES - TANKS	1,638,229.72
330.42	DISTRIBUTION STANDPIPES - ELEVATED TANKS	179,000.00
331.40	TRANS AND DIST MAINS	816,870.36
333.40	SERVICES	84,006.24
334.40	METERS	54,182.24
335.40	HYDRANTS	48,828.40
340.10	OFFICE FURNITURE AND EQUIPMENT	77,088.87
340.20	OFFICE EQUIPMENT - COMPUTERS AND PERIPHALS	4,495.00
341.00	TRANSPORTATION EQUIPMENT	303,829.92
343.00	TOOLS, SHOP AND GARAGE EQUIPMENT	192,550.00
346.30	COMMUNICATION EQUIPMENT	55,324.59
347.00	SECURITY EQUIPMENT	8,910.97
	TOTAL COMPANY	**19,380,635.93**

THE BOROUGH OF SHENANDOAH
THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH WATER SYSTEM ASSETS

SUMMARY OF SERVICE LIFE ESTIMATES AND CALCULATED ACCRUED DEPRECIATION RELATED TO ORIGINAL COST AS OF JULY 8, 2022

ACCOUNT	DESCRIPTION	SURVIVOR CURVE	ORIGINAL COST	ACCRUED DEPRECIATION
(1)	(2)	(3)	(4)	(5)
303.20	LAND & LAND RIGHTS SUPPLY	NONDEPRECIABLE	17.00	
303.30	LAND & LAND RIGHTS TREATMENT	NONDEPRECIABLE	22,000.00	
303.40	LAND & LAND RIGHTS TRANS AND DIST	NONDEPRECIABLE	22,663.00	
304.20	STRUCTURES AND IMPROVEMENTS PUMPING	60-R3	847,229.00	402,995
304.30	STRUCTURES AND IMPROVEMENTS TREATMENT	65-R3	2,615,285.93	977,278
304.40	STRUCTURES AND IMPROVEMENTS TRANS AND DIST	80-R3	109,065.50	28,424
305.00	COLLECTING AND IMPOUNDING RESERVOIRS	100-R2	6,902,326.90	2,467,189
311.00	PUMPING EQUIPMENT	40-R1.5	348,595.89	119,365
320.00	WATER TREATMENT EQUIPMENT	50-R3	5,050,136.40	2,662,562
330.41	DISTRIBUTION STANDPIPES - TANKS	60-R2.5	1,638,229.72	777,822
330.42	DISTRIBUTION STANDPIPES - ELEVATED TANKS	60-R2.5	179,000.00	116,828
331.40	TRANS AND DIST MAINS	85-R3	816,870.36	409,957
333.40	SERVICES	70-R2.5	84,006.24	41,722
334.40	METERS	25-L3	54,182.24	28,983
335.40	HYDRANTS	70-R2.5	48,828.40	27,765
340.10	OFFICE FURNITURE AND EQUIPMENT	20-SQ	77,088.87	75,936
340.20	OFFICE EQUIPMENT - COMPUTERS AND PERIPHALS	5-SQ	4,495.00	4,495
341.00	TRANSPORTATION EQUIPMENT	11-S1.5	303,829.92	248,738
343.00	TOOLS, SHOP AND GARAGE EQUIPMENT	20-SQ	192,550.00	167,018
346.30	COMMUNICATION EQUIPMENT	15-SQ	55,324.59	29,905
347.00	SECURITY EQUIPMENT	10-SQ	8,910.97	8,911
	TOTAL COMPANY		**19,380,635.93**	**8,595,893**

THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH
WATER SYSTEM ASSETS

ACCOUNT 303.20 LAND & LAND RIGHTS SUPPLY

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO THE ORIGINAL COST AT JULY 8, 2022

	ORIGINAL	AVG.	--ANNUAL ACCRUAL--			--ACCRUED DEPREC.--	
YEAR	COST	LIFE	RATE	AMOUNT	EXP.	FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
NONDEPRECIABLE							
1941	17.00						
	17.00						

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 0.00

THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH
WATER SYSTEM ASSETS

ACCOUNT 303.30 LAND & LAND RIGHTS TREATMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO THE ORIGINAL COST AT JULY 8, 2022

	ORIGINAL	AVG.	--ANNUAL ACCRUAL--			--ACCRUED DEPREC.--	
YEAR	COST	LIFE	RATE	AMOUNT	EXP.	FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
NONDEPRECIABLE							
1992	22,000.00						
	22,000.00						

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 0.00

THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH
WATER SYSTEM ASSETS

ACCOUNT 303.40 LAND & LAND RIGHTS TRANS AND DIST

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO THE ORIGINAL COST AT JULY 8, 2022

	ORIGINAL	AVG.	--ANNUAL ACCRUAL--			--ACCRUED DEPREC.--	
YEAR	COST	LIFE	RATE	AMOUNT	EXP.	FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
NONDEPRECIABLE							
1941	9.00						
1967	141.00						
1972	1.00						
1973	2,000.00						
1980	20,500.00						
1988	1.00						
1990	3.00						
1993	1.00						
2002	1.00						
2005	1.00						
2008	3.00						
2010	1.00						
2011	1.00						
	22,663.00						

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 0.00

THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH
WATER SYSTEM ASSETS

ACCOUNT 304.20 STRUCTURES AND IMPROVEMENTS PUMPING

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO THE ORIGINAL COST AT JULY 8, 2022

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 60-R3							
NET SALVAGE PERCENT.. 0							
1913	20,000.00	60.00				1.0000	20,000
1914	10,000.00	60.00				1.0000	10,000
1974	41,000.00	60.00	1.67	684.70	18.84	0.6860	28,126
1993	764,799.00	60.00	1.67	12,772.14	33.09	0.4485	343,012
2012	11,430.00	60.00	1.67	190.88	50.25	0.1625	1,857
	847,229.00			13,647.72			402,995

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.61

THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH
WATER SYSTEM ASSETS

ACCOUNT 304.30 STRUCTURES AND IMPROVEMENTS TREATMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO THE ORIGINAL COST AT JULY 8, 2022

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 65-R3							
NET SALVAGE PERCENT.. 0							
1982	500,521.50	65.00	1.54	7,708.03	28.95	0.5546	277,599
1993	1,432,374.00	65.00	1.54	22,058.56	37.90	0.4169	597,185
2011	10,695.00	65.00	1.54	164.70	54.29	0.1648	1,762
2012	663,361.82	65.00	1.54	10,215.77	55.24	0.1502	99,604
2013	8,333.61	65.00	1.54	128.34	56.20	0.1354	1,128
	2,615,285.93			40,275.40			977,278

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.54

THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH
WATER SYSTEM ASSETS

ACCOUNT 304.40 STRUCTURES AND IMPROVEMENTS TRANS AND DIST

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO THE ORIGINAL COST AT JULY 8, 2022

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 80-R3							
NET SALVAGE PERCENT.. 0							
1991	53,705.00	80.00	1.25	671.31	50.72	0.3660	19,656
2009	55,360.50	80.00	1.25	692.01	67.33	0.1584	8,768
	109,065.50			1,363.32			28,424

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.25

THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH
WATER SYSTEM ASSETS

ACCOUNT 305.00 COLLECTING AND IMPOUNDING RESERVOIRS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO THE ORIGINAL COST AT JULY 8, 2022

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 100-R2							
NET SALVAGE PERCENT.. 0							
1885	300,000.00	100.00	1.00	3,000.00	13.68	0.8632	258,960
1914	180,000.00	100.00	1.00	1,800.00	24.04	0.7596	136,728
1920	200,000.00	100.00	1.00	2,000.00	26.71	0.7329	146,580
1981	3,289,993.37	100.00	1.00	32,899.93	65.26	0.3474	1,142,944
1987	1,113,598.44	100.00	1.00	11,135.98	69.99	0.3001	334,191
1992	1,654,315.46	100.00	1.00	16,543.15	74.04	0.2596	429,460
2009	136,669.63	100.00	1.00	1,366.70	88.41	0.1159	15,840
2012	27,750.00	100.00	1.00	277.50	91.04	0.0896	2,486
	6,902,326.90			69,023.26			2,467,189

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.00

THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH
WATER SYSTEM ASSETS

ACCOUNT 311.00 PUMPING EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO THE ORIGINAL COST AT JULY 8, 2022

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 40-R1.5							
NET SALVAGE PERCENT.. 0							
1977	25,100.00	40.00	2.50	627.50	10.66	0.7335	18,411
1999	195,068.93	40.00	2.50	4,876.72	22.63	0.4343	84,709
2009	9,536.00	40.00	2.50	238.40	29.75	0.2563	2,444
2015	88,890.96	40.00	2.50	2,222.27	34.35	0.1413	12,556
2020	30,000.00	40.00	2.50	750.00	38.34	0.0415	1,245
	348,595.89			8,714.89			119,365

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 2.50

THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH
WATER SYSTEM ASSETS

ACCOUNT 320.00 WATER TREATMENT EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO THE ORIGINAL COST AT JULY 8, 2022

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 50-R3							
NET SALVAGE PERCENT.. 0							
1988	204,537.90	50.00	2.00	4,090.76	19.84	0.6032	123,377
1993	4,787,310.68	50.00	2.00	95,746.21	23.64	0.5272	2,523,870
2008	38,500.00	50.00	2.00	770.00	36.55	0.2690	10,356
2009	19,787.82	50.00	2.00	395.76	37.47	0.2506	4,959
	5,050,136.40			101,002.73			2,662,562

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 2.00

THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH
WATER SYSTEM ASSETS

ACCACCOUNT 330.41 DISTRIBUTION STANDPIPES - TANKS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO THE ORIGINAL COST AT JULY 8, 2022

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 60-R2.5							
NET SALVAGE PERCENT.. 0							
1978	352,733.00	60.00	1.67	5,890.64	23.41	0.6098	215,107
1991	614,359.00	60.00	1.67	10,259.80	32.83	0.4528	278,200
1993	663,507.72	60.00	1.67	11,080.58	34.41	0.4265	282,986
2009	7,630.00	60.00	1.67	127.42	47.98	0.2003	1,529
	1,638,229.72			27,358.44			777,822

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.67

THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH
WATER SYSTEM ASSETS

ACCOUNT 330.42 DISTRIBUTION STANDPIPES - ELEVATED TANKS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO THE ORIGINAL COST AT JULY 8, 2022

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 60-R2.5							
NET SALVAGE PERCENT.. 0							
1974	179,000.00	60.00	1.67	2,989.30	20.84	0.6527	116,828
	179,000.00			2,989.30			116,828

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.67

THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH
WATER SYSTEM ASSETS

ACCOUNT 331.40 TRANS AND DIST MAINS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO THE ORIGINAL COST AT JULY 8, 2022

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 85-R3							
NET SALVAGE PERCENT.. 0							
1885	1,825.46	85.00	1.18	21.54	1.59	0.9813	1,791
1903	47,637.66	85.00	1.18	562.12	6.07	0.9286	44,236
1913	6,825.40	85.00	1.18	80.54	8.67	0.8980	6,129
1920	27,791.64	85.00	1.18	327.94	10.67	0.8745	24,303
1940	82,532.22	85.00	1.18	973.88	18.60	0.7812	64,473
1941	2,949.23	85.00	1.18	34.80	19.11	0.7752	2,286
1952	58,405.93	85.00	1.18	689.19	25.41	0.7011	40,946
1974	38,228.26	85.00	1.18	451.09	41.23	0.5149	19,685
1977	94,332.84	85.00	1.18	1,113.13	43.65	0.4865	45,890
1983	10,876.93	85.00	1.18	128.35	48.64	0.4278	4,653
1990	346,281.35	85.00	1.18	4,086.12	54.72	0.3562	123,359
1993	99,183.44	85.00	1.18	1,170.36	57.40	0.3247	32,206
	816,870.36			9,639.06			409,957

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.18

THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH
WATER SYSTEM ASSETS

ACCOUNT 333.40 SERVICES

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO THE ORIGINAL COST AT JULY 8, 2022

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 70-R2.5							
NET SALVAGE PERCENT.. 0							
1903	32,640.34	70.00	1.43	466.76	2.88	0.9589	31,298
2006	19,345.14	70.00	1.43	276.64	55.24	0.2109	4,079
2007	32,020.76	70.00	1.43	457.90	56.13	0.1981	6,345
	84,006.24			1,201.30			41,722

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.43

THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH
WATER SYSTEM ASSETS

ACCOUNT 334.40 METERS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO THE ORIGINAL COST AT JULY 8, 2022

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 25-L3							
NET SALVAGE PERCENT.. 0							
2006	21,795.18	25.00	4.00	871.81	10.58	0.5768	12,571
2007	1,785.08	25.00	4.00	71.40	11.24	0.5504	983
2008	20,884.05	25.00	4.00	835.36	11.96	0.5216	10,893
2009	2,591.99	25.00	4.00	103.68	12.73	0.4908	1,272
2010	7,125.94	25.00	4.00	285.04	13.55	0.4580	3,264
	54,182.24			2,167.29			28,983

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 4.00

THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH
WATER SYSTEM ASSETS

ACCOUNT 335.40 HYDRANTS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO THE ORIGINAL COST AT JULY 8, 2022

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 70-R2.5							
NET SALVAGE PERCENT.. 0							
1903	3,637.60	70.00	1.43	52.02	2.88	0.9589	3,488
1940	5,285.58	70.00	1.43	75.58	12.08	0.8274	4,373
1952	4,689.69	70.00	1.43	67.06	16.72	0.7611	3,570
1975	9,115.64	70.00	1.43	130.35	30.27	0.5676	5,174
1984	11,959.94	70.00	1.43	171.03	36.89	0.4730	5,657
1990	11,700.32	70.00	1.43	167.31	41.61	0.4056	4,745
1998	2,439.63	70.00	1.43	34.89	48.26	0.3106	758
	48,828.40			698.24			27,765

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.43

THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH
WATER SYSTEM ASSETS

ACCOUNT 340.10 OFFICE FURNITURE AND EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO THE ORIGINAL COST AT JULY 8, 2022

	ORIGINAL	AVG.	--ANNUAL ACCRUAL--			--ACCRUED DEPREC.--	
YEAR	COST	LIFE	RATE	AMOUNT	EXP.	FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. 20-SQUARE							
NET SALVAGE PERCENT.. 0							
1999	72,766.12	20.00				1.0000	72,766
2007	2,789.00	20.00	5.00	139.45	4.98	0.7510	2,095
2008	1,533.75	20.00	5.00	76.69	5.98	0.7010	1,075
	77,088.87			216.14			75,936

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 0.28

THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH
WATER SYSTEM ASSETS

ACCOUNT 340.20 OFFICE EQUIPMENT - COMPUTERS AND PERIPHALS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO THE ORIGINAL COST AT JULY 8, 2022

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. 5-SQUARE NET SALVAGE PERCENT.. 0							
2012	4,495.00	5.00				1.0000	4,495
	4,495.00						4,495

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 0.00

THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH
WATER SYSTEM ASSETS

ACCOUNT 341.00 TRANSPORTATION EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO THE ORIGINAL COST AT JULY 8, 2022

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 11-S1.5							
NET SALVAGE PERCENT.. 0							
1999	170,576.01	11.00				1.0000	170,576
2000	5,000.00	11.00				1.0000	5,000
2008	4,430.10	11.00	9.09	402.70	2.11	0.8082	3,580
2009	21,844.22	11.00	9.09	1,985.64	2.43	0.7791	17,019
2010	53,084.59	11.00	9.09	4,825.39	2.77	0.7482	39,717
2019	48,895.00	11.00	9.09	4,444.56	8.11	0.2627	12,846
	303,829.92			11,658.29			248,738

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 3.84

THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH
WATER SYSTEM ASSETS

ACCOUNT 343.00 TOOLS, SHOP AND GARAGE EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO THE ORIGINAL COST AT JULY 8, 2022

	ORIGINAL	AVG.	--ANNUAL ACCRUAL--			--ACCRUED DEPREC.--	
YEAR	COST	LIFE	RATE	AMOUNT	EXP.	FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. 20-SQUARE							
NET SALVAGE PERCENT.. 0							
1998	5,398.07	20.00				1.0000	5,398
1999	130,641.81	20.00				1.0000	130,642
2007	2,069.95	20.00	5.00	103.50	4.98	0.7510	1,555
2008	3,019.99	20.00	5.00	151.00	5.98	0.7010	2,117
2009	12,672.98	20.00	5.00	633.65	6.98	0.6510	8,250
2010	12,747.67	20.00	5.00	637.38	7.98	0.6010	7,661
2011	4,777.00	20.00	5.00	238.85	8.98	0.5510	2,632
2013	13,135.00	20.00	5.00	656.75	10.98	0.4510	5,924
2015	8,087.53	20.00	5.00	404.38	12.98	0.3510	2,839
	192,550.00			2,825.51			167,018

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.47

THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH
WATER SYSTEM ASSETS

ACCOUNT 346.30 COMMUNICATION EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO THE ORIGINAL COST AT JULY 8, 2022

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. 15-SQUARE							
NET SALVAGE PERCENT.. 0							
2013	4,866.00	15.00	6.67	324.56	5.98	0.6013	2,926
2014	50,458.59	15.00	6.67	3,365.59	6.98	0.5347	26,979
	55,324.59			3,690.15			29,905

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 6.67

THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH
WATER SYSTEM ASSETS

ACCOUNT 347.00 SECURITY EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO THE ORIGINAL COST AT JULY 8, 2022

	ORIGINAL	AVG.	--ANNUAL ACCRUAL--			--ACCRUED DEPREC.--	
YEAR	COST	LIFE	RATE	AMOUNT	EXP.	FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. 10-SQUARE							
NET SALVAGE PERCENT.. 0							
2009	4,920.97	10.00				1.0000	4,921
2010	1,995.00	10.00				1.0000	1,995
2011	1,995.00	10.00				1.0000	1,995
	8,910.97						8,911

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 0.00

THE BOROUGH OF SHENANDOAH
THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH WATER SYSTEM ASSETS

SUMMARY OF REPLACEMENT COST AND ACCRUED DEPRECIATION
OF WATER SYSTEM AS OF JULY 8, 2022

ACCOUNT	DESCRIPTION	REPLACEMENT COST	ACCRUED DEPRECIATION
(1)	(2)	(3)	(4)
303.20	LAND & LAND RIGHTS SUPPLY	17.00	
303.30	LAND & LAND RIGHTS TREATMENT	22,000.00	
303.40	LAND & LAND RIGHTS TRANS AND DIST	22,663.00	
304.20	STRUCTURES AND IMPROVEMENTS PUMPING	5,920,944.04	4,546,115
304.30	STRUCTURES AND IMPROVEMENTS TREATMENT	7,514,995.15	3,174,261
304.40	STRUCTURES AND IMPROVEMENTS TRANS AND DIST	262,334.74	77,401
305.00	COLLECTING AND IMPOUNDING RESERVOIRS	75,034,207.51	51,291,722
311.00	PUMPING EQUIPMENT	1,037,890.43	454,790
320.00	WATER TREATMENT EQUIPMENT	14,988,548.81	7,930,852
330.41	DISTRIBUTION STANDPIPES - TANKS	7,961,531.35	3,880,129
330.42	DISTRIBUTION STANDPIPES - ELEVATED TANKS	1,950,157.89	1,272,810
331.40	TRANS AND DIST MAINS	14,451,228.85	11,296,845
333.40	SERVICES	4,339,075.02	4,096,366
334.40	METERS	141,288.61	76,595
335.40	HYDRANTS	660,171.90	491,920
340.10	OFFICE FURNITURE AND EQUIPMENT	144,800.08	142,955
341.00	TRANSPORTATION EQUIPMENT	356,821.95	295,441
343.00	TOOLS, SHOP AND GARAGE EQUIPMENT	244,255.88	213,674
346.30	COMMUNICATION EQUIPMENT	55,648.46	30,081
347.00	SECURITY EQUIPMENT	10,242.93	10,243
	TOTAL COMPANY	**135,118,823.60**	**89,282,200**

THE BOROUGH OF SHENANDOAH
THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH WATER SYSTEM ASSETS

SUMMARY OF ANALYSIS OF REPLACEMENT COST
OF WATER SYSTEM AS OF JULY 8, 2022

ACCOUNT	DESCRIPTION	REPLACEMENT COST
(1)	(2)	(3)
303.20	LAND & LAND RIGHTS SUPPLY	17.00
303.30	LAND & LAND RIGHTS TREATMENT	22,000.00
303.40	LAND & LAND RIGHTS TRANS AND DIST	22,663.00
304.20	STRUCTURES AND IMPROVEMENTS PUMPING	5,920,944.04
304.30	STRUCTURES AND IMPROVEMENTS TREATMENT	7,514,995.15
304.40	STRUCTURES AND IMPROVEMENTS TRANS AND DIST	262,334.74
305.00	COLLECTING AND IMPOUNDING RESERVOIRS	75,034,207.51
311.00	PUMPING EQUIPMENT	1,037,890.43
320.00	WATER TREATMENT EQUIPMENT	14,988,548.81
330.41	DISTRIBUTION STANDPIPES - TANKS	7,961,531.35
330.42	DISTRIBUTION STANDPIPES - ELEVATED TANKS	1,950,157.89
331.40	TRANS AND DIST MAINS	14,451,228.85
333.40	SERVICES	4,339,075.02
334.40	METERS	141,288.61
335.40	HYDRANTS	660,171.90
340.10	OFFICE FURNITURE AND EQUIPMENT	144,800.08
341.00	TRANSPORTATION EQUIPMENT	356,821.95
343.00	TOOLS, SHOP AND GARAGE EQUIPMENT	244,255.88
346.30	COMMUNICATION EQUIPMENT	55,648.46
347.00	SECURITY EQUIPMENT	10,242.93
	TOTAL COMPANY	**135,118,823.60**

THE BOROUGH OF SHENANDOAH
THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH WATER SYSTEM ASSETS

SUMMARY OF SERVICE LIFE ESTIMATES AND CALCULATED ACCRUED DEPRECIATION RELATED TO REPLACEMENT COST AS OF JULY 8, 2022

ACCOUNT	DESCRIPTION	SURVIVOR CURVE	REPLACEMENT COST	ACCRUED DEPRECIATION
(1)	(2)	(3)	(4)	(5)
303.20	LAND & LAND RIGHTS SUPPLY	NONDEPRECIABLE	17.00	
303.30	LAND & LAND RIGHTS TREATMENT	NONDEPRECIABLE	22,000.00	
303.40	LAND & LAND RIGHTS TRANS AND DIST	NONDEPRECIABLE	22,663.00	
304.20	STRUCTURES AND IMPROVEMENTS PUMPING	60-R3	5,920,944.04	4,546,115
304.30	STRUCTURES AND IMPROVEMENTS TREATMENT	65-R3	7,514,995.15	3,174,261
304.40	STRUCTURES AND IMPROVEMENTS TRANS AND DIST	80-R3	262,334.74	77,401
305.00	COLLECTING AND IMPOUNDING RESERVOIRS	100-R2	75,034,207.51	51,291,722
311.00	PUMPING EQUIPMENT	40-R1.5	1,037,890.43	454,790
320.00	WATER TREATMENT EQUIPMENT	50-R3	14,988,548.81	7,930,852
330.41	DISTRIBUTION STANDPIPES - TANKS	60-R2.5	7,961,531.35	3,880,129
330.42	DISTRIBUTION STANDPIPES - ELEVATED TANKS	60-R2.5	1,950,157.89	1,272,810
331.40	TRANS AND DIST MAINS	85-R3	14,451,228.85	11,296,845
333.40	SERVICES	70-R2.5	4,339,075.02	4,096,366
334.40	METERS	25-L3	141,288.61	76,595
335.40	HYDRANTS	70-R2.5	660,171.90	491,920
340.10	OFFICE FURNITURE AND EQUIPMENT	20-SQ	144,800.08	142,955
341.00	TRANSPORTATION EQUIPMENT	11-S1.5	356,821.95	295,441
343.00	TOOLS, SHOP AND GARAGE EQUIPMENT	20-SQ	244,255.88	213,674
346.30	COMMUNICATION EQUIPMENT	15-SQ	55,648.46	30,081
347.00	SECURITY EQUIPMENT	10-SQ	10,242.93	10,243
	TOTAL COMPANY		**135,118,823.60**	**89,282,200**

THE BOROUGH OF SHENANDOAH
THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH WATER SYSTEM ASSETS

SUMMARY OF REPLACEMENT COST NEW AND REPLACEMENT COST NEW LESS DEPRECIATION OF WATER SYSTEM AS OF JULY 8, 2022

	DESCRIPTION		REPLACEMENT COST
	(1)		(2)
1.	REPLACEMENT COST NEW		$ 135,118,824
2.	LESS: ACCRUED DEPRECIATION	−	89,282,200
3.	PRELIMINARY RCNLD		45,836,624
4.	DETERMINATION OF ECONOMIC OBSOLESCENCE		
5.	MAXIMUM ECONOMIC VALUE	−	31,334,337
6.	DIFFERENCE		14,502,287
7.	WEIGHT GIVEN ECONOMIC VALUES	×	75%
8.	ECONOMIC OBSOLESCENCE		$ 10,876,715
9.	DETERMINATION OF RCNLD		
10.	REPLACEMENT COST NEW		$ 135,118,824
11.	LESS: ACCRUED DEPRECIATION (PHYSICAL DETERIORATION)	−	89,282,200
12.	PRELIMINARY RCNLD		45,836,624
13.	LESS: FUNCTIONAL OBSOLESCENCE	−	2,000,000
14.	ADJUSTED RCNLD AFTER FO		43,836,624
15.	LESS: ECONOMIC OBSOLESCENCE	−	10,876,715
16.	ADJUSTED RCNLD AFTER FO & EO		$ 32,959,909
17.	**CONCLUSION RCNLD**		**$ 32,959,909**

THE BOROUGH OF SHENANDOAH
THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH WATER SYSTEM ASSETS

SUMMARY OF REPLACEMENT COST AND TRANSITION FACTORS BY ACCOUNT AND VINTAGE YEAR
OF WATER SYSTEM AS OF JULY 8, 2022

ACCOUNT	DESCRIPTION	VINTAGE YEAR	BASE COST	TRANSITION FACTOR	FACTOR REFERENCE	REPLACEMENT COST
(1)	(2)	(3)	(4)	(5)	(6)	(7)
303.20	LAND & LAND RIGHTS SUPPLY	1941	17.00	1.00000	(1)	17.00
303.30	LAND & LAND RIGHTS TREATMENT	1992	22,000.00	1.00000	(1)	22,000.00
303.40	LAND & LAND RIGHTS TRANS AND DIST	1941	9.00	1.00000	(1)	9.00
303.40	LAND & LAND RIGHTS TRANS AND DIST	1967	141.00	1.00000	(1)	141.00
303.40	LAND & LAND RIGHTS TRANS AND DIST	1972	1.00	1.00000	(1)	1.00
303.40	LAND & LAND RIGHTS TRANS AND DIST	1973	2,000.00	1.00000	(1)	2,000.00
303.40	LAND & LAND RIGHTS TRANS AND DIST	1980	20,500.00	1.00000	(1)	20,500.00
303.40	LAND & LAND RIGHTS TRANS AND DIST	1988	1.00	1.00000	(1)	1.00
303.40	LAND & LAND RIGHTS TRANS AND DIST	1990	3.00	1.00000	(1)	3.00
303.40	LAND & LAND RIGHTS TRANS AND DIST	1993	1.00	1.00000	(1)	1.00
303.40	LAND & LAND RIGHTS TRANS AND DIST	2002	1.00	1.00000	(1)	1.00
303.40	LAND & LAND RIGHTS TRANS AND DIST	2005	1.00	1.00000	(1)	1.00
303.40	LAND & LAND RIGHTS TRANS AND DIST	2008	3.00	1.00000	(1)	3.00
303.40	LAND & LAND RIGHTS TRANS AND DIST	2010	1.00	1.00000	(1)	1.00
303.40	LAND & LAND RIGHTS TRANS AND DIST	2011	1.00	1.00000	(1)	1.00
304.20	STRUCTURES AND IMPROVEMENTS PUMPING	1913	20,000.00	110.12500	(2)	2,202,500.00
304.20	STRUCTURES AND IMPROVEMENTS PUMPING	1914	10,000.00	110.12500	(2)	1,101,250.00
304.20	STRUCTURES AND IMPROVEMENTS PUMPING	1974	41,000.00	7.52991	(2)	308,726.50
304.20	STRUCTURES AND IMPROVEMENTS PUMPING	1993	764,799.00	2.99660	(2)	2,291,795.64
304.20	STRUCTURES AND IMPROVEMENTS PUMPING	2012	11,430.00	1.45861	(2)	16,671.90
304.30	STRUCTURES AND IMPROVEMENTS TREATMENT	1982	500,521.50	4.44949	(2)	2,227,067.89
304.30	STRUCTURES AND IMPROVEMENTS TREATMENT	1993	1,432,374.00	2.99660	(2)	4,292,249.98
304.30	STRUCTURES AND IMPROVEMENTS TREATMENT	2011	10,695.00	1.50856	(2)	16,134.07
304.30	STRUCTURES AND IMPROVEMENTS TREATMENT	2012	663,361.82	1.45861	(2)	967,585.70
304.30	STRUCTURES AND IMPROVEMENTS TREATMENT	2013	8,333.61	1.43485	(2)	11,957.51
304.40	STRUCTURES AND IMPROVEMENTS TRANS AND DIST	1991	53,705.00	3.21533	(2)	172,679.22
304.40	STRUCTURES AND IMPROVEMENTS TRANS AND DIST	2009	55,360.50	1.61949	(2)	89,655.52
305.00	COLLECTING AND IMPOUNDING RESERVOIRS	1885	300,000.00	99.00000	(3)	29,700,000.00
305.00	COLLECTING AND IMPOUNDING RESERVOIRS	1914	180,000.00	99.00000	(3)	17,820,000.00
305.00	COLLECTING AND IMPOUNDING RESERVOIRS	1920	200,000.00	40.76471	(3)	8,152,941.18
305.00	COLLECTING AND IMPOUNDING RESERVOIRS	1981	3,289,993.37	3.53571	(3)	11,632,476.56
305.00	COLLECTING AND IMPOUNDING RESERVOIRS	1987	1,113,598.44	2.91176	(3)	3,242,536.63
305.00	COLLECTING AND IMPOUNDING RESERVOIRS	1992	1,654,315.46	2.56667	(3)	4,246,076.35
305.00	COLLECTING AND IMPOUNDING RESERVOIRS	2009	136,669.63	1.47761	(3)	201,944.68
305.00	COLLECTING AND IMPOUNDING RESERVOIRS	2012	27,750.00	1.37773	(3)	38,232.11
311.00	PUMPING EQUIPMENT	1977	25,100.00	8.65761	(4)	217,305.98
311.00	PUMPING EQUIPMENT	1999	195,068.93	3.15446	(4)	615,336.25
311.00	PUMPING EQUIPMENT	2009	9,536.00	2.30535	(4)	21,983.86
311.00	PUMPING EQUIPMENT	2015	88,890.96	1.68571	(4)	149,844.76
311.00	PUMPING EQUIPMENT	2020	30,000.00	1.11399	(4)	33,419.58
320.00	WATER TREATMENT EQUIPMENT	1988	204,537.90	3.53846	(5)	723,749.49
320.00	WATER TREATMENT EQUIPMENT	1993	4,787,310.68	2.95906	(5)	14,165,960.26
320.00	WATER TREATMENT EQUIPMENT	2008	38,500.00	1.72696	(5)	66,488.05
320.00	WATER TREATMENT EQUIPMENT	2009	19,787.82	1.63489	(5)	32,351.01
330.41	DISTRIBUTION STANDPIPES - TANKS	1978	352,733.00	6.43353	(6)	2,269,316.93
330.41	DISTRIBUTION STANDPIPES - TANKS	1991	614,359.00	4.39921	(6)	2,702,693.94
330.41	DISTRIBUTION STANDPIPES - TANKS	1993	663,507.72	4.48790	(6)	2,977,758.44
330.41	DISTRIBUTION STANDPIPES - TANKS	2009	7,630.00	1.54155	(6)	11,762.04
330.42	DISTRIBUTION STANDPIPES - ELEVATED TANKS	1974	179,000.00	10.89474	(7)	1,950,157.89
331.40	TRANS AND DIST MAINS	1885	1,825.46	109.33333	(8)	199,583.63
331.40	TRANS AND DIST MAINS	1903	47,637.66	109.33333	(8)	5,208,384.16
331.40	TRANS AND DIST MAINS	1913	6,825.40	98.40000	(8)	671,619.36
331.40	TRANS AND DIST MAINS	1920	27,791.64	44.72727	(8)	1,243,044.26
331.40	TRANS AND DIST MAINS	1940	82,532.22	41.00000	(8)	3,383,821.02
331.40	TRANS AND DIST MAINS	1941	2,949.23	42.78261	(8)	126,175.75
331.40	TRANS AND DIST MAINS	1952	58,405.93	20.93617	(8)	1,222,796.49
331.40	TRANS AND DIST MAINS	1974	38,228.26	8.94545	(8)	341,969.16
331.40	TRANS AND DIST MAINS	1977	94,332.84	6.07407	(8)	572,984.66
331.40	TRANS AND DIST MAINS	1983	10,876.93	4.11715	(8)	44,782.00
331.40	TRANS AND DIST MAINS	1990	346,281.35	3.26910	(8)	1,132,029.40
331.40	TRANS AND DIST MAINS	1993	99,183.44	3.06542	(8)	304,038.96

THE BOROUGH OF SHENANDOAH
THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH WATER SYSTEM ASSETS

SUMMARY OF REPLACEMENT COST AND TRANSITION FACTORS BY ACCOUNT AND VINTAGE YEAR
OF WATER SYSTEM AS OF JULY 8, 2022

ACCOUNT	DESCRIPTION	VINTAGE YEAR	BASE COST	TRANSITION FACTOR	FACTOR REFERENCE	REPLACEMENT COST
(1)	(2)	(3)	(4)	(5)	(6)	(7)
333.40	SERVICES	1903	32,640.34	130.33333	(9)	4,254,124.31
333.40	SERVICES	2006	19,345.14	1.72247	(9)	33,321.36
333.40	SERVICES	2007	32,020.76	1.61237	(9)	51,629.35
334.40	METERS	2006	21,795.18	3.23790	(10)	70,570.68
334.40	METERS	2007	1,785.08	2.77855	(10)	4,959.93
334.40	METERS	2008	20,884.05	2.15282	(10)	44,959.50
334.40	METERS	2009	2,591.99	2.15282	(10)	5,580.07
334.40	METERS	2010	7,125.94	2.13564	(10)	15,218.43
335.40	HYDRANTS	1903	3,637.60	36.65714	(11)	133,344.02
335.40	HYDRANTS	1940	5,285.58	36.65714	(11)	193,754.26
335.40	HYDRANTS	1952	4,689.69	31.29268	(11)	146,752.98
335.40	HYDRANTS	1975	9,115.64	8.97203	(11)	81,785.78
335.40	HYDRANTS	1984	11,959.94	4.75185	(11)	56,831.86
335.40	HYDRANTS	1990	11,700.32	3.53444	(11)	41,354.02
335.40	HYDRANTS	1998	2,439.63	2.60243	(11)	6,348.98
340.10	OFFICE FURNITURE AND EQUIPMENT	1999	72,766.12	1.89475	(12)	137,873.61
340.10	OFFICE FURNITURE AND EQUIPMENT	2007	2,789.00	1.62396	(12)	4,529.21
340.10	OFFICE FURNITURE AND EQUIPMENT	2008	1,533.75	1.56300	(12)	2,397.26
340.20	OFFICE EQUIPMENT - COMPUTERS AND PERIPHALS	2012	4,495.00	0.83067	(13)	3,733.88
341.00	TRANSPORTATION EQUIPMENT	1999	170,576.01	1.19200	(14)	203,326.77
341.00	TRANSPORTATION EQUIPMENT	2000	5,000.00	1.18234	(14)	5,911.69
341.00	TRANSPORTATION EQUIPMENT	2008	4,430.10	1.23461	(14)	5,469.43
341.00	TRANSPORTATION EQUIPMENT	2009	21,844.22	1.19985	(14)	26,209.71
341.00	TRANSPORTATION EQUIPMENT	2010	53,084.59	1.19948	(14)	63,673.95
341.00	TRANSPORTATION EQUIPMENT	2019	48,895.00	1.06822	(14)	52,230.40
343.00	TOOLS, SHOP AND GARAGE EQUIPMENT	1998	5,398.07	1.29312	(15)	6,980.36
343.00	TOOLS, SHOP AND GARAGE EQUIPMENT	1999	130,641.81	1.29702	(15)	169,444.40
343.00	TOOLS, SHOP AND GARAGE EQUIPMENT	2007	2,069.95	1.24654	(15)	2,580.28
343.00	TOOLS, SHOP AND GARAGE EQUIPMENT	2008	3,019.99	1.21657	(15)	3,674.04
343.00	TOOLS, SHOP AND GARAGE EQUIPMENT	2009	12,672.98	1.20000	(15)	15,207.58
343.00	TOOLS, SHOP AND GARAGE EQUIPMENT	2010	12,747.67	1.20380	(15)	15,345.66
343.00	TOOLS, SHOP AND GARAGE EQUIPMENT	2011	4,777.00	1.21231	(15)	5,791.21
343.00	TOOLS, SHOP AND GARAGE EQUIPMENT	2013	13,135.00	1.19166	(15)	15,652.48
343.00	TOOLS, SHOP AND GARAGE EQUIPMENT	2015	8,087.53	1.18452	(15)	9,579.87
346.30	COMMUNICATION EQUIPMENT	2013	4,866.00	1.00999	(16)	4,914.61
346.30	COMMUNICATION EQUIPMENT	2014	50,458.59	1.00546	(16)	50,733.85
347.00	SECURITY EQUIPMENT	2009	4,920.97	1.14216	(17)	5,620.56
347.00	SECURITY EQUIPMENT	2010	1,995.00	1.15706	(17)	2,308.33
347.00	SECURITY EQUIPMENT	2011	1,995.00	1.15992	(17)	2,314.04
	TOTAL COMPANY		**19,380,635.93**			**135,122,557.48**

THE BOROUGH OF SHENANDOAH
THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH WATER SYSTEM ASSETS

SUMMARY OF REPLACEMENT COST AND TRANSITION FACTORS BY ACCOUNT AND VINTAGE YEAR
OF WATER SYSTEM AS OF JULY 8, 2022

ACCOUNT	DESCRIPTION	VINTAGE YEAR	BASE COST	TRANSITION FACTOR	FACTOR REFERENCE	REPLACEMENT COST
(1)	(2)	(3)	(4)	(5)	(6)	(7)

NOTES : (1) Not trended
(2) Handy-Whitman Index of Public Utility Costs, 1/1/22, Cost Trends of Water Utility Construction, North Atlantic Region, Line 8
(3) Handy-Whitman Index of Public Utility Costs, 1/1/22, Cost Trends of Water Utility Construction, North Atlantic Region, Line 2
(4) Handy-Whitman Index of Public Utility Costs, 1/1/22, Cost Trends of Water Utility Construction, North Atlantic Region, Line 9
(5) Handy-Whitman Index of Public Utility Costs, 1/1/22, Cost Trends of Water Utility Construction, North Atlantic Region, Line 16
(6) Handy-Whitman Index of Public Utility Costs, 1/1/22, Cost Trends of Water Utility Construction, North Atlantic Region, Line 23
(7) Handy-Whitman Index of Public Utility Costs, 1/1/22, Cost Trends of Water Utility Construction, North Atlantic Region, Line 24
(8) Handy-Whitman Index of Public Utility Costs, 1/1/22, Cost Trends of Water Utility Construction, North Atlantic Region, Line 34
(9) Handy-Whitman Index of Public Utility Costs, 1/1/22, Cost Trends of Water Utility Construction, North Atlantic Region, Line 39
(10) Handy-Whitman Index of Public Utility Costs, 1/1/22, Cost Trends of Water Utility Construction, North Atlantic Region, Line 40
(11) Handy-Whitman Index of Public Utility Costs, 1/1/22, Cost Trends of Water Utility Construction, North Atlantic Region, Line 42
(12) U.S. Bureau of Labor Statistics, Producer Price Index, Series Title: PPI industry group data for Office furniture (including fixtures) mfg, not seasonally adjusted
(13) U.S. Bureau of Labor Statistics, Producer Price Index, Series Title: PPI industry data for Computer & peripheral equipment mfg, not seasonally adjusted
(14) U.S. Bureau of Labor Statistics, Producer Price Index, Series Title: PPI industry data for Automobile, light truck and utility vehicle mfg, not seasonally adjusted
(15) U.S. Bureau of Labor Statistics, Producer Price Index, Series Title: PPI industry data for Lawn and garden equipment mfg, not seasonally adjusted
(16) U.S. Bureau of Labor Statistics, Producer Price Index, Series Title: PPI industry data for Broadcast and wireless communications equipment mfg, not seasonally adjusted
(17) U.S. Bureau of Labor Statistics, Producer Price Index, Series Title: PPI industry data for Audio and video equipment mfg, not seasonally adjusted

THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH
WATER SYSTEM ASSETS

ACCOUNT 303.20 LAND & LAND RIGHTS SUPPLY

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO THE REPLACEMENT COST AT JULY 8, 2022

	ORIGINAL	AVG.	--ANNUAL ACCRUAL--			--ACCRUED DEPREC.--	
YEAR	COST	LIFE	RATE	AMOUNT	EXP.	FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
NONDEPRECIABLE							
1941	17.00						
	17.00						

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 0.00

THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH
WATER SYSTEM ASSETS

ACCOUNT 303.30 LAND & LAND RIGHTS TREATMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO THE REPLACEMENT COST AT JULY 8, 2022

	ORIGINAL	AVG.	--ANNUAL ACCRUAL--			--ACCRUED DEPREC.--	
YEAR	COST	LIFE	RATE	AMOUNT	EXP.	FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
NONDEPRECIABLE							
1992	22,000.00						
	22,000.00						

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 0.00

THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH
WATER SYSTEM ASSETS

ACCOUNT 303.40 LAND & LAND RIGHTS TRANS AND DIST

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO THE REPLACEMENT COST AT JULY 8, 2022

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
NONDEPRECIABLE							
1941	9.00						
1967	141.00						
1972	1.00						
1973	2,000.00						
1980	20,500.00						
1988	1.00						
1990	3.00						
1993	1.00						
2002	1.00						
2005	1.00						
2008	3.00						
2010	1.00						
2011	1.00						
	22,663.00						

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 0.00

THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH
WATER SYSTEM ASSETS

ACCOUNT 304.20 STRUCTURES AND IMPROVEMENTS PUMPING

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO THE REPLACEMENT COST AT JULY 8, 2022

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 60-R3							
NET SALVAGE PERCENT.. 0							
1913	2,202,500.00	60.00				1.0000	2,202,500
1914	1,101,250.00	60.00				1.0000	1,101,250
1974	308,726.50	60.00	1.67	5,155.73	18.84	0.6860	211,786
1993	2,291,795.64	60.00	1.67	38,272.99	33.09	0.4485	1,027,870
2012	16,671.90	60.00	1.67	278.42	50.25	0.1625	2,709
	5,920,944.04			43,707.14			4,546,115

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 0.74

THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH
WATER SYSTEM ASSETS

ACCOUNT 304.30 STRUCTURES AND IMPROVEMENTS TREATMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO THE REPLACEMENT COST AT JULY 8, 2022

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 65-R3							
NET SALVAGE PERCENT.. 0							
1982	2,227,067.89	65.00	1.54	34,296.85	28.95	0.5546	1,235,176
1993	4,292,249.98	65.00	1.54	66,100.65	37.90	0.4169	1,789,525
2011	16,134.07	65.00	1.54	248.46	54.29	0.1648	2,658
2012	967,585.70	65.00	1.54	14,900.82	55.24	0.1502	145,283
2013	11,957.51	65.00	1.54	184.15	56.20	0.1354	1,619
	7,514,995.15			115,730.93			3,174,261

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.54

THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH
WATER SYSTEM ASSETS

ACCOUNT 304.40 STRUCTURES AND IMPROVEMENTS TRANS AND DIST

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO THE REPLACEMENT COST AT JULY 8, 2022

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 80-R3							
NET SALVAGE PERCENT.. 0							
1991	172,679.22	80.00	1.25	2,158.49	50.72	0.3660	63,201
2009	89,655.52	80.00	1.25	1,120.69	67.33	0.1584	14,200
	262,334.74			3,279.18			77,401

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.25

THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH
WATER SYSTEM ASSETS

ACCOUNT 305.00 COLLECTING AND IMPOUNDING RESERVOIRS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO THE REPLACEMENT COST AT JULY 8, 2022

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 100-R2							
NET SALVAGE PERCENT.. 0							
1885	29,700,000.00	100.00	1.00	297,000.00	13.68	0.8632	25,637,040
1914	17,820,000.00	100.00	1.00	178,200.00	24.04	0.7596	13,536,072
1920	8,152,941.18	100.00	1.00	81,529.41	26.71	0.7329	5,975,291
1981	11,632,476.56	100.00	1.00	116,324.77	65.26	0.3474	4,041,122
1987	3,242,536.63	100.00	1.00	32,425.37	69.99	0.3001	973,085
1992	4,246,076.35	100.00	1.00	42,460.76	74.04	0.2596	1,102,281
2009	201,944.68	100.00	1.00	2,019.45	88.41	0.1159	23,405
2012	38,232.11	100.00	1.00	382.32	91.04	0.0896	3,426
	75,034,207.51			750,342.08			51,291,722

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.00

THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH
WATER SYSTEM ASSETS

ACCOUNT 311.00 PUMPING EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO THE REPLACEMENT COST AT JULY 8, 2022

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 40-R1.5							
NET SALVAGE PERCENT.. 0							
1977	217,305.98	40.00	2.50	5,432.65	10.66	0.7335	159,394
1999	615,336.25	40.00	2.50	15,383.41	22.63	0.4343	267,210
2009	21,983.86	40.00	2.50	549.60	29.75	0.2563	5,633
2015	149,844.76	40.00	2.50	3,746.12	34.35	0.1413	21,166
2020	33,419.58	40.00	2.50	835.49	38.34	0.0415	1,387
	1,037,890.43			25,947.27			454,790

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 2.50

THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH
WATER SYSTEM ASSETS

ACCOUNT 320.00 WATER TREATMENT EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO THE REPLACEMENT COST AT JULY 8, 2022

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 50-R3							
NET SALVAGE PERCENT.. 0							
1988	723,749.49	50.00	2.00	14,474.99	19.84	0.6032	436,566
1993	14,165,960.26	50.00	2.00	283,319.21	23.64	0.5272	7,468,294
2008	66,488.05	50.00	2.00	1,329.76	36.55	0.2690	17,885
2009	32,351.01	50.00	2.00	647.02	37.47	0.2506	8,107
	14,988,548.81			299,770.98			7,930,852

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 2.00

THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH
WATER SYSTEM ASSETS

ACCACCOUNT 330.41 DISTRIBUTION STANDPIPES - TANKS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO THE REPLACEMENT COST AT JULY 8, 2022

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 60-R2.5							
NET SALVAGE PERCENT.. 0							
1978	2,269,316.93	60.00	1.67	37,897.59	23.41	0.6098	1,383,898
1991	2,702,693.94	60.00	1.67	45,134.99	32.83	0.4528	1,223,861
1993	2,977,758.44	60.00	1.67	49,728.57	34.41	0.4265	1,270,014
2009	11,762.04	60.00	1.67	196.43	47.98	0.2003	2,356
	7,961,531.35			132,957.58			3,880,129

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.67

THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH
WATER SYSTEM ASSETS

ACCOUNT 330.42 DISTRIBUTION STANDPIPES - ELEVATED TANKS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO THE REPLACEMENT COST AT JULY 8, 2022

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 60-R2.5							
NET SALVAGE PERCENT.. 0							
1974	1,950,157.89	60.00	1.67	32,567.64	20.84	0.6527	1,272,810
	1,950,157.89			32,567.64			1,272,810

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.67

THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH
WATER SYSTEM ASSETS

ACCOUNT 331.40 TRANS AND DIST MAINS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO THE REPLACEMENT COST AT JULY 8, 2022

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 85-R3							
NET SALVAGE PERCENT.. 0							
1885	199,583.63	85.00	1.18	2,355.09	1.59	0.9813	195,849
1903	5,208,384.16	85.00	1.18	61,458.93	6.07	0.9286	4,836,453
1913	671,619.36	85.00	1.18	7,925.11	8.67	0.8980	603,114
1920	1,243,044.26	85.00	1.18	14,667.92	10.67	0.8745	1,087,005
1940	3,383,821.02	85.00	1.18	39,929.09	18.60	0.7812	2,643,373
1941	126,175.75	85.00	1.18	1,488.87	19.11	0.7752	97,809
1952	1,222,796.49	85.00	1.18	14,429.00	25.41	0.7011	857,254
1974	341,969.16	85.00	1.18	4,035.24	41.23	0.5149	176,094
1977	572,984.66	85.00	1.18	6,761.22	43.65	0.4865	278,740
1983	44,782.00	85.00	1.18	528.43	48.64	0.4278	19,156
1990	1,132,029.40	85.00	1.18	13,357.95	54.72	0.3562	403,274
1993	304,038.96	85.00	1.18	3,587.66	57.40	0.3247	98,724
	14,451,228.85			170,524.51			11,296,845

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.18

THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH
WATER SYSTEM ASSETS

ACCOUNT 333.40 SERVICES

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO THE REPLACEMENT COST AT JULY 8, 2022

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 70-R2.5							
NET SALVAGE PERCENT.. 0							
1903	4,254,124.31	70.00	1.43	60,833.98	2.88	0.9589	4,079,110
2006	33,321.36	70.00	1.43	476.50	55.24	0.2109	7,026
2007	51,629.35	70.00	1.43	738.30	56.13	0.1981	10,230
	4,339,075.02			62,048.78			4,096,366

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.43

THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH
WATER SYSTEM ASSETS

ACCOUNT 334.40 METERS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO THE REPLACEMENT COST AT JULY 8, 2022

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 25-L3							
NET SALVAGE PERCENT.. 0							
2006	70,570.68	25.00	4.00	2,822.83	10.58	0.5768	40,705
2007	4,959.93	25.00	4.00	198.40	11.24	0.5504	2,730
2008	44,959.50	25.00	4.00	1,798.38	11.96	0.5216	23,451
2009	5,580.07	25.00	4.00	223.20	12.73	0.4908	2,739
2010	15,218.43	25.00	4.00	608.74	13.55	0.4580	6,970
	141,288.61			5,651.55			76,595

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 4.00

THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH
WATER SYSTEM ASSETS

ACCOUNT 335.40 HYDRANTS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO THE REPLACEMENT COST AT JULY 8, 2022

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 70-R2.5							
NET SALVAGE PERCENT.. 0							
1903	133,344.02	70.00	1.43	1,906.82	2.88	0.9589	127,858
1940	193,754.26	70.00	1.43	2,770.69	12.08	0.8274	160,318
1952	146,752.98	70.00	1.43	2,098.57	16.72	0.7611	111,700
1975	81,785.78	70.00	1.43	1,169.54	30.27	0.5676	46,419
1984	56,831.86	70.00	1.43	812.70	36.89	0.4730	26,881
1990	41,354.02	70.00	1.43	591.36	41.61	0.4056	16,772
1998	6,348.98	70.00	1.43	90.79	48.26	0.3106	1,972
	660,171.90			9,440.47			491,920

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.43

THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH
WATER SYSTEM ASSETS

ACCOUNT 340.10 OFFICE FURNITURE AND EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO THE REPLACEMENT COST AT JULY 8, 2022

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. 20-SQUARE							
NET SALVAGE PERCENT.. 0							
1999	137,873.61	20.00				1.0000	137,874
2007	4,529.21	20.00	5.00	226.46	4.98	0.7510	3,401
2008	2,397.26	20.00	5.00	119.86	5.98	0.7010	1,680
	144,800.08			346.32			142,955

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 0.24

THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH
WATER SYSTEM ASSETS

ACCOUNT 340.20 OFFICE EQUIPMENT - COMPUTERS AND PERIPHALS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO THE REPLACEMENT COST AT JULY 8, 2022

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. 5-SQUARE NET SALVAGE PERCENT.. 0							
2012	3,733.88	5.00				1.0000	3,734
	3,733.88						3,734

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 0.00

THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH
WATER SYSTEM ASSETS

ACCOUNT 341.00 TRANSPORTATION EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO THE REPLACEMENT COST AT JULY 8, 2022

	ORIGINAL	AVG.	--ANNUAL ACCRUAL--			--ACCRUED DEPREC.--	
YEAR	COST	LIFE	RATE	AMOUNT	EXP.	FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 11-S1.5							
NET SALVAGE PERCENT.. 0							
1999	203,326.77	11.00				1.0000	203,327
2000	5,911.69	11.00				1.0000	5,912
2008	5,469.43	11.00	9.09	497.17	2.11	0.8082	4,420
2009	26,209.71	11.00	9.09	2,382.46	2.43	0.7791	20,420
2010	63,673.95	11.00	9.09	5,787.96	2.77	0.7482	47,640
2019	52,230.40	11.00	9.09	4,747.74	8.11	0.2627	13,722
	356,821.95			13,415.33			295,441

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 3.76

THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH
WATER SYSTEM ASSETS

ACCOUNT 343.00 TOOLS, SHOP AND GARAGE EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO THE REPLACEMENT COST AT JULY 8, 2022

	ORIGINAL	AVG.	--ANNUAL ACCRUAL--			--ACCRUED DEPREC.--	
YEAR	COST	LIFE	RATE	AMOUNT	EXP.	FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. 20-SQUARE							
NET SALVAGE PERCENT.. 0							
1998	6,980.36	20.00				1.0000	6,980
1999	169,444.40	20.00				1.0000	169,444
2007	2,580.28	20.00	5.00	129.01	4.98	0.7510	1,938
2008	3,674.04	20.00	5.00	183.70	5.98	0.7010	2,576
2009	15,207.58	20.00	5.00	760.38	6.98	0.6510	9,900
2010	15,345.66	20.00	5.00	767.28	7.98	0.6010	9,223
2011	5,791.21	20.00	5.00	289.56	8.98	0.5510	3,191
2013	15,652.48	20.00	5.00	782.62	10.98	0.4510	7,059
2015	9,579.87	20.00	5.00	478.99	12.98	0.3510	3,363
	244,255.88			3,391.54			213,674

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.39

THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH
WATER SYSTEM ASSETS

ACCOUNT 346.30 COMMUNICATION EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO THE REPLACEMENT COST AT JULY 8, 2022

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. 15-SQUARE							
NET SALVAGE PERCENT.. 0							
2013	4,914.61	15.00	6.67	327.80	5.98	0.6013	2,955
2014	50,733.85	15.00	6.67	3,383.95	6.98	0.5347	27,126
	55,648.46			3,711.75			30,081

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 6.67

THE MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH
WATER SYSTEM ASSETS

ACCOUNT 347.00 SECURITY EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO THE REPLACEMENT COST AT JULY 8, 2022

	ORIGINAL	AVG.	--ANNUAL ACCRUAL--			--ACCRUED DEPREC.--	
YEAR	COST	LIFE	RATE	AMOUNT	EXP.	FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. 10-SQUARE							
NET SALVAGE PERCENT.. 0							
2009	5,620.56	10.00				1.0000	5,621
2010	2,308.33	10.00				1.0000	2,308
2011	2,314.04	10.00				1.0000	2,314
	10,242.93						10,243

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 0.00

Income Approach
Municipal Authority of the Borough of Shenandoah Water System Assets
Pro Forma Operations
Earnings Capitalization Model

		Actual			Budget
					Year 0
		2019	2020	2021	2022
1.	**OPERATING REVENUES (1)**				
2.	Charges for services	2,050,863	1,926,472	2,069,499	1,990,000
3.	Other operating revenue	7,388	1,122	0	0
4.	Tap Fees	0	0	0	0
5.	**Total Operating Revenues**	2,058,251	1,927,594	2,069,499	1,990,000
6.	**Rate Increase**				
7.	**OPERATING EXPENSES (1)**				
8.	Operating & Maintenance Expenses	1,524,614	1,659,366	1,618,095	1,745,000
9.	**Operating Expenses Before Depreciation**	1,524,614	1,659,366	1,618,095	1,745,000
10.	Depreciation (2)	314,353	328,537	328,537	329,731
11.	**Total Operating Expenses**	1,838,967	1,987,903	1,946,632	2,074,731
12.	**Operating Income**	219,284	(60,309)	122,867	(84,731)
13.	Revenues (3)	2,058,251	1,927,594	2,069,499	1,990,000
14.	EBITDA (4)	533,637	268,228	451,404	245,000
15.	EBIT (5)	219,284	(60,309)	122,867	(84,731)
16.	EBIT	219,284	(60,309)	122,867	(84,731)
17.	(-) Income Taxes	0	0	0	0
18.	Debt Free Net Income	219,284	(60,309)	122,867	(84,731)
19.	(+) Depreciation & Amortization	314,353	328,537	328,537	329,731
20.	(-) Capital Expenditures (6)	413,879	276,344	527,649	222,858
21.	(-) Changes in Working Capital (7)	(1,029)	(964)	(1,035)	(995)
22.	Debt Free Net Cash Flow	$120,787	($7,152)	($75,210)	$23,137

Income Approach
Municipal Authority of the Borough of Shenandoah Water System Assets
Pro Forma Operations
Earnings Capitalization Model

		2022	Pro Forma 2022 (11)
		3.81% Capitalization Rate Model (No Growth)	3.81% Capitalization Rate Model (No Growth)
23.	Debt Free Net Cash Flow (10)	$23,137	($159,962)
24.	Capitalization Factor: (8)	3.81%	3.81%
25.	Indicated Value (line 23 ÷ line 24)	$607,270	($4,198,486)
		3.81% Capitalization Rate Model (0.00% Growth)	3.81% Capitalization Rate Model (0.00% Growth)
26.	Debt Free Net Cash Flow (10)	$23,137	($159,962)
27.	Capitalization Factor: (9)	3.81%	3.81%
28.	Indicated Value (line 26 ÷ line 27)	$607,270	($4,198,486)

See last page of this EXHIBIT for notes and assumptions.

Income Approach

Municipal Authority of the Borough of Shenandoah Water System Assets

Pro Forma Operations

Earnings Capitalization Model

Notes: (1) Assumptions:

Charges for services - Pre-2022 are actual. 2022 results are based on 2022 budget. Post-2022 based on customer growth (EDU) and average revenue per customer.

OPERATING EXPENSES - increase at 3.0% annually after 2022 unless noted elsewhere. Assumed economies of scale are shown on lines below.

(2) Depreciation - Pre-2022 based on actual depreciation. Post-2022 based on depreciation rate plus same rate on half of CAPX.

(3) Line 5.

(4) Line 12 + line 10.

(5) Line 12.

(6) Capital Expenditures - Pre-2023 based on financials/budget. Post-2022 years are estimates at 1.50% of prior year-end GROSS Property, plant and equipment.

(7) Changes in Working Capital - based on water industry -0.05% of revenues.

(8) Discount rate is the the current MUNI discount rate. Capitalization rate (K) at 7/8/2022 equal to discount rate, where capitalization rate = K - g.

(9) Discount rate is the current MUNI discount rate. Capitalization rate (K) at 7/8/2022 adjusted for stated growth (g) where capitalization rate = K - g.

(10) Final year shown, line 22.

(11) Debt Free Net Cash Flow adjusted for average 2019-2021 CAPX if system is not sold.

Terms:

CAPX - Capital Expenditures
CIP - Capital improvement plan
Dep - Depreciation expense
GROSS PPE - GROSS Property, plant and equipment
IOU - Investor owned utility
MUNI - Large regional municipally owned utility
NET PPE - NET Property, plant and equipment

Income Approach
Municipal Authority of the Borough of Shenandoah Water System Assets
Pro Forma and Estimted Operations With MUNI Ownership
DCF With Capitalization of Terminal Value Model and
DCF With EBIT & EBITDA Terminal Value Model

	Actual			Budget	Estimated	Estimated
				Year 0	Year 1	Year 2
	2019	2020	2021	2022	2023	2024
1. **OPERATING REVENUES (1)**						
2. Charges for services	2,050,863	1,926,472	2,069,499	1,990,000	1,990,000	1,990,000
3. Other operating revenue	7,388	1,122	0	0	0	0
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	0	0	0	0	358,200
6. **Total Operating Revenues**	2,058,251	1,927,594	2,069,499	1,990,000	1,990,000	2,348,200
7. **Rate Increase**						**18%**
8. **OPERATING EXPENSES (1)**						
9. Operating & Maintenance Expenses	1,524,614	1,659,366	1,618,095	1,745,000	1,797,350	1,851,271
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	0	0	0	(111,000)	(114,330)	(117,760)
12. LESS: EOS - Professional Services	0	0	0	(190,000)	(195,700)	(201,571)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	0	0	0	0	0	0
15. **Operating Expenses Before Depreciation**	1,524,614	1,659,366	1,618,095	1,444,000	1,487,320	1,531,940
16. Depreciation (2)	314,353	328,537	328,537	329,731	300,994	304,829
17. **Total Operating Expenses**	1,838,967	1,987,903	1,946,632	1,773,731	1,788,314	1,836,769
18. **Operating Income**	219,284	(60,309)	122,867	216,269	201,686	511,431
19. Revenues (3)	2,058,251	1,927,594	2,069,499	1,990,000	1,990,000	2,348,200
20. EBITDA (4)	533,637	268,228	451,404	546,000	502,680	816,260
21. EBIT (5)	219,284	(60,309)	122,867	216,269	201,686	511,431
22. EBIT	219,284	(60,309)	122,867	216,269	201,686	511,431
23. (-) Income Taxes	0	0	0	0	0	0
24. Debt Free Net Income	219,284	(60,309)	122,867	216,269	201,686	511,431
25. (+) Depreciation & Amortization	314,353	328,537	328,537	329,731	300,994	304,829
26. (-) Capital Expenditures (6)	413,879	276,344	527,649	222,858	293,434	297,173
27. (-) Changes in Working Capital (7)	(1,029)	(964)	(1,035)	(995)	(995)	(1,174)
28. Debt Free Net Cash Flow	$120,787	($7,152)	($75,210)	$324,137	$210,241	$520,262
29. PV Time Period (mid-year)				(0.5)	0.5	1.5
					1	2
30. Present Value Factor: 3.81% (8)					0.9815	0.9455
31. Present Value Debt Free Net Cash Flow					$206,352	$491,907
					1	2
32. Present Value Factor: 3.81% (9)					0.9815	0.9455
33. Present Value Debt Free Net Cash Flow					$206,352	$491,907

See last page of this EXHIBIT for notes and assumptions.

Income Approach
Municipal Authority of the Borough of Shenandoah Water System Assets
Pro Forma and Estimted Operations With MUNI Ownership
DCF With Capitalization of Terminal Value Model and
DCF With EBIT & EBITDA Terminal Value Model

	Estimated Year 3	Estimated Year 4	Estimated Year 5	Estimated Year 6	Estimated Year 7	Estimated Year 8
	2025	2026	2027	2028	2029	2030
1. **OPERATING REVENUES (1)**						
2. Charges for services	2,348,200	2,348,200	2,342,330	2,470,455	2,458,103	2,445,812
3. Other operating revenue	0	0	0	0	0	0
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	0	140,540	0	0	171,207
6. **Total Operating Revenues**	2,348,200	2,348,200	2,482,870	2,470,455	2,458,103	2,617,019
7. **Rate Increase**			**6%**			**7%**
8. **OPERATING EXPENSES (1)**						
9. Operating & Maintenance Expenses	1,906,809	1,964,013	2,022,933	2,083,621	2,146,130	2,210,514
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	(121,293)	(124,931)	(128,679)	(132,540)	(136,516)	(140,611)
12. LESS: EOS - Professional Services	(207,618)	(213,847)	(220,262)	(226,870)	(233,676)	(240,686)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	0	0	0	0	0	0
15. **Operating Expenses Before Depreciation**	1,577,898	1,625,235	1,673,992	1,724,212	1,775,938	1,829,216
16. Depreciation (2)	308,714	312,649	316,633	320,670	324,756	328,895
17. **Total Operating Expenses**	1,886,612	1,937,884	1,990,625	2,044,881	2,100,694	2,158,111
18. **Operating Income**	461,588	410,316	492,245	425,574	357,409	458,908
19. Revenues (3)	2,348,200	2,348,200	2,482,870	2,470,455	2,458,103	2,617,019
20. EBITDA (4)	770,302	722,965	808,878	746,243	682,165	787,803
21. EBIT (5)	461,588	410,316	492,245	425,574	357,409	458,908
22. EBIT	461,588	410,316	492,245	425,574	357,409	458,908
23. (-) Income Taxes	0	0	0	0	0	0
24. Debt Free Net Income	461,588	410,316	492,245	425,574	357,409	458,908
25. (+) Depreciation & Amortization	308,714	312,649	316,633	320,670	324,756	328,895
26. (-) Capital Expenditures (6)	300,961	304,797	308,681	312,615	316,599	320,634
27. (-) Changes in Working Capital (7)	(1,174)	(1,174)	(1,241)	(1,235)	(1,229)	(1,309)
28. Debt Free Net Cash Flow	$470,515	$419,342	$501,439	$434,864	$366,795	$468,478
29. PV Time Period (mid-year)	2.5	3.5	4.5	5.5	6.5	7.5
	3	4	5	6	7	8
30. Present Value Factor: 3.81% (8)	0.9108	0.8773	0.8451	0.8141	0.7842	0.7555
31. Present Value Debt Free Net Cash Flow	$428,545	$367,889	$423,766	$354,023	$287,641	$353,935
	3	4	5	6	7	8
32. Present Value Factor: 3.81% (9)	0.9108	0.8773	0.8451	0.8141	0.7842	0.7555
33. Present Value Debt Free Net Cash Flow	$428,545	$367,889	$423,766	$354,023	$287,641	$353,935

See last page of this EXHIBIT for notes and assumptions.

Income Approach
Municipal Authority of the Borough of Shenandoah Water System Assets
Pro Forma and Estimted Operations With MUNI Ownership
DCF With Capitalization of Terminal Value Model and
DCF With EBIT & EBITDA Terminal Value Model

	Estimated Year 9	Estimated Year 10	Estimated Year 11	Estimated Year 12	Estimated Year 13	Estimated Year 14
	2031	2032	2033	2034	2035	2036
1. **OPERATING REVENUES (1)**						
2. Charges for services	2,603,934	2,590,914	2,577,960	2,744,625	2,730,902	2,717,247
3. Other operating revenue	0	0	0	0	0	0
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	0	180,457	0	0	190,207
6. **Total Operating Revenues**	2,603,934	2,590,914	2,758,417	2,744,625	2,730,902	2,907,454
7. **Rate Increase**			**7%**			**7%**
8. **OPERATING EXPENSES (1)**						
9. Operating & Maintenance Expenses	2,276,829	2,345,134	2,415,488	2,487,953	2,562,591	2,639,469
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	(144,830)	(149,175)	(153,650)	(158,259)	(163,007)	(167,897)
12. LESS: EOS - Professional Services	(247,907)	(255,344)	(263,004)	(270,895)	(279,021)	(287,392)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	0	0	0	0	0	0
15. **Operating Expenses Before Depreciation**	1,884,092	1,940,615	1,998,834	2,058,799	2,120,563	2,184,180
16. Depreciation (2)	333,087	337,332	341,631	345,985	350,395	354,861
17. **Total Operating Expenses**	2,217,179	2,277,947	2,340,465	2,404,784	2,470,957	2,539,041
18. **Operating Income**	386,755	312,967	417,952	339,841	259,945	368,413
19. Revenues (3)	2,603,934	2,590,914	2,758,417	2,744,625	2,730,902	2,907,454
20. EBITDA (4)	719,842	650,299	759,583	685,826	610,339	723,274
21. EBIT (5)	386,755	312,967	417,952	339,841	259,945	368,413
22. EBIT	386,755	312,967	417,952	339,841	259,945	368,413
23. (-) Income Taxes	0	0	0	0	0	0
24. Debt Free Net Income	386,755	312,967	417,952	339,841	259,945	368,413
25. (+) Depreciation & Amortization	333,087	337,332	341,631	345,985	350,395	354,861
26. (-) Capital Expenditures (6)	324,721	328,859	333,051	337,295	341,594	345,948
27. (-) Changes in Working Capital (7)	(1,302)	(1,295)	(1,379)	(1,372)	(1,365)	(1,454)
28. Debt Free Net Cash Flow	$396,422	$322,735	$427,911	$349,904	$270,111	$378,780
29. PV Time Period (mid-year)	8.5	9.5	10.5	11.5	12.5	13.5
	9	10	11	12	13	14
30. Present Value Factor: 3.81% (8)	0.7277	0.7010	0.6753	0.6505	0.6266	0.6036
31. Present Value Debt Free Net Cash Flow	$288,477	$226,237	$288,969	$227,612	$169,251	$228,632
	9	10	11	12	13	14
32. Present Value Factor: 3.81% (9)	0.7277	0.7010	0.6753	0.6505	0.6266	0.6036
33. Present Value Debt Free Net Cash Flow	$288,477	$226,237	$288,969	$227,612	$169,251	$228,632

See last page of this EXHIBIT for notes and assumptions.

Income Approach
Municipal Authority of the Borough of Shenandoah Water System Assets
Pro Forma and Estimted Operations With MUNI Ownership
DCF With Capitalization of Terminal Value Model and
DCF With EBIT & EBITDA Terminal Value Model

	Estimated Year 15	Estimated Year 16	Estimated Year 17	Estimated Year 18	Estimated Year 19	Estimated Year 20
	2037	2038	2039	2040	2041	2042
1. **OPERATING REVENUES (1)**						
2. Charges for services	2,892,917	2,878,453	3,064,545	3,049,222	3,246,354	3,230,122
3. Other operating revenue	0	0	0	0	0	0
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	201,492	0	213,446	0	226,109
6. **Total Operating Revenues**	2,892,917	3,079,945	3,064,545	3,262,668	3,246,354	3,456,231
7. **Rate Increase**		**7%**		**7%**		**7%**
8. **OPERATING EXPENSES (1)**						
9. Operating & Maintenance Expenses	2,718,653	2,800,213	2,884,219	2,970,746	3,059,868	3,151,664
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	(172,934)	(178,122)	(183,466)	(188,970)	(194,639)	(200,478)
12. LESS: EOS - Professional Services	(296,014)	(304,894)	(314,041)	(323,462)	(333,166)	(343,161)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	0	0	0	0	0	0
15. **Operating Expenses Before Depreciation**	2,249,705	2,317,196	2,386,712	2,458,313	2,532,063	2,608,025
16. Depreciation (2)	359,383	363,963	368,602	373,300	378,057	382,875
17. **Total Operating Expenses**	2,609,088	2,681,159	2,755,314	2,831,613	2,910,120	2,990,900
18. **Operating Income**	283,829	398,786	309,231	431,055	336,234	465,331
19. Revenues (3)	2,892,917	3,079,945	3,064,545	3,262,668	3,246,354	3,456,231
20. EBITDA (4)	643,212	762,749	677,833	804,355	714,291	848,206
21. EBIT (5)	283,829	398,786	309,231	431,055	336,234	465,331
22. EBIT	283,829	398,786	309,231	431,055	336,234	465,331
23. (-) Income Taxes	0	0	0	0	0	0
24. Debt Free Net Income	283,829	398,786	309,231	431,055	336,234	465,331
25. (+) Depreciation & Amortization	359,383	363,963	368,602	373,300	378,057	382,875
26. (-) Capital Expenditures (6)	350,357	354,822	359,344	363,924	368,562	373,260
27. (-) Changes in Working Capital (7)	(1,446)	(1,540)	(1,532)	(1,631)	(1,623)	(1,728)
28. Debt Free Net Cash Flow	$294,302	$409,467	$320,021	$442,062	$347,352	$476,674
29. PV Time Period (mid-year)	14.5	15.5	16.5	17.5	18.5	19.5
	15	16	17	18	19	20
30. Present Value Factor: 3.81% (8)	0.5815	0.5601	0.5396	0.5198	0.5007	0.4823
31. Present Value Debt Free Net Cash Flow	$171,136	$229,342	$172,683	$229,784	$173,919	$229,900
	15	16	17	18	19	20
32. Present Value Factor: 3.81% (9)	0.5815	0.5601	0.5396	0.5198	0.5007	0.4823
33. Present Value Debt Free Net Cash Flow	$171,136	$229,342	$172,683	$229,784	$173,919	$229,900

See last page of this EXHIBIT for notes and assumptions.

Income Approach
Municipal Authority of the Borough of Shenandoah Water System Assets
Pro Forma and Estimted Operations With MUNI Ownership
DCF With Capitalization of Terminal Value Model and
DCF With EBIT & EBITDA Terminal Value Model

DCF With Capitalization of Terminal Value Model @ 3.81%	
	Terminal Value
Projected Debt Free Net Cash Flow (10)	$476,674
Divided by Capitalization Factor (8)	3.81%
20th Year Terminal Value	12,511,142
20th Year Present Value Factor (11)	0.4823
Present Value of Terminal Value	6,034,124
Present Value Debt Free Net Cash Flow for 20 Years	5,550,001
Indicated Value	$11,584,124

DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 3.81%			
		Multiples (13)	Terminal Value
Projected EBIT	$465,331	20.7	$9,632,349
Projected EBITDA	848,206	13.9	11,790,069
Weighted (1/3 EBIT 2/3 EBITDA) Terminal Value			11,078,021
20th Year Present Value Factor (11)			0.4823
Present Value of Terminal Value			5,342,930
Present Value Debt Free Net Cash Flow for 20 Years			5,550,001
Indicated Value			$10,892,930

DCF With Capitalization of Terminal Value Model @ 3.81%	
	Terminal Value
Projected Debt Free Net Cash Flow (10)	$476,674
Divided by Capitalization Factor (9)	3.81%
20th Year Terminal Value	12,511,142
20th Year Present Value Factor (12)	0.4823
Present Value of Terminal Value	6,034,124
Present Value Debt Free Net Cash Flow for 20 Years	5,550,001
Indicated Value	$11,584,124

DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 3.81%			
		Multiples (13)	Terminal Value
Projected EBIT	$465,331	20.7	$9,632,349
Projected EBITDA	848,206	13.9	11,790,069
Weighted (1/3 EBIT 2/3 EBITDA) Terminal Value			11,078,021
20th Year Present Value Factor (12)			0.4823
Present Value of Terminal Value			5,342,930
Present Value Debt Free Net Cash Flow for 20 Years			5,550,001
Indicated Value			$10,892,930

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DCF With Capitalization of Terminal Value Model and
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Notes: (1) Assumptions:

Charges for services - Pre-2022 are actual. 2022 results are based on 2022 budget. Post-2022 based on customer growth (EDU) and average revenue per customer. Rate increases (Other rate increase line item) are added year after they occur.

Other (Rate Increase) - Assumed purchase by MUNI at end of 2022 with shown rate increases.

OPERATING EXPENSES - increase at 3.0% annually after 2022 unless noted elsewhere. Assumed economies of scale are shown on lines below.
Wages & Benefits - Post-2022 assumed 15% savings due to economies of scale. Increase at 3.0% afterwards.

Professional Services - Post-2022 assumed 50% savings due to economies of scale. Increase at 3.0% afterwards.

No Additional O&M.

(2) Depreciation - Pre-2022 based on actual depreciation. Post-2022 based on depreciation rate plus same rate on half of CAPX.
(3) Line 6.
(4) Line 18 + line 16.
(5) Line 18.
(6) Capital Expenditures - Pre-2023 based on financials/budget. Post-2022 years are estimates at 1.50% of prior year-end GROSS Property, plant and equipment.
(7) Changes in Working Capital - based on water industry -0.05% of revenues.
(8) Discount rate is the the current MUNI discount rate. Capitalization rate (K) at 7/8/2022 equal to discount rate, where capitalization rate = K - g.
(9) Discount rate is the current MUNI discount rate. Capitalization rate (K) at 7/8/2022 adjusted for stated growth (g) where capitalization rate = K - g.
(10) Final year shown, line 28.
(11) Final year shown, line 30.
(12) Final year shown, line 30.
(13) Developed on Market Multiples EXHIBIT 18.

Terms:

CAPX - Capital Expenditures
CIP - Capital improvement plan
Dep - Depreciation expense
GROSS PPE - GROSS Property, plant and equipment
IOU - Investor owned utility
MUNI - Large regional municipally owned utility
NET PPE - NET Property, plant and equipment

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Municipal Authority of the Borough of Shenandoah Water System Assets
Pro Forma and Estimted Operations With IOU Ownership
DCF With Capitalization of Terminal Value Model and
DCF With EBIT & EBITDA Terminal Value Model

	Actual			Budget	Estimated	Estimated
				Year 0	Year 1	Year 2
	2019	2020	2021	2022	2023	2024
1. **OPERATING REVENUES (1)**						
2. Charges for services	2,050,863	1,926,472	2,069,499	1,990,000	1,990,000	1,990,000
3. Other operating revenue	7,388	1,122	0	0	0	0
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	0	0	0	0	716,400
6. **Total Operating Revenues**	2,058,251	1,927,594	2,069,499	1,990,000	1,990,000	2,706,400
7. **Rate Increase**						**36%**
8. **OPERATING EXPENSES (1)**						
9. Operating & Maintenance Expenses	1,524,614	1,659,366	1,618,095	1,745,000	1,797,350	1,851,271
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	0	0	0	(111,000)	(114,330)	(117,760)
12. LESS: EOS - Professional Services	0	0	0	(190,000)	(195,700)	(201,571)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	0	0	0	0	0	0
15. ADD: PURTA & Reg Assessment	0	0	0	0	26,614	26,603
16. **Operating Expenses Before Depreciation**	1,524,614	1,659,366	1,618,095	1,444,000	1,513,934	1,558,543
17. Depreciation (2)	314,353	328,537	328,537	329,731	300,994	304,829
18. **Total Operating Expenses**	1,838,967	1,987,903	1,946,632	1,773,731	1,814,928	1,863,372
19. **Operating Income**	219,284	(60,309)	122,867	216,269	175,072	843,028
20. Revenues (3)	2,058,251	1,927,594	2,069,499	1,990,000	1,990,000	2,706,400
21. EBITDA (4)	533,637	268,228	451,404	546,000	476,066	1,147,857
22. EBIT (5)	219,284	(60,309)	122,867	216,269	175,072	843,028
23. EBIT	219,284	(60,309)	122,867	216,269	175,072	843,028
24. (-) Income Taxes	0	0	0	62,480	50,578	243,551
25. Debt Free Net Income	219,284	(60,309)	122,867	153,789	124,494	599,477
26. (+) Depreciation & Amortization	314,353	328,537	328,537	329,731	300,994	304,829
27. (-) Capital Expenditures (6)	413,879	276,344	527,649	222,858	293,434	297,173
28. (-) Changes in Working Capital (7)	(1,029)	(964)	(1,035)	(995)	(995)	(1,353)
29. Debt Free Net Cash Flow	$120,787	($7,152)	($75,210)	$261,657	$133,049	$608,487
30. PV Time Period (mid-year)				(0.5)	0.5	1.5
31. Present Value Factor: 7.54% (8)					0.9643	0.8967
32. Present Value Debt Free Net Cash Flow					$128,299	$545,630
					1	2
33. Present Value Factor: 10.51% (9)					0.9513	0.8608
34. Present Value Debt Free Net Cash Flow					$126,570	$523,785
					1	2
35. Present Value Factor: 7.54% (8)					0.9643	0.8967
36. Present Value Debt Free Net Cash Flow					$128,299	$545,630
					1	2
37. Present Value Factor: 10.51% (9)					0.9513	0.8608
38. Present Value Debt Free Net Cash Flow					$126,570	$523,785

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Income Approach
Municipal Authority of the Borough of Shenandoah Water System Assets
Pro Forma and Estimted Operations With IOU Ownership
DCF With Capitalization of Terminal Value Model and
DCF With EBIT & EBITDA Terminal Value Model

	Estimated Year 3	Estimated Year 4	Estimated Year 5	Estimated Year 6	Estimated Year 7	Estimated Year 8
	2025	2026	2027	2028	2029	2030
1. **OPERATING REVENUES (1)**						
2. Charges for services	2,706,400	2,706,400	2,699,634	2,847,304	2,833,067	2,818,902
3. Other operating revenue	0	0	0	0	0	0
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	0	161,978	0	0	197,323
6. **Total Operating Revenues**	2,706,400	2,706,400	2,861,612	2,847,304	2,833,067	3,016,225
7. **Rate Increase**			**6%**			**7%**
8. **OPERATING EXPENSES (1)**						
9. Operating & Maintenance Expenses	1,906,809	1,964,013	2,022,933	2,083,621	2,146,130	2,210,514
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	(121,293)	(124,931)	(128,679)	(132,540)	(136,516)	(140,611)
12. LESS: EOS - Professional Services	(207,618)	(213,847)	(220,262)	(226,870)	(233,676)	(240,686)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	0	0	0	0	0	0
15. ADD: PURTA & Reg Assessment	30,668	30,657	30,646	31,518	31,425	31,332
16. **Operating Expenses Before Depreciation**	1,608,566	1,655,892	1,704,638	1,755,730	1,807,363	1,860,548
17. Depreciation (2)	308,714	312,649	316,633	320,670	324,756	328,895
18. **Total Operating Expenses**	1,917,280	1,968,541	2,021,271	2,076,399	2,132,119	2,189,443
19. **Operating Income**	789,120	737,859	840,341	770,905	700,948	826,782
20. Revenues (3)	2,706,400	2,706,400	2,861,612	2,847,304	2,833,067	3,016,225
21. EBITDA (4)	1,097,834	1,050,508	1,156,974	1,091,574	1,025,704	1,155,677
22. EBIT (5)	789,120	737,859	840,341	770,905	700,948	826,782
23. EBIT	789,120	737,859	840,341	770,905	700,948	826,782
24. (-) Income Taxes	227,977	213,167	242,774	222,714	202,504	238,857
25. Debt Free Net Income	561,143	524,692	597,567	548,191	498,444	587,925
26. (+) Depreciation & Amortization	308,714	312,649	316,633	320,670	324,756	328,895
27. (-) Capital Expenditures (6)	300,961	304,797	308,681	312,615	316,599	320,634
28. (-) Changes in Working Capital (7)	(1,353)	(1,353)	(1,431)	(1,424)	(1,417)	(1,508)
29. Debt Free Net Cash Flow	$570,249	$533,897	$606,950	$557,669	$508,018	$597,694
30. PV Time Period (mid-year)	2.5	3.5	4.5	5.5	6.5	7.5
31. Present Value Factor: 7.54% (8)	0.8338	0.7754	0.7210	0.6704	0.6234	0.5797
32. Present Value Debt Free Net Cash Flow	$475,474	$413,984	$437,611	$373,861	$316,698	$346,483
	3	4	5	6	7	8
33. Present Value Factor: 10.51% (9)	0.7789	0.7048	0.6378	0.5772	0.5223	0.4726
34. Present Value Debt Free Net Cash Flow	$444,167	$376,291	$387,113	$321,887	$265,338	$282,470
	3	4	5	6	7	8
35. Present Value Factor: 7.54% (8)	0.8338	0.7754	0.7210	0.6704	0.6234	0.5797
36. Present Value Debt Free Net Cash Flow	$475,474	$413,984	$437,611	$373,861	$316,698	$346,483
	3	4	5	6	7	8
37. Present Value Factor: 10.51% (9)	0.7789	0.7048	0.6378	0.5772	0.5223	0.4726
38. Present Value Debt Free Net Cash Flow	$444,167	$376,291	$387,113	$321,887	$265,338	$282,470

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DCF With Capitalization of Terminal Value Model and
DCF With EBIT & EBITDA Terminal Value Model

	Estimated Year 9	Estimated Year 10	Estimated Year 11	Estimated Year 12	Estimated Year 13	Estimated Year 14
	2031	2032	2033	2034	2035	2036
1. **OPERATING REVENUES (1)**						
2. Charges for services	3,001,144	2,986,138	2,971,208	3,163,296	3,147,480	3,131,742
3. Other operating revenue	0	0	0	0	0	0
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	0	207,985	0	0	219,222
6. **Total Operating Revenues**	3,001,144	2,986,138	3,179,193	3,163,296	3,147,480	3,350,964
7. **Rate Increase**			**7%**			**7%**
8. **OPERATING EXPENSES (1)**						
9. Operating & Maintenance Expenses	2,276,829	2,345,134	2,415,488	2,487,953	2,562,591	2,639,469
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	(144,830)	(149,175)	(153,650)	(158,259)	(163,007)	(167,897)
12. LESS: EOS - Professional Services	(247,907)	(255,344)	(263,004)	(270,895)	(279,021)	(287,392)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	0	0	0	0	0	0
15. ADD: PURTA & Reg Assessment	32,362	32,265	32,167	33,254	33,150	33,048
16. **Operating Expenses Before Depreciation**	1,916,454	1,972,880	2,031,001	2,092,053	2,153,713	2,217,228
17. Depreciation (2)	333,087	337,332	341,631	345,985	350,395	354,861
18. **Total Operating Expenses**	2,249,541	2,310,212	2,372,632	2,438,038	2,504,107	2,572,089
19. **Operating Income**	751,603	675,926	806,561	725,258	643,373	778,875
20. Revenues (3)	3,001,144	2,986,138	3,179,193	3,163,296	3,147,480	3,350,964
21. EBITDA (4)	1,084,690	1,013,258	1,148,192	1,071,243	993,767	1,133,736
22. EBIT (5)	751,603	675,926	806,561	725,258	643,373	778,875
23. EBIT	751,603	675,926	806,561	725,258	643,373	778,875
24. (-) Income Taxes	217,138	195,275	233,015	209,527	185,870	225,017
25. Debt Free Net Income	534,465	480,651	573,546	515,731	457,503	553,858
26. (+) Depreciation & Amortization	333,087	337,332	341,631	345,985	350,395	354,861
27. (-) Capital Expenditures (6)	324,721	328,859	333,051	337,295	341,594	345,948
28. (-) Changes in Working Capital (7)	(1,501)	(1,493)	(1,590)	(1,582)	(1,574)	(1,675)
29. Debt Free Net Cash Flow	$544,331	$490,617	$583,716	$526,003	$467,877	$564,447
30. PV Time Period (mid-year)	8.5	9.5	10.5	11.5	12.5	13.5
31. Present Value Factor: 7.54% (8)	0.5391	0.5013	0.4661	0.4335	0.4031	0.3748
32. Present Value Debt Free Net Cash Flow	$293,449	$245,946	$272,070	$228,022	$188,601	$211,555
	9	10	11	12	13	14
33. Present Value Factor: 10.51% (9)	0.4276	0.3870	0.3502	0.3169	0.2867	0.2595
34. Present Value Debt Free Net Cash Flow	$232,756	$189,869	$204,417	$166,690	$134,140	$146,474
	9	10	11	12	13	14
35. Present Value Factor: 7.54% (8)	0.5391	0.5013	0.4661	0.4335	0.4031	0.3748
36. Present Value Debt Free Net Cash Flow	$293,449	$245,946	$272,070	$228,022	$188,601	$211,555
	9	10	11	12	13	14
37. Present Value Factor: 10.51% (9)	0.4276	0.3870	0.3502	0.3169	0.2867	0.2595
38. Present Value Debt Free Net Cash Flow	$232,756	$189,869	$204,417	$166,690	$134,140	$146,474

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	Estimated Year 15	Estimated Year 16	Estimated Year 17	Estimated Year 18	Estimated Year 19	Estimated Year 20
	2037	2038	2039	2040	2041	2042
1. **OPERATING REVENUES (1)**						
2. Charges for services	3,334,210	3,317,539	3,499,008	3,481,513	3,671,952	3,653,592
3. Other operating revenue	0	0	0	0	0	0
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	199,052	0	208,891	0	182,680
6. **Total Operating Revenues**	3,334,210	3,516,591	3,499,008	3,690,404	3,671,952	3,836,272
7. **Rate Increase**		**6%**		**6%**		**5%**
8. **OPERATING EXPENSES (1)**						
9. Operating & Maintenance Expenses	2,718,653	2,800,213	2,884,219	2,970,746	3,059,868	3,151,664
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	(172,934)	(178,122)	(183,466)	(188,970)	(194,639)	(200,478)
12. LESS: EOS - Professional Services	(296,014)	(304,894)	(314,041)	(323,462)	(333,166)	(343,161)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	0	0	0	0	0	0
15. ADD: PURTA & Reg Assessment	34,193	34,085	35,109	34,996	36,071	35,953
16. **Operating Expenses Before Depreciation**	2,283,898	2,351,281	2,421,821	2,493,309	2,568,134	2,643,978
17. Depreciation (2)	359,383	363,963	368,602	373,300	378,057	382,875
18. **Total Operating Expenses**	2,643,281	2,715,244	2,790,423	2,866,609	2,946,191	3,026,853
19. **Operating Income**	690,929	801,347	708,585	823,795	725,761	809,419
20. Revenues (3)	3,334,210	3,516,591	3,499,008	3,690,404	3,671,952	3,836,272
21. EBITDA (4)	1,050,312	1,165,310	1,077,187	1,197,095	1,103,818	1,192,294
22. EBIT (5)	690,929	801,347	708,585	823,795	725,761	809,419
23. EBIT	690,929	801,347	708,585	823,795	725,761	809,419
24. (-) Income Taxes	199,609	231,509	204,710	237,994	209,672	233,841
25. Debt Free Net Income	491,320	569,838	503,875	585,801	516,089	575,578
26. (+) Depreciation & Amortization	359,383	363,963	368,602	373,300	378,057	382,875
27. (-) Capital Expenditures (6)	350,357	354,822	359,344	363,924	368,562	373,260
28. (-) Changes in Working Capital (7)	(1,667)	(1,758)	(1,750)	(1,845)	(1,836)	(1,918)
29. Debt Free Net Cash Flow	$502,013	$580,737	$514,883	$597,022	$527,420	$587,112
30. PV Time Period (mid-year)	14.5	15.5	16.5	17.5	18.5	19.5
31. Present Value Factor: 7.54% (8)	0.3485	0.3241	0.3014	0.2802	0.2606	0.2423
32. Present Value Debt Free Net Cash Flow	$174,952	$188,217	$155,186	$167,286	$137,446	$142,257
	15	16	17	18	19	20
33. Present Value Factor: 10.51% (9)	0.2348	0.2125	0.1923	0.1740	0.1574	0.1425
34. Present Value Debt Free Net Cash Flow	$117,873	$123,407	$99,012	$103,882	$83,016	$83,663
	15	16	17	18	19	20
35. Present Value Factor: 7.54% (8)	0.3485	0.3241	0.3014	0.2802	0.2606	0.2423
36. Present Value Debt Free Net Cash Flow	$174,952	$188,217	$155,186	$167,286	$137,446	$142,257
	15	16	17	18	19	20
37. Present Value Factor: 10.51% (9)	0.2348	0.2125	0.1923	0.1740	0.1574	0.1425
38. Present Value Debt Free Net Cash Flow	$117,873	$123,407	$99,012	$103,882	$83,016	$83,663

See last page of this EXHIBIT for notes and assumptions.

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Municipal Authority of the Borough of Shenandoah Water System Assets
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DCF With Capitalization of Terminal Value Model and
DCF With EBIT & EBITDA Terminal Value Model

DCF With Capitalization of Terminal Value Model @ 7.54%	Terminal Value
Projected Debt Free Net Cash Flow (10)	$587,112
Divided by Capitalization Factor (8)	7.54%
20th Year Terminal Value	7,786,625
20th Year Present Value Factor (11)	0.2423
Present Value of Terminal Value	1,886,699
Present Value Debt Free Net Cash Flow for 20 Years	5,443,027
Indicated Value	$7,329,726

DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 7.54%		Multiples (13)	Terminal Value
Projected EBIT	$809,419	20.7	$16,754,971
Projected EBITDA	1,192,294	13.9	16,572,892
Weighted (1/3 EBIT 2/3 EBITDA) Terminal Value			16,632,978
20th Year Present Value Factor (11)			0.2423
Present Value of Terminal Value			4,030,171
Present Value Debt Free Net Cash Flow for 20 Years			5,443,027
Indicated Value			$9,473,197

DCF With Capitalization of Terminal Value Model @ 10.51%	Terminal Value
Projected Debt Free Net Cash Flow (10)	$587,112
Divided by Capitalization Factor (9)	10.51%
20th Year Terminal Value	5,586,218
20th Year Present Value Factor (12)	0.1425
Present Value of Terminal Value	796,036
Present Value Debt Free Net Cash Flow for 20 Years	4,412,819
Indicated Value	$5,208,855

DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 10.51%		Multiples (13)	Terminal Value
Projected EBIT	$809,419	20.7	$16,754,971
Projected EBITDA	1,192,294	13.9	16,572,892
Weighted (1/3 EBIT 2/3 EBITDA) Terminal Value			16,632,978
20th Year Present Value Factor (12)			0.1425
Present Value of Terminal Value			2,370,199
Present Value Debt Free Net Cash Flow for 20 Years			4,412,819
Indicated Value			$6,783,019

DCF With Capitalization of Terminal Value Model @ 7.54%	Terminal Value
Projected Debt Free Net Cash Flow (10)	$587,112
Divided by Capitalization Factor (8)	7.54%
20th Year Terminal Value	7,786,625
20th Year Present Value Factor (11)	0.2423
Present Value of Terminal Value	1,886,699
Present Value Debt Free Net Cash Flow for 20 Years	5,443,027
Indicated Value	$7,329,726

DCF With Capitalization of Terminal Value Model @ 10.51%	Terminal Value
Projected Debt Free Net Cash Flow (10)	$587,112
Divided by Capitalization Factor (9)	10.51%
20th Year Terminal Value	5,586,218
20th Year Present Value Factor (12)	0.1425
Present Value of Terminal Value	796,036
Present Value Debt Free Net Cash Flow for 20 Years	4,412,819
Indicated Value	$5,208,855

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Notes: (1) Assumptions:

Charges for services - Pre-2022 are actual. 2022 results are based on 2022 budget. Post-2022 based on customer growth (EDU) and average revenue per customer. Rate increases (Other rate increase line item) are added year after they occur.

Other (Rate Increase) - Assumed purchase by IOU at end of 2022 with shown rate increases.

OPERATING EXPENSES - increase at 3.0% annually after 2022 unless noted elsewhere. Assumed economies of scale are shown on lines below.
Wages & Benefits - Post-2022 assumed 15% savings due to economies of scale. Increase at 3.0% afterwards.

Professional Services - Post-2022 assumed 50% savings due to economies of scale. Increase at 3.0% afterwards.

No Additional O&M.

PURTA & Reg Assessment - 2023 assumed due to IOU purchase at the end of 2022.

(2) Depreciation - Pre-2022 based on actual depreciation. Post-2022 based on depreciation rate plus same rate on half of CAPX.
(3) Line 6.
(4) Line 19 + line 17.
(5) Line 19.
(6) Capital Expenditures - Pre-2023 based on financials/budget. Post-2022 years are estimates at 1.50% of prior year-end GROSS Property, plant and equipment.
(7) Changes in Working Capital - based on water industry -0.05% of revenues.
(8) Discount rate is the current lower end of the IOU discount rate. Capitalization rate (K) at 7/8/2022 adjusted for stated growth (g) where capitalization rate = K - g.
(9) Discount rate is the current upper end of the IOU discount rate. Capitalization rate (K) at 7/8/2022 adjusted for stated growth (g) where capitalization rate = K - g.
(10) Final year shown, line 29.
(11) Final year shown, line 31.
(12) Final year shown, line 33.
(13) Developed on Market Multiples EXHIBIT 18.

Terms:

CAPX - Capital Expenditures
CIP - Capital improvement plan
Dep - Depreciation expense
GROSS PPE - GROSS Property, plant and equipment
IOU - Investor owned utility
MUNI - Large regional municipally owned utility
NET PPE - NET Property, plant and equipment

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	Actual			Budget	Estimated	Estimated
				Year 0	Year 1	Year 2
	2019	2020	2021	2022	2023	2024
1. **OPERATING REVENUES (1)**						
2. Charges for services	2,050,863	1,926,472	2,069,499	1,990,000	1,990,000	1,990,000
3. Other operating revenue	7,388	1,122	0	0	0	0
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	0	0	0	0	1,194,000
6. **Total Operating Revenues**	2,058,251	1,927,594	2,069,499	1,990,000	1,990,000	3,184,000
7. **Rate Increase**						**60%**
8. **OPERATING EXPENSES (1)**						
9. Operating & Maintenance Expenses	1,524,614	1,659,366	1,618,095	1,745,000	1,797,350	1,851,271
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	0	0	0	(111,000)	(114,330)	(117,760)
12. LESS: EOS - Professional Services	0	0	0	(190,000)	(195,700)	(201,571)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	0	0	0	0	0	0
15. **Operating Expenses Before Depreciation**	1,524,614	1,659,366	1,618,095	1,444,000	1,487,320	1,531,940
16. Depreciation (2)	314,353	328,537	328,537	329,504	375,942	379,824
17. **Total Operating Expenses**	1,838,967	1,987,903	1,946,632	1,773,504	1,863,262	1,911,764
18. **Operating Income**	219,284	(60,309)	122,867	216,496	126,738	1,272,236
19. Revenues (3)	2,058,251	1,927,594	2,069,499	1,990,000	1,990,000	3,184,000
20. EBITDA (4)	533,637	268,228	451,404	546,000	502,680	1,652,060
21. EBIT (5)	219,284	(60,309)	122,867	216,496	126,738	1,272,236
22. EBIT	219,284	(60,309)	122,867	216,496	126,738	1,272,236
23. (-) Income Taxes	0	0	0	0	0	0
24. Debt Free Net Income	219,284	(60,309)	122,867	216,496	126,738	1,272,236
25. (+) Depreciation & Amortization	314,353	328,537	328,537	329,504	375,942	379,824
26. (-) Capital Expenditures (6)	413,879	276,344	527,649	222,858	366,862	370,651
27. (-) Changes in Working Capital (7)	(1,029)	(964)	(1,035)	(995)	(995)	(1,592)
28. Debt Free Net Cash Flow	$120,787	($7,152)	($75,210)	$324,137	$136,813	$1,283,001
29. PV Time Period (mid-year)				(0.5)	0.5	1.5
					1	2
30. Present Value Factor: 3.81% (8)					0.9815	0.9455
31. Present Value Debt Free Net Cash Flow					$134,282	$1,213,078
					1	2
32. Present Value Factor: 3.81% (9)					0.9815	0.9455
33. Present Value Debt Free Net Cash Flow					$134,282	$1,213,078

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	Estimated Year 3	Estimated Year 4	Estimated Year 5	Estimated Year 6	Estimated Year 7	Estimated Year 8
	2025	2026	2027	2028	2029	2030
1. **OPERATING REVENUES (1)**						
2. Charges for services	3,184,000	3,184,000	3,176,040	3,318,168	3,301,577	3,285,069
3. Other operating revenue	0	0	0	0	0	0
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	0	158,802	0	0	164,253
6. **Total Operating Revenues**	3,184,000	3,184,000	3,334,842	3,318,168	3,301,577	3,449,322
7. **Rate Increase**			**5%**			**5%**
8. **OPERATING EXPENSES (1)**						
9. Operating & Maintenance Expenses	1,906,809	1,964,013	2,022,933	2,083,621	2,146,130	2,210,514
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	(121,293)	(124,931)	(128,679)	(132,540)	(136,516)	(140,611)
12. LESS: EOS - Professional Services	(207,618)	(213,847)	(220,262)	(226,870)	(233,676)	(240,686)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	0	0	0	0	0	0
15. **Operating Expenses Before Depreciation**	1,577,898	1,625,235	1,673,992	1,724,212	1,775,938	1,829,216
16. Depreciation (2)	383,748	387,712	391,716	395,762	399,850	403,980
17. **Total Operating Expenses**	1,961,646	2,012,946	2,065,708	2,119,973	2,175,788	2,233,196
18. **Operating Income**	1,222,354	1,171,054	1,269,134	1,198,195	1,125,789	1,216,126
19. Revenues (3)	3,184,000	3,184,000	3,334,842	3,318,168	3,301,577	3,449,322
20. EBITDA (4)	1,606,102	1,558,765	1,660,850	1,593,956	1,525,639	1,620,106
21. EBIT (5)	1,222,354	1,171,054	1,269,134	1,198,195	1,125,789	1,216,126
22. EBIT	1,222,354	1,171,054	1,269,134	1,198,195	1,125,789	1,216,126
23. (-) Income Taxes	0	0	0	0	0	0
24. Debt Free Net Income	1,222,354	1,171,054	1,269,134	1,198,195	1,125,789	1,216,126
25. (+) Depreciation & Amortization	383,748	387,712	391,716	395,762	399,850	403,980
26. (-) Capital Expenditures (6)	374,480	378,348	382,256	386,204	390,194	394,224
27. (-) Changes in Working Capital (7)	(1,592)	(1,592)	(1,667)	(1,659)	(1,651)	(1,725)
28. Debt Free Net Cash Flow	$1,233,214	$1,182,009	$1,280,262	$1,209,412	$1,137,096	$1,227,607
29. PV Time Period (mid-year)	2.5	3.5	4.5	5.5	6.5	7.5
	3	4	5	6	7	8
30. Present Value Factor: 3.81% (8)	0.9108	0.8773	0.8451	0.8141	0.7842	0.7555
31. Present Value Debt Free Net Cash Flow	$1,123,212	$1,036,977	$1,081,949	$984,582	$891,711	$927,457
	3	4	5	6	7	8
32. Present Value Factor: 3.81% (9)	0.9108	0.8773	0.8451	0.8141	0.7842	0.7555
33. Present Value Debt Free Net Cash Flow	$1,123,212	$1,036,977	$1,081,949	$984,582	$891,711	$927,457

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DCF With Capitalization of Terminal Value Model and
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	Estimated Year 9	Estimated Year 10	Estimated Year 11	Estimated Year 12	Estimated Year 13	Estimated Year 14
	2031	2032	2033	2034	2035	2036
1. **OPERATING REVENUES (1)**						
2. Charges for services	3,432,076	3,414,916	3,397,841	3,549,894	3,532,145	3,514,484
3. Other operating revenue	0	0	0	0	0	0
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	0	169,892	0	0	210,869
6. **Total Operating Revenues**	3,432,076	3,414,916	3,567,733	3,549,894	3,532,145	3,725,353
7. **Rate Increase**			**5%**			**6%**
8. **OPERATING EXPENSES (1)**						
9. Operating & Maintenance Expenses	2,276,829	2,345,134	2,415,488	2,487,953	2,562,591	2,639,469
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	(144,830)	(149,175)	(153,650)	(158,259)	(163,007)	(167,897)
12. LESS: EOS - Professional Services	(247,907)	(255,344)	(263,004)	(270,895)	(279,021)	(287,392)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	0	0	0	0	0	0
15. **Operating Expenses Before Depreciation**	1,884,092	1,940,615	1,998,834	2,058,799	2,120,563	2,184,180
16. Depreciation (2)	408,153	412,369	416,629	420,932	425,280	429,673
17. **Total Operating Expenses**	2,292,245	2,352,984	2,415,462	2,479,731	2,545,842	2,613,852
18. **Operating Income**	1,139,831	1,061,932	1,152,271	1,070,163	986,303	1,111,501
19. Revenues (3)	3,432,076	3,414,916	3,567,733	3,549,894	3,532,145	3,725,353
20. EBITDA (4)	1,547,984	1,474,301	1,568,899	1,491,095	1,411,582	1,541,173
21. EBIT (5)	1,139,831	1,061,932	1,152,271	1,070,163	986,303	1,111,501
22. EBIT	1,139,831	1,061,932	1,152,271	1,070,163	986,303	1,111,501
23. (-) Income Taxes	0	0	0	0	0	0
24. Debt Free Net Income	1,139,831	1,061,932	1,152,271	1,070,163	986,303	1,111,501
25. (+) Depreciation & Amortization	408,153	412,369	416,629	420,932	425,280	429,673
26. (-) Capital Expenditures (6)	398,296	402,410	406,567	410,766	415,009	419,296
27. (-) Changes in Working Capital (7)	(1,716)	(1,707)	(1,784)	(1,775)	(1,766)	(1,863)
28. Debt Free Net Cash Flow	$1,151,404	$1,073,598	$1,164,116	$1,082,104	$998,339	$1,123,740
29. PV Time Period (mid-year)	8.5	9.5	10.5	11.5	12.5	13.5
	9	10	11	12	13	14
30. Present Value Factor: 3.81% (8)	0.7277	0.7010	0.6753	0.6505	0.6266	0.6036
31. Present Value Debt Free Net Cash Flow	$837,876	$752,592	$786,128	$703,909	$625,559	$678,290
	9	10	11	12	13	14
32. Present Value Factor: 3.81% (9)	0.7277	0.7010	0.6753	0.6505	0.6266	0.6036
33. Present Value Debt Free Net Cash Flow	$837,876	$752,592	$786,128	$703,909	$625,559	$678,290

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	Estimated Year 15	Estimated Year 16	Estimated Year 17	Estimated Year 18	Estimated Year 19	Estimated Year 20
	2037	2038	2039	2040	2041	2042
1. **OPERATING REVENUES (1)**						
2. Charges for services	3,706,726	3,688,193	3,853,239	3,833,973	4,005,544	3,985,516
3. Other operating revenue	0	0	0	0	0	0
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	184,410	0	191,699	0	191,305
6. **Total Operating Revenues**	3,706,726	3,872,603	3,853,239	4,025,672	4,005,544	4,176,821
7. **Rate Increase**		**5%**		**5%**		**5%**
8. **OPERATING EXPENSES (1)**						
9. Operating & Maintenance Expenses	2,718,653	2,800,213	2,884,219	2,970,746	3,059,868	3,151,664
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	(172,934)	(178,122)	(183,466)	(188,970)	(194,639)	(200,478)
12. LESS: EOS - Professional Services	(296,014)	(304,894)	(314,041)	(323,462)	(333,166)	(343,161)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	0	0	0	0	0	0
15. **Operating Expenses Before Depreciation**	2,249,705	2,317,196	2,386,712	2,458,313	2,532,063	2,608,025
16. Depreciation (2)	434,110	438,595	443,125	447,702	452,327	456,999
17. **Total Operating Expenses**	2,683,815	2,755,791	2,829,837	2,906,016	2,984,390	3,065,023
18. **Operating Income**	1,022,911	1,116,812	1,023,402	1,119,656	1,021,154	1,111,798
19. Revenues (3)	3,706,726	3,872,603	3,853,239	4,025,672	4,005,544	4,176,821
20. EBITDA (4)	1,457,021	1,555,407	1,466,527	1,567,359	1,473,481	1,568,796
21. EBIT (5)	1,022,911	1,116,812	1,023,402	1,119,656	1,021,154	1,111,798
22. EBIT	1,022,911	1,116,812	1,023,402	1,119,656	1,021,154	1,111,798
23. (-) Income Taxes	0	0	0	0	0	0
24. Debt Free Net Income	1,022,911	1,116,812	1,023,402	1,119,656	1,021,154	1,111,798
25. (+) Depreciation & Amortization	434,110	438,595	443,125	447,702	452,327	456,999
26. (-) Capital Expenditures (6)	423,627	428,002	432,423	436,890	441,403	445,962
27. (-) Changes in Working Capital (7)	(1,853)	(1,936)	(1,927)	(2,013)	(2,003)	(2,088)
28. Debt Free Net Cash Flow	$1,035,247	$1,129,341	$1,036,031	$1,132,481	$1,034,081	$1,124,923
29. PV Time Period (mid-year)	14.5	15.5	16.5	17.5	18.5	19.5
	15	16	17	18	19	20
30. Present Value Factor: 3.81% (8)	0.5815	0.5601	0.5396	0.5198	0.5007	0.4823
31. Present Value Debt Free Net Cash Flow	$601,996	$632,544	$559,042	$588,664	$517,764	$542,550
	15	16	17	18	19	20
32. Present Value Factor: 3.81% (9)	0.5815	0.5601	0.5396	0.5198	0.5007	0.4823
33. Present Value Debt Free Net Cash Flow	$601,996	$632,544	$559,042	$588,664	$517,764	$542,550

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DCF With Capitalization of Terminal Value Model @ 3.81%	
	Terminal Value
Projected Debt Free Net Cash Flow (10)	$1,124,923
Divided by Capitalization Factor (8)	3.81%
20th Year Terminal Value	29,525,532
20th Year Present Value Factor (11)	0.4823
Present Value of Terminal Value	14,240,164
Present Value Debt Free Net Cash Flow for 20 Years	15,220,162
Indicated Value	$29,460,326

DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 3.81%			
		Multiples (13)	Terminal Value
Projected EBIT	$1,111,798	20.7	$23,014,210
Projected EBITDA	1,568,796	13.9	21,806,270
Weighted (1/3 EBIT 2/3 EBITDA) Terminal Value			22,204,890
20th Year Present Value Factor (11)			0.4823
Present Value of Terminal Value			10,709,418
Present Value Debt Free Net Cash Flow for 20 Years			15,220,162
Indicated Value			$25,929,580

DCF With Capitalization of Terminal Value Model @ 3.81%	
	Terminal Value
Projected Debt Free Net Cash Flow (10)	$1,124,923
Divided by Capitalization Factor (9)	3.81%
20th Year Terminal Value	29,525,532
20th Year Present Value Factor (12)	0.4823
Present Value of Terminal Value	14,240,164
Present Value Debt Free Net Cash Flow for 20 Years	15,220,162
Indicated Value	$29,460,326

DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 3.81%			
		Multiples (13)	Terminal Value
Projected EBIT	$1,111,798	20.7	$23,014,210
Projected EBITDA	1,568,796	13.9	21,806,270
Weighted (1/3 EBIT 2/3 EBITDA) Terminal Value			22,204,890
20th Year Present Value Factor (12)			0.4823
Present Value of Terminal Value			10,709,418
Present Value Debt Free Net Cash Flow for 20 Years			15,220,162
Indicated Value			$25,929,580

See last page of this EXHIBIT for notes and assumptions.

Income Approach
Municipal Authority of the Borough of Shenandoah Water System Assets
Pro Forma and Estimted Operations With MUNI Ownership
DCF With Capitalization of Terminal Value Model and
DCF With EBIT & EBITDA Terminal Value Model

Notes: (1) Assumptions:

Charges for services - Pre-2022 are actual. 2022 results are based on 2022 budget. Post-2022 based on customer growth (EDU) and average revenue per customer. Rate increases (Other rate increase line item) are added year after they occur.

Other (Rate Increase) - Assumed purchase by MUNI at end of 2022 with shown rate increases.

OPERATING EXPENSES - increase at 3.0% annually after 2022 unless noted elsewhere. Assumed economies of scale are shown on lines below.
Wages & Benefits - Post-2022 assumed 15% savings due to economies of scale. Increase at 3.0% afterwards.

Professional Services - Post-2022 assumed 50% savings due to economies of scale. Increase at 3.0% afterwards.

No Additional O&M.

(2) Depreciation - Pre-2022 based on actual depreciation. Post-2022 based on depreciation rate plus same rate on half of CAPX.
(3) Line 6.
(4) Line 18 + line 16.
(5) Line 18.
(6) Capital Expenditures - Pre-2023 based on financials/budget. Post-2022 years are estimates at 1.22% of prior year-end GROSS Property, plant and equipment.
(7) Changes in Working Capital - based on water industry -0.05% of revenues.
(8) Discount rate is the the current MUNI discount rate. Capitalization rate (K) at 7/8/2022 equal to discount rate, where capitalization rate = K - g.
(9) Discount rate is the current MUNI discount rate. Capitalization rate (K) at 7/8/2022 adjusted for stated growth (g) where capitalization rate = K - g.
(10) Final year shown, line 28.
(11) Final year shown, line 30.
(12) Final year shown, line 30.
(13) Developed on Market Multiples EXHIBIT 18.

Terms:

CAPX - Capital Expenditures
CIP - Capital improvement plan
Dep - Depreciation expense
GROSS PPE - GROSS Property, plant and equipment
IOU - Investor owned utility
MUNI - Large regional municipally owned utility
NET PPE - NET Property, plant and equipment

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Municipal Authority of the Borough of Shenandoah Water System Assets
Pro Forma and Estimted Operations With IOU Ownership
DCF With Capitalization of Terminal Value Model and
DCF With EBIT & EBITDA Terminal Value Model

	Actual			Budget	Estimated	Estimated
				Year 0	Year 1	Year 2
	2019	2020	2021	2022	2023	2024
1. **OPERATING REVENUES (1)**						
2. Charges for services	2,050,863	1,926,472	2,069,499	1,990,000	1,990,000	1,990,000
3. Other operating revenue	7,388	1,122	0	0	0	0
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	0	0	0	0	2,288,500
6. **Total Operating Revenues**	2,058,251	1,927,594	2,069,499	1,990,000	1,990,000	4,278,500
7. **Rate Increase**						**115%**
8. **OPERATING EXPENSES (1)**						
9. Operating & Maintenance Expenses	1,524,614	1,659,366	1,618,095	1,745,000	1,797,350	1,851,271
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	0	0	0	(111,000)	(114,330)	(117,760)
12. LESS: EOS - Professional Services	0	0	0	(190,000)	(195,700)	(201,571)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	0	0	0	0	0	0
15. ADD: PURTA & Reg Assessment	0	0	0	0	54,130	54,117
16. **Operating Expenses Before Depreciation**	1,524,614	1,659,366	1,618,095	1,444,000	1,541,450	1,586,057
17. Depreciation (2)	314,353	328,537	328,537	329,504	375,942	379,824
18. **Total Operating Expenses**	1,838,967	1,987,903	1,946,632	1,773,504	1,917,392	1,965,881
19. **Operating Income**	219,284	(60,309)	122,867	216,496	72,608	2,312,619
20. Revenues (3)	2,058,251	1,927,594	2,069,499	1,990,000	1,990,000	4,278,500
21. EBITDA (4)	533,637	268,228	451,404	546,000	448,550	2,692,443
22. EBIT (5)	219,284	(60,309)	122,867	216,496	72,608	2,312,619
23. EBIT	219,284	(60,309)	122,867	216,496	72,608	2,312,619
24. (-) Income Taxes	0	0	0	62,546	20,977	668,116
25. Debt Free Net Income	219,284	(60,309)	122,867	153,950	51,631	1,644,503
26. (+) Depreciation & Amortization	314,353	328,537	328,537	329,504	375,942	379,824
27. (-) Capital Expenditures (6)	413,879	276,344	527,649	222,858	366,862	370,651
28. (-) Changes in Working Capital (7)	(1,029)	(964)	(1,035)	(995)	(995)	(2,139)
29. Debt Free Net Cash Flow	$120,787	($7,152)	($75,210)	$261,591	$61,706	$1,655,816
30. PV Time Period (mid-year)				(0.5)	0.5	1.5
31. Present Value Factor: 7.54% (8)					0.9643	0.8967
32. Present Value Debt Free Net Cash Flow					$59,503	$1,484,770
					1	2
33. Present Value Factor: 10.51% (9)					0.9513	0.8608
34. Present Value Debt Free Net Cash Flow					$58,701	$1,425,326
					1	2
35. Present Value Factor: 7.54% (8)					0.9643	0.8967
36. Present Value Debt Free Net Cash Flow					$59,503	$1,484,770
					1	2
37. Present Value Factor: 10.51% (9)					0.9513	0.8608
38. Present Value Debt Free Net Cash Flow					$58,701	$1,425,326

See last page of this EXHIBIT for notes and assumptions.

Income Approach
Municipal Authority of the Borough of Shenandoah Water System Assets
Pro Forma and Estimted Operations With IOU Ownership
DCF With Capitalization of Terminal Value Model and
DCF With EBIT & EBITDA Terminal Value Model

	Estimated Year 3	Estimated Year 4	Estimated Year 5	Estimated Year 6	Estimated Year 7	Estimated Year 8
	2025	2026	2027	2028	2029	2030
1. **OPERATING REVENUES (1)**						
2. Charges for services	4,278,500	4,278,500	4,267,804	4,501,253	4,478,746	4,456,353
3. Other operating revenue	0	0	0	0	0	0
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	0	256,068	0	0	222,818
6. **Total Operating Revenues**	4,278,500	4,278,500	4,523,872	4,501,253	4,478,746	4,679,171
7. **Rate Increase**			**6%**			**5%**
8. **OPERATING EXPENSES (1)**						
9. Operating & Maintenance Expenses	1,906,809	1,964,013	2,022,933	2,083,621	2,146,130	2,210,514
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	(121,293)	(124,931)	(128,679)	(132,540)	(136,516)	(140,611)
12. LESS: EOS - Professional Services	(207,618)	(213,847)	(220,262)	(226,870)	(233,676)	(240,686)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	0	0	0	0	0	0
15. ADD: PURTA & Reg Assessment	67,126	67,113	67,099	68,482	68,339	68,197
16. **Operating Expenses Before Depreciation**	1,645,024	1,692,348	1,741,091	1,792,694	1,844,277	1,897,413
17. Depreciation (2)	383,748	387,712	391,716	395,762	399,850	403,980
18. **Total Operating Expenses**	2,028,772	2,080,059	2,132,807	2,188,455	2,244,127	2,301,393
19. **Operating Income**	2,249,728	2,198,441	2,391,065	2,312,798	2,234,619	2,377,778
20. Revenues (3)	4,278,500	4,278,500	4,523,872	4,501,253	4,478,746	4,679,171
21. EBITDA (4)	2,633,476	2,586,152	2,782,781	2,708,559	2,634,469	2,781,758
22. EBIT (5)	2,249,728	2,198,441	2,391,065	2,312,798	2,234,619	2,377,778
23. EBIT	2,249,728	2,198,441	2,391,065	2,312,798	2,234,619	2,377,778
24. (-) Income Taxes	649,947	635,130	690,779	668,167	645,581	686,940
25. Debt Free Net Income	1,599,781	1,563,311	1,700,286	1,644,631	1,589,038	1,690,838
26. (+) Depreciation & Amortization	383,748	387,712	391,716	395,762	399,850	403,980
27. (-) Capital Expenditures (6)	374,480	378,348	382,256	386,204	390,194	394,224
28. (-) Changes in Working Capital (7)	(2,139)	(2,139)	(2,262)	(2,251)	(2,239)	(2,340)
29. Debt Free Net Cash Flow	$1,611,188	$1,574,814	$1,712,008	$1,656,439	$1,600,934	$1,702,934
30. PV Time Period (mid-year)	2.5	3.5	4.5	5.5	6.5	7.5
31. Present Value Factor: 7.54% (8)	0.8338	0.7754	0.7210	0.6704	0.6234	0.5797
32. Present Value Debt Free Net Cash Flow	$1,343,409	$1,221,110	$1,234,358	$1,110,477	$998,022	$987,191
	3	4	5	6	7	8
33. Present Value Factor: 10.51% (9)	0.7789	0.7048	0.6378	0.5772	0.5223	0.4726
34. Present Value Debt Free Net Cash Flow	$1,254,955	$1,109,929	$1,091,919	$956,097	$836,168	$804,806
	3	4	5	6	7	8
35. Present Value Factor: 7.54% (8)	0.8338	0.7754	0.7210	0.6704	0.6234	0.5797
36. Present Value Debt Free Net Cash Flow	$1,343,409	$1,221,110	$1,234,358	$1,110,477	$998,022	$987,191
	3	4	5	6	7	8
37. Present Value Factor: 10.51% (9)	0.7789	0.7048	0.6378	0.5772	0.5223	0.4726
38. Present Value Debt Free Net Cash Flow	$1,254,955	$1,109,929	$1,091,919	$956,097	$836,168	$804,806

See last page of this EXHIBIT for notes and assumptions.

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DCF With Capitalization of Terminal Value Model and
DCF With EBIT & EBITDA Terminal Value Model

	Estimated Year 9	Estimated Year 10	Estimated Year 11	Estimated Year 12	Estimated Year 13	Estimated Year 14
	2031	2032	2033	2034	2035	2036
1. **OPERATING REVENUES (1)**						
2. Charges for services	4,655,774	4,632,496	4,609,333	4,815,601	4,791,523	4,767,565
3. Other operating revenue	0	0	0	0	0	0
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	0	230,467	0	0	286,054
6. **Total Operating Revenues**	4,655,774	4,632,496	4,839,800	4,815,601	4,791,523	5,053,619
7. **Rate Increase**			**5%**			**6%**
8. **OPERATING EXPENSES (1)**						
9. Operating & Maintenance Expenses	2,276,829	2,345,134	2,415,488	2,487,953	2,562,591	2,639,469
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	(144,830)	(149,175)	(153,650)	(158,259)	(163,007)	(167,897)
12. LESS: EOS - Professional Services	(247,907)	(255,344)	(263,004)	(270,895)	(279,021)	(287,392)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	0	0	0	0	0	0
15. ADD: PURTA & Reg Assessment	69,323	69,176	69,030	70,195	70,043	69,891
16. **Operating Expenses Before Depreciation**	1,953,415	2,009,791	2,067,864	2,128,994	2,190,606	2,254,071
17. Depreciation (2)	408,153	412,369	416,629	420,932	425,280	429,673
18. **Total Operating Expenses**	2,361,568	2,422,160	2,484,492	2,549,926	2,615,885	2,683,743
19. **Operating Income**	2,294,206	2,210,336	2,355,308	2,265,675	2,175,638	2,369,876
20. Revenues (3)	4,655,774	4,632,496	4,839,800	4,815,601	4,791,523	5,053,619
21. EBITDA (4)	2,702,359	2,622,705	2,771,936	2,686,607	2,600,917	2,799,548
22. EBIT (5)	2,294,206	2,210,336	2,355,308	2,265,675	2,175,638	2,369,876
23. EBIT	2,294,206	2,210,336	2,355,308	2,265,675	2,175,638	2,369,876
24. (-) Income Taxes	662,796	638,566	680,448	654,554	628,542	684,657
25. Debt Free Net Income	1,631,410	1,571,770	1,674,860	1,611,121	1,547,096	1,685,219
26. (+) Depreciation & Amortization	408,153	412,369	416,629	420,932	425,280	429,673
27. (-) Capital Expenditures (6)	398,296	402,410	406,567	410,766	415,009	419,296
28. (-) Changes in Working Capital (7)	(2,328)	(2,316)	(2,420)	(2,408)	(2,396)	(2,527)
29. Debt Free Net Cash Flow	$1,643,594	$1,584,045	$1,687,341	$1,623,695	$1,559,762	$1,698,122
30. PV Time Period (mid-year)	8.5	9.5	10.5	11.5	12.5	13.5
31. Present Value Factor: 7.54% (8)	0.5391	0.5013	0.4661	0.4335	0.4031	0.3748
32. Present Value Debt Free Net Cash Flow	$886,062	$794,082	$786,470	$703,872	$628,740	$636,456
	9	10	11	12	13	14
33. Present Value Factor: 10.51% (9)	0.4276	0.3870	0.3502	0.3169	0.2867	0.2595
34. Present Value Debt Free Net Cash Flow	$702,801	$613,025	$590,907	$514,549	$447,184	$440,663
	9	10	11	12	13	14
35. Present Value Factor: 7.54% (8)	0.5391	0.5013	0.4661	0.4335	0.4031	0.3748
36. Present Value Debt Free Net Cash Flow	$886,062	$794,082	$786,470	$703,872	$628,740	$636,456
	9	10	11	12	13	14
37. Present Value Factor: 10.51% (9)	0.4276	0.3870	0.3502	0.3169	0.2867	0.2595
38. Present Value Debt Free Net Cash Flow	$702,801	$613,025	$590,907	$514,549	$447,184	$440,663

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Municipal Authority of the Borough of Shenandoah Water System Assets
Pro Forma and Estimted Operations With IOU Ownership
DCF With Capitalization of Terminal Value Model and
DCF With EBIT & EBITDA Terminal Value Model

	Estimated Year 15	Estimated Year 16	Estimated Year 17	Estimated Year 18	Estimated Year 19	Estimated Year 20
	2037	2038	2039	2040	2041	2042
1. **OPERATING REVENUES (1)**						
2. Charges for services	5,028,351	5,003,209	5,177,321	5,151,434	5,330,704	5,304,051
3. Other operating revenue	0	0	0	0	0	0
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	200,128	0	206,057	0	212,162
6. **Total Operating Revenues**	5,028,351	5,203,337	5,177,321	5,357,491	5,330,704	5,516,213
7. **Rate Increase**		**4%**		**4%**		**4%**
8. **OPERATING EXPENSES (1)**						
9. Operating & Maintenance Expenses	2,718,653	2,800,213	2,884,219	2,970,746	3,059,868	3,151,664
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	(172,934)	(178,122)	(183,466)	(188,970)	(194,639)	(200,478)
12. LESS: EOS - Professional Services	(296,014)	(304,894)	(314,041)	(323,462)	(333,166)	(343,161)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	0	0	0	0	0	0
15. ADD: PURTA & Reg Assessment	71,368	71,209	72,189	72,026	73,036	72,868
16. **Operating Expenses Before Depreciation**	2,321,073	2,388,405	2,458,901	2,530,339	2,605,099	2,680,893
17. Depreciation (2)	434,110	438,595	443,125	447,702	452,327	456,999
18. **Total Operating Expenses**	2,755,183	2,827,000	2,902,026	2,978,042	3,057,426	3,137,891
19. **Operating Income**	2,273,168	2,376,337	2,275,295	2,379,449	2,273,278	2,378,322
20. Revenues (3)	5,028,351	5,203,337	5,177,321	5,357,491	5,330,704	5,516,213
21. EBITDA (4)	2,707,278	2,814,932	2,718,420	2,827,152	2,725,605	2,835,320
22. EBIT (5)	2,273,168	2,376,337	2,275,295	2,379,449	2,273,278	2,378,322
23. EBIT	2,273,168	2,376,337	2,275,295	2,379,449	2,273,278	2,378,322
24. (-) Income Taxes	656,718	686,524	657,333	687,423	656,750	687,097
25. Debt Free Net Income	1,616,450	1,689,813	1,617,962	1,692,026	1,616,528	1,691,225
26. (+) Depreciation & Amortization	434,110	438,595	443,125	447,702	452,327	456,999
27. (-) Capital Expenditures (6)	423,627	428,002	432,423	436,890	441,403	445,962
28. (-) Changes in Working Capital (7)	(2,514)	(2,602)	(2,589)	(2,679)	(2,665)	(2,758)
29. Debt Free Net Cash Flow	$1,629,447	$1,703,008	$1,631,253	$1,705,517	$1,630,118	$1,705,019
30. PV Time Period (mid-year)	14.5	15.5	16.5	17.5	18.5	19.5
31. Present Value Factor: 7.54% (8)	0.3485	0.3241	0.3014	0.2802	0.2606	0.2423
32. Present Value Debt Free Net Cash Flow	$567,862	$551,945	$491,660	$477,886	$424,809	$413,126
	15	16	17	18	19	20
33. Present Value Factor: 10.51% (9)	0.2348	0.2125	0.1923	0.1740	0.1574	0.1425
34. Present Value Debt Free Net Cash Flow	$382,594	$361,889	$313,690	$296,760	$256,581	$242,965
	15	16	17	18	19	20
35. Present Value Factor: 7.54% (8)	0.3485	0.3241	0.3014	0.2802	0.2606	0.2423
36. Present Value Debt Free Net Cash Flow	$567,862	$551,945	$491,660	$477,886	$424,809	$413,126
	15	16	17	18	19	20
37. Present Value Factor: 10.51% (9)	0.2348	0.2125	0.1923	0.1740	0.1574	0.1425
38. Present Value Debt Free Net Cash Flow	$382,594	$361,889	$313,690	$296,760	$256,581	$242,965

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DCF With Capitalization of Terminal Value Model and
DCF With EBIT & EBITDA Terminal Value Model

DCF With Capitalization of Terminal Value Model @ 7.54%	Terminal Value
Projected Debt Free Net Cash Flow (10)	$1,705,019
Divided by Capitalization Factor (8)	7.54%
20th Year Terminal Value	22,612,990
20th Year Present Value Factor (11)	0.2423
Present Value of Terminal Value	5,479,128
Present Value Debt Free Net Cash Flow for 20 Years	15,801,808
Indicated Value	$21,280,936

DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 7.54%		Multiples (13)	Terminal Value
Projected EBIT	$2,378,322	20.7	$49,231,257
Projected EBITDA	2,835,320	13.9	39,410,953
Weighted (1/3 EBIT 2/3 EBITDA) Terminal Value			42,651,653
20th Year Present Value Factor (11)			0.2423
Present Value of Terminal Value			10,334,496
Present Value Debt Free Net Cash Flow for 20 Years			15,801,808
Indicated Value			$26,136,304

DCF With Capitalization of Terminal Value Model @ 10.51%	Terminal Value
Projected Debt Free Net Cash Flow (10)	$1,705,019
Divided by Capitalization Factor (9)	10.51%
20th Year Terminal Value	16,222,830
20th Year Present Value Factor (12)	0.1425
Present Value of Terminal Value	2,311,753
Present Value Debt Free Net Cash Flow for 20 Years	12,701,508
Indicated Value	$15,013,261

DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 10.51%		Multiples (13)	Terminal Value
Projected EBIT	$2,378,322	20.7	$49,231,257
Projected EBITDA	2,835,320	13.9	39,410,953
Weighted (1/3 EBIT 2/3 EBITDA) Terminal Value			42,651,653
20th Year Present Value Factor (12)			0.1425
Present Value of Terminal Value			6,077,861
Present Value Debt Free Net Cash Flow for 20 Years			12,701,508
Indicated Value			$18,779,368

DCF With Capitalization of Terminal Value Model @ 7.54%	Terminal Value
Projected Debt Free Net Cash Flow (10)	$1,705,019
Divided by Capitalization Factor (8)	7.54%
20th Year Terminal Value	22,612,990
20th Year Present Value Factor (11)	0.2423
Present Value of Terminal Value	5,479,128
Present Value Debt Free Net Cash Flow for 20 Years	15,801,808
Indicated Value	$21,280,936

DCF With Capitalization of Terminal Value Model @ 10.51%	Terminal Value
Projected Debt Free Net Cash Flow (10)	$1,705,019
Divided by Capitalization Factor (9)	10.51%
20th Year Terminal Value	16,222,830
20th Year Present Value Factor (12)	0.1425
Present Value of Terminal Value	2,311,753
Present Value Debt Free Net Cash Flow for 20 Years	12,701,508
Indicated Value	$15,013,261

See last page of this EXHIBIT for notes and assumptions.

Income Approach
Municipal Authority of the Borough of Shenandoah Water System Assets
Pro Forma and Estimted Operations With IOU Ownership
DCF With Capitalization of Terminal Value Model and
DCF With EBIT & EBITDA Terminal Value Model

Notes: (1) Assumptions:

Charges for services - Pre-2022 are actual. 2022 results are based on 2022 budget. Post-2022 based on customer growth (EDU) and average revenue per customer. Rate increases (Other rate increase line item) are added year after they occur.

Other (Rate Increase) - Assumed purchase by IOU at end of 2022 with shown rate increases.

OPERATING EXPENSES - increase at 3.0% annually after 2022 unless noted elsewhere. Assumed economies of scale are shown on lines below.
Wages & Benefits - Post-2022 assumed 15% savings due to economies of scale. Increase at 3.0% afterwards.

Professional Services - Post-2022 assumed 50% savings due to economies of scale. Increase at 3.0% afterwards.

No Additional O&M.

PURTA & Reg Assessment - 2023 assumed due to IOU purchase at the end of 2022.

(2) Depreciation - Pre-2022 based on actual depreciation. Post-2022 based on depreciation rate plus same rate on half of CAPX.

(3) Line 6.

(4) Line 19 + line 17.

(5) Line 19.

(6) Capital Expenditures - Pre-2023 based on financials/budget. Post-2022 years are estimates at 1.22% of prior year-end GROSS Property, plant and equipment.

(7) Changes in Working Capital - based on water industry -0.05% of revenues.

(8) Discount rate is the current lower end of the IOU discount rate. Capitalization rate (K) at 7/8/2022 adjusted for stated growth (g) where capitalization rate = K - g.

(9) Discount rate is the current upper end of the IOU discount rate. Capitalization rate (K) at 7/8/2022 adjusted for stated growth (g) where capitalization rate = K - g.

(10) Final year shown, line 29.

(11) Final year shown, line 31.

(12) Final year shown, line 33.

(13) Developed on Market Multiples EXHIBIT 18.

Terms:

CAPX - Capital Expenditures
CIP - Capital improvement plan
Dep - Depreciation expense
GROSS PPE - GROSS Property, plant and equipment
IOU - Investor owned utility
MUNI - Large regional municipally owned utility
NET PPE - NET Property, plant and equipment

Municipal Authority of the Borough of Shenandoah Water System Assets
Summary of Income Approach Results and Conclusion

Methods	Results
Exhibit 15, page 5 (MUNI)	
DCF With Capitalization of Terminal Value Model @ 3.81%	$29,460,326
DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 3.81%	25,929,580
Indicated Value (Median)	$27,694,953
Exhibit 16, page 5 (IOU)	
DCF With Capitalization of Terminal Value Model @ 7.54%	$21,280,936
DCF With Capitalization of Terminal Value Model @ 10.51%	15,013,261
DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 7.54%	26,136,304
DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 10.51%	18,779,368
Indicated Value (Median)	$20,030,152
Conclusion	
MUNI DCF	$27,694,953
IOU DCF	20,030,152
Conclusion (Median)	$23,862,553

Market Multiples Method
Municipal Authority of the Borough of Shenandoah Water System Assets
2022 Operations
Market Multiple Method

	A	B	C	D (Col B × Col C)	E (Col A × Col D)
	Subject Company Statistic (1)	Comparison Group's Valuation Multiples 7/8/2022	Shenandoah's Water Growth & Risk Adjustment	Shenandoah's Water Risk Adjusted Valuation Multiples 7/8/2022	Shenandoah's Water Market Multiples Valuation
Risk Adjusted Multiple					
1. Municipal Authority of the Borough of Shenandoah Water System Assets					
2. Investor Provided Capital	$13,119,705	1.95	70.00%	1.37	$17,973,996
3. Gross PP&E	$19,380,636	1.39	78.00%	1.08	20,931,087
4. Net PP&E	$10,784,743	1.75	78.00%	1.37	14,775,098
5. Revenues	$1,990,000	8.28	70.00%	5.80	11,542,000
6. EBITDA	$245,000	19.78	70.00%	13.85	3,393,250
7. EBIT	($84,731)	29.58	70.00%	20.71	(1,754,769)
8. Customers	2,899	$10,052	79.00%	$7,941	23,020,959
9. Population	6,166	$3,171	79.00%	$2,505	15,445,830
10.					
11. Average					$13,165,931

Conclusion of Market Multiple Method Valuation

		Low	High		Conclusion
12.	Capital Items	$14,775,098	$20,931,087		$17,853,092
13.	(Items 2-4)				
14.	Income Statement Items	(1,754,769)	11,542,000		-
15.	(Items 5 -7)				
16.	Demographics Items	15,445,830	23,020,959		19,233,395
17.	(Items 8-9)				
				Conclusion *	$18,543,243

* - Conclusion based on weighting of 50% Capital Items and 50% Demographics Items

Market Multiples Method
Municipal Authority of the Borough of Shenandoah Water System Assets
Development of Market Multiples Method for the Market Multiples Method

	Latest Quarter End			Latest 12 Months			2021		7/8/2022
	Gross PP&E	Net PP&E	Invest. Total Capital	12 Mos. Rev.	12 Mos. EBITDA	12 Mos. EBIT	Customers	Population	Enterprise Value
	($ Mill)	($ Mill)	($ Mill)	($ Mill)	($ Mill)	($ Mill)			($ Mill)
American States Water Co	$2,262.295	$1,669.085	$1,331.945	$490.363	$180.720	$140.194	287,500	1,000,000	$3,669.560
American Water Works Company Inc	$27,872.000	$21,489.000	$18,266.000	$3,884.000	$1,927.000	$1,290.000	3,530,000	14,000,000	$38,131.299
Artesian Resources Corp	$792.379	$622.626	$353.016	$92.401	$40.358	$28.400	100,640	326,700	$641.329
California Water Service Group	$4,261.451	$2,887.415	$2,280.721	$816.165	$258.580	$145.186	547,600	2,000,000	$4,028.887
Essential Utilities, Inc.	$12,882.910	$10,440.989	$11,382.495	$1,993.854	$914.581	$611.227	1,820,049	5,000,000	$18,091.166
Middlesex Water Co	$1,079.458	$873.682	$713.094	$146.796	$64.856	$37.528	121,300	500,000	$1,894.336
SJW Corp.	$3,735.674	$2,558.665	$2,634.890	$583.203	$206.513	$105.889	398,000	1,526,000	$3,486.366
York Water Company (The)	$492.086	$390.597	$307.419	$56.278	$31.276	$22.111	73,144	204,000	$743.369
Average	$6,672.282	$5,116.507	$4,658.698	$1,007.883	$452.986	$297.567	859,779	3,069,588	$8,835.789
Max	$27,872.000	$21,489.000	$18,266.000	$3,884.000	$1,927.000	$1,290.000	3,530,000	14,000,000	$38,131.299
Min	$492.086	$390.597	$307.419	$56.278	$31.276	$22.111	73,144	204,000	$641.329
Median	$2,998.985	$2,113.875	$1,806.333	$536.783	$193.617	$123.042	342,750	1,263,000	$3,577.963

	Enterprise Value as a Multiple of								
	Invest. Capital	Gross PP&E	Net PP&E	Rev.	EBITDA	EBIT	Customers	Population	Population Per Customer
	(x)	(x)	(x)	(x)	(x)	(x)	($)	($)	
American States Water Co	2.76	1.62	2.20	7.48	20.31	26.17	$12,764	$3,670	3.48
American Water Works Company Inc	2.09	1.37	1.77	9.82	19.79	29.56	$10,802	$2,724	3.97
Artesian Resources Corp	1.82	0.81	1.03	6.94	15.89	22.58	$6,373	$1,963	3.25
California Water Service Group	1.77	0.95	1.40	4.94	15.58	27.75	$7,357	$2,014	3.65
Essential Utilities, Inc.	1.59	1.40	1.73	9.07	19.78	29.60	$9,940	$3,618	2.75
Middlesex Water Co	2.66	1.75	2.17	12.90	29.21	50.48	$15,617	$3,789	4.12
SJW Corp.	1.32	0.93	1.36	5.98	16.88	32.92	$8,760	$2,285	3.83
York Water Company (The)	2.42	1.51	1.90	13.21	23.77	33.62	$10,163	$3,644	2.79
Average	2.05	1.29	1.70	8.79	20.15	31.59	$10,222	$2,963	3.48
Max	2.76	1.75	2.20	13.21	29.21	50.48	$15,617	$3,789	4.12
Min	1.32	0.81	1.03	4.94	15.58	22.58	$6,373	$1,963	2.75
Median	1.95	1.39	1.75	8.28	19.78	29.58	$10,052	$3,171	3.57

Market Multiples Method
Municipal Authority of the Borough of Shenandoah Water System Assets
Quantification of the Effective Risk/Growth Adjustments

		Net PP&E	Gross PP&E	Invest. Capital
Comparable Group Multiple		1.75	1.39	1.95
Ratio to Net PPE			79.43%	
Not Contributed Multiple (NPPE = ICAP mult.)		1.95	1.55	
Base Risk Factor	x	70%	70%	
Subject Company Adjusted Multiple		1.37	1.09	
Subject Company Adjusted Multiple		1.37	1.09	
Comparable Group Multiple	÷	1.75	1.39	
Effective Risk/Growth Adjustment		78%	78%	

		Net PP&E	Gross PP&E
Plant Assets		100%	100%
Ratio of Known "Cost Free" Capital		26%	26%
Plant Assets Less Known "Cost Free" Capital		74%	74%
Comparable Group Multiple		1.75	1.39
Plant Assets Less Known "Cost Free" Capital	÷	74%	74%
Mulitple Without "Cost Free" Capital		2.36	1.88
Base Risk Factor	x	70%	70%
Subject Company Adjusted Multiple		1.66	1.31
Subject Company Adjusted Multiple		1.66	1.31
Comparable Group Multiple	÷	1.75	1.39
Effective Risk/Growth Adjustment		95%	94%

		Net PP&E	Customers
Comparable Group Multiple		1.75	10,052.00
Implied Capitalization Rate (1÷Multiple)		57.14%	0.0099%
Ratio of Net PP&E Mult. to Invest. Capital Mult.		111.43%	
Less 1	-	1.00	
Difference in Capital Source due to Contributions		11.43%	
Assumed Investor Financed (1-Difference in Capital Source)		88.57%	88.57%
Implied Capitalization Rate (1÷Multiple)	x		0.0099%
Not Contributed Cap. Rate			0.0088%
Not Contributed Multiple (1÷Cap. Rate)			11,349.22
Base Risk Factor	x		70%
Subject Company Adjusted Multiple			7,944.45
Subject Company Adjusted Multiple			7,944.45
Comparable Group Multiple	÷		10,052.00
Effective Risk/Growth Adjustment			79%

Selected Transactions Method
For Municipal Authority of the Borough of Shenandoah Water System Assets
Summary

		Median	Mid-Point	Value
	All Selected Transactions Companies (N = 20)			
1.	Asset Items			$24,681,976
2.	Ex-Ante (page 2)	$22,792,758	$25,971,209	
3.	Ex-Post (page 3)	$20,468,202	$29,495,734	
4.	Demographics Items			$20,885,575
5.	Ex-Ante (page 2)	$15,441,977	$26,329,172	
6.	Ex-Post (page 3)	$15,441,977	$26,329,172	
7.			Indicated Value *	$22,783,775
	Fully Integrated Selected Transactions Companies (N = 8)			
8.	Asset Items			$24,016,476
9.	Ex-Ante (page 2)	$23,356,539	$27,270,388	
10.	Ex-Post (page 3)	$21,995,145	$23,443,832	
11.	Demographics Items			$28,214,015
12.	Ex-Ante (page 2)	$24,123,616	$32,304,413	
13.	Ex-Post (page 3)	$24,123,616	$32,304,413	
14.			Indicated Value *	$26,115,245
	Mostly Collection/Distribution Selected Transactions Companies (N = 12)			
15.	Asset Items			$23,759,558
16.	Ex-Ante (page 2)	$21,872,078	$25,971,209	
17.	Ex-Post (page 3)	$17,699,210	$29,495,734	
18.	Demographics Items			$16,964,612
19.	Ex-Ante (page 2)	$11,936,873	$21,992,350	
20.	Ex-Post (page 3)	$11,936,873	$21,992,350	
21.			Indicated Value *	$20,362,085
	Integrated, Excluding Wholesale Selected Transactions Companies (N = 6)			
22.	Asset Items			$23,482,782
23.	Ex-Ante (page 2)	$22,213,390	$26,698,362	
24.	Ex-Post (page 3)	$21,575,544	$23,443,832	
25.	Demographics Items			$27,728,976
26.	Ex-Ante (page 2)	$24,123,616	$31,334,337	
27.	Ex-Post (page 3)	$24,123,616	$31,334,337	
28.			Indicated Value *	$25,605,879

Conclusion of Selected Transactions Method Valuation

		Indicated Values	Weight	
29.	Integrated, Excluding Wholesale Transactions	$25,605,879	75%	$19,204,409
30.	Mostly Collection/Distribution Transactions	20,362,085	25%	5,090,521
31.			Conclusion	$24,294,930

* - Indicated Value based on weighting of 50% Asset Items and 50% Demographics Items

Selected Transactions Method - Ex-Ante
For Municipal Authority of the Borough of Shenandoah Water System Assets
Based on 2016 - 2021 Acquisitions of Assets of Water or Sewer System, Without Discount for Customer Contributions

Name	Service	System	Selected Transactions' Metrics: Announced Purchase Price was:	Investor Provided Capital	Gross PP&E	Net PP&E	Revenues	EBITDA	EBIT	Customers	Population
Municipal Authority of the City of Mckeesport	WW	INT	$156,000,000	$83,903,219	$91,435,797	$73,813,794	$13,047,844	$6,180,616	$3,811,679	12,780	46,468
New Garden Township/Authority's WW System's Assets	WW	INT	$29,500,000	$23,001,140	$25,988,330	$17,967,319	$2,261,294	$907,386	$499,638	1,796	12,085
Limerick Township Wastewater System's Assets	WW	INT	$75,100,000	$43,501,755	$60,847,250	$36,113,701	$4,418,775	$2,487,775	$893,600	5,416	18,798
Steelton Borough (Water) Authority	W	INT	$22,500,000	NA	NA	NA	NA	NA	NA	2,472	5,932
Exeter Township Wastewater System Assets	WW	INT	$96,000,000	NA	NA	NA	$7,735,788	$4,660,967	$4,660,967	8,984	27,609
Kane Borough Authority Wastewater System	WW	INT	$17,560,000	$10,809,115	$20,265,926	$8,897,773	$1,433,978	$684,830	$181,672	2,019	4,645
Borough of Royersford Wastewater System Assets	WW	INT	$13,000,000	$4,702,972	$6,883,116	$4,545,699	$863,000	$280,365	$280,365	1,596	5,154
York City Sewer Authority Wastewater System Assets	WW	INT	$235,000,000	$100,493,098	$120,654,506	$78,592,332	$24,641,181	$9,759,797	$6,150,926	13,747	80,929
Sadsbury Township Wastewater Utility	WW	C/D	$9,250,000	NA	NA	NA	NA	NA	NA	998	3,850
East Bradford Township Wastewater System Assets	WW	C/D	$5,000,000	$1,298,627	NA	NA	$1,130,372	$49,804	$49,804	1,248	9,942
Township of Mahoning Water System Assets	W	C/D	$4,734,800	NA	NA	NA	$753,857	$151,916	$91,468	1,186	4,218
Township of Mahoning Sewer System Assets	WW	C/D	$4,765,200	NA	NA	NA	$1,193,055	($173,564)	($244,337)	1,451	4,218
Cheltenham Township Wastewater System Assets	WW	C/D	$50,250,000	NA	NA	NA	$9,290,500	$4,506,168	$4,506,168	10,219	37,841
East Norriton Township Wastewater System Assets	WW	C/D	$21,000,000	$4,055,138	NA	NA	$3,320,000	$612,827	$612,827	4,966	14,296
Valley Township Water System Assets	W	C/D	$7,325,000	NA	NA	NA	$698,550	$78,704	$78,704	1,669	7,493
Valley Township Wastewater System Assets	WW	C/D	$13,950,000	NA	NA	NA	$2,743,957	($408,562)	($408,562)	3,125	7,493
Upper Pottsgrove Township Wastewater System Assets	WW	C/D	$13,750,000	NA	$15,295,347	$11,548,897	$1,380,242	$858,878	$858,878	1,428	5,530
Lower Makefield Township Wastewater System Assets	WW	C/D	$53,000,000	$16,525,411	NA	$17,592,071	$10,012,924	$4,053,817	$3,520,813	11,151	33,197
Willistown Township Wastewater Systems Assets	WW	C/D	$17,500,000	$9,866,721	$8,673,707	$4,887,532	$2,148,508	$297,618	($8,933)	2,294	11,214
East Whiteland Township Wastewater System Assets	WW	C/D	$54,930,000	$42,513,245	$48,672,940	$34,143,673	$4,328,000	$1,942,553	$1,209,102	3,895	14,720
				Subject Company's Metrics							
Municipal Authority of the Borough of Shenandoah Water System Assets				$13,119,705	$19,380,636	$10,784,743	$1,990,000	$245,000	($84,731)	2,899	6,166
				Subject Company's Selected Transactions Multiples Valuations							
Municipal Authority of the City of Mckeesport	WW	INT	$20,355,899	$24,393,271	$33,065,597	$22,792,758	$23,792,437	$6,183,850	($3,467,754)	$35,386,854	$20,700,181
New Garden Township/Authority's WW System's Assets	WW	INT	$18,515,642	$16,826,614	$21,999,442	$17,707,145	$25,960,799	$7,965,188	($5,002,724)	$47,617,205	$15,051,469
Limerick Township Wastewater System's Assets	WW	INT	$20,990,722	$22,649,427	$23,920,321	$22,427,339	$33,821,365	$7,395,966	($7,120,930)	$40,198,468	$24,633,823
Steelton Borough (Water) Authority	W	INT	$24,887,044	NA	NA	NA	NA	NA	NA	$26,386,529	$23,387,559
Exeter Township Wastewater System Assets	WW	INT	$16,082,863	NA	NA	NA	$24,695,610	$5,046,163	($1,745,160)	$30,977,738	$21,439,965
Kane Borough Authority Wastewater System	WW	INT	$16,296,926	$21,313,680	$16,792,915	$21,283,987	$24,368,854	$6,282,143	($8,189,860)	$25,213,690	$23,310,002
Borough of Royersford Wastewater System Assets	WW	INT	$22,535,792	$36,265,614	$36,603,810	$30,842,706	$29,976,825	$11,360,191	($3,928,796)	$23,613,409	$15,552,581
York City Sewer Authority Wastewater System Assets	WW	INT	$23,722,246	$30,680,024	$37,747,860	$32,247,607	$18,978,392	$5,899,201	($3,237,183)	$49,557,358	$17,904,707
Sadsbury Township Wastewater Utility	WW	C/D	$20,841,952	NA	NA	NA	NA	NA	NA	$26,869,489	$14,814,416
East Bradford Township Wastewater System Assets	WW	C/D	$15,020,292	$50,513,754	NA	NA	$8,802,412	$24,596,418	($8,506,399)	$11,614,583	$3,100,986
Township of Mahoning Water System Assets	W	C/D	$6,848,729	NA	NA	NA	$12,498,726	$7,635,959	($4,386,028)	$11,573,512	$6,921,474
Township of Mahoning Sewer System Assets	WW	C/D	$3,872,145	NA	NA	NA	$7,948,291	($6,726,493)	$1,652,467	$9,520,548	$6,965,914
Cheltenham Township Wastewater System Assets	WW	C/D	$6,998,782	NA	NA	NA	$10,763,414	$2,732,089	($944,863)	$14,255,284	$8,187,984
East Norriton Township Wastewater System Assets	WW	C/D	$17,889,656	$67,941,906	NA	NA	$12,587,349	$8,395,518	($2,903,497)	$12,259,162	$9,057,499
Valley Township Water System Assets	W	C/D	$10,906,903	NA	NA	NA	$20,867,153	$22,802,208	($7,885,891)	$12,723,292	$6,027,753
Valley Township Wastewater System Assets	WW	C/D	$5,813,061	NA	NA	NA	$10,116,959	($8,365,315)	$2,893,052	$12,941,136	$11,479,474
Upper Pottsgrove Township Wastewater System Assets	WW	C/D	$13,699,768	NA	$17,422,537	$12,840,206	$19,824,422	$3,922,268	($1,356,473)	$27,914,041	$15,331,374
Lower Makefield Township Wastewater System Assets	WW	C/D	$15,807,533	$42,077,281	NA	$32,491,421	$10,533,387	$3,203,154	($1,275,478)	$13,778,764	$9,844,203
Willistown Township Wastewater Systems Assets	WW	C/D	$41,167,309	$23,269,619	$39,102,212	$38,615,195	$16,208,923	$14,406,065	$165,998,812	$22,115,301	$9,622,347
East Whiteland Township Wastewater System Assets	WW	C/D	$18,550,292	$16,951,550	$21,872,078	$17,350,387	$25,256,631	$6,927,921	($3,849,342)	$40,883,715	$23,009,401

Definitions: Where "INT" is "Fully Integrated Assets" and "C/D" is "Mostly Collection/Distribution Assets".
Where "WW" is wastewater and "W" is water.

Selected Transactions Method - Ex-Post
For Municipal Authority of the Borough of Shenandoah Water System Assets
Based on 2016 - 2021 Acquisitions of Assets of Water or Sewer System, Without Discount for Customer Contributions

			Ex-Post Selected Transactions' Metrics								
Name	Service	System	Announced Purchase Price was:	Investor Provided Capital	Ex-POST - OCN - Gross PP&E	Ex-Post - OCNLD - Net PP&E	Revenues	EBITDA	EBIT	Customers	Population
Municipal Authority of the City of Mckeesport	WW	INT	$156,000,000	$83,903,219	$108,231,570	$80,085,602	$13,047,844	$6,180,616	$3,811,679	12,780	46,468
New Garden Township/Authority's WW System's Assets	WW	INT	$29,500,000	$23,001,140	$27,146,852	$18,567,728	$2,261,294	$907,386	$499,638	1,796	12,085
Limerick Township Wastewater System's Assets	WW	INT	$75,100,000	$43,501,755	$63,480,402	$46,153,867	$4,418,775	$2,487,775	$893,600	5,416	18,798
Steelton Borough (Water) Authority	W	INT	$22,500,000	NA	$19,739,906	$14,433,435	NA	NA	NA	2,472	5,932
Exeter Township Wastewater System Assets	WW	INT	$96,000,000	NA	$68,404,345	$42,678,351	$7,735,788	$4,660,967	$4,660,967	8,984	27,609
Kane Borough Authority Wastewater System	WW	INT	$17,560,000	$10,809,115	$21,023,527	$13,503,901	$1,433,978	$684,830	$181,672	2,019	4,645
Borough of Royersford Wastewater System Assets	WW	INT	$13,000,000	$4,702,972	$7,666,493	$5,453,064	$863,000	$280,365	$280,365	1,596	5,154
York City Sewer Authority Wastewater System Assets	WW	INT	$235,000,000	$100,493,098	$155,875,776	$115,727,779	$24,641,181	$9,759,797	$6,150,926	13,747	80,929
Sadsbury Township Wastewater Utility	WW	C/D	$9,250,000	NA	$7,480,601	$6,128,876	NA	NA	NA	998	3,850
East Bradford Township Wastewater System Assets	WW	C/D	$5,000,000	$1,298,627	$8,294,931	$5,473,948	$1,130,372	$49,804	$49,804	1,248	9,942
Township of Mahoning Water System Assets	W	C/D	$4,734,800	NA	$5,294,272	$3,507,138	$753,857	$151,916	$91,468	1,186	4,218
Township of Mahoning Sewer System Assets	WW	C/D	$4,765,200	NA	$4,931,649	$3,234,859	$1,193,055	($173,564)	($244,337)	1,451	4,218
Cheltenham Township Wastewater System Assets	WW	C/D	$50,250,000	NA	$19,818,216	$15,408,458	$9,290,500	$4,506,168	$4,506,168	10,219	37,841
East Norriton Township Wastewater System Assets	WW	C/D	$21,000,000	$4,055,138	$16,916,212	$9,251,450	$3,320,000	$612,827	$612,827	4,966	14,296
Valley Township Water System Assets	W	C/D	$7,325,000	NA	$6,843,616	$4,983,659	$698,550	$78,704	$78,704	1,669	7,493
Valley Township Wastewater System Assets	WW	C/D	$13,950,000	NA	$13,389,108	$8,832,690	$2,743,957	($408,562)	($408,562)	3,125	7,493
Upper Pottsgrove Township Wastewater System Assets	WW	C/D	$13,750,000	NA	$15,295,347	$11,548,897	$1,380,242	$858,878	$858,878	1,428	5,530
Lower Makefield Township Wastewater System Assets	WW	C/D	$53,000,000	$16,525,411	$32,003,924	$19,808,274	$10,012,924	$4,053,817	$3,520,813	11,151	33,197
Willistown Township Wastewater Systems Assets	WW	C/D	$17,500,000	$9,866,721	$19,641,520	$13,367,274	$2,148,508	$297,618	($8,933)	2,294	11,214
East Whiteland Township Wastewater System Assets	WW	C/D	$54,930,000	$42,513,245	$43,447,309	$32,955,596	$4,328,000	$1,942,553	$1,209,102	3,895	14,720
				Subject Company's Metrics							
Municipal Authority of the Borough of Shenandoah Water System Assets				$13,119,705	$19,380,636	$10,784,743	$1,990,000	$245,000	($84,731)	2,899	6,166
			Ex-Post Subject Company's Selected Transactions Multiples Valuations								
Municipal Authority of the City of Mckeesport	WW	INT	$19,491,371	$24,393,271	$27,934,356	$21,007,770	$23,792,437	$6,183,850	($3,467,754)	$35,386,854	$20,700,181
New Garden Township/Authority's WW System's Assets	WW	INT	$18,326,713	$16,826,614	$21,060,592	$17,134,564	$25,960,799	$7,965,188	($5,002,724)	$47,617,205	$15,051,469
Limerick Township Wastewater System's Assets	WW	INT	$20,256,850	$22,649,427	$22,928,112	$17,548,566	$33,821,365	$7,395,966	($7,120,930)	$40,198,468	$24,633,823
Steelton Borough (Water) Authority	W	INT	$22,169,177	NA	$22,090,496	$16,812,126	NA	NA	NA	$26,386,529	$23,387,559
Exeter Township Wastewater System Assets	WW	INT	$18,838,930	NA	$27,199,165	$24,259,028	$24,695,610	$5,046,163	($1,745,160)	$30,977,738	$21,439,965
Kane Borough Authority Wastewater System	WW	INT	$15,313,797	$21,313,680	$16,187,768	$14,024,102	$24,368,854	$6,282,143	($8,189,860)	$25,213,690	$23,310,002
Borough of Royersford Wastewater System Assets	WW	INT	$21,426,751	$36,265,614	$32,863,562	$25,710,620	$29,976,825	$11,360,191	($3,928,796)	$23,613,409	$15,552,581
York City Sewer Authority Wastewater System Assets	WW	INT	$21,362,594	$30,680,024	$29,218,456	$21,899,795	$18,978,392	$5,899,201	($3,237,183)	$49,557,358	$17,904,707
Sadsbury Township Wastewater Utility	WW	C/D	$20,481,384	NA	$23,964,770	$16,276,863	NA	NA	NA	$26,869,489	$14,814,416
East Bradford Township Wastewater System Assets	WW	C/D	$13,956,868	$50,513,754	$11,682,216	$9,850,973	$8,802,412	$24,596,418	($8,506,399)	$11,614,583	$3,100,986
Township of Mahoning Water System Assets	W	C/D	$9,448,020	NA	$17,332,588	$14,559,906	$12,498,726	$7,635,959	($4,386,028)	$11,573,512	$6,921,474
Township of Mahoning Sewer System Assets	WW	C/D	$7,710,573	NA	$18,726,517	$15,886,769	$7,948,291	($6,726,493)	$1,652,467	$9,520,548	$6,965,914
Cheltenham Township Wastewater System Assets	WW	C/D	$17,043,652	NA	$49,140,495	$35,171,159	$10,763,414	$2,732,089	($944,863)	$14,255,284	$8,187,984
East Norriton Township Wastewater System Assets	WW	C/D	$19,484,719	$67,941,906	$24,059,367	$24,480,444	$12,587,349	$8,395,518	($2,903,497)	$12,259,162	$9,057,499
Valley Township Water System Assets	W	C/D	$13,018,550	NA	$20,743,881	$15,851,454	$20,867,153	$22,802,208	($7,885,891)	$12,723,292	$6,027,753
Valley Township Wastewater System Assets	WW	C/D	$9,470,118	NA	$20,192,523	$17,032,995	$10,116,959	($8,365,315)	$2,893,052	$12,941,136	$11,479,474
Upper Pottsgrove Township Wastewater System Assets	WW	C/D	$13,699,768	NA	$17,422,537	$12,840,206	$19,824,422	$3,922,268	($1,356,473)	$27,914,041	$15,331,374
Lower Makefield Township Wastewater System Assets	WW	C/D	$17,389,093	$42,077,281	$32,095,243	$28,856,193	$10,533,387	$3,203,154	($1,275,478)	$13,778,764	$9,844,203
Willistown Township Wastewater Systems Assets	WW	C/D	$35,375,958	$23,269,619	$17,267,560	$14,119,034	$16,208,923	$14,406,065	$165,998,812	$22,115,301	$9,622,347
East Whiteland Township Wastewater System Assets	WW	C/D	$18,957,313	$16,951,550	$24,502,745	$17,975,883	$25,256,631	$6,927,921	($3,849,342)	$40,883,715	$23,009,401

Definitions: Where "INT" is "Fully Integrated Assets" and "C/D" is "Mostly Collection/Distribution Assets".
Where "WW" is wastewater and "W" is water.

Summar of Selected Transactions Method - Wall Street Transactions
For Municipal Authority of the Borough of Shenandoah Water System Assets
Based on Recent Walls Sreet Transactions Without Discount for Cost Free Capital

	Municipal Authority of the Borough of Shenandoah Water System Assets's Indicated Value
Based on Recent SJW Group's Purchase of Connecticut Water Service Inc.	$28,580,274
Based on Recent Aquarion Water Company's Purchase of New England Service Company, Inc.	$24,494,148
Based on Recent Aquarion Water Company's Purchase of Torrington Water Company, Inc.	$37,136,275

Summar of Selected Transactions Method - Wall Street Transactions

For Municipal Authority of the Borough of Shenandoah Water System Assets

Based on Recent SJW Group's Bid and Purchase of Connecticut Water Service Inc., With and Without Discount for Cost Free Capital

Connecticut Water Service Inc. (*Financial information reported in 000 of $*)			Municipal Authority of the Borough of Shenandoah Water System Assets			
Purchase Price was: $1,106,267						
	Subject Company Statistics	Transaction Multiple	Municipal Authority of the Borough of Shenandoah Water System Assets's	Selected Transactions Multiples Valuation		Indicated Value *
Investor Provided Capital	$573,223	1.93	$13,119,705	$25,319,810		
Gross PP&E	$939,050	1.18	$19,380,636	$22,831,754		
Net PP&E	$697,723	1.59	$10,784,743	$17,099,631	$21,209,720	
Revenues	$107,054	10.33	$1,990,000	$20,564,121		
EBITDA	$48,920	22.61	$245,000	$5,540,381		
EBIT	$32,236	34.32	($84,731)	($2,907,762)		$20,305,214
Customers	135,645	$8,156	2,899	$23,643,099		
Population	450,000	$2,458	6,166	$15,158,317	$19,400,708	
Average				$15,906,169		
	Subject Company Statistics	Transaction Multiple				
Investor Provided Capital	$573,223	1.93	$13,119,705	$25,319,810		
Gross PP&E (Less "Cost Free" Capital)	$646,723	1.71	$19,380,636	$33,152,017		
Net PP&E (Less "Cost Free" Capital)	$480,521	2.30	$10,784,743	$24,828,896	$28,990,456	
Revenues	$107,054	10.33	$1,990,000	$20,564,121		
EBITDA	$48,920	22.61	$245,000	$5,540,381		
EBIT	$32,236	34.32	($84,731)	($2,907,762)		$28,580,274
Customers (Adj. "Cost Free" Capital)	93,419	$11,842	2,899	$34,330,100		
Population (Adj. "Cost Free" Capital)	309,914	$3,570	6,166	$22,010,082	$28,170,091	
Average				$20,354,706		

* - Indicated Value based on weighting of 50% Capital Items and 50% Demographics Items

Summar of Selected Transactions Method - Wall Street Transactions

For Municipal Authority of the Borough of Shenandoah Water System Assets

Based on Recent Aquarion Water Company's Purchase of New England Service Company, Inc., With and Without Discount for Cost Free Capital

New England Service Company, Inc.			Municipal Authority of the Borough of Shenandoah Water System Assets			
Purchase Price was: $49,290,414			Municipal Authority of the Borough of Shenandoah Water System Assets's	Selected Transactions Multiples Valuation		Indicated Value *
	Subject Company Statistics	Transaction Multiple				
Investor Provided Capital	$26,734,587	1.84	$13,119,705	$24,188,729		
Gross PP&E	$54,517,263	0.90	$19,380,636	$17,522,515		
Net PP&E	$36,566,790	1.35	$10,784,743	$14,537,356	$19,363,043	
Revenues	$7,994,088	6.17	$1,990,000	$12,270,058		
EBITDA	$2,729,953	18.06	$245,000	$4,423,575		
EBIT	$1,559,860	31.60	($84,731)	($2,677,422)		$16,309,980
Customers	9,515	$5,180	2,899	$15,017,647		
Population	26,437	$1,864	6,166	$11,496,187	$13,256,917	
Average				$12,097,331		
	Subject Company Statistics	Transaction Multiple				
Investor Provided Capital	$26,734,587	1.84	$13,119,705	$24,188,729		
Gross PP&E (Less "Cost Free" Capital)	$32,535,719	1.51	$19,380,636	$29,360,948		
Net PP&E (Less "Cost Free" Capital)	$21,822,937	2.26	$10,784,743	$24,358,978	$26,774,839	
Revenues	$7,994,088	6.17	$1,990,000	$12,270,058		
EBITDA	$2,729,953	18.06	$245,000	$4,423,575		
EBIT	$1,559,860	31.60	($84,731)	($2,677,422)		$24,494,148
Customers (Adj. "Cost Free" Capital)	5,679	$8,680	2,899	$25,163,759		
Population (Adj. "Cost Free" Capital)	15,778	$3,124	6,166	$19,263,156	$22,213,458	
Average				$17,043,973		

* - Indicated Value based on weighting of 50% Capital Items and 50% Demographics Items

Summar of Selected Transactions Method - Wall Street Transactions
For Municipal Authority of the Borough of Shenandoah Water System Assets
Based on Recent Aquarion Water Company's Bid For Torrington Water Company, With and Without Discount for Cost Free Capital

Torrington Water Company			Municipal Authority of the Borough of Shenandoah Water System Assets			
Purchase Price was: $91,880,072			Municipal Authority of the Borough of Shenandoah Water System Assets's	Selected Transactions Multiples Valuation		Indicated Value *
	Subject Company Statistics	Transaction Multiple				
Investor Provided Capital	$36,395,842	2.52	$13,119,705	$33,120,251		
Gross PP&E	$75,202,417	1.22	$19,380,636	$23,678,684		
Net PP&E	$48,743,673	1.88	$10,784,743	$20,328,853	$26,724,552	
Revenues	$7,835,144	11.73	$1,990,000	$23,336,054		
EBITDA	$3,264,018	28.15	$245,000	$6,896,597		
EBIT	$2,046,050	44.91	($84,731)	($3,804,916)		$24,659,392
Customers	10,125	$9,075	2,899	$26,307,193		
Population	30,005	$3,062	6,166	$18,881,271	$22,594,232	
Average				$18,592,998		
	Subject Company Statistics	Transaction Multiple				
Investor Provided Capital	$36,395,842	2.52	$13,119,705	$33,120,251		
Gross PP&E (Less "Cost Free" Capital)	$44,868,813	2.05	$19,380,636	$39,686,680		
Net PP&E (Less "Cost Free" Capital)	$29,082,453	3.16	$10,784,743	$34,072,193	$36,403,466	
Revenues	$7,835,144	11.73	$1,990,000	$23,336,054		
EBITDA	$3,264,018	28.15	$245,000	$6,896,597		
EBIT	$2,046,050	44.91	($84,731)	($3,804,916)		$37,136,275
Customers (Adj. "Cost Free" Capital)	6,041	$15,209	2,899	$44,092,196		
Population (Adj. "Cost Free" Capital)	17,902	$5,132	6,166	$31,645,972	$37,869,084	
Average				$26,130,628		

* - Indicated Value based on weighting of 50% Capital Items and 50% Demographics Items

Market Approach
Municipal Authority of the Borough of Shenandoah Water System Assets
Market Approach Conclusion

	Method	Results	Wtd.
1.	Market Multiples Method	$18,543,243	50%
2.	Selected Transactions Method	24,294,930	50%
3.	Conclusion (Wtd.)	$21,419,087	
4.	Check - Wall Street Tansactions		
5.	Min	$24,494,148	
6.	Max	37,136,275	

Municipal Authority of the Borough of Shenandoah Water System Assets
Summary of Approach Results and
Fair Market Value Conclusion at Appraisal Date

Valuation Approach	Indicated Value	Conclusion	Consideration
Cost Approach	$32,959,909		25.00%
Income Approach	23,862,553		37.50%
Market Approach	21,419,087		37.50%
		Conclusion $25,221,000	

WORKPAPERS

Daily Bond Yields and Key Indicators

Updated by 11 am ET with data from the previous business day.	Data as of 6-Jul-22

Moody's Daily Long-term Corporate Bond Yield Averages	Utilities	Industrial	Corporate
Aaa	NA	4.17	4.17
Aa	4.66	4.27	4.47
A	4.87	4.66	4.77
Baa	5.25	5.38	5.32
Avg	4.93	4.62	4.78

Moody's Daily Treasury Yield Averages	
Short-Term (3-5 yrs)	2.96
Medium-Term (5-10 yrs)	2.95
Long-Term (10+ yrs)	3.29

Moody's Daily Public Utility Common Stock Yield Averages	
Price	546.58
Yield	3.53
New Dividend	19.28

Moody's Commodity and Scrap Price Indexes	
Spot Commodity Index	9,346.13
Industrial Metals Index	2,721.73

Index Name: S&P Municipal Bond Revenue Index

As of: 30-Aug-22

Effective date	Yield To Maturity
7/1/2022	3.93%
7/5/2022	3.89%
7/6/2022	3.86%
7/7/2022	3.84%
7/8/2022	3.85%
7/11/2022	3.83%
7/12/2022	3.82%
7/13/2022	3.82%
7/14/2022	3.82%
end	end

FED H.15

DATE	DAAA	DBAA	DGS10	DGS20	DGS30
2022-07-04	#N/A	#N/A	#N/A	#N/A	#N/A
2022-07-05	4.12	5.23	2.82	3.31	3.05
2022-07-06	4.17	5.32	2.93	3.42	3.14
2022-07-07	4.20	5.34	3.01	3.45	3.20
2022-07-08	4.23	5.40	3.09	3.53	3.27
2022-07-11	4.11	5.31	2.99	3.43	3.18
2022-07-12	4.13	5.27	2.96	3.37	3.13
2022-07-13	4.06	5.23	2.91	3.35	3.08
2022-07-14	4.09	5.27	2.96	3.36	3.11

FED H.15

		10-yr T-bond	20-yr T-bond	30-yr T-bond
Spot	7/8/22	3.09	3.53	3.27

FED H.15	**AAA Corp**	**BAA CORP**		A Rated Utility		
7/8/22	4.23	5.40	Spread	0.06	0.08	
Moody's Spot ===>	4.17	5.32	Moody's Spot ===>	4.87	4.87	
	0.06	0.08	Implied	4.93	4.95	4.94

Moody's Daily Long-term Corporate Bond Yield Averages

	7/6/2022	Utilities	Industrial	Corporate
Spot	Aaa	NA	4.17	4.17
	Aa	4.66	4.27	4.47
	A	4.87	4.66	4.77
	Baa	5.25	5.38	5.32
	Avg	4.93	4.62	4.78

S&P Municipal Bond Revenue Index

7/8/22 3.85%

Utilities
Aa
A **4.94**
Baa

		Decade Spread	Annual Spread	
10-Year	3.09			
20-Year	3.53	0.440	0.044	
30-Year	3.27	-0.260		
REVENUE BOND INDEX				3.85
10-20 Yr				0.22
20-30 Yr				-0.26
				3.81

30-Yr Rev Bond Est. **3.81**

2020	Lt Debt	3.02	4.94
	Prf Stk	5.76	191%
Pref Stock Est.		191%	**9.42**

	7/8/22
A-Rated Rev Bonds	**3.81**
A-Rated PU Bonds	**4.94**
A-Rated PU Pref Stk	**9.42**
30-yr T-bond	**3.27**

	SBBI	SBBI
Equity Risk Premium	7.46	7.46
Beta (Value Line Med.)	0.75	0.75
Risk Adjusted Equity Premium	5.60	5.60
Yield (RF)	3.27	3.27
Size Premium	3.95	0.00
	12.82	8.87

High 12.82
Low 8.87

0.75

12.33 Total Return SBBI 1926-2021
4.87 Income Return SBBI 1926-2021

3.27 30-yr T-bond

	Recent Market Value (Mill $)	Market Quartile Name	Market Quartile	Quartile Size Premium	Value Line Beta
American States Water Co	3,035.17	Mid-Cap	2	2.48	0.65
American Water Works Co Inc	27,419.30	Large-Cap	1	0	0.85
Artesian Resources Corp	469.35	Low-Cap	3	3.95	0.70
California Water Service Gp	2,981.18	Mid-Cap	2	2.48	0.65
Essential Utilities, Inc.	12,022.07	Mid-Cap	2	2.48	0.95
Middlesex Water Co	1,562.42	Low-Cap	3	3.95	0.70
SJW Corp	1,897.38	Low-Cap	3	3.95	0.80
York Water Co	590.37	Low-Cap	3	3.95	0.80
Average	6,247.150	Mid-Cap	2	2.48	0.76
Median	2,439.278	Low-Cap	3	3.95	0.75

8/30/2022

3/31/22							7/8/22		Book Ratios					Market Ratios			
Company Name	Ticker Symbol	LT Debt-Total Qtly	Preferred S	Minority In	Common Equity-Total-Qtly	Invested Capital-Total Qtly	Market Value-Mnthly		LTD	Pref	Equity			LTD	Pref	Equity	
AMERICAN ST.	**AWR**	644.520	0.000	0.000	687.425	1,331.945	3,035.166	AMERICA	0.484	0.000	0.516	1.000		0.175	0.000	0.825	1.000
AMERICAN W/	**AWK**	10,485.000	0.000	0.000	7,460.000	17,945.000	27,419.299	AMERICA	0.584	0.000	0.416	1.000		0.277	0.000	0.723	1.000
ARTESIAN RES	**ARTN.A**	144.913	0.000	0.000	180.561	325.474	469.352	ARTESIAI	0.445	0.000	0.555	1.000		0.236	0.000	0.764	1.000
CALIFORNIA W	**CWT**	1,060.843	0.000	5.248	1,164.630	2,230.721	2,981.175	CALIFORI	0.476	0.000	0.524	1.000		0.262	0.000	0.738	1.000
ESSENTIAL UT	**WTRG**	6,047.652	0.000	0.000	5,255.100	11,302.752	12,022.069	ESSENTIA	0.535	0.000	0.465	1.000		0.335	0.000	0.665	1.000
MIDDLESEX W	**MSEX**	318.128	2.084	0.000	377.882	698.094	1,562.418	MIDDLES	0.456	0.003	0.541	1.000		0.169	0.001	0.830	1.000
SJW GROUP	**SJW**	1,530.475	0.000	0.000	1,028.418	2,558.893	1,897.381	SJW GRO	0.598	0.000	0.402	1.000		0.446	0.000	0.554	1.000
THE YORK WA	**YORW**	152.999	0.000	0.000	154.420	307.419	590.371	THE YORI	0.498	0.000	0.502	1.000		0.206	0.000	0.794	1.000
									0.510	0.000	0.490		Avg	0.263	0.000	0.737	
									0.491	0.000	0.509		Med	0.249	0.000	0.751	

Assumptions:	7/8/2022
Debt Cost	4.94
Pref. Stock Cost	9.42
Equity Cost	12.82
Equity Cost	8.87

	Ratio	Cost	Wt	Shield	Overall	
	24.90%	4.940	1.23	0.72	0.8856432	
	0.00%	9.420	0.00	1	0	
	75.10%	12.820	9.63	1	9.62782	
			10.86		**10.51**	**<<<<ANSWER**
	24.90%	4.940	1.23	0.72	0.8856432	
	0.00%	9.420	0.00	1	0	
	75.10%	8.865	6.66	1	6.657615	
			7.89		**7.54**	**<<<<ANSWER**

	ROE
Public Meeting held June 16, 2022	9.8

DSIC Weighted Cost of Capital

Assumptions:	7/8/2022
Debt Cost	4.94
Pref. Stock Cost	9.42
DSIC Equity Cost	9.8

	Ratio	Cost	Wt	Shield	Overall	
Debt	49.10%	4.940	2.43	0.72	1.746389	
Pref	0.00%	9.420	0.00	1	0	
Equity	50.90%	9.800	4.99	1	4.9882	
			7.41		**6.73**	**<<<<ANSWER**

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Aqua America's Pennsylvania Subsidiary Enters Agreement to Purchase Cheltenham Township Wastewater System

July 02, 2018 07:00 AM Eastern Daylight Time

BRYN MAWR, Pa.--(BUSINESS WIRE)--Aqua America announced today that its Pennsylvania subsidiary has signed an asset purchase agreement with Cheltenham Township to purchase its wastewater system, which serves approximately 10,500 connections in Montgomery County, for $50.25 million. The agreement must be approved by the Pennsylvania Public Utility Commission.

The transaction will be Aqua Pennsylvania's fourth acquisition application referred to the Pennsylvania PUC since Act 12, commonly referred to as fair market value legislation, was enacted last year. Aqua Pennsylvania has asset purchase agreements with the 2,100-customer New Garden Township wastewater system in Chester County and the 5,400-customer Limerick Township wastewater system in Montgomery County. The company also has an agreement, signed in December 2017, with East Bradford Township in Chester County to purchase its 1,200-customer wastewater collection system. Aqua already provides water service to East Bradford, as it does with Cheltenham.

These four systems, including Cheltenham, total more than 19,000 wastewater connections and would nearly double Aqua Pennsylvania's current 22,000-customer wastewater operation.

The new law encourages a consolidation of the fragmented industry for the benefit of customers, the environment, and local governments. This transaction will benefit customers by leveraging compliance expertise, purchasing power gained through economies of scale and operational efficiencies to ultimately benefit service to our customers at affordable rates.

"We are pleased with the momentum we are gaining to reach agreements with municipal systems," said Aqua America Chairman and CEO Christopher Franklin. "Act 12 is having its intended impact, allowing municipalities to be compensated for the fair value of their water and wastewater assets and enabling utility professionals to bring expertise to systems in need."

Aqua Pennsylvania President Marc Lucca says his team is ready to work with the Cheltenham community on making needed system improvements.

"As with our pending agreements with New Garden, East Bradford and Limerick, the Aqua Pennsylvania team is looking forward to assuming Cheltenham's sewer utility responsibilities so the township can direct its attention and capital to other priorities," said Lucca. "We are anxious to begin the work necessary to help the township meet the requirements of an outstanding Pennsylvania Department of Environmental Protection consent order, specifically related to inflow and infiltration issues there."

In total, Aqua has plans to spend nearly $50 million over the next 10 years to improve Cheltenham's wastewater system.

Aqua America is one of the largest U.S.-based, publicly traded water utilities and serves nearly 3 million people in Pennsylvania, Ohio, North Carolina, Illinois, Texas, New Jersey, Indiana and Virginia. Aqua America is listed on the New York Stock Exchange under the ticker symbol WTR. Visit AquaAmerica.com for more information.

Forward-Looking Statements

This release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 including, among others: the company's ability to successfully close the acquisition of the wastewater systems noted in this release. There are important factors that could cause actual results to differ materially from those expressed or implied by such forward-looking statements including: general economic business conditions, the successful integration of the customers and the facilities, the success of the company's growth efforts including its ability to utilize Act 12, and other factors discussed in our Annual Report on Form 10-K, which is on file with the Securities and Exchange Commission.

Cheltenham Township
1329 Proceeding
Cheltenham Twp. - Water Accounts reported for Sewer Billing

Type of Service	Gallons	Customers[1]
Commercial	280,938,300	534
Industrial	364,400	14
Public	9,962,700	23
Residential	484,692,800	9,648
Total	**775,958,200**	**10,219**

1. Customers include all Active and Inactive Accounts

The following table breaks down the above total figures by customer class as of December 31, 2017, 2016, and 2015 :

	2017	2016	2015
Customers:			
Residential	118,493	111,494	110,254
Commercial	9,386	8,626	8,569
Industrial	536	479	478
Public Authority	1,072	948	964
Fire Protection	3,178	2,876	2,815
Other (including non-metered accounts)	2,980	545	553
Total	135,645	124,968	123,633
Water Revenues *(in thousands):*			
Residential	$ 62,831	$ 59,884	$ 58,439
Commercial	13,676	12,250	11,816
Industrial	3,196	3,176	3,229
Public Authority	3,845	3,510	3,193
Fire Protection	20,235	18,486	18,016
Other (including non-metered accounts)	3,271	1,361	1,348
Total	$ 107,054	$ 98,667	$ 96,041
Customer Water Consumption *(millions of gallons):*			
Residential	6,408	6,583	6,551
Commercial	2,026	1,954	1,941
Industrial	711	724	777
Public Authority	575	539	503
Total	9,720	9,800	9,772

The Regulated Companies own various small, discrete parcels of land that are no longer required for water supply purposes. At December 31, 2017 , this land totaled over 600 acres. Over the past several years, we have been disposing of these land parcels through sales and/or donations, primarily to towns and municipalities. For more information, please refer to *Segments of Our Business* below.

Additional information on land dispositions can be found in Item 7 – "Management's Discussion and Analysis of Financial Conditions and Results of Operations – Commitments and Contingencies".

Competition

Our Regulated Companies face competition from a few small privately-owned water systems operating within, or adjacent to, our franchise areas and from municipal and public authority systems whose service areas in some cases overlap portions of our franchise areas.

Employees

As of December 31, 2017 , we employed a total of 294 people. Our employees are not covered by collective bargaining agreements.

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DEALS AUGUST 6, 2018 / 5:11 PM / 6 MONTHS AGO

SJW Group makes $1.1 billion all-cash offer for Connecticut Water

3 MIN READ

NEW YORK (Reuters) - SJW Group (SJW.N) and Connecticut Water Service Inc (CTWS.O) said on Monday they were changing from a merger to an acquisition agreement, with SJW offering to buy the New England utility for $1.1 billion in cash instead of combining stock.

The switch to an all-cash offer is worth $70 per Connecticut Water share, a 33 percent premium to Connecticut Water's share price prior to the original deal announced in March, according to a joint statement.

It was also higher than the implied $61.86 per share value of the Clinton, Connecticut-based firm under the merger-of-equals transaction, which would have created a combined company in which existing SJW shareholders would hold 60 percent of the stock.

SJW closed 2.3 percent lower, while Connecticut Water was 9 percent higher at $68.50.

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To pay for the acquisition, SJW will initially utilize a $975 million bridge loan from financial adviser JP Morgan Chase (JPM.N). Ultimately, the purchase would be covered by debt and between $450 million and $500 million of equity finance.

The new deal aims to conclude in the first quarter of 2019, subject to approvals from Connecticut Water's shareholders, as well as regulators in Connecticut and Maine.

The duo's original all-stock merger announcement in March triggered competing offers from Eversource Energy (ES.N) and California Water Service Group (CWT.N).

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"We have converted from a stock-for-stock deal to a cash offer, which will resolve any further market distractions from the inferior proposals," SJW Chief Executive Eric Thornburg told Reuters, in reference to the actions by Eversource and CalWater.

Switching to an acquisition, versus a merger structure, means that SJW shareholders will no longer be required to vote on approving the deal, the statement said.

CalWater has an open tender offer to acquire SJW that runs until Sept. 28.

However, asked if the change was aimed at heading off any shareholder challenge to the deal, Thornburg told Reuters it "wasn't a consideration" and it had received nothing but support from its shareholders.

RBS sounds alarm over Brexit

CalWater declined to comment. A spokesman for Eversource said the company was evaluating developments but, as it has made clear, it will be disciplined in pursuing this or any other transaction.

Reporting by David French in New York; Additional Reporting by Liana B. Baker; Editing by Lisa Shumaker

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425 1 tm2112545d1_425.htm 425

Filed by Eversource Energy
(Commission File No. 001-05324) pursuant
to Rule 425 under the Securities Act of 1933

Subject Company: New England Service Company





JOINT NEWS RELEASE

New England Service Company To be Acquired by Aquarion Water Company

Region's largest private water company expands operations in
Connecticut, Massachusetts and New Hampshire

BRIDGEPORT, CONN. – April 8, 2021 – Aquarion Company (Aquarion), parent of Aquarion Water Company, and New England Service Company (NESC) (OTC Pink Sheets Trading Symbol: NESW) today announced that they have entered into a definitive agreement whereby Aquarion will acquire all outstanding shares of NESC and NESC will become a wholly-owned subsidiary of Aquarion. Aquarion is a water supply company and holding company based in Bridgeport, Connecticut, providing regulated water service to customers in Connecticut, Massachusetts, and New Hampshire. NESC is a holding company based in Plainville, Connecticut providing regulated water service to customers in Connecticut, Massachusetts, and New Hampshire.

Under the agreement, which was unanimously approved by the Boards of Directors of both Aquarion and NESC, the acquisition will be executed through a stock-for-stock transaction that is structured to be a tax-free reorganization. The agreement provides that the stockholders of NESC will receive 0.51208 shares of the common shares of Aquarion's parent, Eversource Energy (Eversource) (NYSE: ES), in exchange for each share of NESC common stock. The fixed exchange ratio implies a $44.90 per share price based on the $87.68 closing price of Eversource Energy common shares on April 6, 2021. In connection with the exchange, Eversource Energy will issue approximately 463,000 shares of ES Common Stock at closing.

The merger includes NESC's Valley Water System in Connecticut, Colonial Water Company and Mountain Water Systems in Massachusetts, and Abenaki Water Company in New Hampshire, as well as unregulated service operations throughout New England. The merger will add nearly 10,000 customers to Aquarion's existing base of 216,000 customers. Under the agreement, all NESC employees will be retained.

"This merger will create long-term benefits for customers, employees, and the communities we serve," said Donald Morrissey, President of Aquarion Water Company. "We will make investments in these water systems focused on reliability and water quality and deliver a superior customer experience. We also welcome NESC's dedicated employees to the Aquarion team. I'm confident that we share a similar passion for delivering superior water service to customers and the communities we serve and being great stewards of the environment."

Over the last ten years, Aquarion has integrated over 70 water systems into its operations, strengthening the company's ability to deliver high-quality water to communities throughout the region.

"I am pleased to announce the NESC and Aquarion combination and look forward to working with Aquarion's leadership team on a smooth transition for our customers and employees," said Don Vaughan, NESC Chairman. He also noted, "Aquarion is well-positioned to deliver the reliable high-quality water service that our customers expect." NESC President, Nicholas LaChance, added "The stockholders, customers and employees of NESC will benefit from this deal with Aquarion. We view this transaction with Aquarion as a win for all of our stakeholders, and we look forward to working closely with their team."

The completion of the transaction will require approval by the stockholders of NESC, and the NESC Board of Directors has resolved to recommend the adoption of the merger agreement by the stockholders. The transaction is also subject to the approval of regulatory authorities, including the Connecticut Public Utilities Regulatory Authority, Massachusetts Department of Public Utilities, and New Hampshire Public Utilities Commission, and satisfaction of several other conditions. The parties plan to file all required regulatory applications over the coming months with an anticipated closing by the end of 2021.

Advisors and Counsel

Ropes & Gray LLP served as counsel to Aquarion Company and Eversource Energy in the transaction. Boenning & Scattergood, Inc. provided a fairness opinion to the Board of Directors of New England Service Company. Cranmore, FitzGerald and Meaney served as counsel to New England Service Company.

About Aquarion Water Company:

Aquarion Water Company is the public water supply company for more than 625,000 people in 52 cities and towns throughout Connecticut, as well as serving customers in Massachusetts and New Hampshire. It is the largest investor-owned water utility in New England and among the seven largest in the U.S. Based in Bridgeport, CT, Aquarion has been in the public water supply business since 1857. Across its operations, Aquarion strives to act as a responsible steward of the environment and to assist the communities it serves in promoting sustainable practices. Aquarion Company is a wholly-owned subsidiary of Eversource.

For more information on Aquarion Water Company, please visit www.aquarionwater.com or www.facebook.com/aquarionwater.

About New England Service Company

Headquartered in Plainville, Connecticut, NESC is predominantly involved in the operation, management and financing of water systems and other related activities. NESC was formed in 1997 to operate in both regulated and unregulated water markets. NESC is the sole stockholder of four regulated water companies.

For more information on New England Service Company please visit
www.NewEnglandServiceCompany.com

This news release includes statements concerning Aquarion and Aquarion Water Company's expectations, beliefs, plans, objectives, goals, strategies, assumptions of future events, future financial performance or growth and other statements that are not historical facts, including statements regarding the planned merger with New England Service Company, the timing of such transaction and benefits anticipated from such transaction. These statements are "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. Generally, readers can identify these forward-looking statements through the use of words or phrases such as "will," "estimate," "expect," "anticipate," "intend," "plan," "project," "believe," "forecast," "should," "could" and other similar expressions. Forward-looking statements involve risks and uncertainties that may cause actual results or outcomes to differ materially from those included in the forward-looking statements. Factors that may cause actual results to differ materially from those included in the forward-looking statements include, but are not limited to: the transaction is subject to conditions to closing, including regulatory approvals, that may not be satisfied; it may take longer than anticipated to consummate the transaction; we may not realize the benefits we anticipate from the transaction; unforeseen liabilities; risks relating to integration of the acquired business; and other presently unknown or unforeseen factors.

Other risk factors are detailed in Eversource Energy's reports filed with the Securities and Exchange Commission (SEC) and updated as necessary, and are available on Eversource Energy's website at www.eversource.com and on the SEC's website at www.sec.gov. All such factors are difficult to predict and contain uncertainties that may materially affect Aquarion or Aquarion Water Company's actual results, many of which are beyond our control. You should not place undue reliance on the forward-looking statements; each speaks only as of the date on which such statement is made, except as required by federal securities laws, and Aquarion Water Company undertakes no obligation to update any forward-looking statement or statements to reflect events or circumstances after the date on which such statement is made or to reflect the occurrence of unanticipated events.

Additional Information

This communication does not constitute an offer to buy or solicitation of any offer to sell securities. This communication relates to a proposed business combination transaction between Aquarion Company and New England Service Company. In connection with the proposed business combination, Eversource Energy will file a registration statement with the SEC. This communication is not a substitute for any registration statement, prospectus/proxy statement or other document Eversource Energy, Aquarion Company and/or New England Service Company may file with the SEC in connection with the proposed transaction. INVESTORS AND SECURITY HOLDERS OF NEW ENGLAND SERVICE COMPANY ARE URGED TO READ CAREFULLY THE REGISTRATION STATEMENT, PROSPECTUS, PROXY STATEMENT AND OTHER DOCUMENTS FILED WITH THE SEC WHEN THEY BECOME AVAILABLE BECAUSE THEY WILL CONTAIN IMPORTANT INFORMATION ABOUT EVERSOURCE ENERGY, AQUARION COMPANY, NEW ENGLAND SERVICE COMPANY AND THE PROPOSED TRANSACTION. Investors and security holders may obtain free copies of these documents (when they are available) and other related documents filed with the SEC at the SEC's web site at www.sec.gov or by directing a request to Eversource's Investor Relations department at (860) 665-5154 or by email to jeffrey.kotkin@eversource.com.

Certain Information Regarding Participants

This filing may be deemed solicitation material in respect of the proposed business combination transaction between Aquarion Company and New England Service Company. The directors, trustees, executive officers and certain other members of management and employees of Eversource Energy, Aquarion Company and New England Service Company may be deemed "participants" in the solicitation of proxies from stockholders of New England Service Company in favor of the proposed merger. You can find information about Eversource's trustees and executive officers in Eversource's annual report on Form 10-K for the year ended December 31, 2020, which was filed with the SEC on February 17, 2021 and its proxy statement for its 2021 annual meeting filed with the SEC on March 26, 2021. Information regarding the persons who may, under the rules of the SEC, be considered participants in the solicitation of the stockholders of New England Service Company in connection with the proposed merger will be set forth in the registration statement, prospectus/proxy statement or other documents filed with the SEC if any when they become available. You may obtain these documents (when they become available) free of charge at the SEC's web site at www.sec.gov and from Investor Relations at Eversource as described above.

Media Contacts:
Aquarion Contact:
Peter Fazekas
Director – Corporate Communications
Aquarion Water Company
Phone: (203) 336-7651
pfazekas@aquarionwater.com

New England Service Company Contact:
Nicholas LaChance
President and Chief Executive Officer
New England Service Company
37 Northwest Drive
Plainville, CT 06062
Phone: (860)-747-1665
NLaChance@NewEnglandServiceCompany.com

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MUNICIPALITIES SUPPLIED

1. Show below the names of the municipalities in which the respondent supplies water and the number of customers in each.

Line No.	Name (a)	Estimated Population Supplied*** (b)	Number of customers served by meter* (c)	Number of customers not served by meter** (d)	Total customers supplied (e)
1	Torrington	29,000	9,789	-	9,789
2	New Hartford	18	7	-	7
3	Litchfield	171	57	-	57
4	Harwinton	402	134	-	134
5	Burlington	414	138		138
6					
7					
8					
9					
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12					
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53					
54					
55	Total	30,005	10,125	-	10,125

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Filed by Eversource Energy
(Commission File No. 001-05324) pursuant
to Rule 425 under the Securities Act of 1933
Subject Company: The Torrington Water Company

THE TORRINGTON WATER COMPANY LETTERHEAD

March 8, 2022

Dear Stockholder:

We are pleased to announce that on March 7, 2022, the Board of Directors of The Torrington Water Company (OTC Pink Sheets Trading Symbol: TORW) unanimously approved an Agreement and Plan of Merger (the "Agreement") with Aquarion Company (" Aquarion"), a wholly-owned subsidiary of Eversource Energy (NYSE: ES). Aquarion is a holding company based in Bridgeport, Connecticut with regulated water operations in Connecticut, Massachusetts, and New Hampshire. The Torrington Water Company ("TWC") is a public utility that provides water service to approximately 10,000 customers in the city of Torrington and the towns of Burlington, Harwinton, Litchfield and New Hartford, Connecticut.

Under the terms of the Agreement, which has been unanimously approved by the boards of directors of Aquarion and TWC, TWC would merge with and become a wholly-owned subsidiary of Aquarion, and the stockholdcrs of TWC would receive in exchange for their TWC shares a number of validly issued, fully paid and nonassessable common shares, par value $5.00 per share, of Eversource Energy. The exchange ratio ("Exchange Ratio") that determines the number of Eversource Energy common shares issued in the merger will float between 1.0241 and 1.07 IO and will be determined by dividing $93.51 by Eversource's volume weighted average share price for IO full trading days ending on and including the second full trading day prior to closing date of the merger ("Eversource Share Value"). The Exchange Ratio becomes fixed at 1.0710 if the Eversource Share Value is less than $87.32 and becomes fixed at 1.0241 if the Eversource Share Value is greater than $91.32. An Exchange Ratio of 1.0710 implies a $92.81 per share value based on the closing price of $88.66 for Eversource Energy common shares on March 7, 2022, or a market premium of approximately I 04% over TWC's $45.50 closing price on March 7, 2022. Boenning & Scattergood, Inc. provided a fairness opinion to the Board of Directors of TWC. Based on an Exchange Ratio or 1.07 IO and the most recently declared dividends by TWC and Eversource Energy, TWC shareholders would receive an equivalent dividend of $2.58 per share compared to their current dividend on TWC shares of$1.38 per share.

The completion of the merger will require approval by the stockholders of TWC, and the TWC Board of Directors has resolved to recommend the adoption of the Agreement by the stockholders. The merger is also subject to the satisfaction of several other customary closing conditions, including the approval of the Connecticut Public Utilities Regulatory Authority. The parties plan to file for the approval of the Connecticut Public Utilities Regulatory Authority shortly, with an anticipated consummation of the merger by the end of 2022.

Within the coming weeks, you will be mailed a Proxy Statement/Prospectus for the TWC Stockholder Meeting, at which TWC stockholders will consider and vote with respect to the proposed merger.

Enclosed with this letter is the press release announcing the signing of the Agreement. The press release provides additional information that will answer many of your questions.

Sincerely yours,
Susan Suhanovsky
President

Forward-Looking Statements

This letter includes statements concerning The Torrington Water Company's expectations, beliefs, plans, objectives, goals, strategies, assumptions of future events, future financial performance or growth and other statements that are not historical facts, including statements regarding the planned merger with Aquarion Water Company, the timing of such transaction and benefits anticipated from such transaction. These statements are "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. Generally, readers can identify these forward-looking statements through the use of words or phrases such as "will," "estimate," "expect," "anticipate," "intend," "plan," "project," "believe," "forecast," "should," "could" and other similar expressions. Forward-looking statements involve risks and uncertainties that may cause actual results or outcomes to differ materially from those included in the forward-looking statements. Factors that may cause actual results to differ materially from those included in the forward-looking statements include, but are not limited to: the transaction is subject to conditions to closing, including regulatory approvals, that may not be satisfied; it may take longer than anticipated to consummate the transaction; we may not realize the benefits we anticipate from the transaction; unforeseen liabilities; risks relating to integration of the acquired business; and other presently unknown or unforeseen factors.

This Communication Does Not Constitute a Solicitation of Proxies

This communication does not constitute an offer to buy or solicitation of any offer to sell securities. This communication relates to a proposed business combination transaction between Aquarion Company and The Torrington Water Company. In connection with the proposed business combination, Eversource Energy will file a registration statement with the SEC. This communication is not a substitute for any registration statement, prospectus/proxy statement or other document Eversource Energy, Aquarion Company and/or The Torrington Water Company may file with the SEC in connection with the proposed transaction. INVESTORS AND SECURITY HOLDERS OF THE TORRINGTON WATER COMPANY ARE URGED TO READ CAREFULLY THE REGISTRATION STATEMENT, PROSPECTUS, PROXY STATEMENT AND OTHER DOCUMENTS FILED WITH THE SEC WHEN THEY BECOME AVAILABLE BECAUSE THEY WILL CONTAIN IMPORTANT INFORMATION ABOUT EVERSOURCE ENERGY, AQUARION COMPANY, THE TORRINGTON WATER COMPANY AND THE PROPOSED TRANSACTION. Investors and security holders may be able to obtain free copies of these documents (when they are available) and other related documents filed with the SEC at the SEC's website at www.sec.gov. The materials may also be obtained for free by directing a written request to: Susan Suhanovsky, President, The Torrington Water Company, PO Box 867, Torrington, CT 06790, telephone (860) 489-4149. Investors should read the proxy materials/prospectus before making a decision regarding the merger.

This filing may be deemed solicitation material in respect of the proposed business combination transaction between Aquarion Company and The Torrington Water Company. The directors, trustees, executive officers and certain other members of management and employees of Eversource Energy, Aquarion Company and The Torrington Water Company may be deemed "participants" in the solicitation of proxies from stockholders of The Torrington Water Company in favor of the proposed merger. You can find information about Eversource's trustees and executive officers in Eversource's annual report on Form 10-K for the year ended December 31, 2021, which was filed with the SEC on February 17, 2022 and its proxy statement for its 2021 annual meeting filed with the SEC on March 26, 2021. Information regarding the persons who may, under the rules of the SEC, be considered participants in the solicitation of the stockholders of The Torrington Water Company in connection with the proposed merger will be set forth in the registration statement, prospectus/proxy statement or other documents filed with the SEC if any when they become available. You may obtain these documents (when they become available) free of charge at the SEC's web site at www.sec.gov and from Susan Suhanovsky at The Torrington Water Company as described above.

About Aquarion Water Company:

Aquarion Water Company is the public water supply company for more than 700,000 people in 68 cities and towns in Connecticut, Massachusetts and New Hampshire. It is the largest investor-owned water utility in New England and among the seven largest in the U.S. Based in Bridgeport, CT, Aquarion has been in the public water supply business since 1857. Across its operations, Aquarion strives to act as a responsible steward of the environment and to assist the communities it serves in promoting sustainable practices. Aquarion Water Company is a wholly-owned subsidiary of Eversource.

For more information on Aquarion Water Company, please visit www.aquarionwater.com or www.facebook.com/aquarionwater.

VALLEY WATER SYSTEMS, INC.

Notes to Financial Statements
Years Ended December 31, 2020 and 2019

1. Description of the Company

Valley Water Systems, Inc. (the "Company"), a wholly owned subsidiary of New England Service Company ("NESC"), is a public utility distributing water to approximately 6,760 customers in the towns of Plainville, Farmington, and Southington, Connecticut area. As a public utility operating in Connecticut, the Company functions under rules and regulations prescribed by the State of Connecticut Public Utilities Regulatory Authority ("PURA").

2. Summary of Significant Accounting Policies

Basis of Presentation

The Company maintains its accounts in accordance with the PURA Uniform System of Accounts as prescribed for Water Utilities Class A. The Company prepares its financial statements in accordance with accounting principles generally accepted in the United States of America which include the provisions of the Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") Topic 980, *Regulated Operations* ("ASC 980"). Under ASC 980, regulated companies defer costs and credits on the balance sheet as regulatory assets and liabilities when it is probable that those costs and credits will be recognized in the rate setting process in a period different from the period in which they would have been reflected in income by an unregulated company. These deferred regulatory assets and liabilities are then reflected in the income statement in the period in which the same amounts are reflected in rates charged for service.

Use of Estimates

The preparation of financial statements require management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities, and the reported revenues and expenses. Accordingly, actual results could differ from these estimates.

Cash and Cash Equivalents

Cash and cash equivalents includes cash balances held in bank accounts and highly liquid debt instruments with maturities of three months or less at the time of purchase.

From time to time, the Company had on deposit at financial institutions cash and cash equivalents which exceed current federal deposit insurance limitations. The Company had not experienced any losses in such accounts to date and believes it is not exposed to any significant credit risk on cash and cash equivalents.

Accounts Receivable

Accounts receivable are stated at the amount management expects to collect from outstanding balances. The Company continuously monitors the creditworthiness of customers and establishes, when necessary, an allowance for amounts that may become uncollectible in the future based on current economic trends, historical payment and bad debt write-off experience.

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CONSUMPTION INFORMATION (Dover Division)

1. Estimated total population of territory covered by franchise		
2. Estimated population reached by the distributing system		
3. Estimated population actually supplied		1,809
4. Total consumption during the year in gallons		50,866,736
5. Average daily consumption (in gallons)		138,429
6. Day on which the greatest amount was pumped		8/13/2020
7. Gallons pumped on above day		368,000
8. Week during which greatest amount was pumped	8/9/20-8/15/20	
9. Gallons pumped during above week		1,906,000
10. Gallons per day per service		218
11. Consumption metered		50,866,736
12. Consumption metered,	100 percent of total consumption	

13. CUSTOMERS

Number Being Supplied at Beginning of Year	Discontinued Since	Connected Since	Number Being Supplied at Close of Year
637	1	0	636

Name of City, Town, or District	Number of Customers as of December 31
Dover, MA	636

Sixty-four of these connections represent contractual service to Town of Dover plus one master meter at town connection.

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CONSUMPTION INFORMATION (Plymouth Division)

1. Estimated total population of territory covered by franchise	2,513
2. Estimated population reached by the distributing system	2,513
3. Estimated population actually supplied	2,513
4. Total consumption during the year (GALS)	101,211,880
5. Average daily consumption	294,414
6. Day on which the greatest amount was pumped	7/27/2020
7. Gallons pumped on above day	724,300
8. Week during which greatest amount was pumped	7/26/2020-8/1/2020
9. Gallons pumped during above week	4,544,900
10. Gallons per day per service	219
11. Consumption metered	101,211,880
12. Consumption metered,	100% percent of total consumption

13. CUSTOMERS

Number Being Supplied at Beginning of Year	Discontinued Since	Connected Since	Number Being Supplied at Close of Year
853	0	9	862

Name of City, Town, or District	Number of Customers as of December 31
Plymouth, MA	862

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CONSUMPTION INFORMATION (Springdale Division)

1. Estimated total population of territory covered by franchise		115
2. Estimated population reached by the distributing system		115
3. Estimated population actually supplied		115
4. Total consumption during the year (GALS)		7,463,606
5. Average daily consumption		20,448
6. Day on which the greatest amount was pumped		6/27/2020
7. Gallons pumped on above day		88,000
8. Week during which greatest amount was pumped	6/21/20-6/27/20	
9. Gallons pumped during above week		407,000
10. Gallons per day per service		418
11. Consumption metered		7,463,606
12. Consumption metered,	100 percent of total consumption	

13. CUSTOMERS

Number Being Supplied at Beginning of Year	Discontinued Since	Connected Since	Number Being Supplied at Close of Year
41	0	1	42

Name of City, Town, or District	Number of Customers as of December 31
Dover, MA	42

A-6 LIST OF TOWNS SERVED

List by operating divisions the towns served directly, indicating those in which franchise is for limited area by an asterisk (*) after name. Give population of the area and the number of customers.

Line No.	Town	Population of Area	Number of Customers	Line No.	Town	Population of Area	Number of Customers
					Sub Totals Forward:	30,120	725
1	Belmont N. H.	7,356	160	16			
2	Bow, N.H.	7,519	95	17			
3	Carroll, N.H.	763	409	18			
4	Belmont, NH	7,356	22	19			
5	Gilford, NH	7,126	39	20			
6				21			
7				22			
8				23			
9				24			
10				25			
11				26			
12				27			
13				28			
14				29			
15	Sub Totals Forward:	30,120	725	30	Total	30,120	725

A-7 PAYMENTS TO INDIVIDUALS

List names of all individuals, partnerships, or corporations to whom payments totaling $10,000 or more for services rendered were made or accrued during the year, and the amount paid or accrued to each. Where payments or accruals to the individual members of a partnership or firm together total $10,000 or more, list each individual and the amount paid or due each.

Line No.	Name	Address	Amount
1	NESC	Plainville,, Ct.	222,877
2	City of Laconia	Laconia, NH	91,004
3	Rowell's Services	Northfield, NH	57,242
4	Eversource	Boston, MA	43,226
5	CoBank	Greenwood Village, CO	43,000
6	Stephen P. St. Cyr & Associates	Biddeford, Me.	40,959
7	NH Brown Law	Somersworth, NH	37,206
8	PKF O'Conner Davies	Shelton, Ct.	36,020
9	State of NH	Concord, NH	16,544
10	Fortin Construction	Londonderry, NH	16,155
11	Town of Carroll	Carroll, NH	15,201
12	Town of Belmont	Belmont, NH	14,953
13	Harcros Chemicals	Chicago, IL	12,909
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30	Total		$ 647,296

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CONSUMPTION INFORMATION

1. Estimated total population of territory covered by franchise	1100	
2. Estimated population reached by the distributing system	1100	
3. Estimated population actually supplied	1100	
4. Total consumption during the year	31,956,826	gals.
5. Average daily consumption	87,553	gals.
6. Day on which the greatest amount was pumped	7/20/2020	
7. Gallons pumped on above day	173,596	
8. Week during which greatest amount was pumped	7/16/20-7/25/20	
9. Gallons pumped during above week	975,066	
10. Gallons per day per service	180	
11. Consumption metered	31,956,826	gals.
12. Consumption metered,	100	% of total consumption

13. CUSTOMERS

Number Being Supplied at Beginning of Year	Discontinued Since	Connected Since	Number Being Supplied at Close of Year
487	0		487

Name of City, Town, or District	Number of Customers as of December 31
Sheffield, MA	
*487 metered customers, 3 fixed fee customers	490

Wastewater treatment is provided by the Borough of West Chester pursuant to a Sewer Capacity Agreement dated November 14, 2017, by and between the Borough and East Bradford Township. Copies of West Chester's 2017 Chapter 94 Reports to DEP for the Goose Creek WWTP and for the Taylor Run WWTP are attached hereto as **Exhibit E3** and **Exhibit E4**.

15. The Goose Creek WWTP has a permitted treatment capacity of 1.672 MGD. The Taylor Run WWTP has a permitted treatment capacity of 1.50 MGD. The elevation of the Goose Creek WWTP is generally about EL 370. The elevation of the Taylor Run WWTP is generally about EL 260. The elevation of the Requested Territory ranges from approximately EL 365 to EL 280.

16. Water service in the Requested Territory is provided by both Aqua Pennsylvania, Inc. and private wells.

17. The original cost, by year and major plant category, of the East Bradford Township used and useful plant in service is $8,294,931 with a related calculation depreciation reserve of $2,820,983. The original cost value includes a series of capped sewers along the North Benjamin Drive area of the Township. The capped sewers include approximately 3,300 linear feet of 8" Gravity PVC pipe and 20 manholes, with an estimated original cost value of approximately $100,000 as estimated by Aqua. The pipe and manholes are included in the totals on page 2-11 and 2-12 of Exhibit W. Aqua will categorize the capped sewer pipe and manholes as plant held for future use in its asset allocation upon closing. The area of capped sewers along North Benjamin Drive is not included in the Requested Territory.

18. Tentative journal entries to record the transaction are presented in Section IV.

IV. ASSET PURCHASE AGREEMENT

19. The *Assets Purchase Agreement* is dated December 20, 2017. The *First Amendment to Assets Purchase Agreement* is dated April 18, 2018. The purchase price is Five Million Dollars

($5,000,000.00). In addition to the purchase price, Section 1.5 of the Agreement provides that Aqua will assume certain defined liabilities and pay certain out-of-pocket costs incurred by East Bradford Township.

20. The purchase price and Agreement are based on arm's length negotiations. Aqua and East Bradford Township are not affiliated with each other. Aqua will use short term debt initially for the purchase of the assets with the expectation that the short term debt will be converted to long term debt and equity capital at a later date.

21. The wastewater system assets to be acquired are the "Assets" and have the meaning specified in Section 1.1 of the Agreement. The Assets include the assets, properties and rights of East Bradford Township that comprise the wastewater system or that are owned by East Bradford Township and used by it solely in connection with operation of the system.

22. "Excluded Assets," which are those assets not being transferred to Aqua, have the meaning specified in Section 1.4 of the Agreement. Excluded Assets include customer service laterals that run from the curb area to individual customer residences or structures; piping and fixtures internal to each customer residence or structure; cash and cash equivalents; and the items set forth in Schedule 1.4 of the Agreement.

23. "Assumed Liabilities" has the meaning specified in Section 1.6 of the Agreement and include the liabilities and obligations under the Assumed Contracts that arise after Closing, liabilities incurred or arising from and after Closing under or from failure to comply with permits, approvals or licenses related to the system that are transferred to Aqua and the obligation to provide wastewater service after Closing. The Assumed Contracts, which are listed in Schedule 1.6 of the APA and attached hereto as **Exhibit F1** and **Exhibit F2**, are the Sewer Capacity Agreement dated November 14, 2017, by and between the Borough of West Chester and East Bradford Township and the Intergovernmental Cooperation Agreement dated March 15, 1999, between East Bradford and Birmingham Township.

East Bradford Township

	# of Customers	Annual Gallons Treated (2017)
Residential- Single Family	399	23,783,560
Residential- Townhomes	814	36,390,635
Commercial		
Bradford Retail - The Bistro		112,800
Bradford Retail - Strip Stores		688,000
Brookworth Plaza - Dunkin Donuts		147,200
Brookworth Plaza - CVS		35,300
Brookworth Plaza - empty building		-
Brookworth Plaza - Strip Stores		142,000
Brookworth Plaza - PNC Bank		17,000
Countryside Food Mart		52,700
Antique Ice Museum		3,600
Mrs. Mike's Restaurant		103,110
Brandywine Hall Nursing Home		8,281,000
Daily Local News - now empty building		24,400
Bradford Plaza - Strip Stores		1,991,430
Bradford Plaza - Giant Food Store		2,527,700
Bradford Plaza - Walgreens		47,000
Bradford Plaza - Giant Gas Station		6,200
Chester County Art Association		120,100
Industrial		
Diesel Systems		66,300
Chem Service		173,400
Other Class(?)*		
Goddard School		252,800
Hillsdale Elementary School		649,700
WCU S Campus Apts - 144		24,200
WCU S Campus Apts - 167		583,900
WCU S Campus Apts - 168		500,900
WCU S Campus Apts - 169		441,900
WCU S Campus Apts - 170		570,900
WCU S Campus Apts - 171		318,900
WCU S Campus Apts - 172		422,000
WCU S Campus Apts - 173		306,400
WCU S Campus Apts - 174		424,500
WCU S Campus Apts - 175		323,400
WCU S Campus Apts - 176		340,000
WCU S Campus Apts - 177		356,000
University Student Housing 1		4,463,500
University Student Housing 2		5,429,000
Total		90,121,435

*May include church, school, public, etc… (please insert a line for each)

420,000
153,300,000

35
399
814
1,248

Q. How many customers will the acquisition add?

A. The acquisition of East Norriton will add 4,966 customers to Aqua's existing 28,000 wastewater customers. This is an increase in customers of 17.7% (or about 20%).[23]

Q. Will the acquisition increase rates for the customers to be acquired?

A. Yes. Aqua witness Packer states that he reasonably expects that rates for East Norriton customers will increase under Aqua ownership.[24] As discussed above, Aqua calculates that if the entire revenue deficiency resulting from the acquisition is applied to East Norriton Township customers, the adjusted average bill for customers using four thousand gallons per month would increase from approximately $39 per month to $52 per month, which would be a 35% rate increase.[25]

Q. Will the acquisition increase rates for existing Aqua customers?

A. Yes. Mr. Packer's testimony shows that, as a result of the acquisition, rates for existing Aqua water customers and existing Aqua wastewater customers will increase if the revenue deficiency is not fully borne by the East Norriton Township customers. Mr. Packer's schedules show estimated increases to existing total Aqua water and wastewater customers ranging from $0.17 per month to $1.66 per month ($2.04 per year to $19.92 per year).[26] If the costs were spread to only existing wastewater customers, and not water customers, the

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[23] Exhibit U, Direct Testimony of William C. Packer, p. 9, lines 2-3 and 11-12, p. 16, lines 11-12.

[24] Exhibit U, Direct Testimony of William C. Packer, p. 18, lines 17-20 and Appendix A, p.1; Response to OCA-II-4, Attachment 1, p. 22 (attached as OCA Exhibit DJG-12).

[25] Exhibit U, Direct Testimony of William C. Packer, Appendix A, pp. 1-2 ($38.52 + $13.42 = $51.94). ($13.42 ÷ $38.52) x 100 = 34.84%.

[26] Exhibit U, Direct Testimony of William C. Packer, Appendix A, p. 1.

Q. Describe the scope and organization of your testimony.

A. My testimony addresses the application filed by Aqua Pennsylvania Wastewater, Inc. ("Aqua" or the "Company") for the acquisition of the East Norriton Township (the "Township") wastewater collection system assets. My testimony responds to the fair market value ("FMV") approaches addressed in the testimonies of Harold Walker, III of Gannett Fleming, who sponsors the FMV appraisals commissioned by the Company, and Jerome C. Weinert, who sponsors the appraisal commissioned by the Township. I also discuss the sufficiency of the notices sent to the customers of Aqua and the Township regarding the impact on rates of the proposed acquisition.

II. EXECUTIVE SUMMARY

A. Overview

Q. Please summarizes Aqua's application in this proceeding.

A. Aqua's application proposes to acquire the Township's wastewater assets under Sections 1102 and 1329 of the Public Utility Code (the "Code"). According to Section 1329(c)(2) of the Code, the ratemaking rate base is the lesser of the negotiated purchase price and the average of two FMV appraisals. The FMV estimated by Gannett Fleming and AUS Consultants is $24.2 million and $25.1 million, respectively. The purchase price negotiated by Aqua and the Township is $21 million. Thus, the proposed rate base in the application is $21 million.

Report by Class

Account	Name / Service Address	Tax ID	Book	Status	Alert Code
97990.00	F M BROWN SONS INC 790 DANIEL BOONE ROAD	43-5345-07-68-8539 BIRDSBORO PA 19508-8737		A	
99991.00	DIEROLF, CANDACE 21 PINE AVENUE	 BIRDSBORO PA 19508		A	
99992.00	TELFORD, MARK 19-6 CRANBERRY RIDGE	 READING PA 19606-3934		A	

Total Class: R: 8,708

Class: TRAILER PARK

20000.00 (610)670-0191	KLIEWER, KIM B 4851 PERKIOMEN AVENUE	43-5325-08-79- READING PA 19606	100	A	
20010.00	KL MHC LLC 44 KEYSTONE ROAD	43-5335-14-34- READING PA 19606-3655	201	A	
20020.00	BORDIC MOBILE HOME PARK 214 BORDIC ROAD	43-5335-09-16- READING PA 19606-3605	200	A	
20030.00	KL MHC LLC 44 KEYSTONE ROAD	43-5335-10-35- READING PA 19606-3655	201	A	
20060.00	ALSACE TOWNSHIP 240 SPIES CHURCH ROAD	 READING PA 19606	101	A	
20070.00	KL MHC LLC 44 KEYSTONE ROAD	43-5335-14-34-2494 READING PA 19606-3655		A	
91230.00 (610)779-4202	PENN VIEW MOBILE PARK BROADWAY AVENUE	43-5327-14-42- READING PA 19606	200	A	

Total Class: T: 7

Total: 8,984

Exeter Township supervisors agree to sell municipal wastewater system for $96 million

readingeagle.com/news/article/exeter-township-supervisors-agree-to-sell-municipal-wastewater-system-for-96-million

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Adjust font size: A A A

The sale to Pennsylvania American Water Co. will keep taxes steady for 10 years and do other things for Exeter, the township manager said.

Written by Mike Urban

Exeter Township, PA —

The Exeter Township supervisors have agreed to sell the township's wastewater treatment plant and system to a private company for $96 million, a move they expect will save taxpayers money and put the township on much better financial footing.

The supervisors voted 4-1 on April 23 to approve the sale to Pennsylvania American Water Co., which supplies water to the township and operates 15 wastewater treatment systems statewide.

The two sides must finalize the asset purchase agreement, and the sale will require Pennsylvania Utility Commission approval, meaning the earliest the company is likely to take ownership would be early next year.

Township Manager John A. Granger said that if the sale goes through as planned, it will allow the township to hold real estate taxes steady for 10 years or more; pay for future capital projects including equipment replacement, township building relocation and storm sewer improvements; and still leave $48 million in the bank.

The current property tax rate is 2.14 mills, but that would have increased 32.6 percent to 2.8 mills in 2019 if the township retained ownership of the plant, he said.

The township is expected to raise sewer rates 29 percent before the sale is completed, but that rate hike would likely have been higher if the township held onto the system and made necessary upgrades, said Supervisor John Cusatis.

And the supervisors plan to enact a homestead tax exemption that would more than cover the rate increase for most homeowners, he said.

There are about 9,000 properties in Exeter connected to the wastewater system, and Pennsylvania American spokesman Terry M. Maenza said that they shouldn't notice any changes in sewer service once the company takes control of the system.

"It should be seamless," he said.

The company plans to retain the township's six wastewater employees, he said.

Cusatis and fellow Supervisors Lisa VanderLaan, William F. White and David G. Speece Jr. voted for the sale, saying it was a tough decision but the economic benefits were too good to turn down.

"The sale will pay off the library and sewer debt, stabilize the tax base and improve the township's credit rating," Cusatis said.

Supervisor Gary E. Lloyd Jr. voted against the sale, saying he didn't want to lose the valuable asset.

Cusatis said that most Exeter residents he spoke with support the move, but at the April 23 meeting several expressed concern about selling public property to private industry and giving up control of the wastewater system.

A written handout from resident Sherrie Greene noted that: "I have done some research and read that many municipalities have taken this route, then regretted it later. Once our sewer system is sold, it is gone forever and we cannot get it back."

Pennsylvania American, headquartered in Hershey, is a subsidiary of American Water Works Co., based in Vorhees, N.J.

This would be Pennsylvania American's first wastewater treatment system in Berks.

(Correspondent Valdis I. Lacis contributed to this story.)

Contact Mike Urban: 610-371-5023 or murban@readingeagle.com.

1. The collection of a DSIC prior to inclusion of the acquired assets in a base rate case;
2. The accrual of Allowance for Funds Used During Construction (AFUDC) on non-DSIC eligible post-acquisition improvements; and
3. The deferral of depreciation for book and ratemaking purposes on non-DSIC eligible post-acquisition improvements.

Q. Please briefly summarize the Acquisition Transaction that the Joint Applicants are proposing.

A. Under the terms of the Proposed Transaction, PAWC would acquire the wastewater utility assets of Kane for $17.56 million.

Q. Please describe the Kane wastewater utility.

A. Kane owns and operates a sanitary wastewater collection system that provides sanitary wastewater service to approximately 2,019 customers in Kane Borough and a portion of Westmore Township in McKean County. The breakout of Kane's customer count is: 1,847 residential, 162 commercial, 3 industrial, and 7 municipal. The $17.56 million purchase price for a wastewater utility assets serving 2,019 customers equates to a cost of approximately $8,700 per customer.

Q. Does the Application provide the terms of the Proposed Transaction?

A. Yes, the Asset Purchase Agreement ("APA") dated November 4, 2019 was included with the Application. The APA states that the purchase price is Seventeen Million, Five Hundred Sixty Thousand Dollars ($17,560,000). The Application indicates that the purchase price is based on arm's length negotiations. PAWC and Kane Borough are not affiliated with each other.

	Service Address	Customer Number	Edu Purchased	Group Code	Drainage Basin	SPA Amt	SPA Qty	SWR Amt	SWR Qty	Swr Base Amt	PEN Amt	INT Amt
3793	900 FOXMEADOW DR	12133	16	King Road	SOUTHEAST (6)	-	116,300.00	F	-	$ 1,348.80	-	-
3794	1000 FOXMEADOW DR	12134	16	King Road	SOUTHEAST (6)	-	94,400.00	F	-	$ 1,348.80	-	-
3795	1100 FOXMEADOW DR	12135	16	King Road	SOUTHEAST (6)	$ 216.44	153,200.00	F	-	$ 1,348.80	-	-
3796	1200 FOXMEADOW DR	12136	16	King Road	SOUTHEAST (6)	$ 69.15	130,400.00	F	-	$ 1,348.80	-	-
3799	1500 FOXMEADOW CIR	12139	16	King Road	SOUTHEAST (6)	$ 43.95	126,500.00	F	-	$ 1,348.80	-	-
3800	1600 FOXMEADOW CIR	12140	16	King Road	SOUTHEAST (6)	-	82,300.00	F	-	$ 1,348.80	-	-
3801	1700 FOXMEADOW CIR	12141	16	King Road	SOUTHEAST (6)	-	84,300.00	F	-	$ 1,348.80	-	-
3802	1800 FOXMEADOW CIR	12142	16	King Road	SOUTHEAST (6)	-	92,500.00	F	-	$ 1,348.80	-	-
3803	1900 FOXMEADOW DR	12143	16	King Road	SOUTHEAST (6)	-	111,200.00	F	-	$ 1,348.80	-	-
3804	2000 FOXMEADOW CIR	12144	16	King Road	SOUTHEAST (6)	$ 8.42	121,000.00	F	-	$ 1,348.80	-	-
3805	2100 FOXMEADOW CIR	12145	16	King Road	SOUTHEAST (6)	$ 160.88	144,600.00	F	-	$ 1,348.80	-	-
3806	2200 FOXMEADOW DR	12146	16	King Road	SOUTHEAST (6)	-	101,000.00	F	-	$ 1,348.80	-	-
3807	2300 FOXMEADOW DR	12147	16	King Road	SOUTHEAST (6)	$ 176.38	147,000.00	F	-	$ 1,348.80	-	-
3808	2400 FOXMEADOW CIR	12148	16	King Road	SOUTHEAST (6)	$ 94.99	134,400.00	F	-	$ 1,348.80	-	-
3809	2500 FOXMEADOW CIR	12149	16	King Road	SOUTHEAST (6)	$ 107.26	136,300.00	F	-	$ 1,348.80	-	-
161	640 N LEWIS RD	275	17	King Road	SOUTHEAST (6)	$ 1,932.95	306,700.00	F	-	$ 84.30	-	-
3674	7-27 W RIDGE PIKE/STRP ML	12005	18	King Road	SOUTHEAST (6)	$ 63.37	92,100.00	F	-	$ 927.30	-	-
3727	125 SUNSET RD	12065	18	King Road	282 GRATERFORD RD (20)	$ 1,198.45	193,000.00	F	-	$ 84.30	-	-
3772	15 KEYSTONE DR	12112	18	King Road	TRINLEY (5)	$ 2,452.98	387,200.00	F	-	$ 84.30	-	-
5199	256 SWAMP PIKE/SCHOOL	60965	18	Possum Hollow	RAVENS CLAW (18)	$ 2,015.24	334,400.00	F	-	$ 252.90	-	-
162	339 N LEWIS RD	276	19	King Road	SOUTHEAST (6)	$ 1,256.59	202,000.00	F	-	$ 84.30	-	-
3706	W RIDGE PIKE/STRIP/BANK	12039	19	King Road	SOUTH LIMERICK (3)	$ 1,373.73	272,500.00	F	-	$ 674.40	-	-
3745	542 N LEWIS RD	12084	19	King Road	TRINLEY (5)	$ 112.65	32,400.00	F	-	$ 168.60	-	-
3411	70 BUCKWALTER RD/1350/APPLEB	11737	20	King Road	SOUTHEAST (6)	$ 3,375.47	530,000.00	F	-	$ 84.30	-	-
5389	206 JONES BLVD/MICROCOAX	70011	20	Possum Hollow	BROOKE EVANS (16)	$ 14,938.23	2,319,900.00	F	-	$ 84.30	-	-
3445	70 BUCKWALTER RD/1250/TEXAS	11771	21	King Road	SOUTHEAST (6)	$ 2,419.39	382,000.00	F	-	$ 84.30	-	-
3707	22 ANCHOR PARKWAY	12040	23	King Road	SOUTHEAST (6)	$ 1,958.79	310,700.00	F	-	$ 84.30	-	-
3773	77 GRATERFORD RD	12113	23	King Road	282 GRATERFORD RD (20)	$ 1,208.14	194,500.00	F	-	$ 84.30	-	-
64	677 ELM ST	170	24	Royersford	ORCHARD TERRACE (OT)	-	12,000.00	F	-	$ 2,023.20	-	-
3863	430 W LINFIELD TRAPPE RD	12208	24	King Road	TRINLEY (5)	$ 4,782.46	747,800.00	F	-	$ 84.30	-	-
794	1101 ENTERPRISE DR	2573	28	King Road	TRINLEY (5)	$ 1,182.95	190,600.00	F	-	$ 84.30	-	-
2502	196 W RIDGE PK/FLEA MRKT	10679	29	King Road	RIDGE PIKE (10)	$ 629.07	247,000.00	F	-	$ 1,686.00	$ 1.80	-
3869	420 LINFIELD TRAPPE RD	12214	30	King Road	TRINLEY (5)	$ 852.20	139,400.00	F	-	$ 84.30	-	-
5410	14 W LIGHTCAP RD	70032	34	Possum Hollow	POSSUM HOLLOW (17)	$ 7,741.14	1,205,800.00	F	-	$ 84.30	-	-
3401	19 W LINFIELD TRAPPE RD	11727	36	King Road	SOUTHEAST (6)	$ 5,421.59	846,736.00	F	-	$ 84.30	-	-
107	475 N LEWIS RD	216	52	King Road	SOUTHEAST (6)	$ 3,921.34	614,500.00	F	-	$ 84.30	-	-
3761	88 ANCHOR PARKWAY	12101	52	King Road	SOUTHEAST (6)	$ 3,746.92	587,500.00	F	-	$ 84.30	-	-
2292	420 W LINFIELD TRAPPE RD	10357	59	King Road	TRINLEY (5)	$ 5,568.64	869,500.00	F	-	$ 84.30	-	-
167	350 S LEWIS RD	282	60	King Road	SOUTHEAST (6)	$ 3,791.50	594,400.00	F	-	$ 84.30	-	-
2465	827 N LEWIS RD	10630	80	King Road	SOUTH LIMERICK (3)	-	150,200.00	F	-	$ 6,744.00	-	-
3091	FOX RIDGE APTS	11378	97	King Road	SOUTH LIMERICK (3)	$ 2,050.04	1,043,000.00	F	-	$ 8,177.10	-	-
2685	165 W RIDGE PIKE/TRLR PK	10913	115	King Road	SOUTHEAST (6)	$ 6,018.69	1,792,000.00	F	-	$ 9,694.50	-	-
5397	EXELON LIM GEN STA	70019	137	Possum Hollow	POSSUM HOLLOW (17)	N	-	$ 8,659.75	1,348,000.00	$ 84.30	$ 1,041.07	-
5400	18 LIGHTCAP RD	70022	200	Possum Hollow	POSSUM HOLLOW (17)	$ 4,006.31	1,278,500.00	F	-	$ 7,418.40	-	-
		5416	**8402**			**$ 299,707.92**	**89,160,697**	**$ 25,039.14**	**7,288,556**	**$ 600,843.05**	**$ 14,296.74**	**$ 1,169.98**

ASSET PURCHASE AGREEMENT

7. Aqua and Limerick are parties to an Asset Purchase Agreement dated November 16, 2016. Aqua Exhibit 1, Application ¶ 5 and ¶ 18; *see also* Aqua Exhibit No. 1, Exhibit C.

8. The negotiated purchase price, which is based on arms' length negotiation, is Seventy-Five Million One Hundred Thousand Dollars ($75,100,000.00). Aqua and Limerick are not affiliated with each other. Aqua Exhibit No. 1, Application ¶ 18 and Aqua St. No. 1 at 6, lines 6 through 10.

9. Aqua will use short term credit lines to fund the transaction. The short term credit funding will be converted to a mix of long-term debt and equity capital shortly after closing. Aqua St. No. 1 at 7, lines 18 through 20; *see also* Aqua Exhibit No. 1, Application ¶ 18.

ASSETS BEING TRANSFERRED

10. The wastewater system assets to be transferred are the "Acquired Assets" and have the meaning specified in Section 2.01 of the Agreement. The Acquired Assets include all real property Limerick owns and uses in the operation of the wastewater system and all sanitary wastewater related treatment and conveyance facilities, including the Possum Hollow Waste Water Treatment Plant ("PHWWTP"), the King Road Waste Water Treatment Plant ("KRWWTP") and all pipes, pumping stations, manholes and pipelines and billing and collections related assets necessary to run the system. Aqua Exhibit No. 1, Application ¶ 19.

11. Acquired Assets also include the contracts identified on Schedule 4.15 of the Agreement to which Limerick is a party (the "Assigned Contracts"). Since contract parties, other than Limerick, are identified by name, Schedule 4.15 and the Assigned Contracts are considered CONFIDENTIAL. Copies of CONFIDENTIAL Schedule 4.15 and the CONFIDENTIAL Assigned Contracts were included with the Application as Confidential Exhibit F and admitted into evidence as CONFIDENTIAL Aqua Exhibit No. 4. Aqua Exhibit No. 1, Application ¶ 20 and Tr. 13 and 20.

$5,572,770. Exh. A-14-a, SWPA St. 1 at 11-12. The allocated purchase price for the water system is $4,734,800 and the wastewater system is $4,765,200. Appendix A-14, SWPA St. 2 at 4-5.

The valuation experts were paid $59,145 for the Fair Market Value Appraisal Reports for both the water and wastewater systems. Exh. A-8-a. SWPA also indicates that it will incur transaction and closing costs of approximately $1,000,000 between the Water System and the Wastewater System, which will be included in rate base. Appendix A-14, SWPA St.1 at 5-6; Appendix A-12.

OCA will examine the ratemaking rate base claims to determine if the claims are reasonable and appropriate for ratemaking purposes.

2. Proposed Rates: SWPA proposes to charge customers of the Mahoning Township system the Mahoning Township water and wastewater rates in effect at closing. Application at 6, 11; Appendix A-13. Those rates will remain in effect until SWPA's next base rate case but SWPA may impose any fee or surcharge permitted by its Commission-approved tariff. Id.

The proposed rates do not appear to match the existing Mahoning Township rates. The OCA will investigate this apparent discrepancy. The OCA will investigate the impacts on the current customers as well as on Mahoning Township customers of the various assumptions and proposals.

3. The OCA submits that additional information is necessary to determine how the transaction will substantially and affirmatively benefit Suez's existing customers.

4. Conditions: Whether any conditions should be imposed upon the proposed transfer to ensure that Suez's customers are treated in a fair and just manner in accord with Pennsylvania law and Commission rules and regulations.

MAHONING TOWNSHIP CUSTOMER LIST

Customer No	Name	Service Address	Service	SWR EDUs	EDU	Count
11470.01	T & S REALTY	304 HOLLOW DR	Sewer	1	1	1431
11471.01	T & S REALTY	306 HOLLOW DR	Sewer	1	1	1432
11472.01	T & S REALTY	308 HOLLOW DR	Sewer	1	1	1433
11473.01	T & S REALTY	310 HOLLOW DR	Sewer	1	1	1434
11474.01	T & S REALTY	312 HOLLOW DR	Sewer	1	1	1435
11475.01	DAVID & JOANNE BROOKO\	32 TERRE LANE	Sewer	1	1	1436
11476.02	JAYA SUGUNARAJ & JESSITA	214 ABBEY RD	Sewer	1	1	1437
11478.01	DAVID BULBIN & BARBARA	74 WOODLAND DR	Sewer	1	1	1438
11479.01	JEFFREY MOLINARO	1318 BLOOM RD	Sewer	1	1	1439
11480.01	CRYSTAL DOMETITA	91 WOODLAND DR	Sewer	1	1	1440
11482.01	AYUSA SINHA	672 LOWER ST	Sewer	1	1	1441
11483.01	MADIAN YAHYA	676 LOWER ST	Sewer	1	1	1442
11484.01	JEFF WATSON	168 KASEVILLE RD	Sewer	1	1	1443
11485.01	ANWER & SARAH QURESHI	656 LOWER ST	Sewer	1	1	1444
11486.01	ROSS & ASHLEY PETERS	83 TERRE LN	Sewer	1	1	1445
11488.01	QUESHI ANWER	664 LOWER STREET	Sewer	1	1	1446
11489.01	MATHUR HERSH	660 LOWER STREET	Sewer	1	1	1447
11490.01	PRASANNA SANKEPALLI & S	668 LOWER ST	Sewer	1	1	1448
11491.01	MARK GATSKI & CATHERINI	82 DELWOOD DR	Sewer	1	1	1449
11492.01	JONATHAN & LAURA SPAHF	78 TERRE LN	Sewer	1	1	1450
11166.02	DANKO HOLDINGS LP	1301 BLOOM RD	Sewer	0	1	1451
	TOTALS				2195	1451

eport Criteria:
Customer.Final bill date = {IS NULL}

5/30/18

stomer #	Name	Service Address	Meter ID	Customer Type	Size
11104.01	ANIMAL CARE	32 ENTERPRISE DR	0049503582	Commercial	1
11107.01	EMMANUEL HOME	MONTOUR BLVD. 11107	8280982952	Commercial	1
11120.02	REDEEMER ORTHODOX PRESBYTER	1820 MONTOUR BLVD.	1540802894	Commercial	1
11121.01	FAB-TEX	29 WOODBINE LANE	0004695133	Commercial	1
11137.01	GEISINGER HEALTH SYSTEMS - MCB	MCBRIDE	1541355520	Commercial	1
11151.01	ROAT-KRINER ROAT	1133 BLOOM RD.	1541286282	Commercial	1
11157.01	TRINITY METHODIST CHURCH	84 LOMBARD AVE	1018010545	Commercial	1
11159.01	VINTAGE KNOLLS ASSISTED LIVING	9 JUSTIN DR 101	1541313242	Commercial	1
11160.01	GEISINGER COMMUNITY HEALTH - VI	44 WOODBINE LANE	0048920994	Commercial	1
11165.01	RINEHART DENTAL	20 WESNER LANE	1481726108	Commercial	1
Total 1: 10				10	10
11110.01	BUSY BEAVER	23 WESNER LN	0053635505	Commercial	1.5
11139.01	MEADOWS COMM.	77 TOWER VIEW CIRCLE	0051583844	Commercial	1.5
11148.01	SHANER HOTEL GRP	43 PINE BARN PLACE	1832339361	Commercial	1.5
11170.01	HAWKINS CHEVROLET	1856 MONTOUR BLVD.	1852732193	Commercial	1.5
11439.01	GEORGE HEIM CAR WASH	1802 MONTOUR BLVD	1541551330	Commercial	1.5
Total 1.5: 5				5	5
11102.01	ATLANTIC EQUIP	15 ENTERPRISE DR	0048304212	Commercial	2
11108.01	EMMANUEL NAZARETH	1707 MONTOUR BLVD. 11108	1007034764	Commercial	2
11117.01	T & S REALTY	1083 BLOOM RD	0046645520	Commercial	2
11126.01	GUM REALTY GROUP LLC	74 SCHOOL HOUSE RD STE 101	0022379100	Commercial	2
11134.01	MARIA JOSEPH AL CENTER	MONTOUR BLVD. 11134	1832120637	Commercial	2
11136.01	GEISINGER HEALTH SYSTEMS - HUG	HUGHES CENTER SOUTH	0052693508	Commercial	2
11146.01	SHANER HOTEL GRP	43 PINE BARN PLACE A	0043702654	Commercial	2
11166.02	DANKO HOLDINGS LP	1301 BLOOM RD	1548931502	Commercial	2
Total 2: 8				8	8
11101.01	NAILS TO TAILS GROOMING SALON	938 BLOOM RD.	1810172132	Commercial	3/4
11109.01	BROKENSHIRE JOHN	769 BLOOM RD.	1541276964	Commercial	3/4
11111.01	CERO JAMES PATRICK	795 BLOOM RD	1541282452	Commercial	3/4
11113.01	COLE'S HARDWARE	25 ENTERPRISE ROAD	1541310306	Commercial	3/4
11115.01	HAWKINS JAMES	1581 MONTOUR BLVD.	1852924202	Commercial	3/4
11116.01	HAWKINS COLLISION CENTER	MONTOUR BLVD. 11116	1541425432	Commercial	3/4

Commercial Water Meters
70

Residential Water Meters
1116

2"
+ 1 = 15 Wesner Lane added 5/24/18

Total Meters
=
1186

21. Second, Ms. Vicari used inconsistent purchase price values to calculate the average costs per customer. Id. at 21-22.

(a) Incorrect Use of Projected Customers

Ms. Vicari used an incorrect number of customers for MACM. In Appendix A-17-a, it states that MACM has 12,780 customers, yet Ms. Vicari used 21,953 customers. OCA St. 1 at 20-21. She explained that she used that number because she counted the individual connections for each bulk customer. Id. She never supplied her calculation of the individual connections for the four bulk customers. Id.

Ms. Vicari does not necessarily apply that logic to the other acquisitions in her sample group by reflecting individual connections for any bulk customers. OCA St. 1S at 16-17. By using the actual number of customers for the other systems, she achieved a higher average cost per customer. She then multiplied this overstated cost per customer times the unsupported number of bulk customers' individual connection, compounding the error. Ms. Everette was not able to confirm whether all of the customer numbers in Ms. Vicari's sample group were consistently counted. She therefore used the 21,953 customer number used by Ms. Vicari to minimize the issues in the proceeding.

(b) Inconsistent Purchase Price Values

Similar to the problem with the customer count, MACM witness Vicari did not use consistent purchase price values. OCA St. 1 at 21-22. For the comparative acquisitions, she used the purchase price plus the value of capital improvements required by the agreement of sale. For MACM, however, she uses only the purchase price and does not consider the $62.7 million of capital investments that PAWC anticipates making over the next 10 years. Including the cost

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Pittsburgh Post-Gazette

McKeesport sewer system to be sold for $156 million

September 16, 2016 12:00 AM

By Deana Carpenter

The Municipal Authority of the City of McKeesport has agreed to sell its sewer system to Pennsylvania American Water for approximately $156 million.

The sale is needed to bring the city to more stable financial ground and avoid Act 47, the program for financially distressed municipalities, or municipal bankruptcy, McKeesport Mayor Michael Cherepko said at the Sept. 7 council meeting.

“It became very clear to this administration that the only way to save our community from municipal bankruptcy, while continuing to offer the same level of services our residents deserve, would be to transfer our local sewage system to a regional or national utility company,” Mr. Cherepko said in a news release.

A purchase agreement was signed by both parties last Friday following votes by city council and the municipal authority to sell the sewer system. The sale is expected to be finalized in the second half of next year pending regulatory approvals and other closing conditions.

The system serves 22,000 customers in McKeesport and the communities of Dravosburg, Duquesne, East McKeesport, Elizabeth Township, Glassport, Liberty, Lincoln, North Versailles, Port Vue, Versailles and White Oak.

“We look forward to closing the proposed acquisition and to providing wastewater services that reflect our commitment to environmental stewardship and quality customer service,” said

Kathy L. Pape, president of Pennsylvania American Water, said that after the deal is closed, the company looks forward “to welcoming the Municipal Authority of the City of McKeesport’s employees and customers to the Pennsylvania American Water family.”

She said the company also looks forward to “providing wastewater services that reflect our commitment to environmental stewardship and quality customer service.”

The next step is approval of the acquisition by the Pennsylvania Public Utility Commission along with other approvals, such as from the state Department of Environmental Protection.

In June, state Auditor General Eugene DePasquale said McKeeesport erred when it accidentally spent $729,275 in state funds earmarked for pension costs and subsequently couldn't pay its $2.3 million annual pension obligation last year.

McKeesport officials said then they would remedy the shortfall through "the sale of an asset in the near future."

“The total proceeds of the pending sale of the Municipal Authority of the City of McKeesport will solidify the City of McKeesport’s financial position for years to come,” Mr. Cherepko said this week. “The down payment associated with this

sale will generate enough revenue to cover all of the city's outstanding financial obligations, including the minimum municipal obligations associated with the city's pension funds."

Deana Carpenter, freelance writer: suburbanliving@post-gazette.com.

EAST END SEWER ACCOUNTS

Type	2015-4	2015-3	2015-2	2015-1	2014-4	2014-3	2014-2	2014-1
CO1	2,070,000	2,060,000	1,831,000	2,284,000	2,971,000	2,665,000	1,498,000	1,278,000
CO2	739,000	1,050,000	885,000	793,000	1,028,000	1,061,000	873,000	873,000
IND								
MIX	15,000	9,000	10,000	4,000	17,000	14,000	12,000	18,000
RES	13,780,000	13,367,000	12,924,000	13,280,000	12,700,000	14,137,000	14,241,000	12,874,000
Grand Total	**16,604,000**	**16,486,000**	**15,650,000**	**16,361,000**	**16,716,000**	**17,877,000**	**16,624,000**	**15,043,000**
# DAYS	94	90	89	91	87	94	93	91

Type	2015-4 GPD	2015-3 GPD	2015-2 GPD	2015-1 GPD	2014-4 GPD	2014-3 GPD	2014-2 GPD	2014-1 GPD
CO1	22,021	22,889	20,573	25,099	34,149	28,351	16,108	14,044
CO2	7,862	11,667	9,944	8,714	11,816	11,287	9,387	9,593
IND								
MIX	160	100	112	44	195	149	129	198
RES	146,596	148,522	145,213	145,934	145,977	150,394	153,129	141,473
Grand Total	**176,638**	**183,178**	**175,843**	**179,791**	**192,138**	**190,181**	**178,753**	**165,308**

Type	Total Units	Total Active Units	Total Accounts
CO1	145	109	65
CO2	40	16	13
IND			
MIX	8	7	3
RES	1,043	1012	823
Grand Total	**1,236**	**1,144**	**904**

Type	2015 Total	2014 Total
CO1	8,245,000	8,412,000
CO2	3,467,000	3,835,000
IND		
MIX	38,000	61,000
RES	53,351,000	53,952,000
Grand Total	**65,101,000**	**66,260,000**

Service Area	Total Units	Total Active Units	Total Accounts
BP	290	282	107
BR	52	51	52
BW	99	90	56
CR	5	4	5
CW	110	109	110
EE	1		1
GL	132	110	70
HD	127	110	112
PD	31	31	31
PM	48	47	48
PS	66	66	66
SC	65	37	40
SH	132	132	132
SRO	2	2	2
WB	76	73	72
Grand Total	**1,236**	**1,144**	**904**

SOUTH END SEWER ACCOUNTS

Type	2015-4	2015-3	2015-2	2015-1	2014-4	2014-3	2014-2	2014-1
CO1	163,000	68,000	33,000	27,000	277,000	265,000	28,000	25,000
RES	7,444,000	7,494,000	7,172,000	7,565,000	7,109,000	7,576,000	7,233,000	7,750,000
Grand Total	**7,607,000**	**7,562,000**	**7,205,000**	**7,592,000**	**7,386,000**	**7,841,000**	**7,261,000**	**7,775,000**
# DAYS	94	90	89	91	87	94	93	91

Type	2015-4 GPD	2015-3 GPD	)15-2 GPD	2015-1 GPD	2014-4 GPD	2014-3 GPD	2014-2 GPD	2014-1 GPD
CO1	1,734	756	371	297	3,184	2,819	301	275
RES	79,191	83,267	80,584	83,132	81,713	80,596	77,774	85,165
Grand Total	**80,926**	**84,022**	**80,955**	**83,429**	**84,897**	**83,415**	**78,075**	**85,440**

Type	Total Units	Total Active Units	Total Accounts
CO1	6	2	2
RES	611	605	607
Grand Total	**617**	**607**	**609**

Type	2015 Total	2014 Total
CO1	291,000	595,000
RES	29,675,000	29,668,000
Grand Total	**29,966,000**	**30,263,000**

Service Area	Total Units	Total Active Units	Total Accounts
ES	178	174	174
HGN	129	125	125
HGS	30	29	30
MG	21	21	21
WS	259	258	259
Grand Total	**617**	**607**	**609**

AVONDALE SEWER ACCOUNTS SEWER ACCOUNTS

Type	2015-4	2015-3	2015-2	2015-1	2014-4	2014-3	2014-2	20144
CO1	2,833,000	3,044,000	2,895,000	3,014,000	2,844,000	2,681,000	2,598,000	2,992,000
CO2	191,000	208,000	235,000	228,000	224,000	195,000	192,000	179,000
MIX	301,000	312,000	255,000	273,000	227,000	258,000	276,000	332,000
RES	4,090,000	3,750,000	3,588,000	4,089,000	3,506,000	4,183,000	4,716,000	3,705,000
TWP	31,000	24,000	20,000	19,000	21,000	22,000	19,000	74,000
Grand Total	**7,446,000**	**7,338,000**	**6,993,000**	**7,623,000**	**6,822,000**	**7,339,000**	**7,801,000**	**7,282,000**
# DAYS	94	90	89	91	87	94	93	91

Type	2015-4 GPD	2015-3 GPD	)15-2 GPD	2015-1 GPD	2014-4 GPD	2014-3 GPD	2014-2 GPD	2014-1 GPD
CO1	30,138	33,822	32,528	33,121	32,690	28,521	27,935	32,879
CO2	2,032	2,311	2,640	2,505	2,575	2,074	2,065	1,967
MIX	3,202	3,467	2,865	3,000	2,609	2,745	2,968	3,648
RES	43,511	41,667	40,315	44,934	40,299	44,500	50,710	40,714
TWP	330	267	225	209	241	234	204	813
Grand Total	**79,213**	**81,533**	**78,573**	**83,769**	**78,414**	**78,074**	**83,882**	**80,022**

Type	Total Units	Total Active Units	Total Accounts
CO1	397	48	38
CO2	4	4	4
MIX	8	22	8
RES	306	282	230
TWP	3	3	3
Grand Total	**718**	**359**	**283**

Type	2015 Total	2014 Total
CO1	11,786,000	11,115,000
CO2	862,000	790,000
MIX	1,141,000	1,093,000
RES	15,517,000	16,110,000
TWP	94,000	136,000
Grand Total	**29,400,000**	**29,244,000**

Service Area	Total Units	Total Active Units	Total Accounts
41	308	76	46
BH	123	120	121
BH2	6	6	6
RR	130	119	79
TK	151	38	31
Grand Total	**718**	**359**	**283**

Dilworth Paxson LLP

The PA PUC Approves First Wastewater Sale Under New Act 12

06/14/2017

June 14, 2017 (Philadelphia, PA) - On June 14, 2017, the Pennsylvania Public Utility Commission approved, in a four-to-one vote, Aqua Pennsylvania Wastewater, Inc.'s application to acquire the wastewater system of New Garden Township and its Sewer Authority, and to begin providing wastewater service to the residents of New Garden and Kennett Townships in Chester County. The transaction is the first to be approved using the fair market valuation approach established by the Pennsylvania State Legislature and Governor Tom Wolf with Act 12 of 2016 (Act of Apr. 14, 2016, P.L. 76, No. 12, 66 Pa. C.S. § 1329).

Act 12 is changing the landscape for municipal sales of water and wastewater systems to PUC-regulated public utility companies. The new law allows the parties to the transaction to opt in to a new method of valuation, which takes the value of the system for ratemaking purposes as either the lower of the average of two independent fair market value appraisals—one obtained by the utility buyer and one by the municipal seller—or by the negotiated purchase price. Prior to Act 12, system value for ratemaking was based on depreciated original cost, which would likely always result in a lower sale price than fair market value. In addition, the new law requires the PUC to act within six months of the acceptance of the application.

Act 12 became effective mid-June 2016, and the PUC issued its final implementation order in October 2016. The New Garden transaction was the first Act 12 application, submitted for approval in December 2016. Aqua, New Garden, and the Authority agreed to a negotiated purchase price of $29,500,000, which turned out to be less than the average of the two appraisals commissioned by Aqua and New Garden. The valuation for ratemaking purposes was therefore set at $29,500,000.

A protest to Aqua's application for PUC approval pursuant to Act 12 in the New Garden transaction was filed by the Bureau of Investigation and Enforcement, which sought a review of both of the fair market appraisals used, additional information about the proposed rate freeze agreed to by the parties, and a determination of whether the transaction was in the public interest under Section 1102 of the Public Utility Code.

An additional protest was filed by the Office of Consumer Advocates requesting further information to determine whether supplementary conditions should be imposed on the transaction to ensure that Aqua's existing customers are treated in a fair and just manner; how the transaction will substantially and affirmatively benefit Aqua's existing customers; and whether the agreement sufficiently provides for safe, adequate, and reasonable service at just and reasonable rates.

An evidentiary hearing was held before an administrative law judge on February 16, 2017. After the hearing, the judge recommended the denial of Aqua's application, concluding that Aqua had failed to demonstrate by a preponderance of the evidence that the acquisition was in the public interest because it failed to demonstrate that the transaction will result in affirmative public benefits to its existing customers. The judge also concluded that Aqua had failed to support its rate stabilization plan with evidence to show its basis and impact. The judge did

Related Lawyers

Skye C.A. Nickalls

Marc A. Feller

Related Practices

Corporate and Business

Related Offices

Philadelphia, PA

invest in necessary capital improvements and resources, and experienced managerial and operating personnel necessary to provide safe and reliable sewer services to the residents of the TOS and surrounding areas. PAWC is currently the water provider within TOS and is the operator of TOS's System pump station.

Q. PLEASE DESCRIBE PAWC'S HISTORICAL RELATIONSHIP WITH TOS.

A. Since PAWC's acquisition of the water and wastewater assets of the City of Coatesville Authority ("CCA") in March 2001, PAWC has been the regional wastewater (and water) provider in the City of Coatesville and surrounding communities. . PAWC's treats the wastewater from the communities of Sadsbury Township, City of Coatesville, East Fallowfield Township, Caln Township, West Caln Township, Valley Township, West Sadsbury Township, Highland Township, West Brandywine Township and Parksburg Borough. TOS has been a bulk wastewater customer of PAWC since PAWC's acquisition of CCA's water and wastewater system assets. We maintain a relationship with TOS and other local municipalities by participating in local events, providing environmental and firefighting grants, offering the "H2O Assistance Program," and supporting economic growth through infrastructure improvements in the communities we serve.

Q. HOW MANY CUSTOMERS DOES THE TOS SYSTEM CURRENTLY SERVE AND HOW MANY CUSTOMERS DOES PAWC CURRENTLY SERVE?

A. As of December 31, 2016, TOS furnished wastewater services to 998 customers. This number includes 950 residential and 48 commercial customer connections. Of these

interest in discussing the potential acquisition of the System and the use of Section 1329, the fair market value approach. TOS's representatives executed the Letter of Interest on December 6 and 7, 2016 and returned it to PAWC. This "Letter of Interest" was extended through amendments on March 9, 2017, May 2, 2017, June 6, 2017, and July 5, 2017 to allow the parties to enter into a definitive agreement. Through these extensions, PAWC and TOS jointly retained the services of Herbert E. MacCombie, Jr., P.E., of Media Pennsylvania to complete the Engineer's Assessment of Tangible Assets pursuant to Section 1329. The Engineer's Assessment of Tangible Assets is included as **Schedule 1.1** of the APA and included with the UVE fair market valuation reports at **Appendix A-5**. PAWC, pursuant to Section 1329, retained the services of AUS Consultants of Greenfield Wisconsin to complete an appraisal of the System. TOS retained the services of Herbert, Rowland & Grubic, Inc. of Harrisburg, Pennsylvania to also complete an appraisal of the System. These appraisals accompany the Application at **Appendix A-5** (together with electronic working documents at **Appendix A-4**) and are included as **Schedule 2.2** of the APA. After receipt of the two appraisals and subsequent arms-length negotiations, on May 1, 2018 TOS's Board of Supervisors approved the APA, which was subsequently executed by PAWC and TOS that day too. This APA includes a negotiated purchase price of $9,250,000.

Q. CAN YOU PLEASE PROVIDE AN OVERVIEW OF THE APA?

A. Yes. The APA is attached as **Appendix A-24-a** to the Application **(PAWC Exhibit KEG-1)**. The APA sets forth the terms and conditions pursuant to which the TOS will sell, and PAWC will purchase, the System, as well as substantially all assets, properties and rights

Elizabeth Rose Triscari, Esquire
Pennsylvania-American Water Company
800 West Hersheypark Drive
Hershey, PA 17033
(717) 520-4606
elizabeth.triscari@amwater.com

The Applicant's attorneys are authorized to receive all notices and communications regarding this Application.

6. PAWC is a regulated public utility corporation duly organized and existing under the laws of the Commonwealth of Pennsylvania, and is engaged in the business of collecting, treating, storing, supplying, distributing and selling water to the public, and collecting, treating, transporting and disposing of wastewater for the public. Water and wastewater services are furnished by PAWC to the public in a service territory encompassing more than 400 communities across the Commonwealth with a combined population of over 2,400,000. A description of PAWC's existing certificated water and wastewater service territory is found in **Appendix B**, along with a detailed corporate history, outlining all of the mergers, acquisitions and consolidations, which have created PAWC as it exists on the date of this Application.

7. Steelton is a municipal water authority, organized by the Borough of Steelton in accordance with the Municipality Authorities Act, 53 Pa. C.S. §5601, et seq., with its offices located at 123 North Front Street, Steelton, Pennsylvania. Steelton owns and operates the Steelton System, providing water service to the public in the Borough of Steelton and a portion of Swatara Township (the "Service Area"), in Dauphin County, Pennsylvania.

8. As of November 30, 2018, Steelton furnishes water service to 2,472 customers including 2,289 residential, 124 commercial, 13 industrial, 34 institutional, 11 municipal, and one bulk sales customer connection.

PENNSYLVANIA REAL-TIME NEWS

Steelton water sale closer to completion as Pa. American Water signs $22.5 million agreement

Updated Nov 15, 2018;
Posted Nov 15, 2018



Pennsylvania American Water announced today it signed an agreement to acquire the water assets of the Steelton Borough Authority. Pending regulatory approvals, the sale should be complete by the third quarter of 2019.

1 8 shares

By Steve Marroni | smarroni@pennlive.com

The sale of Steelton's water system is one step closer to completion.

Pennsylvania American Water announced today it has signed an agreement to acquire the water assets of the Steelton Borough Authority for $22.5 million.

The two will next seek approval of the acquisition from the Pennsylvania Public Utility Commission and other necessary approvals from the Pennsylvania Department of Environmental Protection, according to the company.

Subscribe

Cust No	Name	Customer Type	Group Code	Service No	Description	Unit/Share
)33438358	Morath, Christina	Commercial	None	1	SEWER	1
)33453937	Baeder, William	Commercial	None	1	SEWER	1
)33521786	Sanders, Debra	Commercial	None	1	SEWER	1
)33757653	Advanced Auto Parts	Commercial	None	1	SEWER	1
)34016546	Nelson's Ice Cream	Commercial	None	1	SEWER	1
)34030702	Pitcher, Paul	Commercial	None	1	SEWER	1
)34083232	Beck, Katharine G	Commercial	None	1	SEWER	1
)34862572	LK Miller Properties LLC	Commercial	None	1	SEWER	1
)02939458	Fuhrman, Steve	Commercial	None	1	SEWER	1
)03198199	Sarangpur Realty LLC	Commercial	None	1	SEWER	1
)03373167	Wilhelm, Rosemarie	Commercial	None	1	SEWER	1
)04397982	Pragi Enterprises LLC	Commercial	None	1	SEWER	1
)06085025	Plank Jr, Robert E	Commercial	None	1	SEWER	1
)06197065	LD Hedge Associates LLC	Commercial	None	1	SEWER	1
)06197096	LD Hedge Associates LLC	Commercial	None	1	SEWER	1
)07394708	Fissinger, Matthew	Commercial	None	1	SEWER	1
)07425268	Snyder, Joseph	Commercial	None	1	SEWER	1
)07461417	Varlotta, Michael	Commercial	None	1	SEWER	1
)07487679	CG Complex LLC	Commercial	None	1	SEWER	1
)07519040	Bristol Road Partners Inc.	Commercial	None	1	SEWER	1
)08908308	Superior Credit Union	Commercial	None	1	SEWER	1
)09217890	Hoff Properties LLC	Commercial	None	1	SEWER	1
)10722804	AMA Realty Properties LLC	Commercial	None	1	SEWER	1
)11184863	Attilio, Thomas	Commercial	None	1	SEWER	1
)12032330	310 Chestnut Street LLC	Commercial	None	1	SEWER	1
)13068080	Branch Banking & Trust Company	Commercial	None	1	SEWER	1
)13286185	White, Elaine & Bruce	Commercial	None	1	SEWER	1
)15089717	C&R Property Management LLC	Commercial	None	1	SEWER	1
)15089748	C&R Property Management LLC	Commercial	None	1	SEWER	1
)15292810	Preston, Aaron	Commercial	None	1	SEWER	1
)16240812	Shalom, Jan	Commercial	None	1	SEWER	1
)16276750	Copenhafer, Fay	Commercial	None	1	SEWER	1
)16612479	Donohue, Patrick R	Commercial	None	1	SEWER	1
)17470098	Lewis Group Ltd Partnership	Commercial	None	1	SEWER	1
)17961983	Qawasmy, John	Commercial	None	1	SEWER	1
)18085592	Christman, Lewis	Commercial	None	1	SEWER	1
)18305104	Tarquini Herrera, Rachel	Commercial	None	1	SEWER	1
)18888302	Florence Attilio Rental Acct.	Commercial	None	1	SEWER	1
)18888319	Attilio, Thomas	Commercial	None	1	SEWER	1
)19364687	Conigliaro, Vito	Commercial	None	1	SEWER	1
)21630875	Chesterview Apartments	Commercial	None	1	SEWER	1
)22621041	Main Street Royersford LLC	Commercial	None	1	SEWER	1
)22621096	Spring Mountain Brewing Co	Commercial	None	1	SEWER	1
)23796115	Kassam, Tashir	Commercial	None	1	SEWER	1
)26295581	JD Arnold LLC	Commercial	None	1	SEWER	1
)26393133	Ostebo, Kurt	Commercial	None	1	SEWER	1
		158				

Report Criteria:
Billing.Service No = 1
Customer.Customer Type = Commercial, Industrial, Residential

Report Criteria:
Billing.Service No = 1
Customer.Customer Type = Industrial, Residential

Cust No	Name	Customer Type	Group Code	Service No	Description	Unit/Share
)28611137	Lewis Group Ltd. Partnership	Industrial	None	1	SEWER	1
)28619292	Giftwares Co Inc	Industrial	None	1	SEWER	1
)28619407	Specialty Chemical Systems Inc	Industrial	None	1	SEWER	1
)28619759	Accumetrics Limited	Industrial	None	1	SEWER	1
)28619773	Accumetrics Limited	Industrial	None	1	SEWER	1
)28620339	Nelson's Ice Cream Inc.	Industrial	None	1	SEWER	1
)28620858	American Machine & Tool Co.	Industrial	None	1	SEWER	1
)29486532	A.C. Miller Concrete Company	Industrial	None	1	SEWER	1
)29651213	Borough of Royersford	Industrial	None	1	SEWER	1
)29709754	Royersford Spring Company	Industrial	None	1	SEWER	1
)29784885	Advanced Fluid Systems Inc	Industrial	None	1	SEWER	1
		11				

Cust No	Name	Customer Type	Group Code	Service No	Description	Unit/Share
)25581487	Sakal, Brian J	Residential	None	1	SEWER	1
)25581852	Barbara Berman Ricci	Residential	None	1	SEWER	1
)25590276	Tallman, William	Residential	None	1	SEWER	1
)25596441	Tarantino, Joseph	Residential	None	1	SEWER	1
)25635087	Benson, Merrill G	Residential	None	1	SEWER	1
)25760044	Blamey, Chad & Katrin	Residential	None	1	SEWER	1
)25762972	Whitmore, Andrew	Residential	None	1	SEWER	1
)25807684	Mecca, Jessica	Residential	None	1	SEWER	1
)25824139	Gerber, Jenna	Residential	None	1	SEWER	1
)25859012	Creciun, Peter	Residential	None	1	SEWER	1
)25869156	Seiders, Lester & Monica	Residential	None	1	SEWER	1
)25879108	Chesterview Apartments	Residential	None	1	SEWER	1
)25930898	US Bank NA	Residential	None	1	SEWER	1
)25948684	Findley, Nicole M	Residential	None	1	SEWER	1
)25987108	Craft, Elena	Residential	None	1	SEWER	1
)26021179	John McDonald & Karlyn Eyre	Residential	None	1	SEWER	1
)26043841	Blanche, Camile	Residential	None	1	SEWER	1
)26160869	Hirst, Sharon A	Residential	None	1	SEWER	1
)26161459	John Marlatt & Rebecca Gardner	Residential	None	1	SEWER	1
)26204967	Niemczuk, Joseph W	Residential	None	1	SEWER	1
)26223333	Weiss, Joseph	Residential	None	1	SEWER	1
)26239376	C&R Property Management LLC	Residential	None	1	SEWER	1
)26300278	Millard, Barry & Sheryl	Residential	None	1	SEWER	1
)26310954	Nevin, Sean	Residential	None	1	SEWER	1
)26326843	Davis, Jeff	Residential	None	1	SEWER	1
)26340238	Jacobs, Jamie	Residential	None	1	SEWER	1
)26352002	Slifer, Richard	Residential	None	1	SEWER	1
)26353432	Lynch, Heather	Residential	None	1	SEWER	1
)26380250	Tallman, William	Residential	None	1	SEWER	1
)26381130	Stem, Matt & Heather	Residential	None	1	SEWER	1
)26403078	Petaccio, Andrea	Residential	None	1	SEWER	1
)26630702	O'Donnell, Kaitlyn	Residential	None	1	SEWER	1
)26660253	Ilyas, Asif	Residential	None	1	SEWER	1
)26713911	Hernandez, S & Murphy, M	Residential	None	1	SEWER	1
)26746591	Gieske and Niemann LLC	Residential	None	1	SEWER	1
)26875659	Speck, Erin	Residential	None	1	SEWER	1
)26880804	Raser, Randy	Residential	None	1	SEWER	1
)26909682	Perez, Waldemar & Aracelis	Residential	None	1	SEWER	1
)26969219	Macelwee-Todd, Lisa	Residential	None	1	SEWER	1
		1427				

Report Criteria:
Billing.Service No = 1
Customer.Customer Type = Residential

permitted under Law and the terms of any applicable contract that is a Nonassignable Asset, as agent or subcontractor for Seller, pay, perform and discharge the liabilities and obligations of Seller thereunder from and after the Closing Date, but only to the extent that such liabilities and obligations would be Assumed Liabilities if the applicable consent or approval had been obtained on or before the Closing Date and such Nonassignable Asset had been assigned to Buyer at Closing. To the extent permitted under Law, Seller shall hold in trust for and pay to Buyer promptly upon receipt thereof, such Nonassignable Asset and all income, proceeds and other monies received by Seller with respect to such Nonassignable Asset in connection with the arrangements under this Article II.

(c) If, following the Effective Date and before the Closing, Buyer identifies any contract to which Seller is a party which is not set forth on Schedule 4.15, and Buyer reasonably determines such contract is necessary or useful to the operation of the System, Buyer shall notify Seller of such determination and Seller shall, promptly following receipt of such notice, deliver to Buyer an updated Schedule 4.15 reflecting the addition of such contract, and such contract will be an "Assigned Contract" for all purposes hereunder.

(d) If during the twelve (12) month period following the Closing, Buyer identifies any contract to which Seller was a party as of the Closing and which (i) was not set forth on Schedule 4.15 (as may be updated pursuant to (c)) and (ii) Buyer reasonably believes is necessary or useful to the operation of the System, Seller shall, promptly following Buyer's written request therefor, execute, acknowledge and deliver, or cause to be executed, acknowledged and delivered, such other instruments of conveyance and transfer and other documents, and perform or cause to be performed such further acts, as may be reasonably required to evidence or effectuate, or more fully evidence or effectuate the assignment of such contract to Buyer for no additional consideration, and upon such assignment, such contract is deemed an Assigned Contract for all purposes hereunder.

ARTICLE III.

PURCHASE PRICE

Section 3.01. Purchase Price. The purchase price for the Acquired Assets is Thirteen Million Dollars ($13,000,000) (the "Purchase Price") which Buyer shall pay as follows at Closing:

(a) Buyer shall provide for payment in full of the total amount of Outstanding Indebtedness directly to Seller's obligees on account of the Purchase Price;

(b) Buyer shall pay, subject to any adjustment pursuant to Section 3.01(c), to Seller by wire transfer of immediately available funds the balance of the Purchase Price (remaining after the debt repayment pursuant to Section 3.01(a)) to one or more accounts that Seller designates and provides to Buyer at least three (3) Business Days before the Closing Date; and

(c) Final Billing: The Buyer is entitled to all customer billings with respect to sanitary wastewater customers services for the period on or after the Closing Effective Time, and Seller is entitled to all such billings for the period before the Closing Effective Time. The Parties

Report Criteria:
Service.Service number = 10,16
Group Code.Group code = "A","B","C"
Customer.Final bill date = {IS NULL}
Billing.Temporary disconnect date = {IS NULL}
Billing.Final disconnect date = {IS NULL}

Customer Number	Customer Name	Service Address	Customer Type	Units
10				
UP Commercial				
18011257.01	POTTSTOWN 1257 INC	1257 N CHARLOTTE ST	UP Commercial	2
18011277.01	CONIGLIARO, VITO	1277 N CHARLOTTE ST	UP Commercial	1
18011293.01	BURGER KING #4651	1293 N CHARLOTTE ST	UP Commercial	8
24010861.02	DCM PROPERTY INVESTMENTS LLC	861 WILLOW ST	UP Commercial	1
24010929.01	CREATIVE HEALTH SERVICES	929 WILLOW ST	UP Commercial	4
25100799.01	FULTON FINANCIAL CORP	799 STATE ST - FULTON BANK	UP Commercial	1
41020175.02	POTTSTOWN PLAZA ASSOC C/O COTSWOLD GRO	RENT-A-CENTER #50	UP Commercial	2
41020177.02	POTTSTOWN PLAZA ASSOC C/O COTSWOLD GRO	DOLLAR ADVANTAGE	UP Commercial	2
41020178.02	POTTSTOWN PLAZA ASSOC C/O COTSWOLD GRO	RADIO SHACK #60	UP Commercial	2
41021066.01	GEORGE EVANS	1066 FARMINGTON AVE	UP Commercial	1
41021173.01	SHUKOWITSH, STEVEN & JESSICA	1173 FARMINGTON AVE	UP Commercial	1
41021189.01	ARTIM, ROBERT	1189 FARMINGTON AVE	UP Commercial	1
41021320.01	STROGUS, BARRY	1320 FARMINGTON AVE	UP Commercial	1
41021346.01	AMERICAN METAL FINISHERS	1346 FARMINGTON AVE	UP Commercial	1
41021359.02	BOWERS, TODD	1359 FARMINGTON AVE	UP Commercial	1
41021391.01	MCGINNIS, DENNIS	1361 FARMINGTON AVE	UP Commercial	1
41021393.01	SDM INVESTMENTS LLC	1393 FARMINGTON AVE	UP Commercial	1
41021403.01	ARTIMS AUTOMOTIVE INC	1403 FARMINGTON AVE	UP Commercial	2
41021446.02	1446 FARMINGTON AVE LLC	1446 FARMINGTON AVE	UP Commercial	4
41021507.01	RICHARDSON, GLORIA MAUGER & THOMAS	1507 FARMINGTON AVE	UP Commercial	1
41021525.01	YOUNG, SHANE & KATHY	1525 FARMINGTON AVE	UP Commercial	1
41021587.01	BURGYONE, BARRY	1587 FARMINGTON AVE	UP Commercial	1
Total UP Commercial:				
22				40
UP Mixed Use				
20010875.01	SJW PROPERTIES LLC	875 N HANOVER ST -salon & apts	UP Mixed Use	2
20010933.02	MCGONIGLE, MICHAEL	933 N HANOVER ST	UP Mixed Use	2
20010943.01	STRAUSS, PAUL	943 N HANOVER ST	UP Mixed Use	3
20010955.01	BRODI, GERALD & ELAINE	955 N HANOVER ST	UP Mixed Use	11
21070842.01	DAVIDHEISER, ALLEN & BEVERLY	842 FARMINGTON AVE	UP Mixed Use	1
24010940.01	TOLENTINO, ROBERT & ASUNCION	940 WILLOW ST	UP Mixed Use	3
41050013.01	OLOCK, ANDREW	941 N HANOVER ST	UP Mixed Use	4
Total UP Mixed Use:				
7				26
UP Public				
16030233.01	HOLY TRINITY ORTHODOX CHURCH	1256 JUNIPER ST	UP Public	1
20011351.01	POTTSGROVE SCHOOL DISTRICT - ADMIN BLDG	1351 N HANOVER ST - MULTI	UP Public	30
41230093.01	CHURCH OF LATTER - DAY SAINTS	93 MAUGERS MILL RD	UP Public	1
Total UP Public:				
3				32
UP Residential				
10140863.02	MILLS, LUCAS	863 FARMINGTON AVE	UP Residential	1
10140871.01	POLLOCK, ANTHONY FILLMAN & BRENDA	871 FARMINGTON AVE	UP Residential	1

Customer Number	Customer Name	Service Address	Customer Type	Units
42061525.02	HUTELMYER, JULIA & GREG	1525 CLOVERHILL RD	UP Residential	1
42071000.01	HEATH, TERENCE M & CATHERINE	1000 FALLBROOK LN	UP Residential	1
42071002.02	DAVIS, STEPHEN & KATHRYN	1002 FALLBROOK LN	UP Residential	1
42071004.02	GALLINA, GAETANO	1004 FALLBROOK LN	UP Residential	1
42071006.02	LIANG, JIE LIN & XIUYAN	1006 FALLBROOK LN	UP Residential	1
42071007.01	STEELE, CORTNEY & DANIEL	1007 FALLBROOK LN	UP Residential	1
42071008.02	FENOGLIO, CASEY & RICHARD	1008 FALLBROOK LN	UP Residential	1
42071009.02	SHAW, SCOTT & THERESA	1009 FALLBROOK LN	UP Residential	1
42071010.02	JOHNSON, FRANKLIN & KIMBERLY	1010 FALLBROOK LN	UP Residential	1
42071011.01	HUBBARD, ANNA	1011 FALLBROOK LN	UP Residential	1
42071012.02	DIXON, JULIAN & ERICA	1012 FALLBROOK LN	UP Residential	1
42071013.01	HARISH, BIDADI & LAKSHMI	1013 FALLBROOK LN	UP Residential	1
42071014.02	RICHARDSON, KATRINA	1014 FALLBROOK LN	UP Residential	1
42071015.02	DZIUNYCZ, MATTHEW & EMILY	1015 FALLBROOK LN	UP Residential	1
42071016.02	ISHLER, KARI KLAUS & MICHAEL	1016 FALLBROOK LN	UP Residential	1
42071017.03	CONNER IV, SAMUEL	1017 FALLBROOK LN	UP Residential	1
42071018.01	SHORT, CHRISTOPHER & RONNA	1018 FALLBROOK LN	UP Residential	1
42071019.01	MCPHILLIMEY, MARK & ANN KOREEN	1019 FALLBROOK LN	UP Residential	1
42071020.01	MCWILLIAMS, DAVID & LAURI	1020 FALLBROOK LN	UP Residential	1
42071021.01	RIZZETTO, NINA	1021 FALLBROOK LN	UP Residential	1
42071022.02	PASQUAL, MICHAEL & MARIA	1022 FALLBROOK LN	UP Residential	1
42071024.01	COLLINGS, MARK	1024 FALLBROOK LN	UP Residential	1
42071026.01	GAINES, NICOLE	1026 FALLBROOK LN	UP Residential	1
42071028.02	SPRING HILL REALTY	1028 FALLBROOK LN	UP Residential	1
42071030.03	HOUSEAL JR, JOSEPH & CARA	1030 FALLBROOK LN	UP Residential	1
42071032.03	DAILY, ALBERT & REGINA	1032 FALLBROOK LN	UP Residential	1
42071034.01	FELTENBERGER, CHAD & HEATHER	1034 FALLBROOK LN	UP Residential	1
42071036.02	SOLIVAN, GINA & ADRIAN	1036 FALLBROOK LN	UP Residential	1
42071038.03	THAO, DAVID	1038 FALLBROOK LN	UP Residential	1
42071040.01	JORGENSON, TRISHA & ERICK	1040 FALLBROOK LN	UP Residential	1
42071042.01	KROENING, TERRY	1042 FALLBROOK LN	UP Residential	1
42071044.01	SCHURR, JEFFREY KENT	1044 FALLBROOK LN	UP Residential	1
42071045.01	PURKAYASTHA, DEBASHISH & SUDDATTA	1045 FALLBROOK LN	UP Residential	1
42071046.03	WILLIS, FRANK & FAITH	1046 FALLBROOK LN	UP Residential	1
42071047.02	CONG, MY	1047 FALLBROOK LN	UP Residential	1
42071048.01	HAINES, LARRY & DONNA	1048 FALLBROOK LN	UP Residential	1
42071050.02	MIDDLETON, JAMES	1050 FALLBROOK LN	UP Residential	1
42071052.01	SEMETER, DANIEL	1052 FALLBROOK LN	UP Residential	1
42071513.04	ROMANO, DANIEL & SARA	1513 CLOVER HILL RD	UP Residential	1
42081600.02	GOMEZ, ODETTE	1600 APPLEGATE LN	UP Residential	1
42081601.01	RODRIGUEZ, RUTH & JUAN	1601 APPLEGATE LN	UP Residential	1
42081602.02	EGARIAN, CHRISTOPHER	1602 APPLEGATE LN	UP Residential	1
42081604.01	LAWLOR, CARL & LORETTA	1604 APPLEGATE LN	UP Residential	1
42081606.01	COHEN, SIDNEY & RUTH	1606 APPLEGATE LN	UP Residential	1
42081608.01	ROCHA, WILL & CARMEN	1608 APPLEGATE LN	UP Residential	1
42081609.01	EVANS, GARETH	1609 APPLEGATE LN	UP Residential	1
42081610.01	DUNKEL, CAROL	1610 APPLEGATE LN	UP Residential	1
42081611.02	SORG, GREGORY & TRICIA	1611 APPLEGATE LN	UP Residential	1
42081612.01	MANCINI, MICHAEL & AMIE	1612 APPLEGATE LN	UP Residential	1
42091501.02	HULL, KEVIN & AMY	1501 MAYWOOD LN	UP Residential	1
42091503.02	EPSTEIN, CARL & LINDA	1503 MAYWOOD LN	UP Residential	1
410512005.01	CUTLER, ROBERT & ELIZABETH	2005 PROUT FARM RD	UP Residential	
4102152012.01	SCHAEFFER, JACK & AUDREY	1520 FARMINGTON AVE	UP Residential	1
4152006901.01	BUCK, WILLIAM	69 MICKLITZ DR	UP Residential	1
Total UP Residential: 1,390				1429

Customer Number	Customer Name	Service Address	Customer Type	Units
Total 10:				
1,422				1527
16				
UP Commercial				
10140882.01	DICKENSON, CHARLES	882 FARMINGTON AVE	UP Commercial	2
10140902.01	CMD SERVICES INC	902 FARMINGTON AVE	UP Commercial	3
18011263.02	H & E PALERMO REAL ESTATE	1263 N CHARLOTTE ST	UP Commercial	2
20010863.01	SJW PROPERTIES LLC	871 N HANOVER ST -comm.bldg	UP Commercial	6
41020179.01	APPLEBEES RESTAURANT - ROSE CAS DIN LP	815 STATE ST	UP Commercial	30
41021495.01	KIM, JONG Y & YUN K	1495 FARMINGTON AVE	UP Commercial	3
Total UP Commercial:				
6				46
Total 16:				
6				46
Grand Totals:				
1,428				1573

Report Criteria:
Service.Service number = 10,16
Group Code.Group code = "A","B","C"
Customer.Final bill date = {IS NULL}
Billing.Temporary disconnect date = {IS NULL}
Billing.Final disconnect date = {IS NULL}

https://www.pottsmerc.com/news/upper-pottsgrove-votes-4-1-to-sell-sewer-system-for-13-7m/article_f8f493d8-8408-11ea-8425-07388a90f968.html

FEATURED

Upper Pottsgrove votes 4-1 to sell sewer system for $13.7M

Evan Brandt ebrandt@21st-centurymedia.com @PottstownNews on Twitter
Apr 22, 2020



Upper Pottsgrove Township Commissioner Martin Schreiber, framed in yellow, outlines his objections to the sale of the township's sewer collection system during Monday's online meeting.

Photo from Screenshot

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UPPER POTTSGROVE — Township Commissioners voted 4-1 Monday night to sell the township's sewer collection system for $13.75 million to Pennsylvania American Water.

Commissioners Martin Schreiber cast the lone vote against the sale.

As The Mercury reported on April 8, the presentation provided at four online informational sessions earlier in the month forecast that sewer rates would drop by about 9.6 percent under Pennsylvania American Water ownership.

However, the decrease — from the current $71.87 per month to $65 per month — would be short-lived, according to Bernie Grundusky, senior director for business development for the water company.

A chart he shared as part of the online meetings showed rates would return to the current rate in three or four years after the sale, and then increase annually by an average of 4.5 to 5.2 percent.

By comparison, the township's sewer rates, which have increased in a more haphazard fashion, average out to between 4.6 to 6 percent a year, according to the presentation.

Now that the sale has been approved, the average homeowner will save $1,260 between the time rates were dropped to when they return to their current level, according to the presentation.

The deal must still be approved by the Pennsylvania Public Utility Commission, a process that could take longer than a year to be finalized.

As a result of the vote, PFM Financial Advisors LLC will be paid more than $250,000.

As noted by Commissioners' Chairman Trace Slinkerd, who, prior to the vote, praised the consultants for taking a risk, if the commissioners had voted against the sale, PFM would have been paid only its $7,500 fee for preliminary work.

Scott Shearer, managing director of PFM, insisted during Monday's meeting that the firm "did not make a recommendation. We're not trying to sell this system."

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During the four public information sessions the township staged online, not one negative aspect of the sale was identified. Township Manager Michelle Reddick said the presentations were put together by PFM and the staff.

During those meetings, Slinkerd restricted all interaction to questions from residents, which were mostly answered by the consultants or township staff. He said public comments would be accepted at the April 20 meeting.

When that happened Monday night, the online meeting was attended by more than 50 people.

Eight residents spoke. All but one asked the commissioners to vote against the sale or, even more frequently, delay the vote until next month or later.

Many cited the fact that the Pennsylvania American Water's bid does not expire until June 30, and there is still time to answer residents' questions.

Don Read, a former member of the Pottstown Borough Authority and a current member of the township's sewer committee, was the only person to speak fully in favor of the sale.

As he did at the April 16 meeting, Read said the best reason to sell the system is the risk inherent in running it.

He said the potential capital costs of problems with sewer lines and pump stations, as well as capital costs imposed by the Pottstown Borough Authority, which runs the plant that receives and treats Upper Pottsgrove's sewage, are too big a financial risk for a four-person staff.

"The price is on the high side of what we projected," he said of the winning bid. The other bidder was Aqua America.

"What's another month going to do? It's frustrating to watch people come in at the last hour and ask for a delay," said Read.

He was referring, presumably, to other speakers who said they were unaware of the potential sale of the system until they received a township letter in the mail, a letter which arrived after the first two public information sessions had already occurred.

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"I am imploring you all to take an opportunity to table the vote until the May 20 meeting," said Turnberry Farms resident Stephanie Rowe.

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"This is beneficial in several ways, the first being it allows all residents to be able to digest and question this decision that seems to be on a fast track for a reason that has not been satisfied by any of the presentations that you allowed to happen with little or no response from the board — almost every question was deferred to either PFM or PA American Water," Rowe said.

Darryle Tillman, who appeared in scrubs while caring "for 104 patients, one third to one half of which have COVID-19," also urged a delay.

"This plan has its good points and its bad points, but it is ridiculous to do this in a Zoom meeting in the middle of a pandemic," he said in reference to the on-line platform used for the meeting.

Al Leach, who is also the vice president of the Pottsgrove School Board, also urged a pause.

"I'm sure you've all done your due diligence, but a lot of residents are just finding out about this and would like to see if they can get more involved," Leach said.

"There are a lot of questions that need to get answered, like how the board intends to spend the proceeds, and the open space question," he said.

Although the presentation has identified the proceeds as paying down the sewer system debt; making the pension system whole and paying off general fund and road fund debt, two other proposed uses have raised questions.

One is paying off debt undertaken by the open space fund, which is paid off with a voter-approved earned income tax; and infrastructure improvements to the police station and township offices in the firehouse.

No specific plan for those improvements has been presented as part of the sewer system sale proposal, said resident Doug Kern.

"We have no access to the paperwork, no ability to examine this ourselves," said Kern, who said he did not find out about the proposal until two of the public information sessions had already passed.

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"All I have is a bunch of slides, which changed after almost every meeting, and a lot of 'take-my-word-for-it-answers. It sounds like you have a 90-day window to make a decision," said Kern, urging a delay or a no vote.

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Dustin Schreiber said his research indicates American Water, the parent company of the high bidder, "is owned by a German conglomerate called RFWAG. I'd prefer we support an American company if we sell, and I'm not convinced we should sell."

Hanover Drive resident Keith Plumadore said he sees the sale as a short-term fix for the township's finances. "It's a temporary reprieve from amateur fiscal management. The township did a good job with the (request for proposals) but I see no evidence the township will execute and bring better fiscal governance with the proceeds."

"When I moved here in 2000, the commissioners and the people all worked together," said Leach. "I implore you to at least consider the idea of tabling this motion, It would be so easy to delay this vote so we can get all our ducks in a row and demonstrate transparency we always used to have in this community."

Slinkerd closed public comment and then called on Schreiber to outline the objections he has been posting on his Facebook page and the Turnberry Farms Facebook page.

However, as Schreiber spoke, Slinkerd repeatedly interrupted him, talked over him and told him his points were not relevant to the subject at hand.

"The sewer customers paid for the sewer, if they were stockholders, they should be getting a bonus check, they're getting the short end of the stick," said Schreiber.

"What about people who pay school taxes but don't have any children in the system," Slinkerd interjected. "Should they not be taxed?"

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The areas in green on this map of Upper Pottsgrove show the areas served by the township sewer system.

Official township sewer map

"Everyone has a chance to send to send students to school," Schreiber replied. "What about open space, Martin?" Slinkerd interrupted again. "That's paid with earned income tax, but seniors don't pay that. Should we put signs up telling them they can't use the open space?" Slinkerd asked.

"We taxed ourselves for that," Schreiber started to reply and Slinkerd pressed on. "We don't separate our residents into septic or sewer residents. Are you saying that's the way we should go?"

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As Schreiber tried to raise further points, Slinkerd continued to interrupt him. "That's what you've been doing, going down this rabbit hole trying to dislodge what we're talking about," Slinkerd said.

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"You keep trying to throw things at the wall at the 11th hour to see what sticks to make it seem like you did research," he continued. "You've had a year to think about this stuff."

"Are you going to let me finish?" Schreiber finally asked. "I never stopped you," Slinkerd replied, finally allowing Schreiber to speak uninterrupted.

The other commissioners, Dave Waldt, Cathy Paretti and Renee Spaide all were permitted to speak uninterrupted, except when Schrieber spoke, thinking Paretti was finished with her point.

He apologized for interrupting her and urged her to go on.

The other commissioners joined in disputing Schreiber's points.

Spaide, who has served on the board for many years with Schreiber, read from a prepared statement that noted, in part, "all the commissioners have been involved."

She said she agrees with Read that running the sewer system is a risk. "We have a road crew, not a sewer crew and Pennsylvania American Water does this for a living," said Spaide.

Waldt said he and Paretti "ran on concern about the township's finances. People were very unhappy." He disputed Schreiber's characterization that he was left out of discussions. "We've spent hours on the budget and I never see you. You never participate," said Waldt.

"Dave and I started to get to get acquainted with this while we were running," said Paretti. "We don't have any business running a sewer business. If we keep it, our taxes would rise and the rates would be higher than if we didn't own it."

She added, "I don't wait to be invited into things, I ask for the information I need."

When Schreiber tried to point out he had asked Reddick for information and it took two days to get an answer, the other commissioners leaped to her defense. "Michelle has a lot on her plate," said Paretti.

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"Michelle has done an outstanding job," said Slinkerd.

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Paretti pointed out that while people last night were complaining about having the meeting over Zoom, it had more participants than most in-person township meetings.

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"It's great to see so many people participate. This is not as many as we get at regular meetings. I've had people tell me they like this better," said Paretti. "You're never going to make everyone happy."

But even in a pandemic, "the one thing that can't stop is your government," Paretti said.

After the vote, Slinkerd said the next steps would be discussed at a future meeting.

This article first appeared as a post in The Digital Notebook blog.

> "All I have is a bunch of slides, which changed after almost every meeting, and a lot of 'take-my-word-for-it-answers."
>
> — Doug Kern, Upper Pottsgrove resident

> "This plan has its good points and its bad points, but it is ridiculous to do this in a Zoom meeting in the middle of a pandemic."
>
> — Darryle Tillman, Upper Pottsgrove resident

> "What's another month going to do? It's frustrating to watch people come in at the last hour and ask for a delay."
>
> — Don Read, Upper Pottsgrove Sewer Committee

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> "I am imploring you all to take an opportunity to table the vote until the May 20 meeting."
>
> — Stephanie Rowe, Upper Pottsgrove resident

> "You keep trying to throw things at the wall at the 11th hour to see what sticks to make it seem like you did research."
>
> — Trace Slinkerd, Upper Pottsgrove Commissioners chairman

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Evan Brandt
@PottstownNews on Twitter

Evan Brandt has been a staff reporter for The Mercury for more than 20 years. He covers municipal, school district, political, state government, federal government and environmental news.

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Va Township

Bill ID: 20-3-30 Bill Date: 03/30/2020 Due Date: 04/30/2020

Service	Charge	Rate	Current Charge	Prior Due	Total Billed	w\Penalty

Billing Summary By Class

Class	# of Units	# of Accounts	Consumption charges	Fixed charges	Special charges	Unit charges	Taxes	Prior Due	Total	Consumption
CH	0.00	6	$1,903.57	$0.00	$0.00	$0.00	$0.00	$588.17	$2,491.74	0.00
COM	0.00	119	$57,834.48	$0.00	$0.00	$0.00	$0.00	$4,543.43	$62,377.91	1,636.00
DAY	0.00	2	$2,006.87	$0.00	$0.00	$0.00	$0.00	$0.00	$2,006.87	0.00
IND	0.00	13	$11,785.09	$0.00	$0.00	$0.00	$0.00	-$967.10	$10,817.99	27.00
MH	0.00	4	$1,087.76	$0.00	$0.00	$0.00	$0.00	$1,003.61	$2,091.37	0.00
RES	1.00	3,022	$943,941.94	$0.00	$0.00	$0.00	$0.00	$224,214.75	$1,168,156.69	31,458.00
SCH	0.00	3	$4,074.10	$0.00	$0.00	$0.00	$0.00	$0.00	$4,074.10	338.00
Grand Totals	1.00		$1,022,633.81	$0.00	$0.00	$0.00	$0.00	$229,382.86	$1,252,016.67	33,459.00

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	Metered Sewer	Sewer	Trash	Water	Total
CH	0.00 0 $0.00 0.00	0.00 6 $1463.00 0.00	0.00 6 $440.57 0.00	0.00 0 $0.00 0.00	0.00 6 $1903.57 0.00
COM	0.00 26 $9447.60 555.00	0.00 90 $41339.82 526.00	0.00 17 $1258.76 0.00	0.00 27 $5788.30 555.00	0.00 119 $57834.48 1,636.00
DAY	0.00 0 $0.00 0.00	0.00 2 $1881.00 0.00	0.00 1 $125.87 0.00	0.00 0 $0.00 0.00	0.00 2 $2006.87 0.00
IND	0.00 0 $0.00 0.00	0.00 12 $11495.00 0.00	0.00 1 $62.94 0.00	0.00 1 $227.15 27.00	0.00 13 $11785.09 27.00
MH	0.00 0 $0.00 0.00	0.00 4 $836.00 0.00	0.00 4 $251.76 0.00	0.00 0 $0.00 0.00	0.00 4 $1087.76 0.00

EXHIBIT 23
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Valley Township

Bill ID: 20-3-30 Bill Date: 03/30/2020 Due Date: 04/30/2020

Service	Charge	Rate	Current Charge	Prior Due	Total Billed	w\Penalty

	Metered Sewer	Sewer	Trash	Water	Total
RES	0.00 1,638 $326585.47 15,718.00	0.00 1,344 $274835.00 0.00	1.00 2,741 $178743.69 0.00	0.00 1,641 $163777.78 15,740.00	1.00 3,022 $943941.94 31,458.00
SCH	0.00 2 $2026.80 169.00	0.00 1 $627.00 0.00	0.00 0 $0.00 0.00	0.00 2 $1420.30 169.00	0.00 3 $4074.10 338.00
Total	0.00 1,666 $338059.87 16,442.00	0.00 1,459 $332476.82 526.00	1.00 2,770 $180883.59 0.00	0.00 1,671 $171213.53 16,491.00	1.00 3,169 $1022633.81 33,459.00

Billing Summary By District

District	Accounts	Consumption charges	Fixed charges	Special charges	Unit charges	Total Taxes	Prior Due	Total	Consumption
	98	$31,793.07	$0.00	$0.00	$0.00	$0.00	$7,493.77	$39,286.84	1,308.00
01	227	$89,098.00	$0.00	$0.00	$0.00	$0.00	$11,780.00	$100,878.00	5,375.00
02	180	$66,337.00	$0.00	$0.00	$0.00	$0.00	$7,045.26	$73,382.26	3,734.00
03	373	$140,804.30	$0.00	$0.00	$0.00	$0.00	$12,388.59	$153,192.89	8,152.00
04	128	$45,371.52	$0.00	$0.00	$0.00	$0.00	$3,462.92	$48,834.44	2,402.00
05	79	$29,618.51	$0.00	$0.00	$0.00	$0.00	$1,527.02	$31,145.53	1,676.00
06	507	$168,878.38	$0.00	$0.00	$0.00	$0.00	-$1,009.62	$167,868.76	7,332.00
A	522	$156,120.45	$0.00	$0.00	$0.00	$0.00	$53,216.98	$209,337.43	1,346.00
B	662	$191,212.44	$0.00	$0.00	$0.00	$0.00	$96,144.83	$287,357.27	1,172.00
C	364	$92,570.36	$0.00	$0.00	$0.00	$0.00	$36,930.04	$129,500.40	436.00
EF	9	$3,446.52	$0.00	$0.00	$0.00	$0.00	$91.36	$3,537.88	218.00
WC	20	$7,383.26	$0.00	$0.00	$0.00	$0.00	$311.71	$7,694.97	308.00
Grand Totals		$1,022,633.81	$0.00	$0.00	$0.00	$0.00	$229,382.86	$1,252,016.67	33,459.00

(b) Until such time as a Nonassignable Asset is transferred to Buyer pursuant to this Article II, Buyer and Seller shall cooperate in any commercially reasonable and economically feasible arrangements (such as subleasing, sublicensing or subcontracting) to provide to the Parties the economic and, to the extent permitted under Law, operational equivalent of the transfer of such Nonassignable Asset to Buyer at the Closing and the performance by Buyer of its obligations with respect thereto, and so long as Seller transfers and turns over all economic and beneficial rights with respect to each such Nonassignable Asset, Buyer shall, to the extent permitted under Law and the terms of any applicable contract that is a Nonassignable Asset, as agent or subcontractor for Seller, pay, perform and discharge the liabilities and obligations of Seller thereunder from and after the Closing Date, but only to the extent that such liabilities and obligations would be Assumed Liabilities if the applicable consent or approval had been obtained on or before the Closing Date and such Nonassignable Asset had been assigned to Buyer at Closing. To the extent permitted under Law, Seller shall hold in trust for and pay to Buyer promptly upon receipt thereof, such Nonassignable Asset and all income, proceeds and other monies received by Seller with respect to such Nonassignable Asset in connection with the arrangements under this Article II.

(c) If, following the Effective Date and before the Closing, Buyer identifies any contract to which Seller is a party which is not set forth on Schedule 4.13, and Buyer reasonably determines such contract is necessary or useful to the operation of the System, Buyer shall notify Seller of such determination and Seller shall, promptly following receipt of such notice, deliver to Buyer an updated Schedule 4.13 reflecting the addition of such contract, and such contract will be an "Assigned Contract" for all purposes hereunder.

(d) If during the twelve (12) month period following the Closing, Buyer identifies any contract to which Seller was a party as of the Closing and which (i) was not set forth on Schedule 4.13 (as may be updated pursuant to (c)) and (ii) Buyer reasonably believes is necessary or useful to the operation of the System, Seller shall, promptly following Buyer's written request therefor, execute, acknowledge and deliver, or cause to be executed, acknowledged and delivered, such other instruments of conveyance and transfer and other documents, and perform or cause to be performed such further acts, as may be reasonably required to evidence or effectuate, or more fully evidence or effectuate the assignment of such contract to Buyer for no additional consideration, and upon such assignment, such contract is deemed an Assigned Contract for all purposes hereunder.

ARTICLE III.

PURCHASE PRICE AND ADDITIONAL PURCHASE PRICE

Section 3.01. Purchase Price.
The purchase price for the Acquired Assets is Thirteen Million Nine Hundred Fifty Thousand Dollars ($13,950,000) (the "Purchase Price") which Buyer shall pay as follows at Closing:

(a) Buyer shall pay, subject to any adjustment pursuant to Section 3.01(b), to Seller by wire transfer of immediately available funds the Purchase Price (remaining after the payments required in Section 3.01(a)) to one or more accounts that Seller designates and provides to Buyer at least three (3) Business Days before the Closing Date; and

Va Township

Bill ID: 20-3-30 Bill Date: 03/30/2020 Due Date: 04/30/2020

Service	Charge	Rate	Current Charge	Prior Due	Total Billed	w\Penalty

Billing Summary By Class

Class	# of Units	# of Accounts	Consumption charges	Fixed charges	Special charges	Unit charges	Taxes	Prior Due	Total	Consumption
CH	0.00	6	$1,903.57	$0.00	$0.00	$0.00	$0.00	$588.17	$2,491.74	0.00
COM	0.00	119	$57,834.48	$0.00	$0.00	$0.00	$0.00	$4,543.43	$62,377.91	1,636.00
DAY	0.00	2	$2,006.87	$0.00	$0.00	$0.00	$0.00	$0.00	$2,006.87	0.00
IND	0.00	13	$11,785.09	$0.00	$0.00	$0.00	$0.00	-$967.10	$10,817.99	27.00
MH	0.00	4	$1,087.76	$0.00	$0.00	$0.00	$0.00	$1,003.61	$2,091.37	0.00
RES	1.00	3,022	$943,941.94	$0.00	$0.00	$0.00	$0.00	$224,214.75	$1,168,156.69	31,458.00
SCH	0.00	3	$4,074.10	$0.00	$0.00	$0.00	$0.00	$0.00	$4,074.10	338.00
Grand Totals	1.00		$1,022,633.81	$0.00	$0.00	$0.00	$0.00	$229,382.86	$1,252,016.67	33,459.00

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	Metered Sewer	Sewer	Trash	Water	Total
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COM	0.00 26 $9447.60 555.00	0.00 90 $41339.82 526.00	0.00 17 $1258.76 0.00	0.00 27 $5788.30 555.00	0.00 119 $57834.48 1,636.00
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MH	0.00 0 $0.00 0.00	0.00 4 $836.00 0.00	0.00 4 $251.76 0.00	0.00 0 $0.00 0.00	0.00 4 $1087.76 0.00

EXHIBIT 23
Page 72 or 385

Valley Township

Bill ID: 20-3-30 Bill Date: 03/30/2020 Due Date: 04/30/2020

Service	Charge				
	Metered Sewer	Sewer	Trash	Water	Total
RES	0.00 1,638 $326585.47 15,718.00	0.00 1,344 $274835.00 0.00	1.00 2,741 $178743.69 0.00	0.00 1,641 $163777.78 15,740.00	1.00 3,022 $943941.94 31,458.00
SCH	0.00 2 $2026.80 169.00	0.00 1 $627.00 0.00	0.00 0 $0.00 0.00	0.00 2 $1420.30 169.00	0.00 3 $4074.10 338.00
Total	0.00 1,666 $338059.87 16,442.00	0.00 1,459 $332476.82 526.00	1.00 2,770 $180883.59 0.00	0.00 1,671 $171213.53 16,491.00	1.00 3,169 $1022633.81 33,459.00

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02	180	$66,337.00	$0.00	$0.00	$0.00	$0.00	$7,045.26	$73,382.26	3,734.00
03	373	$140,804.30	$0.00	$0.00	$0.00	$0.00	$12,388.59	$153,192.89	8,152.00
04	128	$45,371.52	$0.00	$0.00	$0.00	$0.00	$3,462.92	$48,834.44	2,402.00
05	79	$29,618.51	$0.00	$0.00	$0.00	$0.00	$1,527.02	$31,145.53	1,676.00
06	507	$168,878.38	$0.00	$0.00	$0.00	$0.00	-$1,009.62	$167,868.76	7,332.00
A	522	$156,120.45	$0.00	$0.00	$0.00	$0.00	$53,216.98	$209,337.43	1,346.00
B	662	$191,212.44	$0.00	$0.00	$0.00	$0.00	$96,144.83	$287,357.27	1,172.00
C	364	$92,570.36	$0.00	$0.00	$0.00	$0.00	$36,930.04	$129,500.40	436.00
EF	9	$3,446.52	$0.00	$0.00	$0.00	$0.00	$91.36	$3,537.88	218.00
WC	20	$7,383.26	$0.00	$0.00	$0.00	$0.00	$311.71	$7,694.97	308.00
Grand Totals		$1,022,633.81	$0.00	$0.00	$0.00	$0.00	$229,382.86	$1,252,016.67	33,459.00

and beneficial rights with respect to each such Nonassignable Asset, Buyer shall, to the extent permitted under Law and the terms of any applicable contract that is a Nonassignable Asset, as agent or subcontractor for Seller, pay, perform and discharge the liabilities and obligations of Seller thereunder from and after the Closing Date, but only to the extent that such liabilities and obligations would be Assumed Liabilities if the applicable consent or approval had been obtained on or before the Closing Date and such Nonassignable Asset had been assigned to Buyer at Closing. To the extent permitted under Law, Seller shall hold in trust for and pay to Buyer promptly upon receipt thereof, such Nonassignable Asset and all income, proceeds and other monies received by Seller with respect to such Nonassignable Asset in connection with the arrangements under this Article II.

(c) If, following the Effective Date and before the Closing, Buyer identifies any contract to which Seller is a party which is not set forth on Schedule 4.13, and Buyer reasonably determines such contract is necessary or useful to the operation of the System, Buyer shall notify Seller of such determination and Seller shall, promptly following receipt of such notice, deliver to Buyer an updated Schedule 4.13 reflecting the addition of such contract, and such contract will be an "Assigned Contract" for all purposes hereunder.

(d) If during the twelve (12) month period following the Closing, Buyer identifies any contract to which Seller was a party as of the Closing and which (i) was not set forth on Schedule 4.13 (as may be updated pursuant to (c)) and (ii) Buyer reasonably believes is necessary or useful to the operation of the System, Seller shall, promptly following Buyer's written request therefor, execute, acknowledge and deliver, or cause to be executed, acknowledged and delivered, such other instruments of conveyance and transfer and other documents, and perform or cause to be performed such further acts, as may be reasonably required to evidence or effectuate, or more fully evidence or effectuate the assignment of such contract to Buyer for no additional consideration, and upon such assignment, such contract is deemed an Assigned Contract for all purposes hereunder.

ARTICLE III.

PURCHASE PRICE AND ADDITIONAL PURCHASE PRICE

Section 3.01. Purchase Price.

The purchase price for the Acquired Assets is Seven Million Three Hundred Twenty-Five Thousand Dollars ($7,325,000) (the "Purchase Price") which Buyer shall pay as follows at Closing:

(a) Buyer shall pay, subject to any adjustment pursuant to Section 3.01(b) and to release Liens, to Seller by wire transfer of immediately available funds the Purchase Price to one or more accounts that Seller designates and provides to Buyer at least three (3) Business Days before the Closing Date; and

(b) Final Billing: The Buyer is entitled to all customer billings with respect to drinking water customers services for the period on or after the Closing Effective Time, and Seller is entitled to all such billings for the period before the Closing Effective Time. The Parties

respect thereto, and so long as Seller or the City transfers and turns over all economic and beneficial rights with respect to each such Nonassignable Asset, Buyer shall, to the extent permitted under applicable Law and the terms of any applicable contract that constitutes a Nonassignable Asset, as agent or subcontractor for Seller or the City, pay, perform and discharge the Liabilities and obligations of Seller thereunder from and after the Closing Date, but only to the extent that such liabilities and obligations would constitute Assumed Liabilities if the applicable consent or approval had been obtained on or prior to the Closing Date and such Nonassignable Asset had been assigned to Buyer at Closing. To the extent permitted under applicable Law, Seller or the City shall, at Seller's or the City's expense, hold in trust for and pay to Buyer promptly upon receipt thereof, such Nonassignable Asset and all income, proceeds and other monies received by Seller with respect to such Nonassignable Asset in connection with the arrangements under this Article II.

(c) If, following the Effective Date and prior to the Closing, Buyer identifies any contract to which Seller or the City is a party which is not identified on Schedule 4.15 as an Assigned Contract as of the Effective Date, and Buyer reasonably determines such contract is necessary to the operation of the System, Buyer shall give notice of such determination to Seller or the City and Seller or the City shall, promptly following receipt of such notice, deliver to Buyer an updated Schedule 4.15 identifying such contract, and such contract shall thereafter constitute and be deemed an Assigned Contract for all purposes hereunder.

(d) In the event that, during the twelve (12) month period following the Closing, Buyer identifies any contract to which Seller or the City was a party as of the Closing and which (i) was not set forth on or properly identified on Schedule 4.15 (as may be updated pursuant to (c)) and (ii) Buyer reasonably believes is necessary to the operation of the System, Seller or the City shall, promptly following Buyer's written request therefor, execute, acknowledge and deliver, or cause to be executed, acknowledged and delivered, such other instruments of conveyance and transfer and other documents, and perform or cause to be performed such further acts, as may be reasonably required to evidence or effectuate, or more fully evidence or effectuate the assignment of such contract to Buyer for no additional consideration, and upon such assignment, such contract shall be deemed an Assigned Contract for all purposes hereunder.

ARTICLE III.

PURCHASE PRICE

Section 3.01 Purchase Price; Agreement Proposal Security.

(a) **Purchase Price for the Assets; Adjustment for City Deposit.** Subject to the terms and conditions of this Agreement, the purchase price ("**Purchase Price**") for the Acquired Assets shall be (i) $235,000,000, *plus* (ii) the Average Daily AR Payment. The Purchase Price shall be delivered as follows:

(i) Within 60 days of the Effective Date, Buyer shall deposit Twenty Million Dollars ($20,000,000) of the Purchase Price, payable to the City in immediately available funds ("**City Deposit**"), subject to Sections 4.03, 6.06, 9.05 and 13.02 and secured by the City with a tax and revenue anticipation note (the "**Deposit Note**") substantially in the form attached hereto as Exhibit A; and

Application of Pennsylvania-American Water Company for the Acquisition of the Wastewater Collection and Treatment System Owned by the York City Sewer Authority (the "Authority") and Operated by the City of York (the "City") (collectively "York")

66 Pa. C.S. § 1329
Application Filing Checklist – Water/Wastewater
Docket No. A-2021-3024681

17. Customers.

a. State the seller's actual number of customers by class and quantify the related consumption or gallons treated in the current calendar year and future number of connections anticipated for the next 10 years.

RESPONSE:

a. As of April 2021, York provided direct wastewater service to approximately 13,747 customers and seven bulk customers:

1. Manchester Township
2. West Manchester Township
3. York Township
4. North York Borough
5. The York Water Company (owner of the West York Borough Collection System)
6. Spring Garden Township
7. Springettsbury Township

The York does not differentiate by customer class.

Consumption (annual):

Based on 2020 monthly average flow data from the 2020 Chapter 94 Report, the annual gallon treated is 3,341,575,000 gallons, inclusive of the seven bulk customers' sewage.

Please refer to **Appendix A-20-c,** Chapter 94 Report for future EDU projections.

Appendix A-17-a

system at an agreed-upon price of $53,000,000.[9] Thereafter, Aqua and the Township agreed to use the process presented in Section 1329 of the Code to determine the FMV of the wastewater system assets and the ratemaking rate base. As required by Section 1329, Aqua and LMT jointly retained the services of Ebert Engineering, Inc., Consulting Engineers (Ebert) to complete the engineering assessment and original cost estimate of the wastewater system (Assessment of Tangible Property). Aqua St. 1 at 20; Application at ¶ 11. Aqua selected Gannett Fleming, and the Township selected AUS, as their respective UVEs to prepare FMV appraisals of the wastewater system. Application at ¶ 53. Gannett Fleming's FMV report concluded that the value of the wastewater system was $55,505,000; AUS' FMV was $54,430,591. Application Exhs. Q and R. Both appraisals were prepared in compliance with the USPAP standards. Application at ¶ 61; Application Exhs. T1 and T2.

In its Application, Aqua proposed a ratemaking rate base of $53,000,000 based on the agreed-to purchase price of $53,000,000. This amount is less than the average of the two UVE appraisals for the wastewater system (($55,505,000 + $54,430,591)/2 = $54,967,796). OCA M.B. at 6; *See* 66 Pa. C.S. § 1329(c)(2).

In addition, Aqua is seeking approval of the APA with LMT. Application Exh. B. The APA requires Aqua to implement rates that are no higher than the Township's rates in effect at closing. Application Exh. B at Section 7.04. The APA also provides that Aqua intends to bill customers on a monthly basis instead of an annual basis. *Id*. Moreover, in accordance with Section 1102 of the Code, Aqua is requesting a Certificate in order to provide wastewater services to the Township customers. Application at ¶ 5. Separate customer notices were sent to the Township customers and

[9] All assets are located in the Township except for a portion of a main that collects wastewater from a small segment of residents in Yardley Borough. The main is located on University Blvd. and is owned by LMT which loops into, then out of, Yardley Borough. The residents in Yardley Borough that are connected to this main are billed by Yardley Borough. Application at 3.

adopted without comment unless they are either expressly or by necessary implication rejected or modified by this Opinion and Order.

As we proceed in our review of the various positions of the Parties in this proceeding, we are reminded that the Commission is not required to consider expressly or at length each contention or argument raised by the parties. *Consolidated Rail Corp. v. Pa. PUC*, 625 A.2d 741 (Pa. Cmwlth. 1993); *also see, generally, University of Pennsylvania v. Pa. PUC*, 485 A.2d 1217 (Pa. Cmwlth. 1984). Exceptions that we do not specifically address shall be deemed to have been duly considered and denied without further discussion.

III. Transaction Overview

Aqua is a certificated provider of wastewater service, duly organized and existing under the laws of the Commonwealth of Pennsylvania. Aqua provides wastewater service to approximately 45,000 customer accounts in various counties throughout Pennsylvania including parts of Bucks County. Application at ¶ 7.

LMT owns a sanitary wastewater collection system operated by the Municipal Sewer Authority of the Township of Lower Makefield, which provides direct wastewater service to 11,151 customers in the Township. Application at ¶ 8; Aqua St. 2 at 10. LMT does not own a wastewater treatment plant. Wastewater treatment is mainly provided by the Municipal Authority of the Borough of Morrisville and also by Yardley Borough Sewer Authority. Application at ¶ 15.

On September 17, 2020, Aqua and LMT entered into an APA for the sale of substantially all of the assets, properties, and rights related to the Township's wastewater

II. Transaction Overview

Aqua is a certificated provider of wastewater service, duly organized and existing under the laws of the Commonwealth of Pennsylvania. Aqua provides wastewater service to approximately 45,000 customer accounts in various counties throughout Pennsylvania, including parts of Chester County and within the Township itself, and currently operates thirty-nine wastewater treatment plants. Application at ¶ 7; Aqua St. 1 at 8-9.

EWT is a Pennsylvania Second Class township, which owns the sanitary wastewater collection system (the System) providing sanitary wastewater service to approximately 3,895 customers in EWT. Application at ¶ 8. Although EWT owns the Malvern Hunt Wastewater Treatment Plant (WWTP), wastewater treatment is mainly provided by the Valley Forge Sewer Authority (VFSA).[3] Application at ¶ 15.

On January 8, 2021, Aqua and EWT entered into an APA for the sale of the assets, properties, and rights related to the Township's System at an agreed-upon price of $54,930,000. Thereafter, Aqua and the Township agreed to use the process presented in Section 1329 of the Code to determine the fair market value (FMV) of the System assets and the ratemaking rate base. As required by Section 1329, Aqua and EWT jointly retained the services of Pennoni Associates, Inc. (Pennoni) to complete the engineering assessment and original cost estimate of the System (Engineering Assessment).

[3] In the Application, Aqua stated that Malvern Hunt WWTP was in the process of being decommissioned and converted to a pump station. Following the decommissioning, all wastewater flows will be treated at the VFSA WWTP. EWT, in addition, collects/conveys flow to/from its system from the Borough of Malvern, Tredyffrin Township, Charlestown Township, and Willistown Township, which then flows for treatment at the VFSA. EWT also has several areas of its system that are on the border between EWT and East Goshen Township. While EWT owns the facilities within its borders, flows from these customers are sent to the East Goshen Municipal Authority (EGMA) WWTP. Aqua St. 2 at 5-6.

Willistown is a Pennsylvania Second Class township, which owns the sanitary wastewater collection and treatment system (the System) providing sanitary wastewater service to approximately 2,294 customers in Willistown. Application at ¶ 8. Although Willistown owns one wastewater treatment plant (WWTP), Penn's Preserve, which treats wastewater to a small community system, wastewater treatment is mainly provided by the Valley Forge Sewer Authority (VFSA).[5] Application at ¶ 15.

On January 20, 2021, Aqua and Willistown entered into an APA for the sale of the assets, properties, and rights related to the Township's wastewater system at an agreed-upon price of $17,500,000. Thereafter, Aqua and the Township agreed to use the process presented in Section 1329 of the Code to determine the FMV of the wastewater system assets and the ratemaking rate base. As required by Section 1329, Aqua and Willistown jointly retained the services of Pennoni Associates, Inc. (Pennoni) to complete the engineering assessment and original cost estimate of the System (Engineering Assessment). Aqua St. 1 at 19; Application at ¶ 11. Aqua selected Gannett Fleming, and the Township selected AUS, as their respective Utility Valuation Engineers (UVEs) to prepare FMV appraisals of the System. Application at ¶ 53. Gannett Fleming's FMV report concluded that the value of the System was $25,612,805; AUS' FMV was $19,113,140. Application Exhs. Q and R, respectively.[6, 7] Both appraisals were prepared in compliance with the Uniform Standards of Professional Appraisal Practice (USPAP) standards. Application at ¶ 61; Application Exhs. T1 and T2.

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[5] Willistown accepts flows into the System from users on the borders of Willistown, including from neighboring municipalities: Borough of Malvern (Malvern), East Goshen Township (East Goshen), and East Whiteland Township (EWT). While most flows from these users flow to the VFSA WWTP for treatment, some flows sent to East Goshen are treated at the East Goshen Municipal Authority (EGMA) Ridley Creek WWTP or the West Goshen Sewer Authority (WGSA) WWTP. Aqua St. 2 at 5-6.

[6] Application Exhibit Q, Gannett Fleming Fair Market Value Appraisal Report (hereinafter "Application Exh. Q" or "Gannett Fleming FMV Appraisal").

[7] Aqua Application, Exhibit R, AUS Fair Market Value Appraisal Report (hereinafter "Application Exh. R" or "AUS FMV Appraisal").

	2020 Audit			
Power	$44,810			
Chemicals	43,750			
Pumping	127,198			
Cost	$215,758			
	2020	2021		
Water Sales GPD	700,521	698,908		
Water Loss GPD	844,689	873,780		
Water Production GPD	1,545,210	1,572,688		4.6%
Annual Production	564,001,650	574,031,120		
Production Cost Per gallon	0.000382549			
Cost per million gallons	$382.55			
Annual Water Loss (MG)	308.311	318.930		
Cost per million gallons	$382.55	$382.55		
	$117,944	$122,006		
	Value	Value		
Capitalization Rates:				
3.81%	$3,095,646	$3,202,259		
7.54%	$1,564,245	$1,618,118		
10.51%	$1,122,208	$1,160,857		
Midpoint	$2,108,927	$2,181,558		
Use (after interal use)		**$2,000,000**		
		$181,558	8%	72,719

MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH

SCHEDULE OF PURIFICATION SYSTEM, PUMPING SYSTEM,
DISTRIBUTION SYSTEM, GENERAL OPERATING, AND ADMINISTRATIVE EXPENSES
FOR YEAR ENDED SEPTEMBER 30, 2020

PURIFICATON SYSTEM EXPENSES:	
Wages	$ 157,620
Employee Benefits (Including Pension Expense)	154,122
Power	44,810
Chemicals	43,750
Supplies and Expenses	39,434
Total Purification System Expenses	$ 439,736
PUMPING SYSTEM EXPENSES:	
Power	$ 124,941
Heat	2,257
Total Pumping System Expenses	$ 127,198
DISTRIBUTION SYSTEM EXPENSES:	
Wages	$ 199,723
Materials	195,742
Employee Benefits (Including Pension Expense)	195,290
Supplies and Expenses	17,610
Rental Expense	512
Total Distribution system Expenses	$ 608,877
GENERAL OPERATING EXPENSES:	
Wages	$ 129,298
Employee Benefits (Including Pension Expense)	126,428
General Insurance expense	67,978
Office Supplies and Expense	39,708
Automobile and Truck Expense	21,545
Telephone expense	9,866
Heat	4,050
Power	1,595
Total General Operating Expenses	$ 400,468
ADMINISTRATIVE EXPENSES:	
Engineering	$ 46,363
Professional fees	25,377
Lease rental	7,500
Dues and Subscriptions	3,220
Training	627
Total Administrative Expenses	$ 83,087

See Independent Auditor's Report

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF SAFE DRINKING WATER
PLANNING AND CONSERVATION DIVISION

Primary Facility Report for SHENANDOAH MUNI WATER AUTH (19495)

REPORT FOR CALENDAR YEAR JAN 1 TO DEC 31, 2019

Client: SHENANDOAH BORO MUNI AUTH SCHUYLKILL CNTY

PRIMARY FACILITY NAME AND MAILING ADDRESS

Name and Address: SHENANDOAH MUN WATER AUTHORITY
PO BOX 110
SHENANDOAH, PA 17976-0110

Contact Information: SALVADORE DAN
CHIEF PLT OPR

Phone: 570-462-4918

Facility e-mail: DSALVADORE@MABSWATER.COM

PEAK DAY WATER USE FOR REPORT YEAR 2019

Date: 11/12/2019 (mm/dd/yyyy)

Gallons Per Day: 2,374,000

MINIMUM DAY WATER USE FOR REPORT YEAR 2019

Date: 07/03/2019 (mm/dd/yyyy)

Gallons Per Day: 1,487,000

POPULATION SERVED

Population Served: 9,000

AVERAGE DAILY WATER USE

Type	Metered Connections		Unmetered Connections	
	Number	Water Use (GPD)	Number	Water Use (GPD)
Domestic	2,574	264,294	0	0
Commercial	185	40,157	0	0
Industrial	6	64,121	0	0
Institutional	34	44,551	0	0
Bulk Sales to other PWS	0	0	0	0
Oil and Gas	0	0	0	0
Other	15	283,979	0	0
Water Losses				1,054,558
Total	2,814	697,102	0	1,054,558

Explain 'Other' Connections: Fire Protection, 2 Private/13Public. Other would include Backwash Water, High Service Use, Tank Over Flow, RR Village.

BREAKDOWN OF WATER LOSSES FOR THE SYSTEM

Type	Water Use (GPD)
Apparent Losses	1,054,558
Real Losses	0
Total Water Losses	1,054,558

PRESENT NUMBER OF CONNECTIONS SERVED

Municipality Name	Present Number of Connections						% Pop Served	Multiple Unit Connections	
	Dom	Comm	Ind	Inst	Oil Gas	Other		No. Conn	No. Units
BUTLER TWP	33	1	0	1	0	1	1	36	36

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF SAFE DRINKING WATER
PLANNING AND CONSERVATION DIVISION

PRESENT NUMBER OF CONNECTIONS SERVED

Municipality Name	Present Number of Connections						% Pop Served	Multiple Unit Connections	
	Dom	Comm	Ind	Inst	Oil Gas	Other		No. Conn	No. Units
(SCHUYLKILL)									
SHENANDOAH BORO (SCHUYLKILL)	1851	169	6	31	0	11	73	2058	2058
WEST MAHANOY TWP (SCHUYLKILL)	690	15	0	2	0	3	26	710	710
TOTAL	2574	185	6	34	0	15		2804	2804

METERING, WATER CONSERVATION AND DISTRIBUTION SYSTEM

What is the average age of existing meters?	10 Years
Are you currently installing meters at new connections?	YES
Are you currently installing meters at unmetered connections?	YES
Is there an active meter replacement program for your water system?	YES
How many meters did you replace during the report year?	700
Did you provide water conservation information to your customers during the report year?	YES

What is the type, size (inches), and length of new pipe installed as an extension to your present system during the report year?

n/a

What is the frequency of flushing the distribution system during the past year?	2
Did you work your hydrants during the report year?	YES
Did you work the valves in the system during the report year?	YES
Does your system have an active leak detection program?	YES

What type of equipment or methods do you use for leak detection?

Aqua Scopes, Geophones, PRWA Leak Service. Leak Detector

Does your system have a cross-connection control program?	NO
Has the water pressure been inadequate in any part of the system?	NO

If yes, explain

Service Area Boundary Map: The box contains the date of the latest submitted service area boundary map for your system. If this date is older than 5 years, blank, or there has been a change in the area since then, please use the online service area boundary mapping tool to review and submit a current map. (See Instructions)	07/18/2008

Describe major system changes such as purchases and transfers:

REPORT CONTACT INFORMATION

Report Preparer:

DAN SALVADORE
SHENANDOAH MUNI WATER AUTH
PO BOX 110 , 424 RAVEN RUN ROAD
SHENANDOAH, PA 17976
Phone: 570-462-4918
Email
Address: DSALVADORE@MABSWATER.COM

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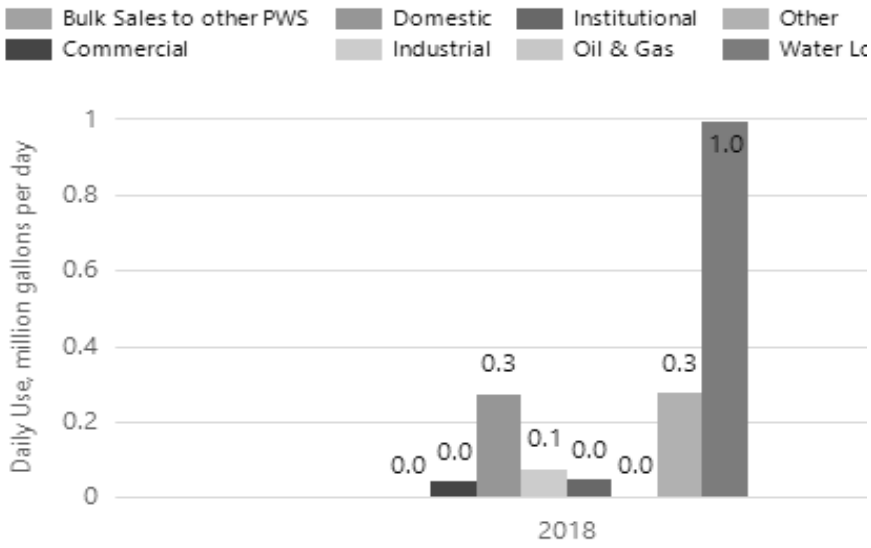
SF Status: All
Primary Facility Name: SHENANDOAH MUNI WATER AUTH - 1053
Report Year: 2018
County: All

Plots of Selected Data:

Plot 1 - Total Daily Water Use



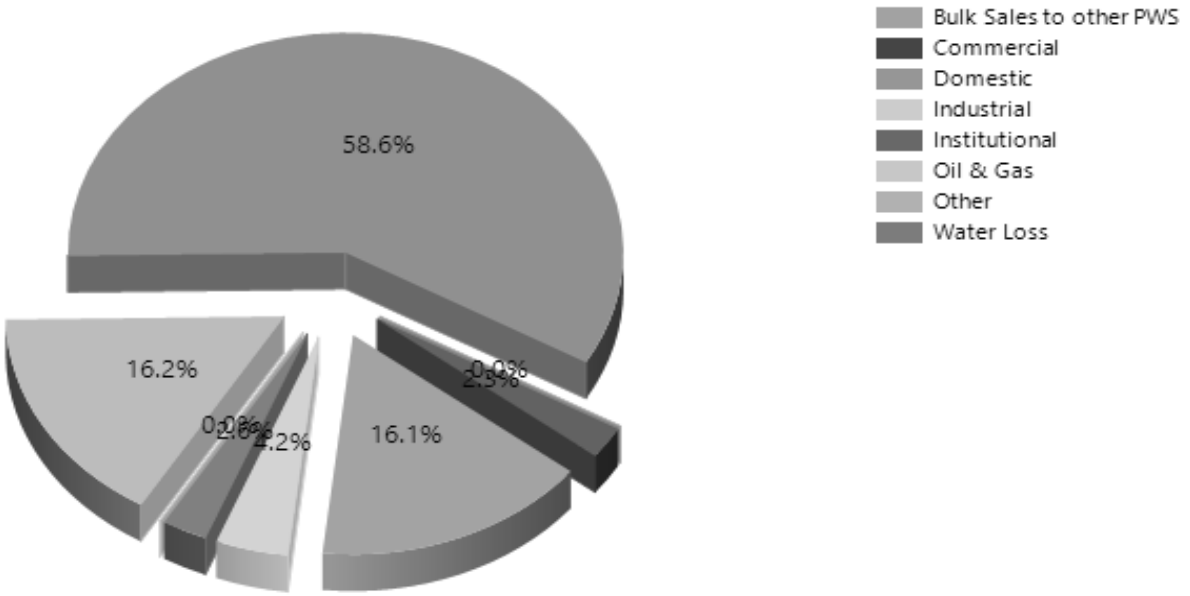
Plot 2 - Daily Water Use by Category



Average Daily Water Distribution

EXHIBIT 23
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Plot 3 - Percentage of Water Use by Category



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DEPARTMENT OF ENVIRONMENTAL PROTECTION

ACTIVE INDICATOR	PUBLIC WATER SUPPLY ID	WUDS PRIMARY FACILITY ID	eFACTS PRIMARY FACILITY ID	PRIMARY FACILITY	PRIMARY FACILITY DESIGNATION	COUNTY	REPORT YEAR
Active	3540044	19495	1053	SHENANDOAH MUNI WATER AUTH	Authority	Schuylkill	2018
Active	3540044	19495	1053	SHENANDOAH MUNI WATER AUTH	Authority	Schuylkill	2018
Active	3540044	19495	1053	SHENANDOAH MUNI WATER AUTH	Authority	Schuylkill	2018
Active	3540044	19495	1053	SHENANDOAH MUNI WATER AUTH	Authority	Schuylkill	2018
Active	3540044	19495	1053	SHENANDOAH MUNI WATER AUTH	Authority	Schuylkill	2018
Active	3540044	19495	1053	SHENANDOAH MUNI WATER AUTH	Authority	Schuylkill	2018
Active	3540044	19495	1053	SHENANDOAH MUNI WATER AUTH	Authority	Schuylkill	2018
Active	3540044	19495	1053	SHENANDOAH MUNI WATER AUTH	Authority	Schuylkill	2018
Active	3540044	19495	1053	SHENANDOAH MUNI WATER AUTH	Authority	Schuylkill	2018
Active	3540044	19495	1053	SHENANDOAH MUNI WATER AUTH	Authority	Schuylkill	2018
Active	3540044	19495	1053	SHENANDOAH MUNI WATER AUTH	Authority	Schuylkill	2018
Active	3540044	19495	1053	SHENANDOAH MUNI WATER AUTH	Authority	Schuylkill	2018
Active	3540044	19495	1053	SHENANDOAH MUNI WATER AUTH	Authority	Schuylkill	2018
Active	3540044	19495	1053	SHENANDOAH MUNI WATER AUTH	Authority	Schuylkill	2018
Active	3540044	19495	1053	SHENANDOAH MUNI WATER AUTH	Authority	Schuylkill	2018

Number of Connections by County/Municipality

PRIMARY FACILITY ID	REPORT YEAR	MUNICIPALITY	COUNTY	DOMESTIC CONNECTIONS	COMMERCIAL CONNECTIONS	INDUSTRIAL CONNECTIONS	INSTITUTIONAL CONNECTIONS	OIL AND GAS CONNECTIONS
19495	2018	Butler Township	Schuylkill	36	1	0	1	0
19495	2018	Shenandoah Borough	Schuylkill	1841	162	6	26	0
19495	2018	West Mahanoy Township	Schuylkill	688	15	0	2	0

PEAK WATER USE DATE	PEAK DAY WATER USE (GALLONS)	MINIMUM WATER USE DATE	MINIMIM DAY WATER USE (GALLONS)	POPULATION SERVED	DISTRIBUTION TYPE	METERED CONNECTION	AVERAGE WATER USE (GPD)	NUMBER OF CONNECTIONS	AVERAGE METER AGE (YEARS)
2/2/2018	2696000	7/23/2018	1391000	9000	Commercial	Y	39471	178	16
2/2/2018	2696000	7/23/2018	1391000	9000	Industrial	N	0	0	16
2/2/2018	2696000	7/23/2018	1391000	9000	Other	Y	273574	15	16
2/2/2018	2696000	7/23/2018	1391000	9000	Domestic	Y	272420	2565	16
2/2/2018	2696000	7/23/2018	1391000	9000	Bulk Sales to other PWS	N	0	0	16
2/2/2018	2696000	7/23/2018	1391000	9000	Oil & Gas	Y	0	0	16
2/2/2018	2696000	7/23/2018	1391000	9000	Domestic	N	0	0	16
2/2/2018	2696000	7/23/2018	1391000	9000	Water Loss	N	991225	0	16
2/2/2018	2696000	7/23/2018	1391000	9000	Oil & Gas	N	0	0	16
2/2/2018	2696000	7/23/2018	1391000	9000	Bulk Sales to other PWS	Y	0	0	16
2/2/2018	2696000	7/23/2018	1391000	9000	Industrial	Y	71485	6	16
2/2/2018	2696000	7/23/2018	1391000	9000	Institutional	Y	44403	29	16
2/2/2018	2696000	7/23/2018	1391000	9000	Commercial	N	0	0	16
2/2/2018	2696000	7/23/2018	1391000	9000	Institutional	N	0	0	16
2/2/2018	2696000	7/23/2018	1391000	9000	Other	N	0	0	16

OTHER CONNECTIONS	UNIT CONNECTIONS	UNIT NUMBER OF UNITS
1	39	39
11	2046	2046
3	708	708

NEW METERS (Y/N)	ADD METERS (Y/N)	METER REPLACEMENT PROGRAM (Y/N)	REPLACED METER COUNT	CONSERVATION INFORMATION PROVIDED (Y/N)	NEW PIPE EXTENSION DETAILS	FLUSHING FREQUENCY
Y	Y	Y	187	Y	N/A	2
Y	Y	Y	187	Y	N/A	2
Y	Y	Y	187	Y	N/A	2
Y	Y	Y	187	Y	N/A	2
Y	Y	Y	187	Y	N/A	2
Y	Y	Y	187	Y	N/A	2
Y	Y	Y	187	Y	N/A	2
Y	Y	Y	187	Y	N/A	2
Y	Y	Y	187	Y	N/A	2
Y	Y	Y	187	Y	N/A	2
Y	Y	Y	187	Y	N/A	2
Y	Y	Y	187	Y	N/A	2
Y	Y	Y	187	Y	N/A	2
Y	Y	Y	187	Y	N/A	2

HYDRANTS WORKED (Y/N)	VALVES WORKED (Y/N)	ACTIVE LEAK DETECTION (Y/N)	LEAK DETECTION DETAILS	CROSS CONNECTION CONTROL PROGRAM (Y/N)	INADEQUATE PRESSURE (Y/N)
Y	Y	Y	Heath Aqua Scope, Geophones, Aquaphones, PRWA Leak Service,	N	N
Y	Y	Y	Heath Aqua Scope, Geophones, Aquaphones, PRWA Leak Service,	N	N
Y	Y	Y	Heath Aqua Scope, Geophones, Aquaphones, PRWA Leak Service,	N	N
Y	Y	Y	Heath Aqua Scope, Geophones, Aquaphones, PRWA Leak Service,	N	N
Y	Y	Y	Heath Aqua Scope, Geophones, Aquaphones, PRWA Leak Service,	N	N
Y	Y	Y	Heath Aqua Scope, Geophones, Aquaphones, PRWA Leak Service,	N	N
Y	Y	Y	Heath Aqua Scope, Geophones, Aquaphones, PRWA Leak Service,	N	N
Y	Y	Y	Heath Aqua Scope, Geophones, Aquaphones, PRWA Leak Service,	N	N
Y	Y	Y	Heath Aqua Scope, Geophones, Aquaphones, PRWA Leak Service,	N	N
Y	Y	Y	Heath Aqua Scope, Geophones, Aquaphones, PRWA Leak Service,	N	N
Y	Y	Y	Heath Aqua Scope, Geophones, Aquaphones, PRWA Leak Service,	N	N
Y	Y	Y	Heath Aqua Scope, Geophones, Aquaphones, PRWA Leak Service,	N	N
Y	Y	Y	Heath Aqua Scope, Geophones, Aquaphones, PRWA Leak Service,	N	N
Y	Y	Y	Heath Aqua Scope, Geophones, Aquaphones, PRWA Leak Service,	N	N

INADEQUATE PRESSURE DETAILS															

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SF Status: All
Primary Facility Name: SHENANDOAH MUNI WATER AUTH - 1053
Report Year: 2020
County: All

Plots of Selected Data:

Plot 1 - Total Daily Water Use



Plot 2 - Daily Water Use by Category

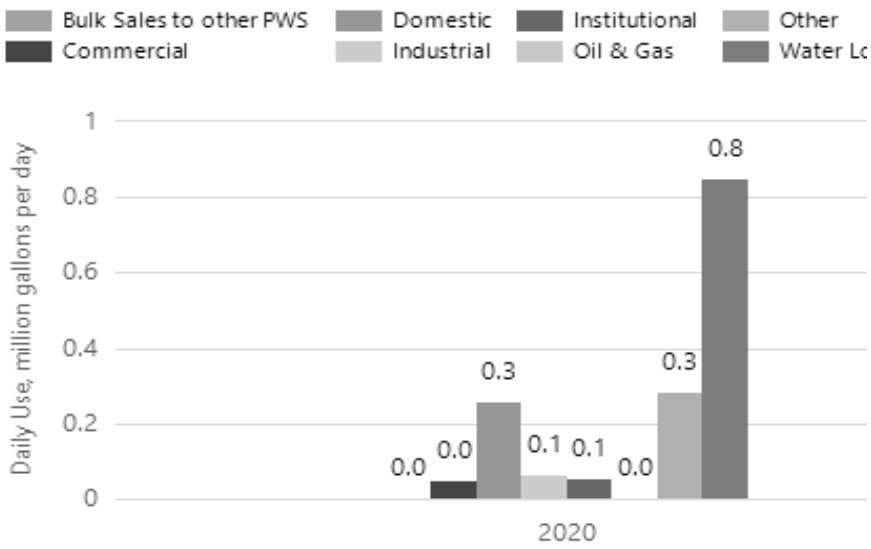
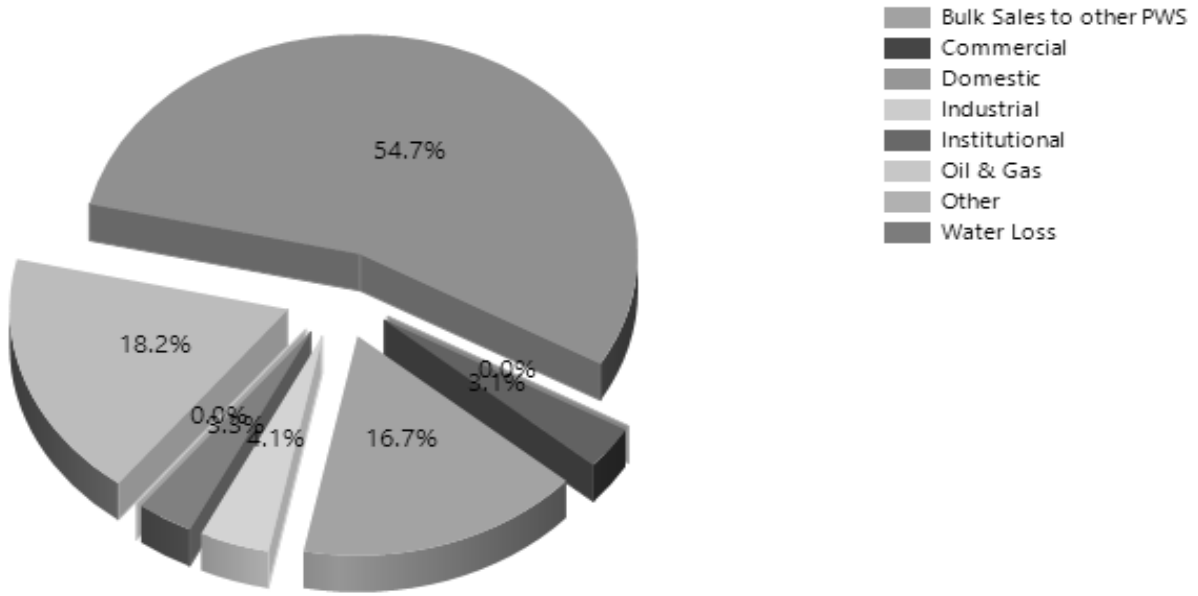


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Plot 3 - Percentage of Water Use by Category



R 110 WATER USE REPORTS
USE BY WATER SUPPLIER
8/26/2022 9:20:54 AM

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Average Daily Water Distribution

ACTIVE INDICATOR	PUBLIC WATER SUPPLY ID	WUDS PRIMARY FACILITY ID	eFACTS PRIMARY FACILITY ID	PRIMARY FACILITY	PRIMARY FACILITY DESIGNATION	COUNTY	REPORT YEAR
Active	3540044	19495	1053	SHENANDOAH MUNI WATER	Authority	Schuylkill	2020
Active	3540044	19495	1053	SHENANDOAH MUNI WATER	Authority	Schuylkill	2020
Active	3540044	19495	1053	SHENANDOAH MUNI WATER	Authority	Schuylkill	2020
Active	3540044	19495	1053	SHENANDOAH MUNI WATER	Authority	Schuylkill	2020
Active	3540044	19495	1053	SHENANDOAH MUNI WATER	Authority	Schuylkill	2020
Active	3540044	19495	1053	SHENANDOAH MUNI WATER	Authority	Schuylkill	2020
Active	3540044	19495	1053	SHENANDOAH MUNI WATER	Authority	Schuylkill	2020
Active	3540044	19495	1053	SHENANDOAH MUNI WATER	Authority	Schuylkill	2020
Active	3540044	19495	1053	SHENANDOAH MUNI WATER	Authority	Schuylkill	2020
Active	3540044	19495	1053	SHENANDOAH MUNI WATER	Authority	Schuylkill	2020
Active	3540044	19495	1053	SHENANDOAH MUNI WATER	Authority	Schuylkill	2020
Active	3540044	19495	1053	SHENANDOAH MUNI WATER AUTH	Authority	Schuylkill	2020
Active	3540044	19495	1053	SHENANDOAH MUNI WATER	Authority	Schuylkill	2020
Active	3540044	19495	1053	SHENANDOAH MUNI WATER	Authority	Schuylkill	2020
Active	3540044	19495	1053	SHENANDOAH MUNI WATER AUTH	Authority	Schuylkill	2020

100

Number of Connections by County/Municipality

PRIMARY FACILITY ID	REPORT YEAR	MUNICIPALITY	COUNTY	DOMESTIC CONNECTIONS	COMMERCIAL CONNECTIONS	INDUSTRIAL CONNECTIONS	INSTITUTIONAL CONNECTIONS	OIL AND GAS CONNECTIONS
19495	2020	Butler Township	Schuylkill	33	1	0	1	0
19495	2020	West Mahanoy Township	Schuylkill	707	15	0	2	0
19495	2020	Shenandoah Borough	Schuylkill	1882	178	6	31	0

EXHIBIT 23
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	PEAK WATER USE DATE	PEAK DAY WATER USE (GALLONS)	MINIMUM WATER USE DATE	MINIMIM DAY WATER USE (GALLONS)	POPULATION SERVED	DISTRIBUTION TYPE	METERED CONNECTION	AVERAGE WATER USE (GPD)	NUMBER OF CONNECTIONS	AVERAGE METER AGE (YEARS)
	1/17/2020	2267000	9/23/2020	1292000	9000	Other	Y	281628	15	6
	1/17/2020	2267000	9/23/2020	1292000	9000	Water Loss	N	844689	0	6
	1/17/2020	2267000	9/23/2020	1292000	9000	Domestic	Y	257367	2622	6
	1/17/2020	2267000	9/23/2020	1292000	9000	Institutional	N	0	0	6
	1/17/2020	2267000	9/23/2020	1292000	9000	Other	N	0	0	6
	1/17/2020	2267000	9/23/2020	1292000	9000	Industrial	N	0	0	6
	1/17/2020	2267000	9/23/2020	1292000	9000	Domestic	N	0	0	6
	1/17/2020	2267000	9/23/2020	1292000	9000	Institutional	Y	50523	34	6
	1/17/2020	2267000	9/23/2020	1292000	9000	Commercial	Y	48365	194	6
	1/17/2020	2267000	9/23/2020	1292000	9000	Oil & Gas	Y	0	0	6
	1/17/2020	2267000	9/23/2020	1292000	9000	Industrial	Y	62638	6	6
	1/17/2020	2267000	9/23/2020	1292000	9000	Bulk Sales to other PWS	N	0	0	6
101	1/17/2020	2267000	9/23/2020	1292000	9000	Oil & Gas	N	0	0	6
	1/17/2020	2267000	9/23/2020	1292000	9000	Commercial	N	0	0	6
	1/17/2020	2267000	9/23/2020	1292000	9000	Bulk Sales to other PWS	Y	0	0	6

OTHER CONNECTIONS	UNIT CONNECTIONS	UNIT NUMBER OF UNITS
1	36	36
3	727	727
11	2108	2108

NEW METERS (Y/N)	ADD METERS (Y/N)	METER REPLACEMENT PROGRAM (Y/N)	REPLACED METER COUNT	CONSERVATION INFORMATION PROVIDED (Y/N)	NEW PIPE EXTENSION DETAILS	FLUSHING FREQUENCY
Y	Y	Y	414	Y	n/a	2
Y	Y	Y	414	Y	n/a	2
Y	Y	Y	414	Y	n/a	2
Y	Y	Y	414	Y	n/a	2
Y	Y	Y	414	Y	n/a	2
Y	Y	Y	414	Y	n/a	2
Y	Y	Y	414	Y	n/a	2
Y	Y	Y	414	Y	n/a	2
Y	Y	Y	414	Y	n/a	2
Y	Y	Y	414	Y	n/a	2
Y	Y	Y	414	Y	n/a	2
Y	Y	Y	414	Y	n/a	2
Y	Y	Y	414	Y	n/a	2
Y	Y	Y	414	Y	n/a	2
Y	Y	Y	414	Y	n/a	2

HYDRANTS WORKED (Y/N)	VALVES WORKED (Y/N)	ACTIVE LEAK DETECTION (Y/N)	LEAK DETECTION DETAILS	CROSS CONNECTION CONTROL PROGRAM (Y/N)	INADEQUATE PRESSURE (Y/N)
Y	Y	Y	Aqua Scope, Geo phones, PRWA Leak Detection, Leak Services.	N	N
Y	Y	Y	Aqua Scope, Geo phones, PRWA Leak Detection, Leak Services.	N	N
Y	Y	Y	Aqua Scope, Geo phones, PRWA Leak Detection, Leak Services.	N	N
Y	Y	Y	Aqua Scope, Geo phones, PRWA Leak Detection, Leak Services.	N	N
Y	Y	Y	Aqua Scope, Geo phones, PRWA Leak Detection, Leak Services.	N	N
Y	Y	Y	Aqua Scope, Geo phones, PRWA Leak Detection, Leak Services.	N	N
Y	Y	Y	Aqua Scope, Geo phones, PRWA Leak Detection, Leak Services.	N	N
Y	Y	Y	Aqua Scope, Geo phones, PRWA Leak Detection, Leak Services.	N	N
Y	Y	Y	Aqua Scope, Geo phones, PRWA Leak Detection, Leak Services.	N	N
Y	Y	Y	Aqua Scope, Geo phones, PRWA Leak Detection, Leak Services.	N	N
Y	Y	Y	Aqua Scope, Geo phones, PRWA Leak Detection, Leak Services.	N	N
Y	Y	Y	Aqua Scope, Geo phones, PRWA Leak Detection, Leak Services.	N	N
Y	Y	Y	Aqua Scope, Geo phones, PRWA Leak Detection, Leak Services.	N	N
Y	Y	Y	Aqua Scope, Geo phones, PRWA Leak Detection, Leak Services.	N	N

INADEQUATE PRESSURE DETAILS															

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View Instructions/Data Dictionary (pdf)

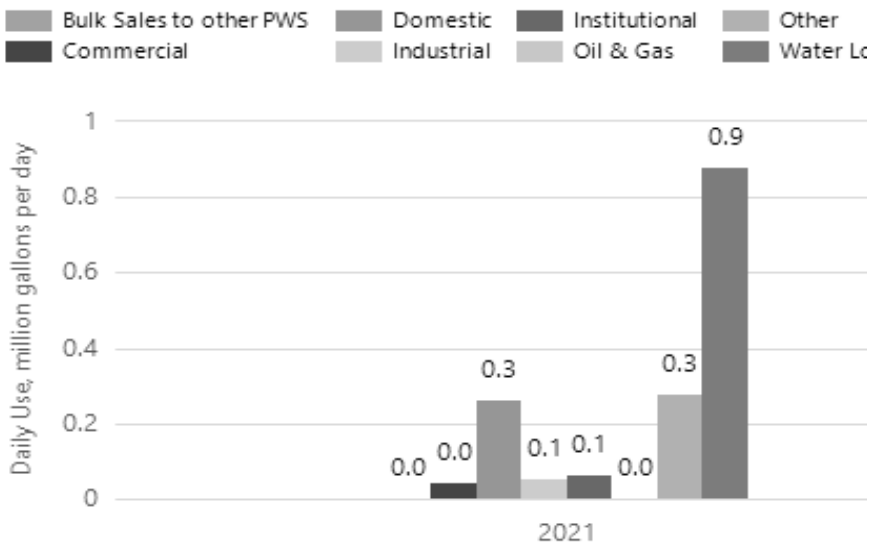
SF Status: All
Primary Facility Name: SHENANDOAH MUNI WATER AUTH - 1053
Report Year: 2021
County: All

Plots of Selected Data:

Plot 1 - Total Daily Water Use



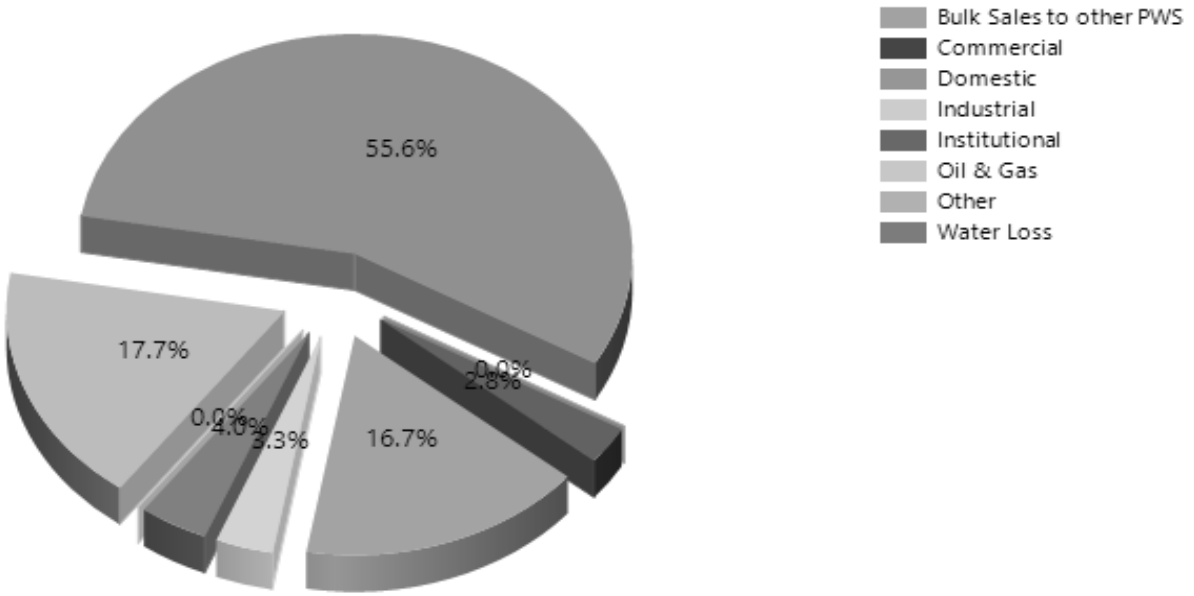
Plot 2 - Daily Water Use by Category



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Plot 3 - Percentage of Water Use by Category



R 110 WATER USE REPORTS
USE BY WATER SUPPLIER
8/26/2022 9:20:20 AM

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DEPARTMENT OF ENVIRONMENTAL PROTECTION

Average Daily Water Distribution

ACTIVE INDICATOR	PUBLIC WATER SUPPLY ID	WUDS PRIMARY FACILITY ID	eFACTS PRIMARY FACILITY ID	PRIMARY FACILITY	PRIMARY FACILITY DESIGNATION	COUNTY	REPORT YEAR
Active	3540044	19495	1053	SHENANDOAH MUNI WATER	Authority	Schuylkill	2021
Active	3540044	19495	1053	SHENANDOAH MUNI WATER	Authority	Schuylkill	2021
Active	3540044	19495	1053	SHENANDOAH MUNI WATER	Authority	Schuylkill	2021
Active	3540044	19495	1053	SHENANDOAH MUNI WATER	Authority	Schuylkill	2021
Active	3540044	19495	1053	SHENANDOAH MUNI WATER	Authority	Schuylkill	2021
Active	3540044	19495	1053	SHENANDOAH MUNI WATER	Authority	Schuylkill	2021
Active	3540044	19495	1053	SHENANDOAH MUNI WATER	Authority	Schuylkill	2021
Active	3540044	19495	1053	SHENANDOAH MUNI WATER AUTH	Authority	Schuylkill	2021
Active	3540044	19495	1053	SHENANDOAH MUNI WATER	Authority	Schuylkill	2021
Active	3540044	19495	1053	SHENANDOAH MUNI WATER	Authority	Schuylkill	2021
Active	3540044	19495	1053	SHENANDOAH MUNI WATER AUTH	Authority	Schuylkill	2021
Active	3540044	19495	1053	SHENANDOAH MUNI WATER	Authority	Schuylkill	2021
Active	3540044	19495	1053	SHENANDOAH MUNI WATER	Authority	Schuylkill	2021
Active	3540044	19495	1053	SHENANDOAH MUNI WATER	Authority	Schuylkill	2021
Active	3540044	19495	1053	SHENANDOAH MUNI WATER	Authority	Schuylkill	2021

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Number of Connections by County/Municipality

PRIMARY FACILITY ID	REPORT YEAR	MUNICIPALITY	COUNTY	DOMESTIC CONNECTIONS	COMMERCIAL CONNECTIONS	INDUSTRIAL CONNECTIONS	INSTITUTIONAL CONNECTIONS	OIL AND GAS CONNECTIONS
19495	2021	West Mahanoy Township	Schuylkill	732	15	0	2	0
19495	2021	Shenandoah Borough	Schuylkill	1885	179	5	31	0
19495	2021	Butler Township	Schuylkill	33	1	0	1	0

EXHIBIT 23
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	PEAK WATER USE DATE	PEAK DAY WATER USE (GALLONS)	MINIMUM WATER USE DATE	MINIMIM DAY WATER USE (GALLONS)	POPULATION SERVED	DISTRIBUTION TYPE	METERED CONNECTION	AVERAGE WATER USE (GPD)	NUMBER OF CONNECTIONS	AVERAGE METER AGE (YEARS)
	2/27/2021	2030000	6/8/2021	1310000	9500	Industrial	N	0	0	5
	2/27/2021	2030000	6/8/2021	1310000	9500	Domestic	Y	262618	2650	5
	2/27/2021	2030000	6/8/2021	1310000	9500	Other	Y	277983	15	5
	2/27/2021	2030000	6/8/2021	1310000	9500	Oil & Gas	N	0	0	5
	2/27/2021	2030000	6/8/2021	1310000	9500	Domestic	N	0	0	5
	2/27/2021	2030000	6/8/2021	1310000	9500	Institutional	N	0	0	5
	2/27/2021	2030000	6/8/2021	1310000	9500	Institutional	Y	62633	34	5
	2/27/2021	2030000	6/8/2021	1310000	9500	Bulk Sales to other PWS	Y	0	0	5
	2/27/2021	2030000	6/8/2021	1310000	9500	Industrial	Y	52397	5	5
	2/27/2021	2030000	6/8/2021	1310000	9500	Water Loss	N	873780	0	5
	2/27/2021	2030000	6/8/2021	1310000	9500	Bulk Sales to other PWS	N	0	0	5
111	2/27/2021	2030000	6/8/2021	1310000	9500	Other	N	0	0	5
	2/27/2021	2030000	6/8/2021	1310000	9500	Oil & Gas	Y	0	0	5
	2/27/2021	2030000	6/8/2021	1310000	9500	Commercial	Y	43277	195	5
	2/27/2021	2030000	6/8/2021	1310000	9500	Commercial	N	0	0	5

OTHER CONNECTIONS	UNIT CONNECTIONS	UNIT NUMBER OF UNITS
3	752	752
11	2111	2111
1	36	36

NEW METERS (Y/N)	ADD METERS (Y/N)	METER REPLACEMENT PROGRAM (Y/N)	REPLACED METER COUNT	CONSERVATION INFORMATION PROVIDED (Y/N)	NEW PIPE EXTENSION DETAILS	FLUSHING FREQUENCY
Y	Y	Y	335	Y	n/a	2
Y	Y	Y	335	Y	n/a	2
Y	Y	Y	335	Y	n/a	2
Y	Y	Y	335	Y	n/a	2
Y	Y	Y	335	Y	n/a	2
Y	Y	Y	335	Y	n/a	2
Y	Y	Y	335	Y	n/a	2
Y	Y	Y	335	Y	n/a	2
Y	Y	Y	335	Y	n/a	2
Y	Y	Y	335	Y	n/a	2
Y	Y	Y	335	Y	n/a	2
Y	Y	Y	335	Y	n/a	2
Y	Y	Y	335	Y	n/a	2
Y	Y	Y	335	Y	n/a	2
Y	Y	Y	335	Y	n/a	2

HYDRANTS WORKED (Y/N)	VALVES WORKED (Y/N)	ACTIVE LEAK DETECTION (Y/N)	LEAK DETECTION DETAILS	CROSS CONNECTION CONTROL PROGRAM (Y/N)	INADEQUATE PRESSURE (Y/N)
Y	Y	Y	Aqua Scope, Geo Phones, PRWA Leak Detections, Leak Services	N	N
Y	Y	Y	Aqua Scope, Geo Phones, PRWA Leak Detections, Leak Services	N	N
Y	Y	Y	Aqua Scope, Geo Phones, PRWA Leak Detections, Leak Services	N	N
Y	Y	Y	Aqua Scope, Geo Phones, PRWA Leak Detections, Leak Services	N	N
Y	Y	Y	Aqua Scope, Geo Phones, PRWA Leak Detections, Leak Services	N	N
Y	Y	Y	Aqua Scope, Geo Phones, PRWA Leak Detections, Leak Services	N	N
Y	Y	Y	Aqua Scope, Geo Phones, PRWA Leak Detections, Leak Services	N	N
Y	Y	Y	Aqua Scope, Geo Phones, PRWA Leak Detections, Leak Services	N	N
Y	Y	Y	Aqua Scope, Geo Phones, PRWA Leak Detections, Leak Services	N	N
Y	Y	Y	Aqua Scope, Geo Phones, PRWA Leak Detections, Leak Services	N	N
Y	Y	Y	Aqua Scope, Geo Phones, PRWA Leak Detections, Leak Services	N	N
Y	Y	Y	Aqua Scope, Geo Phones, PRWA Leak Detections, Leak Services	N	N
Y	Y	Y	Aqua Scope, Geo Phones, PRWA Leak Detections, Leak Services	N	N
Y	Y	Y	Aqua Scope, Geo Phones, PRWA Leak Detections, Leak Services	N	N

INADEQUATE PRESSURE DETAILS															

DCED-CLGS-04

SHENANDOAH BOROUGH MUNICIPAL AUTHORITY

STATEMENT OF NET POSITION
FOR THE FISCAL YEAR ENDING 2018

CURRENT ASSETS	
Cash and cash equivalents	2,976,202
Investments	
Receivables (net of allowance for uncollectibles)	311,320
Lease rental payments receivable (Financing authorities, only)	
Due from other governments	
Inventories	45,829
Prepaids	29,686
Restricted current assets:	
Cash or cash equivalents	
Investments	
Lease rental payments receivable (Financing authorities, only)	
Intergovernmental receivables	
Other current assets	561,555
TOTAL CURRENT ASSETS	3,924,592

NON-CURRENT ASSETS	
Restricted non-current assets:	
Investments	
Lease rental payments receivable (Financing authorities, only)	
Capital assets not being depreciated:	
Land	144,751
Construction in progress	
Capital assets net of accumulated depreciation:	
Buildings and system	10,855,625
Improvements other than buildings	
Furnishings, machinery and equipment	
Infrastructure	
Lease rental payments receivable (Financing authorities, only)	
Other non-current assets	54,027
TOTAL NON-CURRENT ASSETS	11,054,403
TOTAL ASSETS	14,978,995

DEFERRED OUTFLOWS OF RESOURCES	
Deferred amount of debt refundings	
Deferrals related to pensions	
Other deferred outflows of resources	
TOTAL DEFERRED OUTFLOWS OF RESOURCES	0
TOTAL ASSETS AND DEFERRED OUTFLOWS OF RESOURCES	14,978,995

CURRENT LIABILITIES	
Accounts payable	30,887
Accrued payroll and withholdings	
Accrued interest payable	
Due to other governments	
Unearned revenue	
Funds held as fiduciary	
Debt due within one year	216,437
Other current liabilities	311,163
TOTAL CURRENT LIABILITIES	558,487

NON-CURRENT LIABILITIES	
Debt due in more than one year	6,313,563
Net pension liabilities	645,420
Other non-current liabilities	
TOTAL NON-CURRENT LIABILITIES	6,958,983
TOTAL LIABILITIES	7,517,470

DEFERRED INFLOWS OF RESOURCES	
Deferred amount on debt refundings	
Deferrals related to pensions	87,061
Other deferred inflows of resources	
TOTAL DEFERRED INFLOWS OF RESOURCES	87,061
TOTAL LIABILITIES AND DEFERRED INFLOWS OF RESOURCES	7,604,531

NET POSITION	
Net investment in capital assets	4,470,376
Restricted	
Unrestricted	2,904,088
TOTAL NET POSITION	7,374,464
TOTAL LIABILITIES AND DEFERRED INFLOWS OF RESOURCES AND NET POSITION	14,978,995

DCED-CLGS-04

SHENANDOAH BOROUGH MUNICIPAL AUTHORITY

Water

STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET POSITION FOR THE FISCAL YEAR ENDING 2018

WATER OPERATING REVENUES	
Charges for service	1,930,320
Lease rental income (Financing authorities, only)	
Operating grants:	
Federal	
State	
Local	
Other	
Contributions	
Interest income	
Assessment revenue*	
Payments in lieu of assessments*	
Program income*	
Other operating revenue	6,888
TOTAL WATER OPERATING REVENUES	1,937,208

WATER OPERATING EXPENSES	
Administrative	96,105
Contracted services	
Personnel services	
Supplies and materials	490,707
Repairs and maintenance	587,676
Utilities	130,081
Other services and charges	
Depreciation and amortization	339,100
Fundraising*	
Program services*	
Other operating expenses	406,727
TOTAL WATER OPERATING EXPENSES	2,050,396
WATER OPERATING INCOME (LOSS)	(113,188)

WATER NONOPERATING REVENUES / (EXPENSES)	
Nonoperating grants:	
Federal	
State	

MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH

STATEMENT OF NET ASSETS
SEPTEMBER 30, 2019

ASSETS AND DEFERRED OUTFLOWS

CURRENT ASSETS:	
Cash	$ 2,661,314
Accounts receivable	304,857
Unbilled revenue	298,822
Materials and supplies inventory	51,867
Prepaid expenses	16,447
Total current assets	3,333,307
CAPITAL ASSETS, NET (Note 3)	11,102,615
DEFERRED FINANCING COSTS, NET (Note 4)	51,314
Total assets	14,487,236
DEFERRED OUTFLOWS OF RESOURCES	
Pension Activity (Note 6)	314,290
TOTAL	$ 14,801,526

LIABILITIES AND DEFERRED INFLOWS

CURRENT LIABILITIES:	
Current maturities of long-term debt (Note 5)	$ 225,367
Accounts payable	27,430
Customer deposits	222,952
Accrued expenses	11,334
Total current liabilities	487,083
LONG-TERM LIABILITIES:	
Loans payable (Note 5)	6,088,197
Net pension liability (Note 6)	732,630
Total long-term liabilities	6,820,827
Total liabilities	7,307,910
DEFERRED INFLOWS OF RESOURCES	
Pension activity (Note 6)	88,933
Total liabilities and deferred inflows	7,396,843

NET ASSETS

Net investment in capital assets	4,789,051
Unrestricted	2,615,632
Total net assets	7,404,683
TOTAL	$ 14,801,526

See Notes to Financial Statements

MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH

STATEMENT OF ACTIVITIES AND CHANGES IN NET ASSETS
FOR THE YEAR ENDED SEPTEMBER 30, 2019

OPERATING REVENUES:	
Water usage fees	$ 2,050,863
Other operating revenues	7,388
Total operating revenues	2,058,251
OPERATING EXPENSES:	
Purification system expenses	337,405
Pumping system expenses	132,522
Distribution system expenses	568,126
General operating expenses	401,595
Administrative expenses	84,966
Depreciation and amortization	314,353
Total operating expenses	1,838,967
OPERATING INCOME	219,284
NONOPERATING REVENUE (EXPENSES):	
Interest income	21,336
Lease revenues	12,446
Miscellaneous income	13,873
Wind farm income	102,599
Bad debt recovery	2,699
Bad debt expense	(83,045)
Interest expense	(258,973)
Nonoperating Expense, net	(189,065)
CHANGE IN NET ASSETS	30,219
NET ASSETS-BEGINNING OF YEAR	7,374,464
NET ASSETS-END OF YEAR	$ 7,404,683

See Notes to Financial Statements

MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH

STATEMENT OF CASH FLOWS
FOR THE YEAR ENDED SEPTEMBER 30, 2019

CASH FLOWS FROM OPERATING ACTIVITIES:	
Cash received from customers	$ 2,060,472
Other operating cash receipts	7,388
Cash payments to suppliers and employees	(1,563,368)
Net cash provided by operating activities	504,492
CASH FLOWS FROM NONCAPITAL FINANCING ACTIVITIES:	
Lease revenues	12,446
Miscellaneous income	13,873
Wind farm income	102,599
Bad debt recovery	2,699
Bad debt expense	(83,045)
Net cash provided by noncapital financing activities	48,572
CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTVITIES:	
Purchase of capital assets	(413,879)
Principal paid on capital debt	(216,436)
Interest paid on long-term debt	(258,973)
Net cash used in capital and related financing activities	(889,288)
CASH FLOWS FROM INVESTING ACTIVITIES,	
Interest income	21,336
NET DECREASE IN CASH	(314,888)
CASH, BEGINNING OF YEAR	2,976,202
CASH, END OF YEAR	$ 2,661,314

See Notes to Financial Statements

MUNICIPAL AUTHORITY OF THE
BOROUGH OF SHENANDOAH
NOTES TO FINANCIAL STATEMENTS

3. CAPITAL ASSETS

Capital asset activity consists of the following for the year ended September 30, 2019:

	BALANCE OCTOBER 1, 2018	ADDITIONS	DELETIONS	BALANCE SEPTEMBER 30, 2019
CAPITAL ASSETS; not being depreciated:				
Land	$ 144,751	$ -	$ -	$ 144,751
Construction-in-Progress	-	-	-	-
Total capital assets, not being depreciated	144,751	-	-	144,751
CAPITAL ASSETS, being depreciated:				
Water Plant	656,489	-	-	656,489
Water Collection and Purification	13,102,185	-	-	13,102,185
Pumping and Distribution	4,939,221	349,575	-	5,288,796
Office Furniture and Fixtures	97,026	5,920	-	102,946
Transportation Equipment	421,374	58,384	-	479,758
Capitalized Interest	556,648	-	-	556,648
Communications Equipment	33,959	-	-	33,959
Total capital assets, being depreciated	19,806,902	413,879	-	20,220,781
LESS ACCUMULATED DEPRECIATION:				
Water Plant	(354,085)	(12,750)	-	(366,835)
Water Collection and Purification	(5,117,924)	(201,617)	-	(5,319,541)
Pumping and Distribution	(2,404,202)	(85,441)	-	(2,489,643)
Office Furniture and Fixtures	(84,628)	(3,473)	-	(88,101)
Transportation Equipment	(399,831)	(8,359)	-	(408,109)
Capitalized Interest	(556,648)	-	-	(556,648)
Communications Equipment	(33,959)	-	-	(33,959)
Total accumulated depreciation	(8,951,277)	(311,640)	-	(9,262,917)
Total Capital Assets, Being Depreciated, Net	10,855,625	(102,239)	-	10,957,864
Total Capital Assets, Net	$11,000,376	$ (102,239)	$ -	$11,102,615

MUNICIPAL AUTHORITY OF THE
BOROUGH OF SHENANDOAH
NOTES TO FINANCIAL STATEMENTS

TOTAL ANNUAL DEBT SERVICE REQUIREMENTS

A schedule of estimated maturities of principal and interest on all of the long-term debt is as follows:

YEAR ENED SEPTEMBER 30	PRINCIPAL	INTEREST	TOTAL
2020	$ 225,367	$ 251,546	$ 476,913
2021	234,665	242,248	476,913
2022	244,348	232,565	476,913
2023	254,430	222,483	476,913
2024	264,927	211,986	476,913
2025-2029	1,497,905	886,660	2,384,565
2030-2034	1,833,501	551,064	2,384,565
2035-2038	1,758,421	149,231	1,907,652
Total	$6,313,564	$2,747,783	$9,061,347

CHANGES IN LONG-TERM LIABILITIES

During the fiscal year, the following changes occurred in long-term liabilities:

TYPE OF DEBT	BALANCE SEPETMBER 30, 2018	ADDITIONS	REDUCTIONS	BALANCE SEPTEMBER 30, 2019	CURRENT PORTION
PNC Loan	$6,530,000	$ -	$(216,436)	$6,313,564	$225,367
Net Pension Liability	645,420	87,210	-	732,630	-
Total	$7,175,420	$ 87,210	$(216,436)	$7,046,194	$225,367

MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH

STATEMENT OF NET ASSETS
SEPTEMBER 30, 2020

ASSETS AND DEFERRED OUTFLOWS	
CURRENT ASSETS:	
Cash	$ 2,569,925
Accounts receivable	273,250
Unbilled revenue	311,621
Materials and supplies inventory	73,223
Prepaid expenses	17,174
Total current assets	3,245,193
CAPITAL ASSETS, NET (Note 3)	11,053,135
DEFERRED FINANCING COSTS, NET (Note 4)	48,601
Total assets	14,346,929
DEFERRED OUTFLOWS OF RESOURCES	
Pension Activity (Note 6)	185,496
TOTAL	$ 14,532,425
LIABILITIES AND DEFERRED INFLOWS	
CURRENT LIABILITIES:	
Current maturities of long-term debt (Note 5)	$ 234,665
Accounts payable	84,263
Customer deposits	265,452
Accrued expenses	11,406
Total current liabilities	595,786
LONG-TERM LIABILITIES:	
Loans payable (Note 5)	5,853,532
Net pension liability (Note 6)	793,886
Total long-term liabilities	6,647,418
Total liabilities	7,243,204
DEFERRED INFLOWS OF RESOURCES	
Pension activity (Note 6)	44,465
Total liabilities and deferred inflows	7,287,669
NET ASSETS	
Net investment in capital assets	4,964,938
Unrestricted	2,279,818
Total net assets	7,244,756
TOTAL	$ 14,532,425

See Notes to Financial Statements

MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH

STATEMENT OF ACTIVITIES AND CHANGES IN NET ASSETS
FOR THE YEAR ENDED SEPTEMBER 30, 2020

OPERATING REVENUES:	
Water usage fees	$ 1,926,472
Other operating revenues	1,122
Total operating revenues	1,927,594
OPERATING EXPENSES:	
Purification system expenses	439,736
Pumping system expenses	127,198
Distribution system expenses	608,877
General operating expenses	400,468
Administrative expenses	83,087
Depreciation and amortization	328,537
Total operating expenses	1,987,903
OPERATING LOSS	(60,309)
NONOPERATING REVENUE (EXPENSES):	
Interest income	11,623
Lease revenues	12,446
Miscellaneous income	33,327
Wind farm income	109,691
Bad debt recovery	2,719
Bad debt expense	(19,283)
Interest expense	(250,141)
Nonoperating Expense, net	(99,618)
CHANGE IN NET ASSETS	(159,927)
NET ASSETS-BEGINNING OF YEAR	7,404,683
NET ASSETS-END OF YEAR	$ 7,244,756

See Notes to Financial Statements

MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH

STATEMENT OF CASH FLOWS
FOR THE YEAR ENDED SEPTEMBER 30, 2020

CASH FLOWS FROM OPERATING ACTIVITIES:	
Cash received from customers	$ 1,987,780
Other operating cash receipts	1,122
Cash payments to suppliers and employees	(1,478,962)
Net cash provided by operating activities	509,940
CASH FLOWS FROM NONCAPITAL FINANCING ACTIVITIES:	
Lease revenues	12,446
Miscellaneous income	33,327
Wind farm income	109,691
Bad debt recovery	2,719
Bad debt expense	(19,283)
Net cash provided by noncapital financing activities	138,900
CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTVITIES:	
Purchase of capital assets	(276,344)
Principal paid on capital debt	(225,367)
Interest paid on long-term debt	(250,141)
Net cash used in capital and related financing activities	(751,852)
CASH FLOWS FROM INVESTING ACTIVITIES,	
Interest income	11,623
NET DECREASE IN CASH	(91,389)
CASH, BEGINNING OF YEAR	2,661,314
CASH, END OF YEAR	$ 2,569,925

See Notes to Financial Statements

SHENANDOAH BOROUGH MUNICIPAL AUTHORITY

STATEMENT OF NET POSITION
FOR THE FISCAL YEAR ENDING 2021

CURRENT ASSETS	
Cash and cash equivalents	2,110,372
Investments	
Receivables (net of allowance for uncollectibles)	279,081
Lease rental payments receivable (Financing authorities, only)	
Due from other governments	
Inventories	68,909
Prepaids	16,051
Restricted current assets:	
Cash or cash equivalents	
Investments	
Lease rental payments receivable (Financing authorities, only)	
Intergovernmental receivables	
Other current assets	316,738
TOTAL CURRENT ASSETS	2,791,151

NON-CURRENT ASSETS	
Restricted non-current assets:	
Investments	
Lease rental payments receivable (Financing authorities, only)	
Capital assets not being depreciated:	
Land	144,751
Construction in progress	
Capital assets net of accumulated depreciation:	
Buildings and system	11,107,496
Improvements other than buildings	
Furnishings, machinery and equipment	
Infrastructure	
Lease rental payments receivable (Financing authorities, only)	
Other non-current assets	45,888
TOTAL NON-CURRENT ASSETS	11,298,135
TOTAL ASSETS	14,089,286

DEFERRED OUTFLOWS OF RESOURCES	
Deferred amount of debt refundings	
Deferrals related to pensions	193,116
Other deferred outflows of resources	
TOTAL DEFERRED OUTFLOWS OF RESOURCES	193,116
TOTAL ASSETS AND DEFERRED OUTFLOWS OF RESOURCES	14,282,402

CURRENT LIABILITIES	
Accounts payable	40,496
Accrued payroll and withholdings	
Accrued interest payable	
Due to other governments	
Unearned revenue	
Funds held as fiduciary	
Debt due within one year	244,348
Other current liabilities	322,517
TOTAL CURRENT LIABILITIES	607,361

NON-CURRENT LIABILITIES	
Debt due in more than one year	5,609,183
Net pension liabilities	799,684
Other non-current liabilities	
TOTAL NON-CURRENT LIABILITIES	6,408,867
TOTAL LIABILITIES	7,016,228

DEFERRED INFLOWS OF RESOURCES	
Deferred amount on debt refundings	
Deferrals related to pensions	
Other deferred inflows of resources	
TOTAL DEFERRED INFLOWS OF RESOURCES	0
TOTAL LIABILITIES AND DEFERRED INFLOWS OF RESOURCES	7,016,228

NET POSITION	
Net investment in capital assets	5,398,716
Restricted	
Unrestricted	1,867,458
TOTAL NET POSITION	7,266,174
TOTAL LIABILITIES AND DEFERRED INFLOWS OF RESOURCES AND NET POSITION	14,282,402

SHENANDOAH BOROUGH MUNICIPAL AUTHORITY

Water

STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET POSITION
FOR THE FISCAL YEAR ENDING 2021

WATER OPERATING REVENUES	
Charges for service	2,069,499
Lease rental income (Financing authorities, only)	
Operating grants:	
Federal	
State	
Local	
Other	
Contributions	
Interest income	
Assessment revenue*	
Payments in lieu of assessments*	
Program income*	
Other operating revenue	
TOTAL WATER OPERATING REVENUES	2,069,499

WATER OPERATING EXPENSES	
Administrative	855,459
Contracted services	368,708
Personnel services	
Supplies and materials	250,917
Repairs and maintenance	
Utilities	184,848
Other services and charges	
Depreciation and amortization	
Fundraising*	
Program services*	
Other operating expenses	286,700
TOTAL WATER OPERATING EXPENSES	1,946,632
WATER OPERATING INCOME (LOSS)	122,867

WATER NONOPERATING REVENUES / (EXPENSES)	
Nonoperating grants:	
Federal	
State	

Local	
Other	
Investment earnings / (losses)	
Interest expense	
Gain / (loss) on sale of assets	
Other financing sources / (uses)	
Other nonoperating revenues	
Other nonoperating (expenses)	(101,449)
Debt service principal and interest (expense)**	
TOTAL WATER NONOPERATING REVENUES (EXPENSES)	(101,449)

CAPITAL CONTRIBUTIONS	
CHANGE IN NET POSITION	21,418
NET POSITION - BEGINNING OF YEAR	7,244,756
PRIOR PERIOD ADJUSTMENT	
WATER NET POSITION - END OF YEAR	7,266,174

*Business/Neighborhood Improvement Districts
**see the Authorities and Non-Profits Annual Financial Report Tip Sheet available from your Start Page.

Form RD 442-2
(Rev. 9-97)

Position 3

FORM APPROVED
OMB NO. 0575-0015
OMB NO. 0572-0137

UNITED STATES DEPARTMENT OF AGRICULTURE

STATEMENT OF BUDGET, INCOME AND EQUITY

Schedule 1

Name: Mun Auth Boro of Shenandoah (MABS)

Address: PO Box 110 Shenandoah PA 17976

(1) OPERATING INCOME	PRIOR YEAR Actual (2)	ANNUAL BUDGET BEG 10-01-2021 END 09-30-2022 (3)	For the 10-01-2021 Months Ended 09-30-2022 CURRENT YEAR Actual Data: Current Quarter (4)	Actual Data: Year To Date (5)	Actual YTD (Over) Under Budget Col. 3 - 5 = 6 (6)
1. User Fees	1,982,420	1,990,000			1,990,000
2. Lease Rental	427	400			400
3. Verizon Lease	12,150	13,800			13,800
4. S/O Admin Fees	61,493	55,000			55,000
5. Miscellaneous	68,977	60,000			60,000
6. Less: Allowances and Deductions					0
7. Total Operating Income (Add lines 1 through 6)	2,125,467	2,119,200	0	0	2,119,200
OPERATING EXPENSES					
8. Admin & Payroll	855,459	740,000			740,000
9. O & M (Plant)	90,233	100,000			100,000
10. Utilities	184,848	235,000			235,000
11. Prof. Services	368,708	380,000			380,000
12. Distribution	160,684	200,000			200,000
13. Vehicles	22,613	30,000			30,000
14. Miscellaneous	4,770	8,000			8,000
15. Debt Services	476,921	477,000			477,000
16. WF Taxes	50,890	52,000	0	0	52,000
17. Total Operating Expense (Add Lines 8 through 16)	2,215,126	2,222,000	0	0	2,222,000
18. NET OPERATING INCOME (LOSS) (Line 7 less 17)	-89,659	-102,800	0	0	-102,800
NONOPERATING INCOME					
19. Interest	2,908	3,000			3,000
20. Windfarm	151,903	172,000			172,000
21. Total Nonoperating Income (Add 19 and 20)	154,811	175,000	0	0	175,000
22. NET INCOME (LOSS) (Add lines 18 and 21)	65,152	72,200	0	0	72,200
23. Equity Beginning of Period					0
24.					0
25.					0
26. Equity End of Period (Add lines 22 through 25)	65,152	72,200	0	0	72,200

Budget and Annual Report Approved by Governing Body

Brian Quillman — Secretary

12/18/2021 — Date

Quarterly Reports Certified Correct

Appropriate Official — Date

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0575-0015 and 0572-0137. The time required to complete this information collection is estimated to average 2-1/2 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

Address Type	Customers	Unique EDU's	Usage	Avg. Usage	Billed EDU's	Dollars	Avg. Dollars	Non-Meter Dollars
Commercial	200	322	14,554,000	6,974	3369	197,758.01	94.76	17,118.50
Industrial	5	5	19,125,000	318,750	60	63,051.78	1,050.86	60
Public	39	41	22,861,000	53,917	448	92,992.60	219.32	1,688.48
Residential	2652	2917	95,855,419	8,949	13208	1,506,066.39	140.61	57,287.55
Unknown	3	3	1,242,000	44,357	28	6,054.92	216.25	12
Water Totals	2899	3288	153,637,419		17113	1,865,923.70		76,166.53

Water Usage Detail

Address Type	Account Status	Account #	Account Name	Service House Number	Service Street Name	Service City	Service State	Service Zip
Commercial	Active	20701200-0	CONSTANCE ANCZARSKI	312	S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	20702000-7	FRANCISCO SANTANA TRONCOSO & ROBIN PEREZ	401	-401 1/2 S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	20706900-0	PAUL G JORDAN	343	-341 S WEST,109 W LR	SHENANDOAH	PA	17976
Commercial	Active	20712500-0	JOSEPH ANCZARSKI	313	S FERGUSON ST	SHENANDOAH	PA	17976
Commercial	Active	20712550-0	JOSEPH ANCZARSKI	315	S FERGUSON ST	SHENANDOAH	PA	17976
Commercial	Active	20800100-0	MARITZA PERALTA	22	W CENTRE ST	SHENANDOAH	PA	17976
Commercial	Active	20800300-0	ADOLFO LUNA	30	W CENTRE ST	SHENANDOAH	PA	17976
Commercial	Active	20800500-0	DENISE BRATHWAITE	5	S JARDIN ST, APT 3	SHENANDOAH	PA	17976
Commercial	Active	20800900-0	JENNIFER WAITHE	9	S JARDIN ST	SHENANDOAH	PA	17976
Commercial	Active	20803900-0	VERIZON	221	S JARDIN ST	SHENANDOAH	PA	17976
Commercial	Active	20806600-0	WALUKIEWICZ ORAVITZ	132	S JARDIN ST	SHENANDOAH	PA	17976
Commercial	Active	20807000-1	JESSE GOMEZ	122	S JARDIN ST	SHENANDOAH	PA	17976
Commercial	Active	20807100-0	LEROY KNAPP, JR	120	S JARDIN ST	SHENANDOAH	PA	17976
Commercial	Active	20807300-0	FALGUNI PATEL	114	S JARDIN ST	SHENANDOAH	PA	17976
Commercial	Active	20808500-0	VALERIE REINMILLER	30	S JARDIN ST	SHENANDOAH	PA	17976
Commercial	Active	20809800-0	JAMES VEGHTE	101	-103 W CENTRE ST	SHENANDOAH	PA	17976
Commercial	Active	20810400-0	BEVERLY BLACKWOOD	14	N JARDIN ST	SHENANDOAH	PA	17976
Commercial	Active	20810900-0	STEPHEN TOTH	28	N JARDIN ST	SHENANDOAH	PA	17976
Commercial	Active	20811300-0	ORAVITZ FUNERAL HOME	40	N JARDIN ST	SHENANDOAH	PA	17976
Commercial	Active	20813400-0	JOSE LUIZ PEREZ	108	W COAL ST 1ST FL	SHENANDOAH	PA	17976
Commercial	Active	20821400-0	KATHY BOYLE	208	N MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	20824100-0	HALINA LITTLE	33	N JARDIN ST	SHENANDOAH	PA	17976
Commercial	Active	20900700-0	ANTONIO ZAMUDIO	231	N WEST ST	SHENANDOAH	PA	17976
Commercial	Active	20920300-0	ERIDANIA PEREZ	227	W COAL ST	SHENANDOAH	PA	17976
Commercial	Active	20921500-0	ROGER BETZ	226	W COAL ST	SHENANDOAH	PA	17976
Commercial	Active	21008300-0	GRISELDA M VELEON	218	W OAK ST	SHENANDOAH	PA	17976
Commercial	Active	41104600-0	FRANK MALOCU	609	W WASHINGTON ST	SHENANDOAH	PA	17976
Commercial	Active	41123400-0	FRANK HAIGLER	413	W COAL ST-GARAGE	SHENANDOAH	PA	17976
Commercial	Active	41130550-0	ROBERT SCHLACK	630	W COAL ST	SHENANDOAH	PA	17976
Commercial	Active	41131200-0	JOSE ULLOA	645	W COAL ST	SHENANDOAH	PA	17976
Commercial	Active	41131200-0	JOSE ULLOA	645	W COAL ST	SHENANDOAH	PA	17976
Commercial	Active	41144800-0	GLOVERS HILL ATH CLU	938	W PENN ST	SHENANDOAH	PA	17976
Commercial	Active	41204800-0	HAROLL MEREGILDO	509	W CENTRE ST	SHENANDOAH	PA	17976
Commercial	Active	90100100-0	BRIAN GROSE	23	N FERGUSON ST	SHENANDOAH	PA	17976
Commercial	Active	90100120-0	JAMESTOWN TRUST	34	N FERGUSON ST	SHENANDOAH	PA	17976
Commercial	Active	90100150-0	GROSE CHIROPRACTIC P.C.	24	N MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90100200-0	OMAR VERAS	22	N MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90100500-3	FROILAN & EDELENI FABIAN	21	W OAK ST	SHENANDOAH	PA	17976
Commercial	Active	90100900-2	EDUC ZAMUDIO & FLOR ESTELA GOMEZ	116	S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90101000-0	TURKEY HILL #123	128	-130 S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90101200-0	TOM GWINN	10	-16 W CHERRY ST	SHENANDOAH	PA	17976
Commercial	Active	90101400-0	MICHELE PRYZBILIK	210	S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90101600-0	JOSEPH ANCZARSKI	216	-218 S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90101650-0	JOSEPH ANCZARSKI	226	S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90101700-0	JOSEPH ANCZARSKI	226	S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90102000-0	HANS DEIBEL	316	S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90102100-0	DAVID KARPOVICH	324	S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90102200-0	HAIR DESIGNS BY ROSE	330	S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90102300-0	KOWALONEK'S KIELBASY	332	S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90102800-4	PREETI CORPORATION	415	S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90103000-0	CARROLS LLC #1047	331	S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90103300-0	EDWARD BOKANAVAGE	225	S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90103600-0	GR SHEN HIST SOC	201	S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90104210-0	JOSEPHINE RAINIS	129	S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90104500-0	MICHAEL BRESLOSKY	123	S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90104600-0	THE PIZZA SHOP	121	S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90104700-0	TINA LEWANDOWSKI	119	S MAIN ST, 3 APTS	SHENANDOAH	PA	17976
Commercial	Active	90104800-0	RANDALL J MISKE	117	S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90104900-8	GBU IMPROVEMENTS, LLC	113	S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90105800-1	STEPHEN KOVAL	119	E OAK ST	SHENANDOAH	PA	17976

Commercial	Active	90106000-0	T J MCANDREW EXCAVATING	33	S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90106100-0	RITE AID C/O ECOVA MS 2154	15	S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90106200-0	EDUC ZAMUDIO	1	S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90106900-2	YENDY O. YNFANTE BAEZ	19	N MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90107200-2	JOSE ROJAS	25	-27 N MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90107300-0	MOSHKA & KASHISH REAL ESTATE LLC	37	N MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90107400-0	FIRST NATIONAL BANK OF PA	101	N MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90107700-2	NELSON LARA	107	N MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90108300-1	GENGRIC LLC	129	N MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90108500-1	GENGRIC LLC	12	E COAL ST	SHENANDOAH	PA	17976
Commercial	Active	90108700-1	ASHLEY DAVISON	225	N MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90108800-2	AMBULANCE GARAGE	229	N MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90109200-0	ROBERT KULPOWICZ	110	E WASHINGTON ST	SHENANDOAH	PA	17976
Commercial	Active	90109250-0	ROBERT KULPOWICZ	116	E WASHINGTON ST	SHENANDOAH	PA	17976
Commercial	Active	90109500-0	VILLA DAY CARE		WASHINGTON&BOWER STS	SHENANDOAH	PA	17976
Commercial	Active	90109900-0	ANTZ DISTRIBUTING IN	325	E WASHINGTON ST	SHENANDOAH	PA	17976
Commercial	Active	90110000-0	TRI WAY METALS	301	E WASHINGTON ST	SHENANDOAH	PA	17976
Commercial	Active	90110200-0	LEE'S ORIENTAL GOUR	99	E WASHINGTON ST	SHENANDOAH	PA	17976
Commercial	Active	90110300-0	PARK REST C/O V PAVL		E WASHINGTON ST	SHENANDOAH	PA	17976
Commercial	Active	90110500-0	WILLIAM RUDIMAN	8	W WASHINGTON ST	SHENANDOAH	PA	17976
Commercial	Active	90110600-0	KOLONSKY DMD PC EDWA	27	W WASHINGTON ST	SHENANDOAH	PA	17976
Commercial	Active	90112000-0	JOHN CATIZONE	132	N MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90112100-0	FRAN & THERESA GREEN	130	N MAIN ST,STORE,APT	SHENANDOAH	PA	17976
Commercial	Active	90113000-0	AVENUES	114	N MAIN ST, STORE FRONT	SHENANDOAH	PA	17976
Commercial	Active	90113100-0	DR THOMAS DEEBEL	110	N MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90113700-0	ISHA HIMANI 2 LLC	100	N MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90114000-0	MARGARET MENSICK	29	W LLOYD ST	SHENANDOAH	PA	17976
Commercial	Active	90114100-4	GABRIELA COLUMNA	22	W LLOYD ST	SHENANDOAH	PA	17976
Commercial	Active	90114200-0	ROBBIE ROMANOT	40	N MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90114400-1	OMAR VERAS	36	N MAIN,35/37 FERGUSO	SHENANDOAH	PA	17976
Commercial	Active	90114450-0	OMAR VERAS	36	N MAIN ST-APT	SHENANDOAH	PA	17976
Commercial	Active	90114600-0	ELIZABETH MCCLORY	32	N MAIN ST,RXD,GARAGE	SHENANDOAH	PA	17976
Commercial	Active	90114700-0	MARIA COLON	30	N MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90114800-0	SERGIO LUNA	26	-28 N MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90114900-0	D W PROPERTIES LLC	18	-20 N MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90115000-0	PUFF DISCOUNT TOBACC	12	N MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90115100-0	PHIL LAGOZZO	10	N MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90115200-0	SOVEREIGN BANK-UTILI	2	N MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90115300-0	M&T BK % PROKARMA MTB112	2	-8 S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90115500-0	YAN FANG LI	18	-20 S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90115700-0	PATRICIA BELTZ	28	S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90115900-0	ROBERT BUGDEN	30	S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90116000-0	PETER VERNALIS, JR	32	S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90116100-0	PETER VERNALIS	34	S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90116200-0	JOSEPH SHUSTACK	36	-38 S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90116300-0	JOSEPH SHUSTACK	11	-13 W OAK ST	SHENANDOAH	PA	17976
Commercial	Active	90200100-0	EDUC ZAMUDIO	8	-10 E CENTRE ST	SHENANDOAH	PA	17976
Commercial	Active	90200200-0	GUY JULIAN	16	E CENTRE ST	SHENANDOAH	PA	17976
Commercial	Active	90200250-0	GUY JULIAN	16	E CENTRE ST	SHENANDOAH	PA	17976
Commercial	Active	90200300-0	GUY JULIAN	18	E CENTRE STREET	SHENANDOAH	PA	17976
Commercial	Active	90200700-3	STONE MT PROPERTIES	24	E CENTRE ST	SHENANDOAH	PA	17976
Commercial	Active	90200900-0	SERGIO LUNA	39	E CENTRE ST	SHENANDOAH	PA	17976
Commercial	Active	90200950-0	SERGIO LUNA	39	E CENTRE ST (LAUNDRY MAT)	SHENANDOAH	PA	17976
Commercial	Active	90201300-0	NORTHEAST PT ASSOCIATES	124	E CENTRE ST	SHENANDOAH	PA	17976
Commercial	Active	90202200-0	SOUCHUCK LUMBER CO	622	E CENTRE ST	SHENANDOAH	PA	17976
Commercial	Active	90202500-0	RL CARWASH LLC	421	E CENTRE ST	SHENANDOAH	PA	17976
Commercial	Active	90202700-2	DAVID BLAKNEY	339	E CENTRE ST,BAR/APT	SHENANDOAH	PA	17976
Commercial	Active	90202800-0	VICTOR BASSO	24	N UNION ST	SHENANDOAH	PA	17976
Commercial	Active	90202900-0	EAST END FIELD & STR	320	E LLOYD ST	SHENANDOAH	PA	17976
Commercial	Active	90203000-0	FRANCISCA YOCASTA PEREZ VILLAR	301	E CENTRE ST, APT 1	SHENANDOAH	PA	17976
Commercial	Active	90203010-0	FRANCISCA YOCASTA PEREZ VILLAR	301	E CENTRE ST, APT 2	SHENANDOAH	PA	17976
Commercial	Active	90203050-0	FRANCISCA YOCASTA PEREZ VILLAR	301	E CENTRE ST, APT 3	SHENANDOAH	PA	17976
Commercial	Active	90203070-0	FRANCISCA YOCASTA PEREZ VILLAR	301	E CENTRE ST, APT 4	SHENANDOAH	PA	17976
Commercial	Active	90203400-1	FELIX DIAZ	201	E CENTRE ST,RST ONLY	SHENANDOAH	PA	17976
Commercial	Active	90203500-1	FELIX DIAZ	201	E CENTRE ST,2 & 3 FL	SHENANDOAH	PA	17976
Commercial	Active	90203600-1	DONNA KULPOWICZ	125	E CENTRE ST, DAY CARE	SHENANDOAH	PA	17976
Commercial	Active	90203610-0	DONNA KULPOWICZ	125	E CENTRE ST,SOSAR 1	SHENANDOAH	PA	17976

MUNICIPAL AUTHORITY OF THE BOROUGH OF SHENANDOAH

SCHEDULE OF RATES EFFECTIVE JANUARY 1, 2016

QUARTERLY

METER SIZE	MINIMUM CHARGE	ALLOWANCE
5/8" OR 5/8" X ¾"		
0 TO 3,000 GALLONS	$58.53	3,000 GALLONS
¾"		
O TO 3,000 GALLONS	$85.36	3,000 GALLONS
1"		
O TO 3,000 GALLONS	$116.89	3,000 GALLONS
NEXT 3,000 GALLONS 4,000 TO 6,000 GALLONS	$19.51	PER 1,000 GALLONS
NEXT 3,000 GALLONS 7,000 TO 9,000 GALLONS	$10.42	PER 1,000 GALLONS
NEXT 12,000 GALLONS 10,000 TO 21,000 GALLONS	$4.66	PER 1,000 GALLONS
ALL IN EXCESS OF 21,000 GALLONS	$10.42	PER 1,000 GALLONS

MONTHLY

2"	$105.03	2,000 GALLONS
3"	$647.36	84,000 GALLONS
4"	$1165.20	150,000 GALLONS
6"	$2459.84	324,000 GALLONS
8"	$3443.85	453,000 GALLONS
NEXT 500,000 GALLONS	$3.73	PER 1,000 GALLONS
BALANCE	$1.80	PER 1,000 GALLONS

**MUNICIPAL AUTHORITY OF THE
BOROUGH OF SHENANDOAH**

EFFECTIVE JANUARY 1, 2016

TEMPORARY SERVICE BUILDING CONSTRUCTION, ETC

CONNECTION CHARGE PAYABLE WHEN APPLICATION IS MADE $126.75

THIS TYPE OF SERVICE TO BE METERED WITH EXISTING METER RATE TO APPLY. THE CONSUMER MUST PROVIDE A METER BOX TO HOUSE METER. BOX TO BE UNDER LOCK AND KEY AND A KEY FURNISHED TO THE AUTHORITY. THE CONSUMER WILL BE HELD RESPONSIBLE FOR DAMAGE OF METER.

AUTOMATIC SPRINKLING SYSTEM

EACH SQUARE FOOT OF FLOOR SPACE $.0828 PER ANNUM

MINIMUM ANNUAL CHARGE $984.29 PER ANNUM

BREAKDOWN SERVICE SCHEDULE

FOR ALL WATER SUPPLIED – PER THOUSAND GALLONS $9.67

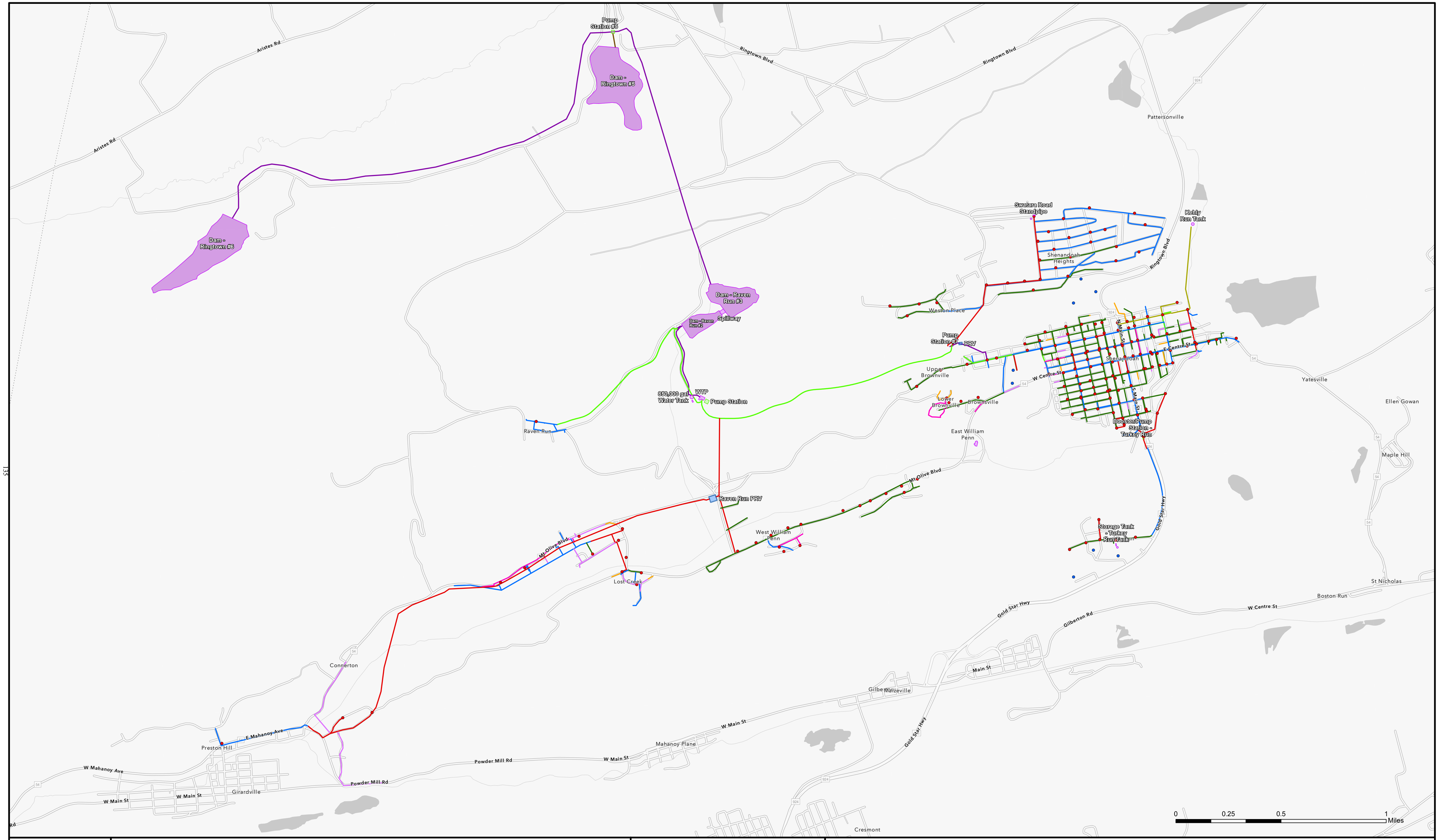
WATER WILL BE FURNISHED HEREUNDER ONLY WHEN THE AUTHORITY, IN ITS OPINION, HAS ENOUGH WATER AVAILABLE OVER AND ABOVE THAT REQUIRED TO MEET THE NEEDS PRESENT AND PRESUMPTIVE FOR THE ADEQUATE SUPPLY OF WATER TO ITS PERMANENT CUSTOMERS.

WHOLESALE FROM NO. 9 RESERVOIR

FOR ALL WATER SUPPLIED – PER THOUSAND GALLONS $3.20

CUSTOMER MUST FUNISH ALL PUMPING EQUIPMENT AND BEAR ALL COSTS OF PUMPING.

FIRE HYDRANTS (2", 3", 4", 6") $145.65
PER HYDRANT
PER QUARTER



N

Legend

Hydrants	Water Lines	4"	12"	Pump/Booster Stations
Public	1"	6"	16"	Water Facilities
Private	2"	8"	24"	PRV Vault
	3"	10"		

Pennoni

Shenandoah Water Facilities

Shenandoah, PA - Schuykill County

July 08, 2022

PA DEP Drinking Water Outreach Assistance Program
Non-Revenue Water Management Technical Assistance to
Municipal Authority of the Borough of Shenandoah, PA

Assessment and Recommendations by George Kunkel, P.E. DEP PSII

INTRODUCTION

Pennsylvania Department of Environmental Protection (DEP) assisted the Municipal Authority of the Borough of Shenandoah, PA (MABS) in compiling a standard American Water Works Association (AWWA) water audit using AWWA's Free Water Audit Software. Included are observations and recommendations for MABS to improve their Non-revenue Water (NRW) management.

COMPILING THE WATER AUDIT

DEP staff met with MABS leadership and staff on November 14, 2017 to assist MABS in compiling their data into the AWWA Free Water Audit Software. After the data was compiled, the Software calculated performance indicators, which showed a very high level of water loss in MABS. MABS provided data for many of the water audit components, but some of the data has generated questions. The AWWA Free Water Audit Software calculated a composite Data Validity Score (DVS) of 53 for MABS water audit. The DVS quantifies the audit data quality. A DVS value of 53 is in the lower end of the middle tier of DVS values, suggesting that opportunity exists to improve the completeness and validity of the water audit data. In some cases, relatively minor recordkeeping improvements can generate more representative, and higher quality, water audit data, and generate a higher DVS.

ASSESSMENT OF THE MABS WATER AUDIT RESULTS

Key findings of the 2016 MABS water audit are presented below. Because some of the data input into the water audit was based on estimates, the validity of the results should be considered approximate.

- Treated water supplied volume of 571.763 million gallons (mg).
- Authorized consumption (billed and unbilled): 155.65 mg. The average billed monthly residential consumption rate of 3,010 gallons/customer is roughly 28% less than the value of 4,208 gal/cus/month from a well-known research study[1], suggesting under-registration of residential water meters. Larger commercial/industrial water meters may also have issues.
- Water Losses of 416.113 mg: including apparent (customer) losses of 47.013 mg and real (leakage) losses of 369.1 mg.
  - Apparent loss performance indicator: 43.41 gal/service connection/day. This value is greater than the highest value of 38.59 gal/conn/day from a list of 153 water utilities studied by the author in an independent study.[2] Thus, potentially a large revenue loss is occurring in the metering and billing processes of MABS.
  - Real loss performance indicator: 340.83 gal/service connection/day. This value is greater than the highest value of 204.99 gal/conn/day from a list of 147 water utilities studied by the author.[2] It's Infrastructure Leakage Index (ILI) of 16.66 is well above the high value of 8.52 for utilities in the PA study[2].

[1] Residential End Uses of Water, Version 2, Water Research Foundation (2016)
[2] Report on the Evaluation of Water Audit Data for Pennsylvania Water Utilities, NRDC, (2016)

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The cost impact of apparent losses is $552,401 in uncaptured revenue, which represents 29% of the total revenue for 2016 of $1,902,642. This significant revenue loss is likely due to both customer meter under-registration and customer billing system issues in 2016 which caused under-billing and missing revenue. Revenue loss is calculated by applying to the apparent loss volume by the value of Customer Retail Unit Cost (CRUC) for MABS of $11.75 / 1,000 gallons. This value of CRUC exists in the mid-range of data from 151 PA water utilities. MABS installed a new customer billing system in 2017 and it appears to have improved billing operations and revenue capture. MABS can continue this progress by focusing on customer meter replacement.

The cost impact of real losses is $154,963 of excessive treatment and pumping costs paid by MABS. This cost is derived by multiplying the volume of real (leakage) losses by the Variable Production Cost (VPC) of $419.84 per million gallons, which is a moderately cost rate and below the median value of $525.mg for 129 PA water utilities. The costs of leakage losses are significant and are equivalent to 67% of the variable production costs (electric power for pumping and treatment chemical costs) of $232,848.

General Assessment of MABS Water Loss Standing

MABS is challenged in operating an aging water distribution system and dated customer meter population. It has been hampered by a problematic customer billing system but acted to install a new billing system in 2017, which has begun to restore efficient billing operations and increased revenue capture. MABS is experiencing very high losses (apparent and real) and has questionable accountability stemming from the integrity of production volumes due to aging flowmeters and questions in production volume data management. MABS has opportunity to improve in the key areas of accountability (production flowmetering), apparent loss control (metering and billing operations) and leakage management. A host of recommendations are listed below for consideration by MABS. The recommendations are grouped as short-term and long-term to provide a priority to these actions.

Short-term recommendations for MABS (for action in 6-12 months)

To both improve the validity of the water audit as a decision-guiding tool, and to better control losses, MABS can consider undertaking a variety of activities over the next several years. In this vein, a series of recommendations are offered, with short-term recommendations listed below.

1. Evaluate the feasibility of conducting a Reservoir Drop Test to confirm production flowmeter accuracy: Review the Drop Test procedure provided by DEP and conduct this test if possible. Be aware that the configuration of piping may result in the Drop Test confirming the combined accuracy of both the two production flowmeters (gravity and high service).

2. Consider hiring a consultant to conduct pipeline flow measurement to confirm the measured volumes from the production flowmeter, as well as the three flowmeters installed in the water distribution system. The data from these measurements can be used to confirm the level of customer water demand in the system and assist leakage investigations.

PA DEP Drinking Water Outreach Assistance Program
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3. Better validate the water production volumes, "other" volumes and "unaccounted-for" water volumes reported to DEP. Conduct further investigation into the occurrence of repetitive production flow values that appear on many consecutive days in 2016 on the Water Allocation Daily Water Report. Review the method by which "other" and "unaccounted-for" water volumes are calculated.

4. Review how the flow data from the three distribution system flowmeters are archived and utilized; specifically, to see if they can be used to implement a flow balancing check against the production flows.

5. Review controls used to regulate and monitor storage tank levels and make any needed improvements to reduce the likelihood of storage tank overflows.

6. If blow-offs or drains exist on any distribution system pipelines, inspect these to ensure that the valves on these appurtenances are fully closed and not wasting water.

7. Document information on repairs of leaks and water main breaks in an electronic format. DEP is providing a spreadsheet software tool to MABS for this purpose. Take particular note of how many leaks are occurring on customer service lines.

8. Arrange to have an acoustic leak detection survey conducted on the entire system annually sometime in the March-May period by a professional leak detection service provider.

9. Record customer meter information (meter type, make, year installed) along with customer account data in an electronic billing system, meter management system, or spreadsheet software. Continue replacing water meters to the extent possible until a full meter change-out project can be conducted.

10. Create a form to document water consumed in fire hydrant flushing operations. Document the time that the hydrant is opened and the time it is closed and calculate the duration of flushing. Obtain an estimated flowrate from the Operator Field Guide (250 gallons per minute is a good approximation) or measure the flow with a field device such as a pitot blade and multiply the flowrate by the duration to get an estimate of the amount of water flushed out of the hydrant. The volumes flushed from all hydrants should be added to get a total volume for the year. DEP is working to develop a standardized form and guidance for water utilities to capture data from fire hydrant water usage.

Long-term recommendations (for action in 12-36 months)

1. Continue to compile the AWWA standard water audit on an annual basis. *It is recommended for PA DEP to again assist MABS in compiling the annual water audit for 2017.*

2. As part of the 2017 water audit, carry out a more detailed and accurate calculation of the Customer Retail Unit Cost (CRUC) by assessing water consumption data for each class of service and meter size.

PA DEP Drinking Water Outreach Assistance Program
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3. Plan for the replacement of the two production flowmeters (gravity and high service). These flowmeters are believed to be over twenty years old and likely have not be reliably tested for accuracy for many years.

4. As included in current planning, continue to pursue with priority the replacement of all customer water meters that have not already been replaced in recent years.

5. As an enhanced project conducted in conjunction with customer meter population, install an Advanced Metering Infrastructure (AMI) system for improved customer meter reading efficiency, improved customer service capabilities, and cost-saving advantages. At that time, convert all accounts to monthly meter reading and monthly billing.

6. Install 2-3 permanent pressure sensors in the water distribution system and link them to the SCADA System.

7. Recommend establishing written policy and a flyer/notice to customers to inform them of their ownership and responsibility for a portion of the service line supplying their building. If improved documentation of leak events finds that many leaks are indeed occurring on service lines, a strategy should be considered for improved management of customer service lines, such as a service line warranty or insurance program.

3800-FM-WSFR0106 Rev. 10/2010

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER STANDARDS AND FACILITY REGULATION

WATER SUPPLY INSPECTION REPORT

FACILITY NAME Municipal Authority of the Borough of Shenandoah (MABS)	PWS ID NO. 3540044	INSPECTION DATE 06/28/2017
FACILITY LOCATION/ADDRESS P.O. Box 110; Shenandoah, PA 17976-0110	COUNTY Schuylkill	MUNICIPALITY Shenandoah Borough
RESPONSIBLE OFFICIAL'S NAME Mary Lou Jaskierski, Manager	TELEPHONE NO. Office: 570-462-1904 Plant: 570-462-4918	
	SYSTEM TYPE: CWS	POPULATION: 9,500
CERTIFIED OPERATOR'S NAME Dan Salvadore	FIELD ORDER NO.	
	ISSUE DATE (MM/DD/YY)	

VIOLATIONS					
A1.	Failure to respond to an emergency		C1.	Failure to meet design/construction stds.	
A2.	Failure of key treatment processes		C2.	Failure to conduct performance monitoring	
A3.	Failure to respond to an acute violation		C3.	Failure to treat as permitted	
B1.	Failure to provide an adequate supply		C4.	Failure to operate and maintain PWS	
B2.	Failure to provide min. disinfectant residual		C5.	Failure to obtain certified operator	
B3.	Failure to respond to PMCL/TT violation		C6.	Improper interruption/repair	
B4.	Failure to comply with an Order		C7.	Failure to comply with permit condition	
B5.	Failure to obtain a permit		D1.	Reports/Records/Maps	
B6.	Other significant deficiencies	X	E1.	Other	

INSPECTION TIME	
START	
STOP	

INSPECTION TYPE	
FULL	
PARTIAL	X
COMPLAINT	
FOLLOWUP	

-I met with Dan Salvadore, Operator, for a partial inspection of this community water system. The purpose of the inspection was to observe the raw water pumps in operation and discuss an unresolved violation from a previous inspection of the facility.

-The 2nd Raw water pump was installed in November 2016, and after a period of testing, has been operational since December 2016. It was used throughout the coldest portion of the winter season to prevent the above ground raw water line from freezing, and is used periodically to ensure proper operation. Each pump is monitored daily while in operation, and logbooks are kept of various operation parameters.

-The installation and operation of the second pump resolved eFACTS Viol id#s 707476, 707477, & 707478 from the 10/16/14 inspection report. The C5 Viol id# 761152 from the 4/20/16 sanitary survey was resolved when plant operators found that they had the Class E distribution certification, and could advise the distribution crew during line repairs and maintenance which require issuing BWA's under certain conditions.

-The B6 Violation remains unresolved from the 4/20/16 Sanitary Survey conducted by the Department for unaccounted for water loss. (Viol id# 761153)

-Unaccounted for water loss was estimated at over 65%. Lack of manpower and investment to resolve this issue has compounded the facility's financial problems with overspending on chemical use, pump operation, and increased flow through the media, which is due to be replaced according to the July 2014, FPPE Report.

-In order to address/resolve this violation, the Department is requesting a current water loss calculation, along with the information used to make the new calculation. For any assistance needed in completing this calculation, MABS can contact associations such as PRWA or the Capability Enhancement Facilitator in the Department's Professional Engineering Services Program, Woody Cole at 570-826-2293 or wocole@pa.gov

8/15/17 RECEIVED BY (SIGNATURE AND DATE)	8/15/17 INVESTIGATOR (SIGNATURE AND DATE)	SUPV. INITIALS
2612476 eFACTS INSPECTION ID NO.	761153 (4/20/16) eFACTS VIOLATION ID NO.	Yes PADWIS UPDATED

	VIOLATION	REGULATION REFERENCE
	Imminent Threat Violations	
A1.	Failure to respond to an emergency situation (includes: waterborne disease outbreaks, waterborne emergencies, spills or prolonged water outages).	109.4, .408, .701(a)(3)
A2.	Failure to provide or significant interruption in key water treatment processes (includes: disinfection, filtration or nitrate removal).	109.4(2), .202(c), .1203, .1302, .1307(a)(1)(ii)
A3.	Failure to respond to an acute violation/situation (includes: reporting to DEP, public notification, investigation of cause and corrective measures for the following acute violations: TT violation of CFE max. allowable turbidity, TT violation for *Cryptosporidium*, breakdown in treatment for GW sources, MRDL exceedance of chlorine dioxide, MCL exceedance of nitrate/nitrite, MCL exceedance for total coliform w/ fecal coliforms or *E. coli* present, or finished water turbidity exceedance for unfiltered SW).	109.4, .408, .701(a)(3), .1307(a)(1)(ii)
	Priority Violations	
B1.	Failure to provide an adequate supply of water (includes: source, storage and distribution system inadequacies).	109.602, .603
B2.	Failure to provide acceptable minimum disinfectant residual throughout the distribution system.	109.710
B3.	Failure to respond to non-acute PMCL or treatment technique violation (includes: reporting to DEP, public notification, investigation of cause/ corrective actions).	109.4, .202, .409, .701(a)(3), .1102(b)(1), .1203, .1302
B4.	Failure to comply with an Order issued by the DEP.	Section 13(a) of Act 43 (SDWA)
B5.	Failure to obtain a permit, innovative technology permit, major permit amendment, or emergency permit.	109.501-.507, .1105
B6.	Other violations deemed to be significant deficiencies (M/R violations such as chronic failure to monitor, selective reporting, data recorder malfunctions; facility/administrative violations that are contributing to an imminent threat/priority violation or are chronic/persistent).	109.4, .301, .303, .701, .1303
	Facility Violations	
C1.	Failure to meet design and construction standards.	109.602-.609, .611-.612
C2.	Failure to conduct performance monitoring or monitoring for accredited-by-rule parameters (such as fluoride, turbidity, residual disinfectant, WQPs, etc.) ***OR*** failure to use approved methods for accredited-by-rule parameters.	109.301, .301(7)(iii)(F), .304(c), .1103, .1305(a)
C3.	Failure to provide level of treatment as designed and permitted, failure to filter to waste.	109.703
C4.	Failure to operate and maintain the water system or implement O&M Plan.	109.4, .702
C5.	Failure to obtain an operator with the appropriate certification.	109.4, .704
C6.	Improper interruption and repairs, failure to disinfect facilities.	109.708, .711
C7.	Failure to comply with a permit condition.	109.504(c)
	Administrative Violations	
D1.	Failure to maintain/submit: daily plant records, sample siting plan, water supplier complaint log, water supplier sanitary surveys, operation and maintenance plan, distribution map, emergency response plan or cross-connection control plan.	109.701, .702, .705, .706, .707, .709, .1107
E1.	Violations of other Safe Drinking Water Regulations (examples: PMCL/MRDL/TT, SMCL, unregulated contaminants, M/R, special monitoring)	109.202, .203, .301 or .302

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF SAFE DRINKING WATER

WATER SUPPLY INSPECTION REPORT

Facility Name	**PWSID No**	**Inspection Date**
SHENANDOAH MUN WATER AUTHORITY	3540044	2021-07-20
Facility Location SHENANDOAH HEIGHTS SHENANDOAH PA 17876	**County** Schuylkill	**Municipality** West Mahanoy
Responsible Officials Name	**Telephone:** (570) 462-1904	
WHITECAVAGE- CHAIRMAN MICHAEL	**SystemType:** Community	**Population:** 9500
Certified Operator name	**Field Order Number:** ----	
SALVADORE DANIEL P	**Issue Date(mm/dd/yy):** ----	

Person(s) Interviewed

Name: DAN SALVADORE	**Title:** OPERATOR

eFACTS info

Inspection ID: 3226013	**Inspection Type:** RTNC

Minor Deficiency

2C- DIRECT FILTRATION

PRETREATMENT

WTP - 301 - FILTER PLANT

The operators do not have a preventative maintenance program and schedule in place for the rapid/static mixers. (NO such Thing, in exsistance, for our static mixer)

3- DISTRIBUTION SYSTEM

OPERATIONS

DS - 001 - SHENANDOAH BORO

Distribution system unaccounted for water is more than 15% of the total production.

3- DISTRIBUTION SYSTEM

OPERATIONS

DS - 001 - SHENANDOAH BORO

The water system does not plan to loop dead ends.

4- WATER STORAGE

STORAGE STRUCTURE

ST - 001 - TURKEY RUN

The water system has not inspected the interior of the storage tank within the last 3 years. AWWA Standard M42 recommends that storage tanks are cleaned and inspected once every three years.

4- WATER STORAGE

STORAGE STRUCTURE

ST - 003 - SHENHEIGHT #2

The water system has not inspected the interior of the storage tank within the last 3 years. AWWA Standard M42 recommends that storage tanks are cleaned and inspected once every three years.

4- WATER STORAGE

STORAGE STRUCTURE

ST - 004 - KEHLY TANK

The water system has not inspected the interior of the storage tank within the last 3 years. AWWA Standard M42 recommends that storage tanks are cleaned and inspected once every three years.

4- WATER STORAGE

STORAGE STRUCTURE

ST - 005 - TREATMENT BUILDING

The water system has not inspected the interior of the storage tank within the last 3 years. AWWA Standard M42 recommends that storage tanks are cleaned and inspected once every three years.

5- PUMPS AND CONTROLS

CONTROLS AND ALARMS

PST - 001 - RINGTOWN #5

A pump failure alarm system is not present, which does not meet the design standards set forth in the Public Water Supply Manual.

5- PUMPS AND CONTROLS

CONTROLS AND ALARMS

PST - 002 - TURKEY RUN STATION

A pump failure alarm system is not present, which does not meet the design standards set forth in the Public Water Supply Manual.

5- PUMPS AND CONTROLS

CONTROLS AND ALARMS

PST - 003 - PUMP STATION #7

A pump failure alarm system is not present, which does not meet the design standards set forth in the Public Water Supply Manual.

5- PUMPS AND CONTROLS

AUXILIARY POWER

PST - 003 - PUMP STATION #7

Carbon monoxide detectors are not provided where generators are located in the pump station. This does not meet the design standards set forth in the Public Water Supply Manual.

8- SYSTEM MANAGEMENT

ALARMS & SHUTDOWNS

DS - 001 - SHENANDOAH BORO

The water system provides filtration of surface water or GUDI sources and is not equipped with alarm capabilities; which does not meet the design standards set forth in the Public Water Supply Manual.

General Comments

An inspection was conducted on Tuesday, July, 20 2021 with the Chief Operator for MABS, Dan Salvadore, representing the system and Megan McLaughlin & Dave Hissner representing PADEP. All sources, the treatment plant, pump stations, and storage tanks were visited during the inspection.

The system has 4 surface water reservoirs that supply water to the system: two are located in Ringtown and two in Raven Run. The Ringtown reservoirs are pumped into the Raven Run reservoirs. Treatment consists of 4 mixed media filters with upflow clarifiers and anthracite filters.

Treatment consists of:
Gaseous chlorine for disinfection
Potassium permanganate for iron removal
Lime for pH adjustment (new hopper installed)
Alum for coagulation and particulate removal
Caustic soda for pH adjustment
Zinc orthophosphate for corrosion control

The system has 4 storage tanks. One tank is located next to the treatment plant, one is located in Turkey Run, one is located in Shenandoah Heights and one is located in Kehly. MABS has remote access to SCADA, an Autodialer to call out operators for various plant related equipment failures,

Pottsville Environmental Testing Labs is the contracted certified laboratory.

The Department should be contacted prior to any changes to your system. The Pottsville District Office main number is 570-621-3118. The 24 hour emergency response number is 570-826-2511. The sanitarian for your system is Megan McLaughlin and can be reached at 570-621-3120 or memclaughl@pa.gov.

Signatures

Received by(Print Name):	Unable To Receive Signature:
DAN SALVADORE	Remote inspection
Investigator (Print Name):	
MEGAN N MCLAUGHLIN	

Municipal Authority of the Borough of Shenandoah
Water System
Site Visit - 8/26/2022



Shenandoah Water Treatment Plant - WTP Building - 424 Raven Run Rd.

Municipal Authority of the Borough of Shenandoah
Water System
Site Visit - 8/26/2022



Shenandoah Water Treatment Plant - WTP Sand Filters - 424 Raven Run Rd.



Shenandoah Water Treatment Plant - WTP Sand Filters - 424 Raven Run Rd.



MABS - High End Pump Station - High End Pump Station - 424 Raven Run Rd.



WTP - Storage Tank - 850,000 Gallon Storage Tank - 424 Raven Run Rd.

Municipal Authority of the Borough of Shenandoah
Water System
Site Visit - 8/26/2022



Raven Run Dam No. 2 - Spillway Entrance - North of 424 Raven Run Rd.



Raven Run Dam No. 2 - Spillway - North of 424 Raven Run Rd.



Former Chemical Building (Dam #2) - Building - North of 424 Raven Run Rd.



Raven Run Dam No. 3 - Drain Pipe - North of 424 Raven Run Rd.

Municipal Authority of the Borough of Shenandoah
Water System
Site Visit - 8/26/2022



Raven Run Dam No. 3 - Spillway Entrance - North of 424 Raven Run Rd.



Raven Run Dam No. 3 - Spillway - North of 424 Raven Run Rd.



Ringtown Dam No. 5 - Crest of Roller - Reservoir Road



Ringtown Dam No. 5 - Spillway - Reservoir Road

Municipal Authority of the Borough of Shenandoah
Water System
Site Visit - 8/26/2022



Ringtown Dam No. 5 - Spillway - Reservoir Road



Ringtown Reservoir PS No. 5 - Pump Station - Pump House Lane



Ringtown Dam #5 Caretaker House - Building - Pump House Lane



Ringtown Dam No. 6 - Embankment Crest - Reservoir Road

Municipal Authority of the Borough of Shenandoah
Water System
Site Visit - 8/26/2022



Ringtown Dam No. 6 - Concrete Spillway - Reservoir Road



Ringtown Dam No. 6 - Concrete Spillway - Reservoir Road

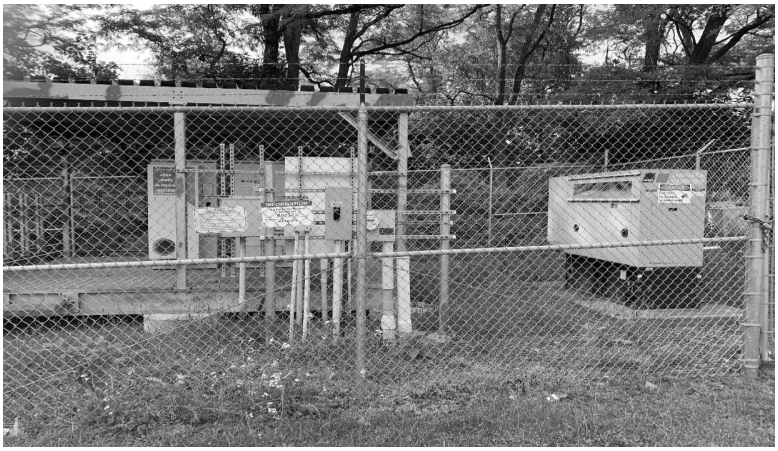


Turkey Run Pump Station - Pump Station - PA-924 & Herald

Municipal Authority of the Borough of Shenandoah
Water System
Site Visit - 8/26/2022

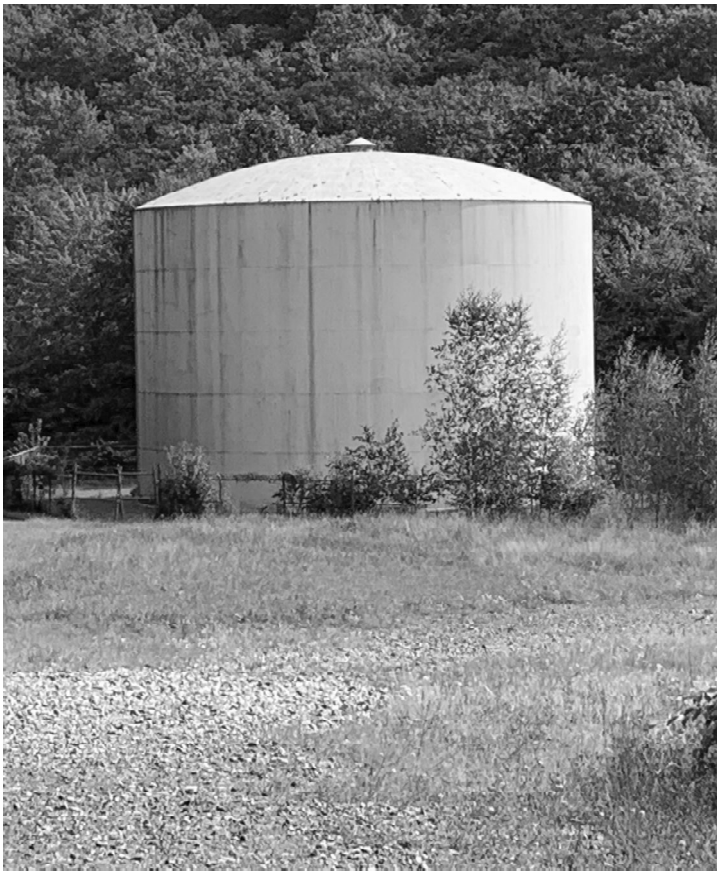


Turkey Run Storage Tank - Storage Tank - Furnace Street



Turkey Run Storage Tank - Generator and Electrical Equip. - Furnace Street

Municipal Authority of the Borough of Shenandoah
Water System
Site Visit - 8/26/2022



Kehly Run Tank - Storage Tank - PA-924 (Ringtow



Swatara Road Standpipe - Standpipe - Swatara Road

Golden State Water CO (Filer) CIK: 0000092116
AMERICAN STATES WATER CO (Filer) CIK: 0001056903

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Summary of Significant Accounting Policies	12 Months Ended Dec. 31, 2021
Accounting Policies [Abstract]	
Summary of Significant Accounting Policies	Summary of Significant Accounting Policies

Nature of Operations: American States Water Company (“AWR”) is the parent company of Golden State Water Company (“GSWC”), Bear Valley Electric Service Inc. ("BVESI"), and American States Utility Services, Inc. (“ASUS”) (and its wholly owned subsidiaries, Fort Bliss Water Services Company (“FBWS”), Terrapin Utility Services, Inc. (“TUS”), Old Dominion Utility Services, Inc. (“ODUS”), Palmetto State Utility Services, Inc. (“PSUS”), Old North Utility Services, Inc. (“ONUS”), Emerald Coast Utility Services, Inc. (“ECUS”), and Fort Riley Utility Services, Inc. ("FRUS")). AWR and its subsidiaries may be collectively referred to as “Registrant” or “the Company.” The subsidiaries of ASUS are collectively referred to as the “Military Utility Privatization Subsidiaries.” On July 1, 2020, GSWC completed the transfer of the electric utility assets and liabilities from its electric division to BVESI, a separate legal entity and wholly owned subsidiary of AWR (Note 20). This reorganization did not result in any substantive changes to AWR's operations and business segments. AWR, through its wholly owned subsidiaries, serves over one million people in nine states.

GSWC and BVESI are both California public utilities, with GSWC engaged in the purchase, production, distribution and sale of water throughout California serving approximately 262,800 customers, while BVESI distributes electricity in several San Bernardino County mountain communities in California serving approximately 24,700 customers. The California Public Utilities Commission (“CPUC”) regulates GSWC’s and BVESI's businesses in matters including properties, rates, services, facilities, and transactions between GSWC, BVESI, and their affiliates.

ASUS, through its Military Utility Privatization Subsidiaries, operates, maintains and performs construction activities (including renewal and replacement capital work) on water and/or wastewater systems at various U.S. military bases pursuant to 50-year firm fixed-price contracts. These contracts are subject to annual economic price adjustments and modifications for changes in circumstances, changes in laws and regulations and additions to the contract value for new construction of facilities at the military bases.

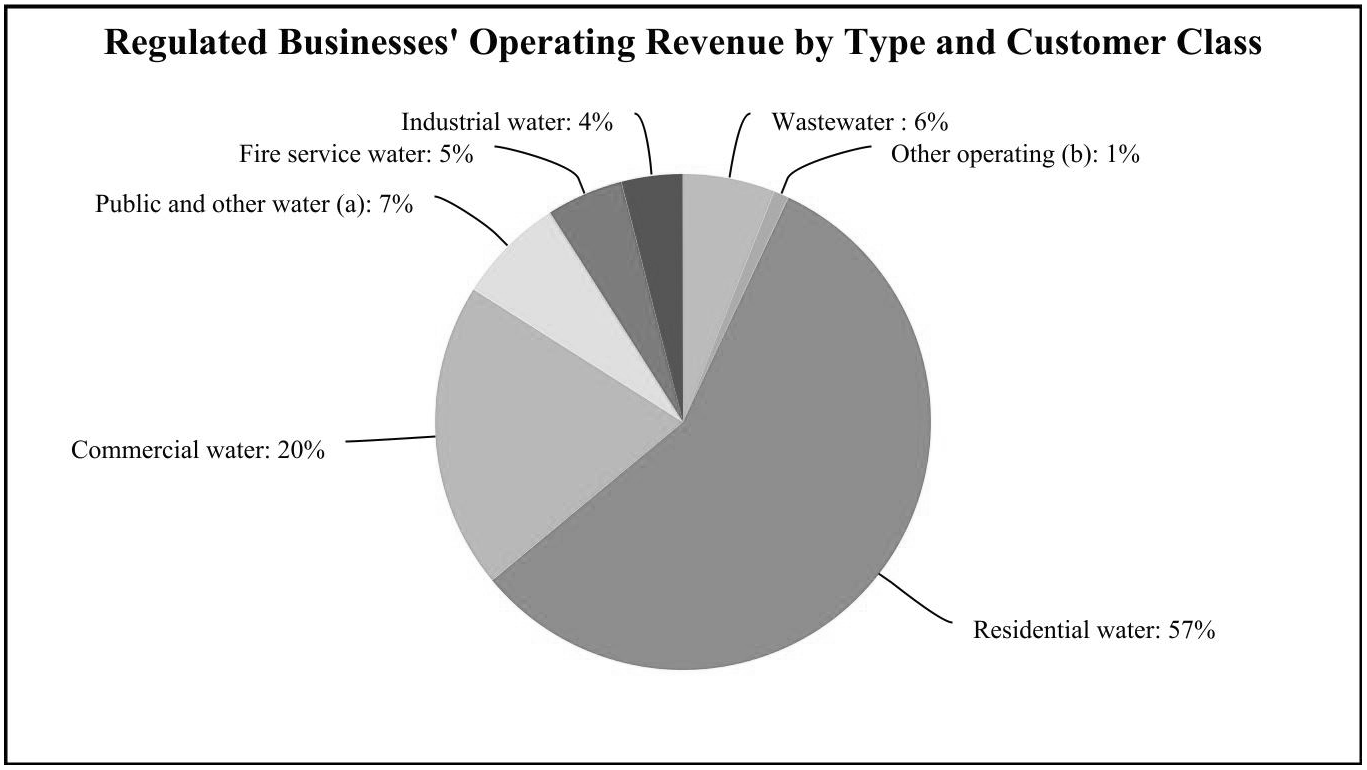
There is no direct regulatory oversight by the CPUC over AWR or the operations, rates or services provided by ASUS or the Military Utility Privatization Subsidiaries.

Basis of Presentation: The consolidated financial statements and notes thereto are presented in a combined report filed by two separate Registrants: AWR and GSWC. References in this report to “Registrant” are to AWR and GSWC, collectively, unless otherwise specified.

AWR owns all of the outstanding Common Shares of GSWC, BVESI and ASUS. ASUS owns all of the outstanding common shares of the Military Utility Privatization Subsidiaries. The consolidated financial statements of AWR include the accounts of AWR and its subsidiaries. These financial statements are prepared in conformity with accounting principles generally accepted in the United States of America. Intercompany transactions and balances have been eliminated in the AWR consolidated financial statements.

Related-Party Transactions: GSWC, BVESI and ASUS provide and/or receive various support services to and from their parent, AWR, and among themselves. GSWC also allocates certain corporate office administrative and general costs to its affiliates BVESI and ASUS using

The following chart depicts the allocation of the Company's Regulated Businesses' operating revenue of $3,384 million by type, including a breakout of the total water services revenues by class of customer, for the year ended December 31, 2021:



(a) Includes water revenues from public authorities and other utilities and community water systems under bulk contracts.

(b) Includes other operating revenues consisting primarily of miscellaneous utility charges, fees and rents.

Presented in the table below is the number of water and wastewater customers the Company served by class as of December 31, 2021, 2020 and 2019, which represents approximately 14 million people served as of December 31, 2021:

	2021		2020		2019	
(In thousands)	Water	Wastewater	Water	Wastewater	Water	Wastewater
Residential	2,972	245	2,948	236	2,914	215
Commercial	225	15	225	15	222	13
Fire service	52	—	50	—	49	—
Industrial	4	—	4	—	4	—
Public and other (a)	16	1	17	1	16	1
Total	3,269	261	3,244	252	3,205	229

(a) Includes public authorities and other utilities and community water and wastewater systems under bulk contracts. Bulk contracts, which are accounted for as a single customer in the table above, generally result in service to multiple customers.

Customer growth in the Company's Regulated Businesses is primarily from (i) adding new customers to its customer base through acquisitions of water and/or wastewater utility systems, (ii) population growth in its authorized service areas, and (iii) sale of water to other water utilities and community water systems.

Interconnections

Artesian Water has two water service interconnection agreements with a neighboring utility, Chester Water Authority. One agreement, that expired on December 31, 2021, had a "take or pay" clause requiring us to purchase 3 million gallons per day. The other agreement is effective from January 1, 2022 through December 31, 2026, includes automatic five year renewal terms, unless terminated by either party, and has a "take or pay" clause requiring us to purchase water on a step down schedule through July 5, 2022, thereafter requiring us to purchase a minimum of 0.5 million gallons per day. Rates charged under this agreement are subject to change.

Artesian Water Maryland has one interconnection agreement with the Town of North East that has a "take or pay" clause requiring us to purchase a minimum of 35,000 gallons per day. The agreement extends through June 2024.

The minimum annual purchase commitments for all interconnection agreements for 2022 through 2026, calculated at the noticed rates, are as follows:

In thousands	
2022	$ 1,518
2023	759
2024	730
2025	702
2026	701
	$ 4,410

Expenses for purchased water were $4.3 million, $4.3 million and $4.2 million for 2021, 2020 and 2019, respectively.

Other Commitments

In March 2017, Artesian Water entered into a 3-year agreement with Worldwide Industries Corporation to clean and paint tanks in 2017, 2018 and 2019. Pursuant to the 3-year agreement, the expenditure committed in total for the years 2017 through 2019 was $1.3 million. In 2020, Artesian Water entered into a short term agreement with Worldwide Industries Corporation to clean and paint a tank in 2020. Pursuant to the agreement, the expenditure in 2020 was $0.1 million. In April 2021, Artesian Water entered into a 3-year agreement with Worldwide Industries Corporation effective July 1, 2021 to paint elevated water storage tanks. Pursuant to the agreement, the total expenditure for the three years is $1.2 million. Tank painting expense for 2021, 2020 and 2019 was $222,000, $155,000, and $447,000, respectively.

Budgeted mandatory utility plant expenditures, due to planned governmental highway projects, which require the relocation of Artesian Water's water service mains, expected to be incurred in 2022 through 2024 are as follows:

In thousands	
2022	$ 4,820
2023	8,430
2024	2,420
	$ 15,670

The exact timing and extent of these relocation projects is controlled primarily by the Delaware Department of Transportation.

NOTE 12

GEOGRAPHIC CONCENTRATION OF CUSTOMERS

Artesian Water, Artesian Water Maryland and Artesian Water Pennsylvania provide water utility service to customers within their established service territory in all three counties of Delaware and in portions of Maryland and Pennsylvania, pursuant to rates filed with and approved by the DEPSC, the MDPSC and the PAPUC. As of December 31, 2021, Artesian Water was serving approximately 91,700 customers, Artesian Water Maryland was serving approximately 2,500 customers and Artesian Water Pennsylvania was serving approximately 40 customers.

Artesian Wastewater provides wastewater utility service to customers within its established service territory in Sussex County, Delaware pursuant to rates filed with and approved by the DEPSC. As of December 31, 2021, Artesian Wastewater was serving

approximately 3,200 customers, including one large industrial customer. Effective January 14, 2022, following the acquisition of TESI, the number of wastewater customers served more than doubled. All wastewater customers are located in Sussex County, Delaware.

For immediate release

Artesian Resources Corporation declares its 1st Quarter Common Stock Dividend for 2022

Newark, DE, January 25, 2022 – Artesian Resources Corporation (NASDAQ: ARTNA) announced today that its Board of Directors has declared a regular quarterly dividend on the company's Class A and Class B Common Stock. The quarterly dividend of $0.2675 is payable February 23, 2022 to shareholders of record at the close of business on February 9, 2022, providing a $1.07 annualized dividend rate. This is Artesian's 117th consecutive quarterly dividend paid to shareholders.

About Artesian Resources

Artesian Resources Corporation operates as a holding company of wholly-owned subsidiaries offering water and wastewater services, and related services, on the Delmarva Peninsula. Artesian Water Company, the principal subsidiary, is the oldest and largest regulated water utility on the Delmarva Peninsula and has been providing water service since 1905. Artesian supplies 8.3 billion gallons of water per year through 1,368 miles of water main to nearly a third of Delaware residents.

Contact:
Nicholle R. Taylor
Investor Relations
(302) 453-6900
ntaylor@artesianwater.com

(rounded to the nearest hundred)	2021	2020
Visalia	47,400	46,700
Selma	6,600	6,500
Kern River Valley	4,000	4,000
	176,600	175,500
LOS ANGELES AREA		
East Los Angeles	27,000	26,900
Hermosa Redondo (serving Hermosa Beach, Redondo Beach and a portion of Torrance)	27,200	27,100
Dominguez (Carson and portions of Compton, Harbor City, Long Beach, Los Angeles and Torrance)	34,400	34,300
Los Angeles County Region (including Palos Verdes Estates, Rancho Palos Verdes, Rolling Hills Estates, Rolling Hills, Fremont Valley, Lake Hughes, Lancaster and Leona Valley)	25,800	25,700
Westlake (a portion of Thousand Oaks)	7,100	7,100
Hawthorne and Commerce (leased municipal systems)	7,600	7,700
	129,100	128,800
CALIFORNIA TOTAL	494,500	492,600
HAWAII	6,200	5,300
NEW MEXICO	8,600	8,500
WASHINGTON	36,400	36,600
TEXAS	1,900	—
COMPANY TOTAL	547,600	543,000

Rates and Regulation

The Commissions have plenary powers setting both rates and operating standards. As such, the Commissions' decisions significantly impact the Company's revenues, earnings, and cash flows. The amounts discussed herein are generally annual amounts, unless otherwise stated, and the financial impact to recorded revenue is expected to occur over a 12-month period from the effective date of the decision. In California, water utilities are required to make several different types of filings. Certain filings, such as General Rate Case (GRC) filings, escalation rate increase filings, and offset filings, may result in rate changes that generally remain in place until the next GRC. As explained below, surcharges and surcredits to recover balancing and memorandum accounts as well as GRC interim rate relief are temporary rate changes, having specific time frames for recovery.

The CPUC follows a rate case plan which requires Cal Water to file a GRC for each of its regulated operating districts (except Grand Oaks) every three years. In a GRC proceeding the CPUC not only considers the utility's rate setting requests, but may also consider other issues that affect the utility's rates and operations. The CPUC is generally required to issue its GRC decision prior to the first day of the test year or authorize interim rates. In accordance with the rate case plan, Cal Water filed its most recent GRC application in July of 2021 requesting rate changes effective January 1, 2023.

Between GRC filings, Cal Water may file escalation rate increases, which allow Cal Water to recover cost increases, primarily from inflation and incremental investments, during the second and third years of the rate case cycle. However, escalation rate increases are district specific and subject to an earnings test. The CPUC may reduce a district’s escalation rate increase if, in the most recent 13-month period, the earnings test reflects earnings in excess of what was authorized for that district.

In addition, California water utilities are entitled to make offset requests via advice letter. Offsets may be requested to adjust revenues for construction projects authorized in GRCs when those capital projects go into service (these filings are referred to as "rate base offsets"), or for rate changes charged to Cal Water for purchased water, purchased power, and pump taxes (which are referred to as "expense offsets"). Rate changes approved in offset requests remain in effect until the next GRC is approved.

In pursuit of the State of California's water conservation goals, the CPUC decoupled Cal Water's revenue requirement from customer consumption levels in 2008 by authorizing a Water Revenue Adjustment Mechanism (WRAM) and Modified Cost Balancing Account (MCBA) for each district. The WRAM and MCBA ensure that Cal Water recovers revenues authorized by the CPUC regardless of customer consumption. This has removed the historical disincentive against promoting

- restrictive covenants in or changes to the credit ratings on our current or future debt that could increase our financing costs or affect our ability to borrow, make payments on debt or pay dividends;
- risks associated with expanding our business and operations geographically; and
- the risks set forth in "Risk Factors" included elsewhere in this annual report.

In light of these risks, uncertainties and assumptions, investors are cautioned not to place undue reliance on forward-looking statements, which speak only as of the date of this annual report or as of the date of any document incorporated by reference in this annual report, as applicable. When considering forward-looking statements, investors should keep in mind the cautionary statements in this annual report and the documents incorporated by reference. We are not under any obligation, and we expressly disclaim any obligation, to update or alter any forward-looking statements, whether as a result of new information, future events or otherwise.

Overview

California Water Service Group is a holding company with seven operating subsidiaries: California Water Service Company (Cal Water), New Mexico Water Service Company (New Mexico Water), Washington Water Service Company (Washington Water), Hawaii Water Service Company, Inc. (Hawaii Water), TWSC, Inc. (Texas Water), and CWS Utility Services and HWS Utility Services LLC (CWS Utility Services and HWS Utility Services LLC being referred to collectively in this annual report as Utility Services). Cal Water, New Mexico Water, Washington Water, and Hawaii Water are regulated public utilities. Texas Water holds regulated and contracted wastewater utilities.

The regulated utility entities also provide some non-regulated services. Utility Services holds non-utility property and provides non-regulated services to private companies and municipalities outside of California (see Non-Regulated Activities below for more details). Cal Water was the original operating company and began operations in 1926.

Our business is conducted through our operating subsidiaries and we provide utility services to approximately two million people. The bulk of the business consists of the production, purchase, storage, treatment, testing, distribution and sale of water for domestic, industrial, public and irrigation uses, and the provision of domestic and municipal fire protection services. In some areas, we provide wastewater collection and treatment services, including treatment which allows water recycling. We also provide non-regulated water-related services under agreements with municipalities and other private companies. The non-regulated services include full water system operation, billing and meter reading services. Non-regulated operations also include the lease of communication antenna sites, lab services and promotion of other non-regulated services.

During the year ended December 31, 2021, there were no significant changes in the kind of products produced or services rendered by our operating subsidiaries, or in the markets or methods of distribution.

Our mailing address and contact information is:

California Water Service Group
1720 North First Street
San Jose, California 95112-4598
Telephone number: 408-367-8200
www.calwatergroup.com

Annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to these reports are available free of charge through our website at www.calwatergroup.com. The reports are available on our website as soon as reasonably practicable after such reports are filed with the SEC.

The content on any website referred to in this annual report is not incorporated by reference in this annual report unless expressly noted.

Regulated Business

California water operations are conducted by Cal Water, which provides service to approximately 494,500 customer connections in approximately 100 California communities through 21 separate districts, which are subject to regulation by the California Public Utilities Commission (CPUC). California water operations accounted for approximately 90.3% of our total customer connections and 91.9% of our total consolidated operating revenue.

We operate the City of Hawthorne and the City of Commerce water systems under lease agreements. In accordance with the lease agreements, we receive all revenues from operating the systems and are responsible for paying the operating costs. The City of Hawthorne and the City of Commerce lease revenues are governed through their respective city councils and are considered non-regulated because they are outside of the CPUC's jurisdiction. We report revenue and expenses for the City of

Customers

Our water utility customer base is diversified among residential water, commercial water, fire protection, industrial water, other water, wastewater customers, and other utility customers (consisting of contracted services that are associated with the utility operations). Residential water and wastewater customers make up the largest component of our water utility customer base, with these customers representing approximately 69%, 71%, and 69%, of our water and wastewater revenues for 2021, 2020, and 2019, respectively. Substantially all of our water utility customers are metered, which allows us to measure and bill for our customers' water consumption. Water consumption per customer is affected by local weather conditions during the year, especially during late spring, summer, and early fall. In general, during these seasons, an extended period of dry weather increases consumption, while above-average rainfall decreases consumption. Also, an increase in the average temperature generally causes an increase in water consumption. On occasion, abnormally dry weather in our service areas can result in governmental authorities declaring drought warnings and imposing water use restrictions in the affected areas, which could reduce water consumption. See "Business – *Water Utility Supplies, and Facilities and Wastewater Utility Facilities*" for a discussion of water use restrictions that may impact water consumption during abnormally dry weather. The geographic diversity of our water utility customer base reduces the effect of our exposure to extreme or unusual weather conditions in any one area of our service territories. Water usage is also affected by changing consumption patterns by our customers, resulting from such causes as increased water conservation and the installation of water saving devices and appliances that can result in decreased water usage. It is estimated that, in the event we experience a 0.50% decrease in residential water consumption, it would result in a decrease in annual residential water revenue of approximately $2,800,000, which would likely be partially offset by a reduction in incremental water production expenses such as chemicals and power.

Our natural gas utility customer base is diversified among residential gas, commercial gas, industrial gas, gas transportation, and other utility. Substantially all of our natural gas utility customers are metered, which allows us to measure and bill for our customers' natural gas usage. Natural gas usage per customer is affected by local weather conditions during the year, especially during the fall, winter, and early spring. These patterns reflect the higher demand for natural gas for heating purposes during the colder months.

The Company's growth in revenues over the past five years is primarily a result of the 2020 Peoples Gas Acquisition, increases in water and wastewater rates, and customer growth. See *Economic Regulation* for a discussion of water, wastewater, and natural gas rates. The increase in our utility customer base has been due to customers added through acquisitions, partnerships with developers, and organic growth (excluding dispositions) as shown below:

Year	Utility Customer Growth Rate
2021	1.2%
2020	42.9%
2019	2.1%
2018	2.3%
2017	1.1%

In 2021, 2020, and 2019, our customer count increased by 21,246, 772,099, and 21,108 customers, respectively, primarily due to the water and wastewater utility systems that we acquired, organic growth, and in 2020, due to the Peoples Gas Acquisition that resulted to the addition of approximately 750,000 natural gas utility customers. Overall, for the five year period of 2017 through 2021, our utility customer base, adjusted to exclude customers associated with utility system dispositions, increased at an annual compound rate of 13.4%. During the five year period ended December 31, 2021, our utility customer base including customers associated with utility system acquisitions and dispositions increased from 972,265 at January 1, 2017 to 1,820,049 at December 31, 2021.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

Certain statements in this Annual Report on Form 10-K, or this Annual Report are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934 that are made based upon, among other things, our current assumptions, expectations, plans, and beliefs concerning future events and their potential effect on us. These forward-looking statements involve risks, uncertainties and other factors, many of which are outside our control that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by these forward-looking statements. In some cases you can identify forward-looking statements where statements are preceded by, followed by or include the words "believes," "expects," "estimates", "anticipates," "plans," "future," "potential," "probably," "predictions," "intends," "will," "continue," "in the event" or the negative of such terms or similar expressions. Please refer to the Summary in Item 1A – Risk Factors in this Annual Report for a description of the types of Forward-looking statements in this Annual Report. These factors are not necessarily all of the important factors that could cause actual results to differ materially from those expressed in any of our forward-looking statements. Other unknown or unpredictable factors could also have material adverse effects on future results.

Given these risks and uncertainties, you should not place undue reliance on any forward-looking statements. You should read this Annual Report completely and with the understanding that our actual future results, performance and achievements may be materially different from what we expect. These forward-looking statements represent assumptions, expectations, plans, and beliefs only as of the date of this Annual Report. Except for our ongoing obligations to disclose certain information under the federal securities laws, we are not obligated, and assume no obligation, to update these forward-looking statements, even though our situation may change in the future. For further information or other factors which could affect our financial results and such forward-looking statements, see Item 1A – Risk Factors. We qualify all of our forward-looking statements by these cautionary statements.

PART I

Item 1. *Business*

The Company

Essential Utilities, Inc. (referred to as Essential Utilities, Essential, the Company, we, us, or our), a Pennsylvania corporation, is the holding company for regulated utilities providing water, wastewater, or natural gas services to an estimated five million people in Pennsylvania, Ohio, Texas, Illinois, North Carolina, New Jersey, Indiana, Virginia, West Virginia, and Kentucky under the Aqua and Peoples brands. One of our largest operating subsidiaries, Aqua Pennsylvania, Inc., (Aqua Pennsylvania) accounted for approximately 55% of operating revenues and approximately 68% of income for our Regulated Water segment in 2021. As of December 31, 2021, Aqua Pennsylvania provided water or wastewater services to approximately one-half of the total number of water and wastewater customers we serve. Aqua Pennsylvania's service territory is located in the suburban areas in counties north and west of the City of Philadelphia and in 27 other counties in Pennsylvania. Our other regulated water or wastewater utility subsidiaries provide similar services in seven additional states. Additionally, pursuant to the Company' growth strategy, commencing on March 16, 2020 with the completion of the Peoples Gas Acquisition, the Company began to provide natural gas distribution services to customers in western Pennsylvania, Kentucky, and West Virginia. Approximately 93% of the total number of natural gas utility customers we serve are in western Pennsylvania. Lastly, the Company's market-based activities are conducted through Aqua Infrastructure, LLC and Aqua Resources Inc., and certain other non-regulated subsidiaries of Peoples. Prior to our October 30, 2020 sale of our investment in a joint venture, Aqua Infrastructure provided non-utility raw water supply services for firms in the natural gas drilling industry. Following the October 30, 2020 closing, Aqua Infrastructure does not provide any services to the natural gas drilling industry. Aqua Resources offers, through a third-party, water and sewer line protection solutions and repair services to households. Other non-regulated subsidiaries of Peoples provide utility service line protection services to households and operate gas marketing and production businesses.

PART I

Item 1. Business.

Overview

Middlesex Water Company (Middlesex) was incorporated as a water utility company in 1897 and owns and operates regulated water utility and wastewater systems primarily in New Jersey and Delaware. Middlesex also operates water and wastewater systems under contract on behalf of municipal and private clients primarily in New Jersey and Delaware.

The terms "the Company," "we," "our," and "us" refer to Middlesex Water Company and its subsidiaries, including Tidewater Utilities, Inc. (Tidewater) and Tidewater's wholly-owned subsidiaries, Southern Shores Water Company, LLC (Southern Shores) and White Marsh Environmental Systems, Inc. (White Marsh). The Company's other subsidiaries are Pinelands Water Company (Pinelands Water) and Pinelands Wastewater Company (Pinelands Wastewater) (collectively, Pinelands), Utility Service Affiliates, Inc. (USA) and Utility Service Affiliates (Perth Amboy) Inc., (USA-PA).

The Company's principal executive offices are located at 485C Route 1 South, Suite 400, Iselin, New Jersey 08830. Our telephone number is (732) 634-1500. Our website address is http://www.middlesexwater.com. Information contained on our website is not part of this Annual Report on Form 10-K. We make available, free of charge through our website, reports and amendments filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, after such material is electronically filed with or furnished to the United States Securities and Exchange Commission (the SEC).

Middlesex System

Located in New Jersey, the Middlesex System provides water services to approximately 61,000 retail customers, primarily in eastern Middlesex County and under wholesale contracts to the City of Rahway, Townships of Edison and Marlboro, the Borough of Highland Park and the Old Bridge Municipal Utilities Authority. The Middlesex System treats, stores and distributes water for residential, commercial, industrial and fire protection purposes. The Middlesex System also provides water treatment and pumping services to the Township of East Brunswick under contract. The amount of water supply allocated to the Township of East Brunswick is granted directly to the Township by the New Jersey Water Supply Authority. The Middlesex System produced approximately 59% of our 2021 consolidated operating revenues.

The Middlesex System's retail customers are located in an area of approximately 55 square miles in Woodbridge Township, the City of South Amboy, the Boroughs of Metuchen and Carteret, portions of the Township of Edison and the Borough of South Plainfield, all in Middlesex County, and a portion of the Township of Clark in Union County. Retail customers include a mix of residential customers, large industrial concerns and commercial and light industrial facilities. These customers are located in generally well-developed areas of central New Jersey.

The contract customers of the Middlesex System comprise an area of approximately 110 square miles with a population of over 200,000. Contract sales to the Townships of Edison and Marlboro, the City of Rahway and the Old Bridge Municipal Utilities Authority are supplemental to the water systems owned and operated by these customers. Middlesex is the sole source of water for the Borough of Highland Park and the Township of East Brunswick.

Middlesex provides water service to approximately 300 customers in Cumberland County, New Jersey. This system is referred to as Bayview, and is not physically interconnected with the Middlesex System. Bayview produced less than 0.1% of our 2021 consolidated operating revenues.

Tidewater System

Tidewater, together with its wholly-owned subsidiary, Southern Shores, provides water services to approximately 55,000 retail customers for residential, commercial and fire protection purposes in over 450 separate communities in New Castle, Kent and Sussex Counties, Delaware. The Tidewater System produced approximately 29% of our 2021 consolidated operating revenues.

USA-PA

USA-PA operates the City of Perth Amboy, New Jersey's (Perth Amboy) water and wastewater systems under a 10-year agreement, which expires in December 2028. There are approximately 12,000 customers comprised of residential, commercial and industrial connections, most of which are served by both the water and wastewater systems. In addition to performing day-to day operations, USA-PA is also responsible for emergency responses and management of capital projects funded by Perth Amboy. USA-PA produced approximately 5% of our 2021 consolidated operating revenues.

Pinelands Systems

Pinelands Water provides water services to approximately 2,500 residential customers in Burlington County, New Jersey. Pinelands Water is not physically interconnected with the Middlesex System. Pinelands Water produced approximately 1% of our 2021 consolidated operating revenues.

Pinelands Wastewater provides wastewater collection and treatment services to approximately 2,500 residential customers. Under contract, it also services one municipal wastewater system in Burlington County, New Jersey with approximately 200 residential customers. Pinelands Wastewater produced approximately 1% of our 2021 consolidated operating revenues.

USA

USA operates the Borough of Avalon, New Jersey's (Avalon) water utility, sewer utility and storm water system under a ten-year operations and maintenance contract expiring in June 2022. USA expects to participate in the public proposal process for a new ten-year contract. There are approximately 6,400 retail customers in Avalon, most of which are served by both the water system and wastewater collection system. In addition to performing day-to-day service operations, USA is responsible for billing, collections, customer service, emergency responses and management of capital projects funded by Avalon.

USA operates the Borough of Highland Park, New Jersey's (Highland Park) water utility and sewer utility under a ten-year operations and maintenance contract expiring in 2030. There are approximately 3,300 mostly retail customers in Highland Park. The contract commenced July 1, 2020.

USA also provides water and wastewater services to several other New Jersey municipalities under contracts that are not regulated by a public utility commission as to rates and service.

Under a marketing agreement with HomeServe USA Corp. (HomeServe) expiring in 2031, USA offers residential customers in New Jersey and Delaware various water and wastewater related home maintenance programs. USA receives a service fee for the billing, cash collection and other administrative matters associated with HomeServe's service contracts.

USA produced approximately 3% of our 2021 consolidated operating revenues.

White Marsh

White Marsh operates or maintains water and/or wastewater systems that serve approximately 4,500 service connections under 35 separate contracts. White Marsh also owns two commercial properties that are leased to Tidewater for its administrative office campus and its field operations center. White Marsh produced approximately 1% of our 2021 consolidated operating revenues.

EX-99.1 2 ex99-1.htm EX-99.1

EXHIBIT 99.1

FOR IMMEDIATE RELEASE

Middlesex Water Company Declares Quarterly Cash Dividend

ISELIN, N.J., January 27, 2022 – Middlesex Water Company (NASDAQ:MSEX) announced today that its Board of Directors has declared a cash dividend of $0.29 per share on its common stock, payable March 1, 2022 to shareholders of record as of February 14, 2022. Middlesex Water Company has paid cash dividends in varying amounts continually since 1912.

Middlesex Water Company is an investor-owned water and wastewater utility, serving customers primarily in central and southern New Jersey and Delaware. The Company is currently offering a 3% discount on all Common Stock purchases made under its Investment Plan whether by optional cash payment or by dividend reinvestment. The discount will continue until 200,000 shares are purchased at the discounted price or August 1, 2022, whichever event occurs first. To learn more visit https://shareholder.broadridge.com/middlesexwater

ABOUT MIDDLESEX WATER COMPANY

Established in 1897, Middlesex Water Company serves as a trusted provider offering life-sustaining high quality water service for residential, commercial, industrial and fire protection purposes. The Company offers a full range of water, wastewater utility and related services. An investor-owned public utility, Middlesex Water is a professional services provider specializing in municipal and industrial contract operations and water and wastewater system technical operations and maintenance. The company and its subsidiaries form the Middlesex Water family of companies, which collectively serve a population of nearly half a million people in New Jersey and Delaware. Middlesex is focused on meeting the needs of our employees, customers, and shareholders. We invest in our people, our infrastructure and the communities we serve to support reliable and resilient utility services, economic growth and quality of life. To learn more about Middlesex Water, visit https://www.middlesexwater.com

Item 1. ***Business***

General Development of Business

SJW Group was initially incorporated as SJW Corp. in the state of California on February 8, 1985. SJW Group is a holding company with four wholly-owned subsidiaries:

- San Jose Water Company ("SJWC") with its headquarters located at 110 West Taylor Street in San Jose, California 95110, was originally incorporated under the laws of the State of California in 1866. As part of a reorganization on February 8, 1985, SJWC became a wholly owned subsidiary of SJW Group. SJWC is a public utility in the business of providing water service to approximately 231,000 connections that serve a population of approximately one million people in an area comprising approximately 139 square miles in the metropolitan San Jose, California area.
- SJWNE LLC, a Delaware limited liability company, was formed in 2019, and is a wholly-owned subsidiary of SJW Group. SJWNE LLC is a special purpose entity established to hold SJW Group's investment in Connecticut Water Service, Inc. Connecticut Water Service, Inc. with its headquarters located in Clinton, Connecticut was incorporated in 1974 in the State of Connecticut. As part of the merger transaction between SJW Group and Connecticut Water Service, Inc. on October 9, 2019, Connecticut Water Service, Inc. and its subsidiaries ("CTWS") became a wholly-owned subsidiary of SJWNE LLC. Connecticut Water Service, Inc. is a holding company with four wholly-owned subsidiaries. The Connecticut Water Company ("Connecticut Water") and The Maine Water Company ("Maine Water") are public utilities in the business of providing water service to approximately 140,000 connections that serve a population of approximately 456,000 people in 81 municipalities throughout Connecticut and Maine and more than 3,000 wastewater connections in Southbury, Connecticut. The remaining two subsidiaries are Chester Realty, Inc., a real estate company in Connecticut, and New England Water Utility Services, Inc. ("NEWUS"), which provides contract water and sewer operations and other water related services.
- SJWTX, Inc. was incorporated in the State of Texas in 2005. SJWTX, Inc. is doing business as Canyon Lake Water Service Company ("CLWSC"). CLWSC is a public utility in the business of providing water service to approximately 24,000 service connections that serve approximately 70,000 people. CLWSC's service area comprises more than 266 square miles in the southern region of the Texas Hill Country in Bandera, Blanco, Comal, Hays, Kendall, Medina and Travis counties, the growing region between San Antonio and Austin, Texas. SJWTX, Inc. has a 25% interest in Acequia Water Supply Corporation ("Acequia"). Acequia has been determined to be a variable interest entity within the scope of Financial Accounting Standards Board ("FASB") Accounting Standard Codification ("ASC") Topic 810, "Consolidation" with SJWTX, Inc. as the primary beneficiary. As a result, Acequia has been consolidated with SJWTX, Inc. On December 17, 2021, CLWSC completed its acquisition of Kendall West Utility and Bandera East Utility, companies that provide water services, including wastewater and recycled water services in Kendall, Bandera and Medina counties which are located in south central Texas. Kendall West Utility and Bandera East Utility, together, added approximately 1,600 service connections that serve a population of approximately 5,000 people in a service area approximately 19 square miles to CLWSC's operations. SJWTX, Inc is undergoing a corporate reorganization to separate regulated operations from non-tariffed activities. In November 2021, SJWTX Holdings, Inc. ("SJWTX Holdings") and Texas Water Operation Services LLC ("TWOS") were formed for the purpose of effecting a corporate reorganization of our water services organization in Texas. TWOS was created for non-tariffed operations and is wholly-owned by SJWTX Holdings. SJWTX Holdings is a wholly-owned subsidiary of SJW Group, incorporated to hold the investments in SJWTX, Inc. and TWOS. In addition, in 2022, SJWTX Holdings intends to create a new subsidiary to hold future wholesale water supply assets.
- SJW Land Company was incorporated in 1985. SJW Land Company owns undeveloped land in California and Tennessee and operates commercial buildings in Tennessee.

Together, SJWC, Connecticut Water, CLWSC, Maine Water and NEWUS, are referred to as "Water Utility Services."

SJW Land Company and and Chester Realty, Inc. are collectively referred to as "Real Estate Services."

Regulation and Rates

Water Utility Services are subject to rate regulation based on cost recovery and meets the criteria of accounting guidance for rate-regulated operations, which considers the timing of the recognition of certain revenues and expenses. SJW Group's consolidated financial statements reflect the effects of the rate-making process. The rate-making process is intended to provide revenues sufficient to recover normal operating expenses, provide funds for replacement of water infrastructure and produce a fair and reasonable return on stockholder common equity. SJW Group's regulated operations financing activity is designed to

Lead and copper may enter drinking water primarily through plumbing materials. The Company is required to comply with the Lead and Copper Rule established by the EPA and administered by the DEP. The Company must monitor drinking water at customer taps for compliance with this rule. If lead concentrations exceed an action level, the Company must undertake a number of additional actions to control corrosion, inform the public about steps they should take to protect their health and may be required to replace lead service lines under its control. See "Management's Discussion and Analysis – Environmental Matters" for a discussion of the Company's compliance with the Lead and Copper rule.

The DEP and the Susquehanna River Basin Commission, or SRBC, regulate the amount of water withdrawn from streams in the watershed to assure that sufficient quantities are available to meet the needs of the Company and other regulated users. Through its Division of Dam Safety, the DEP regulates the operation and maintenance of the Company's impounding dams. The Company routinely inspects its dams and prepares annual reports of their condition as required by DEP regulations. The DEP reviews these reports and inspects the Company's dams. The DEP most recently inspected the Company's dams in 2021.

Since 1980, the DEP has required any new dam to have a spillway that is capable of passing the design flood without overtopping the dam. The design flood is either the Probable Maximum Flood, or PMF, or some fraction of it, depending on the size and location of the dam. PMF is very conservative and is calculated using the most severe combination of meteorological and hydrologic conditions reasonably possible in the watershed area of a dam.

The Company engaged a professional engineer to analyze the spillway capacities at the Lake Williams and Lake Redman dams and validate the DEP's recommended flood design for the dams. Management presented the results of the study to the DEP in December 2004, and DEP then requested that the Company submit a proposed schedule for the actions to address the spillway capacities. Thereafter, the Company retained an engineering firm to prepare preliminary designs for increasing the spillway capacities to pass the PMF through armoring the dams with roller compacted concrete. Management has met with the DEP on a regular basis to review the preliminary design and discuss scheduling, permitting, and construction requirements. Recently, the DEP expressed concern regarding the stability of the Lake Williams spillway in light of current design standards. The Company is currently completing the final design and the permitting process to armor and replace the spillway of the Lake Williams dam. The Company finalized its plans in 2021 and will begin construction in 2022 at a total cost of approximately $32 million. The Lake Redman dam will be reviewed following the completion of the work on the Lake Williams dam.

Capital expenditures and operating costs required as a result of water quality standards and environmental requirements have been traditionally recognized by state public utility commissions as appropriate for inclusion in establishing rates. The capital expenditures currently required as a result of water quality standards and environmental requirements have been budgeted in the Company's capital program and represent less than 15% of its expected total capital expenditures over the next five years. The Company is currently in compliance with wastewater environmental standards and does not anticipate any major capital expenditures for its current wastewater business.

Growth

(All dollar amounts are stated in thousands of dollars)

The Company continues to grow its number of customers and distribution facilities.

The growth in the number of customers of the Company is due primarily to the acquisition of water and wastewater systems and organic growth. During the year ended December 31, 2021, the Company increased its number of customers from 72,681 to 73,144. See "Management's Discussion and Analysis – Acquisitions and Growth" for a discussion of the Company's recent acquisitions.

The Company continues to grow its water distribution and wastewater collection systems to provide reliable service to its expanding franchised service territory and the increasing population within that territory. During the year ended December 31, 2021, the Company installed an additional 62,375 feet of water distribution mains and acquired an additional 171,587 feet of wastewater collection mains resulting in 999 miles of water mains and 73 miles of wastewater mains as of December 31, 2021.

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PART I

Item 1. Business.

The York Water Company (the "Company") is the oldest investor-owned water utility in the United States and is duly organized under the laws of the Commonwealth of Pennsylvania. The Company has operated continuously since 1816. The primary business of the Company is to impound, purify to meet or exceed safe drinking water standards and distribute water. The Company also owns and operates three wastewater collection systems and five wastewater collection and treatment systems. The Company operates within its franchised water and wastewater territory, which covers portions of 51 municipalities within three counties in south-central Pennsylvania. The Company is regulated by the Pennsylvania Public Utility Commission, or PPUC, for both water and wastewater in the areas of billing, payment procedures, dispute processing, terminations, service territory, debt and equity financing and rate setting. The Company must obtain PPUC approval before changing any practices associated with the aforementioned areas.

Water service is supplied through the Company's own distribution system. The Company obtains the bulk of its water supply from both the South Branch and East Branch of the Codorus Creek, which together have an average daily flow of 73.0 million gallons. This combined watershed area is approximately 117 square miles. The Company has two reservoirs, Lake Williams and Lake Redman, which together hold up to approximately 2.2 billion gallons of water. The Company supplements its reservoirs with a 15-mile pipeline from the Susquehanna River to Lake Redman which provides access to an additional supply of 12.0 million gallons of untreated water per day. The Company also owns nine wells which are capable of providing a safe yield of approximately 597,000 gallons per day to supply water to the customers of its satellite systems in Adams County. As of December 31, 2021, the Company's average daily availability was 39.6 million gallons, and average daily consumption was approximately 20.1 million gallons. The Company's service territory had an estimated population of 204,000 as of December 31, 2021. Industry within the Company's service territory is diversified, manufacturing such items as fixtures and furniture, electrical machinery, food products, paper, ordnance units, textile products, air conditioning systems, laundry detergent, barbells, and motorcycles.

The Company's water business is somewhat dependent on weather conditions, particularly the amount and timing of rainfall. Revenues are particularly vulnerable to weather conditions in the summer months. Prolonged periods of hot and dry weather generally cause increased water usage for watering lawns, washing cars, and keeping golf courses and sports fields irrigated. Conversely, prolonged periods of dry weather could lead to drought restrictions from governmental authorities. Despite the Company's adequate water supply, customers may be required to cut back water usage under such drought restrictions which would negatively impact revenues. The Company has addressed some of this vulnerability by instituting minimum customer charges which are intended to cover fixed costs of operations under all likely weather conditions.

The Company's business does not require large amounts of working capital and is not dependent on any single customer or a very few customers for a material portion of its business. Increases in revenues are generally dependent on the Company's ability to obtain rate increases from the PPUC in a timely manner and in adequate amounts and to increase volumes of water sold through increased consumption and increases in the number of customers served. The Company continuously looks for water and wastewater acquisition and expansion opportunities both within and outside its current service territory as well as additional opportunities to enter into bulk water contracts with municipalities and other entities to supply water.

The Company has agreements with several municipalities to provide sewer billing and collection services. The Company also has a service line protection program on a targeted basis in order to further diversify its business. Under this optional program, customers pay a fixed monthly fee, and the Company will repair or replace damaged customer service lines, as needed, subject to an annual maximum dollar amount. The Company continues to review and consider opportunities to expand both initiatives.

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Consensus Forecast of U.S. Interest Rates and Key Assumptions

	History								Consensus Forecasts-Quarterly Avg.					
	Average For Week Ending				Average For Month			Latest Qtr	3Q	4Q	1Q	2Q	3Q	4Q
Interest Rates	Jun 24	Jun 17	Jun 10	Jun 3	May	Apr	Mar	2Q 2022*	**2022**	**2022**	**2023**	**2023**	**2023**	**2023**
Federal Funds Rate	1.58	0.83	0.83	0.83	0.77	0.33	0.20	0.73	**2.4**	**3.1**	**3.5**	**3.5**	**3.5**	**3.4**
Prime Rate	4.75	4.00	4.00	4.00	3.94	3.50	3.37	3.90	**5.4**	**6.2**	**6.6**	**6.7**	**6.6**	**6.5**
SOFR	1.45	1.00	0.76	0.79	0.72	0.29	0.16	0.69	**2.1**	**2.9**	**3.4**	**3.5**	**3.4**	**3.3**
Commercial Paper, 1-mo.	1.60	1.40	1.00	0.87	0.80	0.44	0.32	0.80	**2.2**	**3.0**	**3.4**	**3.4**	**3.4**	**3.3**
Treasury bill, 3-mo.	1.67	1.70	1.30	1.17	0.99	0.76	0.45	1.08	**2.3**	**3.0**	**3.4**	**3.4**	**3.4**	**3.3**
Treasury bill, 6-mo.	2.45	2.30	1.81	1.65	1.49	1.26	0.86	1.62	**2.7**	**3.3**	**3.5**	**3.6**	**3.5**	**3.4**
Treasury bill, 1 yr.	2.83	2.94	2.34	2.14	2.06	1.89	1.34	2.18	**3.0**	**3.5**	**3.7**	**3.7**	**3.6**	**3.5**
Treasury note, 2 yr.	3.08	3.27	2.83	2.63	2.62	2.54	1.91	2.71	**3.3**	**3.6**	**3.7**	**3.6**	**3.6**	**3.4**
Treasury note, 5 yr.	3.23	3.45	3.07	2.91	2.87	2.78	2.11	2.95	**3.4**	**3.6**	**3.6**	**3.6**	**3.6**	**3.5**
Treasury note, 10 yr.	3.17	3.36	3.05	2.92	2.90	2.75	2.13	2.93	**3.3**	**3.5**	**3.6**	**3.6**	**3.6**	**3.6**
Treasury bond, 30 yr.	3.28	3.38	3.18	3.09	3.07	2.81	2.41	3.04	**3.5**	**3.6**	**3.7**	**3.8**	**3.8**	**3.8**
Corporate Aaa bond	4.58	4.68	4.39	4.27	4.37	4.01	3.63	4.30	**4.7**	**5.0**	**5.1**	**5.1**	**5.1**	**5.1**
Corporate Baa bond	5.30	5.38	5.05	4.94	5.05	4.63	4.23	4.97	**5.6**	**6.0**	**6.2**	**6.2**	**6.2**	**6.2**
State & Local bonds	4.05	4.08	3.77	3.73	3.96	3.70	3.30	3.87	**4.0**	**4.3**	**4.4**	**4.5**	**4.5**	**4.4**
Home mortgage rate	5.81	5.78	5.23	5.09	5.23	4.98	4.17	5.23	**5.7**	**5.9**	**6.0**	**5.9**	**5.8**	**5.7**
	History								Consensus Forecasts-Quarterly					
	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Key Assumptions	2020	2020	2021	2021	2021	2021	2022	2022**	**2022**	**2022**	**2023**	**2023**	**2023**	**2023**
Fed's AFE Index	107.2	105.1	103.4	102.9	105.0	107.0	108.4	113.6	**115.3**	**115.4**	**115.1**	**114.6**	**114.0**	**113.8**
Real GDP	33.8	4.5	6.3	6.7	2.3	6.9	-1.6	2.9	**2.1**	**1.6**	**1.2**	**1.0**	**1.3**	**1.6**
GDP Price Index	3.6	2.2	4.3	6.1	6.0	7.1	8.2	5.9	**5.2**	**3.9**	**3.4**	**2.8**	**2.7**	**2.6**
Consumer Price Index	4.8	2.2	4.1	8.2	6.7	7.9	9.2	7.6	**6.0**	**3.8**	**3.3**	**2.7**	**2.5**	**2.5**
PCE Price Index	3.7	1.5	3.8	6.5	5.3	6.4	7.1	5.8	**5.2**	**3.6**	**3.1**	**2.5**	**2.4**	**2.3**

*Interest rate data for 2Q 2022 based on historical data through the week ended June 24. **Data for 2Q 2022 for the Fed's AFE $ Index based on data through the week ended June 24. Figures for 2Q 2022 Real GDP, GDP Chained Price Index, Consumer Price Index, and PCE Price Index are consensus forecasts from the June 2022 survey.

Blue Chip Financial Forecasts, July 1, 2022. Copyright © 2022 CCH Incorporated. All Rights Reserved.

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Company Name	Enterprise value to Net PPE	Month End 7/8/2022 0	Month End 6/30/2022 -1	Month End 5/31/2022 -2	Month End 4/30/2022 -3	Month End 3/31/2022 -4	Month End 2/28/2022 -5	Month End 1/31/2022 -6	Month End 12/31/2021 -7	Month End 11/30/2021 -8	Month End 10/31/2021 -9	Month End 9/30/2021 -10	Month End 8/31/2021 -11	Month End 7/31/2021 -12	Month End 6/30/2021 -13	Month End 5/31/2021 -14	Month End 4/30/2021 -15	Month End 3/31/2021 -16	Month End 2/28/2021 -17	Month End 1/31/2021 -18	Month End 12/31/2020 -19	Month End 11/30/2020 -20	Month End 10/31/2020 -21	Month End 9/30/2020 -22
AMERICAN STATES WATER COMP		2.199	2.185	2.166	2.146	2.378	2.312	2.486	2.742	2.569	2.489	2.366	2.567	2.454	2.247	2.249	2.229	2.144	2.165	2.259	2.314	2.207	2.228	2.235
AMERICAN WATER WORKS COMP		1.774	1.757	1.804	1.828	1.938	1.857	1.948	2.194	2.053	2.099	2.053	2.204	2.081	1.936	1.964	1.958	1.903	1.871	2.016	1.964	1.996	1.962	1.909
ESSENTIAL UTILITIES, INC.		1.733	1.718	1.752	1.692	1.848	1.786	1.807	1.932	1.814	1.784	1.760	1.875	1.850	1.762	1.826	1.812	1.751	1.715	1.806	1.832	1.820	1.725	1.699
ARTESIAN RESOURCES CORPORA		1.030	1.013	1.060	1.025	1.056	1.039	1.065	1.037	0.991	0.946	0.911	0.945	0.933	0.899	0.981	0.972	0.960	0.925	0.982	0.923	0.936	0.890	0.878
CALIFORNIA WATER SERVICE GR		1.395	1.397	1.381	1.347	1.482	1.465	1.543	1.727	1.589	1.548	1.524	1.648	1.631	1.475	1.517	1.554	1.494	1.500	1.461	1.449	1.393	1.288	1.267
MIDDLESEX WATER COMPANY		2.168	2.142	2.071	2.148	2.467	2.401	2.421	2.807	2.499	2.643	2.478	2.678	2.515	2.075	2.213	2.115	2.050	1.899	2.137	1.978	1.938	1.838	1.788
SJW GROUP		1.363	1.359	1.373	1.339	1.464	1.430	1.451	1.503	1.461	1.443	1.427	1.492	1.487	1.407	1.446	1.460	1.443	1.429	1.451	1.491	1.471	1.399	1.401
THE YORK WATER COMPANY		1.903	1.866	1.921	1.823	1.925	1.962	1.981	2.136	2.080	2.103	1.949	2.290	2.150	2.040	2.271	2.326	2.224	1.968	2.040	2.165	2.160	2.036	2.037

Company Name	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap
AMERICAN STATES WATER COMP	2.755	2.738	2.710	2.685	2.975	2.887	3.104	3.424	3.202	3.103	2.949	3.260	3.116	2.854	2.853	2.828	2.719	2.754	2.874	2.944	2.805	2.832	2.841
AMERICAN WATER WORKS COMP	2.088	2.067	2.079	2.107	2.233	2.129	2.233	2.515	2.345	2.397	2.344	2.529	2.388	2.222	2.225	2.219	2.156	2.094	2.256	2.198	2.234	2.196	2.136
ESSENTIAL UTILITIES, INC.	1.589	1.576	1.597	1.543	1.685	1.640	1.658	1.773	1.655	1.628	1.605	1.708	1.685	1.606	1.671	1.658	1.602	1.578	1.663	1.687	1.660	1.574	1.550
ARTESIAN RESOURCES CORPORA	1.817	1.787	1.800	1.741	1.795	1.748	1.792	1.746	1.677	1.602	1.543	1.596	1.575	1.517	1.623	1.608	1.588	1.542	1.636	1.539	1.589	1.511	1.490
CALIFORNIA WATER SERVICE GR	1.766	1.769	1.715	1.672	1.840	1.777	1.872	2.095	1.973	1.922	1.892	2.057	2.036	1.841	1.923	1.970	1.894	1.879	1.830	1.815	1.800	1.665	1.636
MIDDLESEX WATER COMPANY	2.657	2.624	2.603	2.700	3.101	3.001	3.026	3.507	3.159	3.342	3.132	3.429	3.220	2.657	2.829	2.704	2.621	2.364	2.660	2.462	2.366	2.244	2.183
SJW GROUP	1.323	1.319	1.315	1.283	1.403	1.384	1.404	1.455	1.410	1.393	1.377	1.443	1.438	1.361	1.388	1.401	1.384	1.374	1.395	1.433	1.411	1.342	1.344
THE YORK WATER COMPANY	2.418	2.371	2.447	2.322	2.452	2.534	2.559	2.760	2.702	2.732	2.531	2.987	2.804	2.660	2.902	2.971	2.842	2.496	2.587	2.745	2.847	2.685	2.686

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Company Name	Enterprise value to Net PPE	Month End 7/8/2022 0	Month End 6/30/2022 -1	Month End 5/31/2022 -2	Month End 4/30/2022 -3	Month End 3/31/2022 -4	Month End 2/28/2022 -5	Month End 1/31/2022 -6	Month End 12/31/2021 -7	Month End 11/30/2021 -8	Month End 10/31/2021 -9	Month End 9/30/2021 -10	Month End 8/31/2021 -11	Month End 7/31/2021 -12	Month End 6/30/2021 -13	Month End 5/31/2021 -14	Month End 4/30/2021 -15	Month End 3/31/2021 -16	Month End 2/28/2021 -17	Month End 1/31/2021 -18	Month End 12/31/2020 -19	Month End 11/30/2020 -20	Month End 10/31/2020 -21	Month End 9/30/2020 -22
AMERICAN STATES WATER COMP		1.000	0.994	0.985	0.976	1.082	1.051	1.131	1.247	1.168	1.132	1.076	1.167	1.116	1.022	1.023	1.014	0.975	0.985	1.028	1.053	1.004	1.013	1.016
AMERICAN WATER WORKS COMP		1.000	0.990	1.017	1.030	1.092	1.046	1.098	1.237	1.157	1.183	1.157	1.242	1.173	1.091	1.107	1.104	1.072	1.054	1.136	1.107	1.125	1.106	1.076
ESSENTIAL UTILITIES, INC.		1.000	0.991	1.011	0.976	1.067	1.031	1.043	1.115	1.047	1.030	1.015	1.082	1.068	1.017	1.054	1.046	1.011	0.990	1.043	1.058	1.050	0.996	0.981
ARTESIAN RESOURCES CORPORA		1.000	0.984	1.029	0.995	1.026	1.008	1.033	1.007	0.962	0.918	0.885	0.918	0.906	0.873	0.953	0.944	0.932	0.898	0.953	0.896	0.909	0.864	0.852
CALIFORNIA WATER SERVICE GR		1.000	1.001	0.990	0.965	1.062	1.050	1.106	1.238	1.139	1.109	1.092	1.181	1.169	1.057	1.087	1.113	1.070	1.075	1.047	1.038	0.998	0.923	0.908
MIDDLESEX WATER COMPANY		1.000	0.988	0.955	0.991	1.138	1.108	1.117	1.294	1.153	1.219	1.143	1.235	1.160	0.957	1.020	0.975	0.945	0.876	0.985	0.912	0.894	0.848	0.825
SJW GROUP		1.000	0.997	1.008	0.983	1.075	1.049	1.065	1.103	1.072	1.059	1.047	1.095	1.091	1.033	1.062	1.072	1.059	1.049	1.065	1.094	1.080	1.027	1.028
THE YORK WATER COMPANY		1.000	0.981	1.009	0.958	1.011	1.031	1.041	1.122	1.093	1.105	1.024	1.203	1.130	1.072	1.194	1.222	1.169	1.034	1.072	1.137	1.135	1.070	1.070

Company Name	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap
AMERICAN STATES WATER COMP	1.000	0.994	0.984	0.975	1.080	1.048	1.127	1.243	1.162	1.126	1.071	1.183	1.131	1.036	1.035	1.026	0.987	1.000	1.043	1.069	1.018	1.028	1.031
AMERICAN WATER WORKS COMP	1.000	0.990	0.996	1.009	1.070	1.020	1.070	1.205	1.123	1.148	1.123	1.211	1.144	1.064	1.066	1.063	1.033	1.003	1.081	1.053	1.070	1.052	1.023
ESSENTIAL UTILITIES, INC.	1.000	0.991	1.005	0.971	1.060	1.032	1.043	1.116	1.042	1.024	1.010	1.075	1.060	1.010	1.051	1.043	1.008	0.993	1.046	1.061	1.045	0.990	0.975
ARTESIAN RESOURCES CORPORA	1.000	0.984	0.991	0.958	0.988	0.962	0.986	0.961	0.923	0.882	0.849	0.878	0.867	0.835	0.893	0.885	0.874	0.849	0.901	0.847	0.875	0.832	0.820
CALIFORNIA WATER SERVICE GR	1.000	1.001	0.971	0.947	1.042	1.006	1.060	1.186	1.117	1.088	1.071	1.164	1.153	1.042	1.089	1.115	1.072	1.064	1.036	1.028	1.019	0.942	0.926
MIDDLESEX WATER COMPANY	1.000	0.988	0.980	1.016	1.167	1.129	1.139	1.320	1.189	1.258	1.179	1.291	1.212	1.000	1.065	1.018	0.987	0.890	1.001	0.927	0.891	0.845	0.822
SJW GROUP	1.000	0.997	0.994	0.969	1.060	1.046	1.061	1.100	1.066	1.053	1.041	1.091	1.087	1.029	1.049	1.059	1.046	1.039	1.055	1.083	1.066	1.014	1.016
THE YORK WATER COMPANY	1.000	0.981	1.012	0.960	1.014	1.048	1.058	1.141	1.117	1.130	1.047	1.235	1.160	1.100	1.200	1.229	1.175	1.032	1.070	1.135	1.178	1.110	1.11

7/8/2022	Month End 7/8/2022	Month End 6/30/2022	Month End 5/31/2022	Month End 4/30/2022	Month End 3/31/2022	Month End 2/28/2022	Month End 1/31/2022	Month End 12/31/2021	Month End 11/30/2021	Month End 10/31/2021	Month End 9/30/2021	Month End 8/31/2021	Month End 7/31/2021	Month End 6/30/2021	Month End 5/31/2021	Month End 4/30/2021	Month End 3/31/2021	Month End 2/28/2021	Month End 1/31/2021	Month End 12/31/2020	Month End 11/30/2020	Month End 10/31/2020	Month End 9/30/2020
Enterprise value to Net PPE	100%	99%	101%	98%	107%	105%	108%	118%	112%	111%	106%	117%	112%	103%	106%	106%	103%	101%	104%	106%	103%	100%	100%
Enterprise value to Inv Cap	100%	99%	99%	97%	106%	104%	106%	116%	112%	111%	106%	117%	114%	103%	106%	105%	102%	100%	104%	106%	103%	100%	100%

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Company Name	Month End 8/31/2020 -23 Enterprise value to Net PPE	Month End 7/31/2020 -24 Enterprise value to Net PPE	Month End 6/30/2020 -25 Enterprise value to Net PPE	Month End 5/31/2020 -26 Enterprise value to Net PPE	Month End 4/30/2020 -27 Enterprise value to Net PPE	Month End 3/31/2020 -28 Enterprise value to Net PPE	Month End 2/29/2020 -29 Enterprise value to Net PPE	Month End 1/31/2020 -30 Enterprise value to Net PPE	Month End 12/31/2019 -31 Enterprise value to Net PPE	Month End 11/30/2019 -32 Enterprise value to Net PPE	Month End 10/31/2019 -33 Enterprise value to Net PPE	Month End 9/30/2019 -34 Enterprise value to Net PPE	Month End 8/31/2019 -35 Enterprise value to Net PPE	Month End 7/31/2019 -36 Enterprise value to Net PPE	Month End 6/30/2019 -37 Enterprise value to Net PPE	Month End 5/31/2019 -38 Enterprise value to Net PPE	Month End 4/30/2019 -39 Enterprise value to Net PPE	Month End 3/31/2019 -40 Enterprise value to Net PPE	Month End 2/28/2019 -41 Enterprise value to Net PPE	Month End 1/31/2019 -42 Enterprise value to Net PPE	Month End 12/31/2018 -43 Enterprise value to Net PPE	Month End 11/30/2018 -44 Enterprise value to Net PPE	Month End 10/31/2018 -45 Enterprise value to Net PPE	Month End 9/30/2018 -46 Enterprise value to Net PPE	Month End 8/31/2018 -47 Enterprise value to Net PPE
AMERICAN STATES WATER COMF	2.299	2.313	2.357	2.434	2.349	2.407	2.372	2.672	2.622	2.632	2.894	2.753	2.898	2.453	2.391	2.392	2.321	2.324	2.379	2.263	2.244	2.288	2.117	2.115	2.128
AMERICAN WATER WORKS COMP	1.910	1.954	1.773	1.791	1.719	1.698	1.744	1.849	1.717	1.732	1.755	1.762	1.810	1.682	1.683	1.684	1.610	1.569	1.574	1.500	1.448	1.522	1.448	1.441	1.462
ESSENTIAL UTILITIES, INC.	1.793	1.828	1.743	2.513	1.804	1.762	1.741	1.978	1.804	1.735	1.766	1.748	1.756	1.958	1.937	1.904	1.863	1.538	1.572	1.505	1.479	1.535	1.453	1.593	1.626
ARTESIAN RESOURCES CORPORA	0.902	0.888	0.905	0.897	0.889	0.932	0.893	0.954	0.943	0.953	0.941	0.941	0.944	0.921	0.939	0.928	0.931	0.954	0.999	0.927	0.919	0.963	0.961	0.966	0.972
CALIFORNIA WATER SERVICE GR	1.352	1.383	1.360	1.366	1.324	1.410	1.393	1.468	1.448	1.470	1.565	1.505	1.607	1.524	1.465	1.470	1.495	1.550	1.525	1.468	1.427	1.420	1.328	1.349	1.339
MIDDLESEX WATER COMPANY	1.882	1.878	1.939	2.011	1.822	1.818	1.874	2.070	2.028	2.078	2.013	1.957	1.934	1.975	1.852	1.900	1.848	1.794	1.907	1.835	1.759	1.772	1.569	1.664	1.636
SJW GROUP	1.431	1.420	1.416	1.450	1.393	1.370	2.195	1.557	1.512	1.531	1.561	1.476	1.506	1.435	1.335	1.373	1.382	1.366	1.373	1.630	1.539	1.534	1.321	1.318	1.290
THE YORK WATER COMPANY	2.205	2.227	2.294	2.174	2.000	2.131	2.091	2.302	2.250	2.221	2.191	2.175	1.931	1.862	1.852	1.810	1.790	1.802	1.900	1.745	1.709	1.773	1.687	1.655	1.657

Company Name	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap
AMERICAN STATES WATER COMF	2.955	2.972	3.030	3.224	3.110	3.188	3.061	3.448	3.382	3.426	3.766	3.582	3.881	3.285	3.203	3.201	3.106	3.109	3.200	3.044	3.017	3.044	2.818	2.814	2.834
AMERICAN WATER WORKS COMP	2.143	2.191	1.989	2.096	2.012	1.987	2.062	2.187	2.030	2.041	2.067	2.075	2.153	2.000	2.002	2.024	1.934	1.885	1.883	1.794	1.732	1.811	1.722	1.714	1.790
ESSENTIAL UTILITIES, INC.	1.622	1.653	1.576	2.289	1.643	1.605	1.552	1.763	1.608	1.555	1.582	1.567	2.227	2.483	2.456	2.435	2.383	1.968	2.026	1.940	1.905	1.969	1.864	2.043	2.128
ARTESIAN RESOURCES CORPORA	1.542	1.517	1.547	1.528	1.514	1.587	1.529	1.633	1.615	1.651	1.629	1.630	1.648	1.608	1.639	1.626	1.631	1.671	1.757	1.630	1.615	1.691	1.688	1.696	1.696
CALIFORNIA WATER SERVICE GR	1.742	1.782	1.752	1.852	1.795	1.911	1.887	1.989	1.962	1.985	2.113	2.032	2.190	2.076	1.996	2.027	2.062	2.138	2.075	1.997	1.942	1.977	1.849	1.877	1.887
MIDDLESEX WATER COMPANY	2.287	2.282	2.356	2.463	2.232	2.226	2.249	2.484	2.433	2.773	2.686	2.611	2.607	2.662	2.497	2.596	2.525	2.451	2.612	2.514	2.409	2.450	2.169	2.300	2.305
SJW GROUP	1.379	1.369	1.365	1.398	1.343	1.321	2.144	1.521	1.477	1.482	1.511	1.429	1.459	1.390	1.293	1.320	1.329	1.313	1.883	2.236	2.111	2.123	1.828	1.824	1.806
THE YORK WATER COMPANY	2.912	2.941	3.030	2.875	2.645	2.817	2.777	3.057	2.988	2.986	2.945	2.923	2.610	2.518	2.503	2.441	2.414	2.431	2.598	2.387	2.337	2.413	2.296	2.252	2.272

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Company Name	Month End 8/31/2020 -23 Enterprise value to Net PPE	Month End 7/31/2020 -24 Enterprise value to Net PPE	Month End 6/30/2020 -25 Enterprise value to Net PPE	Month End 5/31/2020 -26 Enterprise value to Net PPE	Month End 4/30/2020 -27 Enterprise value to Net PPE	Month End 3/31/2020 -28 Enterprise value to Net PPE	Month End 2/29/2020 -29 Enterprise value to Net PPE	Month End 1/31/2020 -30 Enterprise value to Net PPE	Month End 12/31/2019 -31 Enterprise value to Net PPE	Month End 11/30/2019 -32 Enterprise value to Net PPE	Month End 10/31/2019 -33 Enterprise value to Net PPE	Month End 9/30/2019 -34 Enterprise value to Net PPE	Month End 8/31/2019 -35 Enterprise value to Net PPE	Month End 7/31/2019 -36 Enterprise value to Net PPE	Month End 6/30/2019 -37 Enterprise value to Net PPE	Month End 5/31/2019 -38 Enterprise value to Net PPE	Month End 4/30/2019 -39 Enterprise value to Net PPE	Month End 3/31/2019 -40 Enterprise value to Net PPE	Month End 2/28/2019 -41 Enterprise value to Net PPE	Month End 1/31/2019 -42 Enterprise value to Net PPE	Month End 12/31/2018 -43 Enterprise value to Net PPE	Month End 11/30/2018 -44 Enterprise value to Net PPE	Month End 10/31/2018 -45 Enterprise value to Net PPE	Month End 9/30/2018 -46 Enterprise value to Net PPE	Month End 8/31/2018 -47 Enterprise value to Net PPE
AMERICAN STATES WATER COMF	1.046	1.052	1.072	1.107	1.068	1.095	1.079	1.215	1.192	1.197	1.316	1.252	1.318	1.116	1.088	1.088	1.056	1.057	1.082	1.029	1.020	1.041	0.963	0.962	0.968
AMERICAN WATER WORKS COMP	1.077	1.101	0.999	1.010	0.969	0.957	0.983	1.042	0.968	0.976	0.989	0.993	1.020	0.948	0.949	0.949	0.907	0.884	0.887	0.845	0.816	0.858	0.816	0.812	0.824
ESSENTIAL UTILITIES, INC.	1.035	1.055	1.006	1.450	1.041	1.017	1.005	1.142	1.041	1.001	1.019	1.009	1.013	1.130	1.118	1.099	1.075	0.888	0.907	0.869	0.853	0.886	0.838	0.919	0.938
ARTESIAN RESOURCES CORPORA	0.876	0.862	0.879	0.871	0.863	0.905	0.867	0.926	0.916	0.925	0.913	0.914	0.917	0.894	0.911	0.901	0.904	0.926	0.970	0.900	0.892	0.935	0.933	0.938	0.944
CALIFORNIA WATER SERVICE GR	0.969	0.991	0.974	0.979	0.949	1.010	0.998	1.052	1.038	1.054	1.122	1.078	1.152	1.092	1.050	1.053	1.071	1.111	1.093	1.052	1.023	1.018	0.952	0.967	0.960
MIDDLESEX WATER COMPANY	0.868	0.866	0.894	0.927	0.840	0.838	0.864	0.955	0.935	0.959	0.929	0.903	0.892	0.911	0.854	0.876	0.852	0.827	0.880	0.847	0.811	0.817	0.724	0.767	0.755
SJW GROUP	1.050	1.042	1.039	1.064	1.022	1.006	1.611	1.143	1.109	1.124	1.146	1.084	1.105	1.053	0.980	1.008	1.014	1.003	1.007	1.196	1.129	1.126	0.969	0.967	0.946
THE YORK WATER COMPANY	1.159	1.170	1.206	1.142	1.051	1.119	1.099	1.210	1.182	1.167	1.151	1.143	1.015	0.979	0.973	0.951	0.940	0.947	0.998	0.917	0.898	0.932	0.887	0.870	0.871

Company Name	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap
AMERICAN STATES WATER COMF	1.073	1.079	1.100	1.170	1.129	1.157	1.111	1.251	1.228	1.243	1.367	1.300	1.409	1.192	1.163	1.162	1.127	1.129	1.161	1.105	1.095	1.105	1.023	1.022	1.029
AMERICAN WATER WORKS COMP	1.026	1.050	0.953	1.004	0.964	0.952	0.988	1.047	0.973	0.977	0.990	0.994	1.031	0.958	0.959	0.969	0.926	0.903	0.902	0.859	0.830	0.868	0.825	0.821	0.858
ESSENTIAL UTILITIES, INC.	1.020	1.040	0.992	1.440	1.034	1.010	0.976	1.109	1.012	0.978	0.996	0.986	1.401	1.562	1.546	1.532	1.500	1.238	1.275	1.220	1.199	1.239	1.172	1.286	1.339
ARTESIAN RESOURCES CORPORA	0.849	0.835	0.851	0.841	0.833	0.874	0.842	0.899	0.889	0.909	0.897	0.897	0.907	0.885	0.902	0.895	0.898	0.920	0.967	0.897	0.889	0.931	0.929	0.933	0.934
CALIFORNIA WATER SERVICE GR	0.986	1.009	0.992	1.048	1.016	1.082	1.068	1.126	1.110	1.124	1.196	1.150	1.240	1.175	1.130	1.147	1.167	1.210	1.175	1.131	1.099	1.119	1.047	1.063	1.068
MIDDLESEX WATER COMPANY	0.861	0.859	0.887	0.927	0.840	0.838	0.847	0.935	0.916	1.044	1.011	0.983	0.981	1.002	0.940	0.977	0.951	0.923	0.983	0.946	0.907	0.922	0.816	0.866	0.868
SJW GROUP	1.042	1.035	1.031	1.057	1.015	0.999	1.620	1.150	1.116	1.120	1.142	1.080	1.102	1.051	0.978	0.998	1.004	0.993	1.423	1.690	1.595	1.604	1.382	1.379	1.365
THE YORK WATER COMPANY	1.204	1.216	1.253	1.189	1.094	1.165	1.148	1.264	1.236	1.235	1.218	1.209	1.079	1.041	1.035	1.010	0.998	1.005	1.074	0.987	0.966	0.998	0.950	0.931	0.940

7/8/2022	Month End 8/31/2020	Month End 7/31/2020	Month End 6/30/2020	Month End 5/31/2020	Month End 4/30/2020	Month End 3/31/2020	Month End 2/29/2020	Month End 1/31/2020	Month End 12/31/2019	Month End 11/30/2019	Month End 10/31/2019	Month End 9/30/2019	Month End 8/31/2019	Month End 7/31/2019	Month End 6/30/2019	Month End 5/31/2019	Month End 4/30/2019	Month End 3/31/2019	Month End 2/28/2019	Month End 1/31/2019	Month End 12/31/2018	Month End 11/30/2018	Month End 10/31/2018	Month End 9/30/2018	Month End 8/31/2018
Enterprise value to Net PPE	104%	105%	100%	104%	100%	101%	100%	110%	104%	103%	107%	104%	102%	102%	98%	98%	98%	94%	98%	91%	89%	93%	91%	93%	94%
Enterprise value to Inv Cap	102%	104%	99%	105%	102%	100%	103%	112%	106%	108%	108%	104%	109%	105%	101%	100%	100%	100%	112%	105%	103%	105%	99%	98%	98%

Company Name	Month End 7/31/2018 -48 Enterprise value to Net PPE	Month End 6/30/2018 -49 Enterprise value to Net PPE	Month End 5/31/2018 -50 Enterprise value to Net PPE	Month End 4/30/2018 -51 Enterprise value to Net PPE	Month End 3/31/2018 -52 Enterprise value to Net PPE	Month End 2/28/2018 -53 Enterprise value to Net PPE	Month End 1/31/2018 -54 Enterprise value to Net PPE	Month End 12/31/2017 -55 Enterprise value to Net PPE	Month End 11/30/2017 -56 Enterprise value to Net PPE	Month End 10/31/2017 -57 Enterprise value to Net PPE	Month End 9/30/2017 -58 Enterprise value to Net PPE	Month End 8/31/2017 -59 Enterprise value to Net PPE	Month End 7/31/2017 -60 Enterprise value to Net PPE	Month End 6/30/2017 -61 Enterprise value to Net PPE	Month End 5/31/2017 -62 Enterprise value to Net PPE	Month End 4/30/2017 -63 Enterprise value to Net PPE	Month End 3/31/2017 -64 Enterprise value to Net PPE	Month End 2/28/2017 -65 Enterprise value to Net PPE	Month End 1/31/2017 -66 Enterprise value to Net PPE	Month End 12/31/2016 -67 Enterprise value to Net PPE	Month End 11/30/2016 -68 Enterprise value to Net PPE	Month End 10/31/2016 -69 Enterprise value to Net PPE	Month End 9/30/2016 -70 Enterprise value to Net PPE	Month End 8/31/2016 -71 Enterprise value to Net PPE	Month End 7/31/2016 -72 Enterprise value to Net PPE
AMERICAN STATES WATER COMF	2.112	2.024	2.021	2.000	1.919	1.958	2.005	2.088	2.128	2.004	1.863	1.894	1.944	1.879	1.805	1.760	1.752	1.800	1.756	1.813	1.744	1.651	1.653	1.659	1.778
AMERICAN WATER WORKS COMP	1.436	1.405	1.400	1.433	1.372	1.393	1.416	1.511	1.540	1.497	1.418	1.442	1.433	1.396	1.411	1.419	1.396	1.443	1.367	1.354	1.378	1.397	1.407	1.418	1.516
ESSENTIAL UTILITIES, INC.	1.606	1.549	1.550	1.555	1.519	1.558	1.609	1.710	1.707	1.621	1.536	1.574	1.556	1.553	1.549	1.553	1.519	1.535	1.479	1.465	1.478	1.509	1.501	1.521	1.670
ARTESIAN RESOURCES CORPORA	0.980	1.014	1.035	1.009	0.973	0.926	1.009	1.036	1.138	1.102	1.040	1.044	1.072	1.053	1.009	1.070	0.943	0.957	0.919	0.941	0.942	0.879	0.885	0.877	1.017
CALIFORNIA WATER SERVICE GR	1.338	1.265	1.324	1.289	1.228	1.284	1.351	1.463	1.510	1.420	1.322	1.332	1.369	1.294	1.267	1.294	1.271	1.316	1.239	1.223	1.263	1.168	1.202	1.189	1.279
MIDDLESEX WATER COMPANY	1.567	1.507	1.592	1.505	1.361	1.345	1.410	1.476	1.697	1.601	1.474	1.459	1.486	1.497	1.384	1.467	1.430	1.481	1.486	1.648	1.610	1.454	1.426	1.396	1.632
SJW GROUP	1.396	1.406	1.380	1.336	1.200	1.208	1.309	1.373	1.480	1.334	1.276	1.288	1.243	1.184	1.195	1.209	1.211	1.221	1.230	1.332	1.329	1.276	1.147	1.146	1.139
THE YORK WATER COMPANY	1.688	1.724	1.776	1.755	1.702	1.573	1.731	1.832	2.006	1.910	1.852	1.859	1.932	1.934	1.883	2.079	1.963	2.043	2.034	2.149	2.076	1.850	1.757	1.702	1.859

Company Name	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap
AMERICAN STATES WATER COMF	2.812	2.695	2.693	2.666	2.558	2.609	2.672	2.782	2.820	2.656	2.468	2.371	2.434	2.352	2.312	2.254	2.243	2.303	2.246	2.319	2.259	2.138	2.141	2.171	2.327
AMERICAN WATER WORKS COMP	1.758	1.720	1.735	1.776	1.700	1.681	1.710	1.824	1.846	1.794	1.699	1.732	1.721	1.677	1.706	1.716	1.688	1.733	1.642	1.626	1.639	1.662	1.674	1.689	1.805
ESSENTIAL UTILITIES, INC.	2.102	2.027	2.039	2.045	1.998	2.057	2.124	2.258	2.240	2.127	2.016	2.088	2.064	2.061	2.061	2.067	2.023	2.039	1.964	1.946	1.963	2.005	1.994	2.029	2.229
ARTESIAN RESOURCES CORPORA	1.711	1.770	1.824	1.778	1.714	1.613	1.757	1.805	1.961	1.899	1.792	1.794	1.842	1.809	1.734	1.838	1.620	1.657	1.592	1.630	1.603	1.496	1.507	1.468	1.703
CALIFORNIA WATER SERVICE GR	1.885	1.782	1.791	1.743	1.660	1.769	1.861	2.016	2.068	1.946	1.810	1.878	1.930	1.824	1.780	1.818	1.787	1.882	1.772	1.750	1.770	1.636	1.684	1.680	1.806
MIDDLESEX WATER COMPANY	2.208	2.123	2.224	2.103	1.903	1.882	1.974	2.066	2.395	2.260	2.081	2.054	2.093	2.108	1.953	2.069	2.017	2.060	2.067	2.292	2.252	2.034	1.996	1.975	2.309
SJW GROUP	1.956	1.969	1.918	1.857	1.668	1.714	1.857	1.948	2.116	1.907	1.825	1.825	1.761	1.678	1.623	1.642	1.645	1.686	1.700	1.841	1.836	1.764	1.585	1.606	1.597
THE YORK WATER COMPANY	2.315	2.364	2.417	2.388	2.316	2.162	2.380	2.518	2.771	2.638	2.557	2.551	2.652	2.655	2.545	2.810	2.654	2.701	2.688	2.841	2.748	2.449	2.325	2.260	2.468

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Company Name	Month End 7/31/2018 -48 Enterprise value to Net PPE	Month End 6/30/2018 -49 Enterprise value to Net PPE	Month End 5/31/2018 -50 Enterprise value to Net PPE	Month End 4/30/2018 -51 Enterprise value to Net PPE	Month End 3/31/2018 -52 Enterprise value to Net PPE	Month End 2/28/2018 -53 Enterprise value to Net PPE	Month End 1/31/2018 -54 Enterprise value to Net PPE	Month End 12/31/2017 -55 Enterprise value to Net PPE	Month End 11/30/2017 -56 Enterprise value to Net PPE	Month End 10/31/2017 -57 Enterprise value to Net PPE	Month End 9/30/2017 -58 Enterprise value to Net PPE	Month End 8/31/2017 -59 Enterprise value to Net PPE	Month End 7/31/2017 -60 Enterprise value to Net PPE	Month End 6/30/2017 -61 Enterprise value to Net PPE	Month End 5/31/2017 -62 Enterprise value to Net PPE	Month End 4/30/2017 -63 Enterprise value to Net PPE	Month End 3/31/2017 -64 Enterprise value to Net PPE	Month End 2/28/2017 -65 Enterprise value to Net PPE	Month End 1/31/2017 -66 Enterprise value to Net PPE	Month End 12/31/2016 -67 Enterprise value to Net PPE	Month End 11/30/2016 -68 Enterprise value to Net PPE	Month End 10/31/2016 -69 Enterprise value to Net PPE	Month End 9/30/2016 -70 Enterprise value to Net PPE	Month End 8/31/2016 -71 Enterprise value to Net PPE	Month End 7/31/2016 -72 Enterprise value to Net PPE
AMERICAN STATES WATER COMF	0.961	0.920	0.919	0.910	0.873	0.891	0.912	0.950	0.968	0.912	0.847	0.861	0.884	0.855	0.821	0.800	0.797	0.819	0.799	0.825	0.793	0.751	0.752	0.755	0.809
AMERICAN WATER WORKS COMP	0.809	0.792	0.789	0.808	0.773	0.785	0.798	0.852	0.868	0.844	0.799	0.813	0.807	0.787	0.795	0.800	0.787	0.813	0.771	0.763	0.777	0.787	0.793	0.799	0.854
ESSENTIAL UTILITIES, INC.	0.927	0.894	0.895	0.897	0.877	0.899	0.928	0.987	0.985	0.935	0.886	0.908	0.898	0.896	0.894	0.896	0.877	0.886	0.853	0.846	0.853	0.871	0.866	0.878	0.964
ARTESIAN RESOURCES CORPORA	0.952	0.985	1.005	0.979	0.944	0.899	0.980	1.006	1.104	1.070	1.009	1.014	1.041	1.022	0.980	1.038	0.915	0.929	0.892	0.914	0.914	0.853	0.859	0.851	0.987
CALIFORNIA WATER SERVICE GR	0.959	0.906	0.949	0.924	0.880	0.920	0.968	1.049	1.082	1.018	0.947	0.955	0.981	0.927	0.908	0.927	0.911	0.943	0.888	0.877	0.905	0.837	0.861	0.852	0.916
MIDDLESEX WATER COMPANY	0.723	0.695	0.734	0.694	0.628	0.620	0.650	0.681	0.782	0.738	0.680	0.673	0.686	0.691	0.639	0.676	0.660	0.683	0.685	0.760	0.742	0.670	0.658	0.644	0.753
SJW GROUP	1.025	1.032	1.013	0.981	0.881	0.887	0.960	1.008	1.086	0.979	0.937	0.945	0.912	0.869	0.877	0.888	0.889	0.896	0.903	0.978	0.975	0.937	0.842	0.841	0.836
THE YORK WATER COMPANY	0.887	0.906	0.933	0.922	0.894	0.827	0.910	0.962	1.054	1.004	0.973	0.977	1.015	1.016	0.990	1.093	1.032	1.074	1.069	1.129	1.091	0.972	0.923	0.894	0.977

Company Name	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap
AMERICAN STATES WATER COMF	1.021	0.978	0.978	0.968	0.928	0.947	0.970	1.010	1.023	0.964	0.896	0.860	0.883	0.854	0.839	0.818	0.814	0.836	0.815	0.842	0.820	0.776	0.777	0.788	0.845
AMERICAN WATER WORKS COMP	0.842	0.824	0.831	0.851	0.814	0.805	0.819	0.874	0.884	0.859	0.814	0.830	0.824	0.803	0.817	0.822	0.808	0.830	0.787	0.779	0.785	0.796	0.802	0.809	0.865
ESSENTIAL UTILITIES, INC.	1.322	1.275	1.283	1.287	1.257	1.294	1.336	1.421	1.410	1.339	1.268	1.314	1.299	1.296	1.297	1.301	1.273	1.283	1.236	1.225	1.235	1.261	1.254	1.277	1.402
ARTESIAN RESOURCES CORPORA	0.942	0.975	1.004	0.979	0.944	0.888	0.967	0.993	1.079	1.045	0.987	0.987	1.014	0.996	0.955	1.012	0.892	0.912	0.876	0.897	0.882	0.823	0.829	0.808	0.937
CALIFORNIA WATER SERVICE GR	1.067	1.009	1.014	0.987	0.940	1.001	1.053	1.141	1.171	1.101	1.025	1.063	1.093	1.033	1.008	1.029	1.012	1.066	1.003	0.991	1.002	0.926	0.954	0.951	1.022
MIDDLESEX WATER COMPANY	0.831	0.799	0.837	0.792	0.716	0.708	0.743	0.778	0.902	0.851	0.783	0.773	0.788	0.794	0.735	0.779	0.759	0.776	0.778	0.863	0.848	0.766	0.751	0.743	0.869
SJW GROUP	1.478	1.488	1.450	1.404	1.261	1.295	1.403	1.472	1.599	1.441	1.379	1.379	1.331	1.268	1.227	1.241	1.243	1.275	1.285	1.391	1.388	1.333	1.198	1.214	1.207
THE YORK WATER COMPANY	0.957	0.978	1.000	0.988	0.958	0.894	0.984	1.041	1.146	1.091	1.057	1.055	1.097	1.098	1.053	1.162	1.097	1.117	1.112	1.175	1.136	1.013	0.962	0.934	1.021

7/8/2022	Month End 7/31/2018	Month End 6/30/2018	Month End 5/31/2018	Month End 4/30/2018	Month End 3/31/2018	Month End 2/28/2018	Month End 1/31/2018	Month End 12/31/2017	Month End 11/30/2017	Month End 10/31/2017	Month End 9/30/2017	Month End 8/31/2017	Month End 7/31/2017	Month End 6/30/2017	Month End 5/31/2017	Month End 4/30/2017	Month End 3/31/2017	Month End 2/28/2017	Month End 1/31/2017	Month End 12/31/2016	Month End 11/30/2016	Month End 10/31/2016	Month End 9/30/2016	Month End 8/31/2016	Month End 7/31/2016
Enterprise value to Net PPE	94%	91%	93%	92%	88%	89%	92%	97%	102%	96%	91%	93%	91%	88%	89%	89%	88%	89%	87%	86%	88%	85%	85%	85%	89%
Enterprise value to Inv Cap	99%	98%	100%	98%	94%	92%	98%	103%	111%	107%	101%	102%	105%	101%	98%	102%	95%	99%	94%	94%	94%	87%	89%	87%	98%

NetPlant Advances CIAC DefTax ITC

		2021 Net Property, Plant & Equipment	Advances for construction	Contributions in aid of construction	Deferred income taxes, net	Deferred investment tax credits	2021 Known "Cost Free" Capital	2021 Percentage of Known "Cost Free" Capital
		(Millions of $)						
	Comparable Group							
1	American States Water Co	$1,626.004	$66.727	$147.482	$140.290	$1.153	$355.652	22%
2	American Water Works Co Inc	$21,084.000	$284.000	$1,442.000	$2,421.000	$0.000	$4,147.000	20%
3	Artesian Resources -CL A	$590.431	$4.295	$176.656	$53.133	$0.456	$234.540	40%
4	California Water Service Gp	$2,846.862	$198.086	$285.665	$298.945	$0.000	$782.696	27%
5	Essential Utilities, Inc.	$10,251.866	$103.619	$596.110	$1,406.537	$0.000	$2,106.266	21%
6	Middlesex Water Co	$865.368	$23.529	$127.863	$69.500	$0.000	$220.892	26%
7	SJW Corp	$2,497.499	$130.693	$316.479	$200.451	$0.000	$647.623	26%
8	York Water Co	$383.626	$12.820	$41.876	$49.590	$0.000	$104.286	27%
	Median							26%

CONSOLIDATED BALANCE SHEETS - USD ($) $ in Thousands	Dec. 31, 2021	Dec. 31, 2020
Regulated utility plant, at cost		
Water	$1,898,817	$1,784,402
Electric	116,472	112,507
Total	2,015,289	1,896,909
Non-regulated utility property, at cost	37,064	33,315
Total utility plant, at cost	2,052,353	1,930,224
Less — accumulated depreciation	-594,264	-568,326
Utility plant before construction work in progress	1,458,089	1,361,898
Construction work in progress	167,915	150,145
Net utility plant	1,626,004	1,512,043
Other Property and Investments		
Goodwill	1,116	1,116
Other property and investments	40,806	35,318
Total other property and investments	41,922	36,434
Current Assets		
Cash and cash equivalents	4,963	36,737
Accounts receivable — customers, less allowance for doubtful accounts	34,416	29,162
Unbilled revenue — receivable (Note 2)	27,147	25,836
Receivable from U.S. government, less allowance for doubtful accounts (Note 2)	27,827	25,182
Other accounts receivable, less allowance for doubtful accounts	6,510	3,960
Income taxes receivable	236	103
Materials and supplies	12,163	8,619
Regulatory assets — current	8,897	13,088
Prepayments and other current assets	5,317	5,555
Contract assets (Note 2)	6,135	8,873
Unrealized gain on purchased power contracts	4,441	0
Total current assets	138,052	157,115
Regulatory and Other Assets		
Unbilled revenue, receivable from U.S government	9,671	9,945
Receivable from U.S. government (Note 2)	51,991	49,488
Contract assets (Note 2)	3,452	1,384
Operating lease right-of-use assets	10,479	11,146
Regulatory assets	3,182	3,451
Other	16,230	10,597
Total other assets	95,005	86,011
Total Assets	1,900,983	1,791,603
Capitalization		
Common shareholder's equity	685,947	641,673
Long-term debt	412,176	440,348
Total capitalization	1,098,123	1,082,021
Current Liabilities		
Notes payable to banks	31,000	0
Long-term debt — current	377	358
Accounts payable	65,902	63,788
Income taxes payable	4,662	6,783
Accrued other taxes	17,137	11,902
Accrued employee expenses	16,256	15,122
Accrued interest	4,545	4,832
Unrealized loss on purchased power contracts	0	1,537
Regulatory liabilities	1,896	0
Contract liabilities (Note 2)	257	1,800
Operating lease liabilities	2,044	2,013
Other	11,498	10,437
Total current liabilities	155,574	118,572
Other Credits		
Notes payable to banks	174,500	134,200
Advances for construction	66,727	63,374
Contributions in aid of construction — net	147,482	140,332
Deferred income taxes	140,290	131,172
Regulatory liabilities	32,979	0
Unamortized investment tax credits	1,153	1,224
Accrued pension and other post-retirement benefits	61,365	95,639
Operating lease liabilities	8,920	9,636
Other	13,870	15,433
Total other credits	647,286	591,010
Commitments and Contingencies		
Liabilities and Equity, Total	$1,900,983	$1,791,603

NetPlant	1,626,004	1,512,043
Advances	66,727	63,374
CIAC	147,482	140,332
DefTax	140,290	131,172
ITC	1,153	1,224

Consolidated Balance Sheets - USD ($)		Dec. 31, 2021	Dec. 31, 2020
$ in Millions			
ASSETS			
Property, plant and equipment		$27,413	$25,614
Accumulated depreciation		-6,329	-5,904
Property, plant and equipment, net		21,084	19,710
Current assets:			
Cash and cash equivalents		116	547
Restricted funds		20	29
Accounts receivable, net of allowance for uncollectible accounts of $75 and $60, respectively		271	321
Unbilled revenues		248	206
Materials and supplies		57	47
Assets held for sale		683	629
Other		159	127
Total current assets		1,554	1,906
Regulatory and other long-term assets:			
Regulatory assets		1,051	1,127
Seller promissory note from the sale of the Homeowner Services Group		720	0
Operating lease right-of-use assets		92	95
Goodwill		1,139	1,504
Postretirement benefit assets		193	173
Intangible assets		0	55
Other		242	196
Total regulatory and other long-term assets		3,437	3,150
Total assets		26,075	24,766
Capitalization:			
Common stock ($0.01 par value; 500,000,000 shares authorized; 186,880,413 and 186,466,707 sha		2	2
Paid-in-capital		6,781	6,747
Retained earnings		925	102
Accumulated other comprehensive loss		-45	-49
Treasury stock, at cost (5,269,324 and 5,168,215 shares, respectively)		-365	-348
Total common shareholders' equity		7,298	6,454
Long-term debt		10,341	9,329
Redeemable preferred stock at redemption value		3	4
Total long-term debt		10,344	9,333
Total capitalization		17,642	15,787
Current liabilities:			
Short-term debt		584	1,282
Current portion of long-term debt		57	329
Accounts payable		235	189
Accrued liabilities		701	591
Accrued taxes		176	50
Accrued interest		88	88
Liabilities related to assets held for sale		83	137
Other		217	215
Total current liabilities		2,141	2,881
Regulatory and other long-term liabilities:			
Advances for construction		284	270
Deferred income taxes and investment tax credits		2,421	2,113
Regulatory liabilities		1,600	1,770
Operating lease liabilities		80	81
Accrued pension expense		285	388
Other		180	83
Total regulatory and other long-term liabilities		4,850	4,705
Contributions in aid of construction		1,442	1,393
Commitments and contingencies			
Total capitalization and liabilities		$26,075	$24,766
	NetPlant	21,084	19,710
	Advances	284	270
	CIAC	1,442	1,393
	DefTax	2,421	2,113
	ITC	0	0

CONSOLIDATED BALANCE SHEETS - USD ($)	Dec. 31, 2021	Dec. 31, 2020
$ in Thousands		
ASSETS		
Utility plant, at original cost (less accumulated depreciation - 2021 - $159,385,; 2020 - $147,469)	$590,431	$559,561
Current assets		
Cash and cash equivalents	92	28
Accounts receivable (less allowance for doubtful accounts 2021 - $429; 2020-$862)	8,863	10,162
Income tax receivable	2,234	629
Unbilled operating revenues	1,080	1,166
Materials and supplies	1,933	1,535
Prepaid property taxes	2,306	1,891
Prepaid expenses and other	2,652	2,208
Total current assets	19,160	17,619
Other assets		
Non-utility property (less accumulated depreciation - 2021- $919; 2020 - $865)	3,751	3,796
Other deferred assets	5,097	5,309
Operating lease right of use assets	451	460
Total other assets	9,299	9,565
Regulatory assets, net	6,321	6,473
Total assets	625,211	593,218
Stockholders' equity		
Common stock	9,414	9,357
Preferred stock	0	0
Additional paid-in capital	104,989	103,463
Retained earnings	63,607	56,606
Total stockholders' equity	178,010	169,426
Long-term debt, net of current portion	143,259	142,333
Total stockholders' equity and long-term debt	321,269	311,759
Current liabilities		
Lines of credit	26,703	26,813
Current portion of long-term debt	1,591	1,757
Accounts payable	10,206	6,341
Accrued expenses	4,534	3,414
Overdraft payable	30	105
Accrued interest	917	930
Income taxes payable	0	237
Customer and other deposits	2,273	2,060
Other	1,448	2,067
Total current liabilities	47,702	43,724
Commitments and contingencies (Note 11)		
Deferred credits and other liabilities		
Net advances for construction	4,295	4,578
Operating lease liabilities	440	432
Regulatory liabilities	21,260	21,681
Deferred investment tax credits	456	473
Deferred income taxes	53,133	50,313
Total deferred credits and other liabilities	79,584	77,477
Net contributions in aid of construction	176,656	160,258
Total Liabilities and Stockholders' Equity	$625,211	$593,218

NetPlant	$590,431	$559,561
Advances	4,295	4,578
CIAC	176,656	160,258
DefTax	53,133	50,313
ITC	456	473

Consolidated Balance Sheets - USD ($)		Dec. 31, 2021	Dec. 31, 2020
$ in Thousands			
Utility plant:			
Land		$45,047	$45,672
Depreciable plant and equipment		3,899,629	3,645,770
Construction work in progress		222,713	171,414
Intangible assets		29,955	27,567
Total utility plant		4,197,344	3,890,423
Less accumulated depreciation and amortization		-1,350,482	-1,239,865
Net utility plant		2,846,862	2,650,558
Current assets:			
Cash and cash equivalents		78,380	44,555
Receivables:			
Customers, net		60,785	44,025
Regulatory balancing accounts		78,597	96,241
Other, net		18,452	20,331
Unbilled revenue, net		32,760	34,069
Materials and supplies at weighted average cost		9,511	8,831
Taxes, prepaid expenses, and other assets		21,973	17,964
Total current assets		300,458	266,016
Other assets:			
Regulatory assets		285,692	325,376
Goodwill		36,814	31,842
Other		153,445	120,456
Total other assets		475,951	477,674
TOTAL ASSETS		3,623,271	3,394,248
Capitalization:			
Common stock, $0.01 par value; 68,000 shares authorized, 53,716 and 50,334 outstanding in 2021 and 2020, respectively		537	503
Additional paid-in capital		651,121	448,632
Retained earnings		525,936	472,209
Noncontrolling interests		5,386	0
Total equity		1,182,980	921,344
Long-term debt, net		1,055,794	781,100
Total capitalization		2,238,774	1,702,444
Current liabilities:			
Current maturities of long-term debt, net		5,192	5,127
Short-term borrowings		35,000	370,000
Accounts payable		144,369	131,725
Regulatory balancing accounts		17,547	34,636
Accrued other taxes		5,379	4,477
Accrued interest		6,542	6,178
Other accrued liabilities		42,547	36,563
Total current liabilities		256,576	588,706
Deferred income taxes		298,945	276,032
Regulatory liabilities		180,428	180,718
Pension		92,287	115,581
Total refunds		198,086	195,625
Contributions in aid of construction		285,665	268,050
Other long-term liabilities		72,510	67,092
Commitments and contingencies (Note 15)			
TOTAL CAPITALIZATION AND LIABILITIES		$3,623,271	$3,394,248
	NetPlant	2,846,862	2,650,558
	Advances	198,086	195,625
	CIAC	285,665	268,050
	DefTax	298,945	276,032
	ITC	0	0

Consolidated Balance Sheets - USD ($)	Dec. 31, 2021	Dec. 31, 2020
$ in Thousands		
Assets		
Property, plant and equipment, at cost	$12,610,376	$11,620,019
Less: accumulated depreciation	2,358,510	2,107,142
Net property, plant and equipment	10,251,866	9,512,877
Current assets:		
Cash and cash equivalents	10,567	4,827
Accounts receivable, net	141,025	154,775
Unbilled revenues	119,896	118,538
Inventory - materials and supplies	33,756	21,669
Inventory - gas stored	75,804	36,732
Prepayments and other current assets	36,597	38,594
Regulatory assets	20,150	5,085
Total current assets	437,795	380,220
Regulatory assets	1,429,840	1,362,788
Deferred charges and other assets, net	141,955	56,002
Funds restricted for construction activity	1,313	1,268
Goodwill	2,340,815	2,324,547
Operating lease right-of-use assets	48,930	60,334
Intangible assets	5,764	7,241
Total assets	14,658,278	13,705,277
Essential Utilities stockholders' equity:		
Common stock at $0.50 par value, authorized 600,000,000 shares, issued 248,571,355 and 223,871,284 as of D	128,050	124,285
Capital in excess of par value	3,705,814	3,379,057
Retained earnings	1,434,201	1,261,862
Treasury stock, at cost, 3,180,887 and 3,112,565 shares as of December 31, 2020 and December 31, 2019	-83,615	-81,327
Total stockholders' equity	5,184,450	4,683,877
Long-term debt, excluding current portion	5,815,211	5,545,890
Less: debt issuance costs	35,707	38,146
Long-term debt, excluding current portion, net of debt issuance costs	5,779,504	5,507,744
Commitments and contingencies (See Note 9)		
Current liabilities:		
Current portion of long-term debt	132,146	84,353
Loans payable	65,000	78,198
Accounts payable	192,932	177,489
Book overdraft	81,722	44,003
Accrued interest	40,815	39,408
Accrued taxes	37,924	37,172
Regulatory liabilities	384	19,866
Other accrued liabilities	124,140	123,384
Total current liabilities	675,063	603,873
Deferred credits and other liabilities:		
Deferred income taxes and investment tax credits	1,406,537	1,258,098
Customers' advances for construction	103,619	99,014
Regulatory liabilities	769,617	773,310
Asset retirement obligations	1,256	1,336
Operating lease liabilities	48,230	55,642
Pension and other postretirement benefit liabilities	50,226	91,896
Other	43,666	56,713
Total deferred credits and other liabilities	2,423,151	2,336,009
Contributions in aid of construction	596,110	573,774
Total liabilities and equity	14,658,278	$ 13,705,27

NetPlant	10,251,866	9,512,877
Advances	103,619	99,014
CIAC	596,110	573,774
DefTax	1,406,537	1,258,098
ITC	0	0

CONSOLIDATED BALANCE SHEETS - USD ($)	Dec. 31, 2021	Dec. 31, 2020
$ in Thousands		
UTILITY PLANT:		
Water Production	$247,286	$168,080
Transmission and Distribution	697,200	648,763
General	95,658	85,056
Construction Work in Progress	24,947	80,055
TOTAL	1,065,091	981,954
Less Accumulated Depreciation	199,723	185,356
UTILITY PLANT - NET	865,368	796,598
CURRENT ASSETS:		
Cash and Cash Equivalents	3,533	4,491
Accounts Receivable, net of allowance for uncollectible accoun	15,311	14,569
Unbilled Revenues	7,273	7,065
Materials and Supplies (at average cost)	5,358	5,112
Prepayments	2,880	2,886
TOTAL CURRENT ASSETS	34,355	34,123
Operating Lease Right of Use Asset	4,503	5,209
Preliminary Survey and Investigation Charges	3,540	5,192
Regulatory Assets	100,738	118,144
Restricted Cash		5,913
Non-utility Assets - Net	11,428	11,207
Other	83	84
TOTAL OTHER ASSETS	120,292	145,749
TOTAL ASSETS	1,020,015	976,470
CAPITALIZATION:		
Common Stock, No Par Value	221,919	217,451
Retained Earnings	145,807	128,757
TOTAL COMMON EQUITY	367,726	346,208
Preferred Stock	2,084	2,084
Long-term Debt	306,520	273,244
TOTAL CAPITALIZATION	676,330	621,536
CURRENT LIABILITIES:		
Current Portion of Long-term Debt	6,731	7,255
Notes Payable	13,000	2,000
Accounts Payable	21,125	30,443
Accrued Taxes	8,621	10,138
Accrued Interest	1,986	2,137
Unearned Revenues and Advanced Service Fees	1,330	1,255
Other	3,826	3,620
TOTAL CURRENT LIABILITIES	56,619	56,848
COMMITMENTS AND CONTINGENT LIABILITIES (Note 4)		
OTHER LIABILITIES:		
Customer Advances for Construction	23,529	23,404
Lease Obligations	4,367	5,042
Accumulated Deferred Income Taxes	69,500	61,297
Employee Benefit Plans	11,290	34,426
Regulatory Liabilities	49,431	60,792
Other	1,086	1,135
TOTAL OTHER LIABILITIES	159,203	186,096
CONTRIBUTIONS IN AID OF CONSTRUCTION	127,863	111,990
TOTAL CAPITALIZATION AND LIABILITIES	$1,020,015	$976,470

NetPlant	865,368	796,598
Advances	23,529	23,404
CIAC	127,863	111,990
DefTax	69,500	61,297
ITC	0	0

Consolidated Balance Sheets - USD ($)	Dec. 31, 2021	Dec. 31, 2020
$ in Thousands		
Utility plant:		
Land	$39,004	$36,845
Depreciable plant and equipment	3,381,908	3,198,060
Construction in progress	176,427	109,976
Intangible assets	36,276	35,167
Property, plant, and equipment, gross	3,633,615	3,380,048
Less accumulated depreciation and amortization	1,136,116	1,045,136
Public utilities, property, plant and equipment, net	2,497,499	2,334,912
Real estate investments and nonutilty properties	57,632	58,129
Less accumulated depreciation and amortization	15,951	14,783
Real estate investments, net	41,681	43,346
Cash and cash equivalents:		
Cash	10,908	5,269
Restricted cash	1,211	4,000
Accounts receivable:		
Customers, net of allowances for uncollectible accounts of $4,600 and $3,891 in 2021 and 2020, respectively	53,699	46,832
Income tax	2,308	7,041
Other	4,735	4,269
Accrued unbilled utility revenue	44,026	44,950
Current regulatory assets, net	2,629	1,748
Prepaid expenses	9,667	8,097
Other current assets	4,902	5,125
Total current assets	134,085	127,331
Other assets:		
Net regulatory assets, less current portion	151,992	156,482
Investments	15,784	14,367
Goodwill	640,471	628,144
Other	10,883	6,883
Total other assets	819,130	805,876
Total assets	3,492,395	3,311,465
Stockholders' equity:		
Common stock, $0.001 par value; authorized 70,000,000 shares in 2021 and 2020; issued and outstanding 30,181,348 shares in 2021 and 28,556,605 shares in 2020	30	29
Additional paid-in capital	606,392	510,158
Retained earnings	428,260	408,037
Accumulated other comprehensive (loss)	-163	-1,064
Total stockholders' equity	1,034,519	917,160
Long-term debt, less current portion	1,492,935	1,287,580
Capitalization, long-term debt and equity	2,527,454	2,204,740
Current liabilities:		
Lines of credit	62,996	175,094
Current portion of long-term debt	39,106	76,241
Accrued groundwater extraction charges, purchased water and power	17,200	19,184
Accounts payable	30,391	34,200
Accrued interest	14,174	12,861
Accrued payroll	11,583	14,012
Other current liabilities	27,821	19,203
Total current liabilities	203,271	350,795
Deferred income taxes	200,451	191,415
Advances for construction	130,693	125,027
Contributions in aid of construction	316,479	296,105
Postretirement benefit plans	89,998	121,597
Other noncurrent liabilities	24,049	21,786
Total equity and liabilities	$3,492,395	$3,311,465
NetPlant	2,497,499	2,334,912
Advances	130,693	125,027
CIAC	316,479	296,105
DefTax	200,451	191,415
ITC	0	0

Balance Sheets - USD ($)	Dec. 31, 2021	Dec. 31, 2020
$ in Thousands		
ASSETS		
UTILITY PLANT, at original cost	$485,750	$438,670
Plant acquisition adjustments	-3,637	-3,707
Accumulated depreciation	-99,204	-91,340
Net utility plant	382,909	343,623
OTHER PHYSICAL PROPERTY, net of accumulated depreciation of $483 in 2021 and $458 in 2020	717	742
CURRENT ASSETS:		
Cash and cash equivalents	1	2
Restricted cash	0	5,000
Accounts receivable, net of reserves of $855 in 2021 and $655 in 2020	4,634	5,184
Unbilled revenues	2,784	2,847
Recoverable income taxes	894	721
Materials and supplies inventories, at cost	1,917	1,010
Prepaid expenses	1,032	1,526
Total current assets	11,262	16,290
OTHER LONG-TERM ASSETS:		
Prepaid pension cost	14,054	2,209
Note receivable	255	255
Deferred regulatory assets	45,280	39,893
Other assets	4,376	3,945
Total other long-term assets	63,965	46,302
Total Assets	458,853	406,957
COMMON STOCKHOLDERS' EQUITY:		
Common stock, no par value, authorized 46,500,000 shares, issued and outstanding 13,112,948 shares in 2021 and 13,060,817 shares in 2020	88,230	85,935
Retained earnings	64,392	57,317
Total common stockholders' equity	152,622	143,252
PREFERRED STOCK, authorized 500,000 shares, no shares issued	0	0
LONG-TERM DEBT, excluding current portion	138,869	123,573
COMMITMENTS		
CURRENT LIABILITIES:		
Current portion of long-term debt	7,500	0
Accounts payable	6,712	6,540
Dividends payable	2,293	2,192
Accrued compensation and benefits	1,575	1,417
Accrued interest	959	959
Deferred regulatory liabilities	607	525
Other accrued expenses	440	360
Total current liabilities	20,086	11,993
DEFERRED CREDITS:		
Customers' advances for construction	12,820	10,326
Deferred income taxes	49,590	43,538
Deferred employee benefits	4,530	4,793
Deferred regulatory liabilities	36,374	25,444
Other deferred credits	2,086	2,731
Total deferred credits	105,400	86,832
Contributions in aid of construction	41,876	41,307
Total Stockholders' Equity and Liabilities	$458,853	$406,957
NetPlant	383,626	344,365
Advances	12,820	10,326
CIAC	41,876	41,307
DefTax	49,590	43,538
ITC	0	0

Series Id: CUUR0000SA0,CUUS0000SA0
Not Seasonally Adjusted
Series Title: All items in U.S. city average, all urban consumers, not seasonally adjusted
Area: U.S. city average
Item: All items
Base Period: 1982-84=100

Download:

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	HALF1	HALF2
2000	168.8	169.8	171.2	171.3	171.5	172.4	172.8	172.8	173.7	174	174.1	174	170.8	173.6
2001	175.1	175.8	176.2	176.9	177.7	178	177.5	177.5	178.3	177.7	177.4	176.7	176.6	177.5
2002	177.1	177.8	178.8	179.8	179.8	179.9	180.1	180.7	181	181.3	181.3	180.9	178.9	180.9
2003	181.7	183.1	184.2	183.8	183.5	183.7	183.9	184.6	185.2	185	184.5	184.3	183.3	184.6
2004	185.2	186.2	187.4	188	189.1	189.7	189.4	189.5	189.9	190.9	191	190.3	187.6	190.2
2005	190.7	191.8	193.3	194.6	194.4	194.5	195.4	196.4	198.8	199.2	197.6	196.8	193.2	197.4
2006	198.3	198.7	199.8	201.5	202.5	202.9	203.5	203.9	202.9	201.8	201.5	201.8	200.6	202.6
2007	202.416	203.499	205.352	206.686	207.949	208.352	208.299	207.917	208.49	208.936	210.177	210.036	205.709	208.976
2008	211.08	211.693	213.528	214.823	216.632	218.815	219.964	219.086	218.783	216.573	212.425	210.228	214.429	216.177
2009	211.143	212.193	212.709	213.24	213.856	215.693	215.351	215.834	215.969	216.177	216.33	215.949	213.139	215.935
2010	216.687	216.741	217.631	218.009	218.178	217.965	218.011	218.312	218.439	218.711	218.803	219.179	217.535	218.576
2011	220.223	221.309	223.467	224.906	225.964	225.722	225.922	226.545	226.889	226.421	226.23	225.672	223.598	226.28
2012	226.665	227.663	229.392	230.085	229.815	229.478	229.104	230.379	231.407	231.317	230.221	229.601	228.85	230.338
2013	230.28	232.166	232.773	232.531	232.945	233.504	233.596	233.877	234.149	233.546	233.069	233.049	232.366	233.548
2014	233.916	234.781	236.293	237.072	237.9	238.343	238.25	237.852	238.031	237.433	236.151	234.812	236.384	237.088
2015	233.707	234.722	236.119	236.599	237.805	238.638	238.654	238.316	237.945	237.838	237.336	236.525	236.265	237.769
2016	236.916	237.111	238.132	239.261	240.229	241.018	240.628	240.849	241.428	241.729	241.353	241.432	238.778	241.237
2017	242.839	243.603	243.801	244.524	244.733	244.955	244.786	245.519	246.819	246.663	246.669	246.524	244.076	246.163
2018	247.867	248.991	249.554	250.546	251.588	251.989	252.006	252.146	252.439	252.885	252.038	251.233	250.089	252.125
2019	251.712	252.776	254.202	255.548	256.092	256.143	256.571	256.558	256.759	257.346	257.208	256.974	254.412	256.903
2020	257.971	258.678	258.115	256.389	256.394	257.797	259.101	259.918	260.28	260.388	260.229	260.474	257.557	260.065
2021	261.582	263.014	264.877	267.054	269.195	271.696	273.003	273.567	274.31	276.589	277.948	278.802	266.236	275.703
2022	281.148	283.716	287.504	289.109	292.296	296.311	296.276						288.347	

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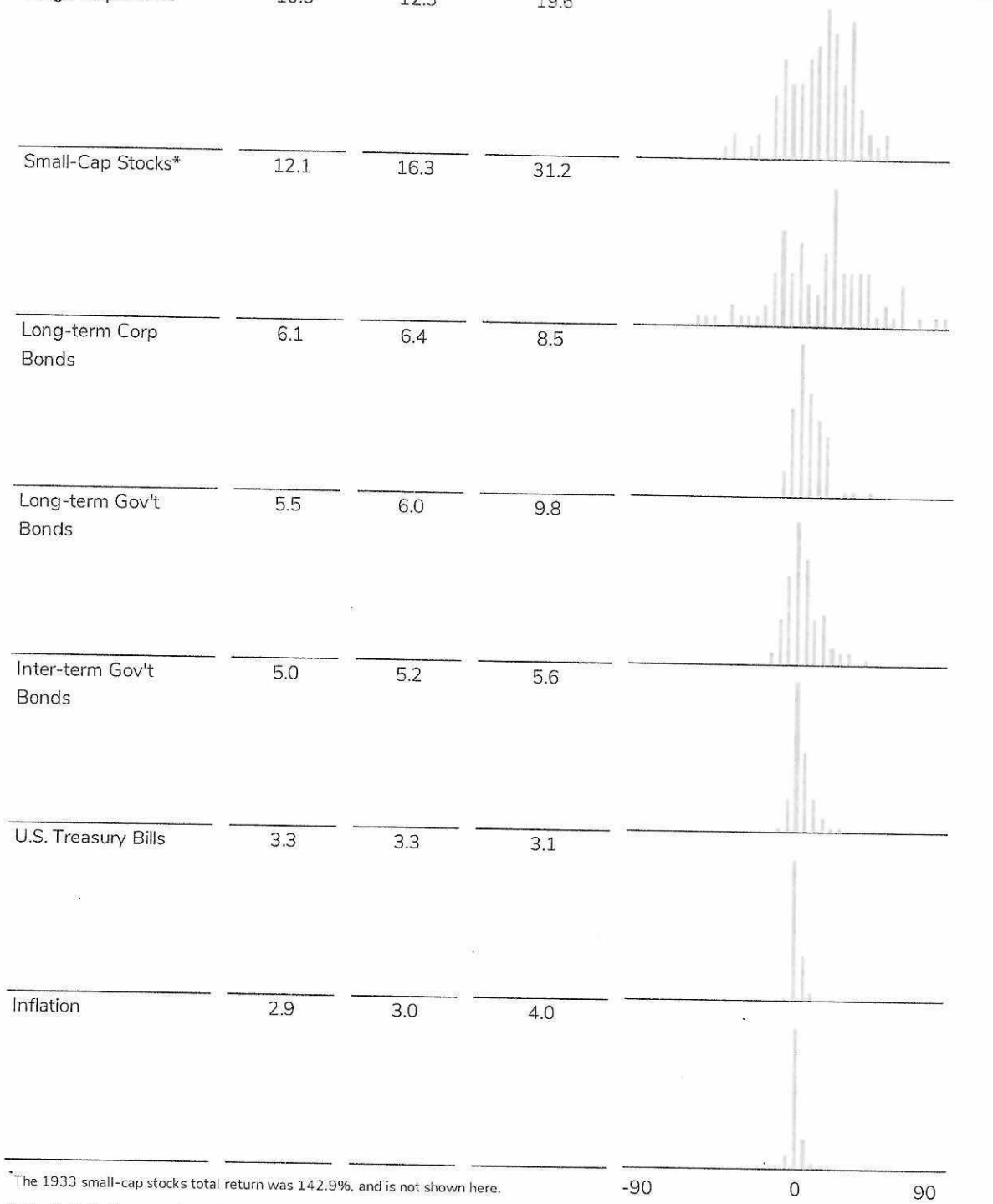
2022 SBBI® Yearbook

Stocks, Bonds, Bills, and Inflation®

U.S. Capital Markets Performance by
Asset Class 1926–2021

Exhibit 2.3: Basic Series, Summary Statistics of Annual Total Returns (%)
1926–2021

Series	Geometric Mean (%)	Arithmetic Mean (%)	Standard Deviation (%)	Distribution (%)
Large-Cap Stocks	10.5	12.3	19.6	
Small-Cap Stocks*	12.1	16.3	31.2	
Long-term Corp Bonds	6.1	6.4	8.5	
Long-term Gov't Bonds	5.5	6.0	9.8	
Inter-term Gov't Bonds	5.0	5.2	5.6	
U.S. Treasury Bills	3.3	3.3	3.1	
Inflation	2.9	3.0	4.0	



*The 1933 small-cap stocks total return was 142.9%, and is not shown here.

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Exhibit 6.8: Total Returns, Income Returns, and Capital Appreciation Returns of the SBBI® Asset Classes; Summary Statistics of Annual Returns (%)
1926–2021

	Geometric Mean (%)	Arithmetic Mean (%)	Standard Deviation (%)	Serial Correlation
Large-Cap Stocks				
Total Return	10.5	12.3	19.6	0.01
Income	3.9	3.9	1.6	0.92
Capital Appreciation	6.4	8.2	19.0	0.01
Small-Cap Stocks (TR)	12.1	16.3	31.2	0.05
Long-term Corp Bonds (TR)	6.1	6.4	8.5	0.01
Long-term Gov't Bonds				
Total Return	5.5	6.0	9.8	-0.16
Income	4.8	4.9	2.6	0.96
Capital Appreciation	0.5	0.9	8.9	-0.25
Inter-term Gov't Bonds				
Total Return	5.0	5.2	5.6	0.14
Income	4.3	4.3	2.9	0.96
Capital Appreciation	0.6	0.7	4.4	-0.17
U.S. Treasury Bills (TR)	3.3	3.3	3.1	0.92
Inflation	2.9	3.0	4.0	0.62

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In general, risk is rewarded by a higher return over the long term. For example, Exhibit 6.8 shows that over the 1926–2021 time horizon small-cap stocks were the riskiest asset class with a standard deviation of 31.2%, but also provided the greatest rewards to long-term investors, with an arithmetic mean annual return of 16.3%. Comparably, the risk (as measured by standard deviation) of large-cap stocks was significantly lower at 19.6%, and the reward (as measured by arithmetic average annual return) of large-cap stocks was correspondently lower at 12.3%.

U.S. Treasury bills, with a standard deviation of 3.1%, were nearly riskless and had the lowest arithmetic mean annual return at 3.3%.

Inflation-Adjusted Series Summary Statistics

Inflation-adjusted basic series summary statistics are presented in Exhibit 6.9. Note that the real rate of interest is close to zero (0.4%) on average. For the 96-year period, the geometric and arithmetic means are lower by the amount of inflation than those of the nominal series.

Note that this increased return comes at a price: risk (as measured by standard deviation) increased from 19.6% for large-cap stocks to 31.2% for small-cap stocks. The relationship between risk and return is a fundamental principle of finance. History tells us that small companies are riskier than large companies. Investors are compensated for taking on this additional risk by the higher returns provided by small companies.

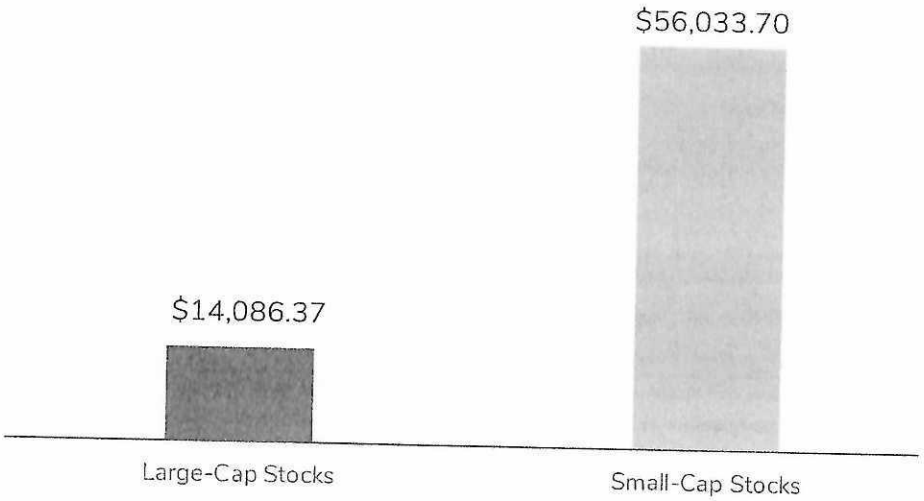
Exhibit 7.1: Summary Statistics of Large-Cap Stocks and Small-Cap Stocks (%)
1926–2021

	Geometric Mean (%)	Arithmetic Mean (%)	Standard Deviation (%)
Large-Cap Stocks	10.5	12.3	19.6
Small-Cap Stocks	12.1	16.3	31.2

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The differences in the performance of large-cap stocks and small-cap stocks can have important implications for investors. Exhibit 7.2 is a graphical depiction of the value of $1 invested at the end of 1925 in large-cap and small-cap stocks and held through December 31, 2021 (a total of 96 years).

Exhibit 7.2: The Value of $1 Invested in Large-Cap and Small-Cap Stocks, 1926–2021
Index (Year-end 1925 = $1.00)



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120 months (10-years), to 240 months (20-years) and finally to 360 months (30-years), small stocks increasingly outperform large stocks (55%, 66%, 88%, and 96% of the time, respectively).

This same pattern of increasing outperformance of small stocks as the holding period is increased can also be seen in the three "Post Banz" periods.

Long-term Returns in Excess of Systematic Risk

The capital asset pricing model, or CAPM, does not fully account for the higher returns of small-cap stocks. The textbook CAPM can be expressed as follows:

$$k_e = R_f + \beta \times (RP_m)$$

Where:

k_e	=	Cost of equity capital
R_f	=	Risk-free rate
β	=	Beta
RP_m	=	Equity risk premium (also referred as ERP)

According to the CAPM, the expected return on a security should consist of the riskless rate plus an additional return to compensate for the systematic risk of the security. The return in excess of the riskless rate is estimated in the context of the CAPM by multiplying the equity risk premium by beta. The equity risk premium is the return that compensates investors for taking on risk equal to the risk of the market as a whole (systematic risk). Beta measures the extent to which a security or portfolio is exposed to systematic risk.

The beta of each decile indicates the degree to which the decile's return moves with that of the overall market. A beta greater than one indicates that the security or portfolio has greater systematic risk than the market; according to the CAPM equation, investors are compensated for taking on this additional risk.

CAPM is an attempt to predict *future* returns. CAPM can be used to see how well it would have done predicting returns that we *already know* (i.e., historical returns; returns that have already occurred). This is called "back-testing". If what "actually happened" is greater than "what CAPM would have predicted", then CAPM fell short of explaining what actually happened.

Smaller companies tend to have returns that are not fully explained by their higher betas, so return in excess of that predicted by CAPM tends to *increase* as one moves from the largest companies to the smallest companies. This size related phenomenon prompted a revision to the CAPM to include a size premium. A size premium (as used in the CAPM equation) is thus a measure of "what actually happened" minus "what textbook CAPM predicted":

Size Premium = Actual Excess Return – Excess Return Predicted by CAPM

A size premium is a common adjustment that analysts make to the textbook CAPM when developing cost of equity capital estimates.[189] [190] This is sometimes referred to as the "modified" CAPM:

$$k_e = R_f + \beta \times (RP_m) + RPs$$

Where:

k_e	=	Cost of equity capital
R_f	=	Risk-free rate
β	=	Beta
RP_m	=	Equity risk premium (also referred as ERP)
RPs	=	Size Premium

The size effect is not without controversy, nor is this controversy something new. Traditionally, small companies are believed to have greater required rates of return than large companies because small companies are inherently riskier. It is not clear, however, whether this is due to size itself, or to other factors closely related to or correlated with size (e.g., liquidity).[191]

189 The CRSP Deciles Size Study and Risk Premium Report Study, both of which provide size premia and other risk premia based upon data licensed from the Center for Research in Security Prices (CRSP) at the University of Chicago Booth School of Business, are fully available in the Kroll Cost of Capital Navigator platform at kroll.com/costofcapitalnavigator (subscription required). CRSP® is a registered trademark and service mark of Center for Research in Security Prices, LLC and has been licensed for use by Kroll, LLC. The Kroll publications and services are not sponsored, sold or promoted by CRSP®, its affiliates or its parent company. To learn more about CRSP, visit www.crsp.org.

190 A detailed discussion of company size and return (and size premia) based upon CRSP deciles 1-10 and the 10th decile split (10a, 10b, 10w, 10x, 10y, and 10z) is available in the Resources Library of the Cost of Capital Navigator at kroll.com/costofcapitalnavigator. (subscription required).

191 For more information, see the Resources section of the Cost of Capital Navigator at kroll.com/costofcapitalnavigator. A comprehensive discussion of the size effect is in the Cost of Capital Navigator "U.S. Cost of Capital Module's" Resources Library.

Exhibit 10.8: Equity Risk Premium Calculated Using the S&P 500 and the Income Return on Three Government Bonds of Different Horizons (%)
1926–2021

	Long-horizon	Intermediate-horizon	Short-horizon
S&P 500	7.46	8.04	9.03

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The equity risk premium is calculated by subtracting the arithmetic mean of the government bond income return from the arithmetic mean of the stock market total return. Exhibit 10.9 demonstrates this calculation for the long-horizon equity risk premium, the intermediate-horizon equity risk premium, and the short-horizon equity risk premium.

Exhibit 10.9: Calculation of the Long-Horizon Equity Risk Premium, the Intermediate-Horizon Equity Risk Premium, and the Short-Horizon Equity Risk Premium (%)
1926–2021

	Arithmetic Annual Mean			
	S&P 500 (the "Market")	Risk-free Rate		Equity Risk Premium
S&P 500	12.33	4.87	=	7.46
Intermediate-horizon	12.33	4.29	=	8.04
Short-horizon	12.33	3.30	=	9.03

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The Market Benchmark and Firm Size

Although not restricted to the 500 largest companies, the S&P 500 is considered a large-cap index. The returns of the S&P 500 are market-cap-weighted. The larger companies in the index therefore receive the majority of the weight. If using a large-cap index to calculate the equity risk premium, an adjustment is usually needed to account for the different risk and return characteristics of small stocks. This was discussed in Chapter 7 on the size premium.

BVR
What It's Worth

Cost of Capital Professional

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Specify search criteria

Company Name
Gannett Fleming

Valuation Date
12/31/2020

Returns Reference – Start Year
EARLIEST YEAR (Y

Returns Reference – End Year
2020

Returns Calculation - Mean
Arithmetic
Geometric

ERP Size Premium IRP CoE WACC Summary

	Firms			Portfolio		Size Premium	
Decile	Count	Min size ('000)	Max Size ('000)	Annual Return	Beta	S&P 500	Beta Adjusted
1 - Largest	199	$29,075,803	$1,966,078,882	11.06%	0.92	(0.75%)	

2	186	$13,178,743	$28,808,073	12.82%	1.04	1.01%
3	210	$6,743,361	$13,177,828	13.66%	1.11	1.85%
4	218	$3,861,858	$6,710,676	13.67%	1.13	1.86%
5	255	$2,445,693	$3,836,536	14.49%	1.17	2.68%
6	246	$1,591,865	$2,444,745	14.82%	1.18	3.01%
7	306	$911,586	$1,591,765	15.63%	1.26	3.82%
8	365	$451,955	$911,103	15.91%	1.31	4.10%
9	412	$190,019	$451,800	16.69%	1.34	4.88%
10 - Smallest	569	$2,194	$189,831	19.64%	1.40	7.83%
1 through 2	385	$13,178,743	$1,966,078,882	11.32%	0.94	(0.48%)
3 through 5	683	$2,445,693	$13,177,828	13.80%	1.13	1.99%
6 through 8	917	$451,955	$2,444,745	15.27%	1.23	3.46%
9 through 10	981	$2,194	$451,800	17.53%	1.35	5.72%
1 through 5	1,068	$2,445,693	$1,966,078,882	11.64%	0.96	(0.17%)
6 through 10	1,898	$2,194	$2,444,745	15.49%	1.24	3.68%

S&P 500 Annual Return for Period 1928 - 2020 : 11.81%

Please note: this license is for your exclusive and individual use. For information on firm-wide pricing please contact BVR at 503-479-8200 ext. 2 or sales@bvresources.com
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	Handy-Whitman	Handy-Whitman	Handy-Whitman	Handy-Whitman	Handy-Whitman	Handy-Whitman	Handy-Whitman	Handy-Whitman	Handy-Whitman	Handy-Whitman
	Line #	Line #	Line #	Line #	Line #	Line #	Line #	Line #	Line #	Line #
	2	**8**	**9**	**16**	**23**	**24**	**34**	**39**	**40**	**42**
1885	**7**							**9**		
1903								**9**	**6**	**35**
1912	**7**	**8**	**0**	**9**	**4**	**4**	**9**	**6**	**0**	**0**
1913	**7**	**8**	**0**	**9**	**4**	**4**	**10**	**6**	**0**	**0**
1914	**7**	**8**	**15**	**9**	**4**	**4**	**8**	**5**	**0**	**0**
1915	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**6**	**0**	**0**
1916	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**6**	**0**	**0**
1917	**0**	**0**	**0**	**0**	**0**	**0**	**16**	**9**	**0**	**0**
1918	**0**	**0**	**0**	**0**	**0**	**0**	**19**	**10**	**0**	**0**
1919	**0**	**0**	**0**	**0**	**0**	**0**	**20**	**11**	**0**	**0**
1920	**17**	**0**	**0**	**0**	**0**	**0**	**22**	**12**	**0**	**0**
1921	**0**	**0**	**0**	**0**	**0**	**0**	**22**	**13**	**0**	**0**
1922	**0**	**0**	**0**	**0**	**0**	**0**	**20**	**12**	**0**	**0**
1923	**0**	**0**	**0**	**0**	**0**	**0**	**21**	**12**	**0**	**0**
1924	**0**	**0**	**0**	**0**	**0**	**0**	**22**	**13**	**0**	**0**
1925	**0**	**18**	**0**	**20**	**0**	**0**	**21**	**13**	**0**	**0**
1926	**0**	**19**	**0**	**0**	**0**	**0**	**21**	**13**	**0**	**0**
1927	**0**	**18**	**0**	**0**	**0**	**0**	**21**	**13**	**0**	**0**
1928	**0**	**18**	**0**	**0**	**0**	**0**	**20**	**13**	**0**	**0**
1929	**0**	**18**	**0**	**0**	**0**	**0**	**20**	**14**	**0**	**0**
1930	**0**	**17**	**0**	**0**	**0**	**0**	**20**	**14**	**0**	**0**
1931	**0**	**16**	**0**	**0**	**0**	**0**	**20**	**14**	**0**	**0**
1932	**0**	**15**	**0**	**0**	**0**	**0**	**18**	**13**	**0**	**0**
1933	**0**	**15**	**0**	**0**	**0**	**0**	**18**	**11**	**0**	**0**
1934	**0**	**16**	**0**	**0**	**0**	**0**	**19**	**12**	**0**	**0**
1935	**0**	**16**	**0**	**0**	**0**	**0**	**19**	**13**	**0**	**0**
1936	**0**	**16**	**0**	**0**	**0**	**0**	**20**	**13**	**0**	**0**
1937	**0**	**18**	**0**	**0**	**0**	**0**	**21**	**14**	**0**	**0**

	Handy-Whitman	Handy-Whitman	Handy-Whitman	Handy-Whitman	Handy-Whitman	Handy-Whitman	Handy-Whitman	Handy-Whitman	Handy-Whitman	Handy-Whitman
	Line #	Line #	Line #	Line #	Line #	Line #	Line #	Line #	Line #	Line #
	2	**8**	**9**	**16**	**23**	**24**	**34**	**39**	**40**	**42**
1938	**0**	**18**	**0**	**0**	**0**	**0**	**22**	**14**	**0**	**0**
1939	**0**	**18**	**0**	**20**	**0**	**0**	**22**	**14**	**0**	**0**
1940	**0**	**20**	**0**	**0**	**0**	**0**	**24**	**14**	**0**	**35**
1941	**0**	**0**	**0**	**0**	**0**	**0**	**23**	**15**	**0**	**0**
1942	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**16**	**0**	**0**
1943	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**16**	**0**	**0**
1944	**0**	**21**	**0**	**0**	**0**	**0**	**25**	**17**	**0**	**0**
1945	**0**	**22**	**0**	**0**	**0**	**0**	**26**	**17**	**0**	**0**
1946	**0**	**24**	**0**	**0**	**0**	**0**	**29**	**19**	**0**	**0**
1947	**0**	**28**	**0**	**32**	**0**	**0**	**35**	**22**	**0**	**0**
1948	**0**	**32**	**0**	**35**	**29**	**0**	**41**	**25**	**0**	**0**
1949	**0**	**35**	**0**	**36**	**0**	**0**	**42**	**27**	**52**	**35**
1950	**0**	**36**	**0**	**38**	**0**	**0**	**43**	**28**	**59**	**37**
1951	**0**	**38**	**0**	**40**	**0**	**0**	**45**	**29**	**61**	**41**
1952	**0**	**38**	**0**	**41**	**0**	**0**	**47**	**31**	**61**	**41**
1953	**0**	**39**	**0**	**42**	**0**	**0**	**48**	**33**	**65**	**43**
1954	**0**	**41**	**0**	**0**	**0**	**0**	**48**	**0**	**67**	**44**
1955	**0**	**43**	**0**	**0**	**0**	**0**	**53**	**36**	**70**	**44**
1956	**0**	**46**	**0**	**0**	**0**	**0**	**57**	**0**	**77**	**48**
1957	**0**	**49**	**0**	**0**	**0**	**0**	**60**	**41**	**78**	**50**
1958	**0**	**50**	**0**	**0**	**0**	**0**	**63**	**44**	**78**	**51**
1959	**0**	**52**	**74**	**54**	**36**	**0**	**65**	**46**	**78**	**53**
1960	**0**	**53**	**74**	**55**	**35**	**0**	**68**	**48**	**78**	**54**
1961	**0**	**53**	**71**	**56**	**35**	**0**	**69**	**50**	**78**	**55**
1962	**0**	**54**	**71**	**58**	**35**	**0**	**71**	**51**	**84**	**56**
1963	**0**	**55**	**71**	**59**	**41**	**0**	**72**	**53**	**87**	**57**
1964	**0**	**56**	**73**	**60**	**44**	**0**	**73**	**55**	**87**	**58**
1965	**0**	**57**	**74**	**62**	**45**	**38**	**74**	**58**	**93**	**58**
1966	**0**	**56**	**78**	**64**	**46**	**41**	**75**	**60**	**101**	**61**
1967	**64**	**61**	**81**	**67**	**47**	**44**	**76**	**63**	**101**	**64**
1968	**0**	**64**	**81**	**69**	**49**	**0**	**77**	**66**	**101**	**68**

	Handy-Whitman	Handy-Whitman	Handy-Whitman	Handy-Whitman	Handy-Whitman	Handy-Whitman	Handy-Whitman	Handy-Whitman	Handy-Whitman	Handy-Whitman
	Line #	Line #	Line #	Line #	Line #	Line #	Line #	Line #	Line #	Line #
	2	**8**	**9**	**16**	**23**	**24**	**34**	**39**	**40**	**42**
1969	**0**	**69**	**84**	**73**	**53**	**0**	**80**	**72**	**106**	**72**
1970	**0**	**75**	**89**	**79**	**75**	**0**	**84**	**79**	**108**	**80**
1971	**0**	**84**	**93**	**89**	**82**	**0**	**94**	**89**	**108**	**90**
1972	**0**	**92**	**96**	**96**	**85**	**0**	**98**	**96**	**106**	**96**
1973	**0**	**100**	**100**	**100**	**100**	**0**	**100**	**100**	**100**	**100**
1974	**0**	**117**	**122**	**118**	**140**	**152**	**110**	**115**	**93**	**123**
1975	**0**	**127**	**155**	**134**	**159**	**0**	**146**	**123**	**93**	**143**
1976	**0**	**130**	**174**	**144**	**171**	**0**	**154**	**130**	**98**	**157**
1977	**0**	**137**	**184**	**152**	**172**	**0**	**162**	**139**	**101**	**167**
1978	**0**	**148**	**192**	**162**	**173**	**0**	**173**	**145**	**105**	**182**
1979	**0**	**163**	**205**	**175**	**178**	**0**	**185**	**160**	**108**	**194**
1980	**0**	**181**	**222**	**191**	**191**	**0**	**202**	**175**	**122**	**207**
1981	**196**	**191**	**245**	**208**	**208**	**0**	**219**	**184**	**127**	**222**
1982	**197**	**198**	**260**	**227**	**210**	**244**	**231**	**198**	**128**	**245**
1983	**206**	**206**	**271**	**242**	**182**	**197**	**239**	**207**	**141**	**264**
1984	**217**	**218**	**277**	**251**	**184**	**200**	**244**	**215**	**148**	**270**
1985	**227**	**225**	**282**	**262**	**181**	**198**	**254**	**221**	**135**	**285**
1986	**234**	**233**	**284**	**269**	**184**	**207**	**255**	**226**	**135**	**296**
1987	**238**	**239**	**299**	**276**	**196**	**0**	**263**	**230**	**137**	**307**
1988	**248**	**251**	**311**	**286**	**220**	**0**	**280**	**245**	**140**	**320**
1989	**255**	**265**	**330**	**301**	**216**	**0**	**295**	**258**	**150**	**343**
1990	**258**	**271**	**349**	**313**	**229**	**0**	**301**	**262**	**159**	**363**
1991	**262**	**274**	**355**	**322**	**253**	**0**	**307**	**272**	**162**	**372**
1992	**270**	**281**	**368**	**332**	**261**	**0**	**311**	**283**	**196**	**348**
1993	**282**	**294**	**386**	**342**	**248**	**0**	**321**	**292**	**195**	**385**
1994	**295**	**308**	**428**	**348**	**246**	**0**	**327**	**300**	**175**	**391**
1995	**302**	**316**	**442**	**357**	**250**	**0**	**332**	**307**	**200**	**398**
1996	**309**	**321**	**450**	**367**	**251**	**268**	**339**	**321**	**207**	**418**
1997	**317**	**331**	**473**	**380**	**255**	**273**	**347**	**323**	**197**	**475**

	Handy-Whitman	Handy-Whitman	Handy-Whitman	Handy-Whitman	Handy-Whitman	Handy-Whitman	Handy-Whitman	Handy-Whitman	Handy-Whitman	Handy-Whitman
	Line #	Line #	Line #	Line #	Line #	Line #	Line #	Line #	Line #	Line #
	2	**8**	**9**	**16**	**23**	**24**	**34**	**39**	**40**	**42**
1998	**318**	**337**	**489**	**391**	**268**	**283**	**355**	**330**	**197**	**493**
1999	**318**	**343**	**505**	**401**	**268**	**288**	**361**	**334**	**198**	**508**
2000	**326**	**362**	**530**	**413**	**270**	**0**	**377**	**348**	**205**	**526**
2001	**336**	**378**	**527**	**428**	**0**	**0**	**391**	**354**	**206**	**551**
2002	**344**	**389**	**529**	**443**	**0**	**0**	**404**	**360**	**207**	**565**
2003	**350**	**394**	**543**	**452**	**0**	**0**	**407**	**368**	**207**	**570**
2004	**276**	**421**	**572**	**466**	**308**	**0**	**432**	**388**	**207**	**585**
2005	**0**	**448**	**612**	**486**	**0**	**0**	**469**	**410**	**214**	**601**
2006	**0**	**466**	**624**	**504**	**0**	**0**	**499**	**454**	**248**	**643**
2007	**0**	**496**	**634**	**537**	**0**	**0**	**530**	**485**	**289**	**674**
2008	**465**	**538**	**663**	**586**	**676**	**0**	**588**	**514**	**373**	**706**
2009	**469**	**544**	**691**	**619**	**722**	**0**	**614**	**537**	**373**	**734**
2010	**0**	**560**	**704**	**637**	**759**	**0**	**624**	**555**	**376**	**728**
2011	**0**	**584**	**752**	**654**	**777**	**0**	**648**	**576**	**379**	**737**
2012	**503**	**604**	**788**	**680**	**798**	**1078**	**687**	**598**	**379**	**762**
2013	**0**	**614**	**836**	**699**	**763**	**0**	**701**	**602**	**381**	**787**
2014	**0**	**631**	**896**	**725**	**735**	**1131**	**731**	**608**	**386**	**846**
2015	**0**	**647**	**945**	**741**	**742**	**0**	**740**	**618**	**402**	**927**
2016	**0**	**661**	**1017**	**761**	**769**	**0**	**755**	**624**	**403**	**974**
2017	**0**	**675**	**1117**	**785**	**788**	**0**	**777**	**650**	**419**	**989**
2018	**0**	**704**	**1210**	**813**	**818**	**0**	**803**	**668**	**436**	**1027**
2019	**578**	**716**	**1332**	**847**	**833**	**0**	**830**	**688**	**447**	**1069**
2020	**589**	**735**	**1430**	**893**	**836**	**1244**	**858**	**705**	**466**	**1123**
2021	**649**	**818**	**1490**	**957**	**982**	**1462**	**922**	**743**	**565**	**1227**
SPOT	**693**	**881**	**1593**	**1012**	**1113**	**1656**	**984**	**782**	**803**	**1283**

Series Id: PCU3372--3372--

Series Title: PPI industry group data for Office furniture (including fixtures) mfg, not seasonally adjusted

Industry: Office furniture (including fixtures) mfg

Product: Office furniture (including fixtures) mfg

Base Date: 200312

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Series Id: PCU3372--3372--

Series Title: PPI industry group data for Office furniture (including fixtures) mfg, not seasonally adjusted

Industry: Office furniture (including fixtures) mfg

Product: Office furniture (including fixtures) mfg

Base Date: 200312

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Series Id: PCU3372--3372--

Series Title: PPI industry group data for Office furniture (including fixtures) mfg, not seasonally adjusted

Industry: Office furniture (including fixtures) mfg

Product: Office furniture (including fixtures) mfg

Base Date: 200312

1969
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Series Id: PCU3372--3372--

Series Title: PPI industry group data for Office furniture (including fixtures) mfg, not seasonally adjusted

Industry: Office furniture (including fixtures) mfg

Product: Office furniture (including fixtures) mfg

Base Date: 200312

1998		
1999		100.000
2000		100.000
2001		100.000
2002		100.000
2003	**2003**	100.000
2004	**2004**	105.142
2005	**2005**	111.458
2006	**2006**	113.817
2007	**2007**	116.675
2008	**2008**	121.225
2009	**2009**	124.625
2010	**2010**	125.642
2011	**2011**	128.900
2012	**2012**	131.367
2013	**2013**	132.208
2014	**2014**	135.617
2015	**2015**	136.658
2016	**2016**	137.150
2017	**2017**	139.367
2018	**2018**	145.058
2019	**2019**	151.150
2020	**2020**	155.075
2021	**2021**	166.692
SPOT	**SPOT**	189.475

Series Id: PCU33411-33411-

Series Title: PPI industry data for Computer & peripheral equipment mfg, not seasonally adjusted

Industry: Computer & peripheral equipment mfg

Product: Computer & peripheral equipment mfg

Base Date: 200612

Series Id: PCU336110336110

Series Title: PPI industry data for Automobile, light truck and utility vehicle mfg, not seasonally adjusted

Industry: Automobile, light truck and utility vehicle mfg

Product: Automobile, light truck and utility vehicle mfg

Base Date: 198206

Series Id: PCU333112333112

Series Title: PPI industry data for Lawn and garden equipment mfg, not seasonally adjusted

Industry: Lawn and garden equipment mfg

Product: Lawn and garden equipment mfg

Base Date: 198212

Series Id: PCU334220334220

Series Title: PPI industry data for Broadcast and wireless communications equipment mfg, not seasonally adjusted

Industry: Broadcast and wireless communications equipment mfg

Product: Broadcast and wireless communications equipment mfg

Base Date: 199112

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Series Id: PCU33411-33411-

Series Title: PPI industry data for Computer & peripheral equipment mfg, not seasonally adjusted

Industry: Computer & peripheral equipment mfg

Product: Computer & peripheral equipment mfg

Base Date: 200612

Series Id: PCU336110336110

Series Title: PPI industry data for Automobile, light truck and utility vehicle mfg, not seasonally adjusted

Industry: Automobile, light truck and utility vehicle mfg

Product: Automobile, light truck and utility vehicle mfg

Base Date: 198206

Series Id: PCU333112333112

Series Title: PPI industry data for Lawn and garden equipment mfg, not seasonally adjusted

Industry: Lawn and garden equipment mfg

Product: Lawn and garden equipment mfg

Base Date: 198212

Series Id: PCU334220334220

Series Title: PPI industry data for Broadcast and wireless communications equipment mfg, not seasonally adjusted

Industry: Broadcast and wireless communications equipment mfg

Product: Broadcast and wireless communications equipment mfg

Base Date: 199112

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Series Id: PCU33411-33411-

Series Title: PPI industry data for Computer & peripheral equipment mfg, not seasonally adjusted

Industry: Computer & peripheral equipment mfg

Product: Computer & peripheral equipment mfg

Base Date: 200612

Series Id: PCU336110336110

Series Title: PPI industry data for Automobile, light truck and utility vehicle mfg, not seasonally adjusted

Industry: Automobile, light truck and utility vehicle mfg

Product: Automobile, light truck and utility vehicle mfg

Base Date: 198206

Series Id: PCU333112333112

Series Title: PPI industry data for Lawn and garden equipment mfg, not seasonally adjusted

Industry: Lawn and garden equipment mfg

Product: Lawn and garden equipment mfg

Base Date: 198212

Series Id: PCU334220334220

Series Title: PPI industry data for Broadcast and wireless communications equipment mfg, not seasonally adjusted

Industry: Broadcast and wireless communications equipment mfg

Product: Broadcast and wireless communications equipment mfg

Base Date: 199112

1969								
1970								
1971								
1972								
1973								
1974								
1975			1975	62.900				
1976			1976	64.025				
1977			1977	68.192				
1978			1978	72.892				
1979			1979	78.667				
1980			1980	85.983				
1981			1981	94.533				
1982			1982	99.567	1982	100.000		
1983			1983	102.108	1983	102.067		
1984			1984	104.625	1984	102.408		
1985			1985	107.208	1985	103.458		
1986			1986	111.008	1986	104.708		
1987			1987	112.967	1987	105.625		
1988			1988	114.117	1988	108.192		
1989			1989	117.358	1989	113.275		
1990			1990	119.850	1990	116.592		
1991			1991	125.292	1991	118.800	1991	100.000
1992			1992	129.108	1992	119.675	1992	101.583
1993			1993	133.167	1993	120.600	1993	102.908
1994			1994	137.950	1994	122.608	1994	103.900
1995	1995	276.983	1995	139.100	1995	124.158	1995	103.517
1996	1996	249.050	1996	140.433	1996	125.867	1996	104.225
1997	1997	219.583	1997	138.700	1997	125.983	1997	105.758

Series Id: PCU33411-33411-

Series Title: PPI industry data for Computer & peripheral equipment mfg, not seasonally adjusted

Industry: Computer & peripheral equipment mfg

Product: Computer & peripheral equipment mfg

Base Date: 200612

1998	1998	191.717
1999	1999	172.783
2000	2000	162.158
2001	2001	153.075
2002	2002	139.533
2003	2003	123.950
2004	2004	115.350
2005	2005	107.775
2006	2006	102.067
2007	2007	94.450
2008	2008	86.425
2009	2009	81.092
2010	2010	76.475
2011	2011	73.408
2012	2012	70.658
2013	2013	67.642
2014	2014	66.392
2015	2015	63.208
2016	2016	59.858
2017	2017	58.775
2018	2018	58.483
2019	2019	56.308
2020	2020	54.950
2021	2021	55.315
SPOT	SPOT	58.694

Series Id: PCU336110336110

Series Title: PPI industry data for Automobile, light truck and utility vehicle mfg, not seasonally adjusted

Industry: Automobile, light truck and utility vehicle mfg

Product: Automobile, light truck and utility vehicle mfg

Base Date: 198206

1998	136.842
1999	137.642
2000	138.767
2001	137.542
2002	134.892
2003	135.083
2004	136.475
2005	135.067
2006	130.817
2007	131.117
2008	132.892
2009	136.742
2010	136.783
2011	137.683
2012	141.250
2013	142.733
2014	145.333
2015	148.883
2016	150.108
2017	152.067
2018	153.250
2019	153.592
2020	153.108
2021	157.532
SPOT	164.069

Series Id: PCU333112333112

Series Title: PPI industry data for Lawn and garden equipment mfg, not seasonally adjusted

Industry: Lawn and garden equipment mfg

Product: Lawn and garden equipment mfg

Base Date: 198212

1998	124.892
1999	124.517
2000	124.642
2001	125.167
2002	125.925
2003	125.883
2004	126.575
2005	126.617
2006	127.625
2007	129.558
2008	132.750
2009	134.583
2010	134.158
2011	133.217
2012	135.425
2013	135.525
2014	136.225
2015	136.342
2016	136.267
2017	136.742
2018	138.500
2019	140.458
2020	141.825
2021	145.765
SPOT	161.500

Series Id: PCU334220334220

Series Title: PPI industry data for Broadcast and wireless communications equipment mfg, not seasonally adjusted

Industry: Broadcast and wireless communications equipment mfg

Product: Broadcast and wireless communications equipment mfg

Base Date: 199112

1998	105.525
1999	104.125
2000	101.475
2001	101.717
2002	98.258
2003	95.100
2004	93.267
2005	92.617
2006	92.117
2007	92.483
2008	94.083
2009	94.558
2010	94.808
2011	94.408
2012	93.042
2013	92.400
2014	92.817
2015	93.358
2016	92.508
2017	90.367
2018	89.642
2019	89.767
2020	90.317
2021	90.584
SPOT	93.323

Series Id: PCU33431-33431-

Series Title: PPI industry data for Audio and video equipment mfg, not seasonally adjusted

Industry: Audio and video equipment mfg

Product: Audio and video equipment mfg

Base Date: 200312

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Series Id: PCU33431-33431-

Series Title: PPI industry data for Audio and video equipment mfg, not seasonally adjusted

Industry: Audio and video equipment mfg

Product: Audio and video equipment mfg

Base Date: 200312

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Series Id: PCU33431-33431-

Series Title: PPI industry data for Audio and video equipment mfg, not seasonally adjusted

Industry: Audio and video equipment mfg

Product: Audio and video equipment mfg

Base Date: 200312

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Series Id: PCU33431-33431-

Series Title: PPI industry data for Audio and video equipment mfg, not seasonally adjusted

Industry: Audio and video equipment mfg

Product: Audio and video equipment mfg

Base Date: 200312

1998		
1999		
2000		
2001		
2002		
2003	2003	100.000
2004	2004	98.092
2005	2005	95.608
2006	2006	93.683
2007	2007	90.850
2008	2008	89.350
2009	2009	85.467
2010	2010	84.367
2011	2011	84.158
2012	2012	84.308
2013	2013	82.583
2014	2014	82.717
2015	2015	82.892
2016	2016	83.067
2017	2017	83.083
2018	2018	82.733
2019	2019	83.767
2020	2020	85.883
2021	2021	89.366
SPOT	SPOT	97.617

	Shenandoah, PA Data & Demographics (As of July 1, 2022)	*Girardville, PA Data & Demographics (As of July 1, 2022)*	*Township Of West Mahanoy Data & Demographics (As of July 1, 2022)*
POPULATION			
Total Population	4,333 (100%)	1,305 (100%)	2,796 (100%)
Population in Households	4,206 (97.1%)	1,305 (100.0%)	2,698 (96.5%)
Population in Families	3,032 (70.0%)	961 (73.6%)	2,101 (75.1%)
Population in Group Quarters[1]	127 (2.9%)	0	98 (3.5%)
Population Density	2,868	2,521	270
Diversity Index[2]	71	19	33
INCOME			
Median Household Income	$33,817	$47,666	$69,012
Average Household Income	$48,249	$56,296	$77,741
% of Income for Mortgage[4]	6%	4%	9%
Per Capita Income	$18,871	$23,640	$31,347
Wealth Index[5]	33	36	65
HOUSING			
Total HU (Housing Units)	2,412 (100%)	735 (100%)	1,283 (100%)
Owner Occupied HU	1,036 (43.0%)	424 (57.7%)	1,019 (79.4%)
Renter Occupied HU	654 (27.1%)	124 (16.9%)	107 (8.3%)
Vacant Housing Units	722 (29.9%)	187 (25.4%)	157 (12.2%)
Median Home Value	$36,224	$39,259	$112,703
Average Home Value	$60,473	$68,514	$147,669
Housing Affordability Index[3]	328	350	226
HOUSEHOLDS			
Total Households	1,690	548	1,126
Average Household Size	2.49	2.38	2.4
Family Households	883	307	689
Average Family Size	3	3	3

Geocode	County	Municipality	2010	2020	Change		Munic. Rank
					Numeric	Percent	
	Pennsylvania	Pennsylvania	**12,702,379**	**13,002,700**	**300,321**	**2.4%**	
107	Schuylkill County	Schuylkill County	148,289	143,049	-5,240	-3.5%	
10729264	Schuylkill County	Girardville borough	1519	1308	-211	-13.9%	2,385
10770056	Schuylkill County	Shenandoah borough	5071	4243	-828	-16.3%	2,448
10783408	Schuylkill County	West Mahanoy township	2872	2785	-87	-3.0%	1,402

Commonwealth of Pennsylvania
Department of Environmental Protection
Population Projections Report

County Name	Municipality Name	DEP Munic Code	2000 Census	2010 Census	2020 Projected	2030 Projected	2040 Projected
SCHUYLKILL	Ashland B	54804	3,283	2,817	2,563	2,333	2,089
	Auburn B	54914	839	741	674	614	550
	Barry T	54915	967	932	987	990	1,023
	Blythe T	54916	905	924	865	850	810
	Branch T	54917	1,871	1,840	1,724	1,656	1,561
	Butler T	54918	4,987	5,224	5,833	6,229	6,747
	Cass T	54919	1,840	1,958	1,867	1,895	1,855
	Coaldale B	54805	2,295	2,281	2,140	2,072	1,962
	Cressona B	54920	1,635	1,651	1,624	1,622	1,605
	Deer Lake B	54921	528	687	743	857	938
	Delano T	54922	487	445	405	369	330
	East Brunswick T	54923	1,601	1,793	1,930	2,098	2,248
	East Norwegian T	54924	864	863	785	751	693
	East Union T	54925	1,419	1,605	1,710	1,862	1,987
	Eldred T	54926	719	758	765	790	805
	Foster T	54927	268	251	228	208	186
	Frackville B	54806	4,361	3,805	3,463	3,151	2,822
	Frailey T	54928	416	429	390	381	355
	Gilberton B	54929	867	769	700	637	570
	Girardville B	54807	1,742	1,519	1,382	1,258	1,126
	Gordon B	54930	781	763	763	752	748
	Hegins T	54931	3,519	3,516	3,491	3,478	3,458
	Hubley T	54932	889	854	817	781	744
	Kline T	54933	1,591	1,438	1,309	1,191	1,066
	Landingville B	54934	175	159	145	132	118
	Mahanoy City B	54808	4,647	4,162	3,787	3,447	3,086
	Mahanoy T	54935	3,093	3,152	3,708	3,980	4,415
	McAdoo B	54809	2,274	2,300	2,205	2,180	2,115
	Mechanicsville B	54936	515	457	416	378	339
	Middleport B	54937	458	405	369	335	300
	Minersville B	54810	4,552	4,397	4,145	3,948	3,720
	Mount Carbon B	54938	87	91	83	82	76
	New Castle T	54939	395	414	377	372	348
	New Philadelphia B	54940	1,149	1,085	987	909	820
	New Ringgold B	54941	291	276	256	239	220
	North Manheim T	54942	3,287	3,770	3,910	4,246	4,470
	North Union T	54943	1,225	1,476	1,630	1,840	2,018
	Norwegian T	54944	2,172	2,310	2,503	2,664	2,844
	Orwigsburg B	54945	3,106	3,099	3,282	3,357	3,494
	Palo Alto B	54946	1,052	1,032	939	888	813
	Pine Grove B	54947	2,154	2,186	2,220	2,253	2,287
	Pine Grove T	54948	3,930	4,123	4,338	4,540	4,749

Commonwealth of Pennsylvania
Department of Environmental Protection
Population Projections Report

County Name	Municipality Name	DEP Munic Code	2000 Census	2010 Census	2020 Projected	2030 Projected	2040 Projected
SCHUYLKILL	Port Carbon B	54811	2,019	1,889	1,768	1,641	1,518
	Port Clinton B	54949	288	326	319	338	343
	Porter T	54950	2,032	2,176	1,980	1,979	1,866
	Pottsville C	54001	15,549	14,324	13,197	12,009	10,856
	Reilly T	54952	802	726	675	614	558
	Ringtown B	54953	826	818	799	786	770
	Rush T	54954	3,957	3,412	3,456	3,145	3,036
	Ryan T	54955	2,461	2,459	2,552	2,591	2,661
	Saint Clair B	54813	3,254	3,004	2,734	2,488	2,228
	Schuylkill Haven B	54812	5,548	5,437	5,354	5,255	5,165
	Schuylkill T	54956	1,123	1,129	1,070	1,049	1,006
	Shenandoah B	54002	5,624	5,071	4,615	4,199	3,761
	South Manheim T	54957	2,191	2,507	2,949	3,320	3,731
	Tamaqua B	54003	7,174	7,107	6,639	6,400	6,030
	Tower City B	54958	1,396	1,346	1,255	1,187	1,106
	Tremont B	54959	1,784	1,752	1,721	1,690	1,658
	Tremont T	54960	250	280	266	277	274
	Union T	54961	1,308	1,273	1,172	1,109	1,025
	Upper Mahantango T	54962	652	655	631	623	605
	Walker T	54963	936	1,054	1,097	1,183	1,245
	Washington T	54964	2,750	3,033	3,341	3,635	3,937
	Wayne T	54965	4,721	5,113	5,734	6,224	6,788
	West Brunswick T	54966	3,428	3,327	3,399	3,372	3,401
	West Mahanoy T	54967	3,175	2,872	2,614	2,378	2,130
	West Penn T	54968	3,852	4,442	4,786	5,270	5,674
TOTALS			**150,336**	**148,289**	**146,579**	**145,376**	**143,883**

State-Level Census Counts, 1900 to 2020

State	1900	1910	1920	1980	1990	2000	2010	2020
United States	76,212,168	92,228,496	106,021,537	226,545,805	248,709,873	281,421,906	308,745,538	331,449,281
Alabama	1,828,697	2,138,093	2,348,174	3,893,888	4,040,587	4,447,100	4,779,736	5,024,279
Alaska	63,592	64,356	55,036	401,851	550,043	626,932	710,231	733,391
Arizona	122,931	204,354	334,162	2,718,215	3,665,228	5,130,632	6,392,017	7,151,502
Arkansas	1,311,564	1,574,449	1,752,204	2,286,435	2,350,725	2,673,400	2,915,918	3,011,524
California	1,485,053	2,377,549	3,426,861	23,667,902	29,760,021	33,871,648	37,253,956	39,538,223
Colorado	539,700	799,024	939,629	2,889,964	3,294,394	4,301,261	5,029,196	5,773,714
Connecticut	908,420	1,114,756	1,380,631	3,107,576	3,287,116	3,405,565	3,574,097	3,605,944
Delaware	184,735	202,322	223,003	594,338	666,168	783,600	897,934	989,948
District of Columbia	278,718	331,069	437,571	638,333	606,900	572,059	601,723	689,545
Florida	528,542	752,619	968,470	9,746,324	12,937,926	15,982,378	18,801,310	21,538,187
Georgia	2,216,331	2,609,121	2,895,832	5,463,105	6,478,216	8,186,453	9,687,653	10,711,908
Hawaii	154,001	191,874	255,881	964,691	1,108,229	1,211,537	1,360,301	1,455,271
Idaho	161,772	325,594	431,866	943,935	1,006,749	1,293,953	1,567,582	1,839,106
Illinois	4,821,550	5,638,591	6,485,280	11,426,518	11,430,602	12,419,293	12,830,632	12,812,508
Indiana	2,516,462	2,700,876	2,930,390	5,490,224	5,544,159	6,080,485	6,483,802	6,785,528
Iowa	2,231,853	2,224,771	2,404,021	2,913,808	2,776,755	2,926,324	3,046,355	3,190,369
Kansas	1,470,495	1,690,949	1,769,257	2,363,679	2,477,574	2,688,418	2,853,118	2,937,880
Kentucky	2,147,174	2,289,905	2,416,630	3,660,777	3,685,296	4,041,769	4,339,367	4,505,836
Louisiana	1,381,625	1,656,388	1,798,509	4,205,900	4,219,973	4,468,976	4,533,372	4,657,757
Maine	694,466	742,371	768,014	1,124,660	1,227,928	1,274,923	1,328,361	1,362,359
Maryland	1,188,044	1,295,346	1,449,661	4,216,975	4,781,468	5,296,486	5,773,552	6,177,224
Massachusetts	2,805,346	3,366,416	3,852,356	5,737,037	6,016,425	6,349,097	6,547,629	7,029,917
Michigan	2,420,982	2,810,173	3,668,412	9,262,078	9,295,297	9,938,444	9,883,640	10,077,331
Minnesota	1,751,394	2,075,708	2,387,125	4,075,970	4,375,099	4,919,479	5,303,925	5,706,494
Mississippi	1,551,270	1,797,114	1,790,618	2,520,638	2,573,216	2,844,658	2,967,297	2,961,279
Missouri	3,106,665	3,293,335	3,404,055	4,916,686	5,117,073	5,595,211	5,988,927	6,154,913
Montana	243,329	376,053	548,889	786,690	799,065	902,195	989,415	1,084,225
Nebraska	1,066,300	1,192,214	1,296,372	1,569,825	1,578,385	1,711,263	1,826,341	1,961,504
Nevada	42,335	81,875	77,407	800,493	1,201,833	1,998,257	2,700,551	3,104,614
New Hampshire	411,588	430,572	443,083	920,610	1,109,252	1,235,786	1,316,470	1,377,529
New Jersey	1,883,669	2,537,167	3,155,900	7,364,823	7,730,188	8,414,350	8,791,894	9,288,994
New Mexico	195,310	327,301	360,350	1,302,894	1,515,069	1,819,046	2,059,179	2,117,522
New York	7,268,894	9,113,614	10,385,227	17,558,072	17,990,455	18,976,457	19,378,102	20,201,249
North Carolina	1,893,810	2,206,287	2,559,123	5,881,766	6,628,637	8,049,313	9,535,483	10,439,388
North Dakota	319,146	577,056	646,872	652,717	638,800	642,200	672,591	779,094
Ohio	4,157,545	4,767,121	5,759,394	10,797,630	10,847,115	11,353,140	11,536,504	11,799,448
Oklahoma	790,391	1,657,155	2,028,283	3,025,290	3,145,585	3,450,654	3,751,351	3,959,353
Oregon	413,536	672,765	783,389	2,633,105	2,842,321	3,421,399	3,831,074	4,237,256
Pennsylvania	6,302,115	7,665,111	8,720,017	11,863,895	11,881,643	12,281,054	12,702,379	13,002,700
Rhode Island	428,556	542,610	604,397	947,154	1,003,464	1,048,319	1,052,567	1,097,379
South Carolina	1,340,316	1,515,400	1,683,724	3,121,820	3,486,703	4,012,012	4,625,364	5,118,425
South Dakota	401,570	583,888	636,547	690,768	696,004	754,844	814,180	886,667
Tennessee	2,020,616	2,184,789	2,337,885	4,591,120	4,877,185	5,689,283	6,346,105	6,910,840
Texas	3,048,710	3,896,542	4,663,228	14,229,191	16,986,510	20,851,820	25,145,561	29,145,505
Utah	276,749	373,351	449,396	1,461,037	1,722,850	2,233,169	2,763,885	3,271,616
Vermont	343,641	355,956	352,428	511,456	562,758	608,827	625,741	643,077
Virginia	1,854,184	2,061,612	2,309,187	5,346,818	6,187,358	7,078,515	8,001,024	8,631,393
Washington	518,103	1,141,990	1,356,621	4,132,156	4,866,692	5,894,121	6,724,540	7,705,281
West Virginia	958,800	1,221,119	1,463,701	1,949,644	1,793,477	1,808,344	1,852,994	1,793,716
Wisconsin	2,069,042	2,333,860	2,632,067	4,705,767	4,891,769	5,363,675	5,686,986	5,893,718
Wyoming	92,531	145,965	194,402	469,557	453,588	493,782	563,626	576,851

Source: STATS Indiana, using U.S. Census Bureau data

PENNSYLVANIA PUBLIC UTILITY COMMISSION

Public Meeting held June 16, 2022

Docket Number: M-2022-3032405

BUREAU OF TECHNICAL UTILITY SERVICES

REPORT ON THE QUARTERLY EARNINGS

OF JURISDICTIONAL UTILITIES

FOR THE YEAR ENDED

December 31, 2021

Gladys Brown Dutrieuille, Chairman
John F. Coleman, Jr., Commissioner
Ralph V. Yanora, Commissioner

The market indicated common equity cost rate range consists of data used from the barometer groups and is based on a series of calculations to average the DCF methods.

Market Based Returns on Common Equity [1]	
May 10, 2022	
Water Company Barometer Group	
	Cost Rates %
(1) Current DCF	8.63
(2) 52-Week Average DCF	8.30
(3) Average DCF	8.46
(4) Market Indicated Common Equity Cost Rate Range @ 1 standard deviation around the mean.[2]	6.74-10.19
(5) CAPM Check of DCF Reasonableness	9.88
(6) Recent Commission Approved ROEs[3]:	9.75*
*Aqua Pennsylvania, Inc., R-2021-3027385, does not include 0.25% management effectiveness adjustment	
(7) Distribution System Improvement Charge (DSIC) Return[4]:	**9.80%**

[1] As calculated by the Bureau of Technical Utility Services

[2] Standard Deviation of 14 DCF observations

[3] ROEs from base rate cases within last two years, fully litigated or stipulated for DSIC purposes

[4] Commission authorized Return on Equity (ROE) for DSIC purposes

Any questions concerning DSIC should be directed to Marc Hoffer of the Bureau of Technical Utility Services at (717) 787-1869.

WORKING NOTES

	2017	2018	2019	2020	2021	2022	2023	2024	2025
GROSS Property, plant and equipment	-	-	-		19,380,636	19,570,065	19,819,484	20,072,081	20,327,898
Accumulated Depreciation	-	-	-		8,595,893	8,892,195	9,149,173	9,409,426	9,672,996
NET PPE	-	-	-		10,784,743	10,677,870	10,670,311	10,662,655	10,654,902
Total Debt	-	-	-	-	-	5,853,531			
Net Equity	-	-	-	-	-	7,266,174			
Investor Provided Capital	-	-	-	-	-	13,119,705	-		
Depreciation / GROSS PPE	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	0.00%	1.53%			

				Muni CAPX	0	222,858	0	0	0
			IOU savings	0%			100%	100%	100%
				CAPX/Prior Yr. GROSS PPE			1.50%	1.50%	1.50%
				CAPX	527,649	222,858	293,434	297,173	300,961
				Dep rate	0.00%	1.53%	1.53%	1.53%	1.53%
				Half yr. Dep	0.00%	0.77%	0.77%	0.77%	0.77%
				Dep on CAPX	-	1,705	2,245	2,273	2,302
				Rate of retirement	15.0%	15.0%	15.0%	15.0%	15.0%
				Retired property	79,147	33,429	44,015	44,576	45,144
				Dep on Retired property	-	511	673	682	691
				Dep on Prior yr. GROSS	328,537	328,537	299,422	303,238	307,103
				Total Dep	328,537	329,731	300,994	304,829	308,714
Shenandoah									
Depreciation Expense	-	-	314,353	328,537 part of OCN	328,537				

NET PPE		PURTA	0.001527765
Rev		Reg Assessment Fee	0.005652534

					2021	2022	1 2023	2 2024	3 2025
Shenandoah									
	FIX CIP			CIP	$ -	$ -	$ -	$ -	$ -
					part of OCN	= to DepX			
					527,649	222,858			
									191

					2021	2022			
						-	-	-	-
Sewer Rental Charges	0	0	2,050,863	1,926,472	2,069,499	1,990,000	1,990,000	1,512,480	1,512,480
EDUs	0	0	0	0	3,288	3,288	3288	3288	3288
					0	0	0	0	0
		0	0	0	1644	3288	3288	3288	3288
	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	629.4096715				
						$ 460.00	$ 460.00	$ 460.00	$ 460.00
		#DIV/0!	#DIV/0!	#DIV/0!	1258.819343	605.2311436			

WORKING NOTES

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
GROSS Property, plant and equipment	20,586,975	20,849,354	21,115,077	21,384,186	21,656,725	21,932,738	22,212,268	22,495,361	22,782,062	23,072,417	23,366,473	23,664,276
Accumulated Depreciation	9,939,926	10,210,257	10,484,035	10,761,301	11,042,101	11,326,480	11,614,483	11,906,156	12,201,547	12,500,703	12,803,672	13,110,501
NET PPE	10,647,049	10,639,097	10,631,042	10,622,885	10,614,624	10,606,258	10,597,785	10,589,205	10,580,515	10,571,714	10,562,801	10,553,775
Total Debt												
Net Equity												
Investor Provided Capital												

Depreciation / GROSS PPE

	0	0										
	0	0	0	0	0	0	0	0	0	0	0	0
	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%
	304,797	308,681	312,615	316,599	320,634	324,721	328,859	333,051	337,295	341,594	345,948	350,357
	1.53%	1.53%	1.53%	1.53%	1.53%	1.53%	1.53%	1.53%	1.53%	1.53%	1.53%	1.53%
	0.77%	0.77%	0.77%	0.77%	0.77%	0.77%	0.77%	0.77%	0.77%	0.77%	0.77%	0.77%
	2,332	2,361	2,392	2,422	2,453	2,484	2,516	2,548	2,580	2,613	2,647	2,680
	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%
	45,720	46,302	46,892	47,490	48,095	48,708	49,329	49,958	50,594	51,239	51,892	52,554
	700	708	717	727	736	745	755	764	774	784	794	804
	311,017	314,981	318,995	323,061	327,178	331,348	335,571	339,848	344,179	348,566	353,008	357,507
	312,649	316,633	320,670	324,756	328,895	333,087	337,332	341,631	345,985	350,395	354,861	359,383

Shenandoah

Depreciation Expense

	4 2026	5 2027	6 2028	7 2029	8 2030	9 2031	10 2032	11 2033	12 2034	13 2035	14 2036	15 2037
	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	71	72	56									
	-	(76,000.00)	(76,000.00)	(76,000.00)	(76,000.00)	(76,000.00)	(76,000.00)	(76,000.00)	(76,000.00)	(76,000.00)	(76,000.00)	(76,000.00)
Sewer Rental Charges	1,512,480											
EDUs	3288	3272	3256	3240	3224	3208	3192	3176	3160	3144	3128	3112
	0	-16	-16	-16	-16	-16	-16	-16	-16	-16	-16	-16
	3288											
	$ 460.00											

	2038	2039	2040	2041	2042
GROSS Property, plant and equipment	23,965,875	24,271,317	24,580,652	24,893,930	25,211,201
Accumulated Depreciation	13,421,241	13,735,941	14,054,652	14,377,425	14,704,311
NET PPE	10,544,634	10,535,376	10,526,000	10,516,505	10,506,890
Total Debt					
Net Equity					
Investor Provided Capital					

Depreciation / GROSS PPE

	0	0	0	0	0
	100%	100%	100%	100%	100%
	1.50%	1.50%	1.50%	1.50%	1.50%
	354,822	359,344	363,924	368,562	373,260
	1.53%	1.53%	1.53%	1.53%	1.53%
	0.77%	0.77%	0.77%	0.77%	0.77%
	2,714	2,749	2,784	2,819	2,855
	15.0%	15.0%	15.0%	15.0%	15.0%
	53,223	53,902	54,589	55,284	55,989
	814	825	835	846	857
	362,063	366,678	371,351	376,084	380,877
	363,963	368,602	373,300	378,057	382,875

Shenandoah

Depreciation Expense

	16 2038	17 2039	18 2040	19 2041	20 2042
	$ -	$ -	$ -	$ -	$ -
	(76,000.00)	(71,250.00)	(71,250.00)	(71,250.00)	(71,250.00)
Sewer Rental Charges					
EDUs	3096	3081	3066	3051	3036
	-16	-15	-15	-15	-15

WORKING NOTES

		2017	2018	2019	2020	2021	2022	2023	2024	2025
Shenandoah						C	2,899	-14		
						E	3,288	-16		
							0.88			
					1742000					
	Customer Growth						0	0	0	0
	Delivered to Customer			-	20.70	21	21	21	21	21
Shenandoah	Customers			2,899	2,899	2,899	2,899	2,899	2,899	2,899
	Total Revenue (Less TAP)			2,050,863	1,926,472	2,069,499	1,990,000	1,990,000	1,990,000	2,348,200
	avg CUST rev			707.44	664.53	713.87	686.44	686.44	686.44	810.00
	avg CUST flow			-	0	0	0	0	0	0
	avg EDU rev			#DIV/0!	#DIV/0!	629.41	605.23	605.23	605.23	714.17
	avg EDU flow			#DIV/0!	#DIV/0!	0	0	0	0	0
	Rev Calculated						2,069,499	1,990,000	1,990,000	1,990,000

	2022	2023	2024	2025
Change			18.0%	
$ 713.87	$ 686.44	$ 686.44	$ 810.00	$ 810.00
			$ 123.56	$ -
	-	-	-	2,348,200
	2,069,499	1,990,000	1,990,000	2,348,200
	-	-	358,200	-

Prior yr				
NET PURTA	0.1432%		15,291	15,280	15,269
REV Reg Assessment	0.5690%		11,323	11,323	13,361
			26,614	26,603	28,630

Municipal Authority of the Borough of Shenandoah Water System Assets	
Investor Provided	13,119,705
Gross PP&E	19,380,636
Net PP&E	10,784,743
Revenues	1,990,000
EBITDA	245,000
EBIT	(84,731)
Customers	2,899
Population	6,166

G PPE	-	-	19,380,636	19,570,065
NPPE	-	-	10,784,743	10,677,870

WORKING NOTES

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Shenandoah												
	0	-0.50%	-0.50%	-0.50%	-0.50%	-0.50%	-0.50%	-0.50%	-0.50%	-0.50%	-0.50%	-0.50%
	21	21	20	20	20	20	20	20	20	20	20	20
Shenandoah	2,899	2,885	2,870	2,856	2,841	2,827	2,813	2,799	2,785	2,771	2,757	2,743
	2,348,200	2,342,330	2,470,455	2,458,103	2,445,812	2,603,934	2,590,914	2,577,960	2,744,625	2,730,902	2,717,247	2,892,917
	100.00%			100.00%								
	810.00	812.04	860.76	860.76	860.76	921.01	921.01	921.01	985.49	985.49	985.49	1,054.47
	0	0	0	0	0	0	0	0	0	0	0	0
	714.17	715.87	758.74	758.67	758.63	811.70	811.69	811.70	868.55	868.61	868.69	929.60
	0	0	0	0	0	0	0	0	0	0	0	0
	2,348,200	2,342,330	2,336,474	2,464,279	2,451,958	2,439,697	2,597,424	2,584,437	2,571,515	2,737,763	2,724,075	2,710,454

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
		6.0%			7.0%			7.0%			7.0%	
	$ 810.00	$ 858.60	$ 858.60	$ 858.60	$ 918.71	$ 918.71	$ 918.71	$ 983.02	$ 983.02	$ 983.02	$ 1,051.83	$ 1,051.83
	$ -	$ 48.60	$ -	$ -	$ 60.10	$ -	$ -	$ 64.31	$ -	$ -	$ 68.81	$ -
	-	(5,870)	(5,856)	(6,176)	(6,145)	(6,115)	(6,510)	(6,477)	(6,445)	(6,862)	(6,827)	(6,793)
	2,348,200	2,342,330	2,470,455	2,458,103	2,445,812	2,603,934	2,590,914	2,577,960	2,744,625	2,730,902	2,717,247	2,892,917
	-	140,540	-	-	171,207	-	-	180,457	-	-	190,207	-
	15,258	15,247	15,235	15,224	15,212	15,200	15,188	15,176	15,164	15,151	15,139	15,126
	13,361	13,361	14,128	14,057	13,987	14,891	14,816	14,742	15,695	15,617	15,539	16,543
	28,619	28,608	29,363	29,281	29,199	30,091	30,004	29,918	30,859	30,768	30,678	31,669

	2038	2039	2040	2041	2042
Shenandoah					
	-0.50%	-0.50%	-0.50%	-0.50%	-0.50%
	19	19	19	19	19
Shenandoah	2,730	2,716	2,703	2,689	2,676
	2,878,453	3,064,545	3,049,222	3,246,354	3,230,122
	1,054.47	1,128.28	1,128.28	1,207.26	1,207.26
	0	0	0	0	0
	929.73	994.66	994.53	1,064.03	1,063.94
	0	0	0	0	0
	2,885,685	2,871,257	3,056,884	3,041,599	3,238,238

	2038	2039	2040	2041	2042
	7.0%		7.0%		7.0%
	$ 1,125.45	$ 1,125.45	$ 1,204.24	$ 1,204.24	$ 1,288.53
	$ 73.63	$ -	$ 78.78	$ -	$ 84.30
	(7,232)	(7,196)	(7,661)	(7,623)	(8,116)
	2,878,453	3,064,545	3,049,222	3,246,354	3,230,122
	201,492	-	213,446	-	226,109
	15,113	15,100	15,087	15,073	15,060
	16,461	17,525	17,437	18,565	18,472
	31,574	32,625	32,524	33,638	33,532

WORKING NOTES

	2017	2018	2019	2020	2021	2022	2023	2024	2025
		Cust	2,899	2,899	2,899	2,899			
	2017	2018	2019	2020	2021	2022	2023		
Shenandoah									
LESS: EOS - Wages & Benefits	0	-	-	-	-	740,000			0.15
LESS: EOS - Professional Services	0	0	0	0	-	380,000			0.5
LESS: EOS - Eliminated Expenses	0	0	0	0	-	-			
Shenandoah									
Wages			0	0	0	740,000			
Professional Services					0	380,000			
Eliminated Exp			0	0	0	0			

Shenandoah					included in OCN	= to DepX	
Reported CAPX - from the financials	0	0	413,879	276,344	527,649	222,858	

	2017	2018	2019	2020	2021		Assets	Per Books
GROSS Property, plant and equipment	-	-	-	-	19,380,636		19,380,636	-
Accumulated Depreciation	-	-	-	-	8,595,893		8,595,893	-
NET PPE	-	-	-	-	10,784,743		10,784,743	-
Total Debt	-	-	-	-	5,853,531		296,469	
Net Equity	-	-	-	-	7,266,174			
Investor Provided Capital	-	-	-	-	13,119,705			
Depreciation Rate	0.00%	0.00%	0.00%	#DIV/0!	1.53%			
Depreciation Expense	-	-	314,353	328,537	328,537	296,469.00	moved item from 2021 to 2022	

	2022	2023	2024	2025	2026		
CAPX	0	0	0	0	0	0	

WORKING NOTES

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Shenandoah												
LESS: EOS - Wages & Benefits		LESS: EOS - Wages & Wages & Benefits			15% savings	15%	0.15					
LESS: EOS - Professional Services		LESS: EOS - Professi Net Professional Services			50% savings	50%	0.5					
LESS: EOS - Eliminated Expenses		LESS: EOS - Elim Line Rentals			10% savings	100%	1					
Shenandoah												
Wages												
Professional Services												
Eliminated Exp												
Shenandoah												
Reported CAPX - from the financials												

	Difference
GROSS Property, plant and equipment	
Accumulated Depreciation	
NET PPE	10,784,743
Total Debt	
Net Equity	
Investor Provided Capital	
Depreciation Rate	
Depreciation Expense	
CAPX	

	2038	2039	2040	2041	2042
Shenandoah					
LESS: EOS - Wages & Benefits					
LESS: EOS - Professional Services					
LESS: EOS - Eliminated Expenses					
Shenandoah					
Wages					
Professional Services					
Eliminated Exp					
Shenandoah					
Reported CAPX - from the financials					
GROSS Property, plant and equipment					
Accumulated Depreciation					
NET PPE					
Total Debt					
Net Equity					
Investor Provided Capital					
Depreciation Rate					
Depreciation Expense					
CAPX					

WORKING NOTES

	2017	2018	2019	2020	2021	2022	2023	2024	2025
GROSS Property, plant and equipment	-	-	-		19,380,636	19,570,065	19,819,484	20,072,081	20,327,898
Accumulated Depreciation	-	-	-		8,595,893	8,892,195	9,149,173	9,409,426	9,672,996
NET PPE	-	-	-		10,784,743	10,677,870	10,670,311	10,662,655	10,654,902
Total Debt	-	-	-	-	-	5,853,531			
Net Equity	-	-	-	-	-	7,266,174			
Investor Provided Capital	-	-	-	-	-	13,119,705	-		
Depreciation / GROSS PPE	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	0.00%	1.53%			

				Muni CAPX	0	222,858	0	0	0
			IOU savings	0%			100%	100%	100%
				CAPX/Prior Yr. GROSS PPE			1.50%	1.50%	1.50%
				CAPX	527,649	222,858	293,434	297,173	300,961
				Dep rate	0.00%	1.53%	1.53%	1.53%	1.53%
				Half yr. Dep	0.00%	0.77%	0.77%	0.77%	0.77%
				Dep on CAPX	-	1,705	2,245	2,273	2,302
				Rate of retirement	15.0%	15.0%	15.0%	15.0%	15.0%
				Retired property	79,147	33,429	44,015	44,576	45,144
				Dep on Retired property	-	511	673	682	691
				Dep on Prior yr. GROSS	328,537	328,537	299,422	303,238	307,103
				Total Dep	328,537	329,731	300,994	304,829	308,714
Shenandoah									
Depreciation Expense	-	-	314,353	328,537 part of OCN	328,537				

NET PPE		PURTA	0.001527765
Rev		Reg Assessment Fee	0.005652534

					2021	2022	1 2023	2 2024	3 2025
Shenandoah									
	FIX CIP			CIP	$ -	$ -	$ -	$ -	$ -
					part of OCN	= to DepX			
					527,649	222,858			
									191

					2021	2022			
						-	-	-	-
Sewer Rental Charges	0	0	2,050,863	1,926,472	2,069,499	1,990,000	1,990,000	1,512,480	1,512,480
EDUs	0	0	0	0	3,288	3,288	3288	3288	3288
					0	0	0	0	0
		0	0	0	1644	3288	3288	3288	3288
	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	629.4096715				
						$ 460.00	$ 460.00	$ 460.00	$ 460.00
		#DIV/0!	#DIV/0!	#DIV/0!	1258.819343	605.2311436			

WORKING NOTES

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
GROSS Property, plant and equipment	20,586,975	20,849,354	21,115,077	21,384,186	21,656,725	21,932,738	22,212,268	22,495,361	22,782,062	23,072,417	23,366,473	23,664,276
Accumulated Depreciation	9,939,926	10,210,257	10,484,035	10,761,301	11,042,101	11,326,480	11,614,483	11,906,156	12,201,547	12,500,703	12,803,672	13,110,501
NET PPE	10,647,049	10,639,097	10,631,042	10,622,885	10,614,624	10,606,258	10,597,785	10,589,205	10,580,515	10,571,714	10,562,801	10,553,775
Total Debt												
Net Equity												
Investor Provided Capital												

Depreciation / GROSS PPE

	0	0										
	0	0	0	0	0	0	0	0	0	0	0	0
	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%
	304,797	308,681	312,615	316,599	320,634	324,721	328,859	333,051	337,295	341,594	345,948	350,357
	1.53%	1.53%	1.53%	1.53%	1.53%	1.53%	1.53%	1.53%	1.53%	1.53%	1.53%	1.53%
	0.77%	0.77%	0.77%	0.77%	0.77%	0.77%	0.77%	0.77%	0.77%	0.77%	0.77%	0.77%
	2,332	2,361	2,392	2,422	2,453	2,484	2,516	2,548	2,580	2,613	2,647	2,680
	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%
	45,720	46,302	46,892	47,490	48,095	48,708	49,329	49,958	50,594	51,239	51,892	52,554
	700	708	717	727	736	745	755	764	774	784	794	804
	311,017	314,981	318,995	323,061	327,178	331,348	335,571	339,848	344,179	348,566	353,008	357,507
	312,649	316,633	320,670	324,756	328,895	333,087	337,332	341,631	345,985	350,395	354,861	359,383

Shenandoah

Depreciation Expense

	4 2026	5 2027	6 2028	7 2029	8 2030	9 2031	10 2032	11 2033	12 2034	13 2035	14 2036	15 2037
	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	71	72	56									
	-	(76,000.00)	(76,000.00)	(76,000.00)	(76,000.00)	(76,000.00)	(76,000.00)	(76,000.00)	(76,000.00)	(76,000.00)	(76,000.00)	(76,000.00)
Sewer Rental Charges	1,512,480											
EDUs	3288	3272	3256	3240	3224	3208	3192	3176	3160	3144	3128	3112
	0	-16	-16	-16	-16	-16	-16	-16	-16	-16	-16	-16
	3288											
	$ 460.00											

	2038	2039	2040	2041	2042
GROSS Property, plant and equipment	23,965,875	24,271,317	24,580,652	24,893,930	25,211,201
Accumulated Depreciation	13,421,241	13,735,941	14,054,652	14,377,425	14,704,311
NET PPE	10,544,634	10,535,376	10,526,000	10,516,505	10,506,890
Total Debt					
Net Equity					
Investor Provided Capital					

Depreciation / GROSS PPE

	0	0	0	0	0
	100%	100%	100%	100%	100%
	1.50%	1.50%	1.50%	1.50%	1.50%
	354,822	359,344	363,924	368,562	373,260
	1.53%	1.53%	1.53%	1.53%	1.53%
	0.77%	0.77%	0.77%	0.77%	0.77%
	2,714	2,749	2,784	2,819	2,855
	15.0%	15.0%	15.0%	15.0%	15.0%
	53,223	53,902	54,589	55,284	55,989
	814	825	835	846	857
	362,063	366,678	371,351	376,084	380,877
	363,963	368,602	373,300	378,057	382,875

Shenandoah

Depreciation Expense

	16 2038	17 2039	18 2040	19 2041	20 2042
	$ -	$ -	$ -	$ -	$ -
	(76,000.00)	(71,250.00)	(71,250.00)	(71,250.00)	(71,250.00)
Sewer Rental Charges					
EDUs	3096	3081	3066	3051	3036
	-16	-15	-15	-15	-15

WORKING NOTES

		2017	2018	2019	2020	2021	2022	2023	2024	2025
Shenandoah						C	2,899	-14		
						E	3,288	-16		
							0.88			
					1742000					
	Customer Growth						0	0	0	0
	Delivered to Customer			-	20.70	21	21	21	21	21
Shenandoah	Customers			2,899	2,899	2,899	2,899	2,899	2,899	2,899
	Total Revenue (Less TAP)			2,050,863	1,926,472	2,069,499	1,990,000	1,990,000	1,990,000	2,348,200
	avg CUST rev			707.44	664.53	713.87	686.44	686.44	686.44	810.00
	avg CUST flow			-	0	0	0	0	0	0
	avg EDU rev			#DIV/0!	#DIV/0!	629.41	605.23	605.23	605.23	714.17
	avg EDU flow			#DIV/0!	#DIV/0!	0	0	0	0	0
	Rev Calculated						2,069,499	1,990,000	1,990,000	1,990,000

	2022	2023	2024	2025
Change			18.0%	
$ 713.87	$ 686.44	$ 686.44	$ 810.00	$ 810.00
			$ 123.56	$ -
	-	-	-	2,348,200
	2,069,499	1,990,000	1,990,000	2,348,200
	-	-	358,200	-

Prior yr				
NET PURTA	0.1432%		15,291	15,280	15,269
REV Reg Assessment	0.5690%		11,323	11,323	13,361
			26,614	26,603	28,630

Municipal Authority of the Borough of Shenandoah Water System Assets	
Investor Provided	13,119,705
Gross PP&E	19,380,636
Net PP&E	10,784,743
Revenues	1,990,000
EBITDA	546,000
EBIT	216,269
Customers	2,899
Population	6,166

G PPE	-	-	19,380,636	19,570,065
NPPE	-	-	10,784,743	10,677,870

WORKING NOTES

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Shenandoah												
	0	-0.50%	-0.50%	-0.50%	-0.50%	-0.50%	-0.50%	-0.50%	-0.50%	-0.50%	-0.50%	-0.50%
	21	21	20	20	20	20	20	20	20	20	20	20
Shenandoah	2,899	2,885	2,870	2,856	2,841	2,827	2,813	2,799	2,785	2,771	2,757	2,743
	2,348,200	2,342,330	2,470,455	2,458,103	2,445,812	2,603,934	2,590,914	2,577,960	2,744,625	2,730,902	2,717,247	2,892,917
	100.00%			100.00%								
	810.00	812.04	860.76	860.76	860.76	921.01	921.01	921.01	985.49	985.49	985.49	1,054.47
	0	0	0	0	0	0	0	0	0	0	0	0
	714.17	715.87	758.74	758.67	758.63	811.70	811.69	811.70	868.55	868.61	868.69	929.60
	0	0	0	0	0	0	0	0	0	0	0	0
	2,348,200	2,342,330	2,336,474	2,464,279	2,451,958	2,439,697	2,597,424	2,584,437	2,571,515	2,737,763	2,724,075	2,710,454

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
		6.0%			7.0%			7.0%			7.0%	
	$ 810.00	$ 858.60	$ 858.60	$ 858.60	$ 918.71	$ 918.71	$ 918.71	$ 983.02	$ 983.02	$ 983.02	$ 1,051.83	$ 1,051.83
	$ -	$ 48.60	$ -	$ -	$ 60.10	$ -	$ -	$ 64.31	$ -	$ -	$ 68.81	$ -
	-	(5,870)	(5,856)	(6,176)	(6,145)	(6,115)	(6,510)	(6,477)	(6,445)	(6,862)	(6,827)	(6,793)
	2,348,200	2,342,330	2,470,455	2,458,103	2,445,812	2,603,934	2,590,914	2,577,960	2,744,625	2,730,902	2,717,247	2,892,917
	-	140,540	-	-	171,207	-	-	180,457	-	-	190,207	-
	15,258	15,247	15,235	15,224	15,212	15,200	15,188	15,176	15,164	15,151	15,139	15,126
	13,361	13,361	14,128	14,057	13,987	14,891	14,816	14,742	15,695	15,617	15,539	16,543
	28,619	28,608	29,363	29,281	29,199	30,091	30,004	29,918	30,859	30,768	30,678	31,669

	2038	2039	2040	2041	2042
Shenandoah					
	-0.50%	-0.50%	-0.50%	-0.50%	-0.50%
	19	19	19	19	19
Shenandoah	2,730	2,716	2,703	2,689	2,676
	2,878,453	3,064,545	3,049,222	3,246,354	3,230,122
	1,054.47	1,128.28	1,128.28	1,207.26	1,207.26
	0	0	0	0	0
	929.73	994.66	994.53	1,064.03	1,063.94
	0	0	0	0	0
	2,885,685	2,871,257	3,056,884	3,041,599	3,238,238

	2038	2039	2040	2041	2042
	7.0%		7.0%		7.0%
	$ 1,125.45	$ 1,125.45	$ 1,204.24	$ 1,204.24	$ 1,288.53
	$ 73.63	$ -	$ 78.78	$ -	$ 84.30
	(7,232)	(7,196)	(7,661)	(7,623)	(8,116)
	2,878,453	3,064,545	3,049,222	3,246,354	3,230,122
	201,492	-	213,446	-	226,109
	15,113	15,100	15,087	15,073	15,060
	16,461	17,525	17,437	18,565	18,472
	31,574	32,625	32,524	33,638	33,532

WORKING NOTES

	2017	2018	2019	2020	2021	2022	2023	2024	2025
		Cust	2,899	2,899	2,899	2,899			
	2017	2018	2019	2020	2021	2022	2023		
Shenandoah									
LESS: EOS - Wages & Benefits	0	-	-	-	-	740,000			0.15
LESS: EOS - Professional Services	0	0	0	0	-	380,000			0.5
LESS: EOS - Eliminated Expenses	0	0	0	0	-	-			
Shenandoah									
Wages			0	0	0	740,000			
Professional Services					0	380,000			
Eliminated Exp			0	0	0	0			

Shenandoah					included in OCN	= to DepX	
Reported CAPX - from the financials	0	0	413,879	276,344	527,649	222,858	

	2017	2018	2019	2020	2021		Assets	Per Books
GROSS Property, plant and equipment	-	-	-	-	19,380,636		19,380,636	-
Accumulated Depreciation	-	-	-	-	8,595,893		8,595,893	-
NET PPE	-	-	-	-	10,784,743		10,784,743	-
Total Debt	-	-	-	-	5,853,531		296,469	
Net Equity	-	-	-	-	7,266,174			
Investor Provided Capital	-	-	-	-	13,119,705			
Depreciation Rate	0.00%	0.00%	0.00%	#DIV/0!	1.53%			
Depreciation Expense	-	-	314,353	328,537	328,537	296,469.00	moved item from 2021 to 2022	

	2022	2023	2024	2025	2026	
CAPX	0	0	0	0	0	0

WORKING NOTES

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Shenandoah												
LESS: EOS - Wages & Benefits		LESS: EOS - Wages & Wages & Benefits			15% savings	15%	0.15					
LESS: EOS - Professional Services		LESS: EOS - Professi Net Professional Services			50% savings	50%	0.5					
LESS: EOS - Eliminated Expenses		LESS: EOS - Elim Line Rentals			10% savings	100%	1					
Shenandoah												
Wages												
Professional Services												
Eliminated Exp												
Shenandoah												
Reported CAPX - from the financials												

	Difference
GROSS Property, plant and equipment	
Accumulated Depreciation	
NET PPE	10,784,743
Total Debt	
Net Equity	
Investor Provided Capital	
Depreciation Rate	
Depreciation Expense	
CAPX	

	2038	2039	2040	2041	2042
Shenandoah					
LESS: EOS - Wages & Benefits					
LESS: EOS - Professional Services					
LESS: EOS - Eliminated Expenses					
Shenandoah					
Wages					
Professional Services					
Eliminated Exp					
Shenandoah					
Reported CAPX - from the financials					
GROSS Property, plant and equipment					
Accumulated Depreciation					
NET PPE					
Total Debt					
Net Equity					
Investor Provided Capital					
Depreciation Rate					
Depreciation Expense					
CAPX					

WORKING NOTES

	2017	2018	2019	2020	2021	2022	2023	2024	2025
GROSS Property, plant and equipment	-	-	-		19,380,636	19,570,065	19,819,484	20,072,081	20,327,898
Accumulated Depreciation	-	-	-		8,595,893	8,892,195	9,149,173	9,409,426	9,672,996
NET PPE	-	-	-		10,784,743	10,677,870	10,670,311	10,662,655	10,654,902
Total Debt	-	-	-	-	-	5,853,531			
Net Equity	-	-	-	-	-	7,266,174			
Investor Provided Capital	-	-	-	-	-	13,119,705	-		
Depreciation / GROSS PPE	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	0.00%	1.53%			

				Muni CAPX	0	222,858	0	0	0
			IOU savings	0%			100%	100%	100%
				CAPX/Prior Yr. GROSS PPE			1.50%	1.50%	1.50%
				CAPX	527,649	222,858	293,434	297,173	300,961
				Dep rate	0.00%	1.53%	1.53%	1.53%	1.53%
				Half yr. Dep	0.00%	0.77%	0.77%	0.77%	0.77%
				Dep on CAPX	-	1,705	2,245	2,273	2,302
				Rate of retirement	15.0%	15.0%	15.0%	15.0%	15.0%
				Retired property	79,147	33,429	44,015	44,576	45,144
				Dep on Retired property	-	511	673	682	691
				Dep on Prior yr. GROSS	328,537	328,537	299,422	303,238	307,103
				Total Dep	328,537	329,731	300,994	304,829	308,714
Shenandoah									
Depreciation Expense	-	-	314,353	328,537 part of OCN	328,537				

				NET PPE			PURTA	0.001527765	
				Rev			Reg Assessment Fee	0.005652534	
					2021	2022	1 2023	2 2024	3 2025
	Shenandoah								
		FIX CIP		CIP	$ -	$ -	$ -	$ -	$ -
					part of OCN	= to DepX			
					527,649	222,858			
									191

					2021	2022			
						-	-	-	-
Sewer Rental Charges	0	0	2,050,863	1,926,472	2,069,499	1,990,000	1,990,000	1,512,480	1,512,480
EDUs	0	0	0	0	3,288	3,288	3288	3288	3288
					0	0	0	0	0
		0	0	0	1644	3288	3288	3288	3288
	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	629.4096715				
						$ 460.00	$ 460.00	$ 460.00	$ 460.00
		#DIV/0!	#DIV/0!	#DIV/0!	1258.819343	605.2311436			

WORKING NOTES

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
GROSS Property, plant and equipment	20,586,975	20,849,354	21,115,077	21,384,186	21,656,725	21,932,738	22,212,268	22,495,361	22,782,062	23,072,417	23,366,473	23,664,276
Accumulated Depreciation	9,939,926	10,210,257	10,484,035	10,761,301	11,042,101	11,326,480	11,614,483	11,906,156	12,201,547	12,500,703	12,803,672	13,110,501
NET PPE	10,647,049	10,639,097	10,631,042	10,622,885	10,614,624	10,606,258	10,597,785	10,589,205	10,580,515	10,571,714	10,562,801	10,553,775
Total Debt												
Net Equity												
Investor Provided Capital												

Depreciation / GROSS PPE

	0	0										
	0	0	0	0	0	0	0	0	0	0	0	0
	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%
	304,797	308,681	312,615	316,599	320,634	324,721	328,859	333,051	337,295	341,594	345,948	350,357
	1.53%	1.53%	1.53%	1.53%	1.53%	1.53%	1.53%	1.53%	1.53%	1.53%	1.53%	1.53%
	0.77%	0.77%	0.77%	0.77%	0.77%	0.77%	0.77%	0.77%	0.77%	0.77%	0.77%	0.77%
	2,332	2,361	2,392	2,422	2,453	2,484	2,516	2,548	2,580	2,613	2,647	2,680
	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%
	45,720	46,302	46,892	47,490	48,095	48,708	49,329	49,958	50,594	51,239	51,892	52,554
	700	708	717	727	736	745	755	764	774	784	794	804
	311,017	314,981	318,995	323,061	327,178	331,348	335,571	339,848	344,179	348,566	353,008	357,507
	312,649	316,633	320,670	324,756	328,895	333,087	337,332	341,631	345,985	350,395	354,861	359,383

Shenandoah

Depreciation Expense

	4 2026	5 2027	6 2028	7 2029	8 2030	9 2031	10 2032	11 2033	12 2034	13 2035	14 2036	15 2037
	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	71	72	56									
	-	(76,000.00)	(76,000.00)	(76,000.00)	(76,000.00)	(76,000.00)	(76,000.00)	(76,000.00)	(76,000.00)	(76,000.00)	(76,000.00)	(76,000.00)
Sewer Rental Charges	1,512,480											
EDUs	3288	3272	3256	3240	3224	3208	3192	3176	3160	3144	3128	3112
	0	-16	-16	-16	-16	-16	-16	-16	-16	-16	-16	-16
	3288											
	$ 460.00											

	2038	2039	2040	2041	2042
GROSS Property, plant and equipment	23,965,875	24,271,317	24,580,652	24,893,930	25,211,201
Accumulated Depreciation	13,421,241	13,735,941	14,054,652	14,377,425	14,704,311
NET PPE	10,544,634	10,535,376	10,526,000	10,516,505	10,506,890
Total Debt					
Net Equity					
Investor Provided Capital					

Depreciation / GROSS PPE

	0	0	0	0	0
	100%	100%	100%	100%	100%
	1.50%	1.50%	1.50%	1.50%	1.50%
	354,822	359,344	363,924	368,562	373,260
	1.53%	1.53%	1.53%	1.53%	1.53%
	0.77%	0.77%	0.77%	0.77%	0.77%
	2,714	2,749	2,784	2,819	2,855
	15.0%	15.0%	15.0%	15.0%	15.0%
	53,223	53,902	54,589	55,284	55,989
	814	825	835	846	857
	362,063	366,678	371,351	376,084	380,877
	363,963	368,602	373,300	378,057	382,875

Shenandoah

Depreciation Expense

	16 2038	17 2039	18 2040	19 2041	20 2042
	$ -	$ -	$ -	$ -	$ -
	(76,000.00)	(71,250.00)	(71,250.00)	(71,250.00)	(71,250.00)
Sewer Rental Charges					
EDUs	3096	3081	3066	3051	3036
	-16	-15	-15	-15	-15

WORKING NOTES

	2017	2018	2019	2020	2021	2022	2023	2024	2025
Shenandoah					C	2,899	-14		
					E	3,288	-16		
						0.88			
				1742000					
		Customer Growth				0	0	0	0
		Delivered to Customer	-	20.70	21	21	21	21	21
Shenandoah		Customers	2,899	2,899	2,899	2,899	2,899	2,899	2,899
		Total Revenue (Less TAP)	2,050,863	1,926,472	2,069,499	1,990,000	1,990,000	1,990,000	2,706,400
		avg CUST rev	707.44	664.53	713.87	686.44	686.44	686.44	933.56
		avg CUST flow	-	0	0	0	0	0	0
		avg EDU rev	#DIV/0!	#DIV/0!	629.41	605.23	605.23	605.23	823.11
		avg EDU flow	#DIV/0!	#DIV/0!	0	0	0	0	0
		Rev Calculated				2,069,499	1,990,000	1,990,000	1,990,000

	2022	2023	2024	2025
Change			36.0%	
	$ 713.87	$ 686.44	$ 686.44	$ 933.56	$ 933.56
				$ 247.12	$ -
		-	-	-	2,706,400
		2,069,499	1,990,000	1,990,000	2,706,400
		-	-	716,400	-

Prior yr				
NET PURTA	0.1432%	15,291	15,280	15,269
REV Reg Assessment	0.5690%	11,323	11,323	15,399
		26,614	26,603	30,668

Municipal Authority of the Borough of Shenandoah Water System Assets	
Investor Provided	13,119,705
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Revenues	1,990,000
EBITDA	546,000
EBIT	216,269
Customers	2,899
Population	6,166

G PPE	-	-	19,380,636	19,570,065
NPPE	-	-	10,784,743	10,677,870

WORKING NOTES

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Shenandoah												
	0	-0.50%	-0.50%	-0.50%	-0.50%	-0.50%	-0.50%	-0.50%	-0.50%	-0.50%	-0.50%	-0.50%
	21	21	20	20	20	20	20	20	20	20	20	20
Shenandoah	2,899	2,885	2,870	2,856	2,841	2,827	2,813	2,799	2,785	2,771	2,757	2,743
	2,706,400	2,699,634	2,847,304	2,833,067	2,818,902	3,001,144	2,986,138	2,971,208	3,163,296	3,147,480	3,131,742	3,334,210
	100.00%			100.00%								
	933.56	935.91	992.06	992.06	992.06	1,061.51	1,061.51	1,061.51	1,135.81	1,135.81	1,135.81	1,215.32
	0	0	0	0	0	0	0	0	0	0	0	0
	823.11	825.07	874.48	874.40	874.35	935.52	935.51	935.52	1,001.04	1,001.11	1,001.20	1,071.40
	0	0	0	0	0	0	0	0	0	0	0	0
	2,706,400	2,699,634	2,692,885	2,840,186	2,825,984	2,811,855	2,993,641	2,978,673	2,963,780	3,155,388	3,139,611	3,123,913

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
		6.0%			7.0%			7.0%			7.0%	
	$ 933.56	$ 989.58	$ 989.58	$ 989.58	$ 1,058.85	$ 1,058.85	$ 1,058.85	$ 1,132.97	$ 1,132.97	$ 1,132.97	$ 1,212.27	$ 1,212.27
	$ -	$ 56.01	$ -	$ -	$ 69.27	$ -	$ -	$ 74.12	$ -	$ -	$ 79.31	$ -
	-	(6,766)	(6,749)	(7,118)	(7,083)	(7,047)	(7,503)	(7,465)	(7,428)	(7,908)	(7,869)	(7,829)
	2,706,400	2,699,634	2,847,304	2,833,067	2,818,902	3,001,144	2,986,138	2,971,208	3,163,296	3,147,480	3,131,742	3,334,210
	-	161,978	-	-	197,323	-	-	207,985	-	-	219,222	-
	15,258	15,247	15,235	15,224	15,212	15,200	15,188	15,176	15,164	15,151	15,139	15,126
	15,399	15,399	16,283	16,201	16,120	17,162	17,077	16,991	18,090	17,999	17,909	19,067
	30,657	30,646	31,518	31,425	31,332	32,362	32,265	32,167	33,254	33,150	33,048	34,193

	2038	2039	2040	2041	2042
Shenandoah					
	-0.50%	-0.50%	-0.50%	-0.50%	-0.50%
	19	19	19	19	19
Shenandoah	2,730	2,716	2,703	2,689	2,676
	3,317,539	3,499,008	3,481,513	3,671,952	3,653,592
	1,215.32	1,288.24	1,288.24	1,365.53	1,365.53
	0	0	0	0	0
	1,071.56	1,135.67	1,135.52	1,203.52	1,203.42
	0	0	0	0	0
	3,325,874	3,309,245	3,490,260	3,472,809	3,662,772

	2038	2039	2040	2041	2042
	6.0%		6.0%		5.0%
	$ 1,285.01	$ 1,285.01	$ 1,362.11	$ 1,362.11	$ 1,430.22
	$ 72.74	$ -	$ 77.10	$ -	$ 68.11
	(8,336)	(8,294)	(8,748)	(8,704)	(9,180)
	3,317,539	3,499,008	3,481,513	3,671,952	3,653,592
	199,052	-	208,891	-	182,680
	15,113	15,100	15,087	15,073	15,060
	18,972	20,009	19,909	20,998	20,893
	34,085	35,109	34,996	36,071	35,953

WORKING NOTES

	2017	2018	2019	2020	2021	2022	2023	2024	2025
		Cust	2,899	2,899	2,899	2,899			
	2017	2018	2019	2020	2021	2022	2023		
Shenandoah									
LESS: EOS - Wages & Benefits	0	-	-	-	-	740,000			0.15
LESS: EOS - Professional Services	0	0	0	0	-	380,000			0.5
LESS: EOS - Eliminated Expenses	0	0	0	0	-	-			
Shenandoah									
Wages			0	0	0	740,000			
Professional Services					0	380,000			
Eliminated Exp			0	0	0	0			

Shenandoah					included in OCN	= to DepX	
Reported CAPX - from the financials	0	0	413,879	276,344	527,649	222,858	

	2017	2018	2019	2020	2021		Assets	Per Books
GROSS Property, plant and equipment	-	-	-	-	19,380,636		19,380,636	-
Accumulated Depreciation	-	-	-	-	8,595,893		8,595,893	-
NET PPE	-	-	-	-	10,784,743		10,784,743	-
Total Debt	-	-	-	-	5,853,531		296,469	
Net Equity	-	-	-	-	7,266,174			
Investor Provided Capital	-	-	-	-	13,119,705			
Depreciation Rate	0.00%	0.00%	0.00%	#DIV/0!	1.53%			
Depreciation Expense	-	-	314,353	328,537	328,537	296,469.00	moved item from 2021 to 2022	

	2022	2023	2024	2025	2026		
CAPX	0	0	0	0	0	0	

WORKING NOTES

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Shenandoah												
LESS: EOS - Wages & Benefits		LESS: EOS - Wages & Wages & Benefits			15% savings	15%	0.15					
LESS: EOS - Professional Services		LESS: EOS - Professi Net Professional Services			50% savings	50%	0.5					
LESS: EOS - Eliminated Expenses		LESS: EOS - Elim Line Rentals			10% savings	100%	1					
Shenandoah												
Wages												
Professional Services												
Eliminated Exp												
Shenandoah												
Reported CAPX - from the financials												

	Difference
GROSS Property, plant and equipment	
Accumulated Depreciation	
NET PPE	10,784,743
Total Debt	
Net Equity	
Investor Provided Capital	
Depreciation Rate	
Depreciation Expense	
CAPX	

	2038	2039	2040	2041	2042
Shenandoah					
LESS: EOS - Wages & Benefits					
LESS: EOS - Professional Services					
LESS: EOS - Eliminated Expenses					
Shenandoah					
Wages					
Professional Services					
Eliminated Exp					
Shenandoah					
Reported CAPX - from the financials					
GROSS Property, plant and equipment					
Accumulated Depreciation					
NET PPE					
Total Debt					
Net Equity					
Investor Provided Capital					
Depreciation Rate					
Depreciation Expense					
CAPX					

WORKING NOTES

	2017	2018	2019	2020	2021	2022	2023	2024	2025
GROSS Property, plant and equipment	-	-	-		30,000,000	30,189,429	30,501,262	30,816,315	31,134,623
Accumulated Depreciation	-	-	-		-	296,075	616,988	941,214	1,268,790
NET PPE	-	-	-		30,000,000	29,893,354	29,884,274	29,875,101	29,865,833
Total Debt	-	-	-	-	-	5,853,531			
Net Equity	-	-	-	-	-	7,266,174			
Investor Provided Capital	-	-	-	-	-	13,119,705	-		
Depreciation / GROSS PPE	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	0.00%	1.24%			

				Muni CAPX	0	222,858	0	0	0
			IOU savings	0%			100%	100%	100%
				CAPX/Prior Yr. GROSS PPE			1.22%	1.22%	1.22%
				CAPX	527,649	222,858	366,862	370,651	374,480
				Dep rate	0.00%	1.24%	1.24%	1.24%	1.24%
				Half yr. Dep	0.00%	0.62%	0.62%	0.62%	0.62%
				Dep on CAPX	-	1,382	2,275	2,298	2,322
				Rate of retirement	15.0%	15.0%	15.0%	15.0%	15.0%
				Retired property	79,147	33,429	55,029	55,598	56,172
				Dep on Retired property	-	415	682	689	697
				Dep on Prior yr. GROSS	328,537	328,537	374,349	378,216	382,122
				Total Dep	328,537	329,504	375,942	379,824	383,748
Shenandoah									
Depreciation Expense	-	-	314,353	328,537	328,537				
				part of OCN					

				NET PPE			PURTA	0.001527765	
				Rev			Reg Assessment Fee	0.005652534	

					2021	2022	1 2023	2 2024	3 2025
Shenandoah									
	FIX CIP			CIP	$ -	$ -	$ -	$ -	$ -
					part of OCN	= to DepX			
					527,649	222,858			
									191

					2021	2022			
						-	-	-	-
Sewer Rental Charges	0	0	2,050,863	1,926,472	2,069,499	1,990,000	1,990,000	1,512,480	1,512,480
EDUs	0	0	0	0	3,288	3,288	3288	3288	3288
					0	0	0	0	0
		0	0	0	1644	3288	3288	3288	3288
	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	629.4096715				
						$ 460.00	$ 460.00	$ 460.00	$ 460.00
		#DIV/0!	#DIV/0!	#DIV/0!	1258.819343	605.2311436			

WORKING NOTES

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
GROSS Property, plant and equipment	31,456,219	31,781,137	32,109,410	32,441,075	32,776,165	33,114,717	33,456,765	33,802,347	34,151,498	34,504,256	34,860,658	35,220,741
Accumulated Depreciation	1,599,750	1,934,128	2,271,959	2,613,279	2,958,126	3,306,534	3,658,541	4,014,185	4,373,502	4,736,531	5,103,309	5,473,876
NET PPE	29,856,469	29,847,009	29,837,451	29,827,796	29,818,039	29,808,183	29,798,224	29,788,162	29,777,996	29,767,725	29,757,349	29,746,865
Total Debt												
Net Equity												
Investor Provided Capital												

Depreciation / GROSS PPE

	0	0										
	0	0	0	0	0	0	0	0	0	0	0	0
	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	1.22%	1.22%	1.22%	1.22%	1.22%	1.22%	1.22%	1.22%	1.22%	1.22%	1.22%	1.22%
	378,348	382,256	386,204	390,194	394,224	398,296	402,410	406,567	410,766	415,009	419,296	423,627
	1.24%	1.24%	1.24%	1.24%	1.24%	1.24%	1.24%	1.24%	1.24%	1.24%	1.24%	1.24%
	0.62%	0.62%	0.62%	0.62%	0.62%	0.62%	0.62%	0.62%	0.62%	0.62%	0.62%	0.62%
	2,346	2,370	2,394	2,419	2,444	2,469	2,495	2,521	2,547	2,573	2,600	2,626
	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%
	56,752	57,338	57,931	58,529	59,134	59,744	60,362	60,985	61,615	62,251	62,894	63,544
	704	711	718	726	733	741	748	756	764	772	780	788
	386,069	390,057	394,086	398,157	402,269	406,424	410,622	414,864	419,149	423,479	427,853	432,272
	387,712	391,716	395,762	399,850	403,980	408,153	412,369	416,629	420,932	425,280	429,673	434,110

Shenandoah

Depreciation Expense

	4 2026	5 2027	6 2028	7 2029	8 2030	9 2031	10 2032	11 2033	12 2034	13 2035	14 2036	15 2037
	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	71	72	56									
	-	(76,000.00)	(76,000.00)	(76,000.00)	(76,000.00)	(76,000.00)	(76,000.00)	(76,000.00)	(76,000.00)	(76,000.00)	(76,000.00)	(76,000.00)
Sewer Rental Charges	1,512,480											
EDUs	3288	3272	3256	3240	3224	3208	3192	3176	3160	3144	3128	3112
	0	-16	-16	-16	-16	-16	-16	-16	-16	-16	-16	-16
	3288											
	$ 460.00											

	2038	2039	2040	2041	2042
GROSS Property, plant and equipment	35,584,543	35,952,103	36,323,459	36,698,652	37,077,720
Accumulated Depreciation	5,848,271	6,226,533	6,608,701	6,994,818	7,384,923
NET PPE	29,736,272	29,725,570	29,714,758	29,703,834	29,692,797
Total Debt					
Net Equity					
Investor Provided Capital					

Depreciation / GROSS PPE

	0	0	0	0	0
	100%	100%	100%	100%	100%
	1.22%	1.22%	1.22%	1.22%	1.22%
	428,002	432,423	436,890	441,403	445,962
	1.24%	1.24%	1.24%	1.24%	1.24%
	0.62%	0.62%	0.62%	0.62%	0.62%
	2,654	2,681	2,709	2,737	2,765
	15.0%	15.0%	15.0%	15.0%	15.0%
	64,200	64,863	65,534	66,210	66,894
	796	804	813	821	829
	436,737	441,248	445,806	450,411	455,063
	438,595	443,125	447,702	452,327	456,999

Shenandoah

Depreciation Expense

	16 2038	17 2039	18 2040	19 2041	20 2042
	$ -	$ -	$ -	$ -	$ -
	(76,000.00)	(71,250.00)	(71,250.00)	(71,250.00)	(71,250.00)
Sewer Rental Charges					
EDUs	3096	3081	3066	3051	3036
	-16	-15	-15	-15	-15

WORKING NOTES

		2017	2018	2019	2020	2021	2022	2023	2024	2025
Shenandoah						C	2,899	-14		
						E	3,288	-16		
							0.88			
					1742000					
	Customer Growth						0	0	0	0
	Delivered to Customer			-	20.70	21	21	21	21	21
Shenandoah	Customers			2,899	2,899	2,899	2,899	2,899	2,899	2,899
	Total Revenue (Less TAP)			2,050,863	1,926,472	2,069,499	1,990,000	1,990,000	1,990,000	3,184,000
	avg CUST rev			707.44	664.53	713.87	686.44	686.44	686.44	1,098.31
	avg CUST flow			-	0	0	0	0	0	0
	avg EDU rev			#DIV/0!	#DIV/0!	629.41	605.23	605.23	605.23	968.37
	avg EDU flow			#DIV/0!	#DIV/0!	0	0	0	0	0
	Rev Calculated						2,069,499	1,990,000	1,990,000	1,990,000

		2022	2023	2024	2025
	Change			60.0%	
$	713.87	$ 686.44	$ 686.44	$ 1,098.31	$ 1,098.31
				$ 411.87	$ -
		-	-	-	3,184,000
		2,069,499	1,990,000	1,990,000	3,184,000
		-	-	1,194,000	-

Prior yr					
NET PURTA	0.1432%		42,807	42,794	42,781
REV Reg Assessment	0.5690%		11,323	11,323	18,117
			54,130	54,117	60,898

Municipal Authority of the Borough of Shenandoah Water System Assets	
Investor Provided	13,119,705
Gross PP&E	30,000,000
Net PP&E	30,000,000
Revenues	1,990,000
EBITDA	546,000
EBIT	216,496
Customers	2,899
Population	6,166

G PPE	-	-	30,000,000	30,189,429
NPPE	-	-	30,000,000	29,893,354

WORKING NOTES

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Shenandoah												
	0	-0.50%	-0.50%	-0.50%	-0.50%	-0.50%	-0.50%	-0.50%	-0.50%	-0.50%	-0.50%	-0.50%
	21	21	20	20	20	20	20	20	20	20	20	20
Shenandoah	2,899	2,885	2,870	2,856	2,841	2,827	2,813	2,799	2,785	2,771	2,757	2,743
	3,184,000	3,176,040	3,318,168	3,301,577	3,285,069	3,432,076	3,414,916	3,397,841	3,549,894	3,532,145	3,514,484	3,706,726
	100.00%			100.00%								
	1,098.31	1,101.07	1,156.12	1,156.12	1,156.12	1,213.93	1,213.93	1,213.93	1,274.63	1,274.63	1,274.63	1,351.10
	0	0	0	0	0	0	0	0	0	0	0	0
	968.37	970.67	1,019.09	1,019.01	1,018.94	1,069.85	1,069.84	1,069.85	1,123.38	1,123.46	1,123.56	1,191.11
	0	0	0	0	0	0	0	0	0	0	0	0
	3,184,000	3,176,040	3,168,100	3,309,873	3,293,323	3,276,856	3,423,496	3,406,379	3,389,346	3,541,019	3,523,315	3,505,698

2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
	5.0%			5.0%			5.0%			6.0%	
$ 1,098.31	$ 1,153.23	$ 1,153.23	$ 1,153.23	$ 1,210.89	$ 1,210.89	$ 1,210.89	$ 1,271.43	$ 1,271.43	$ 1,271.43	$ 1,347.72	$ 1,347.72
$ -	$ 54.92	$ -	$ -	$ 57.66	$ -	$ -	$ 60.54	$ -	$ -	$ 76.29	$ -
-	(7,960)	(7,940)	(8,295)	(8,254)	(8,213)	(8,580)	(8,537)	(8,495)	(8,875)	(8,830)	(8,786)
3,184,000	3,176,040	3,318,168	3,301,577	3,285,069	3,432,076	3,414,916	3,397,841	3,549,894	3,532,145	3,514,484	3,706,726
-	158,802	-	-	164,253	-	-	169,892	-	-	210,869	-
42,768	42,754	42,741	42,727	42,713	42,699	42,685	42,671	42,657	42,642	42,627	42,613
18,117	18,117	18,975	18,880	18,786	19,627	19,529	19,431	20,300	20,199	20,098	21,197
60,885	60,871	61,716	61,607	61,499	62,326	62,214	62,102	62,957	62,841	62,725	63,810

	2038	2039	2040	2041	2042
Shenandoah					
	-0.50%	-0.50%	-0.50%	-0.50%	-0.50%
	19	19	19	19	19
Shenandoah	2,730	2,716	2,703	2,689	2,676
	3,688,193	3,853,239	3,833,973	4,005,544	3,985,516
	1,351.10	1,418.66	1,418.66	1,489.59	1,489.59
	0	0	0	0	0
	1,191.28	1,250.65	1,250.48	1,312.86	1,312.75
	0	0	0	0	0
	3,697,459	3,678,973	3,843,606	3,824,388	3,995,530

	2038	2039	2040	2041	2042
	5.0%		5.0%		4.8%
	$ 1,415.10	$ 1,415.10	$ 1,485.86	$ 1,485.86	$ 1,557.18
	$ 67.39	$ -	$ 70.76	$ -	$ 71.32
	(9,267)	(9,220)	(9,633)	(9,585)	(10,014)
	3,688,193	3,853,239	3,833,973	4,005,544	3,985,516
	184,410	-	191,699	-	191,305
	42,598	42,582	42,567	42,552	42,536
	21,091	22,035	21,925	22,906	22,792
	63,689	64,617	64,492	65,458	65,328

WORKING NOTES

	2017	2018	2019	2020	2021	2022	2023	2024	2025
	Cust		2,899	2,899	2,899	2,899			
	2017	2018	2019	2020	2021	2022	2023		
Shenandoah									
LESS: EOS - Wages & Benefits	0	-	-	-	-	740,000			0.15
LESS: EOS - Professional Services	0	0	0	0	-	380,000			0.5
LESS: EOS - Eliminated Expenses	0	0	0	0	-	-			
Shenandoah									
Wages			0	0	0	740,000			
Professional Services					0	380,000			
Eliminated Exp			0	0	0	0			

Shenandoah					included in OCN	= to DepX	
Reported CAPX - from the financials	0	0	413,879	276,344	527,649	222,858	

	2017	2018	2019	2020	2021		Assets	Per Books
GROSS Property, plant and equipment	-	-	-	-	30,000,000		30,000,000	-
Accumulated Depreciation	-	-	-	-	-		-	-
NET PPE	-	-	-	-	30,000,000		30,000,000	-
Total Debt	-	-	-	-	5,853,531		372,000	
Net Equity	-	-	-	-	7,266,174			
Investor Provided Capital	-	-	-	-	13,119,705			
Depreciation Rate	0.00%	0.00%	0.00%	#DIV/0!	1.24%			
Depreciation Expense	-	-	314,353	328,537	328,537	372,000.00	moved item from 2021 to 2022	

	2022	2023	2024	2025	2026	
CAPX	0	0	0	0	0	0

WORKING NOTES

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Shenandoah												
LESS: EOS - Wages & Benefits		LESS: EOS - Wages & Wages & Benefits			15% savings	15%	0.15					
LESS: EOS - Professional Services		LESS: EOS - Professi Net Professional Services			50% savings	50%	0.5					
LESS: EOS - Eliminated Expenses		LESS: EOS - Elim Line Rentals			10% savings	100%	1					
Shenandoah												
Wages												
Professional Services												
Eliminated Exp												
Shenandoah												
Reported CAPX - from the financials												

	Difference
GROSS Property, plant and equipment	
Accumulated Depreciation	
NET PPE	30,000,000
Total Debt	
Net Equity	
Investor Provided Capital	
Depreciation Rate	
Depreciation Expense	
CAPX	

	2038	2039	2040	2041	2042
Shenandoah					
LESS: EOS - Wages & Benefits					
LESS: EOS - Professional Services					
LESS: EOS - Eliminated Expenses					
Shenandoah					
Wages					
Professional Services					
Eliminated Exp					
Shenandoah					
Reported CAPX - from the financials					
GROSS Property, plant and equipment					
Accumulated Depreciation					
NET PPE					
Total Debt					
Net Equity					
Investor Provided Capital					
Depreciation Rate					
Depreciation Expense					
CAPX					

WORKING NOTES

	2017	2018	2019	2020	2021	2022	2023	2024	2025
GROSS Property, plant and equipment	-	-	-		30,000,000	30,189,429	30,501,262	30,816,315	31,134,623
Accumulated Depreciation	-	-	-		-	296,075	616,988	941,214	1,268,790
NET PPE	-	-	-		30,000,000	29,893,354	29,884,274	29,875,101	29,865,833
Total Debt	-	-	-	-	-	5,853,531			
Net Equity	-	-	-	-	-	7,266,174			
Investor Provided Capital	-	-	-	-	-	13,119,705	-		
Depreciation / GROSS PPE	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	0.00%	1.24%			

				Muni CAPX	0	222,858	0	0	0
			IOU savings	0%			100%	100%	100%
				CAPX/Prior Yr. GROSS PPE			1.22%	1.22%	1.22%
				CAPX	527,649	222,858	366,862	370,651	374,480
				Dep rate	0.00%	1.24%	1.24%	1.24%	1.24%
				Half yr. Dep	0.00%	0.62%	0.62%	0.62%	0.62%
				Dep on CAPX	-	1,382	2,275	2,298	2,322
				Rate of retirement	15.0%	15.0%	15.0%	15.0%	15.0%
				Retired property	79,147	33,429	55,029	55,598	56,172
				Dep on Retired property	-	415	682	689	697
				Dep on Prior yr. GROSS	328,537	328,537	374,349	378,216	382,122
				Total Dep	328,537	329,504	375,942	379,824	383,748
Shenandoah									
Depreciation Expense	-	-	314,353	328,537	328,537				
				part of OCN					

				NET PPE			PURTA	0.001527765	
				Rev			Reg Assessment Fee	0.005652534	
					2021	2022	1 2023	2 2024	3 2025
	Shenandoah								
	FIX CIP			CIP	$ -	$ -	$ -	$ -	$ -
					part of OCN	= to DepX			
					527,649	222,858			
									191

					2021	2022			
						-	-	-	-
Sewer Rental Charges	0	0	2,050,863	1,926,472	2,069,499	1,990,000	1,990,000	1,512,480	1,512,480
EDUs	0	0	0	0	3,288	3,288	3288	3288	3288
					0	0	0	0	0
		0	0	0	1644	3288	3288	3288	3288
	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	629.4096715				
						$ 460.00	$ 460.00	$ 460.00	$ 460.00
		#DIV/0!	#DIV/0!	#DIV/0!	1258.819343	605.2311436			

WORKING NOTES

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
GROSS Property, plant and equipment	31,456,219	31,781,137	32,109,410	32,441,075	32,776,165	33,114,717	33,456,765	33,802,347	34,151,498	34,504,256	34,860,658	35,220,741
Accumulated Depreciation	1,599,750	1,934,128	2,271,959	2,613,279	2,958,126	3,306,534	3,658,541	4,014,185	4,373,502	4,736,531	5,103,309	5,473,876
NET PPE	29,856,469	29,847,009	29,837,451	29,827,796	29,818,039	29,808,183	29,798,224	29,788,162	29,777,996	29,767,725	29,757,349	29,746,865
Total Debt												
Net Equity												
Investor Provided Capital												

Depreciation / GROSS PPE

	0	0										
	0	0	0	0	0	0	0	0	0	0	0	0
	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	1.22%	1.22%	1.22%	1.22%	1.22%	1.22%	1.22%	1.22%	1.22%	1.22%	1.22%	1.22%
	378,348	382,256	386,204	390,194	394,224	398,296	402,410	406,567	410,766	415,009	419,296	423,627
	1.24%	1.24%	1.24%	1.24%	1.24%	1.24%	1.24%	1.24%	1.24%	1.24%	1.24%	1.24%
	0.62%	0.62%	0.62%	0.62%	0.62%	0.62%	0.62%	0.62%	0.62%	0.62%	0.62%	0.62%
	2,346	2,370	2,394	2,419	2,444	2,469	2,495	2,521	2,547	2,573	2,600	2,626
	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%
	56,752	57,338	57,931	58,529	59,134	59,744	60,362	60,985	61,615	62,251	62,894	63,544
	704	711	718	726	733	741	748	756	764	772	780	788
	386,069	390,057	394,086	398,157	402,269	406,424	410,622	414,864	419,149	423,479	427,853	432,272
	387,712	391,716	395,762	399,850	403,980	408,153	412,369	416,629	420,932	425,280	429,673	434,110

Shenandoah

Depreciation Expense

	4 2026	5 2027	6 2028	7 2029	8 2030	9 2031	10 2032	11 2033	12 2034	13 2035	14 2036	15 2037
	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	71	72	56									
	-	(76,000.00)	(76,000.00)	(76,000.00)	(76,000.00)	(76,000.00)	(76,000.00)	(76,000.00)	(76,000.00)	(76,000.00)	(76,000.00)	(76,000.00)
Sewer Rental Charges	1,512,480											
EDUs	3288	3272	3256	3240	3224	3208	3192	3176	3160	3144	3128	3112
	0	-16	-16	-16	-16	-16	-16	-16	-16	-16	-16	-16
	3288											
	$ 460.00											

	2038	2039	2040	2041	2042
GROSS Property, plant and equipment	35,584,543	35,952,103	36,323,459	36,698,652	37,077,720
Accumulated Depreciation	5,848,271	6,226,533	6,608,701	6,994,818	7,384,923
NET PPE	29,736,272	29,725,570	29,714,758	29,703,834	29,692,797
Total Debt					
Net Equity					
Investor Provided Capital					

Depreciation / GROSS PPE

	0	0	0	0	0
	100%	100%	100%	100%	100%
	1.22%	1.22%	1.22%	1.22%	1.22%
	428,002	432,423	436,890	441,403	445,962
	1.24%	1.24%	1.24%	1.24%	1.24%
	0.62%	0.62%	0.62%	0.62%	0.62%
	2,654	2,681	2,709	2,737	2,765
	15.0%	15.0%	15.0%	15.0%	15.0%
	64,200	64,863	65,534	66,210	66,894
	796	804	813	821	829
	436,737	441,248	445,806	450,411	455,063
	438,595	443,125	447,702	452,327	456,999

Shenandoah

Depreciation Expense

	16 2038	17 2039	18 2040	19 2041	20 2042
	$ -	$ -	$ -	$ -	$ -
	(76,000.00)	(71,250.00)	(71,250.00)	(71,250.00)	(71,250.00)
Sewer Rental Charges					
EDUs	3096	3081	3066	3051	3036
	-16	-15	-15	-15	-15

WORKING NOTES

	2017	2018	2019	2020	2021	2022	2023	2024	2025
Shenandoah					C	2,899	-14		
					E	3,288	-16		
						0.88			
				1742000					
		Customer Growth				0	0	0	0
		Delivered to Customer	-	20.70	21	21	21	21	21
Shenandoah		Customers	2,899	2,899	2,899	2,899	2,899	2,899	2,899
		Total Revenue (Less TAP)	2,050,863	1,926,472	2,069,499	1,990,000	1,990,000	1,990,000	4,278,500
		avg CUST rev	707.44	664.53	713.87	686.44	686.44	686.44	1,475.85
		avg CUST flow	-	0	0	0	0	0	0
		avg EDU rev	#DIV/0!	#DIV/0!	629.41	605.23	605.23	605.23	1,301.25
		avg EDU flow	#DIV/0!	#DIV/0!	0	0	0	0	0
		Rev Calculated				2,069,499	1,990,000	1,990,000	1,990,000

	2022	2023	2024	2025
Change			115.0%	
	$ 686.44	$ 686.44	$ 1,475.85	$ 1,475.85
			$ 789.41	$ -
	-	-	-	4,278,500
	2,069,499	1,990,000	1,990,000	4,278,500
	-	-	2,288,500	-

Prior yr				
NET PURTA	0.1432%	42,807	42,794	42,781
REV Reg Assessment	0.5690%	11,323	11,323	24,345
		54,130	54,117	67,126

Municipal Authority of the Borough of Shenandoah Water System Assets	
Investor Provided	13,119,705
Gross PP&E	30,000,000
Net PP&E	30,000,000
Revenues	1,990,000
EBITDA	546,000
EBIT	216,496
Customers	2,899
Population	6,166

G PPE	-	-	30,000,000	30,189,429
NPPE	-	-	30,000,000	29,893,354

WORKING NOTES

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Shenandoah												
	0	-0.50%	-0.50%	-0.50%	-0.50%	-0.50%	-0.50%	-0.50%	-0.50%	-0.50%	-0.50%	-0.50%
	21	21	20	20	20	20	20	20	20	20	20	20
Shenandoah	2,899	2,885	2,870	2,856	2,841	2,827	2,813	2,799	2,785	2,771	2,757	2,743
	4,278,500	4,267,804	4,501,253	4,478,746	4,456,353	4,655,774	4,632,496	4,609,333	4,815,601	4,791,523	4,767,565	5,028,351
	100.00%			100.00%								
	1,475.85	1,479.56	1,568.34	1,568.34	1,568.34	1,646.75	1,646.75	1,646.75	1,729.09	1,729.09	1,729.09	1,832.84
	0	0	0	0	0	0	0	0	0	0	0	0
	1,301.25	1,304.34	1,382.45	1,382.33	1,382.24	1,451.30	1,451.28	1,451.30	1,523.92	1,524.02	1,524.16	1,615.79
	0	0	0	0	0	0	0	0	0	0	0	0
	4,278,500	4,267,804	4,257,134	4,490,000	4,467,549	4,445,212	4,644,135	4,620,915	4,597,810	4,803,562	4,779,544	4,755,646

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
		6.0%			5.0%			5.0%			6.0%	
	$ 1,475.85	$ 1,564.40	$ 1,564.40	$ 1,564.40	$ 1,642.63	$ 1,642.63	$ 1,642.63	$ 1,724.76	$ 1,724.76	$ 1,724.76	$ 1,828.24	$ 1,828.24
	$ -	$ 88.55	$ -	$ -	$ 78.22	$ -	$ -	$ 82.13	$ -	$ -	$ 103.49	$ -
	-	(10,696)	(10,670)	(11,253)	(11,197)	(11,141)	(11,639)	(11,581)	(11,523)	(12,039)	(11,979)	(11,919)
	4,278,500	4,267,804	4,501,253	4,478,746	4,456,353	4,655,774	4,632,496	4,609,333	4,815,601	4,791,523	4,767,565	5,028,351
	-	256,068	-	-	222,818	-	-	230,467	-	-	286,054	-
	42,768	42,754	42,741	42,727	42,713	42,699	42,685	42,671	42,657	42,642	42,627	42,613
	24,345	24,345	25,741	25,612	25,484	26,624	26,491	26,359	27,538	27,401	27,264	28,755
	67,113	67,099	68,482	68,339	68,197	69,323	69,176	69,030	70,195	70,043	69,891	71,368

	2038	2039	2040	2041	2042
Shenandoah					
	-0.50%	-0.50%	-0.50%	-0.50%	-0.50%
	19	19	19	19	19
Shenandoah	2,730	2,716	2,703	2,689	2,676
	5,003,209	5,177,321	5,151,434	5,330,704	5,304,051
	1,832.84	1,906.15	1,906.15	1,982.39	1,982.39
	0	0	0	0	0
	1,616.02	1,680.40	1,680.18	1,747.20	1,747.05
	0	0	0	0	0
	5,015,780	4,990,701	5,164,378	5,138,555	5,317,377

	2038	2039	2040	2041	2042
	4.0%		4.0%		4.0%
	$ 1,901.37	$ 1,901.37	$ 1,977.43	$ 1,977.43	$ 2,056.52
	$ 73.13	$ -	$ 76.05	$ -	$ 79.10
	(12,571)	(12,508)	(12,943)	(12,879)	(13,327)
	5,003,209	5,177,321	5,151,434	5,330,704	5,304,051
	200,128	-	206,057	-	212,162
	42,598	42,582	42,567	42,552	42,536
	28,611	29,607	29,459	30,484	30,332
	71,209	72,189	72,026	73,036	72,868

WORKING NOTES

	2017	2018	2019	2020	2021	2022	2023	2024	2025
	Cust		2,899	2,899	2,899	2,899			
	2017	2018	2019	2020	2021	2022	2023		
Shenandoah									
LESS: EOS - Wages & Benefits	0	-	-	-	-	740,000			0.15
LESS: EOS - Professional Services	0	0	0	0	-	380,000			0.5
LESS: EOS - Eliminated Expenses	0	0	0	0	-	-			
Shenandoah									
Wages			0	0	0	740,000			
Professional Services					0	380,000			
Eliminated Exp			0	0	0	0			

Shenandoah					included in OCN	= to DepX	
Reported CAPX - from the financials	0	0	413,879	276,344	527,649	222,858	

	2017	2018	2019	2020	2021		Assets	Per Books
GROSS Property, plant and equipment	-	-	-	-	30,000,000		30,000,000	-
Accumulated Depreciation	-	-	-	-	-		-	-
NET PPE	-	-	-	-	30,000,000		30,000,000	-
Total Debt	-	-	-	-	5,853,531		372,000	
Net Equity	-	-	-	-	7,266,174			
Investor Provided Capital	-	-	-	-	13,119,705			
Depreciation Rate	0.00%	0.00%	0.00%	#DIV/0!	1.24%			
Depreciation Expense	-	-	314,353	328,537	328,537	372,000.00	moved item from 2021 to 2022	

	2022	2023	2024	2025	2026	
CAPX	0	0	0	0	0	0

WORKING NOTES

	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Shenandoah												
LESS: EOS - Wages & Benefits		LESS: EOS - Wages & Wages & Benefits			15% savings	15%	0.15					
LESS: EOS - Professional Services		LESS: EOS - Professi Net Professional Services			50% savings	50%	0.5					
LESS: EOS - Eliminated Expenses		LESS: EOS - Elim Line Rentals			10% savings	100%	1					
Shenandoah												
Wages												
Professional Services												
Eliminated Exp												
Shenandoah												
Reported CAPX - from the financials												

	Difference
GROSS Property, plant and equipment	
Accumulated Depreciation	
NET PPE	30,000,000
Total Debt	
Net Equity	
Investor Provided Capital	
Depreciation Rate	
Depreciation Expense	
CAPX	

	2038	2039	2040	2041	2042
Shenandoah					
LESS: EOS - Wages & Benefits					
LESS: EOS - Professional Services					
LESS: EOS - Eliminated Expenses					
Shenandoah					
Wages					
Professional Services					
Eliminated Exp					
Shenandoah					
Reported CAPX - from the financials					
GROSS Property, plant and equipment					
Accumulated Depreciation					
NET PPE					
Total Debt					
Net Equity					
Investor Provided Capital					
Depreciation Rate					
Depreciation Expense					
CAPX					

The Municipal Authority of the Borough of Shenandoah Water System Assets

Total Debt	5853531	6088197	6313564
Purchase of Capital Assets	527649	276344	413879

	2021	2020	2019
Income (Loss) Before Transfers	-119381	-310450	-39689
Interest paid	242248	250141	258973
Depreciation	328537	328537	314353
Total Source	$451,404	$268,228	$533,637
Income tax	0	0	0
Principal	234665	225367	216436
Interest paid	242248	250141	258973
Total Use	$476,913	$475,508	$475,409

W/Out Trans

Debt Service Coverage	0.95	0.56	1.12
Pre-Tax Interest Coverage - Including AFC(3)(x)	0.51	-0.24	0.85
Post-Tax Interest Coverage - Including AFC(3)(x)	0.51	-0.24	0.85
GCF / Interest Coverage(4)(x)	1.86	1.07	2.06
GCF / Tot. Debt(7)(%)	3.57	0.30	4.35
GCF / Construction(6)(%)	39.64	6.55	66.36

Comparable Group

Debt Service Coverage - As Reported

Comparable Group	2021	2020	2019
AMERICAN STATES WATER COMPANY	3.1	1.6	2.2
AMERICAN WATER WORKS COMPANY, INC.	3.0	2.3	1.8
ARTESIAN RESOURCES CORPORATION	3.9	3.8	3.7
CALIFORNIA WATER SERVICE GROUP	5.1	3.6	0.4
ESSENTIAL UTILITIES, INC.	1.0	0.4	0.4
MIDDLESEX WATER COMPANY	1.2	4.5	4.0
SJW GROUP	1.6	2.5	3.7
THE YORK WATER COMPANY	0.7	0.7	0.3
Median	2.3	2.4	2.0

Company Name	2021 DEPRECIATION	2020 DEPRECIATION	2019 DEPRECIATION	2021 TOTAL INTERST EXPENSE	2020 TOTAL INTERST EXPENSE	2019 TOTAL INTERST EXPENSE
AMERICAN STATES WATER COMPANY	39.974	37.204	35.713	22.834	22.531	24.586
AMERICAN WATER WORKS COMPANY, INC.	636.000	604.000	582.000	403.000	397.000	386.000
ARTESIAN RESOURCES CORPORATION	11.885	11.143	10.803	7.592	7.619	7.024
CALIFORNIA WATER SERVICE GROUP	111.581	100.935	91.288	44.980	45.047	44.891
ESSENTIAL UTILITIES, INC.	297.952	257.059	156.476	207.709	188.435	149.125
MIDDLESEX WATER COMPANY	26.799	20.838	17.232	8.114	7.493	7.264
SJW GROUP	96.474	91.622	68.489	54.339	54.255	31.796
THE YORK WATER COMPANY	8.859	8.177	7.688	4.926	4.707	5.124

	2021 INCOME TO PREF+COMM	2020 INCOME TO PREF+COMM	2019 INCOME TO PREF+COMM	2021 REPAY LT DEBT	2020 REPAY LT DEBT	2019 REPAY LT DEBT
AMERICAN STATES WATER COMPANY	22.834	22.531	24.586	28.356	71.136	40.325
AMERICAN WATER WORKS COMPANY, INC.	403.000	397.000	386.000	372.000	342.000	495.000
ARTESIAN RESOURCES CORPORATION	7.592	7.619	7.024	1.825	1.772	1.725
CALIFORNIA WATER SERVICE GROUP	44.980	45.047	44.891	5.353	22.141	405.568
ESSENTIAL UTILITIES, INC.	207.709	188.435	149.125	769.546	1,820.571	1,073.708
MIDDLESEX WATER COMPANY	8.114	7.493	7.264	52.691	7.472	7.343
SJW GROUP	54.339	54.255	31.796	76.113	28.931	1.400
THE YORK WATER COMPANY	4.926	4.707	5.124	37.649	39.628	85.906

Company Name	Pretax Operating Income			Interest expense			Net Income		
	2021	2020	2019	2021	2020	2019	2021	2020	2019
AMERICAN STATES WATER CO	147.604	137.153	133.598	22.834	22.531	24.586	94.347	86.425	84.342
AMERICAN WATER WORKS CO INC	2,043.000	1,321.000	1,219.000	403.000	397.000	386.000	1,263.000	709.000	621.000
ARTESIAN RESOURCES -CL A	30.156	30.120	27.130	7.592	7.619	7.024	16.827	16.817	14.925
CALIFORNIA WATER SERVICE GP	150.197	153.896	125.678	44.980	45.047	44.891	101.125	96.831	63.116
ESSENTIAL UTILITIES, INC.	629.709	453.406	360.651	207.709	188.435	149.125	431.612	284.849	224.543
MIDDLESEX WATER CO	39.169	41.799	38.012	8.114	7.493	7.264	36.543	38.425	33.888
SJW GROUP	123.186	124.150	63.653	54.339	54.255	31.796	60.478	61.515	23.403
YORK WATER CO	23.030	23.323	21.766	4.926	4.707	5.124	16.984	16.598	14.402

Company Name	Gross Cash Flow			Total debt			CAPX		
	2021	2020	2019	2021	2020	2019	2021	2020	2019
AMERICAN STATES WATER CO	137.882	125.872	126.678	629.017	586.555	499.928	144.515	130.423	151.940
AMERICAN WATER WORKS CO INC	2,119.000	1,507.000	1,398.000	11,077.000	11,025.000	9,547.000	1,764.000	1,822.000	1,654.000
ARTESIAN RESOURCES -CL A	30.266	24.401	21.079	172.029	171.460	153.846	40.814	34.277	40.677
CALIFORNIA WATER SERVICE GP	211.586	206.596	168.402	1,111.389	1,171.852	998.102	293.194	298.651	273.770
ESSENTIAL UTILITIES, INC.	700.258	511.439	354.411	6,114.443	5,777.606	3,097.913	1,020.519	835.642	550.273
MIDDLESEX WATER CO	61.981	52.811	46.410	331.418	287.541	263.687	79.378	105.619	89.125
SJW GROUP	149.679	143.507	86.320	1,595.037	1,538.915	1,423.078	233.933	195.323	164.325
YORK WATER CO	25.316	24.333	22.365	148.455	126.304	103.282	46.400	33.299	20.537

Company Name	Pretax Interest Coverage			Posttax Interest Coverage			GCF Interest Coverage		
	2021	2020	2019	2021	2020	2019	2021	2020	2019
AMERICAN STATES WATER CO	6.5	6.1	5.4	5.1	4.8	4.4	7.0	6.6	6.2
AMERICAN WATER WORKS CO INC	5.1	3.3	3.2	4.1	2.8	2.6	6.3	4.8	4.6
ARTESIAN RESOURCES -CL A	4.0	4.0	3.9	3.2	3.2	3.1	5.0	4.2	4.0
CALIFORNIA WATER SERVICE GP	3.3	3.4	2.8	3.2	3.1	2.4	5.7	5.6	4.8
ESSENTIAL UTILITIES, INC.	3.0	2.4	2.4	3.1	2.5	2.5	4.4	3.7	3.4
MIDDLESEX WATER CO	4.8	5.6	5.2	5.5	6.1	5.7	8.6	8.0	7.4
SJW GROUP	2.3	2.3	2.0	2.1	2.1	1.7	3.8	3.6	3.7
YORK WATER CO	4.7	5.0	4.2	4.4	4.5	3.8	6.1	6.2	5.4
Median	4.4	3.7	3.6	3.7	3.2	2.9	5.9	5.2	4.7

Company Name	GCF To Debt			GCF To CAPX		
	2021	2020	2019	2021	2020	2019
AMERICAN STATES WATER CO	21.9	21.5	25.3	95.4	96.5	83.4
AMERICAN WATER WORKS CO INC	19.1	13.7	14.6	120.1	82.7	84.5
ARTESIAN RESOURCES -CL A	17.6	14.2	13.7	74.2	71.2	51.8
CALIFORNIA WATER SERVICE GP	19.0	17.6	16.9	72.2	69.2	61.5
ESSENTIAL UTILITIES, INC.	11.5	8.9	11.4	68.6	61.2	64.4
MIDDLESEX WATER CO	18.7	18.4	17.6	78.1	50.0	52.1
SJW GROUP	9.4	9.3	6.1	64.0	73.5	52.5
YORK WATER CO	17.1	19.3	21.7	54.6	73.1	108.9
Median	18.2	15.9	15.8	73.2	72.2	63.0

	2021	2020	2019
Pre-Tax Interest Coverage - Including AFC(3)(x)	4.4	3.7	3.6
Post-Tax Interest Coverage - Including AFC(3)(x)	3.7	3.2	2.9
GCF / Interest Coverage(4)(x)	5.9	5.2	4.7
GCF / Tot. Debt(7)(%)	18.2	15.9	15.8
GCF / Construction(6)(%)	73.2	72.2	63.0

Bulletin No. 195

1912 to January 1, 2022

The Handy-Whitman Index® of Public Utility Construction Costs™

Trends of Construction Costs

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TRENDS OF PUBLIC UTILITY CONSTRUCTION COSTS

GEOGRAPHIC REGIONS



	BCWSA			ACSA			ALTOONA WATER AUTHORITY			CRWA		
	2020	**2019**	**2018**	**2020**	**2019**	**2018**	**2020**	**2019**	**2018**	**2020**	**2019**	**2018**
NET Property, plant and equipment	457,544,068	453,174,193	444,814,214	643,502,136	629,097,945	622,343,318	94,458,106	100,528,196	106,598,286	224,285,248	203,420,262	178,131,377
Operating Income	17,944,985	19,821,564	15,116,318	80,147,473	75,382,370	68,023,690	4,082,275	6,157,037	14,022,174	19,083,482	21,336,089	20,313,529
ROR/N PPE	3.92%	4.37%	3.40%	12.45%	11.98%	10.93%	4.32%	6.12%	13.15%	8.51%	10.49%	11.40%
3-Year Average	3.90%			11.79%			7.87%			10.13%		
Median of Each Year		5.08%										
Median of Each Entity		5.42%										
Conclusion			5.25%									

	CHESTER WATER AUTHORITY			ERIE CITY WATER AUTHORITY			LASA*			RAWA		
	2020	**2019**	**2018**	**2020**	**2019**	**2018**	**2020**	**2019**	**2018**	**2020**	**2019**	**2018**
NET Property, plant and equipment	280,862,318	282,920,765	277,881,505	200,008,941	194,099,358	191,070,499	147,014,498	140,405,221	142,318,075	63,336,954	66,455,706	64,973,550
Operating Income	4,928,913	4,705,194	1,487,430	13,461,619	9,549,652	10,005,109	6,069,056	6,901,580	6,054,460	3,653,656	3,556,133	2,945,874
ROR/N PPE	1.75%	1.66%	0.54%	6.73%	4.92%	5.24%	4.13%	4.92%	4.25%	5.77%	5.35%	4.53%
3-Year Average	1.32%			5.63%			4.43%			5.22%		
								* Fiscal year 3/31				
Median of Each Year												
Median of Each Entity												
Conclusion												

	WCMA*			PITTSBURGH WATER & SEWER		
	2020	**2019**	**2018**	**2020**	**2019**	**2018**
NET Property, plant and equipment	617,498,278	590,631,677	554,245,152	921,650,000	830,578,000	757,480,000
Operating Income	26,537,557	23,281,341	27,079,696	50,831,000	65,808,000	61,660,000
ROR/N PPE	4.30%	3.94%	4.89%	5.52%	7.92%	8.14%
3-Year Average	4.38%			7.19%		

*Fiscal Year 3/31

Median of Each Year

Median of Each Entity

Conclusion

BUCKS COUNTY WATER AND SEWER AUTHORITY
STATEMENTS OF NET POSITION
YEARS ENDED DECEMBER 31, 2020 AND 2019

	2020	2019
ASSETS		
Current Assets		
Cash and Cash Equivalents	$ 5,872,075	$ 5,870,876
Investments	17,122,426	23,051,730
Accounts Receivable, Net of Allowance for Doubtful Accounts	8,310,705	6,175,101
Unbilled Revenue Receivable	9,768,802	9,020,572
Prepaid Expenses	729,044	692,186
Total Current Assets	41,803,052	44,810,465
Non-Current Assets		
Restricted Assets		
Cash and Cash Equivalents	3,617,503	3,922,837
Investments	63,732,897	60,095,138
Interest Receivable	920,477	748,766
Total Restricted Assets	68,270,877	64,766,741
Capital Assets		
Land, Rights-of-Way and Construction in Progress	81,292,208	77,851,553
Other Capital Assets, Net of Accumulated Depreciation	376,251,860	375,322,640
Total Capital Assets, Net	457,544,068	453,174,193
Total Non-Current Assets	525,814,945	517,940,934
Total Assets	567,617,997	562,751,399
Deferred Outflows of Resources		
Deferred Amount from Debt Refundings	7,790,319	8,818,011
Pension: Changes in Assumptions	591,106	591,106
Pension: Difference Between Expected and Actual Experience	805,127	805,127
Pension: Difference Between Projected and Actual Earnings on Investments	1,691,386	1,691,386
Pension: Contributions Made Subsequent to Measurement Date	4,326,752	4,326,752
OPEB: Difference Between Expected and Actual Experience	26,180	34,877
OPEB: Difference Between Projected and Actual Earnings on Plan Investments	-	1,972
Total Deferred Outflows of Resources	15,230,870	16,269,231
LIABILITIES AND NET POSITION		
Current Liabilities		
Accounts Payable and Accrued Expenses	12,749,312	11,887,091
Current Portion of Bonds Payable	22,375,000	21,345,000
Interest Payable	745,039	803,887
Total Current Liabilities	35,869,351	34,035,978
Non-Current Liabilities		
Customer and Developer Deposits	3,613,254	3,715,610
Bonds Payable, Net of Unamortized Bond Discount and Premium	223,030,306	233,209,683
Net Pension Liability	1,880,256	1,880,256
Net OPEB Liability	4,026,011	3,953,798
Total Non-Current Liabilities	232,549,827	242,759,347
Total Liabilities	268,419,178	276,795,325
Deferred Inflows of Resources		
Pension: Changes in Assumptions	32,118	32,118
OPEB: Changes in Assumptions	241,345	321,526
OPEB: Difference Between Projected and Actual Earnings on Investments	86,429	-
Proceeds from Sale of Future Revenues	3,795,454	3,967,975
Total Deferred Inflows of Resources	4,155,346	4,321,619
Net Position		
Net Investment in Capital Assets	229,523,791	216,079,031
Restricted for Capital Activity	15,719,591	12,077,609
Restricted for Debt Service	31,553,004	31,514,000
Unrestricted	33,477,957	38,233,046
Total Net Position	$ 310,274,343	$ 297,903,686

See accompanying notes to the financial statements.

BUCKS COUNTY WATER AND SEWER AUTHORITY
STATEMENTS OF REVENUES, EXPENSES,
AND CHANGES IN NET POSITION
YEARS ENDED DECEMBER 31, 2020 AND 2019

	2020	2019
Operating Revenues		
Retail Sewer Service	$ 54,861,161	$ 49,612,675
Wholesale Sewer Service	14,337,247	20,728,839
Retail Water Service	11,747,314	11,481,175
Wholesale Water Service	4,663,441	4,315,851
Improvement and Tapping Fees	263,705	580,375
Other Revenues	3,557,822	5,875,885
Total Operating Revenues	89,430,690	92,594,800
Expenses		
Operating Expenses		
Sewage Treatment and Water Procurement		
Sewage Treatment	19,678,584	20,534,850
Water Procurement	5,736,644	5,352,970
Total Sewage Treatment and Water Procurement	25,415,228	25,887,820
Plant Operations		
Payroll and Related Costs	2,732,227	1,927,213
Repairs and Maintenance	1,945,504	1,292,778
Electricity	521,131	405,213
Water and Sewage Testing	249,680	256,279
Total Plant Operations	5,448,542	3,881,483
Collection, Transmission and Distribution Service		
Payroll and Related Costs	8,845,809	9,070,825
Repairs and Maintenance	3,084,311	2,347,631
Electricity	885,701	807,210
Other Related Costs	216,408	274,544
Total Collection, Transmission and Distribution Service	13,032,229	12,500,210
Total Operating Expenses	43,895,999	42,269,513
General and Administrative Expenses		
Payroll and Related Costs	4,412,980	4,536,162
Professional Fees	2,329,876	2,732,816
Insurance	497,923	522,165
Other	2,382,465	3,199,536
Total General and Administrative Expense	9,623,244	10,990,679
Total Expenses	53,519,243	53,260,192
Income From Operations Before Depreciation	35,911,447	39,334,608
Depreciation	(17,966,462)	(19,513,044)
Operating Income	17,944,985	19,821,564
Nonoperating Revenue (Expense)		
Interest Expense, Net of Amounts Capitalized	(7,770,635)	(8,517,857)
Investment Income	628,113	2,078,449
Improvement and Tapping Fees	1,821,485	1,262,884
Amortization	(253,291)	(218,126)
Total Nonoperating Expense	(5,574,328)	(5,394,650)
Increase In Net Position	12,370,657	14,426,914
Net Position - Beginning of Year	297,903,686	283,476,772
Net Position - End of Year	$ 310,274,343	$ 297,903,686

See accompanying notes to the financial statements.

BUCKS COUNTY WATER AND SEWER AUTHORITY
NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)
DECEMBER 31, 2019 AND 2018

NOTE 6: SEGMENT INFORMATION

As of and for the years ended December 31, 2019 and 2018 segment information is as follows:

	2019			
Assets	Sewer System	Water System	Administrative Account	Totals
Current Assets				
Cash and Investments	$ 14,429,267	$ 11,367,223	$ 3,126,116	$ 28,922,606
Accounts Receivable, Unbilled Revenue and Net Intercompany Transfers	6,989,222	17,310,475	(9,104,024)	15,195,673
Other	608,655	83,531	-	692,186
Non-Current Assets				
Restricted Assets	48,050,977	12,345,721	4,370,043	64,766,741
Capital Assets	304,158,678	142,902,978	6,112,537	453,174,193
Total Assets	374,236,799	184,009,928	4,504,672	562,751,399
Deferred Outflows of Resources				
Deferred Amount from Debt Refundings	2,839,649	5,978,362	-	8,818,011
Pension: Changes in Assumptions	465,033	126,073	-	591,106
Pension: Difference Between Expected and Actual Experience	674,207	130,920	-	805,127
Pension: Difference Between Projected and Actual Earnings on Investments	1,437,679	253,707	-	1,691,386
Pension: Contributions Made Subsequent to Measurement Date	3,275,976	1,050,776	-	4,326,752
OPEB: Difference Between Expected and Actual Experience	29,645	5,232	-	34,877
OPEB: Difference Between Projected and Actual Earnings on Plan Investments	1,676	296	-	1,972
Total Deferred Outflows of Resources	8,723,865	7,545,366	-	16,269,231
Liabilities and Net Position				
Liabilities				
Current Liabilities	29,501,359	3,745,556	789,063	34,035,978
Non-Current Liabilities	150,796,046	88,247,692	3,715,609	242,759,347
Total Liabilities	180,297,405	91,993,248	4,504,672	276,795,325
Deferred Inflows of Resources				
Pension: Changes in Assumptions	27,086	5,032	-	32,118
Pension: Difference Between Projected and Actual Earnings on Investments	(165,256)	165,256	-	-
OPEB: Changes in Assumptions	273,297	48,229	-	321,526
Proceeds from Sale of Future Revenues	-	3,967,975	-	3,967,975
Total Deferred Inflows of Resources	135,127	4,186,492	-	4,321,619
Net Position				
Net Investment in Capital Assets	156,941,099	53,025,395	6,112,537	216,079,031
Restricted for Capital Activity	5,071,173	6,352,002	654,434	12,077,609
Restricted for Debt Service	25,520,284	5,993,716	-	31,514,000
Unrestricted	14,995,576	30,004,441	(6,766,971)	38,233,046
Total Net Position	$ 202,528,132	$ 95,375,554	$ -	$ 297,903,686

BUCKS COUNTY WATER AND SEWER AUTHORITY
NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)
DECEMBER 31, 2019 AND 2018

NOTE 6: SEGMENT INFORMATION (CONTINUED)

	2018			
Assets	Sewer System	Water System	Administrative Account	Totals
Current Assets				
Cash and Investments	$ 13,996,611	$ 9,258,718	$ 1,343,631	$ 24,598,960
Accounts Receivable, Unbilled Revenue and Net Intercompany Transfers	6,114,899	18,137,594	(6,574,182)	17,678,311
Other	610,549	85,000	-	695,549
Non-Current Assets				
Restricted Assets	47,524,162	12,202,731	3,988,462	63,715,355
Capital Assets	293,945,954	145,484,365	5,383,895	444,814,214
Total Assets	362,192,175	185,168,408	4,141,806	551,502,389
Deferred Outflows of Resources				
Deferred Amount from Debt Refundings	3,503,369	6,462,562	-	9,965,931
Pension: Changes in Assumptions	632,513	155,628	-	788,141
Pension: Difference Between Expected and Actual Experience	162,431	40,607	-	203,038
Pension: Contributions Made Subsequent to Measurement Date	6,428,229	1,607,056	-	8,035,285
Total Deferred Outflows of Resources	10,726,542	8,265,853	-	18,992,395
Liabilities and Net Position				
Liabilities				
Current Liabilities	24,140,550	3,373,492	645,278	28,159,320
Non-Current Liabilities	156,519,961	91,561,281	3,496,528	251,577,770
Total Liabilities	180,660,511	94,934,773	4,141,806	279,737,090
Deferred Inflows of Resources				
Pension: Changes in Assumptions	36,187	6,638	-	42,825
Pension: Difference Between Projected and Actual Earnings on Investments	2,478,081	619,520	-	3,097,601
Proceeds from the Sale of Future Revenues	-	4,140,496	-	4,140,496
Total Deferred Inflows of Resources	2,514,268	4,766,654	-	7,280,922
Net Position				
Net Investment in Capital Assets	129,539,966	61,197,479	5,383,898	196,121,343
Restricted for Capital Activity	18,722,168	-	491,930	19,214,098
Restricted for Debt Service	28,801,994	6,333,246	-	35,135,240
Unrestricted	12,679,810	26,202,109	(5,875,828)	33,006,091
Total Net Position	$ 189,743,938	$ 93,732,834	$ -	$ 283,476,772

BUCKS COUNTY WATER AND SEWER AUTHORITY
STATEMENTS OF NET POSITION
DECEMBER 31, 2019 AND 2018

ASSETS	2019	2018
Current Assets		
Cash and Cash Equivalents	$ 5,870,876	$ 3,803,232
Investments	23,051,730	20,795,728
Accounts Receivable, Net of Allowance for Doubtful Accounts	6,175,101	7,707,994
Unbilled Revenue Receivable	9,020,572	9,970,317
Prepaid Expenses	692,186	695,549
Total Current Assets	44,810,465	42,972,820
Non-Current Assets		
Restricted Assets		
Cash and Cash Equivalents	3,922,837	3,541,256
Investments	60,095,138	59,883,991
Interest Receivable	748,766	290,108
Total Restricted Assets	64,766,741	63,715,355
Capital Assets		
Land, Rights-of-Way and CIP	77,851,553	79,376,857
Other Capital Assets, Net of Accumulated Depreciation	375,322,640	365,437,357
Total Capital Assets, Net	453,174,193	444,814,214
Total Non-Current Assets	517,940,934	508,529,569
Total Assets	562,751,399	551,502,389
Deferred Outflows of Resources		
Deferred Amount from Debt Refundings	8,818,011	9,965,931
Pension: Changes in Assumptions	591,106	788,141
Pension: Difference Between Expected and Actual Experience	805,127	203,038
Pension: Difference Between Projected and Actual Earnings on Investments	1,691,386	-
Pension: Contributions Made Subsequent to Measurement Date	4,326,752	8,035,285
OPEB: Difference Between Expected and Actual Experience	34,877	-
OPEB: Difference Between Projected and Actual Earnings on Plan Investments	1,972	-
Total Deferred Outflows of Resources	16,269,231	18,992,395
LIABILITIES AND NET POSITION		
Current Liabilities		
Accounts Payable and Accrued Expenses	11,887,091	6,872,214
Current Portion of Bonds Payable	21,345,000	20,460,000
Interest Payable	803,887	827,106
Total Current Liabilities	34,035,978	28,159,320
Non-Current Liabilities		
Customer and Developer Deposits	3,715,610	3,496,528
Bonds Payable, Net of Unamortized Bond Discount and Premium	233,209,683	239,927,805
Net Pension Liability	1,880,256	2,296,351
Net OPEB Liability	3,953,798	5,857,086
Total Non-Current Liabilities	242,759,347	251,577,770
Total Liabilities	276,795,325	279,737,090
Deferred Inflows of Resources		
Pension: Changes in Assumptions	32,118	42,825
Pension: Difference Between Projected and Actual Earnings on Investments	-	3,097,601
OPEB: Changes in Assumptions	321,526	-
Proceeds from Sale of Future Revenues	3,967,975	4,140,496
Total Deferred Inflows of Resources	4,321,619	7,280,922
Net Position		
Net Investment in Capital Assets	216,079,031	196,121,343
Restricted for Capital Activity	12,077,609	19,214,098
Restricted for Debt Service	31,514,000	35,135,240
Unrestricted	38,233,046	33,006,091
Total Net Position	$ 297,903,686	$ 283,476,772

See accompanying notes to the financial statements.

BUCKS COUNTY WATER AND SEWER AUTHORITY
STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION
YEARS ENDED DECEMBER 31, 2019 AND 2018

	2019	2018
Operating Revenues		
Retail Sewer Service	$ 49,612,675	$ 48,634,267
Wholesale Sewer Service	20,728,839	19,105,200
Retail Water Service	11,481,175	11,755,194
Wholesale Water Service	4,315,851	4,357,235
Improvement and Tapping Fees	580,375	279,425
Other Revenues	5,875,885	4,697,553
Total Operating Revenues	92,594,800	88,828,874
Expenses		
Operating Expenses		
Sewage Treatment and Water Procurement		
Sewage Treatment	20,534,850	20,862,709
Water Procurement	5,352,970	5,611,587
Total Sewage Treatment and Water Procurement	25,887,820	26,474,296
Plant Operations		
Payroll and Related Costs	1,927,213	1,592,995
Repairs and Maintenance	1,292,778	1,251,844
Electricity	405,213	461,808
Water and Sewage Testing	256,279	218,091
Total Plant Operations	3,881,483	3,524,738
Collection, Transmission and Distribution Service		
Payroll and Related Costs	9,070,825	8,191,888
Repairs and Maintenance	2,347,631	1,992,003
Electricity	807,210	995,191
Other Related Costs	274,544	298,459
Total Collection, Transmission and Distribution Service	12,500,210	11,477,541
Total Operating Expenses	42,269,513	41,476,575
General and Administrative Expenses		
Payroll and Related Costs	4,536,162	6,780,772
Professional Fees	2,732,816	1,981,255
Insurance	522,165	476,597
Other	3,199,536	4,933,790
Total General and Administrative Expense	10,990,679	14,172,414
Total Expenses	53,260,192	55,648,989
Income From Operations Before Depreciation	39,334,608	33,179,885
Depreciation	(19,513,044)	(18,063,567)
Operating Income	19,821,564	15,116,318
Nonoperating Revenue (Expense)		
Interest Expense,		
Net of Amounts Capitalized	(8,517,857)	(9,017,615)
Investment Income	2,078,449	2,015,753
Other	-	4,824
Improvement and Tapping Fees	1,262,884	2,750,737
Amortization	(218,126)	(51,377)
Total Nonoperating Expense	(5,394,650)	(4,297,678)
Increase In Net Position, Before Contributed Capital	14,426,914	10,818,640
Contributed Capital	-	779,914
Net Position - Beginning of Year, as Previously Reported	283,476,772	275,130,457
Adjustment for GASB No. 75	-	(3,252,239)
Net Position - Beginning of Year, Restated	283,476,772	271,878,218
Net Position - End of Year	$ 297,903,686	$ 283,476,772

See accompanying notes to the financial statements.

BUCKS COUNTY WATER AND SEWER AUTHORITY
NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)
DECEMBER 31, 2018 AND 2017

NOTE 6: SEGMENT INFORMATION

As of and for the years ended December 31, 2018 and 2017 segment information is as follows:

	2018			
Assets	Sewer System	Water System	Administrative Account	Totals
Current Assets				
Cash and Investments	$ 13,996,611	$ 9,258,718	$ 1,343,631	$ 24,598,960
Accounts Receivable and Unbilled Revenue	6,114,899	18,137,594	(6,574,182)	17,678,311
Other	610,549	85,000	-	695,549
Non-Current Assets				
Restricted Assets	47,524,162	12,202,731	3,988,462	63,715,355
Capital Assets	293,945,954	145,484,365	5,383,895	444,814,214
Total Assets	362,192,175	185,168,408	4,141,806	551,502,389
Deferred Outflows of Resources				
Deferred Amount from Debt Refundings	3,503,369	6,462,562	-	9,965,931
Changes in Assumptions	632,513	155,628	-	788,141
Difference Between Expected and Actual Experience	162,431	40,607	-	203,038
Contributions Made Subsequent to Measurement Date	6,428,229	1,607,056	-	8,035,285
Total Deferred Outflows of Resources	10,726,542	8,265,853	-	18,992,395
Liabilities and Net Position				
Liabilities				
Current Liabilities	24,140,550	3,373,492	645,278	28,159,320
Non-Current Liabilities	156,519,961	91,561,281	3,496,528	251,577,770
Total Liabilities	180,660,511	94,934,773	4,141,806	279,737,090
Deferred Inflows of Resources				
Changes in Assumptions	36,187	6,638	-	42,825
Difference Between Projected and Actual Earnings on Investments	2,478,081	619,520	-	3,097,601
Proceeds from the Sale of Future Revenues	-	4,140,496	-	4,140,496
Total Deferred Inflows of Resources	2,514,268	4,766,654	-	7,280,922
Net Position				
Net Investment in Capital Assets	129,539,966	61,197,479	5,383,898	196,121,343
Restricted for Capital Activity	18,722,168	-	491,930	19,214,098
Restricted for Debt Service	28,801,994	6,333,246	-	35,135,240
Unrestricted	12,679,810	26,202,109	(5,875,828)	33,006,091
Total Net Position	$ 189,743,938	$ 93,732,834	$ -	$ 283,476,772

BUCKS COUNTY WATER AND SEWER AUTHORITY
NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)
DECEMBER 31, 2018 AND 2017

NOTE 6: SEGMENT INFORMATION (CONTINUED)

	2018		
	Sewer System	Water System	Totals
Operating Revenues			
Retail Sewer Service	$ 48,634,267	$ -	$ 48,634,267
Wholesale Sewer Service	19,105,200	-	19,105,200
Retail Water Service	-	11,755,194	11,755,194
Wholesale Water Service	-	4,357,235	4,357,235
Improvement and Tapping Fees	-	279,425	279,425
Other Revenues	3,130,165	1,567,388	4,697,553
Total Operating Revenues	70,869,632	17,959,242	88,828,874
Expenses			
Operating Expenses			
Sewage Treatment and Water Procurement			
Sewage Treatment	20,862,709	-	20,862,709
Water Procurement	-	5,611,587	5,611,587
Total Sewage and Water Procurement	20,862,709	5,611,587	26,474,296
Plant Operations			
Payroll and Related Costs	1,592,995	-	1,592,995
Repairs and Maintenance	1,251,844	-	1,251,844
Electricity	461,808	-	461,808
Water and Sewage Testing	218,091	-	218,091
Total Plant Operations	3,524,738	-	3,524,738
Collection, Transmission and Distribution Service			
Payroll and related costs	6,404,591	1,787,297	8,191,888
Repairs and maintenance	1,660,514	331,489	1,992,003
Electricity	822,812	172,379	995,191
Other related costs	209,224	89,235	298,459
Total Collection, Transmission and Distribution	9,097,141	2,380,400	11,477,541
Service Expense			
Total Operating Expense	33,484,588	7,991,987	41,476,575
General and Administrative Expenses			
Payroll and related costs	5,714,319	1,066,453	6,780,772
Professional fees	1,747,815	233,440	1,981,255
Insurance	395,522	81,075	476,597
Other	4,821,938	111,852	4,933,790
Total General and Administrative Expenses	12,679,594	1,492,820	14,172,414
Income from Operations before depreciation	24,705,450	8,474,435	33,179,885
Depreciation	(14,696,296)	(3,367,271)	(18,063,567)
Operating Income	10,009,154	5,107,164	15,116,318
Nonoperating Revenue (Expense)			
Interest Expense, net of Amounts Capitalized	(5,405,915)	(3,611,700)	(9,017,615)
Investment Income	1,623,182	392,571	2,015,753
Other	4,824	-	4,824
Improvement and Tapping Fees	2,750,737	-	2,750,737
Amortization	(51,377)	-	(51,377)
Total Nonoperating Expense	(1,078,549)	(3,219,129)	(4,297,678)
Increase in Net Position, Before Contributed Capital	8,930,605	1,888,035	10,818,640
Contributed Capital	710,204	69,710	779,914
Net Position - Beginning of Year, as Previously Reported	182,867,532	92,262,925	275,130,457
Adjustment for GASB No. 75	(2,764,403)	(487,836)	(3,252,239)
Net Position - Beginning of Year, Restated	180,103,129	91,775,089	271,878,218
Net Position, End of Year	$ 189,743,938	$ 93,732,834	$ 283,476,772

BUCKS COUNTY WATER AND SEWER AUTHORITY
NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)
DECEMBER 31, 2018 AND 2017

NOTE 6: SEGMENT INFORMATION (CONTINUED)

	2018			
	Sewer System	Water System	Administrative Account	Totals
Cash Flows from Operating Activities				
Cash Received from Customers	$ 72,660,789	$ 17,539,631	$ -	$ 90,200,420
Payments to Suppliers	(31,373,585)	(6,551,971)	-	(37,925,556)
Payroll and Related Payments	(13,711,973)	(3,095,494)	-	(16,807,467)
Other Operating (Payments) / Transactions	12,644,098	(13,022,354)	222,511	(155,745)
Net Cash Provided from Operations	40,219,329	(5,130,188)	222,511	35,311,652
Cash Flows from Capital and Related Financing Activities				
Acquisition and Construction of Capital Assets	(12,799,197)	(860,416)	(191,958)	(13,851,571)
Improvement and Tapping Fees	2,750,737	-	-	2,750,737
Bond Principal Repayments	(17,784,999)	(2,475,000)	-	(20,259,999)
Interest Paid	(6,364,234)	(3,537,201)	-	(9,901,435)
Net Cash Used in Capital and Related Financing Activities	(34,197,693)	(6,872,617)	(191,958)	(41,262,268)
Cash Flows from Investing Activities				
Sale of Investments, Net	(5,599,131)	12,069,155	-	6,470,024
Interest Received	14,790	392,571	-	407,361
Net Cash Used in Investing Activities	(5,584,341)	12,461,726	-	6,877,385
Net Increase (Decrease) in Cash and Cash Equivalents	437,295	458,921	30,553	926,769
Cash and Cash Equivalents - Beginning of Year	1,529,900	33,485	4,854,334	6,417,719
Cash and Cash Equivalents - End of Year	$ 1,967,195	$ 492,406	$ 4,884,887	$ 7,344,488
Displayed as:				
Cash and Cash Equivalents	$ 1,967,195	$ 492,406	$ 1,343,631	$ 3,803,232
Restricted Cash and Cash Equivalents	-	-	3,541,256	3,541,256
	$ 1,967,195	$ 492,406	$ 4,884,887	$ 7,344,488
Reconciliation of Operating Income to Net Cash Provided from Operations:				
Operating Income	$ 10,009,154	$ 5,107,164	$ -	$ 15,116,318
Adjustments to Reconcile Operating Income to Net Cash Provided from Operating Activities				
Depreciation	14,696,296	3,367,271	-	18,063,567
Changes in Assets and Liabilities:				
Receivables and Unbilled Revenue, Net	3,276,483	(247,091)	-	3,029,392
Prepaid Expenses	(34,155)	(5,410)	-	(39,565)
Intercompany Receivables (Payables)	12,685,022	(13,036,180)	351,158	-
Accounts Payable and Accrued Expenses	531,336	(121,266)	(164,592)	245,478
Interest Payable	(37,555)	16,262	-	(21,293)
Customer and Developer Deposits	-	-	35,945	35,945
Net Pension and OPEB Liabilities and Related Pension Deferrals	(907,252)	(210,938)	-	(1,118,190)
Net Cash Provided from Operations	$ 40,219,329	$ (5,130,188)	$ 222,511	$ 35,311,652

ALLEGHENY COUNTY SANITARY AUTHORITY

STATEMENTS OF NET POSITION

DECEMBER 31, 2020 AND 2019

Assets and Deferred Outflows of Resources

	2020	2019
Assets:		
Current assets:		
Cash and cash equivalents	$ 209,431,473	$ 175,476,686
Accounts receivable:		
Billed sewer revenue	20,446,710	16,702,983
Unbilled sewer revenue	44,044,901	43,666,409
Other	4,734	30,225
Other current assets	6,634,434	6,604,244
Total current assets	280,562,252	242,480,547
Restricted/designated assets:		
Cash and cash equivalents	272,815,362	150,150,904
Investments	-	84,963,478
Accrued interest receivable	-	375,444
Total restricted/designated assets	272,815,362	235,489,826
Prepaid bond costs	5,815,062	6,591,319
Nondepreciable capital assets:		
Land	5,344,896	5,344,896
Construction in progress	94,302,298	81,287,241
Total nondepreciable capital assets	99,647,194	86,632,137
Depreciable capital assets - at cost, net of accumulated depreciation	543,854,942	542,465,808
Total	643,502,136	629,097,945
Total Assets	1,202,694,812	1,113,659,637
Deferred Outflows of Resources:		
Related to pensions	27,581,534	35,676,281
Other post-retirement benefits	1,758,333	853,236
Refunding adjustment	5,247,763	6,278,101
Total Deferred Outflows of Resources	34,587,630	42,807,618
Total Assets and Deferred Outflows of Resources	$ 1,237,282,442	$ 1,156,467,255

Liabilities, Deferred Inflows of Resources, and Net Position

	2020	2019
Liabilities:		
Current liabilities:		
Accounts payable	$ 6,092,972	$ 7,349,003
Accrued liabilities:		
Compensated absences	5,950,167	4,994,678
Salaries and wages	1,985,019	1,751,181
Accrued interest on bonds	2,592,551	2,638,762
Reserve for litigation	2,371,900	2,371,900
Pretreatment advance payments	2,600	1,850
Current maturities of sewer revenue bonds	28,785,000	27,635,000
Total current liabilities	47,780,209	46,742,374
Long-term liabilities:		
Other post-employment benefits	13,901,968	12,087,137
Net pension liability	7,266,922	28,684,748
Sewer revenue bonds - less current maturities	670,495,000	650,300,000
Unamortized bond premium	67,960,993	50,763,732
Net long-term debt	738,455,993	701,063,732
Total long-term liabilities	759,624,883	741,835,617
Total Liabilities	807,405,092	788,577,991
Deferred Inflows of Resources:		
Related to pensions	25,133,372	9,341,236
Other post-retirement benefits	3,169,749	1,904,424
Total Deferred Inflows of Resources	28,303,121	11,245,660
Net Position:		
Net investment in capital assets	154,324,268	142,167,140
Unrestricted	247,249,961	214,476,464
Total Net Position	401,574,229	356,643,604
Total Liabilities, Deferred Inflows of Resources, and Net Position	$ 1,237,282,442	$ 1,156,467,255

The notes to financial statements are an integral part of this statement.

ALLEGHENY COUNTY SANITARY AUTHORITY

STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

YEARS ENDED DECEMBER 31, 2020 AND 2019

	2020	2019
Operating Revenues	$ 186,799,875	$ 180,238,305
Operating Expenses:		
Treatment	50,981,608	49,805,868
Intercepting sewer systems	8,771,952	8,753,813
Upper Allegheny system	307,944	298,412
Administrative and engineering	15,682,596	15,962,845
Billing and collecting	4,461,391	3,572,073
Management information systems	4,071,959	3,690,385
Total operating expenses before depreciation	84,277,450	82,083,396
Operating Income Before Depreciation	102,522,425	98,154,909
Depreciation	22,374,952	22,772,539
Operating Income	80,147,473	75,382,370
Non-operating Revenues (Expenses):		
Interest income	2,002,687	8,966,272
Interest expense on bonds	(27,485,399)	(28,261,390)
Amortization of prepaid bond costs	(516,597)	(596,640)
Loss on capital assets retired	(4,573,423)	-
Change in value of pension related items	(2,469,057)	(4,177,854)
Change in value of OPEB related items	(2,175,059)	(774,061)
Total non-operating revenues (expenses)	(35,216,848)	(24,843,673)
Change in Net Position	44,930,625	50,538,697
Net Position:		
Beginning of year	356,643,604	306,104,907
End of year	$ 401,574,229	$ 356,643,604

The notes to financial statements are an integral part of this statement.

ALLEGHENY COUNTY SANITARY AUTHORITY

STATEMENTS OF NET POSITION

DECEMBER 31, 2019 AND 2018

Assets and Deferred Outflows of Resources

	2019	2018
Assets:		
Current assets:		
Cash and cash equivalents	$ 175,476,686	$ 142,482,220
Accounts receivable:		
Billed sewer revenue	16,702,983	16,544,587
Unbilled sewer revenue	43,666,409	41,408,016
Other	30,225	4,469
Other current assets	6,604,244	6,556,274
Total current assets	242,480,547	206,995,566
Restricted/designated assets:		
Cash and cash equivalents	150,150,904	83,445,720
Investments	84,963,478	167,782,528
Accrued interest receivable	375,444	622,842
Total restricted/designated assets	235,489,826	251,851,090
Prepaid bond costs	6,591,319	7,187,959
Nondepreciable capital assets:		
Land	5,344,896	5,344,896
Construction in progress	81,287,241	59,836,813
Total nondepreciable capital assets	86,632,137	65,181,709
Depreciable capital assets - at cost, net of accumulated depreciation	542,465,808	557,161,609
Total	629,097,945	622,343,318
Net pension asset	-	2,705,577
Total Assets	1,113,659,637	1,091,083,510
Deferred Outflows of Resources:		
Related to pensions	35,676,281	17,633,917
Other post-retirement benefits	853,236	932,894
Refunding adjustment	6,278,101	7,077,328
Total Deferred Outflows of Resources	42,807,618	25,644,139
Total Assets and Deferred Outflows of Resources	$ 1,156,467,255	$ 1,116,727,649

Liabilities, Deferred Inflows of Resources, and Net Position

	2019	2018
Liabilities:		
Current liabilities:		
Accounts payable	$ 7,349,003	$ 7,180,579
Accrued liabilities:		
Compensated absences	4,994,678	4,539,483
Salaries and wages	1,751,181	1,529,529
Accrued interest on bonds	2,638,762	2,745,875
Reserve for litigation	2,371,900	2,371,900
Pretreatment advance payments	1,850	24,375
Current maturities of sewer revenue bonds	27,635,000	26,630,000
Total current liabilities	46,742,374	45,021,741
Long-term liabilities:		
Other post-employment benefits	12,087,137	13,297,158
Net pension liability	28,684,748	6,121,872
Sewer revenue bonds - less current maturities	650,300,000	677,935,000
Unamortized bond premium	50,763,732	55,857,500
Net long-term debt	701,063,732	733,792,500
Total long-term liabilities	741,835,617	753,211,530
Total Liabilities	788,577,991	798,233,271
Deferred Inflows of Resources:		
Related to pensions	9,341,236	12,389,471
Other post-retirement benefits	1,904,424	-
Total Deferred Inflows of Resources	11,245,660	12,389,471
Net Position:		
Net investment in capital assets	142,167,140	120,849,236
Unrestricted	214,476,464	185,255,671
Total Net Position	356,643,604	306,104,907
Total Liabilities, Deferred Inflows of Resources, and Net Position	$ 1,156,467,255	$ 1,116,727,649

The notes to financial statements are an integral part of this statement.

ALLEGHENY COUNTY SANITARY AUTHORITY

STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

YEARS ENDED DECEMBER 31, 2019 AND 2018

	2019	2018
Operating Revenues	$ 180,238,305	$ 169,724,327
Operating Expenses:		
Treatment	49,805,868	47,633,280
Intercepting sewer systems	8,753,813	8,490,808
Upper Allegheny system	298,412	563,244
Administrative and engineering	15,962,845	14,736,160
Billing and collecting	3,572,073	3,482,212
Management information systems	3,690,385	3,723,344
Total operating expenses before depreciation	82,083,396	78,629,048
Operating Income Before Depreciation	98,154,909	91,095,279
Depreciation	22,772,539	23,071,589
Operating Income	75,382,370	68,023,690
Non-operating Revenues (Expenses):		
Interest income, net of amounts capitalized	8,966,272	3,127,451
Interest expense on bonds	(28,261,390)	(20,735,872)
Amortization of prepaid bond costs	(596,640)	(629,995)
Change in value of pension related items	(4,177,854)	(61,702)
Change in value of OPEB related items	(774,061)	(789,172)
Total non-operating revenues (expenses)	(24,843,673)	(19,089,290)
Change in Net Position	50,538,697	48,934,400
Net Position:		
Beginning of year	306,104,907	257,170,507
End of year	$ 356,643,604	$ 306,104,907

The notes to financial statements are an integral part of this statement.

ALLEGHENY COUNTY SANITARY AUTHORITY

STATEMENTS OF NET POSITION

DECEMBER 31, 2018 AND 2017

Assets and Deferred Outflows of Resources	2018	2017
Assets:		
Current assets:		
Cash and cash equivalents	$ 142,482,220	$ 119,248,255
Accounts receivable:		
Billed sewer revenue	16,544,587	17,185,654
Unbilled sewer revenue	41,408,016	40,232,780
Other	4,469	4,635
Other current assets	6,556,274	6,432,263
Total current assets	206,995,566	183,103,587
Restricted/designated assets:		
Cash and cash equivalents	83,445,720	100,289,509
Investments	167,782,528	-
Accrued interest receivable	622,842	-
Total restricted/designated assets	251,851,090	100,289,509
Prepaid bond costs	7,187,959	6,472,479
Nondepreciable capital assets:		
Land	5,344,896	5,344,896
Construction in progress	59,836,813	38,371,565
Total nondepreciable capital assets	65,181,709	43,716,461
Depreciable capital assets - at cost, net of accumulated depreciation	557,161,609	564,883,734
Total	622,343,318	608,600,195
Net pension asset	2,705,577	-
Total Assets	1,091,083,510	898,465,770
Deferred Outflows of Resources:		
Related to pensions	17,633,917	21,247,515
Other post-retirement benefits	932,894	-
Refunding adjustment	7,077,328	8,074,203
Total Deferred Outflows of Resources	25,644,139	29,321,718
Total Assets and Deferred Outflows of Resources	$ 1,116,727,649	$ 927,787,488

Liabilities, Deferred Inflows of Resources, and Net Position	2018	2017
Liabilities:		
Current liabilities:		
Accounts payable	$ 7,180,579	$ 7,167,120
Accrued liabilities:		
Compensated absences	4,539,483	4,689,828
Salaries and wages	1,529,529	1,441,024
Accrued interest on bonds	2,745,875	2,260,535
Reserve for litigation	2,371,900	2,371,900
Pretreatment advance payments	24,375	71,600
Current maturities of sewer revenue bonds	26,630,000	25,395,000
Total current liabilities	45,021,741	43,397,007
Long-term liabilities:		
Other post-employment benefits	13,297,158	6,199,726
Net pension liability	6,121,872	16,421,705
Sewer revenue bonds - less current maturities	677,935,000	547,335,000
Unamortized bond premium	55,857,500	48,952,220
Net long-term debt	733,792,500	596,287,220
Total long-term liabilities	753,211,530	618,908,651
Total Liabilities	798,233,271	662,305,658
Deferred Inflows of Resources:		
Related to pensions	12,389,471	2,935,957
Net Position:		
Net investment in capital assets	120,849,236	95,281,689
Unrestricted	185,255,671	167,264,184
Total Net Position	306,104,907	262,545,873
Total Liabilities, Deferred Inflows of Resources, and Net Position	$ 1,116,727,649	$ 927,787,488

The notes to financial statements are an integral part of this statement.

ALLEGHENY COUNTY SANITARY AUTHORITY

STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

YEARS ENDED DECEMBER 31, 2018 AND 2017

	2018	2017
Operating Revenues	$ 169,724,327	$ 170,182,173
Operating Expenses:		
Treatment	47,633,280	44,821,531
Intercepting sewer systems	8,490,808	7,100,846
Upper Allegheny system	563,244	487,512
Administrative and engineering	14,736,160	13,772,696
Billing and collecting	3,482,212	4,439,250
Management information systems	3,723,344	3,778,272
Total operating expenses before depreciation	78,629,048	74,400,107
Operating Income Before Depreciation	91,095,279	95,782,066
Depreciation	23,071,589	22,426,718
Operating Income	68,023,690	73,355,348
Non-operating Revenues (Expenses):		
Interest income, net of amounts capitalized	3,127,451	1,096,517
Interest expense on bonds, net of amounts capitalized	(20,735,872)	(21,544,440)
Amortization of prepaid bond costs	(629,995)	(693,501)
Change in value of pension related items	(61,702)	(3,196,667)
Change in value of OPEB related items	(789,172)	-
Total non-operating revenues (expenses)	(19,089,290)	(24,338,091)
Change in Net Position	48,934,400	49,017,257
Net Position:		
Beginning of year, as restated for 2018	257,170,507	213,528,616
End of year	$ 306,104,907	$ 262,545,873

The notes to financial statements are an integral part of this statement.

CAPITAL REGION WATER

BALANCE SHEETS

DECEMBER 31, 2020 AND 2019

	2020	2019
Assets and Deferred Outflows of Resources		
Assets:		
Current assets:		
Cash and cash equivalents	$ 33,125,086	$ 37,818,930
Accounts receivable, net of allowance for uncollectible accounts of $6,812,663 and $6,179,939	12,990,450	11,392,879
Grants receivable	207,125	481,413
Due from the City of Harrisburg	3,247,428	3,030,340
Prepaid expenses	631,891	407,379
Inventory	226,727	219,675
Total current assets	50,428,707	53,350,616
Restricted assets:		
Cash and cash equivalents - restricted under trust indentures and guarantee agreement	10,339,323	10,728,097
Investments - restricted under trust indentures	19,133,382	23,792,020
Total restricted assets	29,472,705	34,520,117
Noncurrent assets:		
Capital assets, not being depreciated	41,304,196	25,938,916
Capital assets, net of accumulated depreciation of $138,312,983 and $132,254,413	182,981,052	177,481,346
Net pension asset	793,994	-
Total noncurrent assets	225,079,242	203,420,262
Total Assets	304,980,654	291,290,995
Deferred Outflows of Resources:		
Deferred loss on refunding	6,138,866	6,849,812
Deferred outflows of resources for other postemployment benefits	154,587	78,714
Deferred outflows of resources for pension	1,018,573	1,518,157
Total Deferred Outflows of Resources	7,312,026	8,446,683
Total Assets and Deferred Outflows of Resources	$ 312,292,680	$ 299,737,678

CAPITAL REGION WATER

STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

YEARS ENDED DECEMBER 31, 2020 AND 2019

	2020	2019
Operating Revenues:		
User charges	$ 46,053,281	$ 47,556,016
Total operating revenues	46,053,281	47,556,016
Operating Expenses:		
Operating	15,078,242	14,776,480
Administrative	5,832,986	5,788,495
Depreciation	6,058,571	5,654,952
Total operating expenses	26,969,799	26,219,927
Operating Income	19,083,482	21,336,089
Non-Operating Revenues (Expenses):		
Investment income	426,489	1,193,936
Grant revenue	177,024	1,184,617
Gain on sale of easements	191,516	40,000
Miscellaneous income (expense)	921,942	606,499
Gain (loss) on disposal of capital assets	2,000	(74,363)
Interest expense	(5,725,558)	(5,836,796)
Total non-operating revenues (expenses)	(4,006,587)	(2,886,107)
Change in Net Position	15,076,895	18,449,982
Net Position:		
Beginning of year	94,622,873	76,172,891
End of year	$109,699,768	$ 94,622,873

The accompanying notes are an integral part of these financial statements.

CAPITAL REGION WATER

BALANCE SHEET

DECEMBER 31, 2019

(with comparative totals as of December 31, 2018)

	2019	2018
Assets and Deferred Outflows of Resources		
Assets:		
Current assets:		
Cash and cash equivalents	$ 37,818,930	$ 48,169,716
Accounts receivable, net of allowance for uncollectible accounts of $6,179,939 and $5,914,774	11,392,879	10,001,747
Grants receivable	481,413	905,431
Due from the City of Harrisburg	3,030,340	3,686,285
Prepaid expenses	407,379	403,089
Inventory	219,675	347,960
Total current assets	53,350,616	63,514,228
Restricted assets:		
Cash and cash equivalents - restricted under trust indentures and guarantee agreement	10,728,097	19,430,292
Investments - restricted under trust indentures	23,792,020	19,433,058
Total restricted assets	34,520,117	38,863,350
Noncurrent assets:		
Capital assets, not being depreciated	25,938,916	16,946,141
Capital assets, net of accumulated depreciation of $132,254,413 and $128,988,007	177,481,346	160,175,578
Net pension asset	-	1,009,658
Total noncurrent assets	203,420,262	178,131,377
Total Assets	291,290,995	280,508,955
Deferred Outflows of Resources:		
Deferred loss on refunding	6,849,812	7,877,263
Deferred outflows of resources for other postemployment benefits	78,714	77,533
Deferred outflows of resources for pension	1,518,157	651,522
Total Deferred Outflows of Resources	8,446,683	8,606,318
Total Assets and Deferred Outflows of Resources	$ 299,737,678	$ 289,115,273

CAPITAL REGION WATER

STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

YEAR ENDED DECEMBER 31, 2019

(with comparative totals for the year ended December 31, 2018)

	2019	2018
Operating Revenues:		
User charges	$ 47,556,016	$ 44,895,271
Total operating revenues	47,556,016	44,895,271
Operating Expenses:		
Operating	14,776,480	13,894,496
Administrative	5,788,495	5,293,225
Depreciation	5,654,952	5,394,021
Total operating expenses	26,219,927	24,581,742
Operating Income	21,336,089	20,313,529
Non-Operating Revenues (Expenses):		
Investment income	1,193,936	568,004
Grant revenue	1,184,617	1,502,468
Gain on sale of easements	40,000	4,838,927
Miscellaneous income (expense)	606,499	(180,383)
Loss on disposal of capital assets	(74,363)	-
Interest expense	(5,836,796)	(6,812,458)
Total non-operating revenues (expenses)	(2,886,107)	(83,442)
Change in Net Position	18,449,982	20,230,087
Net Position:		
Beginning of year	76,172,891	55,942,804
End of year	$ 94,622,873	$ 76,172,891

The accompanying notes are an integral part of these financial statements.

CAPITAL REGION WATER

BALANCE SHEET

DECEMBER 31, 2018

Assets and Deferred Outflows of Resources	
Assets:	
Current assets:	
Cash and cash equivalents	$ 48,169,716
Accounts receivable, net of allowance for uncollectible accounts of $5,914,774	10,001,747
Grants receivable	905,431
Due from the City of Harrisburg	3,686,285
Prepaid expenses	403,089
Inventory	347,960
Total current assets	63,514,228
Restricted assets:	
Cash and cash equivalents - restricted under trust indentures and guarantee agreement	19,430,292
Investments - restricted under trust indentures	19,433,058
Total restricted assets	38,863,350
Noncurrent assets:	
Capital assets, not being depreciated	16,946,141
Capital assets, net of accumulated depreciation of $128,988,007	160,175,578
Net pension asset	1,009,658
Total noncurrent assets	178,131,377
Total Assets	280,508,955
Deferred Outflows of Resources:	
Deferred loss on refunding	7,877,263
Deferred outflows of resources for other postemployment benefits	77,533
Deferred outflows of resources for pension	651,522
Total Deferred Outflows of Resources	8,606,318
Total Assets and Deferred Outflows of Resources	$ 289,115,273

CAPITAL REGION WATER

STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

YEAR ENDED DECEMBER 31, 2018

Operating Revenues:	
User charges	$ 44,895,271
Total operating revenues	44,895,271
Operating Expenses:	
Operating	13,894,496
Administrative	5,293,225
Depreciation	5,394,021
Total operating expenses	24,581,742
Operating Income	20,313,529
Non-Operating Revenues (Expenses):	
Investment income	568,004
Grant revenue	1,502,468
Gain on sale of easements	4,838,927
Miscellaneous expense	(180,383)
Interest expense	(6,812,458)
Total non-operating revenues (expenses)	(83,442)
Change in Net Position	20,230,087
Net Position:	
Beginning of year - restated	55,942,804
End of year	$ 76,172,891

The accompanying notes are an integral part of these financial statements.

CITY OF ALTOONA
BLAIR COUNTY, PENNSYLVANIA
STATEMENT OF NET POSITION
DECEMBER 31, 2020
(AMOUNTS EXPRESSED IN WHOLE DOLLARS)

	PRIMARY GOVERNMENT	COMPONENT UNITS		
	Governmental Activities	Altoona Water Authority	Redevelopment Authority of Altoona	The Parking Authority of the City of Altoona
ASSETS				
Cash and Cash Equivalents	$ 31,413,012	$ 5,350,729	$ 246,634	$ 128,655
Investments	237,289	10,115,673	0	0
Taxes Receivable	4,127,451	0	0	0
Accounts Receivable	0	3,890,554	0	692
Intergovernmental Receivables	200,975	0	0	0
Loans Receivable - Current	687,316	0	9,826	0
Other Receivables	537,728	8,295	0	0
Prepaid Expenses	302,750	228,189	0	1,017
Inventory	406,484	0	0	0
Loans Receivable - Long-Term	5,731,660	0	94,387	0
Right to Use Asset, Net	0	94,458,106	0	0
Capital Assets, Net of Accumulated Depreciation	404,818,897	0	248,717	2,489,094
TOTAL ASSETS	$448,463,562	$114,051,546	$ 599,564	$2,619,458
Deferred Outflows of Resources				
Deferred Charges:				
Bond Discounts	$ 43,943	$ 0	$ 0	$ 0
Defined Benefit Pensions	9,503,418	1,160,795	0	0
OPEB Plans	410,933	0	0	0
Total Deferred Outflows of Resources	$ 9,958,294	$ 1,160,795	$ 0	$ 0
LIABILITIES				
Accounts Payable	$ 1,940,050	$ 1,137,391	$ 580	$ 17,229
Accrued Payroll	478,552	0	0	4,136
Payroll Taxes and Benefits Payable	321,792	0	0	3,263
Accrued Expenses	0	302,112	0	0
Accrued Payroll, Taxes, and Withholding	0	247,835	0	0
Accumulated Compensated Absences	0	0	0	1,093
Accrued Interest	484,310	0	0	291
Deposits Held	136,987	83,805	0	0
Unearned Revenues - Grants	6,720,952	0	0	0
Unearned Revenues - Rent Received in Advance	0	0	200	32,749
Noncurrent Liabilities:				
Due Within One Year	4,813,139	4,243,433	0	23,132
Due in More Than One Year	129,441,566	139,374,630	0	141,860
TOTAL LIABILITIES	$144,337,348	$145,389,206	$ 780	$ 223,753
Deferred Inflows of Resources				
Defined Benefit Pensions	$ 13,641,984	$ 1,975,668	$ 0	$ 0
NET POSITION				
Net Investment in Capital Assets	$335,150,152	$ 0	$ 248,717	$2,324,102
Restricted for:				
Highway Aid	966,475	0	0	0
Capital Expenditures	6,100,506	0	0	0
Recreation	243,369	0	0	0
Other Projects	4,410,401	0	344,636	0
Water Authority	0	0	0	0
Unrestricted (Deficit)	(46,428,379)	(32,152,533)	5,431	71,603
TOTAL NET POSITION	$300,442,524	($ 32,152,533)	$ 598,784	$2,395,705

See Accompanying Notes and Independent Auditor's Report

ALTOONA WATER AUTHORITY
WATER DIVISION
WATER OPERATING FUND

	2020 BUDGET 0%
REVENUE	
WATER SALES	17,900,000
SALES TO OTHER UTILITIES	500,000
BULK SALES	-
CAPITAL SURCHARGE	500,000
PENALTIES	90,000
INSTALL/RENEW-SERVICE LINES	95,000
METER INCOME	30,000
SHUT OFFS	60,000
FIRE LINES	330,000
FINAL READINGS	45,000
CAPACITY FEES	30,000
REIMBURSEMENTS-BELLWOOD BORO	96,589
REIMBURSEMENTS-HOLLIDAYSBURG BORO	342,652
INTEREST INCOME	50,000
SERVICE-WASTEWATER DIVISION	1,161,358
TIMBER SALES	50,000
OTHER RENTALS	172,000
MISCELLANEOUS INCOME	96,000
BAD DEBT RECOVERY	4,000
TOTAL REVENUES	**21,552,599**
EXPENDITURES-ADMINSITRATIVE	
WAGES	794,997
OFFICER'S COMPENSATION	1,200
CONSULTING ENGINEERS	50,000
AUDITING	15,000
LEGAL FEES	25,000
TRUSTEES EXPENSE	-
OTHER PROFESSIONAL FEES	75,000
ADVERTISING	6,000
PUBLIC RELATIONS AND MARKETING	1,000
TRAVEL/CONFERENCES/EDUCATION	3,000
DUES & SUPSCRIPTIONS	7,500
MAINTENANCE BUILDING	20,000
MAINTENANCE-EQUIPMENT	12,000
OFFICE SUPPLIES	6,000
POSTAGE	2,000
LEASE PAYMENT	3,799,870
HUMAN RESOURCE EXPENSE	2,500
SAFETY COMMITTEE EXPENSE	12,000
TELEPHONE EXPENSE	15,000
BAD DEBT EXPENSE	20,000
UTILITIES	22,000
SMALL TOOLS, EQUIPMENT, FURNITURE	4,500
TOTAL ADMINISTRATIVE EXPENDITURES	**4,894,567**

ALTOONA WATER AUTHORITY
WATER DIVISION
WATER OPERATING FUND

	2020 BUDGET
EXPENDITURES-EMPLOYEE BENEFITS & INSURANCE	
SOCIAL SECURITY	423,599
WORKERS COMPENSATION	84,000
PA UNEMPLOYMENT COMPENSATION	5,000
PENSION	488,366
GROUP LIFE, AD&D, LTD , STD	90,000
HOSPITALIZATION & MAJOR MEDICAL	1,515,415
HEALTH & WELFARE(AFSCME)	28,000
MEDICAL EXAMINATIONS	8,000
INSURANCE-FLEET	17,773
INSURANCE-ALL RISK PROPERTY	142,219
INSURANCE-PUBLIC OFFICIAL LIABILITY	5,954
CONTINGENCIES	250,000
TOTAL EMPLOYEE FRINGE BENEFITS & INSURANCE	**3,058,326**
TOTAL OPERATING EXPENDITURES	**15,711,419**
CAPITAL EXPENDITURES	
CONSTRUCTION & RENEWAL	438,500
VEHICLES	310,143
OFFICE FURNITURE & EQUIPMENT	-
METERS	10,000
COMPUTER EQUIPMENT	7,500
FIRE HYDRANTS	40,000
PLANT EQUIPMENT/RENEWAL	480,264
OTHER EQUIPMENT	24,650
TOTAL CAPITAL EXPENDITURES	**1,311,057**
DEBT SERVICE & INTEREST	
DEBT SERVICE PAYMENT	4,408,904
TOTAL DEBT SERVICE PAYMENT	**4,408,904**
TOTAL EXPENDITURES	**21,431,380**
NET REVENUE/(DEFICIT)	**121,219**

ALTOONA WATER AUTHORITY
WASTEWATER DIVISION
SEWER OPERATING FUND

	2020 BUDGET
REVENUE	**0%**
WASTEWATER RENTALS	11,600,000
CAPITAL SURCHARGE	500,000
PENALTIES	65,000
CAPACITY FEES	10,000
SEWER INSTALL/TAP FEES	20,000
SEWER-SURCHARGE/PRETREATMENT	150,000
SEPTIC HAULER FEES	500,000
INTERMUNICIPAL SERVICE REIMBURSEMENT	668,680
INTEREST INCOME	75,000
MISCELLANEOUS INCOME	90,000
RECOVERY - CHARGED OFF ACCOUNTS	2,000
TOTAL REVENUES	**13,680,680**
EXPENDITURES-ADMINISTRATIVE	
OFFICER'S COMPENSATION	1,200
CONSULTING ENGINEERS	85,000
AUDITING	12,000
LEGAL FEES	40,000
TRUSTEE EXPENSE	5,200
OTHER PROFESSIONAL FEES	35,000
ADVERTISING	3,000
PUBLIC RELATIONS EXPENSE	1,000
TRAVEL/CONFERENCES/EDUCATION	5,000
DUES & SUPSCRIPTIONS	7,700
MAINTENANCE-EQUIPMENT	12,000
OFFICE SUPPLIES	5,000
POSTAGE	3,000
LEASE PAYMENT	2,137,427
PAYMENT FOR WATER DIVISION SERVICES	1,161,358
HUMAN RESOURCE EXPENSE	2,500
SAFETY COMMITTEE EXPENSE	10,000
BAD DEBT EXPENSE	15,000
TELEPHONE EXPENSE	7,000
SMALL TOOLS, EQUIPMENT, FURNITURE	2,000
TOTAL ADMINISTRATIVE EXPENDITURES	**3,550,385**

ALTOONA WATER AUTHORITY
WASTEWATER DIVISION
SEWER OPERATING FUND

	2020 BUDGET
EXPENDITURES-SANITARY SEWERS	
WAGES	690,528
MAINTENANCE-BUILDING	5,000
GIS SYSTEM EXPENSE	17,033
TELEPHONE EXPENSE	2,400
SAFETY EQUIPMENT/CLOTHING	4,000
MATERIALS & SUPPLIES	200,000
MAINTENANCE-VEHICLE	50,000
GASOLINE & OIL	25,000
DIESEL FUEL	30,000
STREET CUTS	150,000
ONE CALL SYSTEM EXPENSE	4,000
SMALL TOOLS, EQUIPMENT, FURNITURE	7,100
TOTAL SANITARY SEWERS EXPENDITURES	**1,185,061**
EXPENDITURES-EMPLOYEE BENEFITS & INSURANCE	
SOCIAL SECURITY	164,435
WORKERS COMPENSATION	42,000
PA UNEMPLOYMENT COMPENSATION	2,500
PENSION	230,800
GROUP LIFE, AD&D, LTD	30,000
HOSPITALIZATION & MAJR MEDICAL	653,800
HEALTH & WELFARE(AFSCME)	11,000
MEDICAL EXAMINATIONS	5,000
INSURANCE-FLEET	11,972
INSURANCE-ALL RISK PROPERTY	113,442
INSURANCE-BOILER MACHINERY	-
INSURANCE-PUBLIC OFFICIAL LIAB	5,658
CONTINGENCIES	100,000
TOTAL EMPLOYEE FRINGE BENEFITS & INSURANCE	**1,370,607**
TOTAL OPERATING EXPENDITURES	**9,369,495**

CITY OF ALTOONA
BLAIR COUNTY, PENNSYLVANIA
STATEMENT OF NET POSITION
DECEMBER 31, 2019
(AMOUNTS EXPRESSED IN WHOLE DOLLARS)

	PRIMARY GOVERNMENT		COMPONENT UNITS	
	Governmental Activities	Altoona Water Authority	Redevelopment Authority of Altoona	The Parking Authority of the City of Altoona
ASSETS				
Cash and Cash Equivalents	$ 24,556,757	$ 2,142,068	$ 217,510	$ 157,819
Investments	366,982	12,127,836	0	0
Taxes Receivable	4,174,803	0	0	0
Accounts Receivable	0	3,750,328	2,816	3,568
Intergovernmental Receivables	321,540	0	0	0
Loans Receivable – Current	795,935	0	8,972	0
Other Receivables	193,952	14,619	0	0
Prepaid Expenses	314,090	25,755	0	1,667
Inventory	512,219	0	0	0
Loans Receivable – Long-Term	5,374,360	0	103,723	0
Right to Use Asset, Net	0	100,528,196	0	0
Capital Assets, Net of Accumulated Depreciation	405,378,818	0	254,542	2,527,780
TOTAL ASSETS	$441,989,456	$118,588,802	$ 587,563	$2,690,834
Deferred Outflows of Resources				
Deferred Charges:				
Bond Discounts	$ 780,363	$ 0	$ 0	$ 0
Defined Benefit Pensions	10,878,514	1,651,319		
OPEB Plans	1,130,677	0	0	0
Total Deferred Outflows of Resources	$ 12,789,554	$ 1,651,319	$ 0	$ 0
LIABILITIES				
Accounts Payable	$ 2,790,042	$ 1,732,865	$ 4,978	$ 14,842
Accrued Payroll	362,296	0	0	0
Payroll Taxes and Benefits Payable	134,704	0	0	3,459
Accrued Expenses	0	0	0	2,958
Accrued Payroll, Taxes, and Withholding	0	427,226	0	0
Accumulated Compensated Absences	0	279,288	0	2,119
Accrued Interest	295,444	0	0	321
Deposits Held	112,334	83,805	0	0
Unearned Revenues – Grants	6,271,037	0	0	0
Unearned Revenues - Rent Received in Advance	0	0	200	39,412
Noncurrent Liabilities:				
Due Within One Year	3,835,073	7,205,690	0	22,257
Due in More Than One Year	118,568,396	150,406,922	0	164,998
TOTAL LIABILITIES	$132,369,326	$160,135,796	$ 5,178	$ 250,366
Deferred Inflows of Resources				
Defined Benefit Pensions	$ 12,696,000	$ 1,965,233	$ 0	$ 0
NET POSITION				
Net Investment in Capital Assets	$345,530,381	$ 0	$ 254,542	$2,340,525
Restricted for:			0	0
Highway Aid	894,316	0	0	0
Capital Expenditures	8,184,878	0	0	0
Recreation	231,511	0	0	0
Other Projects	5,470,093	0	339,715	0
Water Authority	0	0	0	0
Unrestricted (Deficit)	(50,597,495)	(41,860,908)	(11,872)	99,943
TOTAL NET POSITION	$309,713,684	($ 41,860,908)	$ 582,385	$2,440,468

See Accompanying Notes and Independent Auditor's Report

ALTOONA WATER AUTHORITY
STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

	Year Ended December 31, 2017	2016
Operating Revenues, Securing Revenue Bonds		
Water/Sewer Rentals	$ 28,033,026	$ 27,234,701
Installations and Renewals Service Lines	119,509	116,080
Meter Sales, Shut-Offs, and Remotes	224,910	224,676
Timber Sales	40,197	142,007
Septic Hauler Fees	75,649	81,269
Fire Hydrant and Line Rentals	343,767	331,999
Service to Wastewater Division	1,057,455	1,097,406
Miscellaneous	322,114	414,937
Intermunicipal Service Reimbursements	1,409,183	1,346,227
Total Operating Revenues	31,625,810	30,989,302
Operating Expenses - Functional and Departmental		
Administration	2,117,738	5,106,472
Billing and Collection	709,035	750,662
Purification and Distribution/Disposal	5,001,575	5,078,445
Meter Division	482,163	476,819
Maintenance	3,823,793	3,918,953
Fringe Benefits and Insurance	3,706,216	3,838,891
Depreciation and Amortization	6,796,548	7,861,126
Total Operating Expenses-Functional and Departmental	22,637,068	27,031,368
Operating Income	8,988,742	3,957,934
Nonoperating Revenues and (Expenses)		
Capital Contribution to City of Altoona	(223,701,014)	--
Investment Income	80,223	50,052
Interest Expense	(2,813,892)	(2,983,688)
Fees and Miscellaneous	(379)	(839)
Gain on Disposition of Fixed Assets	45,961	34,612
Contributed Capital	16,825	--
Amortization Bond Issue Costs	(125,478)	(126,251)
Total Nonoperating Revenues and (Expenses)	(226,497,754)	(3,026,114)
Net Income	(217,509,012)	931,820
Net Position - January 1	146,894,669	145,962,849
Net Position - December 31	**$(70,614,343)**	**$ 146,894,669**

See Accompanying Notes to Financial Statements

ALTOONA WATER AUTHORITY
STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

	Year Ended December 31, 2018	2017
Operating Revenues, Securing Revenue Bonds		
Water/Sewer Rentals	$ 30,794,341	$ 28,033,026
Installations and Renewals Service Lines	139,503	119,509
Meter Sales, Shut-Offs, and Remotes	250,565	224,910
Timber Sales	116,337	40,197
Septic Hauler Fees	2,269,905	75,649
Fire Hydrant and Line Rentals	341,023	343,767
Service to Wastewater Division	1,047,022	1,057,455
Miscellaneous	421,392	322,114
Intermunicipal Service Reimbursements	1,231,099	1,409,183
Total Operating Revenues	36,611,187	31,625,810
Operating Expenses - Functional and Departmental		
Administration	2,180,781	2,117,738
Billing and Collection	681,880	709,035
Purification and Distribution/Disposal	5,060,425	5,001,575
Meter Division	505,784	482,163
Maintenance	3,956,167	3,823,793
Fringe Benefits and Insurance	4,133,886	3,706,216
Depreciation and Amortization	6,070,090	6,796,548
Total Operating Expenses-Functional and Departmental	22,589,013	22,637,068
Operating Income	14,022,174	8,988,742
Nonoperating Revenues and (Expenses)		
Capital Contribution to City of Altoona	(4,277,135)	(223,701,014)
Investment Income	170,111	80,223
Interest Expense	(6,783,092)	(2,813,892)
Fees and Miscellaneous	--	(379)
Gain on Disposition of Fixed Assets	105,075	45,961
Contributed Capital	201,042	16,825
Amortization Bond Issue Costs	(154,988)	(125,478)
Total Nonoperating Revenues and (Expenses)	(10,738,987)	(226,497,754)
Net Income/(Loss)	3,283,187	(217,509,012)
Net Position - January 1	(70,614,343)	146,894,669
Net Position - December 31	**$(67,331,156)**	**$(70,614,343)**

See Accompanying Notes to Financial Statements

ALTOONA WATER AUTHORITY
WATER DIVISION
WATER REVENUE FUND

	2019 BUDGET
REVENUE	
WATER SALES	17,474,179
SALES TO OTHER UTILITIES	450,000
BULK SALES	-
CAPITAL SURCHARGE	500,000
PENALTIES	90,000
INSTALL/RENEW-SERVICE LINES	95,000
METER INCOME	30,000
SHUT OFFS	60,000
FIRE LINES	330,000
FINAL READINGS	45,000
CAPACITY FEES	30,000
REIMBURSEMENTS-BELLWOOD BORO	261,257
REIMBURSEMENTS-HOLLIDAYSBURG BORO	743,153
INTEREST INCOME	70,000
SERVICE-WASTEWATER DIVISION	1,112,400
TIMBER SALES	50,000
OTHER RENTALS	172,000
MISCELLANEOUS INCOME	96,000
BAD DEBT RECOVERY	4,000
TOTAL REVENUES	**21,612,989**
EXPENDITURES-ADMINSITRATIVE	
WAGES	770,879
OFFICER'S COMPENSATION	1,200
CONSULTING ENGINEERS	45,000
AUDITING	15,000
LEGAL FEES	25,000
TRUSTEES EXPENSE	4,200
OTHER PROFESSIONAL FEES	100,000
ADVERTISING	6,000
PUBLIC RELATIONS AND MARKETING	1,000
TRAVEL/CONFERENCES/EDUCATION	2,500
DUES & SUPSCRIPTIONS	6,500
MAINTENANCE BUILDING	15,000
MAINTENANCE-EQUIPMENT	12,000
OFFICE SUPPLIES	6,000
POSTAGE	2,000
LEASE PAYMENT	2,730,010
HUMAN RESOURCE EXPENSE	2,500
SAFETY COMMITTEE EXPENSE	12,000
TELEPHONE EXPENSE	15,000
BAD DEBT EXPENSE	20,000
UTILITIES	22,000
SMALL TOOLS, EQUIPMENT, FURNITURE	2,500
TOTAL ADMINISTRATIVE EXPENDITURES	**3,816,289**

ALTOONA WATER AUTHORITY
WATER DIVISION
WATER REVENUE FUND

	2019 BUDGET
EXPENDITURES-BILLING & COLLECTION	
WAGES	467,320
TRAVEL/CONFERENCES/EDUCATION	500
MAINTENANCE-EQUIPMENT	10,000
OFFICE SUPPLIES	20,000
UTILITY BILLING SOFTWARE HOSTING	85,000
POSTAGE	145,000
COLLECTION EXPENSE	7,000
TELEPHONE EXPENSE	3,000
SMALL TOOLS, EQUIPMENT, FURNITURE	4,000
TOTAL BILLING & COLLECTION EXPENDITRURES	**741,820**
EXPENDITURES-PURIFICATION & DISTRIBUTION	
WAGES	1,247,592
TRAVEL/CONFERENCES/EDUCATION	7,000
DAM INSPECTIONS	27,000
TELEPHONE EXPENSE	2,700
MAINTENANCE-WATER PUMP STATION	-
MAINTENANCE-TANKS	-
MAINTENANCE-WATERSHED	15,000
SOURCE WATER PROTECTION	6,000
UTILITIES	105,000
SMALL TOOLS, EQUIPMENT, FURNITURE	8,000
TOTAL PURIFICATION & DISTRIBUTION EXPENDITURES	**1,418,292**
EXPENDITURES-HORSESHOE CURVE WTP	
LAB COSTS/SUPPLIES	32,500
TELEPHONE EXPENSE	4,200
ELECTRICITY	130,000
CHEMICALS	89,250
MAINTENANCE	86,250
SLUDGE DISPOSAL	10,000
UTILITIES - PROPANE HEATING	65,000
TOTAL HORSESHOE CURVE EXPENDITURES	**417,200**
EXPENDITURES-MILL RUN WTP	
LAB COSTS/SUPPLIES	17,300
TELEPHONE EXPENSE	1,300
ELECTRICITY	40,000
CHEMICALS	18,900
MAINTENANCE	25,000
SLUDGE DISPOSAL	3,000
UTILITIES - PROPANE HEATING	15,000
TOTAL MILL RUN EXPENDITURES	**120,500**

ALTOONA WATER AUTHORITY
WATER DIVISION
WATER REVENUE FUND

	2019 BUDGET
EXPENDITURES-TIPTON WTP	
LAB COSTS/SUPPLIES	25,800
TELEPHONE EXPENSE	1,500
ELECTRICITY	54,000
CHEMICALS	31,500
MAINTENANCE	23,000
SLUDGE DISPOSAL	3,000
UTILITIES - PROPANE HEATING	10,000
TOTAL TIPTON EXPENDITURES	**148,800**
EXPENDITURES-KETTLE WTP	
LAB COSTS/SUPPLIES	3,000
TELEPHONE EXPENSE	1,000
ELECTRICITY	7,000
CHEMICALS	2,000
MAINTENANCE	5,000
SLUDGE DISPOSAL	
UTILITIES - PROPANE HEATING	4,500
TOTAL KETTLE EXPENDITURES	**22,500**
EXPENDITURES-HOMER GAP WTP	
LAB COSTS/SUPPLIES	2,000
TELEPHONE EXPENSE	400
ELECTRICITY	7,000
CHEMICALS	2,000
MAINTENANCE	4,000
SLUDGE DISPOSAL	-
UTILITIES - PROPANE HEATING	5,000
TOTAL HOMER GAP EXPENDITURES	**20,400**
EXPENDITURES-PLANE NINE WTP	
LAB COSTS/SUPPLIES	32,500
TELEPHONE EXPENSE	1,500
ELECTRICITY	75,000
CHEMICALS	31,500
MAINTENANCE	23,000
SLUDGE DISPOSAL	3,000
UTILITIES - PROPANE HEATING	15,000
INSURANCE	11,000
TOTAL PLANE NINE EXPENDITURES	**192,500**

ALTOONA WATER AUTHORITY
WATER DIVISION
WATER REVENUE FUND

	2019 BUDGET
EXPENDITURES-BELLWOOD WTP	
LAB COSTS/SUPPLIES	32,500
TELEPHONE EXPENSE	1,400
ELECTRICITY	75,000
CHEMICALS	54,600
MAINTENANCE	28,750
SLUDGE DISPOSAL	4,000
UTILITIES - PROPANE HEATING	20,000
INSURANCE	10,000
TOTAL BELLWOOD EXPENDITURES	**226,250**
EXPENDITURES-METER DIVISION	
WAGES	450,182
MAINTENANCE-EQUIPMENT	30,000
TELEPHONE EXPENSE	5,000
OFFICE SUPPLIES/UNIFORMS/MAINT.	2,000
MATERIALS & SUPPLIES	20,000
GASOLINE & OIL	18,000
SMALL TOOLS, EQUIPMENT, FURNITURE	3,500
	-
TOTAL METER DIVISION EXPENDITURES	**528,682**
EXPENDITURES-MAINTENANCE	
WAGES	2,446,757
TRAVEL/CONFERENCES/EDUCATION	14,000
MAINTENANCE-BUILDING	10,000
MAINTENANCE-EQUIPMENT	8,000
MAINTENANCE-COMMUNICATION EQUIPMENT	500
OFFICE SUPPLIES	3,000
GIS SYSTEM EXPENSE	11,200
TELEPHONE EXPENSE	16,000
SAFETY EQUIPMENT/CLOTHING	10,000
MAINTENANCE - WATER PUMP STATIONS	12,000
MAINTENANCE - TANKS	30,000
UTILITIES	18,000
MECHANICS UNIFORMS	2,000
MATERIALS & SUPPLIES	400,000
LEASE EXPENSE	14,051
MAINTENANCE-VEHICLE	75,000
GASOLINE & OIL	55,000
DIESEL FUEL	65,000
STREET CUTS	325,000
ONE CALL SYSTEM EXPENSE	7,000
SMALL TOOLS, EQUIPMENT, FURNITURE	15,000
TOTAL MAINTENANCE EXPENDITURES	**3,537,508**

ALTOONA WATER AUTHORITY
WATER DIVISION
WATER REVENUE FUND

	2019 BUDGET
EXPENDITURES-EMPLOYEE BENEFITS & INSURANCE	
SOCIAL SECURITY	411,779
WORKMENS COMPENSATION	140,000
PA UNEMPLOYMENT COMPENSATION	5,000
PENSION	486,300
GROUP LIFE, AD&D, LTD , STD	90,000
HOSPITALIZATION & MAJOR MEDICAL	1,480,000
HEALTH & WELFARE(AFSCME)	28,329
MEDICAL EXAMINATIONS	8,000
INSURANCE-FLEET	24,601
INSURANCE-ALL RISK PROPERTY	147,898
INSURANCE-PUBLIC OFFICIAL LIABILITY	3,685
CONTINGENCIES	-
TOTAL EMPLOYEE FRINGE BENEFITS & INSURANCE	**2,825,592**
TOTAL OPERATING EXPENDITURES	**14,016,333**
CAPITAL EXPENDITURES	
CONSTRUCTION & RENEWAL	612,912
VEHICLES	-
OFFICE FURNITURE & EQUIPMENT	-
METERS	-
COMPUTER EQUIPMENT	-
FIRE HYDRANTS	-
PLANT EQUIPMENT/RENEWAL	-
OTHER EQUIPMENT	-
TOTAL CAPITAL EXPENDITURES	**612,912**
DEBT SERVICE & INTEREST	
DEBT SERVICE PAYMENT	6,435,936
TOTAL DEBT SERVICE PAYMENT	**6,435,936**
TOTAL EXPENDITURES	**21,065,181**
NET REVENUE/(DEFICIT)	**547,808**

ALTOONA WATER AUTHORITY
WASTEWATER DIVISION
SEWER REVENUE FUND

	2019 BUDGET
REVENUE	**0%**
WASTEWATER RENTALS	11,343,481
CAPITAL SURCHARGE	500,000
PENALTIES	65,000
CAPACITY FEES	10,000
SEWER INSTALL/TAP FEES	20,000
SEWER-SURCHARGE/PRETREATMENT	150,000
SEPTIC HAULER FEES	190,000
INTERMUNICIPAL SERVICE REIMBURSEMENT	592,855
INTEREST INCOME	25,000
MISCELLANEOUS INCOME	90,000
RECOVERY - CHARGED OFF ACCOUNTS	2,000
TOTAL REVENUES	**12,988,336**
EXPENDITURES-ADMINISTRATIVE	
OFFICER'S COMPENSATION	1,200
CONSULTING ENGINEERS	113,000
AUDITING	12,000
LEGAL FEES	40,000
TRUSTEE EXPENSE	5,200
OTHER PROFESSIONAL FEES	35,000
ADVERTISING	3,000
PUBLIC RELATIONS EXPENSE	1,000
TRAVEL/CONFERENCES/EDUCATION	5,000
DUES & SUPSCRIPTIONS	6,700
MAINTENANCE-EQUIPMENT	12,000
OFFICE SUPPLIES	5,000
POSTAGE	3,000
PAYMENT FOR CITY SERVICES	1,535,630
PAYMENT FOR WATER DIVISION SERVICES	1,112,400
HUMAN RESOURCE EXPENSE	2,500
SAFETY COMMITTEE EXPENSE	10,000
BAD DEBT EXPENSE	15,000
TELEPHONE EXPENSE	7,000
SMALL TOOLS, EQUIPMENT, FURNITURE	2,000
TOTAL ADMINISTRATIVE EXPENDITURES	**2,926,630**

ALTOONA WATER AUTHORITY
WASTEWATER DIVISION
SEWER REVENUE FUND

	2019 BUDGET
EXPENDITURES-DISPOSAL PLANTS	
WAGES	1,338,792
TRAVEL/CONFERENCE/EDUCATION	16,000
PRETREATMENT MONITORING	60,000
TELEPHONE EXPENSE	4,500
SAFETY EQUIPMENT/CLOTHING	1,500
MAINTENANCE - PUMP STATIONS	4,000
SMALL TOOLS, EQUIPMENT, FURNITURE	10,000
TOTAL DISPOSAL PLANTS EXPENDITURES	**1,434,792**
EXPENDITURES - EASTERLY PLANT	
LAB COSTS & SUPPLIES	55,000
TELEPHONE EXPENSE	2,000
ELECTRICITY-PLANTS	350,000
CHEMICALS	70,000
MAINTENANCE-PLANTS	103,000
MAINTENANCE-CSO'S	15,000
SLUDGE DISPOSAL	20,000
NATURAL GAS & OIL	35,000
TOTAL EASTERLY PLANT EXPENDITURES	**650,000**
EXPENDITURES - WESTERLY PLANT	
LAB COSTS & SUPPLIES	55,000
TELEPHONE EXPENSE	10,000
ELECTRICITY-PLANTS	500,000
CHEMICALS	95,000
MAINTENANCE-PLANTS	204,000
MAINTENANCE-CSO'S	15,000
SLUDGE DISPOSAL	20,000
NATURAL GAS & OIL	55,000
TOTAL WESTERLY PLANT EXPENDITURES	**954,000**

ALTOONA WATER AUTHORITY
WASTEWATER DIVISION
SEWER REVENUE FUND

	2019 BUDGET
EXPENDITURES-SANITARY SEWERS	
WAGES	682,400
MAINTENANCE-BUILDING	4,000
GIS SYSTEM EXPENSE	11,200
TELEPHONE EXPENSE	2,400
SAFETY EQUIPMENT/CLOTHING	4,000
MATERIALS & SUPPLIES	180,000
MAINTENANCE-VEHICLE	40,000
GASOLINE & OIL	20,000
DIESEL FUEL	30,000
STREET CUTS	150,000
ONE CALL SYSTEM EXPENSE	4,000
SMALL TOOLS, EQUIPMENT, FURNITURE	3,000
TOTAL SANITARY SEWERS EXPENDITURES	**1,131,000**
EXPENDITURES-EMPLOYEE BENEFITS & INSURANCE	
SOCIAL SECURITY	154,621
WORKMENS COMPENSATION	68,000
PA UNEMPLOYMENT COMPENSATION	2,500
PENSION	230,000
GROUP LIFE, AD&D, LTD	30,000
HOSPITALIZATION & MAJR MEDICAL	636,354
HEALTH & WELFARE(AFSCME)	11,600
MEDICAL EXAMINATIONS	5,000
INSURANCE-FLEET	16,436
INSURANCE-ALL RISK PROPERTY	103,458
INSURANCE-BOILER MACHINERY	-
INSURANCE-PUBLIC OFFICIAL LIAB	3,474
CONTINGENCIES	-
TOTAL EMPLOYEE FRINGE BENEFITS & INSURANCE	**1,261,443**
TOTAL OPERATING EXPENDITURES	**8,357,865**

ALTOONA WATER AUTHORITY
WASTEWATER DIVISION
SEWER REVENUE FUND

	2019 BUDGET
CAPITAL EXPENTITURES	
CONSTRUCTION & RENEWAL	-
VEHICLES	431,000
OFFICE FURNITURE & EQUIPMENT	8,000
COMPUTER EQUIPMENT	15,500
PLANT EQUIPMENT/RENEWAL	-
OTHER EQUIPMENT	9,000
TOTAL CAPITAL EXPENDITURES	**463,500**
DEBT SERVICE & INTEREST	
DEBT SERVICE PAYMENT	4,154,608
TOTAL DEBT SERVICE PAYMENT	**4,154,608**
TOTAL EXPENDITURES	**12,975,973**
NET REVENUE/(DEFICIT)	**12,363**

CITY OF READING

COMBINING STATEMENT OF NET POSITION - WATER FUNDS

December 31, 2019

	City Water Fund	Reading Area Water Authority	Eliminations	Total Water Fund
ASSETS				
Current assets:				
Cash	$ 1,858,893	$ 13,894,351	$ -	$ 15,753,244
Investments	119,120	-	-	119,120
Accounts receivable, net	1,687	5,230,760	-	5,232,447
Interfund receivables	293,208	-	(224,755)	68,453
Inventory	-	160,309	-	160,309
Prepaid expenses	-	54,600	-	54,600
Total current assets	2,272,908	19,340,020	(224,755)	21,388,173
Restricted assets - cash and investments	-	9,570,456	-	9,570,456
Noncurrent assets:				
Capital assets not being depreciated	2,059,359	270,252	-	2,329,611
Capital assets, net of accumulated depreciation	9,380,774	66,185,454	-	75,566,228
Total capital assets, net	11,440,133	66,455,706	-	77,895,839
Rights to leased land	-	917,715	-	917,715
Total noncurrent assets	11,440,133	67,373,421	-	78,813,554
TOTAL ASSETS	13,713,041	96,283,897	(224,755)	109,772,183
DEFERRED OUTFLOWS				
Deferred charge on bond refunding	123,536	917,612	-	1,041,148
Deferred outflows of resources for pension	599,238	-	-	599,238
Deferred outflows of resources for other postemployment benefits	20,939	-	-	20,939
TOTAL DEFERRED OUTFLOWS	743,713	917,612	-	1,661,325
LIABILITIES				
Current liabilities:				
Accounts payable	14,606	378,233	-	392,839
Interfund payables	4,214,064	224,755	(224,755)	4,214,064
Accrued interest	-	297,398	-	297,398
Accrued payroll and compensated absences	-	790,915	-	790,915
Escrow deposits	-	107,245	-	107,245
Current portion notes and bonds payable	99,498	3,379,254	-	3,478,752
Total current liabilities	4,328,168	5,177,800	(224,755)	9,281,213
Noncurrent liabilities:				
Notes and Bonds payable, net	3,065,323	77,462,829	-	80,528,152
Net pension liability	1,178,813	-	-	1,178,813
Other postemployment benefits	144,972	-	-	144,972
Total noncurrent liabilities	4,389,108	77,462,829	-	81,851,937
TOTAL LIABILITIES	8,717,276	82,640,629	(224,755)	91,133,150
DEFERRED INFLOWS				
Deferred inflows of resources for pension	576,698	-	-	576,698
Deferred inflows of resources for other postemployment benefits	1,900	-	-	1,900
TOTAL DEFERRED INFLOWS	578,598	-	-	578,598
NET POSITION				
Net investment in capital assets	8,398,848	(13,468,765)	-	(5,069,917)
Restricted for debt service	-	7,592,650	-	7,592,650
Restricted for capital assets	-	1,879,990	-	1,879,990
Unrestricted	(3,237,968)	18,557,005	-	15,319,037
TOTAL NET POSITION	$ 5,160,880	$ 14,560,880	$ -	$ 19,721,760

See note to supplementary information.

CITY OF READING

COMBINING STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION - WATER FUNDS

Year Ended December 31, 2019

	City Water Fund	Reading Area Water Authority	Eliminations	Total Water Fund
OPERATING REVENUES				
Charges for services	$ 12,151,531	$ 32,093,301	$ (12,151,531)	$ 32,093,301
Other	487,110	41,836	-	528,946
TOTAL OPERATING REVENUES	12,638,641	32,135,137	(12,151,531)	32,622,247
OPERATING EXPENSES				
Lease payments	-	12,142,535	(12,142,535)	-
Personnel	441,051	6,372,046	-	6,813,097
Depreciation and amortization	596,856	4,311,994	-	4,908,850
Risk management	65,800	-	-	65,800
Contracted Services	-	907,019	-	907,019
Chemicals and supplies	-	1,173,058	-	1,173,058
Utilities	-	655,444	-	655,444
Other	1,869,230	3,016,908	(8,996)	4,877,142
TOTAL OPERATING EXPENSES	2,972,937	28,579,004	(12,151,531)	19,400,410
OPERATING INCOME	9,665,704	3,556,133	-	13,221,837
NONOPERATING REVENUES (EXPENSES)				
Intergovernmental revenue	-	125,000	-	125,000
Interest income	2,445	597,173	-	599,618
Interest expense	(154,896)	(3,768,727)	-	(3,923,623)
Gain (loss) on sale of solid waste accounts receivable	-	68,728	-	68,728
Other	-	19,797	-	19,797
NET NONOPERATING REVENUES (EXPENSES)	(152,451)	(2,958,029)	-	(3,110,480)
INCOME BEFORE TRANSFERS	9,513,253	598,104	-	10,111,357
Transfers out - lease payments	(9,774,710)	-	-	(9,774,710)
CHANGE IN NET POSITION	(261,457)	598,104	-	336,647
NET POSITION - BEGINNING OF YEAR - RESTATED	5,422,337	13,962,776	-	19,385,113
NET POSITION - END OF YEAR	$ 5,160,880	$ 14,560,880	$ -	$ 19,721,760

Financial Information

Net Position - The following schedule presents a summary of net position comparison at December 31, 2018, 2017, and 2016:

	2018	2017 (As Restated)	2016 (As Restated)
Assets			
Unrestricted current assets	**$ 25,886,197**	$ 24,371,571	$ 20,614,911
Restricted current assets	**3,389,010**	11,067,725	19,177,064
Capital assets, net	**64,973,550**	59,036,648	55,262,527
Other asset	**351,810**	1,020,000	1,020,000
Deferred Outflow of Resources	**1,054,979**	1,197,798	1,346,286
Total Assets and Deferred Outflow of Resources	**$ 102,255,546**	$ 96,693,742	$ 97,420,788
Liabilities			
Current liabilities	**$ 7,496,258**	$ 5,387,837	$ 5,985,559
Long-term debt	**80,796,512**	84,017,089	87,200,895
Total Liabilities	**$ 88,292,770**	$ 89,404,926	$ 93,186,454
Net Position			
Net investment in capital assets	**$ (18,130,096)**	$ (27,177,795)	$ (22,222,481)
Restricted for debt service	**7,513,275**	7,426,839	7,409,503
Unrestricted	**24,579,597**	27,039,772	19,047,312
Total Net Position	**$ 13,962,776**	$ 7,288,816	$ 4,234,334

Current liabilities increased by 39.1% in 2018 compared to a decrease by 10.0% in 2017 and an increase by 20.7% in 2016. The 2018 increase is attributable to increases in capital accounts payable.

Revenues - The following schedule presents a summary of revenues for the years ended December 31, 2018, 2017, and 2016:

	2018	2017	2016
Operating Revenues			
Water billings	**$ 29,663,185**	$ 29,736,140	$ 29,622,297
Interest and penalty charges	**541,209**	472,340	586,502
Tampered meter and other charges	**310,720**	449,933	591,344
Tapping and connection fees	**50,610**	177,175	86,244
Abandonment fees	**20,107**	60,907	32,001
Total Operating Revenues	**$ 30,585,831**	$ 30,896,495	$ 30,918,388

The 2018 fiscal year's total operating revenue decreased by 1.0% compared to 2017, and decreased by 0.1% and increased by 11.7% in 2017 and 2016, respectively.

Financial Information (continued)

Expenses - The following schedule presents a summary of expenses for the years ended December 31, 2018, 2017, and 2016:

	2018	2017 (As Restated)	2016 (As Restated)
Operating Expenses			
Lease payments, City of Reading	**$ 11,640,032**	$ 11,426,339	$ 11,441,419
Chemical supplies	**1,051,101**	746,486	1,197,002
Meter reading	**-**	-	539,483
Salaries, payroll taxes, and employee benefits	**6,213,345**	5,877,245	5,529,809
Contracted services	**967,302**	849,520	1,089,676
Other	**3,895,738**	3,176,042	2,881,120
Total Operating Expenses	**$ 23,767,518**	$ 22,075,632	$ 22,678,509

The $1,691,886 increase in expenses is primarily the result of the increase in chemical supplies, salaries, payroll taxes and employee benefits, and bad debt expense.

Changes in Net Position - The following schedule presents a summary of changes in net position for the years ended December 31, 2018, 2017, and 2016:

	2018	2017 (As Restated)	2016 (As Restated)
Operating revenues	**$ 30,585,831**	$ 30,896,495	$ 30,918,388
Operating expenses	**23,767,518**	22,075,632	22,678,509
Operating Income before Depreciation	**6,818,313**	8,820,863	8,239,879
Depreciation and amortization	**3,872,439**	3,304,835	2,946,682
Operating Income	**2,945,874**	5,516,028	5,293,197
Nonoperating revenues (expenses), net	**3,728,086**	(2,461,546)	(3,468,433)
Increase in Net Position	**$ 6,673,960**	$ 3,054,482	$ 1,824,764

LANCASTER AREA SEWER AUTHORITY
Statements of Net Position
March 31, 2021 and 2020

	2021	2020
Assets and Deferred Outflows of Resources		
Current Assets		
Cash and cash equivalents	$ 4,644,074	$ 2,445,432
Funds in custody of trustee, restricted cash	4,210,000	6,209,890
Investments	-	1,500,000
Accounts receivable	3,593,825	2,752,178
Prepaid expenses	71,764	69,116
Total Current Assets	12,519,663	12,976,616
Capital Assets		
Capital assets not being depreciated		
Land	875,181	95,181
Construction in progress	4,742,245	5,206,076
Capital assets being depreciated		
Sewer system - lines	122,165,152	112,758,402
Sewer system - pump stations	41,931,866	41,163,499
Sewer system - treatment plant	72,170,735	70,517,190
Buildings and improvements	4,090,201	3,669,937
Technology	1,424,091	1,424,091
Vehicles	2,529,916	2,346,319
Equipment	1,077,480	996,387
Accumulated depreciation	(103,992,369)	(97,771,861)
Capital Assets, Net	147,014,498	140,405,221
Accounts receivable, net of current portion	161,167	188,278
Funds in custody of trustee, restricted cash, net of current portion	21,447,170	19,013,907
Funds in custody of trustee, restricted investments	4,337,053	6,978,398
Total Assets	185,479,551	179,562,420
Deferred Outflows of Resources		
Pension	496,415	957,717
Total Assets and Deferred Outflows of Resources	$ 185,975,966	$ 180,520,137

The Notes to Financial Statements are an integral part of these statements. | 14

LANCASTER AREA SEWER AUTHORITY
Statements of Revenues, Expenses, and Changes in Net Position
Years Ended March 31, 2021 and 2020

	2021	2020
Operating Revenue		
Sewer rental	$ 22,534,309	$ 21,682,126
Industrial waste surcharges	357,471	416,698
Bulk treatment fees	406,091	118,171
Trucked waste program	503,123	465,481
Interest and penalties	254,311	317,239
Miscellaneous income	321,335	304,333
Total operating revenue	24,376,640	23,304,048
Operating Expenses		
Administrative	3,841,748	4,069,985
Collection department	7,913,564	6,702,101
Treatment plant	5,168,757	4,508,047
Pretreatment program and laboratory department	306,245	346,310
Columbia Borough	741,975	776,025
West Earl	335,295	-
Total operating expenses	18,307,584	16,402,468
Operating income	6,069,056	6,901,580
Nonoperating Revenues (Expenses)		
Interest income	99,485	793,490
Tapping fees	1,322,458	1,123,675
Capacity reservation fees	287,960	215,181
Proceeds from sale of assets	66,100	40,911
Interest expense	(2,519,082)	(2,603,702)
Bond issue costs	(109,314)	-
Amortization	555,179	286,257
Total nonoperating revenues (expenses)	(297,214)	(144,188)
Income before capital contributions	5,771,842	6,757,392
Capital contributions	1,075,815	851,741
Increase in net position	6,847,657	7,609,133
Net position at beginning of year	104,086,085	96,476,952
Net position at end of year	$ 110,933,742	$ 104,086,085

Table 2 below shows a Condensed Statement of Revenue, Expenses, and Changes in Net Position for the years ended March 31, 2018, 2017, and 2016. The change in net position increased from $ 4.6 million in fiscal year 2017 to $ 9.0 million in fiscal year 2018. Operating income increased $ 381,000 over last year while non-operating revenue (expense) increased $ 3.2 million over fiscal year 2017.

	2018	2017	2016
Operating revenue	$ 21,499,186	$ 20,849,832	$ 19,713,716
Operating expenses	15,978,558	15,710,138	14,557,000
Operating income	5,520,628	5,139,694	5,156,716
Non-operating revenue (expenses)	2,251,417	(908,165)	(1,983,244)
Income before capital contribution	7,772,045	4,231,529	3,173,472
Capital contribution	1,224,093	324,142	551,477
Change in net position	8,996,138	4,555,671	3,724,949
Net position, beginning of year	81,380,843	76,825,172	73,100,223
Net position, end of year	$ 90,376,981	$ 81,380,843	$ 76,825,172

Table 2 - Condensed Statement of Revenues, Expenses, and Changes in Net Position

Table 3 and Table 4 below show a breakdown of fiscal year 2018 Operating Revenue and Operating Expenses, respectively.

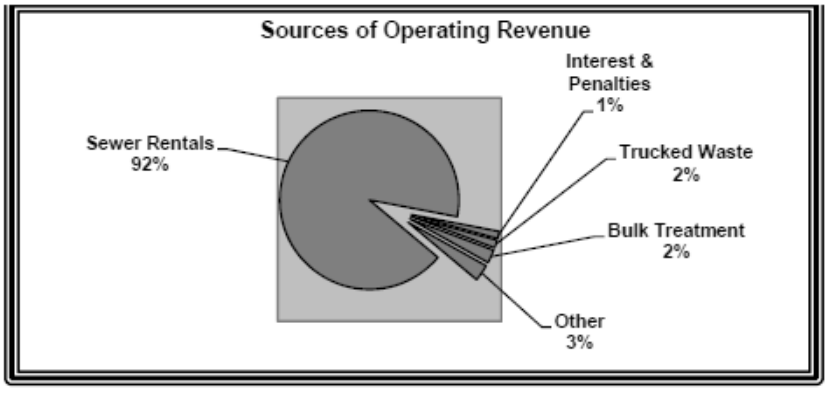


Table 3 - Sources of Operating Revenue - Fiscal Year 2018

Financial Analysis (Continued)

Table 2 below shows a Condensed Statement of Revenue, Expenses, and Changes in Net Position for the years ended March 31, 2019, 2018, and 2017. The change in net position decreased from $ 9.0 million in fiscal year 2018 to $ 6.1 million in fiscal year 2019. Operating income increased $ 564,000 over last year while non-operating revenue (expense) decreased $ 3.1 million over fiscal year 2018.

	2019	2018	2017
Operating revenue	$ 22,974,614	$ 21,499,186	$ 20,849,832
Operating expenses	16,889,502	15,978,558	15,710,138
Operating income	6,085,112	5,520,628	5,139,694
Non-operating revenue (expenses)	(825,158)	2,251,417	(908,165)
Income before capital contribution	5,259,954	7,772,045	4,231,529
Capital contribution	840,017	1,224,093	324,142
Change in net position	6,099,971	8,996,138	4,555,671
Net position, beginning of year	90,376,981	81,380,843	76,825,172
Net position, end of year	$ 96,476,952	$ 90,376,981	$ 81,380,843

Table 2 - Condensed Statement of Revenues, Expenses, and Changes in Net Position

Table 3 and Table 4 below show a breakdown of fiscal year 2019 Operating Revenue and Operating Expenses, respectively.

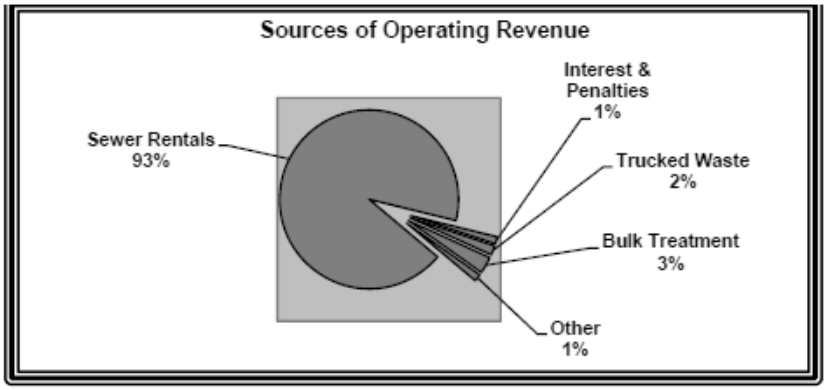


Table 3 - Sources of Operating Revenue - Fiscal Year 2019

Table 2 below shows a Condensed Statement of Revenue, Expenses, and Changes in Net Position for the years ended March 31, 2020, 2019, and 2018. The change in net position increased from $ 6.1 million in fiscal year 2019 to $ 7.6 million in fiscal year 2020. Operating income increased $ 847,000 over last year while non-operating expenses decreased $ 650,000 over fiscal year 2019.

	2020	2019	2018
Operating revenue	$ 23,304,048	$ 22,943,962	$ 21,499,186
Operating expenses	16,402,468	16,889,502	15,978,558
Operating income	6,901,580	6,054,460	5,520,628
Non-operating revenue (expenses)	(144,188)	(794,506)	2,251,417
Income before capital contribution	6,757,392	5,259,954	7,772,045
Capital contribution	851,741	840,017	1,224,093
Change in net position	7,609,133	6,099,971	8,996,138
Net position, beginning of year	96,476,952	90,376,981	81,380,843
Net position, end of year	$ 104,086,085	$ 96,476,952	$ 90,376,981

Table 2 - Condensed Statement of Revenues, Expenses, and Changes in Net Position

Table 3 and Table 4 below show a breakdown of fiscal year 2020 Operating Revenue and Operating Expenses, respectively.

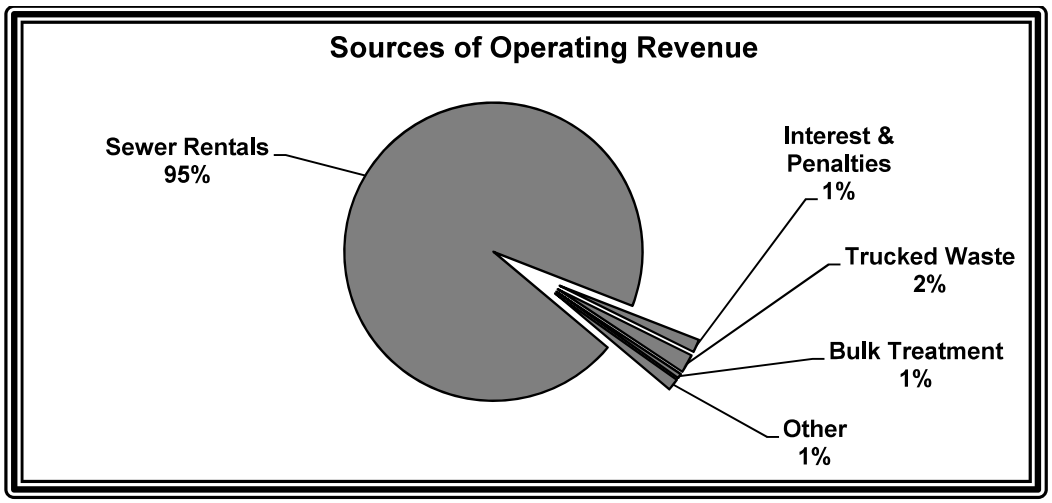


Table 3 - Sources of Operating Revenue - Fiscal Year 2020

Revenue

In fiscal year 2018, revenue exceeded budgeted revenue by 7.2% resulting from capacity reservation and tapping fee income exceeding budget, which offset below-budget investment and other income.

Expenses

Expenses, excluding depreciation, were 5.3% over budget. Interest expense was below budget as 52% of paid interest expense was capitalized as project costs. This was offset by above-budget expenditures in Administrative and Treatment Plant expenses. Higher than budgeted legal expenses of $ 31,000 and amortization of pension liability of $ 58,000 generated above-budget Administrative expenses. Treatment plant expenses for nutrient credit purchases to remain in compliance with the Authority's discharge permit were over-budget by $ 62,000 and expenses for sludge disposal were over-budget by $ 91,000. Above-budget expense for depreciation of $ 573,000 accounts for 71.2% of the negative budget variance in operating expenses.

CAPITAL ASSETS AND DEBT ADMINISTRATION

Capital Assets

The Authority's capital assets, net of accumulated depreciation, as of March 31, 2018 were $ 141.2 million. The Authority capitalizes all assets costing more than $ 20,000 whose expected life exceeds 12 months. A condensed statement of capital assets for fiscal years 2018, 2017, and 2016 is presented in Table 6 below. Additional information on the Authority's capital assets can be found in Note 5 of the financial statements.

	2018	2017	2016
Construction in progress	$ 41,124,606	$ 24,247,571	$ 8,328,405
Land	95,181	95,181	95,181
Sewer System			
Lines	102,594,800	99,909,426	99,088,012
Pump stations	38,845,592	33,042,528	32,887,101
Treatment plant	38,193,779	38,039,056	37,266,392
Buildings and improvements	3,640,150	3,640,150	3,199,420
Technology	1,424,091	1,353,402	1,295,369
Vehicles	2,291,170	1,760,826	1,706,256
Equipment	830,745	830,745	830,745
	229,040,114	202,918,885	184,696,881
Total accumulated depreciation	(87,820,739)	(83,211,180)	(78,843,305)
Total Capital Assets	$ 141,219,375	$ 119,707,705	$ 105,853,576

**Table 6 - Condensed Statement of Capital Assets -
Fiscal Years 2018, 2017, and 2016**

Budgetary Highlights (Continued)

Revenue

In fiscal year 2019, actual revenue exceeded budgeted revenue by $ 820,000 resulting from sewer rental, investment, and other income exceeding budget. These were partially offset by below-budget revenue in capacity reservation and tapping fee income.

Expenses

Expenses, excluding depreciation, were $ 1.5 million over budget. Above average rainfall generated a 40% increase in flow through the collection system and treatment plant for the year. Consequently, electricity and chemical costs, sewer treatment costs from the City of Lancaster and the Borough of Columbia, and nutrient credit purchase costs were $ 1.4 million over budget. When combined with extensive rehabilitation of the centrifuge at the treatment plant, the operating expenses, excluding depreciation, exceeded budget by $ 1.5 million. Above-budget expense for depreciation of $ 308,000 accounts for the balance of the negative budget variance in operating expenses.

CAPITAL ASSETS AND DEBT ADMINISTRATION

Capital Assets

The Authority's capital assets, net of accumulated depreciation, as of March 31, 2019 were $ 142.3 million. The Authority capitalizes all assets costing more than $ 20,000 whose expected life exceeds 12 months. A condensed statement of capital assets for fiscal years 2019, 2018, and 2017 is presented in Table 6 below. Additional information on the Authority's capital assets can be found in Note 5 of the financial statements.

	2019	2018	2017
Construction in progress	$ 37,011,554	$ 41,124,606	$ 24,247,571
Land	95,181	95,181	95,181
Sewer System			
Lines	110,392,727	102,594,800	99,909,426
Pump stations	40,897,235	38,845,592	33,042,528
Treatment plant	38,262,279	38,193,779	38,039,056
Buildings and improvements	3,640,150	3,640,150	3,640,150
Technology	1,424,091	1,424,091	1,353,402
Vehicles	2,295,745	2,291,170	1,760,826
Equipment	977,181	830,745	830,745
	234,996,143	229,040,114	202,918,885
Total accumulated depreciation	(92,678,068)	(87,820,739)	(83,211,180)
Total Capital Assets	$ 142,318,075	$ 141,219,375	$ 119,707,705

**Table 6 - Condensed Statement of Capital Assets -
Fiscal Years 2019, 2018, and 2017**

In fiscal year 2020, actual revenue was below budgeted revenue by $ 7,000 resulting from below-budget revenue in sewer rental and surcharges. These were offset by above-budget revenue in capacity reservation and tapping fee income and investment income.

Expenses

Expenses were $ 127,000 under budget. Above-budget expenses for required equipment maintenance in our collection system were offset by below-budget depreciation costs as well as below-budget expenditures at the treatment plant and laboratory.

CAPITAL ASSETS AND DEBT ADMINISTRATION

Capital Assets

The Authority's total capital assets, net of accumulated depreciation, as of March 31, 2020 were $ 140.4 million. The Authority capitalizes all assets costing more than $ 20,000 whose expected life exceeds 12 months. A condensed statement of capital assets for fiscal years 2020, 2019, and 2018 is presented in Table 6 below. Additional information on the Authority's capital assets can be found in Note 5 of the financial statements.

	2020	2019	2018
Construction in progress	$ 5,206,076	$ 37,011,554	$ 41,124,606
Land	95,181	95,181	95,181
Sewer System			
Lines	112,758,402	110,392,727	102,594,800
Pump stations	41,163,499	40,897,235	38,845,592
Treatment plant	70,517,190	38,262,279	38,193,779
Buildings and improvements	3,669,937	3,640,150	3,640,150
Technology	1,424,091	1,424,091	1,424,091
Vehicles	2,346,319	2,295,745	2,291,170
Equipment	996,387	977,181	830,745
	238,177,082	234,996,143	229,040,114
Total accumulated depreciation	(97,771,861)	(92,678,068)	(87,820,739)
Total Capital Assets	$ 140,405,221	$ 142,318,075	$ 141,219,375

Table 6 - Condensed Statement of Capital Assets -
Fiscal Years 2020, 2019, and 2018

Debt Administration

As of March 31, 2020, the Authority had $ 66.4 million of bonds outstanding including $ 56.5 million in Sewer Revenue Bonds and $ 9.9 million of bonds through a subsidy agreement with the Borough of Columbia. Unamortized bond premiums of $ 2.8 million bring the total bonds payable liability to $ 69.3 million. Bond principal payments of $ 5.8 million and amortization of bond premiums of $ 0.3 million reduced the total bonds payable liability by $ 6.1 million from the March 31, 2019 balance of $ 75.4 million.

MUNICIPAL AUTHORITY OF WESTMORELAND COUNTY
Statements of Net Position
March 31, 2021 and 2020

	2021	2020
Current Assets		
Cash and cash equivalents, unrestricted (Note 3)	$ 32,955,491	$ 29,663,969
Accounts receivable, customers (net of allowance for doubtful accounts of $474,033 in 2021 and 2020)	6,110,790	7,014,694
Unbilled water and sewer service	10,669,704	10,722,797
Surcharges receivable, current portion	350,000	350,000
Other receivables	235,285	216,612
Material and supplies	3,914,453	3,630,945
Prepaid expenses	1,023,104	1,121,573
Total Current Assets	55,258,827	52,720,590
Property, Plant and Equipment		
Property, plant and equipment (Note 2)	857,061,066	813,804,411
Less: accumulated depreciation	(239,562,788)	(225,388,158)
Property, Plant and Equipment, Net	617,498,278	588,416,253
Non-Current Assets		
Surcharges receivable, net of current portion and allowance for doubtful accounts of $200,000 in 2021 and 2020	1,166,543	1,465,670
Prepaid bond insurance	920,538	867,810
Restricted assets:		
Special funds held by trustee (Note 4 & 5)	140,795,056	176,264,906
Restricted cash held by the Authority (Note 6)	3,613,385	6,663,291
Total Non-Current Assets	146,495,522	185,261,677
Total Assets	819,252,627	826,398,520
Deferred Outflows of Resources		
Net difference between projected and actual earnings on pension plan investments	-	7,199,443
Changes in assumptions related to pensions	29,403	-
Difference between expected and actual experience related to pensions	549,765	835,078
Contribution to pension plan subsequent to measurement date	51,812	-
Difference between expected and actual experience related to OPEB	16,345	20,431
Changes in assumptions related to OPEB	7,818,150	7,138,277
Deferred losses on bond refundings, net of amortization (Note 8)	3,104,156	3,413,275
Total Deferred Outflows of Resources	11,569,631	18,606,504

(continued)
See accompanying notes to the financial statements.

MUNICIPAL AUTHORITY OF WESTMORELAND COUNTY
Statements of Revenues, Expenses and Changes in Net Position
Fiscal Years Ended March 31, 2021 and 2020

	2021	2020
Operating Revenues		
Water	$ 88,548,010	$ 86,373,308
Wastewater	17,024,421	16,156,229
Other operating revenues	1,945,458	2,930,304
Total Operating Revenues	107,517,889	105,459,841
Operating Expenses		
Source of supply	1,075,085	1,072,453
Treatment system	8,688,752	8,651,822
Distribution	21,126,537	20,592,367
Engineering	1,674,676	1,599,655
Wastewater system	9,424,097	8,871,707
Landfill	4,842	4,790
Depreciation and amortization	15,777,383	14,151,165
Commercial and general	21,858,960	25,934,541
Management fee	1,350,000	1,300,000
Total Operating Expenses	80,980,332	82,178,500
Operating Income Before Non-Operating Expenses	26,537,557	23,281,341
Non-Operating Revenues (Expenses)		
Investment income	2,891,362	4,775,646
Net increase in the fair value of investments	40,103	43,786
Interest expense	(19,831,042)	(21,188,625)
Loss on disposals of property, plant and equipment	(199,495)	(775,797)
Total Non-Operating Expenses	(17,099,072)	(17,144,990)
Income Before Capital Contributions	9,438,485	6,136,351
Capital Contributions	6,497,060	5,193,678
Increase in Net Position	15,935,545	11,330,029
Total Net Position, Beginning of Fiscal Year	156,507,789	145,177,760
Total Net Position, End of Fiscal Year	$ 172,443,334	$ 156,507,789

See accompanying notes to the financial statements.

MUNICIPAL AUTHORITY OF WESTMORELAND COUNTY
Statements of Net Position
March 31, 2020 and 2019

	2020	2019
Current Assets		
Cash and cash equivalents, unrestricted (Note 3)	$ 29,663,969	$ 27,812,712
Accounts receivable, customers (net of allowance for doubtful accounts of $474,033 in 2020 and $473,827 in 2019)	7,014,694	6,547,940
Unbilled water and sewer service	10,722,797	9,852,958
Surcharges receivable, current portion	350,000	350,000
Other receivables	216,612	498,933
Material and supplies	3,630,945	2,868,304
Prepaid expenses	1,121,573	352,547
Total Current Assets	52,720,590	48,283,394
Property, Plant and Equipment		
Property, plant and equipment (Note 2)	816,019,835	767,648,700
Less: accumulated depreciation	(225,388,158)	(213,403,548)
Property, Plant and Equipment, Net	590,631,677	554,245,152
Non-Current Assets		
Surcharges receivable, net of current portion and allowance for doubtful accounts of $200,000 in 2020 and 2019	1,465,670	1,509,942
Prepaid bond insurance	867,810	913,328
Restricted assets:		
Special funds held by trustee (Note 4 & 5)	176,264,906	207,837,151
Restricted cash held by the Authority (Note 6)	6,663,291	16,415,126
Total Non-Current Assets	185,261,677	226,675,547
Total Assets	828,613,944	829,204,093
Deferred Outflows of Resources		
Net difference between projected and actual earnings on pension plan investments	7,199,443	30,552
Changes in assumptions related to pensions	-	57,541
Difference between expected and actual experience related to pensions	835,078	602,541
Contribution to pension plan subsequent to measurement date	-	150,548
Difference between expected and actual experience related to OPEB	20,431	24,517
Changes in assumptions related to OPEB	7,138,277	1,501,026
Deferred losses on bond refundings, net of amortization (Note 8)	3,413,275	4,283,283
Total Deferred Outflows of Resources	18,606,504	6,650,008

(continued)

See accompanying notes to the financial statements.

MUNICIPAL AUTHORITY OF WESTMORELAND COUNTY
Statements of Net Position
March 31, 2019 and 2018

	2019	Restated 2018
Current Assets		
Cash and cash equivalents, unrestricted (Note 3)	$ 27,812,712	$ 19,209,356
Accounts receivable, customers (net of allowance for doubtful accounts of $473,827 in 2019 and $470,533 in 2018)	6,547,940	6,298,373
Unbilled water and sewer service	9,852,958	9,851,714
Surcharges receivable, current portion	350,000	350,000
Other receivables	498,933	1,070,190
Inventory - material and supplies	2,868,304	2,515,551
Prepaid expenses	352,547	200,121
Total Current Assets	48,283,394	39,495,305
Property, Plant and Equipment		
Property, plant and equipment (Note 2)	767,648,700	711,563,565
Less: accumulated depreciation	(213,403,548)	(201,495,896)
Property, Plant and Equipment, Net	554,245,152	510,067,669
Non-Current Assets		
Surcharges receivable, net of current portion and allowance for doubtful accounts of $200,000 in 2019 and 2018	1,509,942	1,653,673
Prepaid bond insurance	913,328	958,845
Restricted assets:		
Special funds held by trustee (Note 4 & 5)	207,837,151	234,717,525
Restricted cash held by the Authority (Note 6)	16,415,126	19,597,310
Total Non-Current Assets	226,675,547	256,927,353
Total Assets	829,204,093	806,490,327
Deferred Outflows of Resources		
Net difference between projected and actual earnings on pension plan investments	30,552	-
Changes in assumptions related to pensions	57,541	77,283
Difference between expected and actual experience related to pensions	602,541	825,024
Contribution to pension plan subsequent to measurement date	150,548	56,041
Difference between expected and actual experience related to OPEB	24,517	-
Changes in assumptions related to OPEB	1,501,026	-
Deferred losses on bond refundings, net of amortization (Note 8)	4,283,283	4,612,214
Total Deferred Outflows of Resources	6,650,008	5,570,562

(continued)

See accompanying notes to the financial statements.

MUNICIPAL AUTHORITY OF WESTMORELAND COUNTY
Statements of Net Position
March 31, 2018 and 2017

	2018	2017
Current Assets		
Cash and cash equivalents, unrestricted (Note 3)	$ 19,209,356	$ 15,067,865
Accounts receivable, customers (net of allowance for doubtful accounts of $470,533 in 2018 and $458,506 in 2017)	6,298,373	5,597,012
Unbilled water and sewer service	9,851,714	9,777,602
Surcharges receivable, current portion	350,000	350,000
Other receivables	1,070,190	5,178,590
Inventory - material and supplies	2,515,551	2,289,998
Prepaid expenses	200,121	129,312
Total Current Assets	39,495,305	38,390,379
Property, Plant and Equipment		
Property, plant and equipment (Note 2)	711,563,565	662,320,792
Less: accumulated depreciation	(201,495,896)	(189,824,163)
Property, Plant and Equipment, net	510,067,669	472,496,629
Non-Current Assets		
Surcharges receivable, net of current portion and allowance for doubtful accounts of $200,000 in 2018 and 2017	1,653,673	1,959,138
Prepaid bond insurance	958,845	596,655
Restricted assets:		
Special funds held by trustee (Note 4 & 5)	234,717,525	254,963,842
Restricted cash held by authority (Note 6)	19,597,310	19,003,328
Total Non-Current Assets	256,927,353	276,522,963
Total Assets	806,490,327	787,409,971
Deferred Outflows of Resources		
Net difference between projected and actual earnings on pension plan investments	-	170,728
Changes in assumptions related to pensions	77,283	-
Difference between expected and actual experience related to pensions	825,024	104,074
Contribution to pension plan subsequent to measurement date	56,041	-
Deferred losses on bond refundings, net of amortization (Note 8)	4,612,214	1,205,212
Total Deferred Outflows of Resources	5,570,562	1,480,014

(continued)

See accompanying notes to the financial statements.

MUNICIPAL AUTHORITY OF WESTMORELAND COUNTY
Statements of Revenues, Expenses and Changes in Net Position
Fiscal Years Ended March 31, 2020 and 2019

	2020	2019
Operating Revenues		
Water	$ 86,373,308	$ 86,597,707
Wastewater	16,156,229	15,286,438
Other operating revenues	2,930,304	5,450,849
Total Operating Revenues	105,459,841	107,334,994
Operating Expenses		
Source of supply	1,072,453	935,776
Treatment system	8,651,822	8,810,618
Distribution	20,592,367	18,735,370
Engineering	1,599,655	1,530,906
Wastewater system	8,871,707	8,444,588
Landfill	4,790	4,765
Depreciation and amortization	14,151,165	13,433,385
Commercial and general	25,934,541	27,059,890
Management fee	1,300,000	1,300,000
Total Operating Expenses	82,178,500	80,255,298
Operating Income Before Non-Operating Expenses	23,281,341	27,079,696
Non-Operating Revenues (Expenses)		
Investment income	4,775,646	4,943,913
Net increase in the fair value of investments	43,786	20,450
Interest expense	(21,188,625)	(20,975,541)
Loss on disposals of property, plant and equipment	(775,797)	(403,367)
Total Non-Operating Expenses	(17,144,990)	(16,414,545)
Income Before Capital Contributions	6,136,351	10,665,151
Capital Contributions	5,193,678	6,523,749
Increase in Net Position	11,330,029	17,188,900
Total Net Position, Beginning of Fiscal Year	145,177,760	127,988,860
Total Net Position, End of Fiscal Year	$ 156,507,789	$ 145,177,760

See accompanying notes to the financial statements.

MUNICIPAL AUTHORITY OF WESTMORELAND COUNTY
Statements of Revenues, Expenses and Changes in Net Position
Fiscal Years Ended March 31, 2019 and 2018

	2019	Restated 2018
Operating Revenues		
Water	$ 86,597,707	$ 81,638,410
Wastewater	15,286,438	14,901,786
Other operating revenues	5,450,849	3,527,303
Total Operating Revenues	107,334,994	100,067,499
Operating Expenses		
Source of supply	935,776	865,364
Treatment system	8,810,618	8,002,831
Distribution	18,735,370	17,775,014
Engineering	1,530,906	1,307,465
Wastewater system	8,444,588	8,509,813
Landfill	4,765	43,367
Depreciation and amortization	13,433,385	12,577,264
Commercial and general	27,059,890	28,228,521
Management fee	1,300,000	1,225,000
Total Operating Expenses	80,255,298	78,534,639
Operating Income Before Non-Operating Revenues	27,079,696	21,532,860
Non-Operating Revenues (Expenses)		
Investment income	4,943,913	3,535,070
Net increase (decrease) in the fair value of investments	20,450	(407,750)
Interest expense	(20,975,541)	(15,262,836)
Loss on disposals of property	(403,367)	(336,175)
Total Non-Operating Expenses	(16,414,545)	(12,471,691)
Income Before Capital Contributions	10,665,151	9,061,169
Capital Contributions	6,523,749	13,400,327
Increase in Net Position	17,188,900	22,461,496
Total Net Position, Beginning of Fiscal Year	127,988,860	135,957,658
Prior Period Adjustment, see Note 19	-	(30,430,294)
Total Net Position, End of Fiscal Year	$ 145,177,760	$ 127,988,860

See accompanying notes to the financial statements.

MUNICIPAL AUTHORITY OF WESTMORELAND COUNTY
Statements of Revenues, Expenses and Changes in Net Position
Fiscal Years Ended March 31, 2018 and 2017

	2018	2017
Operating Revenues		
Water	$ 81,638,410	$ 77,440,502
Wastewater	14,901,786	14,121,562
Other operating revenues	3,527,303	2,858,021
Total Operating Revenues	100,067,499	94,420,085
Operating Expenses		
Source of supply	865,364	861,886
Treatment system	8,002,831	8,006,826
Distribution	17,775,014	17,459,687
Engineering	1,307,465	1,271,392
Wastewater system	8,509,813	7,632,386
Landfill	43,367	12,005
Depreciation and amortization	12,577,264	11,562,121
Commercial and general	28,228,521	25,817,145
Management fee	1,225,000	1,200,000
Total Operating Expenses	78,534,639	73,823,448
Operating Income Before Non-Operating Revenues	21,532,860	20,596,637
Non-Operating Revenues (Expenses)		
Investment income	3,535,070	3,225,914
Net increase (decrease) in the fair value of investments	(407,750)	431,964
Interest expense	(15,262,836)	(15,032,096)
Loss on disposals of property	(336,175)	(1,732,987)
Total Non-Operating Expenses	(12,471,691)	(13,107,205)
Income Before Capital Contributions	9,061,169	7,489,432
Capital Contributions	13,400,327	13,432,729
Increase in Net Position	22,461,496	20,922,161
Total Net Position, Beginning of Year	135,957,658	115,035,497
Total Net Position, End of Year	$ 158,419,154	$ 135,957,658

See accompanying notes to the financial statements.

ERIE CITY WATER AUTHORITY
(AKA ERIE WATER WORKS)
Statement of Net Position
December 31, 2020 and 2019

	2020	2019
ASSETS AND DEFERRED OUTFLOWS OF RESOURCES		
Current Assets		
Cash and cash equivalents	**$ 15,840,370**	$ 12,385,206
Restricted cash - workers' compensation fund	**279,455**	338,915
Investments - cash and certificates of deposit (at par)	**795,109**	846,875
Receivables - customers, net	**5,791,611**	3,974,224
Current portion of customer receivables	**19,600**	19,600
Inventories, at cost	**1,549,331**	1,627,035
Prepaid expenses	**1,340,963**	865,774
Total current assets	**25,616,439**	20,057,629
Non-Current Assets		
Restricted investments		
Amount provided for retirement of long-term debt	**7,686,000**	8,864,436
Amount provided for future system improvements	**11,941,433**	19,881,874
Board designated reserve for capital expenditures	**5,000,000**	5,000,000
Investment in self-liquidity bonds	**5,225,000**	5,325,000
Long-term customer receivables	**117,932**	137,221
Capital assets, net of accumulated depreciation		
Contributed capital assets	**2,508,257**	2,829,653
Purchased capital assets	**197,500,684**	191,269,705
Total non-current assets	**229,979,306**	233,307,889
Total assets	**255,595,745**	253,365,518
Deferred Outflows of Resources		
Deferred City of Erie lease payments	**103,067,058**	5,033,530
Changes in pension experience	**1,753,594**	1,254,876
Changes in pension investment returns	**-**	-
Changes in pension assumptions	**1,969,111**	2,724,471
Deferred loss on advanced bond refunding, net	**23,376,680**	11,836,635
Deferred bond swap fee, net	**11,179,830**	11,912,546
Total deferred outflow of resources	**141,346,273**	32,762,058
Total assets and deferred outflow of resources	**$ 396,942,018**	$ 286,127,576

The notes to the financial statements are an integral part of these statements.

ERIE CITY WATER AUTHORITY
(AKA ERIE WATER WORKS)
Statement of Revenues, Expenses and Changes in Net Position
December 31, 2020 and 2019

	2020	2019
Operating revenues	**$ 40,725,085**	$ 40,086,711
Operating expenses		
Personnel	**6,112,365**	6,345,483
Personnel benefits	**3,504,971**	4,689,942
Supplies and materials	**2,012,909**	2,010,029
Other services and charges	**5,037,083**	5,498,375
City of Erie lease	**2,850,000**	3,600,000
Total operating expenses	**19,517,328**	22,143,829
Operating income before depreciation	**21,207,757**	17,942,882
Depreciation	**7,746,138**	8,393,230
Operating income	**13,461,619**	9,549,652
Non-operating revenue (expense)		
Interest expense	**(13,588,313)**	(12,123,859)
Other revenue (expense), net	**(153,290)**	1,651,260
Net loss before contributed capital	**(279,984)**	(922,947)
Capital asset contributions	**-**	-
CHANGE IN NET POSITION	**(279,984)**	(922,947)
Net Position		
Beginning of year	**(55,786,094)**	(54,863,147)
End of year	**$ (56,066,078)**	$ (55,786,094)

The notes to the financial statements are an integral part of these statements.

Erie City Water Authority
Statements of Financial Position

	As of December 31,			
	2019	2018	Change	% Change
ASSETS				
Current assets	$ 20,057,629	$ 17,026,267	$ 3,031,362	17.80%
Restricted investments	28,746,310	32,386,195	(3,639,885)	-11.24%
Capital assets, net of accumulated depreciation	194,099,358	191,070,499	3,028,859	1.59%
Other non-current assets	10,462,221	10,481,961	(19,740)	-0.19%
Deferred outflows of resources	32,762,058	34,530,203	(1,768,145)	-5.12%
Total Assets and Deferred Outflows	$ 286,127,576	$ 285,495,125	$ 632,451	0.22%
LIABILITIES AND NET POSITION				
Current liabilities	$ 7,175,123	$ 8,766,073	$ (1,590,950)	-18.15%
Long-term debt, net of unaccreted discounts	306,968,863	310,547,787	(3,578,924)	-1.15%
Other non-current liabilities	25,881,649	21,044,412	4,837,237	22.99%
Deferred inflow of resources	1,888,035	-	1,888,035	0.00%
Total liabilities and deferred inflow of resources	341,913,670	340,358,272	1,555,398	0.46%
Net position -				
Net investment in capital assets	15,948,959	11,468,894	4,480,065	39.06%
Restricted for capital projects, debt service	8,864,436	9,849,537	(985,101)	-10.00%
Unrestricted	(80,599,489)	(76,181,578)	(4,417,911)	5.80%
Total net position	(55,786,094)	(54,863,147)	(922,947)	1.68%
Total liabilities and net position	$ 286,127,576	$ 285,495,125	$ 632,451	0.22%

Changes in Net Position –

The Authority's net position decreased by $922,947 in 2019. The 2019 decrease in the net position resulted from several factors related to materials and supplies costs and personnel related costs that was offset by savings on interest expense.

Total operating revenues for the year ended December 31, 2019 of $40,086,711 increased $316,562 (0.80%) compared to December 31, 2018.

Total operating expenses of $22,143,829 increased $756,012 (3.53%).

Total 2019 expenses of $42,660,918 compared to $44,001,398 in 2018 decreased $1,340,480 (11.11%).

to $285.50 million. Total liabilities and inflows increased $36.14 million [11.88%] to $340.36 million. The primary reasons for the increase are discussed in the following *Changes in Net Position* section.

Restricted investments of $32.39 million increased $21.03 million [285.19%], primarily from $27 million of new capital project funds from the 2018 bond issue.

Capital assets (net of depreciation) increased $3.09 million. Gross capital assets (before depreciation) increased $11.47 million representing capital additions in accordance with the Authority's adopted capital project program.

ERIE CITY WATER AUTHORITY
STATEMENTS OF FINANCIAL POSITION

	As of December 31,			
	2018	2017	$ Change	% Change
ASSETS				
Current assets	$ 17,026,267	$ 13,116,705	$ 3,909,562	29.8%
Restricted investments	32,386,195	11,356,255	21,029,940	185.2%
Capital assets, net of accumulated depreciation	191,070,499	187,981,855	3,088,644	1.6%
Other non-current assets	10,481,961	10,665,706	(183,745)	(1.7%)
Deferred outflows of resources	34,530,203	30,999,314	3,530,889	11.4%
Total Assets and Deferred Outflows	$ 285,495,125	$ 254,119,835	$ 31,375,290	12.3%

	As of December 31,			
	2018	2017	$ Change	% Change
LIABILITIES AND NET ASSETS				
Current liabilities	$ 8,766,073	$ 7,893,978	$ 872,095	29.8%
Long-term debt, net of unaccreted discounts	310,547,787	284,395,079	26,152,708	9.2%
Other non-current liabilities	21,044,412	11,930,218	(9,114,194)	76.4%
Deferred inflow of resources	-	1,113,991	(1,113,991)	-
Total liabilities and deferred outflow of resources	340,358,272	305,333,266	35,025,006	11.5%
Net position –				
Invested in capital assets, net of related debt	11,468,894	7,320,870	4,148,024	56.7%
Restricted for capital projects, debt service	9,849,537	7,691,083	2,158,454	28.1%
Unrestricted	(76,181,578)	(66,225,384)	(9,956,194)	(15.0%)
Total net position	(54,863,147)	(51,213,431)	(3,649,716)	(7.1%)
Total liabilities and net position	$ 285,495,125	$ 254,119,835	($ 31,375,290)	(12.3%)

Changes in Net Position –

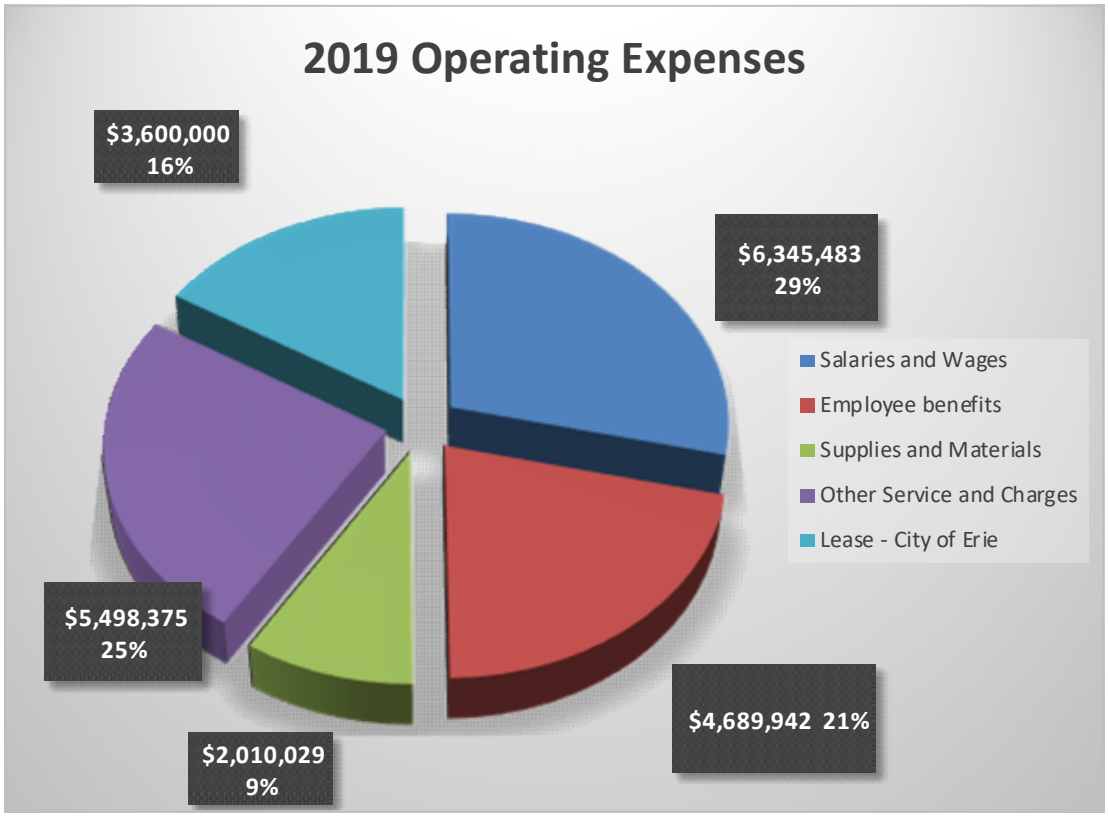
The Authority's net position decreased by <$3.65> million in 2018, compared to a <$.84> million decrease in 2017. The 2018 decrease in the net position resulted from several factors – $1.84 million increase in pension costs, $1.1 million increase in interest expense and $1.03 million of bond issue costs.

Total operating revenues for the year ended December 31, 2018 of $39.8 million increased $1.3 million [3.3%] compared to December 31, 2017.

Total operating expenses of $21.4 million increased $2.48 million [13.1%]. The majority of the

ERIE CITY WATER AUTHORITY
STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION

	For the year ended December 31,			
	2019	2018	Change	% Change
Operations				
Operating revenues	$ 40,086,711	$ 39,770,149	$ 316,562	0.80%
Operating expenses	(22,143,829)	(21,387,817)	(756,012)	3.53%
Depreciation	(8,393,230)	(8,377,223)	(16,007)	0.19%
Operating income	$ 9,549,652	$ 10,005,109	$ (455,457)	-4.55%
Non-operating revenue (expense)				
Interest expense	$ (12,123,859)	$ (14,236,358)	$ 2,112,499	-14.84%
Other revenues	2,302,321	1,948,092	354,229	18.18%
Other expenses	(651,061)	(1,446,534)	795,473	-54.99%
	(10,472,599)	(13,734,800)	3,262,201	-23.75%
Net loss before capital contributions	(922,947)	(3,729,691)	2,806,744	-75.25%
Capital assets contributions	-	79,975	(79,975)	-100.00%
Change in net position	$ (922,947)	$ (3,649,716)	$ 2,726,769	-74.71%

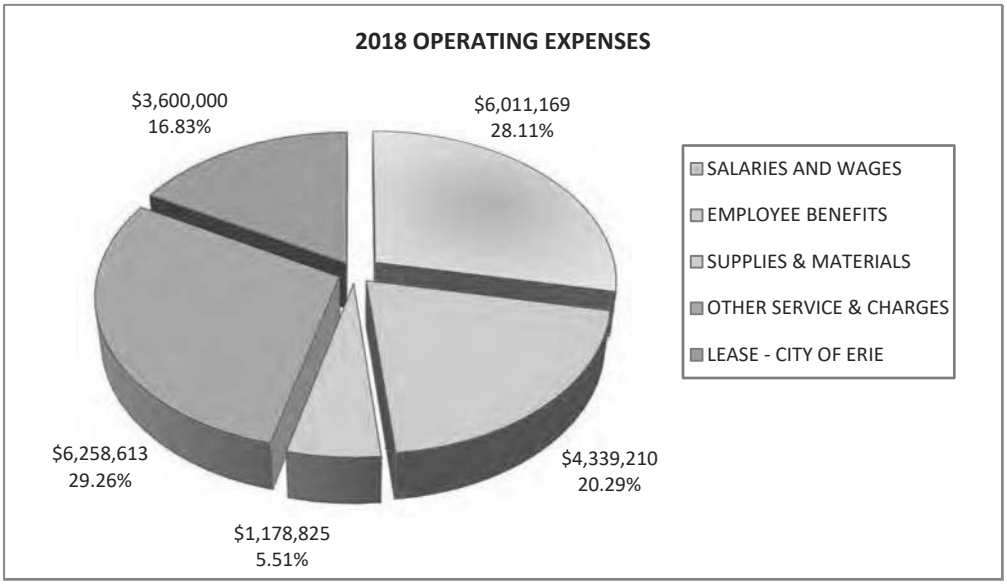


2018 decrease in operating expenses was attributable to higher pension costs and contracted services.

Total 2018 expenses of $44.0 million $40.3 million increased $3.7 million [9.18%] compared to 2017.

ERIE CITY WATER AUTHORITY
STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION

	For the year ended December 31,			
	2018	2017	$ Change	% Change
Operations -				
Operating revenues	$ 39,770,149	$ 38,483,311	$ 1,286,838	3.3%
Operating expenses	(21,387,817)	(18,912,253)	2,475,564	13.1%
Depreciation	(8,377,223)	(8,214,879)	162,344	(2.0%)
Operating income	10,005,109	11,356,179	1,351,070	(11.9%)
Non-operating revenue (expense)				
Interest expense	(14,236,358)	(13,165,069)	1,071,289	8.1%
Other revenues	1,948,092	1,326,328	621,764	46.9%
Other expenses	(1,446,534)	(354,727)	1,091,807	307.8%
	(13,734,800)	(12,193,468)	1,541,332	12.6%
Net loss before capital contributions	(3,729,691)	(837,289)	(2,892,402)	(345.4%)
Capital asset contributions	79,975		79,975	-
Change in net position	($ 3,649,716)	($ 837,289)	($ 2,812,427)	(335.9%)



Chester Water Authority
Statements of Net Position
December 31, 2019 and 2018

Assets and Deferred Outflows of Resources

	December 31, 2019	December 31, 2018
Current Assets		
Cash and cash equivalents	$ 12,498,028	$ 9,680,971
Investments	1,224,596	1,207,385
Accounts receivable, net of allowance for doubtful accounts of $300,000 in both 2019 and 2018	4,715,593	4,215,519
Unbilled revenue	4,184,067	4,143,347
Materials and supplies	2,392,807	2,894,794
Other current assets	225,137	44,735
Total Current Assets	25,240,228	22,186,751
Non-Current Assets		
Property, plant, and equipment—net of accumulated depreciation	282,114,520	277,881,505
Net pension asset	806,245	-
Total Non-Current Assets	282,920,765	277,881,505
Restricted Assets		
Cash and cash equivalents	28,304,535	7,629,992
Total Restricted Assets	28,304,535	7,629,992
Total Assets	336,465,528	307,698,248
Deferred Outflows of Resources		
Changes in pension investment returns and actuarial assumptions	1,134,806	4,646,383
Changes in OPEB investment returns and actuarial assumptions	1,912,766	420,158
Total Deferred Outflows of Resources	3,047,572	5,066,541
Total Assets and Deferred Outflows of Resources	$ 339,513,100	$ 312,764,789

See accompanying notes to financial statements.

Chester Water Authority
Statements of Revenues, Expenses, and Changes In Net Position
For The Years Ended December 31, 2019 and 2018

	December 31, 2019	December 31, 2018
Operating Revenues		
Residential	$ 16,511,126	$ 16,270,379
Commercial	7,179,069	7,006,726
Industrial	9,832,034	8,262,780
Fire protection	4,063,901	3,902,103
Capacity charges, flat and late fee revenues	1,374,484	1,134,612
Sales to other water utilities	6,802,562	6,749,553
Total Operating Revenues	45,763,176	43,326,153
Operating Expenses		
Purification and Pumping	7,409,809	7,479,180
Distribution	6,687,166	7,989,652
Administrative	13,672,346	12,605,483
Finance/customer service, billing and collections	3,834,971	4,189,300
Depreciation	9,453,690	9,575,108
Total Operating Expenses	41,057,982	41,838,723
Operating Income	4,705,194	1,487,430
Non-Operating Revenues/(Expenses)		
Net investment income	155,689	131,632
Interest expense	(2,810,444)	(2,776,729)
Other nonoperating revenues	311,563	514,232
Amortization of bond discounts and debt issuance costs	479,795	401,140
Gain (loss) on disposal of property and equipment	302,194	17,882
Total Non-Operating Revenues/(Expenses)	(1,561,203)	(1,711,843)
Income (Loss) Before Contributions	3,143,991	(224,413)
Capital Contributions	894,723	5,652,845
Change In Net Position	4,038,714	5,428,432
Net Position - Beginning of year, as previously reported	234,034,302	233,538,507
Cumulative effect of prior period adjustment for adoption of GASB 75 - Net OPEB Liability	-	(4,932,637)
Net Position - Beginning of year, restated	234,034,302	228,605,870
Net Position - End of year	$ 238,073,016	$ 234,034,302

See accompanying notes to financial statements.

Chester Water Authority
Statements of Net Position
December 31, 2018 and 2017

Assets and Deferred Outflows of Resources

	December 31, 2018	December 31, 2017
Current Assets		
Cash and cash equivalents	$ 9,680,971	$ 12,277,333
Investments	1,207,385	1,185,056
Accounts receivable, net of allowance for doubtful accounts of $300,000 in both 2018 and 2017	4,215,519	4,018,123
Unbilled revenue	4,143,347	4,100,936
Materials and supplies	2,894,794	2,438,785
Other current assets	44,734	72,551
Total Current Assets	22,186,750	24,092,784
Non-Current Assets		
Property, plant, and equipment—net of accumulated depreciation	277,881,505	271,133,389
Net pension asset	-	1,501,182
Total Non-Current Assets	277,881,505	272,634,571
Restricted Assets		
Cash and cash equivalents	7,629,992	7,549,260
Total Restricted Assets	7,629,992	7,549,260
Total Assets	307,698,247	304,276,615
Deferred Outflows of Resources		
Changes in pension investment returns and actuarial assumptions	4,646,383	1,479,458
Changes in OPEB investment returns and actuarial assumptions	420,158	-
Total Deferred Outflows of Resources	5,066,541	1,479,458
Total Assets and Deferred Outflows of Resources	$ 312,764,788	$ 305,756,073

See accompanying notes to financial statements.

Chester Water Authority
Statements of Revenues, Expenses, and Changes In Net Position
For The Years Ended December 31, 2018 and 2017

	December 31, 2018	December 31, 2017
Operating Revenues		
Residential	$ 16,270,379	$ 16,471,074
Commercial	7,006,726	5,885,341
Industrial	8,262,780	7,414,215
Fire protection	3,902,103	4,001,045
Capacity charges, flat and late fee revenues	1,134,612	1,360,899
Sales to other water utilities	6,749,553	7,158,892
Total Operating Revenues	43,326,153	42,291,466
Operating Expenses		
Purification and Pumping	7,479,180	7,326,031
Distribution	7,989,652	7,159,659
Administrative	12,605,483	11,664,820
Finance/customer service, billing and collections	4,189,300	3,824,583
Depreciation	9,575,108	9,521,150
Total Operating Expenses	41,838,723	39,496,243
Operating Income	1,487,430	2,795,223
Non-Operating Revenues (Expenses)		
Net investment income	131,632	146,144
Interest expense	(2,776,729)	(2,681,713)
Other nonoperating revenues	514,231	982,798
Amortization of bond discounts and debt issuance costs	401,140	250,136
Gain (loss) on disposal of property and equipment	17,882	(481,900)
Total Non-Operating Revenues/(Expenses)	(1,711,844)	(1,784,535)
(Loss) Income Before Contributions	(224,414)	1,010,688
Capital Contributions	5,652,845	2,699,498
Change In Net Position	5,428,431	3,710,186
Net Position—Beginning of year, as previously reported	233,538,507	229,828,321
Cumulative effect of prior period adjustment for adoption of GASB 75 - Net OPEB Liability	(4,932,637)	-
Net Position - Beginning of year, restated	228,605,870	229,828,321
Net Position—End of year	$ 234,034,301	$ 233,538,507

See accompanying notes to financial statements.

PITTSBURGH WATER AND SEWER AUTHORITY

STATEMENTS OF NET POSITION

(Dollars expressed in thousands)

DECEMBER 31, 2020 AND 2019

	2020	2019
Assets		
Current assets:		
Cash and cash equivalents	$ 60,210	$ 64,680
Accounts receivable, net:		
Water:		
Billed	7,400	7,138
Unbilled	7,955	8,965
Total water	15,355	16,103
Wastewater treatment:		
Billed	3,676	2,130
Unbilled	3,457	3,725
Total wastewater treatment	7,133	5,855
Other receivables	1,924	2,450
Total accounts receivable, net	24,412	24,408
Prepaid expenses	1,737	707
Inventory	2,075	1,597
Total current assets	88,434	91,392
Noncurrent assets:		
Restricted assets:		
Cash and cash equivalents	16,201	16,360
Investments	9,705	9,604
Total restricted assets	25,906	25,964
Capital assets, not being depreciated	155,050	135,287
Capital assets, net of accumulated depreciation	766,600	695,291
Total noncurrent assets	947,556	856,542
Total Assets	1,035,990	947,934
Deferred Outflows of Resources		
Deferred charge on refunding	91,827	99,012
Accumulated decrease in fair value of hedging derivatives	33,863	13,351
Total Deferred Outflows of Resources	125,690	112,363

(Continued)

The notes to financial statements are an integral part of this statement.

PITTSBURGH WATER AND SEWER AUTHORITY

STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

(Dollars expressed in thousands)

YEARS ENDED DECEMBER 31, 2020 AND 2019

	2020	2019
Operating Revenues:		
Residential, commercial, and industrial water sales	$ 162,676	$ 171,681
Wastewater treatment	71,899	70,970
Other	7,422	6,398
Total operating revenues	241,997	249,049
Operating Expenses:		
Direct operating expenses	92,134	89,512
Wastewater treatment	72,698	72,389
Reimbursement for City of Pittsburgh indirect services	4,289	1,991
Expense of water provided by other entities	386	1,338
Depreciation	21,659	18,011
Total operating expenses	191,166	183,241
Operating Income	50,831	65,808
Non-operating Revenues (Expenses):		
Federal and private grants	7,001	6,922
Interest revenue	201	719
Investment income (loss) - change in fair value of swap	-	(4,180)
Interest and amortization	(37,463)	(38,740)
Bond issuance costs	(2,075)	(2,462)
Total non-operating revenues (expenses)	(32,336)	(37,741)
Net Income before Capital Contribution and Special Item	18,495	28,067
Capital Contribution:		
Donated property	76	110
Special Item:		
Private lead line replacement	(18,832)	(22,283)
Net Income (Loss)	(261)	5,894
Net Position:		
Beginning of year	1,535	(4,359)
End of year	$ 1,274	$ 1,535

The notes to financial statements are an integral part of this statement.

PITTSBURGH WATER AND SEWER AUTHORITY

STATEMENTS OF NET POSITION

(Dollars expressed in thousands)

DECEMBER 31, 2019 AND 2018

	2019	2018
Assets		
Current assets:		
Cash and cash equivalents	$ 64,680	$ 46,920
Accounts receivable, net:		
Water:		
Billed	7,138	8,537
Unbilled	8,965	8,583
Total water	16,103	17,120
Wastewater treatment:		
Billed	2,130	7,014
Unbilled	3,725	3,719
Total wastewater treatment	5,855	10,733
Other receivables	2,450	1,510
Total accounts receivable, net	24,408	29,363
Prepaid expenses	707	520
Inventory	1,597	1,984
Total current assets	91,392	78,787
Noncurrent assets:		
Restricted assets:		
Cash and cash equivalents	16,360	13,970
Investments	9,604	9,356
Total restricted assets	25,964	23,326
Hedging derivative - interest rate swap	-	4,750
Capital assets, not being depreciated	135,287	139,303
Capital assets, net of accumulated depreciation	695,291	618,177
Total noncurrent assets	856,542	785,556
Total Assets	947,934	864,343
Deferred Outflows of Resources		
Deferred charge on refunding	99,012	102,534
Accumulated decrease in fair value of hedging derivatives	13,351	757
Total Deferred Outflows of Resources	112,363	103,291

(Continued)

The notes to financial statements are an integral part of this statement.

PITTSBURGH WATER AND SEWER AUTHORITY

STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

(Dollars expressed in thousands)

YEARS ENDED DECEMBER 31, 2019 AND 2018

	2019	2018
Operating Revenues:		
Residential, commercial, and industrial water sales	$ 171,681	$ 159,506
Wastewater treatment	70,970	67,261
Other	6,398	4,967
Total operating revenues	249,049	231,734
Operating Expenses:		
Direct operating expenses	89,512	72,633
Wastewater treatment	72,389	71,822
Reimbursement for City of Pittsburgh services	1,991	4,911
Expense of water provided by other entities:		
Subsidy of customers located in the City	1,338	3,814
Depreciation	18,011	16,894
Total operating expenses	183,241	170,074
Operating Income	65,808	61,660
Non-operating Revenues (Expenses):		
Federal and private grants	6,922	-
Donated property	110	13,649
Interest revenue	719	469
Investment income (loss) - change in fair value of swap	(4,180)	2,542
Interest and amortization	(38,740)	(34,365)
Bond issuance costs	(2,462)	-
Total non-operating revenues (expenses)	(37,631)	(17,705)
Net Income before Special Item	28,177	43,955
Special Item:		
Private lead line replacement	(22,283)	(4,478)
Net Income	5,894	39,477
Net Position:		
Beginning of year	(4,359)	(43,836)
End of year	$ 1,535	$ (4,359)

The notes to financial statements are an integral part of this statement.

PITTSBURGH WATER AND SEWER AUTHORITY

STATEMENTS OF NET POSITION

(Dollars expressed in thousands)

DECEMBER 31, 2018 AND 2017

	2018	2017
Assets		
Current assets:		
Cash and cash equivalents	$ 46,920	$ 11,076
Accounts receivable, net:		
Water:		
Billed	8,537	9,335
Unbilled	8,583	6,760
Total water	17,120	16,095
Wastewater treatment:		
Billed	7,014	9,975
Unbilled	3,719	3,746
Total wastewater treatment	10,733	13,721
Other receivables	1,510	1,074
Total accounts receivable, net	29,363	30,890
Prepaid expenses	520	674
Inventory	1,984	3,777
Total current assets	78,787	46,417
Noncurrent assets:		
Restricted assets:		
Cash and cash equivalents	13,970	18,264
Investments	9,356	11,684
Total restricted assets	23,326	29,948
Hedging derivative - interest rate swap	4,750	-
Capital assets, not being depreciated	139,303	100,240
Capital assets, net of accumulated depreciation	618,177	589,567
Total noncurrent assets	785,556	719,755
Total Assets	864,343	766,172
Deferred Outflows of Resources		
Deferred charge on refunding	102,534	110,326
Accumulated decrease in fair value of hedging derivatives	757	3,279
Total Deferred Outflows of Resources	103,291	113,605

(Continued)

The notes to financial statements are an integral part of this statement.

PITTSBURGH WATER AND SEWER AUTHORITY

STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

(Dollars expressed in thousands)

YEARS ENDED DECEMBER 31, 2018 AND 2017

	2018	2017
Operating Revenues:		
Residential, commercial, and industrial water sales	$ 159,506	$ 128,488
Wastewater treatment	67,261	68,935
Other	4,967	5,573
Total operating revenues	231,734	202,996
Operating Expenses:		
Direct operating expenses	72,633	71,156
Wastewater treatment	71,822	75,107
Reimbursement for City of Pittsburgh services	4,911	5,363
Expense of water provided by other entities:		
Subsidy of customers located in the City	3,814	5,594
Depreciation	16,894	16,172
Total operating expenses	170,074	173,392
Operating Income	61,660	29,604
Non-operating Revenues (Expenses):		
Donated property	13,649	1,595
Interest revenue	469	460
Investment income (loss) - change in fair value of swap	2,542	835
Interest and amortization	(34,365)	(34,913)
Bond issuance costs	-	(3,894)
Total non-operating revenues (expenses)	(17,705)	(35,917)
Special Item:		
Private lead line replacement	(4,478)	-
Net Income (Loss)	39,477	(6,313)
Net Position:		
Beginning of year	(43,836)	(37,523)
End of year	$ (4,359)	$ (43,836)

The notes to financial statements are an integral part of this statement.

OFFICE FURNITURE AND EQUIPMENT

Series Id: PCU3372--3372--
Series Tit PPI industry group data for Office furniture (including fixtures) mfg, not seasonally adjusted
Industry: Office furniture (including fixtures) mfg
Product: Office furniture (including fixtures) mfg
Base Dat 200312

Download:

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2003												100
2004	99.7	101.3	101.6	102.9	105.2	105.6	105.8	107.1	107	108	108.4	109.1
2005	109.6	110.1	109.8	110.5	111.6	111.8	112.2	111.8	112.4	113	112.2	112.5
2006	112.6	112.6	112.8	112.5	113.6	113.7	114.3	114.3	114.6	114.8	115.1	114.9
2007	116.1	116.7	116.4	116.8	116.9	116.7	116.4	116.5	116.4	116.6	117.4	117.2
2008	117.5	117.7	117.6	119.3	119.3	120.6	121.8	123	123.7	124.9	124.5	124.8
2009	125	125	124.9	124.5	124.1	124.1	124.1	124.2	124.9	125	125	124.7
2010	124.6	124.2	124.7	126	125.5	126	126.4	126.1	126.1	126	126.2	125.9
2011	126.9	127.8	128.5	128.7	128.7	128.8	129.6	129.1	129.2	129.4	129.8	130.3
2012	131	131.6	130.9	131.2	131.2	130.9	131.3	131.6	131.7	132.3	131.8	130.9
2013	131.7	130.8	130.6	131.6	132.4	132.3	132.4	132.5	133.2	133.1	133.3	132.6
2014	133.6	133.6	133.9	133.9	135.6	136.3	137	137.2	137.2	137.1	135.8	136.2
2015	136.7	136.5	136.4	136.4	136.2	136.7	136.7	136.8	137.1	136.9	136.8	136.7
2016	137.3	137.1	137	136.8	136.7	136.8	137	138	137.6	136.8	137.2	137.5
2017	137.5	139	138.5	138.9	139.4	138.9	139.9	140.1	140.3	139.6	139.9	140.4
2018	141	141.3	141.4	142.6	143.5	146	145.1	146.1	147.5	148	148.5	149.7
2019	150.1	149.6	149.8	149.1	151.1	150.9	152.1	151.8	151.9	152.2	152.4	152.8
2020	152.5	153.6	155.3	155.1	155.6	154.8	156	154.7	155.9	156	155.4	156
2021	156.5	158.9	159.7	161.7	164.4	168.6	169.426	168.977	171.921	172.699	173.241	174.243
2022	177.734	180.764	83.439(P)	83.342(P)	184.958	189.475						
P : Preliminary. All indexes are subject to monthly revisions up to four months after original publication.												

184.958(P) 89.475(P)

COMPUTERS

Series Id: PCU33411-33411-
Series Tit PPI industry data for Computer & peripheral equipment mfg, not seasonally adjusted
Industry: Computer & peripheral equipment mfg
Product: Computer & peripheral equipment mfg
Base Dat 200612

Download:

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1995	286.5	284.5	282.9	282.2	279.9	277.8	277	273.4	271.7	270.5	269.1	268.3
1996	265.5	260.9	258.4	253.3	252	249.8	245.8	244.9	243.7	240.5	238.2	235.6
1997	234.4	232	230.5	228.8	221.2	218.1	216.1	213.8	212.3	210.5	209.1	208.2
1998	204.4	201.3	199.1	195.2	193.5	192.5	190.9	187.5	186.8	184.7	183.6	181.1
1999	178.6	177.9	177.2	175.3	175.1	174.8	171.2	169.8	169.5	168.6	168.2	167.2
2000	165.4	165	164.3	163	162.1	161.6	161.8	161	160.9	160.9	160.5	159.4
2001	158.4	157	155.7	155.6	154.9	153.9	153.3	150.5	150.4	149.8	149	148.4
2002	146.4	144.7	143.8	143.2	142.8	141.6	139.2	136.9	136.1	134.7	132.9	132.1
2003	130.3	127.8	126.3	126.1	125	124.5	123.5	122.5	122.4	120.7	119.7	118.6
2004	118.2	117.8	117.4	117.2	116.8	115.7	115.5	114.7	113.9	113.6	111.7	111.7
2005	110.5	110.2	109.5	109.2	108.3	108	107.5	107.3	106.4	105.9	105.6	104.9
2006	104.7	104.2	104	103.2	102.8	102.1	101.7	101.1	100.6	100.3	100.1	100
2007	99.2	98.7	97.9	97.5	96.2	95.1	93.9	92.3	91.7	91	90.2	89.7
2008	88.8	88.4	87.3	86.9	86.9	86.8	86.5	86	85.5	84.9	84.6	84.5
2009	84.4	83.2	83	82.4	82.3	81.5	81.1	81.3	79.1	79.1	78	77.7
2010	77.8	77.6	77.8	77.2	77	76.6	76.2	76	75.6	75.4	75.4	75.1
2011	75	74.7	74.3	74.6	74.3	74.1	72.7	72.1	72	72.1	72.4	72.6
2012	72.7	72.5	71.5	71.4	71.4	70.7	70.6	70.3	69.4	69.7	69	68.7
2013	68.6	68.6	68.5	68.3	67.8	67.3	67.4	67.1	67.3	66.9	67	66.9
2014	66.8	66.7	66.5	66.7	66.6	66.7	66.4	66.3	66.2	66.2	65.8	65.8
2015	66	64.2	63.5	63.3	63.1	62.6	62.9	63	62.9	62.5	62.2	62.3
2016	62.4	62	59.5	59.8	60	60	59.5	59.2	59.2	58.8	58.9	59
2017	58.4	58.5	58.5	59.2	59.1	59	58.9	58.7	58.9	58.8	58.7	58.6
2018	58.5	58.2	58.4	58.3	58.7	58.7	58.6	58.8	58.6	58.8	58.5	57.7
2019	57.7	57.9	57.3	57.2	56.2	55.8	55.7	55.9	54.4	55.8	55.8	56
2020	55.1	55.1	55	55.1	55.2	54.7	55.1	55.1	54.8	54.9	54.9	54.4
2021	54.7	54.9	54.5	55	55.1	55.1	55.391	55.618	55.474	55.733	55.991	56.274
2022	57.485	57.998	58.417(P)	58.433(P)	58.812	58.694						

P : Preliminary. All indexes are subject to monthly revisions up to four months after original publication.

58.812(P) 58.694(P)

TRANSPORTATION EQUIPMENT

Series Id: PCU336110336110
Series Tit PPI industry data for Automobile, light truck and utility vehicle mfg, not seasonally adjusted
Industry: Automobile, light truck and utility vehicle mfg
Product: Automobile, light truck and utility vehicle mfg
Base Dat 198206

Download:

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1975												62.9
1976	63	62.9	63	63.1	62.9	63	63	63.3	63.4	66.9	66.9	66.9
1977	66.8	66.8	66.9	67.1	67.2	67.3	67.3	67.4	67.4	71.4	71.3	71.4
1978	71.4	71.4	71.4	71.4	72.5	72.7	72.5	72.5	72.5	75.4	75.4	75.6
1979	76.7	76.9	77	78.3	78.4	78.5	78.7	76.8	77	81.9	81.8	82
1980	83.5	82.8	82.9	85.2	84.6	84.6	86.3	86.7	82.7	90.9	91	90.6
1981	91.4	91.6	90.7	93.3	94.1	94.5	94.6	94.4	90.2	99.7	99.8	100.1
1982	100.5	97.5	97.5	97.4	98.8	100	100.1	100.4	94.9	102.5	102.5	102.7
1983	102.2	101.8	101.4	101.6	101.7	101.8	102	102.3	97.8	104.2	104.2	104.3
1984	104.5	104.5	104.6	104.9	104.6	104.4	104.7	104.4	101	106.1	106.3	105.5
1985	106.7	106.8	106.5	106.5	107	107.3	107.3	107.2	100.2	110.4	110.4	110.2
1986	109	109.3	108.7	110.3	110	110.2	110.3	109.7	105.6	116.9	116.7	115.4
1987	115.3	112.6	111.9	113.7	112.9	112.5	112.4	111.4	108.4	116.5	115.2	112.8
1988	113	113	112.5	112.6	113	113.1	113.2	113.3	110.2	119.5	118.1	117.9
1989	117.8	118.1	116.4	115.4	116.6	116.9	114.7	114.6	113.3	122.5	121.2	120.8
1990	118.4	118.5	118	117.8	117.3	119	119.2	118.2	117.2	125	124.8	124.8
1991	125.1	125.9	125.5	124.4	123.2	122.9	122.8	122.6	120.3	131	130.3	129.5
1992	129.2	129	129.3	129.2	128.9	128.3	128.4	127.5	123.5	132.1	132.1	131.8
1993	132.1	132.9	133	132.9	132.6	132.8	132.9	132.6	128	135.7	136.2	136.3
1994	137.3	137.5	137.4	137.4	138.3	138.1	138.2	138.2	133.9	140	139.3	139.8
1995	140.1	139.9	139.3	139.1	138.7	137.8	137.7	137.2	132.9	141.7	142.4	142.4
1996	141.2	141.1	141.1	140.5	140.6	140.7	139.5	139.2	135.6	142.2	141.9	141.6
1997	141.7	141.5	141.2	140.3	138.4	138	135.9	135.9	133.7	140.6	139.4	137.8
1998	137.8	138	137.8	137.2	135.4	134.3	134.8	133.9	132.7	140.6	140.4	139.2
1999	138.2	138.7	137.7	138	137.2	136	134.7	134.4	133.4	142.1	140.8	140.5
2000	139.9	139.4	139	138.9	138.9	137.4	136.8	135.8	135.5	141.2	141.3	141.1
2001	140.3	137.7	138.1	138.9	136.9	135.9	136.5	136	135.8	138.3	137.8	138.3
2002	136.8	137.7	136.4	136	134.9	134.4	131.3	130.3	130.4	139	136.5	135
2003	135.7	135.8	138.5	134	133.6	132	131.6	132	130.5	140.7	139	137.6
2004	137.4	136.8	137.1	135.9	136.2	136.2	132.8	132.4	131.5	142	139.9	139.5
2005	139.8	137.4	136.8	136.5	135.8	132.6	132.8	131.7	131.9	137.8	134.8	132.9
2006	133.7	133.7	133.4	132.3	132	130.6	123.7	125.7	126.5	129.4	135	133.8
2007	132.8	132.5	131.9	130.5	130.1	129.8	129.2	128.2	126.6	134.1	134.8	132.9
2008	133.6	133.5	132.1	133.1	132.2	129.5	128.2	129.1	128.7	139.4	137.7	137.6
2009	137	136.8	136	136.7	136.1	137.9	134.6	136.1	133.8	138.3	139.5	138.1
2010	139.3	139	137.8	137.2	137.3	135.4	134.8	135	134.5	137.7	137	136.4
2011	137	137	136.7	137.4	136.7	136.9	136.7	136.5	135.7	140.6	140.7	140.3
2012	141	140.4	140.3	140.6	139.7	140.1	140.9	140.8	139.6	143.9	144.1	143.6
2013	143.4	143.3	142.6	142.4	141.7	141.3	140.7	140.4	140.2	144.8	145.6	146.4
2014	146.8	146.6	145.5	145.2	144.4	143.8	143.6	143.4	142.6	148	147.8	146.3
2015	147.8	149.4	149.2	148.7	148.5	148.1	148.5	147.4	147.2	150.7	150.6	150.5
2016	149.9	150.2	149.8	149.6	149.7	149.8	148.5	147.7	147.6	152.7	152.4	153.4
2017	152.6	152.3	152.9	152.8	151.2	151.2	150.1	149.8	149.8	153.5	154.3	154.3
2018	153.3	152.9	152.9	152.5	152.5	152.7	152.2	152.1	152.4	155.3	155.2	155
2019	154.8	154.5	153.7	153.4	153.2	153	152.6	152	151.7	154.6	155.1	154.5
2020	152.9	153.6	152	153	152.4	152	152.1	152.3	152.3	154.3	154.9	155.5
2021	156	155.8	155.4	155.7	156.7	157.5	157.86	158.19	158.147	159.507	159.73	159.847
2022	160.201	161.186	61.190(P)	62.809(P)	63.481(P)	164.069						

P : Preliminary. All indexes are subject to monthly revisions up to four months after original publication.

164.069(P)

TOOLS, SHOP AND GARAGE EQUIPMENT

Series Id: PCU333112333112
Series Tit PPI industry data for Lawn and garden equipment mfg, not seasonally adjusted
Industry: Lawn and garden equipment mfg
Product: Lawn and garden equipment mfg
Base Dat 198212

Download:

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1982												100
1983	101.4	101.5	102.2	102.5	102.6	102.7	101.9	101	102.3	102.6	103	101.1
1984	101.3	101.6	101.7	102.1	102.6	102.4	102.5	103.3	102.6	102.8	103	103
1985	103.2	103	103.1	103.4	103.5	103.7	103.8	103.7	103.3	103.5	103.7	103.6
1986	104.1	104.2	104.2	104.8	104.9	105.1	105.5	105.5	104.5	104.6	104.6	104.5
1987	104.5	104.6	104.8	105.4	105.5	105.8	106.1	106.2	105.9	105.7	106.5	106.5
1988	106.8	106.6	106.8	106.8	106.9	107	106.9	108.7	109.6	110.4	110.6	111.2
1989	111.4	111.4	111.8	111.8	112.1	112.6	112.6	114.3	115	115.3	115.5	115.5
1990	115.7	115.7	115.9	116	116	116	116.2	117.1	117.4	117.8	117.6	117.7
1991	118.2	118.2	118.4	118.6	119.1	118.7	118.8	119	119	119.2	119.2	119.2
1992	119.3	119.3	119.7	119.7	119.7	119.5	119.3	119.8	120.5	119.7	119.8	119.8
1993	120.1	120.1	120.1	120.2	120.2	120.1	120	120.8	121.3	121.2	121.4	121.7
1994	121.6	122	122.1	122.1	122.5	122.5	122.5	122.8	123.1	123.3	123.3	123.5
1995	123.6	123.6	123.6	123.8	123.8	123.8	124	124	124.3	124.6	125.4	125.4
1996	125.7	125.8	126	125.5	125.7	125.7	125.8	125.8	125.9	125.9	125.9	126.7
1997	127.5	127.3	126.3	126.3	126.3	126.3	125.8	126.1	124.9	124.9	125	125.1
1998	125.1	125.2	125.4	125.5	125.5	125.5	124	124.2	124.5	124.6	124.6	124.6
1999	124.7	124.7	124.7	124.7	124.6	124.3	124.3	124.4	124.5	124.4	124.4	124.5
2000	124.7	124.7	124.7	124.5	124.2	124.2	124.3	124.3	125	125.1	125	125
2001	125.3	125.3	125.2	125	125.1	125.1	125	125.2	125.1	125.1	125.2	125.4
2002	126	125.6	125.9	126	126	126	125.9	125.9	125.9	125.9	126	126
2003	126	125.9	125.9	125.9	125.9	126	126.3	125.2	125.2	125.7	126.3	126.3
2004	126.2	126.1	126.4	126.3	126.3	126.6	126.7	126.9	127	126.6	127.1	126.7
2005	126.7	126.9	126.9	126.7	127	126.3	126.3	126.4	126.5	126.7	126.5	126.5
2006	126.8	126.9	127.1	127.2	127.2	127.2	127.9	128	127.9	128.4	128.4	128.5
2007	129.5	129.1	129.1	129.1	129.1	128.8	128.8	128.8	129.2	130	131.6	131.6
2008	132.2	132.2	132.2	132	132	132.1	132.8	132.6	132.8	132.9	134.5	134.7
2009	134.6	134.7	135.2	135.2	134.5	134.4	134.5	134.4	134.4	134.5	134.3	134.3
2010	134.6	134.5	134.5	134.4	134.4	134.3	134.4	134.4	133.8	134.2	134.2	132.2
2011	132.2	132.3	132.3	132.4	132.9	133.4	133.4	133.4	133.5	134.2	134.3	134.3
2012	136.3	136.3	136.3	134.6	134.9	135	135.1	135.2	135.2	135.4	135.4	135.4
2013	135.3	135.3	135.3	135.3	135.2	135.2	135	135.1	136.2	136.2	136.2	136
2014	135.9	136	136.5	136.3	136.3	136.3	136.2	136.2	136.2	136.3	136.3	136.2
2015	136.4	136.4	136.4	136.3	136.3	136.3	136.3	136.3	136.3	136.3	136.4	136.4
2016	136.3	135.5	135.5	135.7	135.8	136.6	136.6	136.6	136.6	136.6	136.7	136.7
2017	136.7	136.7	136.7	136.7	136.7	136.7	136.7	136.7	136.7	136.8	136.9	136.9
2018	137.8	137.8	137.8	137.8	137.9	137.9	138.1	138.4	138.6	139.4	140.2	140.3
2019	140.2	140.1	140.1	140.1	140.6	140.5	140.2	140.2	140.2	140.8	141	141.5
2020	141.5	141.5	141.4	141.5	141.5	141.6	141.6	141.9	142	142.2	142.6	142.6
2021	142.7	142.9	143.1	143.4	144.3	144.8	146.118	146.802	147.146	148.367	149.056	150.494
2022	151.29	153.818	53.998(P)	57.201(P)	59.556(P)	161.5						

P : Preliminary. All indexes are subject to monthly revisions up to four months after original publication.

161.500(P)

COMMUNICATION EQUIPMENT

Series Id: PCU334220334220
Series Tit PPI industry data for Broadcast and wireless communications equipment mfg, not seasonally adjusted
Industry: Broadcast and wireless communications equipment mfg
Product: Broadcast and wireless communications equipment mfg
Base Dat 199112

Download:

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1991												100
1992	100.9	101.3	101.6	101.5	101.5	101.5	101.3	101.5	101.7	101.9	102.1	102.2
1993	103.1	103.2	103.2	102.6	102.6	102.7	102.6	102.6	102.4	103.4	103.3	103.2
1994	103.4	103.6	104	104.1	104.1	104.1	104.1	104	104	103.9	103.7	103.8
1995	104	103.6	103.7	104.1	104	103.2	103.2	103.3	103.4	103.3	103.2	103.2
1996	104	103.9	104.1	104.2	104.1	104.1	103.9	104	104.1	104.3	105	105
1997	105.3	105.4	105.3	105.6	105.6	105.9	105.9	105.9	106.2	106.2	105.9	105.9
1998	106.2	106.4	106	105.3	105.2	105.2	105.5	105.3	105.3	105.3	105.3	105.3
1999	106	104.7	104.7	104.8	104.8	104.8	104.8	104.8	102.2	102.5	102.7	102.7
2000	103	102.1	101.7	101.8	101.1	101.2	101.2	101.2	101.1	101.1	101.1	101.1
2001	101.5	101.4	101.4	101.5	101.8	101.8	101.8	101.8	101.9	101.9	101.9	101.9
2002	101.6	100.3	100.4	98.8	98.7	98.4	96.6	96.9	97	97	97	96.4
2003	96.5	96.5	96.5	96.2	95.5	95.5	94.5	94.2	94.2	93.9	93.9	93.8
2004	93.4	93.4	93.5	93.5	93.7	93.8	93.5	93.2	92.8	92.7	92.9	92.8
2005	93	92.9	92.5	92.5	92.4	91.9	92.1	92.7	92.7	92.7	93	93
2006	92.7	92.2	91.7	91.7	91.7	91.9	91.9	92.3	92.4	92.3	92.3	92.3
2007	92.3	92.4	92.4	92.6	93.1	92.5	92.3	92.3	92.3	92.5	92.5	92.6
2008	93.1	93.6	93.4	93.6	94.2	94.2	94.5	94.5	94.2	94.3	94.7	94.7
2009	94.5	94.2	94.2	94.4	94.5	94.6	94.7	94.7	94.6	94.7	94.8	94.8
2010	94.8	94.8	94.7	94.5	94.5	94.4	95	95	94.9	94.9	95.1	95.1
2011	94.9	94.9	95	94.7	94.8	94.4	94.6	94.6	94.5	93.4	93.6	93.5
2012	93.7	93.7	93.7	93.6	93.7	93.7	93.6	93.4	91.9	91.7	91.9	91.9
2013	92.1	92.2	92.2	92.5	92.4	92.5	92.4	92.5	92.8	92.2	92.4	92.6
2014	92.6	92.7	92.7	92.7	92.7	92.8	92.8	92.7	93	93.1	92.9	93.1
2015	93.3	93.3	93.4	93.4	93.7	93.9	93.7	93.5	92.8	93.1	93.1	93.1
2016	92.9	93.2	93	93.1	93	92.6	92.5	92.7	92.7	91.7	92	90.7
2017	91.1	90.7	91	90.9	90.6	90.7	90.7	90.1	89.5	89.5	89.9	89.7
2018	89.7	90	89.6	89.6	89.6	89.6	89.7	89.9	89.5	89.5	89.5	89.5
2019	89.9	89.5	89.5	89.6	89.5	89.5	89.7	89.7	89.6	90.2	90.2	90.3
2020	90.7	90.4	90.5	90.5	90.4	90.4	90.5	90.2	90.3	89.9	90	90
2021	90.1	90.3	90.4	90.5	90.2	90.2	90.309	90.429	90.842	91.237	91.185	91.307
2022	92.023	92.061	92.015(P)	92.623(P)	92.994(P)	93.323						

P : Preliminary. All indexes are subject to monthly revisions up to four months after original publication.

93.323(P)

MISCELLANEOUS EQUIPMENT

Series Id: PCU33431-33431-
Series Tit PPI industry data for Audio and video equipment mfg, not seasonally adjusted
Industry: Audio and video equipment mfg
Product: Audio and video equipment mfg
Base Dat 200312

Download:

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2003												100
2004	99.9	100.6	99.8	98.7	98.7	98.3	97.3	97.1	96.8	96.6	96.6	96.7
2005	96.8	96.8	96.4	96	96.2	96.2	96.1	96.2	94.1	94.1	94.2	94.2
2006	95.5	95.5	95.4	95.4	93.4	93.1	92.5	92.5	92.5	92.8	92.8	92.8
2007	92.8	92.6	92.6	92.6	92.6	92.6	91.6	88.5	88.5	88.6	88.6	88.6
2008	88.6	88.6	88.9	88.8	88.8	88.9	90.6	90.6	90.9	89.7	89.3	88.5
2009	88.7	88	87.4	86.3	85.3	84.3	84.2	84.2	84.3	84.3	84.3	84.3
2010	84.4	84.4	84.4	84.4	84.4	84.3	84.3	84.3	84.3	84.5	84.5	84.2
2011	83.2	83.7	84.1	83.5	83.5	83.5	83.9	84.7	84.7	85	85.1	85
2012	84.4	84.9	84.9	84.3	84.2	84.2	84.3	84.1	84.1	84.1	84.1	84.1
2013	84.7	82.3	82.4	82.4	82.2	82.4	82.5	82.5	82.4	82.4	82.4	82.4
2014	82.5	82.6	82.6	82.7	82.7	82.7	82.7	82.8	82.8	82.8	82.8	82.9
2015	82.9	83	83	82.9	82.9	82.9	82.9	83	82.8	82.8	82.8	82.8
2016	82.8	82.9	82.9	83	83	83.1	83.1	83.2	83.2	83.2	83.2	83.2
2017	83.2	83.2	83.1	83.2	83.3	83.2	83.1	82.9	83	83	82.9	82.9
2018	82.9	82.9	83.2	82.8	82.7	82.7	82.8	82.7	82.5	82.4	82.6	82.6
2019	82.9	83	83	82.9	83.4	83.2	83.2	83.4	84.5	85.2	85.3	85.2
2020	85.8	85.8	85.9	85.7	85.7	85.7	86	86	86	86	86	86
2021	86	86	86	86	86.5	87.4	89.774	91.945	91.945	92.885	93.917	94.023
2022	95.075	95.811	97.101(P)	97.117(P)	97.273(P)	97.617						

P : Preliminary. All indexes are subject to monthly revisions up to four months after original publication.

97.617(P)

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What It's Worth

Cost of Capital Professional

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Specify search criteria

Company Name
Gannett Fleming

Valuation Date
12/31/2020

Returns Reference – Start Year
EARLIEST YEAR (Y

Returns Reference – End Year
2020

Returns Calculation - Mean
Arithmetic
Geometric

ERP Size Premium IRP CoE WACC Summary

	Firms			Portfolio		Size Premium	
Decile	Count	Min size ('000)	Max Size ('000)	Annual Return	Beta	S&P 500	Beta Adjusted
1 - Largest	199	$29,075,803	$1,966,078,882	11.06%	0.92	(0.75%)	

2	186	$13,178,743	$28,808,073	12.82%	1.04	1.01%
3	210	$6,743,361	$13,177,828	13.66%	1.11	1.85%
4	218	$3,861,858	$6,710,676	13.67%	1.13	1.86%
5	255	$2,445,693	$3,836,536	14.49%	1.17	2.68%
6	246	$1,591,865	$2,444,745	14.82%	1.18	3.01%
7	306	$911,586	$1,591,765	15.63%	1.26	3.82%
8	365	$451,955	$911,103	15.91%	1.31	4.10%
9	412	$190,019	$451,800	16.69%	1.34	4.88%
10 - Smallest	569	$2,194	$189,831	19.64%	1.40	7.83%
1 through 2	385	$13,178,743	$1,966,078,882	11.32%	0.94	(0.48%)
3 through 5	683	$2,445,693	$13,177,828	13.80%	1.13	1.99%
6 through 8	917	$451,955	$2,444,745	15.27%	1.23	3.46%
9 through 10	981	$2,194	$451,800	17.53%	1.35	5.72%
1 through 5	1,068	$2,445,693	$1,966,078,882	11.64%	0.96	(0.17%)
6 through 10	1,898	$2,194	$2,444,745	15.49%	1.24	3.68%

S&P 500 Annual Return for Period 1928 - 2020 : 11.81%

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DEALS AUGUST 6, 2018 / 5:11 PM / 6 MONTHS AGO

SJW Group makes $1.1 billion all-cash offer for Connecticut Water

3 MIN READ

NEW YORK (Reuters) - SJW Group (SJW.N) and Connecticut Water Service Inc (CTWS.O) said on Monday they were changing from a merger to an acquisition agreement, with SJW offering to buy the New England utility for $1.1 billion in cash instead of combining stock.

The switch to an all-cash offer is worth $70 per Connecticut Water share, a 33 percent premium to Connecticut Water's share price prior to the original deal announced in March, according to a joint statement.

It was also higher than the implied $61.86 per share value of the Clinton, Connecticut-based firm under the merger-of-equals transaction, which would have created a combined company in which existing SJW shareholders would hold 60 percent of the stock.

SJW closed 2.3 percent lower, while Connecticut Water was 9 percent higher at $68.50.

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To pay for the acquisition, SJW will initially utilize a $975 million bridge loan from financial adviser JP Morgan Chase (JPM.N). Ultimately, the purchase would be covered by debt and between $450 million and $500 million of equity finance.

The new deal aims to conclude in the first quarter of 2019, subject to approvals from Connecticut Water's shareholders, as well as regulators in Connecticut and Maine.

The duo's original all-stock merger announcement in March triggered competing offers from Eversource Energy (ES.N) and California Water Service Group (CWT.N).

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"We have converted from a stock-for-stock deal to a cash offer, which will resolve any further market distractions from the inferior proposals," SJW Chief Executive Eric Thornburg told Reuters, in reference to the actions by Eversource and CalWater.

Switching to an acquisition, versus a merger structure, means that SJW shareholders will no longer be required to vote on approving the deal, the statement said.

CalWater has an open tender offer to acquire SJW that runs until Sept. 28.

However, asked if the change was aimed at heading off any shareholder challenge to the deal, Thornburg told Reuters it "wasn't a consideration" and it had received nothing but support from its shareholders.

RBS sounds alarm over Brexit

CalWater declined to comment. A spokesman for Eversource said the company was evaluating developments but, as it has made clear, it will be disciplined in pursuing this or any other transaction.

Reporting by David French in New York; Additional Reporting by Liana B. Baker; Editing by Lisa Shumaker

Our Standards: *The Thomson Reuters Trust Principles.*

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CONNECTICUT WATER SERVICE INC / CT
BALANCE_SHEET2
Form Type: 10-K
Period End: Dec 31, 2017
Date Filed: Mar 15, 2018
Table Of Contents

CONNECTICUT WATER SERVICE, INC.

CONSOLIDATED BALANCE SHEETS

December 31, (in thousands, except share amounts)	2017	2016
ASSETS		
Utility Plant	$ 927,289	$ 777,860
Construction Work in Progress	11,761	33,748
	939,050	811,608
Accumulated Provision for Depreciation	(241,327)	(210,212)
Net Utility Plant	697,723	601,396
Other Property and Investments	10,662	9,071
Cash and Cash Equivalents	3,618	1,564
Accounts Receivable (Less Allowance, 2017 - $1,265; 2016 - $1,100)	14,965	13,024
Accrued Unbilled Revenues	8,481	8,171
Materials and Supplies, at Average Cost	1,593	1,536
Prepayments and Other Current Assets	7,021	5,069
Total Current Assets	35,678	29,364
Unrecovered Income Taxes - Regulatory Asset	66,631	93,264
Pension Benefits - Regulatory Asset	11,339	12,266
Post-Retirement Benefits Other Than Pension - Regulatory Asset	116	265
Goodwill	67,016	30,427
Deferred Charges and Other Costs	9,618	8,449
Total Regulatory and Other Long-Term Assets	154,720	144,671
Total Assets	$ 898,783	$ 784,502
CAPITALIZATION AND LIABILITIES		
Common Stockholders' Equity:		
Common Stock Without Par Value: Authorized - 25,000,000 Shares		
Issued and Outstanding:		
2017 - 12,065,016; 2016 - 11,248,458	$ 191,641	$ 145,739
Retained Earnings	102,417	91,213
Accumulated Other Comprehensive Loss	(428)	(924)
Common Stockholders' Equity	293,630	236,028
Preferred Stock	772	772
Long-Term Debt	253,367	197,047
Total Capitalization	547,769	433,847
Current Portion of Long-Term Debt	6,173	4,859
Interim Bank Loans Payable	19,281	32,953
Accounts Payable and Accrued Expenses	11,319	13,116
Accrued Interest	1,439	1,012
Current Portion of Refund to Customers - Regulatory Liability	64	855
Other Current Liabilities	3,262	2,330
Total Current Liabilities	41,538	55,125
Advances for Construction	20,024	19,127
Deferred Federal and State Income Taxes	33,579	50,558
Unfunded Future Income Taxes	58,384	90,977
Long-Term Compensation Arrangements	32,649	33,540
Unamortized Investment Tax Credits - Regulatory Liability	1,133	1,189
Excess Accumulated Deferred Income Tax - Regulatory Liability	30,937	4,373
Refund to Customers - Regulatory Liability	-	108
Other Long-Term Liabilities	1,241	701
Total Long-Term Liabilities	177,947	200,573
Contributions in Aid of Construction	131,529	94,957
Commitments and Contingencies	-	-
Total Capitalization and Liabilities	$ 898,783	$ 784,502

Created by EDGAR Online, Inc.

CONNECTICUT WATER SERVICE INC / CT
INCOME_STATEMENT2
Form Type: 10-K
Period End: Dec 31, 2017
Date Filed: Mar 15, 2018
Table Of Contents

CONNECTICUT WATER SERVICE, INC.

CONSOLIDATED STATEMENTS OF INCOME

For the Years Ended December 31, (in thousands, except per share data)	2017	2016	2015
Operating Revenues	$ 107,054	$ 98,667	$ 96,041
Operating Expenses			
Operation and Maintenance	48,017	44,191	48,052
Depreciation	16,684	13,905	12,871
Income Taxes	(1,993)	2,570	(818)
Taxes Other Than Income Taxes	10,941	9,796	9,294
Total Operating Expenses	73,649	70,462	69,399
Net Operating Revenues	33,405	28,205	26,642
Other Utility Income, Net of Taxes	824	744	797
Total Utility Operating Income	34,229	28,949	27,439
Other Income (Deductions), Net of Taxes			
(Loss) Gain on Real Estate Transactions	33	(54)	349
Non-Water Sales Earnings	1,167	1,219	1,394
Allowance for Funds Used During Construction	774	1,198	530
Other	(2,308)	(1,009)	(214)
Total Other Income (Loss), Net of Taxes	(334)	1,354	2,059
Interest and Debt Expenses			
Interest on Long-Term Debt	9,054	7,714	7,087
Other Interest Income, Net	(359)	(922)	(458)
Amortization of Debt Expense and Premium, Net	146	124	108
Total Interest and Debt Expenses	8,841	6,916	6,737
Net Income	25,054	23,387	22,761
Preferred Stock Dividend Requirement	38	38	38
Total Net Income Applicable to Common Stock	$ 25,016	$ 23,349	$ 22,723
Weighted Average Common Shares Outstanding:			
Basic	11,540	11,009	10,958
Diluted	11,762	11,228	11,164
Earnings Per Common Share:			
Basic	$ 2.17	$ 2.12	$ 2.07
Diluted	$ 2.13	$ 2.08	$ 2.04

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

For the Years Ended December 31, (in thousands)	2017	2016	2015
Net Income	$ 25,054	$ 23,387	$ 22,761
Other Comprehensive Income (Loss), net of tax			
Adjustment to post-retirement benefit plans, net of tax benefit (expense) of $(419), $15, and $(505) in 2017, 2016, and 2015, respectively	289	(24)	765
Unrealized Investment gain (loss), net of tax (expense) benefit of $(13), $(22) and $62, in 2017, 2016, and 2015, respectively	207	35	(97)
Other Comprehensive Income, net of tax	$ 496	$ 11	$ 668
Comprehensive Income	$ 25,550	$ 23,398	$ 23,429

A-6 LIST OF TOWNS SERVED

List by operating divisions the towns served directly, indicating those in which franchise is for limited area by an asterisk (*) after name. Give population of the area and the number of customers.

Line No.	Town	Population of Area	Number of Customers	Line No.	Town	Population of Area	Number of Customers
					Sub Totals Forward:	30,120	725
1	Belmont N. H.	7,356	160	16			
2	Bow, N.H.	7,519	95	17			
3	Carroll, N.H.	763	409	18			
4	Belmont, NH	7,356	22	19			
5	Gilford, NH	7,126	39	20			
6				21			
7				22			
8				23			
9				24			
10				25			
11				26			
12				27			
13				28			
14				29			
15	Sub Totals Forward:	30,120	725	30	Total	30,120	725

A-7 PAYMENTS TO INDIVIDUALS

List names of all individuals, partnerships, or corporations to whom payments totaling $10,000 or more for services rendered were made or accrued during the year, and the amount paid or accrued to each. Where payments or accruals to the individual members of a partnership or firm together total $10,000 or more, list each individual and the amount paid or due each.

Line No.	Name	Address	Amount
1	NESC	Plainville,, Ct.	222,877
2	City of Laconia	Laconia, NH	91,004
3	Rowell's Services	Northfield, NH	57,242
4	Eversource	Boston, MA	43,226
5	CoBank	Greenwood Village, CO	43,000
6	Stephen P. St. Cyr & Associates	Biddeford, Me.	40,959
7	NH Brown Law	Somersworth, NH	37,206
8	PKF O'Conner Davies	Shelton, Ct.	36,020
9	State of NH	Concord, NH	16,544
10	Fortin Construction	Londonderry, NH	16,155
11	Town of Carroll	Carroll, NH	15,201
12	Town of Belmont	Belmont, NH	14,953
13	Harcros Chemicals	Chicago, IL	12,909
14			
15			
16			
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28			
29			
30	Total		$ 647,296

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CONSUMPTION INFORMATION (Dover Division)

1. Estimated total population of territory covered by franchise		
2. Estimated population reached by the distributing system		
3. Estimated population actually supplied		1,809
4. Total consumption during the year in gallons		50,866,736
5. Average daily consumption (in gallons)		138,429
6. Day on which the greatest amount was pumped		8/13/2020
7. Gallons pumped on above day		368,000
8. Week during which greatest amount was pumped	8/9/20-8/15/20	
9. Gallons pumped during above week		1,906,000
10. Gallons per day per service		218
11. Consumption metered		50,866,736
12. Consumption metered,	100 percent of total consumption	

13. CUSTOMERS

Number Being Supplied at Beginning of Year	Discontinued Since	Connected Since	Number Being Supplied at Close of Year
637	1	0	636

Name of City, Town, or District	Number of Customers as of December 31
Dover, MA	636

Sixty-four of these connections represent contractual service to Town of Dover plus one master meter at town connection.

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CONSUMPTION INFORMATION (Plymouth Division)

1. Estimated total population of territory covered by franchise	2,513
2. Estimated population reached by the distributing system	2,513
3. Estimated population actually supplied	2,513
4. Total consumption during the year (GALS)	101,211,880
5. Average daily consumption	294,414
6. Day on which the greatest amount was pumped	7/27/2020
7. Gallons pumped on above day	724,300
8. Week during which greatest amount was pumped	7/26/2020-8/1/2020
9. Gallons pumped during above week	4,544,900
10. Gallons per day per service	219
11. Consumption metered	101,211,880
12. Consumption metered,	100% percent of total consumption

13. CUSTOMERS

Number Being Supplied at Beginning of Year	Discontinued Since	Connected Since	Number Being Supplied at Close of Year
853	0	9	862

Name of City, Town, or District	Number of Customers as of December 31
Plymouth, MA	862

Page 415

CONSUMPTION INFORMATION (Springdale Division)

1. Estimated total population of territory covered by franchise		115
2. Estimated population reached by the distributing system		115
3. Estimated population actually supplied		115
4. Total consumption during the year (GALS)		7,463,606
5. Average daily consumption		20,448
6. Day on which the greatest amount was pumped		6/27/2020
7. Gallons pumped on above day		88,000
8. Week during which greatest amount was pumped	6/21/20-6/27/20	
9. Gallons pumped during above week		407,000
10. Gallons per day per service		418
11. Consumption metered		7,463,606
12. Consumption metered,	100 percent of total consumption	

13. CUSTOMERS

Number Being Supplied at Beginning of Year	Discontinued Since	Connected Since	Number Being Supplied at Close of Year
41	0	1	42

Name of City, Town, or District	Number of Customers as of December 31
Dover, MA	42

Page 415

CONSUMPTION INFORMATION

1. Estimated total population of territory covered by franchise	1100	
2. Estimated population reached by the distributing system	1100	
3. Estimated population actually supplied	1100	
4. Total consumption during the year	31,956,826	gals.
5. Average daily consumption	87,553	gals.
6. Day on which the greatest amount was pumped	7/20/2020	
7. Gallons pumped on above day	173,596	
8. Week during which greatest amount was pumped	7/16/20-7/25/20	
9. Gallons pumped during above week	975,066	
10. Gallons per day per service	180	
11. Consumption metered	31,956,826	gals.
12. Consumption metered,	100	% of total consumption

13. CUSTOMERS

Number Being Supplied at Beginning of Year	Discontinued Since	Connected Since	Number Being Supplied at Close of Year
487	0		487

Name of City, Town, or District	Number of Customers as of December 31
Sheffield, MA	
*487 metered customers, 3 fixed fee customers	490

425 1 tm2112545d1_425.htm 425

Filed by Eversource Energy
(Commission File No. 001-05324) pursuant
to Rule 425 under the Securities Act of 1933

Subject Company: New England Service Company





JOINT NEWS RELEASE

New England Service Company To be Acquired by Aquarion Water Company

Region's largest private water company expands operations in Connecticut, Massachusetts and New Hampshire

BRIDGEPORT, CONN. – April 8, 2021 – Aquarion Company (Aquarion), parent of Aquarion Water Company, and New England Service Company (NESC) (OTC Pink Sheets Trading Symbol: NESW) today announced that they have entered into a definitive agreement whereby Aquarion will acquire all outstanding shares of NESC and NESC will become a wholly-owned subsidiary of Aquarion. Aquarion is a water supply company and holding company based in Bridgeport, Connecticut, providing regulated water service to customers in Connecticut, Massachusetts, and New Hampshire. NESC is a holding company based in Plainville, Connecticut providing regulated water service to customers in Connecticut, Massachusetts, and New Hampshire.

Under the agreement, which was unanimously approved by the Boards of Directors of both Aquarion and NESC, the acquisition will be executed through a stock-for-stock transaction that is structured to be a tax-free reorganization. The agreement provides that the stockholders of NESC will receive 0.51208 shares of the common shares of Aquarion's parent, Eversource Energy (Eversource) (NYSE: ES), in exchange for each share of NESC common stock. The fixed exchange ratio implies a $44.90 per share price based on the $87.68 closing price of Eversource Energy common shares on April 6, 2021. In connection with the exchange, Eversource Energy will issue approximately 463,000 shares of ES Common Stock at closing.

The merger includes NESC's Valley Water System in Connecticut, Colonial Water Company and Mountain Water Systems in Massachusetts, and Abenaki Water Company in New Hampshire, as well as unregulated service operations throughout New England. The merger will add nearly 10,000 customers to Aquarion's existing base of 216,000 customers. Under the agreement, all NESC employees will be retained.

"This merger will create long-term benefits for customers, employees, and the communities we serve," said Donald Morrissey, President of Aquarion Water Company. "We will make investments in these water systems focused on reliability and water quality and deliver a superior customer experience. We also welcome NESC's dedicated employees to the Aquarion team. I'm confident that we share a similar passion for delivering superior water service to customers and the communities we serve and being great stewards of the environment."

Over the last ten years, Aquarion has integrated over 70 water systems into its operations, strengthening the company's ability to deliver high-quality water to communities throughout the region.

"I am pleased to announce the NESC and Aquarion combination and look forward to working with Aquarion's leadership team on a smooth transition for our customers and employees," said Don Vaughan, NESC Chairman. He also noted, "Aquarion is well-positioned to deliver the reliable high-quality water service that our customers expect." NESC President, Nicholas LaChance, added "The stockholders, customers and employees of NESC will benefit from this deal with Aquarion. We view this transaction with Aquarion as a win for all of our stakeholders, and we look forward to working closely with their team."

The completion of the transaction will require approval by the stockholders of NESC, and the NESC Board of Directors has resolved to recommend the adoption of the merger agreement by the stockholders. The transaction is also subject to the approval of regulatory authorities, including the Connecticut Public Utilities Regulatory Authority, Massachusetts Department of Public Utilities, and New Hampshire Public Utilities Commission, and satisfaction of several other conditions. The parties plan to file all required regulatory applications over the coming months with an anticipated closing by the end of 2021.

Advisors and Counsel

Ropes & Gray LLP served as counsel to Aquarion Company and Eversource Energy in the transaction. Boenning & Scattergood, Inc. provided a fairness opinion to the Board of Directors of New England Service Company. Cranmore, FitzGerald and Meaney served as counsel to New England Service Company.

About Aquarion Water Company:

Aquarion Water Company is the public water supply company for more than 625,000 people in 52 cities and towns throughout Connecticut, as well as serving customers in Massachusetts and New Hampshire. It is the largest investor-owned water utility in New England and among the seven largest in the U.S. Based in Bridgeport, CT, Aquarion has been in the public water supply business since 1857. Across its operations, Aquarion strives to act as a responsible steward of the environment and to assist the communities it serves in promoting sustainable practices. Aquarion Company is a wholly-owned subsidiary of Eversource.

For more information on Aquarion Water Company, please visit www.aquarionwater.com or www.facebook.com/aquarionwater.

About New England Service Company

Headquartered in Plainville, Connecticut, NESC is predominantly involved in the operation, management and financing of water systems and other related activities. NESC was formed in 1997 to operate in both regulated and unregulated water markets. NESC is the sole stockholder of four regulated water companies.

For more information on New England Service Company please visit
www.NewEnglandServiceCompany.com

This news release includes statements concerning Aquarion and Aquarion Water Company's expectations, beliefs, plans, objectives, goals, strategies, assumptions of future events, future financial performance or growth and other statements that are not historical facts, including statements regarding the planned merger with New England Service Company, the timing of such transaction and benefits anticipated from such transaction. These statements are "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. Generally, readers can identify these forward-looking statements through the use of words or phrases such as "will," "estimate," "expect," "anticipate," "intend," "plan," "project," "believe," "forecast," "should," "could" and other similar expressions. Forward-looking statements involve risks and uncertainties that may cause actual results or outcomes to differ materially from those included in the forward-looking statements. Factors that may cause actual results to differ materially from those included in the forward-looking statements include, but are not limited to: the transaction is subject to conditions to closing, including regulatory approvals, that may not be satisfied; it may take longer than anticipated to consummate the transaction; we may not realize the benefits we anticipate from the transaction; unforeseen liabilities; risks relating to integration of the acquired business; and other presently unknown or unforeseen factors.

Other risk factors are detailed in Eversource Energy's reports filed with the Securities and Exchange Commission (SEC) and updated as necessary, and are available on Eversource Energy's website at www.eversource.com and on the SEC's website at www.sec.gov. All such factors are difficult to predict and contain uncertainties that may materially affect Aquarion or Aquarion Water Company's actual results, many of which are beyond our control. You should not place undue reliance on the forward-looking statements; each speaks only as of the date on which such statement is made, except as required by federal securities laws, and Aquarion Water Company undertakes no obligation to update any forward-looking statement or statements to reflect events or circumstances after the date on which such statement is made or to reflect the occurrence of unanticipated events.

Additional Information

This communication does not constitute an offer to buy or solicitation of any offer to sell securities. This communication relates to a proposed business combination transaction between Aquarion Company and New England Service Company. In connection with the proposed business combination, Eversource Energy will file a registration statement with the SEC. This communication is not a substitute for any registration statement, prospectus/proxy statement or other document Eversource Energy, Aquarion Company and/or New England Service Company may file with the SEC in connection with the proposed transaction. INVESTORS AND SECURITY HOLDERS OF NEW ENGLAND SERVICE COMPANY ARE URGED TO READ CAREFULLY THE REGISTRATION STATEMENT, PROSPECTUS, PROXY STATEMENT AND OTHER DOCUMENTS FILED WITH THE SEC WHEN THEY BECOME AVAILABLE BECAUSE THEY WILL CONTAIN IMPORTANT INFORMATION ABOUT EVERSOURCE ENERGY, AQUARION COMPANY, NEW ENGLAND SERVICE COMPANY AND THE PROPOSED TRANSACTION. Investors and security holders may obtain free copies of these documents (when they are available) and other related documents filed with the SEC at the SEC's web site at www.sec.gov or by directing a request to Eversource's Investor Relations department at (860) 665-5154 or by email to jeffrey.kotkin@eversource.com.

Certain Information Regarding Participants

This filing may be deemed solicitation material in respect of the proposed business combination transaction between Aquarion Company and New England Service Company. The directors, trustees, executive officers and certain other members of management and employees of Eversource Energy, Aquarion Company and New England Service Company may be deemed "participants" in the solicitation of proxies from stockholders of New England Service Company in favor of the proposed merger. You can find information about Eversource's trustees and executive officers in Eversource's annual report on Form 10-K for the year ended December 31, 2020, which was filed with the SEC on February 17, 2021 and its proxy statement for its 2021 annual meeting filed with the SEC on March 26, 2021. Information regarding the persons who may, under the rules of the SEC, be considered participants in the solicitation of the stockholders of New England Service Company in connection with the proposed merger will be set forth in the registration statement, prospectus/proxy statement or other documents filed with the SEC if any when they become available. You may obtain these documents (when they become available) free of charge at the SEC's web site at www.sec.gov and from Investor Relations at Eversource as described above.

Media Contacts:
Aquarion Contact:
Peter Fazekas
Director – Corporate Communications
Aquarion Water Company
Phone: (203) 336-7651
pfazekas@aquarionwater.com

New England Service Company Contact:
Nicholas LaChance
President and Chief Executive Officer
New England Service Company
37 Northwest Drive
Plainville, CT 06062
Phone: (860)-747-1665
NLaChance@NewEnglandServiceCompany.com

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NEW ENGLAND SERVICE COMPANY, INC. AND SUBSIDIARIES

Consolidated Balance Sheets

	December 31, 2020	December 31, 2019
ASSETS		
Utility plant, at cost	$ 52,176,919	$ 50,866,999
Less accumulated depreciation and amortization	(17,108,971)	(16,242,563)
Net Utility Plant	35,067,948	34,624,436
Non-utility property, plant and equipment	2,340,344	2,229,441
Less: accumulated depreciation	(841,502)	(736,994)
Net Non-Utility Property, Plant and Equipment	1,498,842	1,492,447
Current Assets		
Cash and cash equivalents	1,217,863	781,095
Marketable securities	387,294	456,385
Accounts receivable	682,735	728,725
Accrued unbilled revenues	391,450	369,136
Regulatory asset - revenue adjustment mechanism, current portion	83,303	218,322
Income taxes receivable	-	5,286
Materials and supplies inventory	105,343	99,032
Prepaid expenses	51,811	52,968
Total Current Assets	2,919,799	2,710,949
Other Assets		
Investment in cooperative capital plan	28,473	21,500
Deferred charges and other regulatory assets	2,243,524	1,750,628
Regulatory asset - revenue adjustment mechanism, net of current portion	10,426	48,847
Preliminary survey and investigation	5,111	4,883
Regulatory asset - income taxes recoverable	4,263,900	4,238,900
Total Other Assets	6,551,434	6,064,758
Total Assets	$ 46,038,023	$ 44,892,590

See Notes to Consolidated Financial Statements

NEW ENGLAND SERVICE COMPANY, INC. AND SUBSIDIARIES

Consolidated Balance Sheets *(continued)*

	December 31, 2020	December 31, 2019
STOCKHOLDERS' EQUITY AND LIABILITIES		
Stockholders' Equity		
Common stock, no par; 3,000,000 shares authorized; 906,418 shares issued, 903,325 and 900,850 shares outstanding at December 31, 2020 and 2019	$ 3,784,217	$ 3,784,217
Additional paid in capital	297,426	297,426
Treasury stock, at cost, 3,093 and 5,568 shares at December 31, 2020 and 2019	(72,974)	(128,758)
Retained earnings	12,776,934	12,511,864
Total Stockholders' Equity	16,785,603	16,464,749
Long-term debt, net of current portion	9,148,153	9,349,951
Current Liabilities		
Note payable, bank	122,000	70,500
Current portion of long-term debt	678,831	570,170
Accounts payable and accrued expenses	765,365	544,412
Accrued property and other taxes	234,396	215,792
Deferred revenues	117,927	76,874
Total Current Liabilities	1,918,519	1,477,748
Other Liabilities		
Deferred income taxes	5,739,210	5,443,590
Regulatory - excess deferred income taxes	762,275	763,669
Regulatory - excess income taxes	293,643	195,762
Security deposits and other deferred credits	105,525	109,249
Customer advances for construction	97,586	42,738
Contributions in aid of construction	9,519,329	9,431,954
Amortized contributions in aid of construction	1,668,180	1,614,180
Total Other Liabilities	18,185,748	17,601,142
Total Stockholder's Equity and Liabilities	$ 46,038,023	$ 44,893,590

See Notes to Consolidated Financial Statements

NEW ENGLAND SERVICE COMPANY, INC. AND SUBSIDIARIES

Consolidated Statements of Income

	Year Ended December 31, 2020	2019
OPERATING REVENUES		
Contracts with customers		
Utility revenues	$ 6,531,154	$ 6,047,244
Contracting and jobbing	1,519,110	1,497,323
Total Contracts with Customers	8,050,264	7,544,567
Alternative revenue programs	(56,176)	97,506
Total Operating Revenues	7,994,088	7,642,073
OPERATING EXPENSES		
Operation expenses	3,399,314	3,292,866
Maintenance expenses	369,749	322,583
Cost of contracting and jobbing	737,715	804,274
Depreciation and amortization	1,170,093	1,129,426
Taxes other than income taxes	757,357	743,266
Interest charges	347,298	350,372
Total Operating Expenses	6,781,526	6,642,787
Income from Operations	1,212,562	999,286
OTHER INCOME AND (DEDUCTIONS)		
Rental income and other	2,000	3,114
Investment income	21,350	70,550
Allowance for funds used during construction	10,771	5,275
Non-operating expense	(3,454)	(2,676)
Total Other Income	30,667	76,263
Income Before Income Taxes	1,243,229	1,075,549
Income tax expense	310,230	289,200
Net Income	$ 932,999	$ 786,349
PER SHARE AMOUNTS		
Weighted average shares outstanding	902,454	897,030
Net income	$ 1.03	$ 0.88
Dividends	$ 0.74	$ 0.70
Book value	$ 18.60	$ 18.35

See Notes to Consolidated Financial Statements

VALLEY WATER SYSTEMS, INC.

Notes to Financial Statements
Years Ended December 31, 2020 and 2019

1. Description of the Company

Valley Water Systems, Inc. (the "Company"), a wholly owned subsidiary of New England Service Company ("NESC"), is a public utility distributing water to approximately 6,760 customers in the towns of Plainville, Farmington, and Southington, Connecticut area. As a public utility operating in Connecticut, the Company functions under rules and regulations prescribed by the State of Connecticut Public Utilities Regulatory Authority ("PURA").

2. Summary of Significant Accounting Policies

Basis of Presentation

The Company maintains its accounts in accordance with the PURA Uniform System of Accounts as prescribed for Water Utilities Class A. The Company prepares its financial statements in accordance with accounting principles generally accepted in the United States of America which include the provisions of the Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") Topic 980, *Regulated Operations* ("ASC 980"). Under ASC 980, regulated companies defer costs and credits on the balance sheet as regulatory assets and liabilities when it is probable that those costs and credits will be recognized in the rate setting process in a period different from the period in which they would have been reflected in income by an unregulated company. These deferred regulatory assets and liabilities are then reflected in the income statement in the period in which the same amounts are reflected in rates charged for service.

Use of Estimates

The preparation of financial statements require management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities, and the reported revenues and expenses. Accordingly, actual results could differ from these estimates.

Cash and Cash Equivalents

Cash and cash equivalents includes cash balances held in bank accounts and highly liquid debt instruments with maturities of three months or less at the time of purchase.

From time to time, the Company had on deposit at financial institutions cash and cash equivalents which exceed current federal deposit insurance limitations. The Company had not experienced any losses in such accounts to date and believes it is not exposed to any significant credit risk on cash and cash equivalents.

Accounts Receivable

Accounts receivable are stated at the amount management expects to collect from outstanding balances. The Company continuously monitors the creditworthiness of customers and establishes, when necessary, an allowance for amounts that may become uncollectible in the future based on current economic trends, historical payment and bad debt write-off experience.

subsidiary water companies, serving approximately 200,000 customers in 52 towns and cities with a population of approximately 674,000 throughout Connecticut's seven counties.[2] A map showing AWC-CT's current service area is attached to the Joint Application as Exhibit I. AWC-CT has provided water and water services to Connecticut residents and customers continuously since 1857. AWC-CT is well known to PURA and well respected by the water industry in Connecticut, and nationally. AWC-CT had over $1.68 billion of utility plant assets as of December 31, 2020 and operating revenues of $189.6 million in 2020.

Q. Please describe New England Service Company.

A. NESC is a Connecticut stock corporation. NESC was formed in 1996 as a holding company to operate in both regulated and unregulated water utility markets. NESC has one regulated water distribution operating subsidiary in Connecticut. VWS, a utility established in 1884 as the Plainville Water Company, delivers water to over 6,800 customers or a population of approximately 18,000 in Plainville, Southington, and Farmington, Connecticut. A map showing VWS' current service area is attached to the Joint Application as Exhibit I.

In addition to owning VWS, NESC is also the sole stockholder of Colonial Water Company, a utility that provides water to about 1,530 customers in Dover and Plymouth, Massachusetts; Mountain Water Systems, a utility that provides water to about 490 customers in Sheffield, Massachusetts; and Abenaki Water Company, a combination of

[2] AWC-CT has acquired and integrated 16 new water systems since its last general rate proceeding in September 2013 via the acquisitions of the assets of the Indian Fields, West Service Corp. (2 systems), Bedrock, East Derby, Litchfield Hills, Southeastern CT Water Authority Lantern Hill Division, Hickory Hills Corporation, Arlington Acres, Pleasure Valley, Hillside Water Corporation, Town of Marlborough, and Town of New Fairfield systems, in addition to the transfer of the Laurel Ridge, West Shore Owners Association and Interlaken Water System assets.

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Filed by Eversource Energy
(Commission File No. 001-05324) pursuant
to Rule 425 under the Securities Act of 1933
Subject Company: The Torrington Water Company

THE TORRINGTON WATER COMPANY LETTERHEAD

March 8, 2022

Dear Stockholder:

We are pleased to announce that on March 7, 2022, the Board of Directors of The Torrington Water Company (OTC Pink Sheets Trading Symbol: TORW) unanimously approved an Agreement and Plan of Merger (the "Agreement") with Aquarion Company (" Aquarion"), a wholly-owned subsidiary of Eversource Energy (NYSE: ES). Aquarion is a holding company based in Bridgeport, Connecticut with regulated water operations in Connecticut, Massachusetts, and New Hampshire. The Torrington Water Company ("TWC") is a public utility that provides water service to approximately 10,000 customers in the city of Torrington and the towns of Burlington, Harwinton, Litchfield and New Hartford, Connecticut.

Under the terms of the Agreement, which has been unanimously approved by the boards of directors of Aquarion and TWC, TWC would merge with and become a wholly-owned subsidiary of Aquarion, and the stockholdcrs of TWC would receive in exchange for their TWC shares a number of validly issued, fully paid and nonassessable common shares, par value $5.00 per share, of Eversource Energy. The exchange ratio ("Exchange Ratio") that determines the number of Eversource Energy common shares issued in the merger will float between 1.0241 and 1.07 IO and will be determined by dividing $93.51 by Eversource's volume weighted average share price for IO full trading days ending on and including the second full trading day prior to closing date of the merger ("Eversource Share Value"). The Exchange Ratio becomes fixed at 1.0710 if the Eversource Share Value is less than $87.32 and becomes fixed at 1.0241 if the Eversource Share Value is greater than $91.32. An Exchange Ratio of 1.0710 implies a $92.81 per share value based on the closing price of $88.66 for Eversource Energy common shares on March 7, 2022, or a market premium of approximately I 04% over TWC's $45.50 closing price on March 7, 2022. Boenning & Scattergood, Inc. provided a fairness opinion to the Board of Directors of TWC. Based on an Exchange Ratio or 1.07 IO and the most recently declared dividends by TWC and Eversource Energy, TWC shareholders would receive an equivalent dividend of $2.58 per share compared to their current dividend on TWC shares of$1.38 per share.

The completion of the merger will require approval by the stockholders of TWC, and the TWC Board of Directors has resolved to recommend the adoption of the Agreement by the stockholders. The merger is also subject to the satisfaction of several other customary closing conditions, including the approval of the Connecticut Public Utilities Regulatory Authority. The parties plan to file for the approval of the Connecticut Public Utilities Regulatory Authority shortly, with an anticipated consummation of the merger by the end of 2022.

Within the coming weeks, you will be mailed a Proxy Statement/Prospectus for the TWC Stockholder Meeting, at which TWC stockholders will consider and vote with respect to the proposed merger.

Enclosed with this letter is the press release announcing the signing of the Agreement. The press release provides additional information that will answer many of your questions.

Sincerely yours,
Susan Suhanovsky
President

Forward-Looking Statements

This letter includes statements concerning The Torrington Water Company's expectations, beliefs, plans, objectives, goals, strategies, assumptions of future events, future financial performance or growth and other statements that are not historical facts, including statements regarding the planned merger with Aquarion Water Company, the timing of such transaction and benefits anticipated from such transaction. These statements are "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. Generally, readers can identify these forward-looking statements through the use of words or phrases such as "will," "estimate," "expect," "anticipate," "intend," "plan," "project," "believe," "forecast," "should," "could" and other similar expressions. Forward-looking statements involve risks and uncertainties that may cause actual results or outcomes to differ materially from those included in the forward-looking statements. Factors that may cause actual results to differ materially from those included in the forward-looking statements include, but are not limited to: the transaction is subject to conditions to closing, including regulatory approvals, that may not be satisfied; it may take longer than anticipated to consummate the transaction; we may not realize the benefits we anticipate from the transaction; unforeseen liabilities; risks relating to integration of the acquired business; and other presently unknown or unforeseen factors.

This Communication Does Not Constitute a Solicitation of Proxies

This communication does not constitute an offer to buy or solicitation of any offer to sell securities. This communication relates to a proposed business combination transaction between Aquarion Company and The Torrington Water Company. In connection with the proposed business combination, Eversource Energy will file a registration statement with the SEC. This communication is not a substitute for any registration statement, prospectus/proxy statement or other document Eversource Energy, Aquarion Company and/or The Torrington Water Company may file with the SEC in connection with the proposed transaction. INVESTORS AND SECURITY HOLDERS OF THE TORRINGTON WATER COMPANY ARE URGED TO READ CAREFULLY THE REGISTRATION STATEMENT, PROSPECTUS, PROXY STATEMENT AND OTHER DOCUMENTS FILED WITH THE SEC WHEN THEY BECOME AVAILABLE BECAUSE THEY WILL CONTAIN IMPORTANT INFORMATION ABOUT EVERSOURCE ENERGY, AQUARION COMPANY, THE TORRINGTON WATER COMPANY AND THE PROPOSED TRANSACTION. Investors and security holders may be able to obtain free copies of these documents (when they are available) and other related documents filed with the SEC at the SEC's website at www.sec.gov. The materials may also be obtained for free by directing a written request to: Susan Suhanovsky, President, The Torrington Water Company, PO Box 867, Torrington, CT 06790, telephone (860) 489-4149. Investors should read the proxy materials/prospectus before making a decision regarding the merger.

This filing may be deemed solicitation material in respect of the proposed business combination transaction between Aquarion Company and The Torrington Water Company. The directors, trustees, executive officers and certain other members of management and employees of Eversource Energy, Aquarion Company and The Torrington Water Company may be deemed "participants" in the solicitation of proxies from stockholders of The Torrington Water Company in favor of the proposed merger. You can find information about Eversource's trustees and executive officers in Eversource's annual report on Form 10-K for the year ended December 31, 2021, which was filed with the SEC on February 17, 2022 and its proxy statement for its 2021 annual meeting filed with the SEC on March 26, 2021. Information regarding the persons who may, under the rules of the SEC, be considered participants in the solicitation of the stockholders of The Torrington Water Company in connection with the proposed merger will be set forth in the registration statement, prospectus/proxy statement or other documents filed with the SEC if any when they become available. You may obtain these documents (when they become available) free of charge at the SEC's web site at www.sec.gov and from Susan Suhanovsky at The Torrington Water Company as described above.

About Aquarion Water Company:

Aquarion Water Company is the public water supply company for more than 700,000 people in 68 cities and towns in Connecticut, Massachusetts and New Hampshire. It is the largest investor-owned water utility in New England and among the seven largest in the U.S. Based in Bridgeport, CT, Aquarion has been in the public water supply business since 1857. Across its operations, Aquarion strives to act as a responsible steward of the environment and to assist the communities it serves in promoting sustainable practices. Aquarion Water Company is a wholly-owned subsidiary of Eversource.

For more information on Aquarion Water Company, please visit www.aquarionwater.com or www.facebook.com/aquarionwater.

MUNICIPALITIES SUPPLIED

1. Show below the names of the municipalities in which the respondent supplies water and the number of customers in each.

Line No.	Name (a)	Estimated Population Supplied*** (b)	Number of customers served by meter* (c)	Number of customers not served by meter** (d)	Total customers supplied (e)
1	Torrington	29,000	9,789	-	9,789
2	New Hartford	18	7	-	7
3	Litchfield	171	57	-	57
4	Harwinton	402	134	-	134
5	Burlington	414	138		138
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55	Total	30,005	10,125	-	10,125

THE TORRINGTON WATER COMPANY

Balance Sheets

	December 31,		
	2021	2020	2019
ASSETS			
Utility plant, at cost	$74,999,793	$71,847,851	$69,057,611
Less: accumulated depreciation	26,458,744	25,210,076	24,139,469
Net utility plant	48,541,049	46,637,775	44,918,142
Nonutility property, net of accumulated depreciation	202,624	372,935	372,935
Current Assets			
Cash and cash equivalents	1,577,648	2,781,302	1,064,441
Accounts receivable	554,416	757,705	518,129
Accrued unbilled revenues	876,500	858,000	821,000
Regulatory asset-water revenue adjustment, current portion	627,149	631,461	707,560
Materials and supplies inventory	196,635	369,507	300,436
Prepaid expenses	168,630	183,413	132,139
Total Current Assets	4,000,978	5,581,388	3,543,705
Other Assets			
Other assets	1,924,448	1,976,334	2,306,894
Preliminary survey and investigation charges	154,216	154,216	230,862
Regulatory asset-income taxes recoverable	7,375,800	6,855,660	6,476,000
Regulatory asset-water revenue adjustment, net of current portion	146,373	142,065	154,160
Regulatory asset-unfunded postretirement benefits	3,371,985	3,205,165	3,038,255
Total Other Assets	12,972,822	12,333,440	12,206,171
Total Assets	$65,717,473	$64,925,538	$61,040,953

See notes to financial statements

THE TORRINGTON WATER COMPANY

Balance Sheets *(continued)*

	December 31,		
	2021	2020	2019
STOCKHOLDERS' EQUITY AND LIABILITIES			
Stockholders' Equity			
Common stock, no par; 1,000,000 shares authorized; 864,000 issued and outstanding	$ 1,800,000	$ 1,800,000	$ 1,800,000
Retained earnings	21,930,762	21,326,808	20,524,284
Total Stockholders' Equity	23,730,762	23,126,808	22,324,284
Long-term debt, net	12,305,080	12,656,619	10,515,289
Current Liabilities			
Current portion of long-term debt	360,000	360,000	360,000
Accounts payable	191,921	586,707	329,619
Accrued taxes	501,964	695,550	611,538
Accrued interest	173,400	179,520	185,640
Other current liabilities	113,561	131,691	133,408
Total Current Liabilities	1,340,846	1,953,468	1,620,205
Other Liabilities			
Deferred income taxes	9,589,665	8,889,230	8,416,575
Regulatory liability-excess deferred income taxes	1,139,918	1,200,609	1,261,300
Unfunded postretirement benefits	3,371,985	3,205,165	3,038,255
Customer advances for construction	506,436	544,075	515,481
Contributions in aid of construction	11,078,991	10,772,973	10,850,172
Amortized contributions in aid of construction	2,653,790	2,576,591	2,499,392
Total Other Liabilities	28,340,785	27,188,643	26,581,175
Total Stockholders' Equity and Liabilities	$65,717,473	$64,925,538	$61,040,953

See notes to financial statements

THE TORRINGTON WATER COMPANY

Statements of Income and Retained Earnings

	Year Ended December 31,		
	2021	2020	2019
OPERATING REVENUES			
Contracts with customers	$ 6,934,525	$ 6,956,272	$ 6,268,405
Alternative revenue programs	900,619	762,420	1,211,817
Total Operating Revenues	7,835,144	7,718,692	7,480,222
OPERATING EXPENSES			
Operation expenses	2,485,521	2,570,359	2,381,493
Maintenance expenses	703,589	698,831	647,629
Depreciation expense	1,217,968	1,170,187	1,146,922
Taxes other than income taxes	1,382,016	1,333,810	1,319,487
Income taxes	133,200	135,900	74,200
Total Operating Expenses	5,922,294	5,909,087	5,569,731
Utility Operating Income	1,912,850	1,809,605	1,910,491
Other Income and Deductions			
Merchandising and jobbing, net	123,068	123,170	116,208
Interest income	2,411	2,212	4,025
Miscellaneous non-operating income	247,496	192,286	160,412
Gain on forgiveness of Paycheck Protection Program loan	-	276,057	-
Allowance for funds used during construction	42,306	26,707	10,905
Total Other Income and Deductions	415,281	620,432	291,550
Taxes applicable to other income	33,604	28,604	21,055
Net Other Income and Deductions	381,677	591,828	270,495
Income Before Interest Expense	2,294,527	2,401,433	2,180,986
Interest Expense			
Interest on long-term debt	489,624	466,235	446,760
Amortization of deferred financing costs	8,461	7,998	7,350
Other interest	168	1,476	1,538
Total Interest Expense	498,253	475,709	455,648
Net Income	1,796,274	1,925,724	1,725,338
RETAINED EARNINGS			
Dividends declared	(1,192,320)	(1,123,200)	(1,080,000)
Retained earnings, beginning	21,326,808	20,524,284	19,878,946
Retained earnings, ending	$21,930,762	$21,326,808	$20,524,284
PER SHARE AMOUNTS			
Net income, basic	$ 2.08	$ 2.23	$ 2.00
Dividends declared	$ 1.38	$ 1.30	$ 1.25
Book value	$ 27.47	$ 26.77	$ 25.84

See notes to financial statements

The Water Utility Industry consists of six investor-owned companies that provide water services to residential, commercial, and industrial customers. The group is very small because most of the water utilities in the United States are run by states and local municipalities.

Following decades of neglect, there was a major deterioration in the domestic water infrastructure. Over the last 10 years, water companies have been investing heavily to replace old pipelines. As a result, capital budgets are substantial.

To finance the construction programs, the companies have been forced to depend upon external funds, most of it debt. So, the overall financial health of the group is just about average.

At one time, these equities were purchased by investors for their income and defensive nature.

INDUSTRY TIMELINESS: 75 (of 96)

Not Defensive Stocks

For years, water utility stocks were held by conservative investors seeking income, well-defined earnings prospects, and low volatility. Over the past few years, however, these equities gained in popularity and began trading at high premiums. We attribute this development to scarcity and the Industry's many attractive attributes. At *Value Line*, one of the differences between water and electric utilities is the size of the former, as we cover just six companies. Moreover, *American Water Works* and *Essential Utilities* are the only ones in the group that have market capitalizations of over $10 billion, the remaining four average only $2.5 billion.

Year to date, these stocks have declined to a greater degree than the S&P 500 Index. Meanwhile, the shares of electric utilities have turned in an excellent performance. (For example, the stocks of American Electric Power and Consolidated Edison have increased in value by 10% and 7%, respectively.) This compares favorably to the decline in the S&P 500 Index of about 18%. Meanwhile, only *Essential Utilities* has performed in line with this benchmark. It should come as no surprise that the company is only half a water utility, with the remainder of its revenue coming from natural gas. With the exception of *SJW*, these stocks were down by 20% or more in 2022. This comes despite the members of this industry carrying low Beta coefficients. *American Water Works*, *California Water*, and *SJW* have Beta's of .85, .65, and .80, respectively. Moreover, these companies all score extremely high for Stock Price Stability. Traditionally, these types of metrics would make an equity hold up well in a turbulent market. Why hasn't this been the case with this Industry in 2022? During the last three years, when the stocks became the darlings of Wall Street, they started to trade with P/E ratios as high as the 40s, based on normalized profits. While we thought the companies were fundamentally sound, they were just overpriced, in our opinion.

Inflation and Regulation

It is no coincidence that water utilities were generating healthy profits (and their stocks prices were soaring) when the nation's inflation rate remained near 2%-3%. The reason for this is twofold. With the nation's aging water infrastructure (the average pipelines were close to 70 years old), water entities would have to substantially increase their capital expenditures to modernize these systems. Regulators have to approve these expenses being passed along to water consumers. Fortunately, most state authorities understood the situation and worked constructively with the utilities to find a balance between allowing them to earn a reasonable profit and remaining fair to ratepayers. When costs associated with providing their service were rising modestly, rate increases that were higher than inflation were acceptable, as regulators realized that water bills had been kept artificially low at the expense of deferring necessary investment in maintaining assets.

Inflation is currently running at over 8%. Should this continue, utilities will have to petition state authorities for large rate hikes. It wasn't too difficult for them to petition for 5% rate increases when prices were rising at 2%. However, seeking a 10%+ increase will be much tougher. Members of these regulatory bodies are appointed by politicians, who depend upon citizens for their votes. To our knowledge, no candidate has ever been elected with the slogan "Let's raise utility prices sky high so utilities get a fair deal." Hence, even if major raises are justified, it may be too unpopular with voters to implement them.

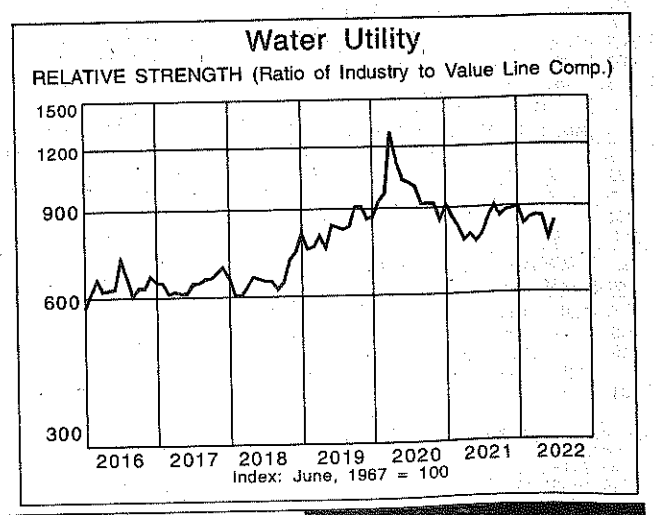
Fundamentals Remain Solid

Though we focused on the obstacles facing this group, it is not to say that the Industry ought to be completely written off. Should the equities' price-to- earnings multiples ever come close to the *Value Line* median, they would be worth a close look. Our past problem with the group was based mostly on their expensive evaluations. Regulation has always been a major positive, too, but that will be tested when double-digit hikes are requested.

Conclusion

As we have discussed above, utilities are facing some major challenges. And even with the recent decline in the group's stock prices, these stocks still offer below average total return potential out to 2025-2027. We continue to advise investors to bypass this sector, while inflation remains a problem. As always, we recommend that subscribers read each individual report carefully before committing funds to better understand each company's unique risks.

James A. Flood



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AMER. STATES WATER NYSE-AWR

RECENT PRICE 79.72 | P/E RATIO 30.7 (Trailing: 33.1 / Median: 27.0) | RELATIVE P/E RATIO 1.93 | DIV'D YLD 2.0% | VALUE LINE 1779

TIMELINESS 4 Lowered 6/10/22
SAFETY 2 Raised 7/20/12
TECHNICAL 4 Raised 7/1/22
BETA .65 (1.00 = Market)

18-Month Target Price Range

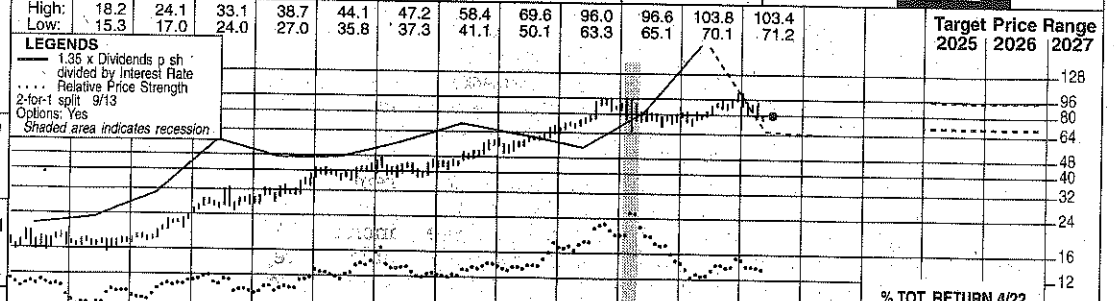
Low-High	Midpoint (% to Mid)
$70-$132	$101 (25%)

2025-27 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	95	(+20%)	7%
Low	70	(-10%)	-1%

Institutional Decisions

	3Q2021	4Q2021	1Q2022
to Buy	146	157	153
to Sell	101	117	121
Hld's(000)	26958	27394	27827



% TOT. RETURN 4/22

	THIS STOCK	VL ARITH.* INDEX
1 yr.	1.1	-7.2
3 yr.	15.7	37.2
5 yr.	92.1	58.7

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	© VALUE LINE PUB. LLC	25-27
7.88	8.75	9.21	9.74	10.71	11.12	12.12	12.19	12.17	12.56	11.92	12.01	11.88	12.86	13.24	13.51	*13.95*	*14.25*	Revenues per sh	*18.15*
1.45	1.65	1.69	1.70	2.11	2.13	2.48	2.65	2.67	2.81	2.70	2.96	2.84	3.26	3.34	3.64	*3.75*	*4.15*	"Cash Flow" per sh	*4.75*
.67	.81	.78	.81	1.11	1.12	1.41	1.61	1.57	1.61	1.62	1.88	1.72	2.28	2.33	2.55	*2.60*	*2.75*	Earnings per sh A	*3.25*
.46	.48	.50	.51	.52	.55	.64	.76	.83	.87	.91	.99	1.06	1.16	1.28	1.40	*1.52*	*1.65*	Div'd Decl'd per sh B■	*2.15*
1.95	1.45	2.23	2.09	2.12	2.13	1.77	2.52	1.89	2.39	3.55	3.08	3.44	4.12	3.54	3.91	*4.00*	*4.00*	Cap'l Spending per sh	*4.25*
8.32	8.77	8.97	9.70	10.13	10.84	11.80	12.72	13.24	12.77	13.52	14.45	15.19	16.33	17.39	18.57	*19.45*	*20.65*	Book Value per sh D	*23.75*
34.10	34.46	34.60	37.06	37.26	37.70	38.53	38.72	38.29	36.50	36.57	36.68	36.76	36.85	36.89	36.94	*37.25*	*37.50*	Common Shs Outst'g C	*37.50*
27.7	24.0	22.6	21.2	15.7	15.4	14.3	17.2	20.1	24.6	25.6	25.7	34.0	34.4	34.3	33.2	Bold figures are Value Line estimates		Avg Ann'l P/E Ratio	*25.0*
1.50	1.27	1.36	1.41	1.00	.97	.91	.97	1.06	1.24	1.34	1.29	1.84	1.83	1.76	1.82			Relative P/E Ratio	*1.40*
2.5%	2.5%	2.9%	2.9%	3.0%	3.2%	3.1%	2.7%	2.6%	2.2%	2.2%	2.0%	1.8%	1.5%	1.6%	1.7%			Avg Ann'l Div'd Yield	*2.6%*
						466.9	472.1	465.8	458.6	436.1	440.6	436.8	473.9	488.2	498.9	*520*	*535*	Revenues ($mill)	*680*
						54.1	62.7	61.1	60.5	59.7	69.4	63.9	84.3	86.4	94.3	*95.0*	*105*	Net Profit ($mill)	*120*
						39.9%	36.3%	38.4%	38.4%	36.8%	36.0%	22.0%	22.6%	24.6%	24.4%	*24.0%*	*24.0%*	Income Tax Rate	*24.0%*
						2.5%	--	--	--	--	--	--	--	2.5%	--	*1.0%*	*1.5%*	AFUDC % to Net Profit	*1.5%*
						42.2%	39.8%	39.1%	41.1%	39.4%	38.0%	40.5%	44.4%	47.2%	46.1%	*48.5%*	*48.5%*	Long-Term Debt Ratio	*52.0%*
						57.8%	60.2%	60.9%	58.9%	60.6%	62.0%	59.5%	55.6%	52.8%	53.9%	*51.5%*	*51.5%*	Common Equity Ratio	*48.0%*
						787.0	818.4	832.6	791.5	815.3	854.9	938.4	1082.5	1216.2	1272.6	*1410*	*1500*	Total Capital ($mill)	*1710*
						917.8	981.5	1003.5	1060.8	1150.9	1205.0	1296.3	1415.7	1512.0	1626.0	*1720*	*1800*	Net Plant ($mill)	*2025*
						8.3%	8.9%	8.6%	9.0%	8.6%	9.3%	7.9%	8.9%	8.0%	8.3%	*8.0%*	*8.0%*	Return on Total Cap'l	*8.0%*
						11.9%	12.7%	12.0%	13.0%	12.1%	13.1%	11.4%	14.0%	13.5%	13.8%	*13.0%*	*13.5%*	Return on Shr. Equity	*13.5%*
						11.9%	12.7%	12.0%	13.0%	12.1%	13.1%	11.4%	14.0%	13.5%	13.8%	*13.0%*	*13.5%*	Return on Com Equity	*13.5%*
						6.6%	6.8%	5.7%	6.0%	5.3%	6.2%	4.5%	6.9%	6.1%	6.2%	*5.5%*	*5.5%*	Retained to Com Eq	*4.5%*
						45%	47%	53%	54%	56%	52%	61%	51%	55%	55%	*58%*	*60%*	All Div'ds to Net Prof	*66%*

CAPITAL STRUCTURE as of 3/31/22
Total Debt $449.6 mill. **Due in 5 Yrs** $33.5 mill.
LT Debt $412.2 mill. **LT Interest** $22.8 mill. (37% of Cap'l)

Leases, Uncapitalized: Annual rentals $2.6 mill.
Pension Assets-12/21 $233.5 mill. **Oblig.** $259.8 mill.

Pfd Stock None

Common Stock 36,955,756 shs. as of 4/28/22

MARKET CAP: $2.9 billion (Mid Cap)

CURRENT POSITION ($MILL.)	2020	2021	3/31/22
Cash Assets	36.7	5.0	10.1
Accts Receivable	29.2	34.4	23.4
Other	91.2	98.7	97.4
Current Assets	157.1	138.1	130.9
Accts Payable	63.8	65.9	67.5
Debt Due	.4	31.4	32.4
Other	54.4	58.3	60.3
Current Liab.	118.6	155.6	160.2

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '19-'21 to '25-'27
Revenues	2.5%	1.5%	*5.5%*
"Cash Flow"	5.5%	4.5%	*5.5%*
Earnings	9.0%	8.5%	*5.5%*
Dividends	9.5%	8.0%	*9.0%*
Book Value	5.5%	6.0%	*5.5%*

Calendar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2019	101.7	124.7	134.5	113.0	473.9
2020	109.1	121.3	133.6	124.2	488.2
2021	117.1	128.4	136.8	116.6	498.9
2022	108.6	*131.4*	*145*	*135*	*520*
2023	*115*	*135*	*148*	*137*	*535*

Calendar	EARNINGS PER SHARE A Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2019	.35	.72	.76	.45	2.28
2020	.38	.69	.72	.54	2.33
2021	.52	.72	.76	.55	2.55
2022	.38	*.87*	*.78*	*.57*	*2.60*
2023	*.55*	*.79*	*.82*	*.59*	*2.75*

Calendar	QUARTERLY DIVIDENDS PAID B■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	.255	.255	.275	.275	1.06
2019	.275	.275	.305	.305	1.16
2020	.305	.305	.335	.335	1.28
2021	.335	.335	.365	.365	1.40
2022	.365	.365			

BUSINESS: American States Water Co. operates as a holding company. Through its principal subsidiary, Golden State Water Co., it supplies water to 262,770 customers in 10 California counties. Service areas include the metropolitan areas of Los Angeles and Orange Counties. The company also provides electricity to 24,656 customers in Big Bear Lake and San Bernardino Cnty. Provides water & wastewater services to U.S. military bases through its ASUS subsidiary. Sold Chaparral City Wtr. of AZ. (6/11). Employs 808. BlackRock, Inc. owns 17.7% of out. shares; State St., 13.7%; off. & dir., 0.9% (4/22 Proxy). Chairman: Lloyd Ross. Pres. & CEO: Robert Sprowls. Inc: CA. Address: 630 East Foothill Blvd., San Dimas, CA 91773. Tel.: 909-394-3600. Internet: www.aswater.com.

American States Water did not get off to a good start to 2022. The company's first-quarter share earnings were just $0.38, compared to the $0.52 posted last year and our $0.52 estimate. Most of the bottom-line shortfall was due to the California Public Utility Commission's (CPUC) delay in agreeing to a settlement on new rate hikes. (The office of the Public Advocate and the Golden States Water Company have already reached a settlement.) Management estimates that the delay shaved $0.12 a share from March's bottom line. In addition, a slowdown in construction in its Contract Services business hurt share net by another $0.05 a share.

Nevertheless, we are sticking with our previous earnings forecasts. According to the regulations established by the CPUC, when the pending three-year rate case is settled, Golden States will be able to implement the rate hike retroactive to January 1st. Hence, it should be able to recover the higher expenses incurred for the first half of the year. We are assuming that the CPUC will accept the settlement with the Public Advocate. However, if the authority were not to, it would mean that GSWC may well have to absorb the increased expenses it has been incurring due to the inflationary environment.

Dividend growth prospects are robust. This August, we think the board of directors will raise the company's quarterly payout from $0.365 to a fraction above $0.39 a share. Leadership has stated that its goal is to raise the distribution an average of 7% annually over the next five-year period.

Shares of American States have not done well in 2022. Year to date, the value of the stock is down almost 24%. By comparison, the S&P 500 Index has declined 18%. Investors should note that water utility equities, contrary to what some believe, are not defensive securities. So, AWR's low Beta co-efficient shouldn't be taken too seriously. The high scores for Price Stability and Earnings Predictability also do not provide much relief from a downturn in the markets. That's because over the past several years, this group has been trading with a high price earnings ratio. In sum, the AWR does not stand out for short- or longer-term accounts.

James A. Flood July 8, 2022

(A) Primary earnings. Excludes nonrecurring gains/(losses):; '06, 3¢; '08, (14¢); '10, (23¢); '11, 10¢. Next earnings report due early Aug.
(B) Dividends historically paid in early March, June, September, and December. ■ Div'd reinvestment plan available.
(C) In millions, adjusted for split.
(D) Includes intangibles. As of 12/31/21: $1.1 million/$0.03 a share.

Company's Financial Strength	A
Stock's Price Stability	100
Price Growth Persistence	90
Earnings Predictability	95

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AMERICAN WATER NYSE-AWK

RECENT PRICE 148.95 | P/E RATIO 33.5 (Trailing: 21.0 Median: 25.0) | RELATIVE P/E RATIO 2.11 | DIV'D YLD 1.8% | VALUE LINE 1780

TIMELINESS 3 Lowered 6/10/22
SAFETY 3 New 7/25/08
TECHNICAL 5 Lowered 6/17/22
BETA .85 (1.00 = Market)

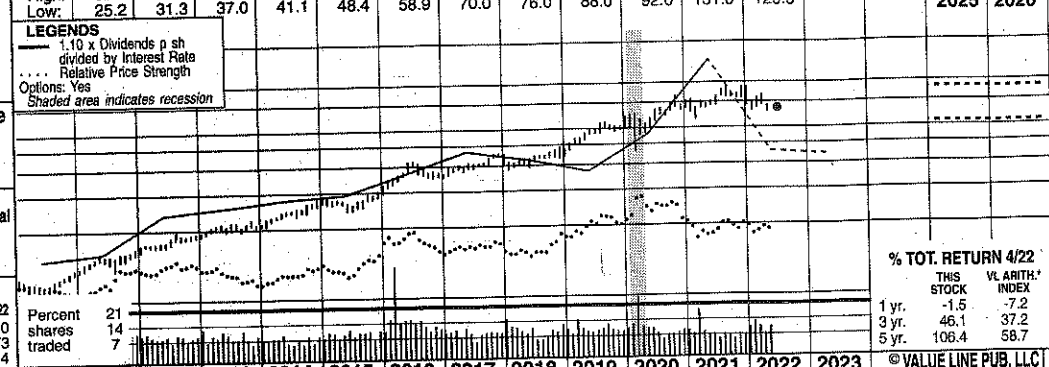
18-Month Target Price Range
Low-High Midpoint (% to Mid)
$129-$243 $186 (25%)

2025-27 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	185	(+25%)	8%
Low	125	(-15%)	-2%

Institutional Decisions

	3Q2021	4Q2021	1Q2022
to Buy	465	526	450
to Sell	362	369	473
Hld's(000)	155734	156569	156704



Cal-endar	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	© VALUE LINE PUB. LLC	25-27
	13.08	13.84	14.61	13.98	15.49	15.18	16.25	16.28	16.78	17.72	18.54	18.81	19.04	19.97	20.83	21.58	*21.15*	*22.35*	Revenues per sh	*27.10*
	.85	d.47	2.87	2.89	3.56	3.73	4.27	4.36	4.75	5.13	5.26	5.14	6.15	6.65	7.24	10.46	*8.15*	*8.90*	"Cash Flow" per sh	*10.10*
	d.97	d2.14	1.10	1.25	1.53	1.72	2.11	2.06	2.39	2.64	2.62	2.38	3.15	3.43	3.91	6.95	*4.45*	*4.85*	Earnings per sh A	*5.75*
	--	--	.40	.82	.86	.90	1.21	.84	1.21	1.33	1.47	1.62	1.78	1.96	2.15	2.36	*2.57*	*2.80*	Div'd Decl'd per sh B■	*3.55*
	4.31	4.74	6.31	4.50	4.38	5.27	5.25	5.50	5.33	6.51	7.36	8.04	8.78	9.15	10.05	9.71	*13.75*	*11.75*	Cap'l Spending per sh	*11.50*
	23.86	28.39	25.64	22.91	23.59	24.11	25.11	26.52	27.39	28.25	29.24	30.13	32.42	33.83	35.58	40.18	*41.00*	*43.85*	Book Value per sh D	*57.80*
	160.00	160.00	160.00	174.63	175.00	175.66	176.99	178.25	179.46	178.28	178.10	178.44	180.68	180.81	181.30	181.61	*182.00*	*182.50*	Common Shs Outst'g C	*190.00*
	--	--	18.9	15.6	14.6	16.8	16.7	19.9	20.0	20.5	27.7	33.8	27.3	32.9	35.3	23.6	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*27.0*
	--	--	1.14	1.04	.93	1.05	1.06	1.12	1.05	1.03	1.45	1.70	1.47	1.75	1.81	1.28			Relative P/E Ratio	*1.50*
	--	--	1.9%	4.2%	3.8%	3.1%	3.4%	2.0%	2.5%	2.5%	2.0%	2.0%	2.1%	1.7%	1.6%	1.4%			Avg Ann'l Div'd Yield	*2.3%*
							2876.9	2901.9	3011.3	3159.0	3302.0	3357.0	3440.0	3610.0	3777.0	3920.0	*3850*	*4080*	Revenues ($mill)	*5150*
							374.3	369.3	429.8	476.0	468.0	426.0	567.0	621.0	709.0	1263.0	*810*	*885*	Net Profit ($mill)	*1095*
							40.7%	39.1%	39.4%	39.1%	39.2%	53.3%	28.2%	25.5%	23.3%	23.0%	*21.0%*	*22.0%*	Income Tax Rate	*24.0%*
							6.2%	5.1%	--	--	--	--	--	--	5.1%	2.9%	*5.0%*	*5.0%*	AFUDC % to Net Profit	*5.0%*
							53.9%	52.4%	52.4%	53.7%	52.4%	54.7%	56.3%	58.5%	59.1%	58.6%	*60.0%*	*61.0%*	Long-Term Debt Ratio	*60.0%*
							46.1%	47.6%	47.4%	46.2%	47.5%	45.3%	43.6%	41.4%	40.9%	41.4%	*40.0%*	*39.0%*	Common Equity Ratio	*40.0%*
							9635.5	9940.7	10364	10911	10967	11875	13433	14760	15787	17639	*19260*	*20500*	Total Capital ($mill)	*22000*
							11739	12391	12900	13933	14992	16246	17409	18232	19710	21084	*22900*	*24400*	Net Plant ($mill)	*26000*
							5.4%	5.1%	5.5%	5.7%	5.6%	4.9%	5.4%	5.4%	5.7%	8.2%	*5.5%*	*5.5%*	Return on Total Cap'l	*6.0%*
							8.4%	7.8%	8.7%	9.4%	9.0%	7.9%	9.7%	10.1%	11.0%	17.3%	*10.5%*	*10.5%*	Return on Shr. Equity	*10.5%*
							8.4%	7.8%	8.7%	9.4%	9.0%	7.9%	9.7%	10.1%	11.0%	17.3%	*10.5%*	*10.5%*	Return on Com Equity	*10.5%*
							3.6%	4.7%	4.3%	4.7%	4.0%	2.5%	4.2%	4.4%	5.0%	11.4%	*4.5%*	*4.5%*	Retained to Com Eq	*4.0%*
							57%	40%	50%	50%	56%	68%	56%	57%	55%	34%	*58%*	*58%*	All Div'ds to Net Prof	*62%*

CAPITAL STRUCTURE as of 3/31/22
Total Debt $10725 mil. Due in 5 Yrs $1849 mil.
LT Debt $10347 mil. LT Interest $384 mil., (58% of Cap'l)

Leases, Uncapitalized: Annual rentals $12.0 mill.
Pension Assets 12/21 $2294.0 mill. Oblig. $1991.0 mill.
Pfd Stock $3.0 mill. Pfd Div'd $.2 mill

Common Stock 181,753,276 shares as of 4/21/22

MARKET CAP: $27.1 billion (Large Cap)

CURRENT POSITION ($MILL.)	2020	2021	3/31/22
Cash Assets	576	136	96
Accts Receivable	321	271	266
Other	1009	1147	491
Current Assets	1906	1554	853
Accts Payable	189	235	175
Debt Due	1611	641	378
Other	1081	1265	1095
Current Liab.	2881	2141	1648

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '19-'21 to '25-'27
Revenues	3.5%	3.5%	*4.5%*
"Cash Flow"	9.0%	10.0%	*3.5%*
Earnings	12.0%	13.5%	*3.0%*
Dividends	9.5%	10.0%	*8.5%*
Book Value	4.5%	5.0%	*8.0%*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2019	813	882	1013	902	3610
2020	844	931	1079	923	3777
2021	888	999	1082	951	3920
2022	842	*973*	*1070*	*965*	*3850*
2023	*895*	*1025*	*1160*	*1000*	*4080*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2019	.62	.94	1.33	.54	3.43
2020	.68	.97	1.46	.80	3.91
2021	.73	1.14	1.53	3.55	6.95
2022	.87	*1.18*	*1.55*	*.85*	*4.45*
2023	*.85*	*1.25*	*1.80*	*.95*	*4.85*

Cal-endar	QUARTERLY DIVIDENDS PAID B■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	.415	.455	.455	.455	1.78
2019	.455	.50	.50	.50	1.96
2020	.50	.55	.55	.55	2.15
2021	.55	.6025	.6025	.6025	2.36
2022	.6025	.655			

BUSINESS: American Water Works Company, Inc. is the largest investor-owned water and wastewater utility in the U.S., providing services to approximately 14 million people in 24 states. Nonregulated business assists municipalities and military bases with the maintenance and upkeep as well. Regulated operations made up 86% of 2021 revenues. Pennsylvania is its largest market accounting for 21.5% of regulated revenues; New Jersey, 20.3%; Missouri, 13.9%. Has 6,400 employees. Vanguard owns 11.8% of outstanding shares; BlackRock, 8.9%; State St., 5.4%; officers & directors, less than 1.0% (4/22 Proxy). President & CEO: Susan N. Story. Chairman: George MacKenzie. Address: 1 Water Street, Camden, NJ 08102. Tel.: 856-346-8200. Internet: www.amwater.com.

American Water Works is no longer much of a defensive stock. Many investors used to buy shares of the company as a hedge against declines in the market. Indeed, the water utility has very well-defined earnings, a lower-than-average Beta coefficient, and gets a high score for Price Stability. Over the past few years, however, the water stocks have become a Wall Street favorite (AWK in particular), and its price-earnings ratio expanded significantly. Thus, the value of these shares is down nearly 22% in 2022, versus about a 18% decrease in the S&P 500 Index. In any case, AWK does not offer attractive total return potential on either a short- or long-term basis

The company got off to a good start this year. In the first quarter, American Water posted share earnings of $0.87, versus $0.73 in the similar 2021 period and our $0.77 estimate. Management attributed the strong performance to $48 million in rate hikes and another $31 million granted for infrastructure surcharges. **Leadership has reaffirmed its guidance for 2022.** Share net is still expected to be in the $4.39 to $4.49 range. We view this as slightly conservative, and are sticking with our $4.45 full-year estimate. In 2023, thanks to a growing rate base and additional rate relief, the company's share earnings could well rise 8% to $4.85.

The dividend was hiked, as we expected. The utility raised the quarterly payout 8.7% to $0.655 per share. This falls near the midpoint of the company's goal of raising it 7% to 10% per annum. This is a growth rate that exceeds most of its peers. **The construction budget ought to remain substantial.** Spending on replacing old pipelines will continue to garner most of the projected $2.5 billion that American Water is expected to make in capital outlays in 2022. Expenditures to update and modernize its aged assets will require large spending through 2025-2027. **Regulation will have a major impact on future income.** In the past, when inflation was only 2%, it wasn't that difficult for water companies to pass along 5% to 7% increases in customer's bills. With the Consumer Price Index rising over 8% on an annual pace, however, state authorities may not be as generous in the future.

James A. Flood July 8, 2022

(A) Diluted earnings. Excludes nonrecur. losses: '08, $4.62; '09, $2.63; '11, $0.07. Disc. oper.: '06, ($0.04); '11, $0.03; '12, ($0.10); '13,($0.01). GAAP used as of 2014. Includes $2.70 sh. gain from sale of HOS sub.in Q4,'21. Next earnings report due early August.
(B) Dividends paid in March, June, September, and December. ■ Div. reinvestment available.
(C) In millions. (D) Includes intangibles. On 12/31/21: $1.231 billion, $6.67/share.
(E) Pro forma numbers for '06 & '07.

Company's Financial Strength	B++
Stock's Price Stability	85
Price Growth Persistence	75
Earnings Predictability	85

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CALIFORNIA WATER NYSE-CWT

RECENT PRICE 54.24 | P/E RATIO 27.1 (Trailing: 26.6 Median: 27.0) | RELATIVE P/E RATIO 1.70 | DIV'D YLD 1.8% | VALUE LINE 1781

TIMELINESS 3 Lowered 6/10/22
SAFETY 3 Lowered 7/27/07
TECHNICAL 4 Raised 7/1/22
BETA .65 (1.00 = Market)

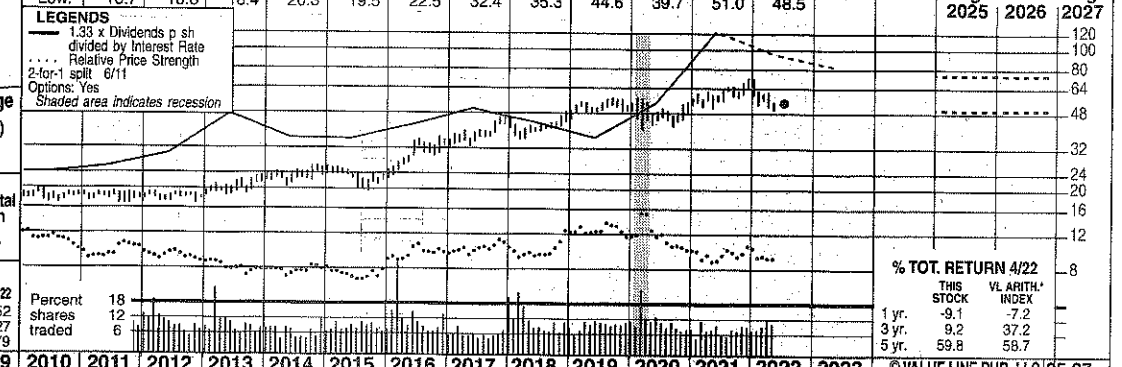
18-Month Target Price Range
Low-High Midpoint (% to Mid)
$47-$89 $68 (25%)

2025-27 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	75	(+40%)	10%
Low	50	(-10%)	Nil

Institutional Decisions

	3Q2021	4Q2021	1Q2022
to Buy	133	155	152
to Sell	93	109	127
Hld's(000)	41511	42143	43279



Cal-endar	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	© VALUE LINE PUB. LLC	25-27
	8.10	8.88	9.90	10.82	11.05	12.00	13.34	12.23	12.50	12.29	12.70	13.89	14.53	14.72	15.78	14.72	*15.70*	*16.55*	Revenues per sh	*17.90*
	1.36	1.56	1.86	1.93	1.93	2.07	2.32	2.21	2.47	2.22	2.34	3.00	3.11	3.14	3.88	3.91	*3.50*	*3.80*	"Cash Flow" per sh	*4.15*
	.67	.75	.95	.98	.91	.86	1.02	1.02	1.19	.94	1.01	1.40	1.36	1.31	1.97	1.96	*2.00*	*2.25*	Earnings per sh A	*2.55*
	.58	.58	.59	.59	.60	.62	.63	.64	.65	.67	.69	.72	.75	.79	.85	.92	*1.00*	*1.08*	Div'd Decl'd per sh B■	*1.25*
	2.14	1.84	2.41	2.66	2.97	2.83	3.04	2.58	2.76	3.69	4.77	5.40	5.65	5.64	5.93	5.46	*5.85*	*6.00*	Cap'l Spending per sh	*6.45*
	9.07	9.25	9.72	10.13	10.45	10.76	11.28	12.54	13.11	13.41	13.75	14.44	15.19	16.07	18.30	21.92	*22.35*	*23.55*	Book Value per sh C	*25.50*
	41.31	41.33	41.45	41.53	41.67	41.82	41.98	47.74	47.81	47.88	47.97	48.01	48.07	48.53	50.33	53.72	*53.75*	*52.00*	Common Shs Outst'g D	*50.00*
	29.2	26.1	19.8	19.7	20.3	21.3	17.9	20.1	19.7	24.8	29.6	26.9	30.3	39.3	24.9	30.5	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*24.0*
	1.58	1.39	1.19	1.31	1.29	1.34	1.14	1.13	1.04	1.25	1.55	1.35	1.64	2.09	1.28	1.67			Relative P/E Ratio	*1.30*
	2.9%	3.0%	3.1%	3.1%	3.2%	3.4%	3.5%	3.1%	2.8%	2.9%	2.3%	1.9%	1.8%	1.5%	1.7%	1.5%			Avg Ann'l Div'd Yield	*2.0%*
							560.0	584.1	597.5	588.4	609.4	666.9	698.2	714.6	794.3	790.9	*845*	*860*	Revenues ($mill) E	*895*
							42.6	47.3	56.7	45.0	48.7	67.2	65.6	63.1	96.8	101.1	*108*	*117*	Net Profit ($mill)	*128*
							37.5%	30.3%	33.0%	36.0%	35.5%	30.1%	24.5%	19.1%	11.1%	20.1%	*21.0%*	*21.0%*	Income Tax Rate	*21.0%*
							8.0%	4.3%	2.7%	4.3%	6.1%	3.5%	3.1%	5.8%	3.3%	1.7%	*4.0%*	*5.0%*	AFUDC % to Net Profit	*5.0%*
							47.8%	41.6%	40.1%	44.4%	44.6%	42.7%	49.3%	50.2%	45.9%	47.3%	*44.0%*	*42.5%*	Long-Term Debt Ratio	*39.5%*
							52.2%	58.4%	59.9%	55.6%	55.4%	57.3%	50.7%	49.8%	54.1%	52.7%	*56.0%*	*57.5%*	Common Equity Ratio	*60.5%*
							908.2	1024.9	1045.9	1154.4	1191.2	1209.3	1440.2	1566.7	1702.4	2233.4	*2150*	*2125*	Total Capital ($mill)	*2100*
							1457.1	1515.8	1590.4	1701.8	1859.3	2048.0	2232.7	2406.4	2650.6	2846.9	*2900*	*2925*	Net Plant ($mill)	*2975*
							6.3%	6.0%	6.3%	5.2%	5.5%	7.1%	5.9%	5.5%	7.0%	5.5%	*5.5%*	*6.0%*	Return on Total Cap'l	*6.5%*
							9.0%	7.9%	9.1%	7.0%	7.4%	9.7%	9.0%	8.1%	10.5%	8.6%	*9.0%*	*9.5%*	Return on Shr. Equity	*10.0%*
							9.0%	7.9%	9.1%	7.0%	7.4%	9.7%	9.0%	8.1%	10.5%	8.6%	*9.0%*	*9.5%*	Return on Com Equity	*10.0%*
							3.4%	3.4%	4.1%	2.0%	2.4%	4.7%	4.0%	3.2%	6.0%	4.6%	*4.5%*	*5.0%*	Retained to Com Eq	*5.0%*
							62%	56%	55%	71%	68%	51%	55%	60%	43%	47%	*50%*	*48%*	All Div'ds to Net Prof	*49%*

MARKET CAP: $2.9 billion (Mid Cap)

CURRENT POSITION ($MILL.)	2020	2021	3/31/22
Cash Assets	44.6	78.4	68.4
Other	221.4	222.1	204.1
Current Assets	266.0	300.5	272.5
Accts Payable	131.7	144.4	140.8
Debt Due	375.1	40.2	55.2
Other	81.9	72.0	65.8
Current Liab.	588.7	256.6	281.8

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '19-'21 to '25-'27
Revenues	3.0%	4.0%	*3.0%*
"Cash Flow"	6.5%	9.0%	*2.0%*
Earnings	6.5%	11.0%	*6.5%*
Dividends	3.5%	5.0%	*6.5%*
Book Value	6.0%	7.0%	*5.0%*

Cal-endar	QUARTERLY REVENUES ($ mill.) E Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2019	126.1	179.0	232.6	176.9	714.6
2020	125.6	175.5	304.1	189.1	794.3
2021	147.7	213.1	256.7	173.4	790.9
2022	173.0	*217*	*260*	*195*	*845*
2023	*175*	*220*	*265*	*200*	*860*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2019	d.16	.35	.88	.24	1.31
2020	d.42	.11	1.94	.31	1.97
2021	d.06	.75	1.20	.07	1.96
2022	.02	*.58*	*1.15*	*.25*	*2.00*
2023	*.10*	*.60*	*1.20*	*.35*	*2.25*

Cal-endar	QUARTERLY DIVIDENDS PAID B■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	.1875	.1875	.1875	.1875	.75
2019	.1975	.1975	.1975	.1975	.79
2020	.2125	.2125	.2125	.2125	.85
2021	.230	.230	.230	.230	.92
2022	.250	.250			

BUSINESS: California Water Service Group provides regulated and nonregulated water service to 494,500 customers in 100 communities in the state of California. Accounts for about 94% of total customers. Also operates in Washington, New Mexico, and Hawaii. Main service areas: San Francisco Bay area, Sacramento Valley, Salinas Valley, San Joaquin Valley & parts of Los Angeles. Acquired Rio Grande Corp; West Hawaii Utilities (9/08). Revenue breakdown, '21: residential, 69%; business, 19%; industrial, 3%; public authorities, 5%; other 4%. Off. and dir. own 1% of common stock (4/22 proxy). Has 1,184 employees. Pres. and CEO: Martin A. Kropelnicki, Inc.: DE. Addr.: 1720 North First St., San Jose, CA 95112-4598. Tel.: 408-367-8200. Internet: www.calwatergroup.com.

California Water Service Group is on track to eke out a modest year-over-year bottom-line advance in 2022. The West Coast water utility posted relatively uninspiring earnings of $0.02 per share in the March period, falling short of consensus estimates. An uptick in operating expenses, namely water production costs, weighed on the result. On the other hand, first-quarter revenues of $173 million came in better than expected, underpinned by cumulative rate increases and previous acquisitions. All told, we are lifting our current-year top-line estimate by $20 million, to $845 million, while trimming a nickel from our bottom-line call, to $2.00 per share.

A few more acquisitions have been tabbed. California recently received regulatory approval to acquire Skylonda Mutual Water Company. The deal is slated to close in the back half of this year. Moreover, Texas-based Railyard Utility Wastewater System and New Mexico-based Morningstar Water System have been added to the fold, with the purchase of Stroh's Water Company in Washington lined up in the queue. **Management intends to return capital to shareholders via a three-year stock-buyback program.** The wheels are not yet officially in motion, but leadership has laid the ground work for a $350 million at-the-market equity repurchase authorization. In addition, shareholders are poised to reap the rewards of annual increases to the quarterly dividend payment. **Long-term prospects ought to be buoyed by periodic rate hikes and an improved economic backdrop.** As the company continues to spend on water delivery system and treatment plant upgrades, the majority of these costs will likely be recouped via customer rate hikes. Too, increased water usage ought to move in tandem with healthier economic activity levels.

The stock is not presently on our recommended buy list. California Water shares are merely an Average selection (Timeliness: 3) for relative year-ahead price performance. What's more, over the 18-month and 3- to 5-year windows, capital appreciation potential is limited at the recent quotation.

Nicholas Patrikis July 8, 2022

(A) Basic EPS. Excl. nonrecurring gain (loss): '11, 4¢. Next earnings report due early August.
(B) Dividends historically paid in late Feb., May, Aug., and Nov. ■ Div'd reinvestment plan available.
(C) Incl. intangible assets. In '21 : $36.8 mill., $0.69/sh.
(D) In millions, adjusted for split.
(E) Excludes non-regulated revenues

Company's Financial Strength	B++
Stock's Price Stability	85
Price Growth Persistence	75
Earnings Predictability	85

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ESSENTIAL UTIL. NYSE-WTRG

RECENT PRICE 46.11 | P/E RATIO 25.6 (Trailing: 27.0, Median: 25.0) | RELATIVE P/E RATIO 1.61 | DIV'D YLD 2.5% | VALUE LINE 1782

TIMELINESS 4 Lowered 3/18/22
SAFETY 3 Lowered 1/8/21
TECHNICAL 5 Lowered 7/8/22
BETA .95 (1.00 = Market)

18-Month Target Price Range

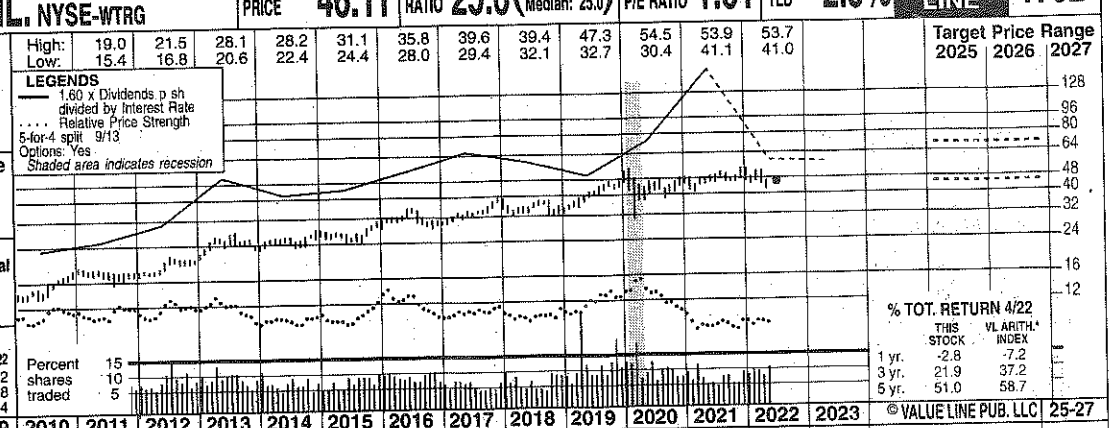
Low-High	Midpoint (% to Mid)
$40-$75	$58 (25%)

2025-27 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	70	(+50%)	13%
Low	45	(Nil)	3%

Institutional Decisions

	3Q2021	4Q2021	1Q2022
to Buy	245	313	292
to Sell	223	208	248
Hld's(000)	174820	178560	181504



2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	© VALUE LINE PUB. LLC	25-27
3.23	3.61	3.71	3.93	4.21	4.10	4.32	4.32	4.37	4.61	4.62	4.56	4.71	4.03	5.96	7.43	8.10	8.10	Revenues per sh	8.95
1.01	1.10	1.14	1.29	1.42	1.45	1.51	1.82	1.89	1.87	2.07	2.12	1.90	1.73	2.21	2.89	3.00	3.20	"Cash Flow" per sh	4.00
.56	.57	.58	.62	.72	.83	.87	1.16	1.20	1.14	1.32	1.35	1.08	1.04	1.12	1.67	1.80	1.95	Earnings per sh	2.25
.35	.38	.41	.44	.47	.50	.54	.58	.63	.69	.74	.79	.85	.91	.97	1.04	1.14	1.25	Div'd Decl'd per sh	1.55
1.64	1.43	1.58	1.66	1.89	1.90	1.98	1.78	1.84	2.07	2.16	2.69	2.78	2.49	3.41	4.04	3.95	3.85	Cap'l Spending per sh	3.80
5.57	5.85	6.26	6.50	6.81	7.21	7.90	8.63	9.27	9.78	10.43	11.02	11.28	17.58	19.09	20.50	21.45	22.30	Book Value per sh	26.90
165.41	166.75	169.21	170.61	172.46	173.60	175.43	177.93	178.59	176.54	177.39	177.71	178.09	220.76	245.39	252.67	255.00	260.00	Common Shs Outst'g	280.00
34.7	32.0	24.9	23.1	21.1	21.3	21.9	21.2	20.8	23.5	23.9	24.7	32.6	39.1	39.6	28.3	Bold figures are Value Line estimates		Avg Ann'l P/E Ratio	26.0
1.87	1.70	1.50	1.54	1.34	1.34	1.39	1.19	1.09	1.18	1.25	1.24	1.76	2.08	2.03	1.55			Relative P/E Ratio	1.45
1.8%	2.1%	2.8%	3.1%	3.1%	2.8%	2.8%	2.4%	2.5%	2.6%	2.3%	2.4%	2.4%	2.2%	2.2%	2.2%			Avg Ann'l Div'd Yield	2.7%
						757.8	768.6	779.9	814.2	819.9	809.5	838.1	889.7	1462.7	1878.1	2060	2100	Revenues ($mill)	2500
						153.1	205.0	213.9	201.8	234.2	239.7	192.0	224.5	284.8	431.6	460	505	Net Profit ($mill)	630
						39.0%	10.0%	10.5%	6.9%	8.2%	6.6%	--	--	--	--	5.0%	10.0%	Income Tax Rate	15.0%
						--	1.1%	2.4%	3.1%	3.8%	6.3%	6.8%	7.2%	4.5%	4.8%	5.0%	5.0%	AFUDC % to Net Profit	6.0%
						52.7%	48.9%	48.5%	50.3%	48.4%	50.6%	54.4%	43.1%	54.0%	52.7%	54.0%	54.5%	Long-Term Debt Ratio	53.0%
						47.3%	51.1%	51.5%	49.7%	51.6%	49.4%	45.6%	56.9%	46.0%	47.3%	46.0%	45.5%	Common Equity Ratio	47.0%
						2929.7	3003.6	3216.0	3469.5	3587.7	3965.4	4407.8	6824.2	10192	10964	11975	12800	Total Capital ($mill)	16000
						3936.2	4167.3	4402.0	4688.9	5001.6	5399.9	5930.3	6345.8	9512.9	10252	10900	11600	Net Plant ($mill)	13500
						6.6%	8.0%	7.8%	6.9%	7.6%	7.1%	5.5%	4.2%	3.7%	4.8%	5.5%	5.5%	Return on Total Cap'l	5.5%
						11.0%	13.4%	12.9%	11.7%	12.7%	12.2%	9.6%	5.8%	6.1%	8.3%	8.5%	8.5%	Return on Shr. Equity	8.5%
						11.0%	13.4%	12.9%	11.7%	12.7%	12.2%	9.6%	5.8%	6.1%	8.3%	8.5%	8.5%	Return on Com Equity	8.5%
						4.3%	6.7%	6.1%	4.7%	5.6%	5.1%	2.1%	.9%	1.1%	3.3%	3.0%	3.0%	Retained to Com Eq	2.5%
						61%	50%	52%	60%	56%	59%	79%	84%	82%	60%	63%	64%	All Div'ds to Net Prof	69%

CAPITAL STRUCTURE as of 3/31/22
Total Debt $6083.5 mill. Due in 5 Yrs $882.1 mill.
LT Debt $5872.0 mill. LT Interest $200.0 mill. (53% of Cap'l)

Pension Assets-12/21 $433.1 mill. Oblig. $452.9 mill.

Pfd Stock None
Common Stock 253,716,494 shares as of 4/18/22

MARKET CAP: $11.7 billion (Large Cap)

CURRENT POSITION ($MILL.)	2020	2021	3/31/22
Cash Assets	4.8	10.6	58.3
Receivables	154.8	141.0	182.6
Inventory (AvgCst)	58.4	109.6	59.1
Other	162.2	176.6	143.5
Current Assets	380.2	437.8	443.5
Accts Payable	177.5	192.9	161.5
Debt Due	162.6	197.1	211.5
Other	263.8	285.1	305.2
Current Liab.	603.9	675.1	678.2

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '19-'21 to '25-'27
Revenues	3.5%	5.0%	7.5%
"Cash Flow"	5.0%	3.0%	10.0%
Earnings	6.0%	1.0%	10.0%
Dividends	7.5%	7.0%	8.0%
Book Value	11.0%	14.0%	6.0%

Calendar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2019	201.1	218.9	243.6	226.1	889.7
2020	255.6	384.5	348.6	474.0	1462.7
2021	583.5	397.0	361.9	535.7	1878.1
2022	699.3	420	390	550.7	2060
2023	660	445	420	575	2100

Calendar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2019	.09	.25	.38	.28	1.04
2020	.21	.29	.22	.40	1.12
2021	.72	.32	.19	.44	1.67
2022	.76	.32	.22	.50	1.80
2023	.78	.37	.33	.47	1.95

Calendar	QUARTERLY DIVIDENDS PAID B ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	.2047	.2047	.219	.219	.85
2019	.219	.219	.2343	.2343	.91
2020	.2343	.2343	.2507	.2507	.97
2021	.2507	.2507	.2682	.2682	1.04
2022	.2682				

BUSINESS: Essential Utilities, Inc. became the new name for Aqua America on Feb. 3, 2020, to reflect the acquisition of Peoples, a natural gas utility, which occurred in 3/20. In 2021, Aqua Amer. provided water and wastewater services to about 5 million people in PA, OH, TX, IL, NC, NJ, IN, VA NS WS. Employs 3,211. Acquired AquaSource, 7/13; N. Maine Util., 7/15; and others. Water respn. for 52% of revenues in 2021; residential, 30%; commercial, 8.0%; industrial, wastewater & other, 14%. Gas 46%; other, 2.0%. Off. & dir. own less than 1% of the common stock; BlackRock, 10.6%; Vanguard, 9.7%; Can. Pen. Plan 8.6% (3/22 proxy). Pres. & CEO: Christopher Franklin. Inc.: PA Addr.: 762 W Lancaster Ave., Bryn Mawr, PA 19010. Tel.: 610-525-1400. Int.: www.essential.co.

Essential Utilities has been the best performer in the Water Industry this year. We attribute this to the fact that unlike others in the Water Industry, which have been hard hit in 2022, nearly half of the company's revenues are derived from its natural gas operations.

Earnings prospects are solid for the near term. The water and gas utility had a better-than-expected March period thanks to increased rates and customer growth that outpaced the spike in costs. For the full year, we think the company's share net ought to increase a healthy 8% to $1.80. Moreover, with more rate relief (there are two rate cases pending in Ohio and Pennsylvania that would raise rates $106 million) in effect for 2023, another 8% increase to $1.95 seems probable. In both years, there may well be cost pressures, but synergies from acquisitions may act to offset them to some degree.

Growth through acquisition ought to remain the primary strategy. Essential has been using the same plan as American Water Works. Buying smaller inefficient water districts, then combining them with existing operations, management has been able to cut the expense ratio. Currently, it has seven signed purchase agreements to buy additional water and wastewater systems. These deals will add 224,000 new retail customers and expand its rate base by $420 million. The largest transaction is with DELCORA which serves 198,000 dwellings in a suburb of Philadelphia.

Essential's capital budget is scheduled to be substantial. Over the next five years, the company will have to spend roughly $1 billion annually, mostly to replace aging pipelines and refurbish existing wastewater assets. This will require the use of external funds that will likely come from new equity and debt offerings. We do not believe that the balance sheet will weaken, however. For a water utility, Essential has solid finances, and we don't expect debt levels to change much over the time frame.

These shares are ranked to trail the market in the year ahead. Moreover, although total return potential through 2025-2027 is well below the *Value Line* median, it is among the best in this water group.

James A. Flood *July 8, 2022*

Company's Financial Strength	B+
Stock's Price Stability	90
Price Growth Persistence	65
Earnings Predictability	60

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(A) Diluted egs. Excl. nonrec. gains: '12, 18¢. Excl. gain from disc. operations: '12, 7¢; '13, 9¢; '14, 11¢. Quarterly EPS do not add in '19 due to a large change in the number of shares outstanding in the Dec. period. Next earnings report August 3rd after market close.
(B) Dividends historically paid in early March, June, Sept., & Dec. ■ Div'd. reinvestment plan available (5% discount).
(C) In millions, adjusted for stock split.
(D) Includes intangibles: 12/31/21, $1.231 bill./$4.87 a share.

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MIDDLESEX WATER NDQ-MSEX

RECENT PRICE 86.44 | P/E RATIO 33.9 (Trailing: 36.6, Median: 24.0) | RELATIVE P/E RATIO 2.13 | DIV'D YLD 1.4% | VALUE LINE 1783

TIMELINESS 3 Lowered 6/10/22
SAFETY 2 New 10/21/11
TECHNICAL 3 Lowered 7/8/22
BETA .70 (1.00 = Market)

18-Month Target Price Range

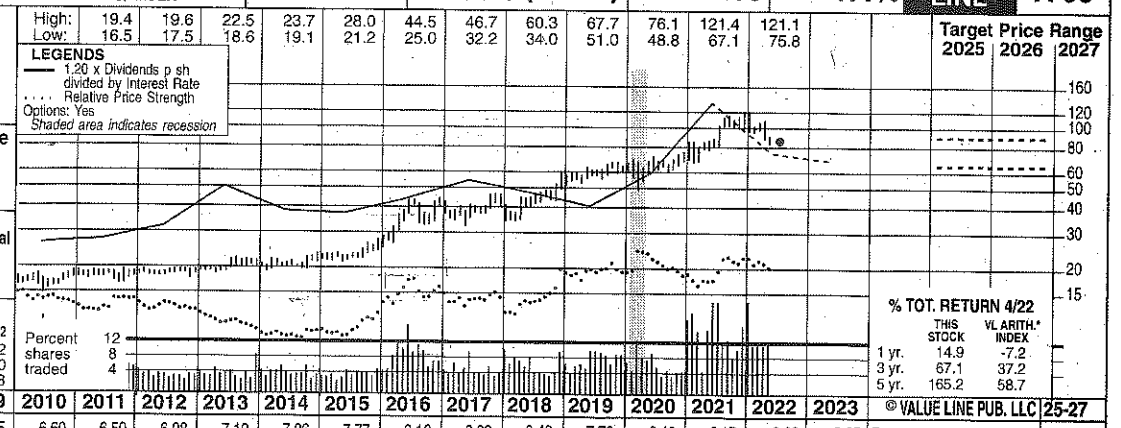
Low-High	Midpoint (% to Mid)
$74-$154	$114 (30%)

2025-27 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	90	(+5%)	3%
Low	65	(-25%)	-5%

Institutional Decisions

	3Q2021	4Q2021	1Q2022
to Buy	101	93	82
to Sell	66	84	90
Hld's(000)	12996	12685	13008



2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	© VALUE LINE PUB. LLC	25-27
6.16	6.50	6.79	6.75	6.60	6.50	6.98	7.19	7.26	7.77	8.16	8.00	8.42	7.72	8.10	8.17	8.60	8.85	Revenues per sh	9.15
1.33	1.49	1.53	1.40	1.55	1.46	1.56	1.72	1.84	1.97	2.17	2.24	2.89	2.90	3.25	3.28	3.50	3.50	"Cash Flow" per sh	3.85
.82	.87	.89	.72	.96	.84	.90	1.03	1.13	1.22	1.38	1.38	1.96	2.01	2.18	2.07	2.55	2.50	Earnings per sh A	2.75
.68	.69	.70	.71	.72	.73	.74	.75	.76	.78	.81	.86	.91	.98	1.04	1.11	1.18	1.25	Div'd Decl'd per sh B■	1.40
2.31	1.66	2.12	1.49	1.90	1.50	1.36	1.26	1.40	1.59	2.91	3.08	4.40	5.11	6.04	4.53	5.00	5.25	Cap'l Spending per sh	6.00
9.52	10.05	10.03	10.33	11.13	11.27	11.48	11.82	12.24	12.74	13.40	14.02	15.17	16.57	19.81	20.99	21.70	22.40	Book Value per sh	22.80
13.17	13.25	13.40	13.52	15.57	15.70	15.82	15.96	16.12	16.23	16.30	16.35	16.40	17.43	17.47	17.52	17.75	17.85	Common Shs Outst'g C	18.00
22.7	21.6	19.8	21.0	17.8	21.7	20.8	19.7	18.5	19.1	25.6	28.4	22.2	29.7	30.1	44.3	Bold figures are Value Line estimates		Avg Ann'l P/E Ratio	28.0
1.23	1.15	1.19	1.40	1.13	1.36	1.32	1.11	.97	.96	1.34	1.43	1.20	1.58	1.55	2.43			Relative P/E Ratio	1.30
3.7%	3.7%	4.0%	4.7%	4.2%	4.0%	4.0%	3.7%	3.7%	3.3%	2.3%	2.2%	2.1%	1.6%	1.6%	1.2%			Avg Ann'l Div'd Yield	1.8%
						110.4	114.8	117.1	126.0	132.9	130.8	138.1	134.6	141.6	143.1	153	158	Revenues ($mill)	165
						14.4	16.6	18.4	20.0	22.7	22.8	32.5	33.9	38.4	36.5	45.5	45.0	Net Profit ($mill)	50.0
						33.9%	34.1%	35.0%	34.5%	34.0%	32.7%	2.8%	--	2.8%	2.8%	21.0%	21.0%	Income Tax Rate	21.0%
						3.4%	1.9%	1.7%	1.9%	2.7%	3.1%	1.4%	3.4%	3.9%	3.9%	2.5%	2.5%	AFUDC % to Net Profit	2.5%
						41.5%	40.4%	40.5%	39.4%	37.9%	37.5%	37.8%	41.5%	44.0%	45.3%	44.0%	43.5%	Long-Term Debt Ratio	42.0%
						57.4%	58.7%	58.8%	59.8%	61.5%	61.8%	61.6%	58.2%	55.7%	54.4%	55.5%	56.0%	Common Equity Ratio	57.5%
						316.5	321.4	335.8	345.4	355.4	370.7	404.1	556.7	621.5	676.3	690	710	Total Capital ($mill)	715
						435.2	446.5	465.4	481.9	517.8	557.2	618.5	705.7	796.6	865.4	875	885	Net Plant ($mill)	915
						5.4%	5.9%	6.3%	6.6%	7.1%	6.9%	8.9%	6.7%	6.8%	6.0%	7.0%	6.5%	Return on Total Cap'l	7.5%
						7.8%	8.7%	9.2%	9.6%	10.3%	9.8%	12.9%	10.4%	11.0%	9.9%	11.5%	11.0%	Return on Shr. Equity	12.0%
						7.8%	8.7%	9.3%	9.6%	10.3%	9.9%	13.0%	10.4%	11.1%	9.9%	12.0%	11.0%	Return on Com Equity	12.0%
						1.4%	2.4%	3.1%	3.5%	4.3%	3.8%	7.0%	5.4%	5.8%	4.6%	6.5%	5.5%	Retained to Com Eq	6.0%
						83%	73%	67%	63%	58%	62%	46%	48%	48%	53%	46%	50%	All Div'ds to Net Prof	51%

CAPITAL STRUCTURE as of 3/31/22
Total Debt $313.2 mill. Due in 5 Yrs $43.7 mill.
LT Debt $306.5 mill. LT Interest $7.5 mill.
(Total interest coverage: 6.0x)
(45% of Cap'l)

Pension Assets-12/21 $100.8 mill. Oblig. $113.7 mill.
Pfd Stock $2.4 mill. Pfd Div'd: $.1 mill.

Common Stock 17,559,000 shs.

MARKET CAP: $1.5 billion (Mid Cap)

CURRENT POSITION ($MILL.)	2020	2021	3/31/22
Cash Assets	4.5	3.5	3.3
Other	29.6	30.9	29.6
Current Assets	34.1	34.4	32.9
Accts Payable	30.4	21.1	18.1
Debt Due	9.3	6.7	6.7
Other	17.1	28.8	34.9
Current Liab.	56.8	56.6	59.7

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '19-'21 to '25-'27
Revenues	2.0%	.5%	2.5%
"Cash Flow"	8.0%	9.5%	3.5%
Earnings	9.5%	11.0%	4.5%
Dividends	3.5%	6.0%	5.0%
Book Value	6.0%	9.0%	2.5%

Calendar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2019	30.7	33.4	37.8	32.7	134.6
2020	31.8	35.3	39.9	34.6	141.6
2021	32.5	36.7	39.9	34.0	143.1
2022	36.2	38.0	41.0	37.8	153
2023	38.0	39.0	42.0	39.0	158

Calendar	EARNINGS PER SHARE A Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2019	.39	.49	.66	.46	2.01
2020	.44	.55	.72	.47	2.18
2021	.39	.62	.65	.41	2.07
2022	.68	.58	.75	.54	2.55
2023	.53	.60	.77	.60	2.50

Calendar	QUARTERLY DIVIDENDS PAID B ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	.22375	.22375	.22375	.24	.91
2019	.24	.24	.24	.2562	.98
2020	.2562	.2562	.2562	.2725	1.04
2021	.2725	.2725	.2725	.29	1.11
2022	.29	.29			

BUSINESS: Middlesex Water Company engages in the ownership and operation of regulated water utility systems in New Jersey, Delaware, and Pennsylvania. It also operates water and wastewater systems under contract on behalf of municipal and private clients in NJ and DE. Its Middlesex System provides water services to 61,000 retail customers, primarily in Middlesex County, New Jersey. In 2021, the Middlesex System accounted for 59% of operating revenues. At 12/31/21, the company had 347 employees. Incorporated: NJ. President, CEO, and Chairman: Dennis W. Doll. Officers & directors own 2.0% of the com. stock; BlackRock Inst. Trust Co., 7.8% (4/22 proxy). Add.: 485 C Route 1 South, Suite 400, Iselin, NJ 08830. Telephone: 732-634-1500. Int.: www.middlesexwater.com.

Middlesex Water shares have taken another step back in price over the past three months. Despite reporting respectable top- and bottom-line results to start 2022, shares of the New Jersey-based regulated water utility have slipped roughly 20% in value since our early-April review. Further broader market instability likely continued to weigh on investor sentiment. After factoring in a similarly poor performance earlier this year, MSEX stock is down more than 30% in value, year to date.

First-quarter financial results were better than expected. Revenues of $36 million improved 11%, year over year, thanks largely to a combination of base rate increases (most recent hike was implemented January 1, 2022) and customer expansion in its Delaware water system. Meanwhile, the company registered a profit of $0.68 per share in the March period, which was boosted by the sale of its Delaware regulated wastewater business. (Note that Middlesex still operates nonregulated water and wastewater units, as well as its regulated water systems.) Excluding this gain, earnings would have been just about on par with our call.

We are lifting our current-year revenue and earnings estimates. Based on recent regulatory rate approvals, we are adding $3 million to our 2022 top-line forecast, to $153 million. On the profit front, we now look for net income of $2.55 per share, up $0.30 from our previous projection. That said, a decent portion of the annual advance that we now anticipate will likely be attributed to the abovementioned March-period asset sale.

Periodic rate hikes associated with capital spending initiatives ought to support modest annual revenue expansion over the pull to 2025-2027. Infrastructure-related expenditures, such as pipeline replacement and treatment facility upgrades, qualify as recoverable costs, suggesting that further rate hikes are probably in the cards.

From an investment perspective, Middlesex stock does not stand out at this juncture. Neutrally ranked MSEX shares are currently trading well within our 3- to 5-year Target Price Range. The dividend yield is unenticing, as well.

Nicholas Patrikis *July 8, 2022*

Company's Financial Strength	B++
Stock's Price Stability	85
Price Growth Persistence	75
Earnings Predictability	90

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(A) Diluted earnings. Next earnings report due early August.
(B) Dividends historically paid in mid-Feb., May, Aug., and November. ■ Div'd reinvestment plan available.
(C) In millions.

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SJW GROUP NYSE-SJW

RECENT PRICE 61.80 | P/E RATIO 24.7 (Trailing: 30.1 / Median: 23.0) | RELATIVE P/E RATIO 1.55 | DIV'D YLD 2.3% | VALUE LINE 1784

TIMELINESS 3 Raised 3/4/22
SAFETY 3 New 4/22/11
TECHNICAL 4 Raised 7/1/22
BETA .80 (1.00 = Market)

18-Month Target Price Range
Low-High | Midpoint (% to Mid)
$51-$92 | $72 (15%)

2025-27 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	100	(+60%)	14%
Low	65	(+5%)	4%

Institutional Decisions

	3Q2021	4Q2021	1Q2022
to Buy	81	98	93
to Sell	53	68	80
Hld's(000)	22567	21890	21360

High: 26.8 26.9 30.1 33.7 35.7 56.9 69.3 68.4 74.5 75.0 73.7 73.4
Low: 20.9 22.6 24.5 25.5 27.5 28.6 45.4 51.3 53.9 45.6 58.0 55.7

LEGENDS
1.50 x Dividends p sh divided by Interest Rate
Relative Price Strength
Options: Yes
Shaded area indicates recession

Target Price Range 2025 | 2026 | 2027

% TOT. RETURN 4/22

	THIS STOCK	VL ARITH.* INDEX
1 yr.	-7.6	-7.2
3 yr.	0.9	37.2
5 yr.	32.9	58.7

Percent shares traded

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	©VALUE LINE PUB. LLC	25-27
10.35	11.25	12.12	11.68	11.62	12.85	14.01	13.73	15.76	14.97	16.61	18.97	14.00	14.78	19.77	19.01	20.15	20.85	Revenues per sh	22.15
2.38	2.30	2.44	2.21	2.38	2.80	2.97	2.90	4.42	3.86	4.76	5.24	3.29	3.13	5.28	5.13	4.15	4.40	"Cash Flow" per sh	5.30
1.19	1.04	1.08	.81	.84	1.11	1.18	1.12	2.54	1.85	2.57	2.86	1.82	.82	2.14	2.03	2.50	2.75	Earnings per sh A	3.65
.57	.61	.65	.66	.68	.69	.71	.73	.75	.78	.81	1.04	1.12	1.20	1.28	1.36	1.44	1.52	Div'd Decl'd per sh B■	1.76
3.87	6.62	3.79	3.17	5.65	3.75	5.67	4.68	5.02	5.24	6.95	7.26	5.08	6.25	7.44	8.32	7.50	8.00	Cap'l Spending per sh	7.75
12.48	12.90	13.99	13.66	13.75	14.20	14.71	15.92	17.75	18.83	20.61	22.57	31.31	31.27	32.12	34.28	36.65	39.15	Book Value per sh	40.85
18.28	18.36	18.18	18.50	18.55	18.59	18.67	20.17	20.29	20.38	20.46	20.52	28.40	28.46	28.56	30.18	30.00	30.00	Common Shs Outst'g C	30.00
23.5	33.4	26.2	28.7	29.1	21.2	20.4	24.3	11.2	16.6	15.7	18.8	32.7	NMF	30.0	32.9	Bold figures are Value Line estimates		Avg Ann'l P/E Ratio	23.0
1.27	1.77	1.58	1.91	1.85	1.33	1.30	1.37	.59	.84	.82	.95	1.77	NMF	1.54	1.80			Relative P/E Ratio	1.30
2.0%	1.7%	2.3%	2.8%	2.8%	2.9%	3.0%	2.7%	2.6%	2.5%	2.0%	1.9%	1.9%	1.9%	2.0%	2.0%			Avg Ann'l Div'd Yield	2.1%
						261.5	276.9	319.7	305.1	339.7	389.2	397.7	420.5	564.5	573.7	605	625	Revenues ($mill)	665
						22.3	23.5	51.8	37.9	52.8	59.2	38.8	23.4	61.5	60.5	75.0	83.0	Net Profit ($mill)	110
						41.1%	38.7%	32.5%	38.1%	38.8%	36.7%	20.6%	26.4%	12.0%	12.2%	21.5%	21.0%	Income Tax Rate	21.0%
						--	--	--	--	--	--	--	--	2.0%	1.5%	1.5%	1.5%	AFUDC % to Net Profit	1.5%
						55.0%	51.1%	51.6%	49.8%	50.7%	48.2%	32.7%	59.1%	58.4%	59.1%	57.5%	54.0%	Long-Term Debt Ratio	45.0%
						45.0%	48.9%	48.4%	50.2%	49.3%	51.8%	67.3%	40.9%	41.6%	40.9%	42.5%	46.0%	Common Equity Ratio	55.0%
						610.2	656.2	744.5	764.6	855.0	894.3	1320.7	2173.6	2204.7	2527.5	2575	2550	Total Capital ($mill)	2225
						831.6	898.7	963.0	1036.8	1146.4	1239.3	1328.8	2206.5	2334.9	2497.5	2565	2650	Net Plant ($mill)	2825
						5.0%	5.0%	8.3%	6.3%	7.4%	7.9%	3.9%	1.8%	4.0%	3.5%	3.5%	3.5%	Return on Total Cap'l	5.5%
						8.1%	7.3%	14.4%	9.9%	12.5%	12.8%	4.4%	2.6%	6.7%	5.8%	7.0%	7.0%	Return on Shr. Equity	9.0%
						8.1%	7.3%	14.4%	9.9%	12.5%	12.8%	4.4%	2.6%	6.7%	5.8%	7.0%	7.0%	Return on Com Equity	9.0%
						3.3%	2.8%	10.2%	5.7%	8.6%	8.2%	1.8%	NMF	2.7%	2.0%	3.0%	3.0%	Retained to Com Eq	4.5%
						59%	62%	29%	42%	31%	36%	60%	NMF	59%	66%	58%	55%	All Div'ds to Net Prof	48%

CAPITAL STRUCTURE as of 3/31/22
Total Debt $1530.5 mill. **Due in 5 Yrs** $39.1 mill.
LT Debt $1491.6 mill. **LT Interest** $50.0 mill.
(LT Interest Coverage: 2.1x)
(59% of Cap'l)

Pension Assets-12/21 $310.2 mill.
Oblig. $383.8 mill.

Pfd Stock None.
Common Stock 30,237,000 shs.

MARKET CAP: $1.9 billion (Mid Cap)

CURRENT POSITION ($MILL.)	2020	2021	3/31/22
Cash Assets	9.3	10.9	18.1
Accts Receivable	58.1	53.7	60.7
Other	59.9	69.5	59.1
Current Assets	127.3	134.1	137.9
Accts Payable	34.2	30.4	28.4
Debt Due	76.2	39.1	38.9
Other	240.4	133.8	150.6
Current Liab.	350.8	203.3	217.9

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '19-'21 to '25-'27
Revenues	4.0%	2.5%	3.5%
"Cash Flow"	6.0%	.5%	2.5%
Earnings	6.0%	-6.5%	14.0%
Dividends	6.5%	10.5%	5.5%
Book Value	9.0%	11.5%	4.0%

Calendar	QUARTERLY REVENUES ($ mill.) E Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2019	77.7	103.0	114.0	125.8	420.5
2020	115.8	147.2	165.9	135.6	564.5
2021	114.8	152.2	166.9	139.8	573.7
2022	124.3	155	175	150.7	605
2023	130	160	180	155	625

Calendar	EARNINGS PER SHARE A Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2019	.21	.47	.33	d.19	.82
2020	.08	.69	.91	.46	2.14
2021	.09	.69	.64	.60	2.03
2022	.12	.77	.90	.71	2.50
2023	.23	.82	.95	.75	2.75

Calendar	QUARTERLY DIVIDENDS PAID BD■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	.28	.28	.28	.28	1.12
2019	.30	.30	.30	.30	1.20
2020	.32	.32	.32	.32	1.28
2021	.34	.34	.34	.34	1.36
2022	.36	.36			

BUSINESS: SJW Group engages in the production, purchase, storage, purification, distribution, and retail sale of water. It provides water service to approximately 231,000 connections with a total population of roughly one million people in the San Jose area and 16,000 connections that reach about 49,000 residents in the region between San Antonio and Austin, Texas. The company merged with Connecticut Water (10/19) which provides service to approx. 138,000 connections with a total population of 450,000 people. Has 751 employees. Officers and directors own about 8.0% of outstanding shares (3/22 proxy). Chairman & CEO: Eric Thornburg. Incorporated: California. Address: 110 West Taylor Street, San Jose, CA 95110. Telephone: (408) 279-7800. Internet: www.sjwater.com.

SJW Group delivered good top- and bottom-line results to start 2022. First-quarter revenues of $124 million increased 8% year over year. The notable advance was driven by a combination of cumulative water rate hikes, expansion in its customer base, as well as higher water consumption. Meanwhile, earnings rose 33% from the previous-year tally, to $0.12 per share. That said, excluding a one-time gain of 0.03, the company would have registered a flat bottom-line performance for the March period.

A number of recent regulatory updates are worth highlighting. On the West Coast, approval is still pending with the California Public Utilities Commission (CPUC) for rate increases, revenue recovery, and budget requirements for the 2022-2024 time span. In Maine, a 3% rate hike was approved by regulators as of January 1, 2022, with applications for additional hikes having recently been filed. Moreover, a request for infrastructure-related recovery in the realm of $10 million is on the table in Connecticut.

Over the pull to mid-decade, leadership ought to continue to invest heavily on infrastructure improvements. In fact, over the next five years, SJW's capital investment budget is approximately $1.3 billion, which ought to be strategically allocated across its California, Maine, Connecticut, and Texas operations. In addition, SJW recently received approval from the CPUC to deploy its advanced metering infrastructure, also referred to as smart meters, with the goal of boosting efficiency by monitoring real-time water data and reducing greenhouse gas emissions. The company expects to invest as much as $100 million in the project over the next four years.

SJW stock does not jump off the page at this juncture. The equity slipped roughly 10% in value since our last full-page report in late April. Even so, at the recent quotation, the shares are neutrally ranked for relative year-ahead price performance, and offer below-average capital appreciation potential over the 18-month and 3- to 5-year time frames. The dividend yield is about average, too. In sum, we think staying on the sidelines is the prudent move here, for now.

Nicholas Patrikis *July 8, 2022*

(A) Diluted earnings. Excludes nonrecurring losses: '06, $16.36; '08, $1.22; '10, $0.46. GAAP accounting as of 2013. Next earnings report due early August. Quarterly egs. may not add due to rounding.
(B) Dividends historically paid in early March, June, September, and December. ■ Div'd reinvestment plan available.
(C) In millions.
(D) Paid special dividend of $0.17 per share on 11/17.

Company's Financial Strength	B+
Stock's Price Stability	85
Price Growth Persistence	65
Earnings Predictability	45

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INDUSTRY TIMELINESS: 14 (of 96)

The Brokers & Exchanges Industry has been tossed about quite a bit in the recent tempest. This group, as a whole, is hardly a stranger to market turbulence, and the financial companies have generally been able to weather the storm.

Even though the industry has given back some ground over the last several months, it is still ranked in the top quartile of the *Value Line* investment universe for year-ahead relative price performance.

The companies herein will likely continue to strategically invest in their operations to stave off near-term headwinds, as well as better position themselves over the long haul.

The Macroeconomic Environment

The broader market averages were hard hit at the onset of the COVID-19 pandemic, and many stocks slumped in March of 2020. Even though many market indexes recouped much of the losses and then some, the lingering impact of the virus and other macroeconomic factors will likely sway the global markets in the near term.

Rising geopolitical tensions, namely the war between Russia and Ukraine, have taken a toll on global markets. Trade sanctions on Russia, and the disruption to the supply chain and energy markets, have driven up the price of commodities and raw materials. Meanwhile, rising inflation rates across the globe have also raised operating costs and weighed on consumers.

That said, the brokers and exchange operators often thrive on volatility. Increased trading activity, whether spurred by bullish or bearish trends, can be a boon to their businesses. Moreover, this may drive demand for the companies' products and services that should, in turn, boost their top lines.

U.S. Monetary Policy And Higher Interest Rates

Back on our shores, the Federal Reserve has been keeping a close eye on the broader economy, inflation, and the labor markets. At the June FOMC (Federal Open Market Committee) meeting, the central bank opted for a more restrictive monetary policy in order to rein in inflation. The Fed made a three-quarter point increase to the benchmark short-term interest rate. It also began selling $30 billion of Treasury holdings and $17.5 billion of mortgage-backed securities. The Fed plans to double monthly bond selling to $95 billion within the next three months. These moves ought to decrease the money supply and liquidity in the economy, which should limit inflation. However, it may take some time for these measures to take hold.

Generally speaking, lower interest rates spur consumer spending and make equities more appealing. That said, many herein possess well-diversified portfolios and exposure to fixed-income assets, and should still be able to benefit from rising interest rates.

Business Improvements

These companies operate in a fairly competitive space, and many have invested heavily in strengthening their operations and capturing additional market share.

A few have relied on mergers & acquisitions or strategic partnerships to complement their asset rosters. Others have used the integration of new additions to better organize their businesses and launch restructuring efforts. Some have pursued streamlining efforts and cost controls to counter rising operating expenses and to support margins.

A popular tactic has been to ramp up technological investments and strengthen their product pipelines to better serve their client base. Meanwhile, a couple have increased marketing and advertising efforts to bolster their brand equity.

Conclusion

Overall, despite facing significant market turbulence, the members of the Brokers & Exchanges Industry have had a nice run over the past few months. In fact, the group, as a whole, is still ranked in the top quartile for year-ahead Timeliness.

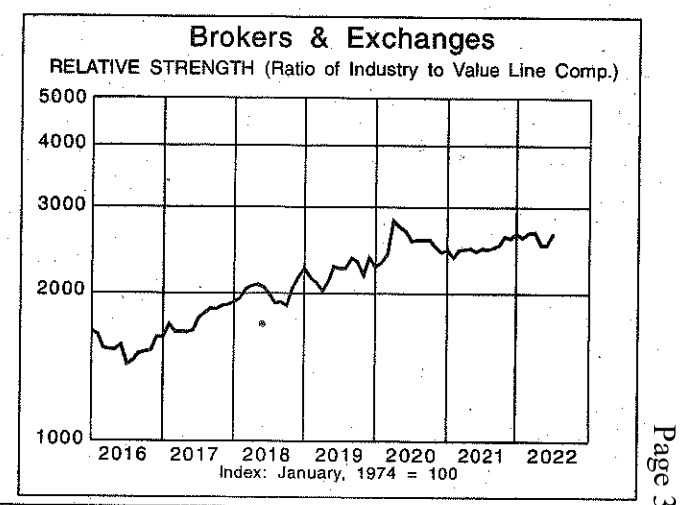
On the other hand, thanks to these issues' recent rallies, much of the good news we envision over the 2025-2027 pull is already factored into their recent quotations. As a result, patient investors may want to wait for a pullback in price and a better entry point before jumping in.

The financial companies, owing to the nature of their businesses, often have their finger on the pulse of the market. They might be more vulnerable to market turbulence, but often benefit from the upswings. It helps that many in this group have long histories and stable finances, which can shield them from the brunt of the pressure. To wit, several companies herein possess good marks for Financial Strength, and their stocks are ranked above average for Safety.

By the same token, several offer robust dividend programs that are well covered by their free cash flow. Consequently, these equities may appeal to income-oriented investors seeking vehicles with better risk-adjusted total return potential.

As always, we caution readers from painting with too broad a brush, and recommend evaluating each individual stock report before making any capital commitments.

Orly Seidman



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Artesian Res Corp NASDAQ:ARTNA

Last Price	Day Change	Trailing P/E	Relative P/E Last FY	Dividend Yield	3 to 5-Year Target Price Range	Performance	Safety	Financial Strength
$50.21	$0.33 (0.66%)		1.37	2.19%	--			

As of 12:14 PM Jul 15, 2022. Delayed at least 15 minutes.

Industry Rank: Water Utility -

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CHARTING

1d 5d 3m 1y 5y Show data

QUOTES

Last Price	Day's Change	Volume
$50.52	**$0.64 1.28%**	**7,997**

Bid (size)	Ask (size)	
$50.45 (1)	**$50.66 (1)**	**Above** 10-day avg.

As of 12:04 PM Jul 15, 2022. Delayed at least 15 minutes.

Previous close	49.88
Open	50.42
Trailing P/E	
Market cap	426.82M
Shares outstanding	8.56M
Beta	0.7
Next earnings date	5/8/2020

52 Week Low & High

$36.55 9/13/2021 — 7/13/2022 **$51.38**

$50.52

Hist. Prices

INDUSTRY AN

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Filing	Filing Date	Category
11-K	Jun 28, 2022	Unknown
SC 13G	Jun 9, 2022	Insider Activity
8-K	Jun 1, 2022	Quarterly
8-K	May 6, 2022	Quarterly
10-Q	May 5, 2022	Quarterly
4	May 5, 2022	Insider Activity
4	May 5, 2022	Insider Activity
4	May 5, 2022	Insider Activity
4	May 5, 2022	Insider Activity
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Cisco Systems Inc	CSCO	1
Coca Cola Company	KO	1
Dow Inc.	DOW	3

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INSIDER TRANSACTIONS

Options | Buys & Sells

INSTITUTIONAL OWNERSHIP

Number of Transactions Show top holders

FINANCIAL STATEMENTS

Income Statement & Balance Sheet	2021	2 Year Trend
Gross Profit	49	
Total Operating Expenses	69	
Operating Income	**22**	

Buys Sells

All insiders

Date	Insider	Trans.
Mar 24	Taylor Dian C	Sell
Mar 23	Taylor Dian C	Sell
Mar 23	Taylor Dian C	Sell
Mar 18	Anderson Pierr…	Sell
Mar 16	Wyer William C	Sell
Mar 16	Wyer William C	Sell
Mar 16	Taylor Nicholl…	Sell

Buyers Sellers Closing price

Percent Shares Held by Institutions

Income Statement & Balance Sheet	2021	2 Year Trend
Net Income	-17	
Total Liabilities	447	
Shareholders' Equity	178	
Total Liab. & Stockholders' Eq.	625	
Cash Flow		
Closing Cash	0	
Net CapEx	--	
Free Cash Flow	-10	

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ARTNA

York Water Co. (The) NASDAQ:YORW

Last Price	Day Change	Trailing P/E	Relative P/E Last FY	Dividend Yield	3 to 5-Year Target Price Range	Performance	Safety	Financial Strength
$41.20	$0.48 (1.18%)			1.92%	--			

As of 11:30 AM Jul 15, 2022. Delayed at least 15 minutes.

Industry Rank: Water Utility -

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1 of 4 Close All Next

CHARTING

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QUOTES

Last Price	Day's Change	Volume
$41.20	**$0.48 1.18%**	**11,324**

Bid (size)	Ask (size)	
$41.17 (1)	**$41.32 (1)**	**Above** 10-day avg.

As of 11:30 AM Jul 15, 2022. Delayed at least 15 minutes.

Previous close	40.72
Open	41.11
Trailing P/E	
Market cap	580.10M
Shares outstanding	14.25M
Beta	0.8
Next earnings date	3/14/2012

52 Week Low & High

$37.52 6/14/2022 — 9/2/2021 **$53.77**

$41.20

Hist. Prices

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Filing	Filing Date	Category
4	Jun 21, 2022	Insider Activity
4	Jun 2, 2022	Insider Activity
4	Jun 2, 2022	Insider Activity
3	Jun 1, 2022	Insider Activity
4	May 23, 2022	Insider Activity
4	May 4, 2022	Insider Activity
4	May 4, 2022	Insider Activity
4	May 4, 2022	Insider Activity
4	May 4, 2022	Insider Activity
4	May 4, 2022	Insider Activity
4	May 4, 2022	Insider Activity
4	May 4, 2022	Insider Activity

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Boeing Co	BA	3
Caterpillar Inc	CAT	2
Chevron Corporation	CVX	3
Cisco Systems Inc	CSCO	1
Coca Cola Company	KO	1
Dow Inc.	DOW	3

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INSIDER TRANSACTIONS

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INSTITUTIONAL OWNERSHIP

Number of Transactions Show top holders

FINANCIAL STATEMENTS

Income Statement & Balance Sheet	2021	2 Year Trend
Gross Profit	43	
Total Operating Expenses	32	
Operating Income	**23**	

Buys Sells

All insiders

Date	Insider	Trans.
Jun 1	Hand Joseph Th…	Buy
Jun 1	Kain George Ha…	Sell
May 20	Rasmussen Stev…	Buy
Apr 20	Rasmussen Stev…	Buy
Apr 18	Dotzel Cynthia	Buy
Apr 14	Dotzel Cynthia	Buy
Apr 5	Hand Joseph Th…	Buy



Buyers Sellers Closing price

Percent Shares Held by Institutions

Income Statement & Balance Sheet	2021	2 Year Trend
Net Income	37	
Total Liabilities	306	
Shareholders' Equity	153	
Total Liab. & Stockholders' Eq.	459	
Cash Flow		
Closing Cash	0	
Net CapEx	--	
Free Cash Flow	11	

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	Company Name	AMERICAN STATES WATER COMPANY	AMERICAN WATER WORKS COMPANY, INC.	ARTESIAN RESOURCES CORPORATION	CALIFORNIA WATER SERVICE GROUP	ESSENTIAL UTILITIES, INC.	MIDDLESEX WATER COMPANY	SJW GROUP	THE YORK WATER COMPANY
2016	Sales-Net[y16]	436.087	3302	79.089	609.37	819.875	132.906	339.706	47.584
2017	Sales-Net[y17]	440.603	3357	82.235	676.113	809.525	130.775	389.225	48.589
2018	Sales-Net[y18]	436.816	3440	80.411	698.196	838.091	138.077	397.699	48.437
2019	Sales-Net[y19]	473.869	3610	83.595	714.557	889.692	134.598	420.482	51.578
2020	Sales-Net[y20]	488.243	3777	88.141	794.307	1462.698	141.592	564.526	53.852
2021	Sales-Net[y21]	498.853	3930	90.859	790.909	1878.144	143.141	573.686	55.119
2016	Cash & Short Term Investment[y16]	0.436	75	0.226	25.492	3.763	3.879	6.349	4.209
2017	Cash & Short Term Investment[y17]	0.214	55	0.952	94.776	4.204	4.937	7.799	0.002
2018	Cash & Short Term Investment[y18]	7.141	130	0.293	47.176	3.627	3.705	420.722	0.002
2019	Cash & Short Term Investment[y19]	1.334	60	0.596	42.653	1868.922	2.23	12.944	0.002
2020	Cash & Short Term Investment[y20]	36.737	547	0.028	44.555	4.827	4.491	5.269	0.002
2021	Cash & Short Term Investment[y21]	4.963	116	0.092	78.38	10.567	3.533	10.908	0.001
2016	Current Assets-Total[y16]	166.875	784	14.635	142.069	128.65	26.716	99.611	12.62
2017	Current Assets-Total[y17]	155.463	720	18.985	227.873	131.246	29.247	66.858	8.611
2018	Current Assets-Total[y18]	131.468	781	16.118	188.702	147.172	30.815	502.722	9.011
2019	Current Assets-Total[y19]	122.456	1285	14.207	184.712	2015.127	29.133	122.046	9.384
2020	Current Assets-Total[y20]	157.115	1906	17.619	266.016	380.22	34.123	127.331	16.29
2021	Current Assets-Total[y21]	138.052	1554	19.16	300.458	437.795	34.355	134.085	11.262
2016	Debt in Current Liabilities[y16]	90.33	1423	8.478	123.308	169.822	18.159	14.325	0.044
2017	Debt in Current Liabilities[y17]	59.324	1230	11.258	291.02	139.048	34.865	25	1.044
2018	Debt in Current Liabilities[y18]	40.32	1049	17.784	170.011	228.723	55.843	100	1.03
2019	Debt in Current Liabilities[y19]	7.193	814	9.24	198.42	142.941	27.178	139.481	6.5
2020	Debt in Current Liabilities[y20]	2.371	1611	28.695	376.884	214.22	9.255	251.335	0
2021	Debt in Current Liabilities[y21]	33.421	653	28.33	41.994	286.709	20.531	102.102	7.5
2016	Current Liabilities-Total[y16]	177.944	2392	19.328	250.23	301.536	47.056	63.573	8.184
2017	Current Liabilities-Total[y17]	156.662	2325	28.461	490.959	284.488	64.537	85.052	9.145
2018	Current Liabilities-Total[y18]	146.585	2094	37.731	321.166	398.977	94.363	163.985	10.841
2019	Current Liabilities-Total[y19]	115.998	2045	25.599	358.721	323.461	64.981	234.567	15.156
2020	Current Liabilities-Total[y20]	118.572	2881	43.724	588.706	603.873	56.848	350.795	11.993
2021	Current Liabilities-Total[y21]	155.574	2141	47.702	256.576	675.063	56.619	203.271	20.086
2016	noncash wkcap	78.825	-260	3.559	-10.345	-6.827	-6.06	44.014	0.271
2017	noncash wkcap	57.911	-430	0.83	-66.842	-18.398	-5.362	-0.993	0.508
2018	noncash wkcap	18.062	-394	-4.122	-9.629	-26.709	-81.032	171.159	10.039
2019	noncash wkcap	12.317	-6	-2.748	-18.242	-34.315	-10.9	14.016	0.726
2020	noncash wkcap	4.177	89	2.562	9.639	-14.26	-17.961	22.602	4.295
2021	noncash wkcap	10.936	-50	-0.304	7.496	38.874	-5.266	22.008	-1.325
2017	Change Non cashWrk Cap	-20.914	-170	-2.729	-56.497	-11.571	0.698	-45.007	0.237
2018	Change Non cashWrk Cap	-39.849	36	-4.952	57.213	-8.311	-75.67	172.152	9.531
2019	Change Non cashWrk Cap	-5.745	388	1.374	-8.613	-7.606	70.132	-157.143	-9.313
2020	Change Non cashWrk Cap	-8.14	95	5.31	27.881	20.055	-7.061	8.586	3.569
2021	Change Non cashWrk Cap	6.759	-139	-2.866	-2.143	53.134	12.695	-0.594	-5.62
2017		-4.75%	-5.06%	-3.32%	-8.36%	-1.43%	0.53%	-11.56%	0.49%
2018	WK cap/sale	-9.12%	1.05%	-6.16%	8.19%	-0.99%	-54.80%	43.29%	19.68%
2019	WK cap/sale	-1.21%	10.75%	1.64%	-1.21%	-0.85%	52.10%	-37.37%	-18.06%
2020	WK cap/sale	-1.67%	2.52%	6.02%	3.51%	1.37%	-4.99%	1.52%	6.63%
2021	WK cap/sale	1.35%	-3.54%	-3.15%	-0.27%	2.83%	8.87%	-0.10%	-10.20%
	Average	-3.08%	1.14%	-0.99%	0.37%	0.18%	0.34%	-0.85%	-0.29%
							Median		-0.05%

The following sources of information were reviewed but are not included in the workpapers as they are included separately in the section 1329 filing and are considered included by this reference:

"Municipal Authority of the Borough of Shenandoah Water System Engineering Assessment and Original Cost, Borough of Shenandoah, Schuylkill County, PA" and related files prepared by Pennoni Associates Inc.;

Water System's Permits;

Inspection Reports; and

Asset Purchase Agreement.