

**Application of SUEZ Water Pennsylvania Inc. for the Acquisition of Wastewater Assets of  
the Township of Mahoning Pursuant to 66 Pa. C.S. §1329  
Application Filing Checklist – Wastewater  
Docket No. A-2018-\_\_\_\_\_**

5. Provide copies of two appraisals performed by separate utility valuation experts establishing the system's fair market value.

**RESPONSE:** See enclosed copies of two appraisals establishing the System's fair market value performed by Gannett Fleming Valuation and Rate Consultants, LLC on behalf of SUEZ Water Pennsylvania Inc. and by ScottMadden, Inc. on behalf of the Township of Mahoning.



*Excellence Delivered **As Promised***

June 19, 2018

VIA EMAIL

Mr. John D. Hollenbach  
Vice President  
SUEZ Mid-Atlantic Division  
4211 East Park Circle  
Harrisburg, PA 17111

**Re: Fair Market Value Appraisal**

In accordance with your request, we have prepared a fair market value appraisal of Mahoning Township's sewer and water systems assets ("Sewer and Water Systems") as of April 30, 2018.

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."

Based on our analysis, as described in the attached appraisal report, the estimate of the fair market value of the Sewer and Water Systems as of April 30, 2018 is \$11,046,000 (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 six methods under the Cost, Market and Income Approaches to valuation: Original Cost Method, Reproduction Cost Method, Market Multiple Discounted Cash Flow Method, Capitalization Discounted Cash Flow Method, Market Multiples Method, and the Selected Transactions Method.

The attached narrative appraisal, present our findings and conclusions regarding the fair market value of the Sewer and Water Systems' assets of April 30, 2018. The report describes the valuation methodologies employed and the Exhibits that present the valuation results.

**Gannett Fleming Valuation and Rate Consultants, LLC**

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Harrisburg, PA 17111

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June 19, 2018

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:

<u>Valuation Approach</u>	<u>Indicated Value</u>
Cost Approach	\$14,353,427
Income Approach	7,575,609
Market Approach	11,207,656

We have been advised the PUC is requiring a separate water application and a separate sewer application. Accordingly, the attached appraisal report also provides separate estimates of the fair market value of the water system and the sewer system as of April 30, 2018. Based on our analysis, as described in the attached appraisal report, the separate estimate of the fair market value of the water system and the sewer system as of April 30, 2018 is \$5,688,000 (rounded) and \$5,414,000 (rounded), respectively. The results of the analyses and calculations completed for each applicable approach are detailed in the attach report and are shown below.

<u>Valuation Approach</u>	<u>Water Indicated Value</u>	<u>Sewer Indicated Value</u>
Cost Approach	\$7,551,287	\$6,802,140
Income Approach	3,997,024	3,748,940
Market Approach	5,515,955	5,691,702

Mr. John D. Hollenbach  
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June 19, 2018

We thank SUEZ for this opportunity to provide valuation services in connection with the fair market value appraisal of the Sewer and Water Systems' assets.

Respectfully Submitted,

GANNETT FLEMING VALUATION  
AND RATE CONSULTANTS, LLC



HAROLD WALKER, III  
Manager, Financial Studies

HW: mle

**TOWNSHIP OF MAHONING  
SEWER AND WATER SYSTEMS ASSETS**

**FAIR MARKET VALUE APPRAISAL**

**AT**

**APRIL 30, 2018**

**Prepared by:**

**GANNETT FLEMING  
VALUATION AND RATE CONSULTANTS, LLC**



**Valley Forge, Pennsylvania**

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## INTRODUCTION

Introduction and Summary. The following narrative report, present our findings and conclusions regarding the fair market value of the sewer and water systems assets of Mahoning Township as of April 30, 2018. 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 sewer and water systems assets of Mahoning Township is \$11.0 million. 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 \$7.6 million to \$14.4 million. However, most of the appropriate indicated values approximated \$11.0 million.

Separately, we also found a range of value for the water system of \$4.0 million to \$7.6 million and \$3.7 million to \$6.8 million for the sewer system. For the water system we found a fair market value of \$5.7 million and a \$5.4 million value for the sewer system.

Description of the Assignment. Gannett Fleming Valuation and Rate Consultants, LLC was retained by SUEZ Mid-Atlantic Division (“SUEZ”) to estimate the fair market value of Mahoning Township’s sewer and water systems assets (“Sewer and Water Systems”) as of April 30, 2018.

Standard and Premise of Value. The fair market value appraisal of the Sewer and Water Systems 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.”<sup>1</sup>

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

We valued the Sewer and Water Systems’ 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 Sewer and Water Systems’ assets was not relevant to the determination of the value of said assets.

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 Sewer System and conduct a fair market value appraisal of the Sewer and Water Systems in compliance with the Uniform Standards of Professional Appraisal Practices, employing the cost, market and income approaches.

Client and Users. The client is SUEZ Mid-Atlantic Division. The intended users of the valuation are SUEZ Mid-Atlantic Division and the Pennsylvania Public Utility Commission.

Extraordinary Assumptions. There were no extraordinary assumptions required for this appraisal. We accepted all information and data provided by Mahoning Township and SUEZ 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.

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<sup>1</sup> The International Glossary of Business Valuation Standards

Site Inspection. We viewed or observed the Sewer and Water Systems' facilities on May 29, 2018. We also relied on engineering assessment of the Sewer and Water Systems' facilities report, "Mahoning Township Assessment of Tangible Assets" and related files (May 2018) prepared by David Walters, P.E. of Larson Design Group, to confirm and condition of the Sewer and Water Systems' property and equipment.

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

Engineer's assessment report "Mahoning Township Assessment of Tangible Assets" and related files (May 2018) prepared by David Walters, P.E. of Larson Design Group;

Mahoning Township provided electronic files (PDF and Excel);

Sewer and Water Systems' Customer data;

Mahoning Township's Authority Audited Financials, for the year ended September 30, 2016;

Mahoning Township's Authority Financials, for the period October 1, 2016 to February 2, 2017;

Montour County's Comprehensive Plan;

Mahoning Township Sewer and Water Ordinances;

Pennsylvania State Data Center for the Center for Rural Pennsylvania, Pennsylvania Population Projections 2010-2040;

Blue Chip Financial Forecasts;

US Census Bureau, various data files;

Value Line Investment Survey; and

S&P Research Insight.

Description of the Mahoning Township. Mahoning Township (“Township”) is in southern Montour County, Pennsylvania. The Township has the 6th largest land mass of Montour County’s 11 townships and boroughs and was the second most populous with 4,260 people (2015) and 1,766 housing units (2015). The Township surrounds the Borough of Danville on three sides, with the southwest side of the Borough being bounded by the Susquehanna River. The Township is bounded by the Susquehanna River to the south, Liberty Township to the west, Valley Township to the north and Cooper Township to the east.

According to U.S. Census figures, Township population grew -2.2% from 2000 to 2010, while population in Pennsylvania grew 3.4% and 0.2% in Montour County. The Township lies within two of Montour County’s three designated growth corridors; “the end result of this conceptual developmental approach is of course to plan higher intensity growth and development for those areas having the natural and infrastructural ability to sustain it, thereby removing developmental pressures elsewhere.”<sup>2</sup>

Description of the Sewer and Water Systems. The Township owns, operates and maintains the Sewer and Water Systems.##The Sewer and Water Systems consists of: over 26 miles of vitrified clay and PVC gravity sewer mains ranging from 4” to 12”, over one mile of 4” and 10” force mains, two sewer pump stations, related land and land rights and the wastewater is conveyed to the Danville Municipal Authority for treatment and disposal; and the water system includes approximately 23 miles of water distribution asbestos cement mains, ductile iron mains, and PVC mains ranging from 4” to 12” in diameter, three water storage tanks, four water

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<sup>2</sup> The “Growth Corridor” concept focuses development to rather confined areas and pursues a policy of limited, light intensity or no development in other areas. See page 49 Montour County Comprehensive Plan, Montour County Planning Commission, April 2009.

booster/pumping stations, related land and land rights and the Township obtains potable water from Danville Borough.

The Sewer and Water Systems' sewer pump stations include the Route 11 and Maria Joseph (Meadows) pumping stations and the water pump stations include the Route 11 Booster Station, Montgomery Village Booster Station, Edgewood Booster Station, Woods of Welsh (Red Lane) Booster Station, and three pressure reducing stations at Kaseville Road, Woodbine Drive and Bloom Road. The site of the Woods of Welsh (Red Lane) Booster Station also includes a maintenance facility building. The Sewer and Water Systems' water storage tanks include a 300,000 gallon tank and 500,000 gallon tank on Red Lane at Welsh Road Tanks site and the Woods of Welsh 75,000 Gallon Standpipe Tank.

The Sewer and Water Systems has 2,637 customers (1,186 water and 1,451 sewer). The bulk of these customers are in the Township; however, the Sewer and Water Systems also serves 33 extraterritorial customers in the adjoining Cooper and Valley Townships. The Sewer and Water Systems is currently a department of the Township. Prior to 2017, the Sewer and Water Systems was owned and operated by the Mahoning Township Authority ("Authority"). The Authority's audited financial statements reflect the use of the modified cash basis of accounting and provide limited information for the Sewer and Water Systems.

The modified cash basis of accounting uses elements of both the cash basis and accrual basis of accounting. The modified cash basis establishes a position part way between the cash and accrual methods. The modified cash basis is not allowed under Generally Accepted Accounting Principles (GAAP) or International Financial Reporting Standards (IFRS).

According to the Authority's audited financial statements, for the year ended September 30, 2016 show (Exhibit 1) the Sewer and Water Systems had reported revenues of \$1.887 million

and was capitalized with \$5.675 million of capital: including no long-term debt (including current maturities); and \$5.675 million of fund equity. At the same point in time, the Sewer and Water Systems had total assets of \$5.740 million, including \$2.951 million of net utility plant. As stated, the Township's audited financial statements provide limited information for the Sewer and Water Systems.

The Sewer and Water Systems is exempt from Pennsylvania Public Utility Commission ("PUC") regulation as a municipal utility. The Sewer and Water Systems' rate requirements are established by the needed funds to run the system. Most municipalities, including Sewer and Water Systems, 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 tax payers. Municipalities typically expense (i.e., maintenance expense) minor collection, 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 Sewer and Water Systems' financial statements should be fully relied upon without recognizing their limitations.

As shown on Exhibit 2, the Sewer and Water Systems provides service to 2,637 customers. The Sewer and Water Systems' business does not require large amounts of working capital. The Sewer and Water Systems is not dependent on industrial customers.

Demographics and Growth for the Sewer and Water Systems. As shown on Page 1 of

Exhibit 3, Table 3.1, according to U.S. Census figures, the U.S. population grew 9.7% from 2000 to 2010, and the population in Pennsylvania grew 3.4%. During this same time period, Montour County's population grew 0.2% and the Township's population grew -2.2% (Exhibit 3, Table 3.2). The Township's population growth was ranked 1,526 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 Center for Rural Pennsylvania publishes population projections for Pennsylvania and its 67 counties for 2010 to 2040. As shown on Exhibit 3, Table 3.3, Montour County's population growth is projected to be more than twice the growth rate projected for Pennsylvania from 2015 through 2040. The Montour County's project population growth is ranked 1 of the 67 counties in Pennsylvania. We were not able to find any population projections for future time periods for the Township. However, given the facts that Mahoning comprises 23% of Montour County's population and the Township lies within two of Montour County's three designated growth corridors, it is reasonable to conclude the Township's population will grow similarly to Montour County's population growth.

In 2016, the Township's total population was approximately 4,218 people (Exhibit 2). There are 1,767 household units in the Township, and the ratio of people in households to households is 2.39 persons per household. The housing unit vacancy is about 8% in the Township.

The Sewer and Water Systems' service area density is 1.6 people per customer based on an estimated population of 4,218 and 2,637 customers. The Sewer and Water Systems' service area density is equal to about 44% of the 3.7 per customer density of water and wastewater systems

(see Table 2 in this report). The Township's higher than average population growth indicates a potential greater future demand for the Sewer and Water Systems' services.

## HISTORY AND NATURE OF THE BUSINESS

Economic Outlook. 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 analysis, we considered the forecasts for the U.S. economy that prevailed as of April 30, 2018. In particular, we focused on the forecasts and economic commentary presented in Blue Chip Financial Forecasts in the April 1, 2018 edition. Some of these economic forecasts are presented in Table 1.

	<u>Economic Indicators</u>		
	<u>Latest Qtr</u>	<u>Consensus Forecasts</u>	
	<u>1Q 2018</u>	<u>2Q 2018</u>	<u>3Q 2018</u>
<u>Key Assumptions</u>			
Real GDP	2.2	3.1	3.0
GDP Price Index	2.3	2.0	2.2
Consumer Price Index	3.3	1.9	2.2
<u>Interest Rates</u>			
3-mo. Treasury Bills	1.56	1.8	2.0
10 Year Notes	2.75	2.9	3.1
30 Year Notes	3.03	3.2	3.3
Aaa Corporate Bond Yield	3.86	4.1	4.2
Baa Corporate Bond Yield	4.43	4.8	5.0
State & Local Bonds	3.53	3.8	3.9
Home Mortgage Rate	4.27	4.5	4.6

**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 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 1,870 U.S. Businesses with an 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.

A comparative industry to the wastewater utility industry is the water supply industry. The water supply industry has a 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 8,840 U.S. Businesses with an 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.

An estimated 14% of all water supplies 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 (April 30, 2018), there are only about 10 investor owned water utility companies with publicly traded stock in the U.S.

The wastewater utility industry and water utility industry's increased compliance with state and federal water purity levels and large infrastructure replacements are driving consolidation of the wastewater utility and water utility industries. Because many wastewater utility and water 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 wastewater and water systems. Generally, they enter a new market by acquiring one or several wastewater or water 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 wastewater and water 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 SDWA if such acquisitions are contiguous to the potential purchaser.

In summary, the result of increased capital spending, to meet the SDWA requirements<sup>3</sup> and the replace the aging infrastructure of many systems, has moved the wastewater and water industries toward consolidation. Moreover, Federal and State regulations and controls 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 sewer and water systems. However, as a medium to small sewer and water system, the Sewer and Water Systems faces the cost of compliance with significantly limited financial resources when compared to larger IOU water utilities.

## QUANTITATIVE AND QUALITATIVE ANALYSIS

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

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<sup>3</sup> 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.

Systems. We list the Comparable Group chosen for study in Table 2.

The Comparable Group were selected based upon: (1) the availability of financial information; (2) a April 30, 2018 market value of common stock, the product of multiplying the closing stock price by the number of common shares outstanding, greater than \$75.0 million; (3) inclusion in the Standard and Poor's Research Insight database; (4) were not the subject of a known acquisition at April 30, 2018; and (5) with a Global Industry Classification Standard ("GICS") of 55104010 (i.e., Water Utility). The eight companies ("Comparable Group") that met the criteria for selection are listed in Table 2.

<u>Latest Size Statistics For the Year 2017</u>				
	<u>Revenues</u> (Mill. \$)	<u>Customers</u>	<u>Population</u>	<u>Customer Density</u>
Township of Mahoning Sewer and Water Systems Assets	<u>\$1.947</u>	<u>2,637</u>	<u>4,218</u>	<u>1.6</u>
<u>Comparable Group</u>				
American States Water Co	\$440.603	283,223	1,000,000	3.5
American Water Works Co Inc	3,357.000	3,353,000	15,000,000	4.5
Aqua America Inc	809.525	982,949	3,000,000	3.1
Artesian Resources -CL A	82.235	86,500	290,000	3.4
California Water Service Gp	666.890	514,300	2,000,000	3.9
Middlesex Water Co	130.775	114,920	412,000	3.6
SJW Corp	389.225	244,133	1,100,200	4.5
York Water Co	<u>48.589</u>	<u>69,604</u>	<u>198,000</u>	<u>2.8</u>
Median	<u>\$414.914</u>	<u>263,678</u>	<u>1,050,100</u>	<u>3.7</u>

**Table 2**

We believe that similar economic, industry and business risks have affected the Comparable Group as those faced by the Sewer and Water Systems. 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 much larger than the Sewer and Water Systems. The relative size difference between the group and the Sewer and Water Systems suggests that the risk of the Sewer and Water Systems is greater than the Comparable Group. We will discuss the difference in risk resulting from size later in this report.

Financial Review. We typically conduct a financial review that considers the financial and operating statistics for the Sewer and Water Systems and the Comparable Group for a three-year period, 2015 to 2017. It is our opinion that the economic, industry and business risks affecting the Comparable Group selected are similar to those faced by the Sewer and Water Systems. 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 Sewer and Water Systems' rates have not considered a fair rate of return nor taxes. That is, the Sewer and Water Systems' 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. The lack of multiple years of financial information for the Sewer and Water Systems' makes analysis of their historical financial performance meaningless.

Financial Benchmark Analysis. To gain insight into the risk differences between the Sewer and Water Systems and the Comparable Group, we typically review financial ratios and coverages. Unfortunately, there is not sufficient information for the Sewer and Water Systems to do so. Therefore, a Financial Benchmark Analysis cannot be done.

Risk Analysis. From an operations standpoint, the Sewer and Water Systems 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 Sewer and Water Systems' risk is higher than the Comparable Group given Sewer and Water Systems' relatively small size. Table 2 details the large size difference between the Sewer and Water Systems and the Comparable Group. As shown on Table 2, the Sewer and Water Systems 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 Sewer and Water Systems. Because the larger Comparable Group has a

more diverse geographic operation than the Sewer and Water Systems, 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 Sewer and Water Systems.

Exhibit 4, Table 4.1, provides an illustration which shows company size has been inversely related to returns and the volatility of their common stock. Specifically, Ibbotson Associates sorted 3,221 publicly traded common stocks based on size of market value (market price multiples 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 April 30, 2018 ranged from \$352 million to \$15,616 million as shown on Table 4.2 of Exhibit 4. Based on their market value, the Comparable Group's median market quartile was 3. Sewer and Water Systems' market value would place them in quartile 4 based upon Sewer and Water Systems' financial statements and considering the fact that the largest company in quartile 4 had a market value of \$569 million.

The change in risk adjusted common stock return rate between quartile 3 and quartile 4 (column J) is 96 basis points. The results of the illustration shown on Exhibit 4 suggests the Sewer and Water Systems' common equity cost rate could be about 96 basis 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 4 shows small company stocks have been riskier over a long period of time than larger company stocks. This makes sense 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 Sewer and Water Systems 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 Sewer and Water Systems can best be characterized as a wastewater collection system and water distribution system. The Sewer and Water Systems do not have the number of large treatment facilities that the Comparable Group has. The Sewer and Water Systems' gross property, plant and equipment is in relatively good

condition given its age (Exhibit 5, Table 5.1) with 66% of their gross property, plant and equipment remaining undepreciated while 75% of the Comparable Group's gross property, plant and equipment remained undepreciated.

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 Sewer and Water 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 30% (100% - 70%) differences between the Comparable Group's net property, plant and equipment and the Comparable Group's investor provided capital on the valuation date (Exhibit 5, page 1, Table 5.2). 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. This is evidenced by the 30% difference in the Comparable Group's net property, plant and equipment and the Comparable Group's investor provided capital (Exhibit 5, page 1, Table 5.2).

We did not analyze the Sewer and Water Systems' property, plant and equipment for customer contributions because customer contributions are 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. The capital expenditures required over the next four years (2018-2021) for the Sewer and Water Systems was not available. Over the last four years, the Comparable

Group had annual capital expenditures of about 8% of net plant (Exhibit 5, page 2, Table 5.3). During this same time, 2013-16, capital expenditures were not reported for the Sewer and Water Systems. Therefore, a comparison of capital expenditures cannot be done.

Growth Rate Analyses. Higher growth rates are an indication of less risk. A review of the growth rates in revenue, operating income plus depreciation and operating income, reveal the Comparable Group's growth (Exhibit 5, page 4, Table 5.4) over the last three years. Growth rates were not able to be determined for Sewer and Water Systems due to the lack of appropriate financial information for the time period reviewed.

Prospectively, the Comparable Group may be able to enhance their growth rates through the continued acquisition of water and sewer systems outside their existing service territory.

Profit Margin Analyses. Higher profit margins are an indication of less risk. We typically compare earnings before interest and taxes ("EBIT") to revenues to see how successful the Sewer and Water Systems' management was at generating income from the operation of the business. We also typically compare operating profitability or earnings before interest, tax, depreciation and amortization ("EBITDA") divided by total revenue to gain a clearer view of the Sewer and Water Systems' core profitability. Unfortunately, there is not sufficient information to do so for the Sewer and Water Systems due to the lack of financial information. Therefore, a profit margins analyses cannot be done.

## VALUATION

The purpose of this valuation is to comply with 66 Pa. C.S. Section 1329 (Valuation of Acquired Water and Sewer and Water Systems') and conduct a fair market value appraisal of the Sewer and Water Systems' assets as of April 30, 2018 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 measure 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 by determining the current cost of constructing identical new property (“RCN”). The replacement cost method begins with estimating the replacement cost new 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 RCN and the replacement cost new method 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<sup>4</sup> are applied to the inventory listing in order to determine the RCN and to determine the replacement cost new.

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<sup>4</sup> 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 5% to 15% of infrastructure asset total costs.

The RCN 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 replacement cost new 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, RCN and replacement cost new), 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 Sewer and Water Systems and SUEZ provided us a copy of the engineering assessment of the Sewer and Water Systems' facilities report, "Mahoning Township Assessment of Tangible Assets" and related files (May 2018) prepared by Larson Design Group ("Engineering Assessment"). We utilized the Engineering Assessment and calculated the Original Cost and Related Accrued Depreciation of the Sewer and Water Systems as of April 30, 2018 ("OCNLD Study") shown on Exhibit 6.

Page 1 of Exhibit 6 summarizes the original cost and related accrued depreciation by account for the Sewer and Water Systems as of April 30, 2018. The original cost was brought forward from page 2 of Exhibit 6 and the accrued depreciation from page 3 of Exhibit 6. Pages 4 and 5 of Exhibit 6 summarizes the original cost and related accrued depreciation by account separately for the Water System's assets and the Sewer System's assets as of April 30, 2018.

The original cost of the Sewer and Water Systems was determined from the Engineering Assessment and is summarized on page 2 of Exhibit 6. A summarizing analysis of the original cost of the Sewer and Water Systems by account and vintage year is shown on Exhibit 7.

The accrued depreciation calculation, shown on page 3 of Exhibit 6, 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 wastewater and water companies. 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 in Exhibit 8.

The results of the OCNLD Study established that the OCN of the Sewer and Water Systems' utility plant in service as of April 30, 2018 was not less than \$10.2 million (\$10,225,921

rounded). The OCNLD Study also determined a theoretical calculated accrued depreciation reserve of the utility plant in service of \$3.5 million (\$3,483,924 rounded) as of April 30, 2018. After factoring in the OCNLD Study's accrued depreciation reserve, the OCNLD of Sewer and Water Systems' utility plant in service as of April 30, 2018 was determined to be \$6.7 million ( $\$10,225,921 - \$3,483,924 = \$6,741,997$ ).

The results of the OCNLD Study established that the OCN of the Water System's utility plant in service and the Sewer System's utility plant in service in service as of April 30, 2018 was not less than \$5.3 million (\$5,294,272 rounded) and \$4.9 million (\$4,931,649 rounded), respectively. The OCNLD Study also determined a theoretical calculated accrued depreciation reserve of the Water System's utility plant in service and the Sewer System's utility plant in service of \$1.8 million (\$1,787,134 rounded) and \$1.7 million (\$1,696,790 rounded), respectively, as of April 30, 2018. After factoring in the OCNLD Study's accrued depreciation reserve, the OCNLD of the Water System's utility plant in service in service as of April 30, 2018 was determined to be \$3.5 million ( $\$5,294,272 - \$1,787,134 = \$3,507,138$ ) and the Sewer System's utility plant in service in service as of April 30, 2018 was determined to be \$3.2 million ( $\$4,931,649 - \$1,696,790 = \$3,234,859$ ).

The Reproduction Cost Method. We utilized the OCN to calculate the trended original cost measures, or the reproduction cost of the depreciable assets (RCN), by multiplying the OCN by specific cost indices. The result of this analysis is shown in the Reproduction Cost and Related Accrued Depreciation of the Sewer and Water Systems as of April 30, 2018 ("RCNLD Study") shown on Exhibit 9.

Page 1 of Exhibit 9 summarizes the reproduction cost new and related accrued depreciation by account for the Sewer and Water Systems as of April 30, 2018. The reproduction cost new was

brought forward from page 2 of Exhibit 9 and the accrued depreciation from page 3 of Exhibit 9. Pages 4 and 5 of Exhibit 9 summarizes the reproduction cost new and related accrued depreciation by account separately for the Water System's assets and the Sewer System's assets as of April 30, 2018.

The reproduction cost new of the Sewer and Water Systems (see page 2 of Exhibit 9) was calculated by trending the original cost measures by multiplying the OCN by Handy-Whitman indices. A summarizing analysis of the reproduction cost new of the Sewer and Water Systems by account and vintage year and related cost indices is shown on Exhibit 10.<sup>5</sup>

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 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 reproduction cost new by account and vintage are included in Exhibit 11.

The results of the RCNLD Study established that the RCN of the Sewer and Water Systems' utility plant in service as of April 30, 2018 was not less than \$28.8 million (\$28,797,620 rounded). The RCNLD Study also determined a theoretical calculated accrued depreciation reserve of the utility plant in service of \$11.9 million (\$11,907,050 rounded) as of April 30, 2018. After factoring in the RCNLD Study's accrued depreciation reserve, the RCNLD of Sewer and Water Systems' utility plant in service as of April 30, 2018 was determined to be \$16.9 million

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<sup>5</sup> All land and land rights were valued at original cost.

(\$28,797,620 - \$11,907,050 = \$16,890,570).

The results of the RCNLD Study established that the RCN of the Water System's utility plant in service and the Sewer System's utility plant in service as of April 30, 2018 was not less than \$14.7 million (\$14,699,682 rounded) and \$14.1 million (\$14,097,938 rounded), respectively. The RCNLD Study also determined a theoretical calculated accrued depreciation reserve of the Water System's utility plant in service and the Sewer System's utility plant in service of \$5.8 million (\$5,800,346 rounded) and \$6.1 million (\$6,106,704 rounded), respectively, as of April 30, 2018. After factoring in the RCNLD Study's accrued depreciation reserve, the RCNLD of the Water System's utility plant in service as of April 30, 2018 was determined to be \$8.9 million (\$14,699,682 - \$5,800,346 = \$8,899,336) and the Sewer System's utility plant in service as of April 30, 2018 was determined to be \$8.0 million (\$14,097,938 - \$6,106,704 = \$7,991,234).

The results of the OCNLD and RCNLD Cost Approaches show a range of value for the Sewer and Water Systems of \$6.7 million to \$16.9 million and collectively, indicated value of \$14.4 million (\$14,353,427 rounded) for the Sewer and Water Systems based predominantly on the results of the RCNLD. Separately, the results of the OCNLD and RCNLD Cost Approaches show a range of value for the Water System of \$3.5 million to \$8.9 million and collectively, indicated value of \$7.6 million (\$7,551,287 rounded) and show a range of value for the Sewer System of \$3.2 million to \$8.0 million and collectively, indicated value of \$6.8 million (\$6,802,140 rounded) based predominantly on the results of the RCNLD.

Benchmark Metrics. Besides providing an indication of value based upon a cost method, the OCN and OCNLD also provides a meaningful metric to evaluate the reasonableness of other indications of value produced by other valuation methods. 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 1.54-times (Exhibit 18, page 2) their OCNLD or net property, plant and equipment. Similarly, the Comparable Group’s Enterprise Value is currently 1.17-times (Exhibit 18, page 2) their OCN or gross property, plant and equipment.

The above-mentioned property, plant and equipment “multiples” understate the multiple applicable to the Sewer and Water Systems because the Comparable Group’s property, plant and equipment includes assets that were originally financed with customer contributions. Subtracting customer contributions (“CIAC”) from the Comparable Group’s property, plant and equipment (Exhibit 18, page 3) results in CIAC adjusted multiples of 2.08-times OCNLD and 1.58-times OCN for the Comparable Group.

Multiplying the Sewer and Water Systems’ OCN of \$10.2 million by the Comparable Group’s 1.17-times OCN multiple or the 1.58-times contributions adjusted OCN multiple indicates a range of market value of \$11.9 million to \$16.1 million for the Sewer and Water Systems, similar to the RCNLD of \$16.9 million. Further, multiplying the Sewer and Water Systems’ OCNLD of \$6.7 million by the Comparable Group’s 1.54-times OCNLD multiple or the 2.08-times contributions adjusted OCNLD multiple indicates a range of market value of \$10.3 million to \$13.9 million for the Sewer and Water Systems, similar to the RCNLD of \$16.9 million.

The aforementioned range of market value for the Sewer and Water Systems are not a substitute for an appraisal. However, the referenced range of market value for the Sewer and Water Systems are meaningful metrics to evaluate the reasonableness of other indication of value produced by other valuation methods.

Comparing the results of the OCNLD method and RCNLD method to the benchmark metrics indicates the value indicated by the OCNLD method of \$6.7 million to be inconsistent with the benchmark metrics. Therefore, the results of the \$16.9 million RCNLD method form the primary basis for our Cost Approach conclusion of \$14.4 million (\$14,353,427 rounded) and is used as the Cost Approach as part of our fair market value determination for the Sewer and Water Systems. Similarly, the separate results of the Water System's \$8.9 million RCNLD method and the results of the Sewer System's \$8.0 million RCNLD method form the primary basis for our Cost Approach conclusion of \$7.6 million (\$7,551,287 rounded) for the Water System and \$6.8 million (\$6,802,140 rounded) for the Sewer System.

The Income Approach. Capitalizing or discounting a future income stream to a present value provides an indication of the value of a business. 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, plus or minus projected changes in net cash working capital, less 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 opportunity cost rate related to the risk of the cash flows. For the Sewer and Water Systems, the appropriate discount rate is the current municipal revenue bond yield on April 30, 2018 of 3.84%. The appropriate IOU discount rate is the current pre-tax overall cost of capital on April 30, 2018 and ranges from 7.12% to 8.48%. 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 Sewer and Water Systems as it is currently owned (i.e., non-IOU) and operated. However, change in ownership of the Sewer and Water Systems to a large regional municipal authority ("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.

We began the Income Approach for the Sewer and Water Systems 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 Sewer and Water Systems' Debt Free Net Cash Flow begins on Exhibit 1 and ends

on Exhibits 12 through 17.

Differences in accounting practices exist between GASB, DCED and FASB because there are differences in their purpose. That is, the GASB's and DCED's motivations 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 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 Sewer and Water Systems and the Comparable Group.

Exhibit 1 page 2 presents the Sewer and Water Systems' financial information contained in their financial statement 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 and 13. As noted previously, 2016 or 9/30/16 is the most recent year, and only year, that audited financial statements are available the Sewer and Water Systems and their rates and their financials did not include taxes nor a fair rate of return. Accordingly, on Exhibits 12 and 13 we adjusted the Sewer and Water Systems' post-2018 financial information for additional expenses and returns to be reflective of a MUNI or IOU ownership.

We also used unaudited financial statements for the four month period October 1, 2016 to February 2, 2017 (Exhibit 1, page 3) to allocate the 2016 audited financial information between the sewer and water operations on page 4 of Exhibit 1. This information for the Water System and the Sewer System was adjusted on Exhibits 14 through and 17 for post-2018 operations for additional 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. Due to the lack of meaningful financial information (fair rate of return), current (2018) practical Debt Free Net Cash Flow could not be determined for the Sewer and Water Systems under current operations and ownership and eliminated our use of the capitalization of earnings method.

The DCF Method. For the Sewer and Water Systems, 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 12 through 17.

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 Sewer and Water Systems’ operations over the next 13 years. We use two different assumptions for the Sewer and Water Systems’ future operations in the DCF methods: MUNI ownership shown on Exhibit 12 and IOU ownership shown on Exhibit 13.

Under the MUNI ownership the discount rate is the current 3.84% municipal revenue bond yield and under the IOU ownership the discount rate is the current pre-tax overall cost of capital, reflecting the upper and lower range of the pre-tax overall cost of capital for the Comparable Group of 7.12% to 8.48%. For the Capitalization DCF, the capitalization rate reflects a scenario of no additional growth (i.e., discount rate = capitalization rate) and a scenario of minimal growth of 1.0% (i.e., discount rate – 1.0% growth = capitalization rate) under MUNI ownership and 0.25% (i.e., discount rate – 0.25% growth = capitalization rate) under IOU ownership based on changes in Debt Free Net Cash Flows.

We computed the Market Multiple DCF terminal values by multiplying the Sewer and Water Systems’ projected EBIT and EBITDA by the Comparable Group’s adjusted multiples of

14.6-times and 10.1-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 12 shows the results of the DCF method under the MUNI ownership scenario. The results of the Capitalization DCF shown on Exhibit 12 show a range of value for the Sewer and Water Systems of \$6.3 million to \$11.0 million. The results of the Market Multiple DCF shown on Exhibit 12 show a value of \$8.6 million. Collectively, the DCF method based on the MUNI ownership scenario indicates a value of \$8.6 million for the Sewer and Water Systems based on the 1.0% growth assumption.

Exhibit 13 shows the results of the DCF method under the IOU ownership scenario. The results of the Capitalization DCF shown on Exhibit 13 show a range of value for Sewer and Water Systems of \$5.4 million to \$6.6 million. The results of the Market Multiple DCF shown on Exhibit 13 show a range of value of \$6.4 million to \$7.2 million. Collectively, the DCF method based on the IOU ownership scenario and a 0.25% growth assumption indicates a value of \$6.5 million for the Sewer and Water Systems.

The DCF method based on the MUNI ownership scenario indicates a value of \$8.6 million and the DCF method based on the IOU ownership scenario indicates a value of \$6.5 million. Collectively, the DCF method indicates a value of \$7.6 million for the Sewer and Water Systems based on the Income Approach.

We also did the DCF method separately for the Water System (Exhibits 14 and 15) and the Sewer System (Exhibits 16 and 17). For the Water System, the DCF method based on the MUNI ownership scenario indicates a value of \$4.5 million and the DCF method based on the IOU ownership scenario indicates a value of \$3.5 million. Collectively, the DCF method indicates a

value of \$4.0 million for the Water System based on the Income Approach. Similarly, for the Sewer System, the DCF method based on the MUNI ownership scenario indicates a value of \$4.5 million, the DCF method based on the IOU ownership scenario indicates a value of \$3.0 million, and collectively, the DCF method indicates a value of \$3.7 million for the Sewer System based on the Income Approach.

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 Sewer and Water Systems. 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 Sewer and Water Systems. Since no marketplace exists for the common stock of the Sewer and Water Systems, an alternative to estimate the value of the Sewer and Water Systems is to analyze the price investors are willing to pay for the publicly traded common stock of companies that are similar to the Sewer and Water Systems. 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 April 30, 2018 based on the latest twelve months of financial data available at the appraisal date.

We used the Comparable Group's Enterprise Value at April 30, 2018 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 Sewer and Water Systems. 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% ( $1 \div 16.14 = 6.20\%$ ). 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 Sewer and Water Systems. However, consideration must be given to the fact that no two companies are exactly alike. On average, the Comparable Group are much larger than the Sewer and Water Systems. The relative size difference between the Comparable Group and Sewer and Water Systems suggests that the risk to the investors of the Sewer and Water Systems is greater than the Comparable Group. Further, based upon our abridged quantitative and qualitative analysis, we concluded that the Sewer and Water Systems has more risk than the Comparable Group.

Accordingly, the Comparable Group's Market Multiples are not directly applicable to the Sewer and Water Systems. We assumed the higher risk due to the Sewer and Water Systems' small size is added to higher risk assumed from our abridged quantitative and qualitative analysis. This combined risk was assumed to result in the Sewer and Water Systems being 30% riskier than

the Comparable Group and produces a 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 Sewer and Water Systems 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 Sewer and Water Systems (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 contributions because customer contributions 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 Sewer and Water Systems.

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 (riskier), 95% of GPPE (riskier and contributions), 95% of NPPE (riskier and contributions), 70% of Revenue (riskier); 70% of EBIT and 70% EBITDA (riskier); and 75% of Customers and Population.

As shown on page 1 of Exhibit 18, the market multiples method indicated values based on Revenue, EBIT and EBITDA (collectivity called "Income Statement Items") are far below the Sewer and Water Systems' market multiples method indicated values based ICAP, GPPE and NPPE (collectivity called "Capital Items"), and those based on Customers and Population (collectivity called "Demographics Items"). We attribute this to the fact the Sewer and Water Systems' dollars of Revenue, EBIT and EBITDA do not reflect any provision for taxes while the

multiples for the Comparable Group do.<sup>6</sup> Consequently, we do not believe the results of the multiples of Revenue, EBIT and EBITDA are meaningful and should not be used.

In the market multiples method, the meaningful Market Multiples of the Comparable Group are used to develop an indicated value of the Sewer and Water Systems. This is accomplished by multiplying the Sewer and Water Systems' 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 Sewer and Water Systems of \$9.5 million to \$12.9 million and collectively, indicate value of \$11.2 million based on the meaningful Market Multiples.

The market multiples method (Exhibit 18, page 4) also show a range of value for the Water System of \$4.9 million to \$6.1 million and collectively, indicate value of \$5.5 million for the Water System and the market multiples method (Exhibit 18, page 5) show a range of value for the Sewer System of \$4.6 million to \$6.8 million and collectively, indicate value of \$5.7 million for the Sewer System based on the meaningful Market Multiples.

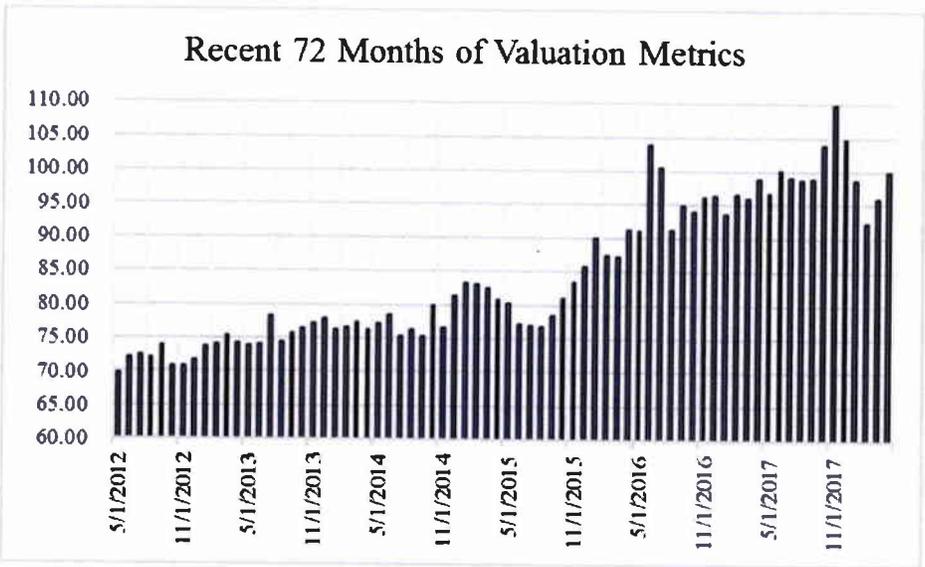
The Selected Transactions Method. The selected transactions method entails analyzing certain public information relating to selected transactions involving the purchase or sales of businesses involved in the same or similar business line. The number of selected transactions available for review is limited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

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<sup>6</sup> The Revenue, EBIT and EBITDA for the Sewer and Water Systems also do not include a fair rate of return.

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 (April 30, 2018). The change in the Comparable Group’s market multiples of NPPE and ICAP, shown in Figure 1, shows the change in market valuation over the last 72 months. In Figure 1 the Comparable Group’s market multiples of NPPE and ICAP were indexed to April 30, 2018 valuation multiples so that the April 30, 2018 valuation multiples have an index value of 100.



**Figure 1**

The Comparable Group’s appraisal date (April 30, 2018) valuation multiples are 8% higher than 2018’s lowest levels and equal to the 2018’s highest levels and 8% higher than 2017’s lowest levels and 10% below the 2017’s highest levels. The Comparable Group’s April 30, 2018 valuation multiples are 13% higher than 2016’s lowest levels and 4% below the 2016’s highest levels, are

14% to 23% higher than 2015's, are 19% to 25% higher than 2014's, and are 22% to 26% higher than 2013's multiples.

Because of the rapid rise in valuation multiples over the last 28 months 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 customer contributions in the valuation. The selected transactions that met the stated selection criteria are shown on page 2 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: Revenue; EBITDA; EBIT; Customers; and Population. As shown on page 2 of Exhibit 19, the selected transactions method indicated values based on the Income Statement Items are far below the Sewer and Water Systems' 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.<sup>7</sup> Consequently, we do not believe the results of the multiples of Income Statement Items are meaningful.

In the selected transactions method, the significant selected transactions multiples of the selling utilities are used to develop an indicated value of the Sewer and Water Systems. This is accomplished by multiplying the Sewer and Water Systems' financial and operating data by the selling utilities' transactions multiples (Exhibit 19, page 2). The results of the selected transactions method (Exhibit 19, page 1) show a range of value for the Sewer and Water Systems

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<sup>7</sup> Further, Revenue, EBIT and EBITDA for the Sewer and Water Systems also do not include a fair rate of return.

of \$14.6 million to \$23.8 million when all transactions are considered and a range of value of \$7.4 million to \$21.9 million when primarily collection/distribution assets are solely considered. Collectively, the indicate value for the Sewer and Water Systems is of \$14.6 million based on the more comparable selected transactions multiples.

We also did the selected transactions method separately for the Water System and the Sewer System. For the Water System, the selected transactions method suggests a value of \$7.4 million (Exhibit 19, page 3) and suggests a value of \$7.2 million for the Sewer System (Exhibit 19, page 5).

The results of the market multiples method shown on Exhibit 18 show a range of value for the Sewer and Water Systems of \$9.5 million to \$12.9 million and collectively, indicate value of \$11.2 million. The results of the selected transactions method shown on Exhibit 19 show a range of value of \$7.4 million to \$21.9 million and collectively, indicate value of \$14.6 million. Based on the aforesaid, the Market Approach to valuation indicates a value of \$11.2 million for the Sewer and Water Systems based predominantly on the results of the market multiples method. Separately for the Water System and the Sewer System, the Market Approach to valuation indicates a value of \$5.5 million for the Water System and \$5.7 million for the Sewer System based predominantly on the results of the market multiples method.

Conclusion. We summarize our findings for the Sewer and Water Systems on Exhibit 20. Our findings for the Sewer and Water Systems is based on the Cost, Market and Income Approaches to valuation. We used six methods under the Cost, Market and Income Approaches to valuation: Original Cost Method, Reproduction Cost 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 reproduction 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. Based on these facts, our conclusion regarding the fair market value is \$11.0 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 20. The results of our analyses, shown on page 1 of Exhibit 20, indicate a range of value for the Sewer and Water Systems of \$7.6 million to \$14.4 million and collectively indicate a fair market value of \$11,046,000 for the Sewer and Water Systems.

We also found a range of value for the Water System of \$4.0 million to \$7.6 million (Exhibit 20, page 2) and \$3.7 million to \$6.8 million (Exhibit 20, page 3) for the Sewer System. For the Water System we found a fair market value of \$5,688,000 (rounded) and a \$5,414,000 (rounded) value for the Sewer System.

**COMPLIANCE & APPRAISAL CERTIFICATION**

**Compliance with Uniform Standards of Professional  
Appraisal Practice (USPAP) 2018-2019**

**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 SUEZ Mid-Atlantic Division. The intended users of the valuation are SUEZ Mid-Atlantic Division and the Pennsylvania Public Utility Commission.

- **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 Township of Mahoning Sewer and Water Systems' assets 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 Township of Mahoning Sewer and Water Systems' assets include related assets necessary to run the Systems; all personal property and fixed assets, including all equipment and machinery, and auxiliary equipment and plant equipment. Township of Mahoning Sewer and Water Systems' assets include sewage collection and transmission assets, water distribution and transmission assets and related land and land rights.

The Township of Mahoning Sewer and Water Systems' consists of: over 26 miles of vitrified clay and PVC gravity sewer mains ranging from 4" to 12", over one mile of 4" and 10" force mains, two sewer pump stations, related land and land rights and the wastewater is conveyed to the Danville Municipal Authority for treatment and disposal; and the water system includes approximately 23 miles of water distribution asbestos cement mains, ductile iron mains, and PVC mains ranging from 4" to 12" in diameter, three water storage tanks, four water booster/pumping stations, related land and land rights and the Township obtains potable water from Danville Borough.

The Township of Mahoning Sewer and Water Systems' sewer pump stations include the Route 11 and Maria Joseph (Meadows) pumping stations and the water pump stations include the Route 11 Booster Station, Montgomery Village Booster Station, Edgewood Booster Station, Woods of Welsh (Red Lane) Booster Station,

## **Compliance with Uniform Standards of Professional Appraisal Practice (USPAP) 2018-2019**

### **Fulfillment of Requirements for a Personal Property Appraisal and Report**

and three pressure reducing stations at Kaseville Road, Woodbine Drive and Bloom Road. The site of the Woods of Welsh (Red Lane) Booster Station also includes a maintenance facility building. The Township of Mahoning Sewer and Water Systems' water storage tanks include a 300,000 gallon tank and 500,000 gallon tank on Red Lane at Welsh Road Tanks site and the Woods of Welsh 75,000 Gallon Standpipe Tank.

The Township of Mahoning Sewer and Water Systems has 2,637 customers (1,186 water and 1,451 sewer). The bulk of these customers are in the Township; however, the Township of Mahoning Sewer and Water Systems also serves 33 extraterritorial customers in the adjoining Cooper and Valley Townships.

The Township of Mahoning Sewer and Water Systems' property is in reasonable condition for their age based on physical observations and reviews of operating and financial statements. The property is an operating sewer and water, the economics of which were analyzed from one year of financial statements which were incorporated into the income approach to value in this appraisal.

The Township of Mahoning Sewer and Water Systems' land and land rights include land used for the over 26 miles of sewer mains, over one mile of force mains, two sewer pump stations and approximately 23 miles of water distribution mains, three water storage tanks, and four water booster/pumping stations and multiple easements and rights-of-way necessary to operate the Sewer and Water Systems.

- **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

**Compliance with Uniform Standards of Professional  
Appraisal Practice (USPAP) 2018-2019**

**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 April 30, 2018 and the appraisal report date is June 2018.

- **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**

Conduct a fair market value appraisal of the Township of Mahoning Sewer and Water Systems' assets in compliance with the Uniform Standards of Professional Appraisal Practices, employing the cost, market and income approaches.

The premise of value is going concern and the assets are valued as a group under the premise that they collectively comprise an ongoing operating business enterprise.

We accepted all information and data provided by the Township of Mahoning Sewer and Water Systems and SUEZ Mid-Atlantic Division as it pertains to this assignment "as is" after a limited review. That is, we neither audited nor verify any data, original cost data, financial records or operating data provided for this assignment.

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 reproduction cost method. The reproduction cost method was calculated by trending (trended cost method) the asset inventory developed by Gannett Fleming Valuation and Rate Consultants, LLC from its original cost new method. 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. The calculated accrued depreciation was determined for the original cost new and for the reproduction 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 discounted cash flow method. 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

**Compliance with Uniform Standards of Professional  
Appraisal Practice (USPAP) 2018-2019**

**Fulfillment of Requirements for a Personal Property Appraisal and Report**

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 Sewer and Water Systems. 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 Sewer and Water Systems to calculate 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 corresponding Sewer and Water Systems financial and operating statistic to produce an indicated value for the Sewer and Water Systems.

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.

**Compliance with Uniform Standards of Professional  
Appraisal Practice (USPAP) 2018-2019**

**Fulfillment of Requirements for a Personal Property Appraisal and Report**

- **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 Township of Mahoning Sewer and Water Systems' land and land rights include land used for the over 26 miles of sewer mains, over one mile of force mains, two sewer pump stations and approximately 23 miles of water distribution mains, three water storage tanks, and four water booster/pumping stations and multiple easements and rights-of-way necessary to operate the Sewer and Water Systems.

The Sewer and Water Systems' land and land rights were assumed to be used for the operation of the sewer and water systems 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 Sewer and Water Systems 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.

**APPRAISAL CERTIFICATION**  
**Mahoning Township, Pennsylvania**  
**Township of Mahoning Sewer and Water Systems Assets**  
**Fair Market Value Appraisal Report**  
**As of April 30, 2018**

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 Township of Mahoning Sewer and Water Systems 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 (2018-2019)

**APPRAISAL CERTIFICATION**  
**Mahoning Township, Pennsylvania**  
**Township of Mahoning Sewer and Water Systems Assets**  
**Fair Market Value Appraisal Report**  
**As of April 30, 2018**

- The signers of this report have made a personal inspection of the property that is the subject of this report.
  
- Individuals providing significant appraisal assistance to the person signing this certification include: John J. Spanos, Senior Vice President, and Joanna Lappin, Depreciation Analyst at Gannett Fleming Valuation and Rate Consultants, LLC.

Gannett Fleming Valuation and Rate Consultants, LLC

By,



HAROLD WALKER, III  
Manager, Financial Studies

## 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 twenty 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, waste water, 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. 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. 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 22 states including: Arizona, California, Colorado, Connecticut, Delaware, Illinois, Indiana, Kentucky, Maryland, Massachusetts, Michigan, Missouri, New Hampshire, New Jersey, New York, North Carolina, Oklahoma, Pennsylvania, Rhode Island, 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, 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

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.

## EXHIBITS

Mahoning Township Authority  
Selected Audited Financial Information  
For the Year Ended September 30, 2016

Year Ended  
9/30/2016

BALANCE SHEET

Cash and Investments	\$2,789,433
Total Capital Assets, Net	<u>2,951,022</u>
Total Assets	<u><u>\$5,740,455</u></u>
Debt	\$0
Total Fund Equity	<u>5,675,460</u>
Total Capital	<u><u>\$5,675,460</u></u>

STATEMENT OF REVENUES AND EXPENDITURES

Total Revenues	\$1,887,240
Total Expenditures	<u>2,061,181</u>
Excess/Deficit of Revenues Over Expenditures	<u><u>(\$173,941)</u></u>

Source of Information: Audited Financial Statements

Mahoning Township Authority  
Statement of Revenues, Expenses and Changes in Net Position Modified Cash Basis  
For the Year Ended September 30, 2016

	<u>Year Ended</u> <u>9/30/2016</u>
<b>OPERATING REVENUE</b>	
Charges for Services	\$1,829,023
Miscellaneous Revenues	58,217
Total Operating Revenue	<u>1,887,240</u>
<b>OPERATING EXPENSE</b>	
Water Services Purchased	360,835
Sewer Services Purchased	975,272
Payroll and Benefits	181,930
Administration	2,479
Telephone	11,483
Rent	7,500
Insurance	19,390
Professional Fees	183,782
Office Expenses and Advertising	8,300
Utilities	24,948
Vehicle Expense	1,029
Sewer and Water Supplies	28,152
Water Analysis	1,985
Outside Services	18,426
Engineering Fees	18,502
Maintenance	82,093
Dues and Subscriptions	3,854
Amortization	13,616
Depreciation	117,605
Total Operating Expense	<u>2,061,181</u>
<b>OPERATING INCOME (LOSS)</b>	<u><u>(173,941)</u></u>

Source of Information: Audited Financial Statements

Mahoning Township Authority Separated by Sewer & Water  
Statement of Revenues and Expenditures  
For the Period October 1, 2016 to February 2, 2017

	Water	Sewer	Total
Sale of Services/User Charges	242,272	380,131	622,403
Cost of sales and services	243,464	390,409	633,873
Salaries	12,127	18,189	30,316
Depreciation	19,446	22,267	41,713
Total Operating Expenses	275,037	430,865	705,902

Sale of Services/User Charges	39%	61%	100%
Cost of sales and services	38%	62%	100%
Salaries	40%	60%	100%
Depreciation	47%	53%	100%
Total Operating Expenses	39%	61%	100%

Source of Information: October 1, 2016 to February 2, 2017 financials

Mahoning Township Authority Separated by Sewer & Water  
Statement of Revenues, Expenses and Changes in Net Position Modified Cash Basis  
Allocated For the Year Ended September 30, 2016

	Estmated <u>Sewer</u>	Estimated <u>Water</u>	Actuals <u>Total</u>
<b>OPERATING REVENUE</b>			
Charges for Services	\$1,115,704	\$713,319	\$1,829,023
Miscellaneous Revenues	35,512	22,705	58,217
Total Operating Revenue	<u>1,151,216</u>	<u>736,024</u>	<u>1,887,240</u>
<b>OPERATING EXPENSE</b>			
Water Services Purchased	0	360,835	360,835
Sewer Services Purchased	975,272	0	975,272
Payroll and Benefits	109,158	72,772	181,930
Administration	1,537	942	2,479
Telephone	7,119	4,364	11,483
Rent	4,650	2,850	7,500
Insurance	12,022	7,368	19,390
Professional Fees	113,945	69,837	183,782
Office Expenses and Advertising	5,146	3,154	8,300
Utilities	15,468	9,480	24,948
Vehicle Expense	638	391	1,029
Sewer and Water Supplies	17,454	10,698	28,152
Water Analysis	1,231	754	1,985
Outside Services	11,424	7,002	18,426
Engineering Fees	11,471	7,031	18,502
Maintenance	50,898	31,195	82,093
Dues and Subscriptions	2,389	1,465	3,854
Amortization	8,442	5,174	13,616
Depreciation	62,331	55,274	117,605
Total Operating Expense	<u>1,410,595</u>	<u>650,586</u>	<u>2,061,181</u>
OPERATING INCOME (LOSS)	<u>(259,379)</u>	<u>85,438</u>	<u>(173,941)</u>

Source of Information: 2016 Audited Financial Statements February 2, 2017 financials  
and October 1, 2016 to February 2, 2017 financials

Township of Mahoning Sewer and Water Systems Assets  
 Population and Housing Units  
 EDU and Customer Count  
Penetration of Service Area

	<u>Township</u>			
Population	4,218	2.91	3.56	1.60
Housing Units	<u>1,767</u>	82%	67%	149%
Average Size	<u><u>2.39</u></u>			

Township of Mahoning Sewer and Water Systems Assets

	<u>Sewer</u>	<u>Water</u>	<u>Total</u>
Customers	1,451	1,186	2,637
EDUs	2,194	1,367	3,561

TABLE 3.1 US Population Census Counts, 2000 & 2010			
State	Population		Percentage Change
	2000	2010	
Alabama	4,447,351	4,779,736	7.5%
Alaska	626,931	710,231	13.3%
Arizona	5,130,632	6,392,017	24.6%
Arkansas	2,673,400	2,915,918	9.1%
California	33,871,653	37,253,956	10.0%
Colorado	4,302,015	5,029,196	16.9%
Connecticut	3,405,602	3,574,097	4.9%
Delaware	783,600	897,934	14.6%
District of Columbia	572,059	601,723	5.2%
Florida	15,982,824	18,801,310	17.6%
Georgia	8,186,816	9,687,653	18.3%
Hawaii	1,211,537	1,360,301	12.3%
Idaho	1,293,956	1,567,582	21.1%
Illinois	12,419,647	12,830,632	3.3%
Indiana	6,080,517	6,483,802	6.6%
Iowa	2,926,382	3,046,355	4.1%
Kansas	2,688,824	2,853,118	6.1%
Kentucky	4,042,285	4,339,367	7.3%
Louisiana	4,468,958	4,533,372	1.4%
Maine	1,274,923	1,328,361	4.2%
Maryland	5,296,507	5,773,552	9.0%
Massachusetts	6,349,105	6,547,629	3.1%
Michigan	9,938,480	9,883,640	-0.6%
Minnesota	4,919,492	5,303,925	7.8%
Mississippi	2,844,656	2,967,297	4.3%
Missouri	5,596,683	5,988,927	7.0%
Montana	902,195	989,415	9.7%
Nebraska	1,711,265	1,826,341	6.7%
Nevada	1,998,257	2,700,551	35.1%
New Hampshire	1,235,786	1,316,470	6.5%
New Jersey	8,414,347	8,791,894	4.5%
New Mexico	1,819,046	2,059,179	13.2%
New York	18,976,821	19,378,102	2.1%
North Carolina	8,046,485	9,535,483	18.5%
North Dakota	642,200	672,591	4.7%
Ohio	11,353,145	11,536,504	1.6%
Oklahoma	3,450,652	3,751,351	8.7%
Oregon	3,421,436	3,831,074	12.0%
Pennsylvania	12,281,054	12,702,379	3.4%
Rhode Island	1,048,319	1,052,567	0.4%
South Carolina	4,011,816	4,625,364	15.3%
South Dakota	754,844	814,180	7.9%
Tennessee	5,689,267	6,346,105	11.5%
Texas	20,851,790	25,145,561	20.6%
Utah	2,233,198	2,763,885	23.8%
Vermont	608,827	625,741	2.8%
Virginia	7,079,030	8,001,024	13.0%
Washington	5,894,141	6,724,540	14.1%
West Virginia	1,808,350	1,852,994	2.5%
Wisconsin	5,363,715	5,686,986	6.0%
Wyoming	493,782	563,626	14.1%
<b>Total - States &amp; D.C.</b>	<b>281,424,603</b>	<b>308,745,538</b>	<b>9.7%</b>

Source: U.S. Census Bureau, Population Division

TABLE 3.2 Pennsylvania Population Census by County and Municipality, 2000 & 2010				
Geographic Area	Population		Percentage Change	Municipal Growth Rank
	2000	2010		
Pennsylvania	12,281,054	12,702,379	3.4%	-
Montour County	18,236	18,267	0.2%	-
Mahoning Township	4,263	4,171	-2.2%	1,526 out of 2,572

Source: U.S. Census Bureau, Census 2000 & 2010 Redistricting Data (Public Law 94-171) Summary File

TABLE 3.3 Pennsylvania Population Projections 2010-2040		
Pennsylvania Population Projections 2010-2040		
Source: Pennsylvania State Data Center for the Center for Rural Pennsylvania		
	Montour County	Pennsylvania
July 1, 2010	18,301	12,711,308
July 1, 2015	18,853	12,962,624
July 1, 2020	19,524	13,230,170
July 1, 2025	20,258	13,504,614
July 1, 2030	21,037	13,759,594
July 1, 2035	21,881	13,967,439
July 1, 2040	22,807	14,132,588
<b>Percent Change:</b>		
2010 to 2040	25%	11%
2015 to 2040	21%	9%

Township of Mahoning Sewer and Water Systems Assets  
Illustrating the Impact of Size on Risk and Return  
Through Common Stock Returns

**TABLE 4.1 Change in Return and Risk for Size-Quartiles Portfolio of the NYSE/AMEX/NASDAQ Common Stocks (1)**

	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>	<u>G</u>	<u>H</u>	<u>I</u>	<u>J</u>
<u>Market Quartile</u>	<u>Market Quartile Name</u>	Average Quartile Premium 1926-16 (%)	Standard Deviation of Return (%)	Change in Quartile Premium (%)	Largest Market Value in the Quartile (Mill \$)	Quartile Beta	Comparison Group Beta	Beta Ratio	Beta Adjusted	
									Quartile Size Premium (%)	Change in Quartile Premium (%)
(Largest Stocks)										
1	Large-Cap	0.00	19.6	--	609,163	1.00	0.75	75%	0.00	
2	Mid-Cap	1.02	24.6	1.02	10,712	1.12	0.75	67%	0.68	0.68
3	Low-Cap	1.75	28.9	0.73	2,392	1.22	0.75	61%	1.07	0.39
4	Mico-Cap	3.67	39.1	1.92	569	1.35	0.75	55%	2.03	0.96
(Smallest Stocks)										

Notes: (1) 2017 Ibbotson Stocks, Bonds, Bills, and Inflation (SBBI) Classic Yearbook

**TABLE 4.2 Recent Market Values and Ibbotson Associates Market Quartiles for the Comparable Group**

<u>Comparable Group</u>	<u>4/30/2018 Market Value (Mill \$)</u>	<u>Market Quartile Name</u>	<u>Market Quartile</u>
American States Water Co	2,047	Low-Cap	3
American Water Works Co Inc	15,616	Large-Cap	1
Aqua America Inc	6,253	Mid-Cap	2
Artesian Resources -Cl A	352	Mico-Cap	4
California Water Service Gp	1,863	Low-Cap	3
Middlesex Water Co	681	Low-Cap	3
SJW Corp	1,244	Low-Cap	3
York Water Co	415	Mico-Cap	4
Median	1,554	Low-Cap	3

Township of Mahoning Sewer and Water Systems Assets  
Property Plant & Equipment Analysis  
Capital Expenditures Analysis  
Growth Rate Analyses  
Profit Margin Analyses

**TABLE 5.1 Property Plant & Equipment Analysis**

(Current Know Statistics)			
Gross Property, Plant & Equipment	Net Property, Plant & Equipment	Percentage of Property, Plant & Equipment Not Depreciated	
(Millions of \$)			
Township of Mahoning Sewer and Water Systems Assets	\$10.226	\$6.742	<u>66%</u>
<u>Comparable Group</u>			
American States Water Co	\$1,738.362	\$1,204.992	69%
American Water Works Co Inc	20,440.000	14,970.000	73%
Aqua America Inc	7,003.992	5,399.859	77%
Artesian Resources -CL A	582.018	464.384	80%
California Water Service Gp	3,025.611	2,083.038	69%
Middlesex Water Co	703.512	557.240	79%
SJW Corp	1,877.993	1,299.718	69%
York Water Co	363.657	289.524	<u>80%</u>
Median			<u>75%</u>

**TABLE 5.2 Property Plant & Equipment Analysis for Contributions**

(As of 12/31/2017)			
Net Property, Plant & Equipment	Investor's Capital	Percentage of Property, Plant & Equipment Net of Contributions	
(Millions of \$)			
<u>Comparable Group</u>			
American States Water Co	\$1,204.992	\$850.984	71%
American Water Works Co Inc	14,970.000	11,883.000	79%
Aqua America Inc	5,399.859	3,965.374	73%
Artesian Resources -CL A	464.384	252.231	54%
California Water Service Gp	2,083.038	1,196.981	57%
Middlesex Water Co	557.240	370.653	67%
SJW Corp	1,299.718	889.005	68%
York Water Co	289.524	209.503	<u>72%</u>
Median			<u>70%</u>

Township of Mahoning Sewer and Water Systems Assets  
Property Plant & Equipment Analysis  
Capital Expenditures Analysis  
Growth Rate Analyses  
Profit Margin Analyses

TABLE 5.3 Capital Expenditures Analysis

	PP&E-Total Net				Capital Expenditures			
	2017	2016	2015	2014	2017	2016	2015	2014
	(Millions of \$)				(Millions of \$)			
Township of Mahoning Sewer and Water Systems Assets	NA	NA	NA	NA	NA	NA	NA	NA
<u>Comparable Group</u>								
American States Water Co	\$1,204.992	\$1,150.926	\$1,060.794	\$1,003.520	\$113.126	\$129.867	\$87.323	\$72.553
American Water Works Co Inc	14,970.000	13,774.000	12,812.000	11,824.832	1,434.000	1,311.000	1,160.000	956.119
Aqua America Inc	5,399.860	5,001.615	4,688.925	4,401.990	478.089	382.996	364.689	328.605
Artesian Resources -CL A	464.384	429.383	409.562	397.823	41.094	28.251	20.694	23.730
California Water Service Gp	2,036.971	1,847.460	1,689.252	1,579.060	259.194	228.938	176.833	132.015
Middlesex Water Co	557.240	517.776	481.870	465.406	50.301	47.375	25.773	22.596
SJW Corp	1,284.345	1,196.822	1,098.247	1,025.215	149.055	142.220	106.774	101.936
York Water Co	289.524	271.652	262.189	253.959	24.602	13.158	13.844	14.139
	Capital Expenditures / PP&E-Total Net							
	2017	2016	2015	2014				
Township of Mahoning Sewer and Water Systems Assets	NA	NA	NA	NA				
<u>Comparable Group</u>								
American States Water Co	9%	11%	8%	7%				
American Water Works Co Inc	10%	10%	9%	8%				
Aqua America Inc	9%	8%	8%	7%				
Artesian Resources -CL A	9%	7%	5%	6%				
California Water Service Gp	13%	12%	10%	8%				
Middlesex Water Co	9%	9%	5%	5%				
SJW Corp	12%	12%	10%	10%				
York Water Co	8%	5%	5%	6%				
Median	9%	9%	8%	7%				

Township of Mahoning Sewer and Water Systems Assets  
Property Plant & Equipment Analysis  
Capital Expenditures Analysis  
Growth Rate Analyses  
Profit Margin Analyses

Revenues				EBITDA			
2017	2016	2015	2014	2017	2016	2015	2014

(Millions of \$)

(Millions of \$)

Township of Mahoning Sewer  
and Water Systems Assets

NA NA NA NA NA NA NA NA

Comparable Group

American States Water Co	\$440.603	\$436.087	\$458.641	\$465.791	\$157.789	\$153.566	\$160.522	\$160.063
American Water Works Co Inc	3,357.000	3,302.000	3,159.000	3,011.328	1,306.476	1,154.957	1,102.741	917.849
Aqua America Inc	809.525	819.875	814.204	779.903	433.284	387.423	380.137	340.460
Artesian Resources -CL A	82.235	79.089	77.024	72.465	30.401	25.800	26.382	25.061
California Water Service Gp	666.890	609.370	588.368	597.499	147.867	140.577	127.710	122.709
Middlesex Water Co	130.775	132.906	126.025	117.139	38.056	33.947	35.841	28.720
SJW Corp	389.225	339.706	305.082	319.668	86.302	83.532	68.003	63.335
York Water Co	48.589	47.584	47.089	45.900	25.743	24.780	24.359	21.800

EBIT			
2017	2016	2015	2014

(Millions of \$)

Township of Mahoning Sewer  
and Water Systems Assets

NA NA NA NA

Comparable Group

American States Water Co	\$118.758	\$114.716	\$118.489	\$118.990
American Water Works Co Inc	1,222.000	1,145.000	1,075.000	1,014.026
Aqua America Inc	328.967	325.585	321.100	314.359
Artesian Resources -CL A	26.895	27.150	25.366	22.421
California Water Service Gp	123.551	100.998	95.681	108.574
Middlesex Water Co	38.620	40.632	35.840	34.392
SJW Corp	98.079	93.116	79.960	92.878
York Water Co	22.473	22.888	22.661	22.077

Township of Mahoning Sewer and Water Systems Assets  
Property Plant & Equipment Analysis  
Capital Expenditures Analysis  
Growth Rate Analyses  
Profit Margin Analyses

TABLE 5.4 Growth Rate Analyses

	Revenue Growth			EBITDA Growth		
	2017	2016	2015	2017	2016	2015
Township of Mahoning Sewer and Water Systems Assets	NA	NA	NA	NA	NA	NA
<u>Comparable Group</u>						
American States Water Co	1.0%	-4.9%	-1.5%	2.7%	-4.3%	0.3%
American Water Works Co Inc	1.7%	4.5%	4.9%	13.1%	4.7%	20.1%
Aqua America Inc	-1.3%	0.7%	4.4%	11.8%	1.9%	11.7%
Artesian Resources -CL A	4.0%	2.7%	6.3%	17.8%	-2.2%	5.3%
California Water Service Gp	9.4%	3.6%	-1.5%	5.2%	10.1%	4.1%
Middlesex Water Co	-1.6%	5.5%	7.6%	12.1%	-5.3%	24.8%
SJW Corp	14.6%	11.3%	-4.6%	3.3%	22.8%	7.4%
York Water Co	2.1%	1.1%	2.6%	3.9%	1.7%	11.7%
Median	1.9%	3.2%	3.5%	8.5%	1.8%	9.6%
	EBIT Growth					
	2017	2016	2015			
Township of Mahoning Sewer and Water Systems Assets	NA	NA	NA			
<u>Comparable Group</u>						
American States Water Co	3.5%	-3.2%	-0.4%			
American Water Works Co Inc	6.7%	6.5%	6.0%			
Aqua America Inc	1.0%	1.4%	2.1%			
Artesian Resources -CL A	-0.9%	7.0%	13.1%			
California Water Service Gp	22.3%	5.6%	-11.9%			
Middlesex Water Co	-5.0%	13.4%	4.2%			
SJW Corp	5.3%	16.5%	-13.9%			
York Water Co	-1.8%	1.0%	2.6%			
Median	2.3%	6.1%	2.4%			

Township of Mahoning Sewer and Water Systems Assets  
 Property Plant & Equipment Analysis  
 Capital Expenditures Analysis  
 Growth Rate Analyses  
Profit Margin Analyses

<b>TABLE 5.5 Profit Margin Analyses</b>			
	EBITDA / Revenue - Margin		
	2017	2016	2015
Township of Mahoning Sewer and Water Systems Assets	NA	NA	NA
<u>Comparable Group</u>			
American States Water Co	35.8%	35.2%	35.0%
American Water Works Co Inc	38.9%	35.0%	34.9%
Aqua America Inc	53.5%	47.3%	46.7%
Artesian Resources -CL A	37.0%	32.6%	34.3%
California Water Service Gp	22.2%	23.1%	21.7%
Middlesex Water Co	29.1%	25.5%	28.4%
SJW Corp	22.2%	24.6%	22.3%
York Water Co	53.0%	52.1%	51.7%
Median	36.4%	33.8%	34.6%
	EBIT / Revenue - Margin		
	2017	2016	2015
Township of Mahoning Sewer and Water Systems Assets	NA	NA	NA
<u>Comparable Group</u>			
American States Water Co	27.0%	26.3%	25.8%
American Water Works Co Inc	36.4%	34.7%	34.0%
Aqua America Inc	40.6%	39.7%	39.4%
Artesian Resources -CL A	32.7%	34.3%	32.9%
California Water Service Gp	18.5%	16.6%	16.3%
Middlesex Water Co	29.5%	30.6%	28.4%
SJW Corp	25.2%	27.4%	26.2%
York Water Co	46.3%	48.1%	48.1%
Median	31.1%	32.5%	30.7%

Source: S&P Research Insight  
 EXHIBIT 1

TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER AND WATER SYSTEMS ASSETS

SUMMARY OF ORIGINAL COST AND ACCRUED DEPRECIATION  
OF SEWER AND WATER SYSTEMS AS OF APRIL 30, 2018

ACCOUNT (1)	DESCRIPTION (2)	ORIGINAL COST (3)	ACCRUED DEPRECIATION (4)
303.40	LAND AND LAND RIGHTS	5.00	
304.30	STRUCTURES AND IMPROVEMENTS - CHLORINATION	78,332.00	49,726
304.40	STRUCTURES AND IMPROVEMENTS - PUMPHOUSE	374,266.00	114,073
304.50	STRUCTURES AND IMPROVEMENTS	48,858.78	11,041
310.20	POWER GENERATION EQUIPMENT	159,191.00	27,194
311.40	PUMPING EQUIPMENT	568,582.10	299,973
330.40	DISTRIBUTION RESERVOIRS AND STANDPIPES	548,402.65	174,544
331.40	TRANSMISSION AND DISTRIBUTION MAINS	3,340,143.00	997,356
334.00	METERS AND METER INSTALLATIONS	12,391.00	2,416
335.00	HYDRANTS	11,431.00	855
340.10	OFFICE FURNITURE AND EQUIPMENT	4,141.46	2,692
340.20	COMPUTER AND SOFTWARE	18,410.28	18,410
345.00	POWER OPERATED EQUIPMENT	7,045.89	4,184
346.50	COMMUNICATION EQUIPMENT	123,072.14	84,670
354.30	STRUCTURES AND IMPROVEMENTS - PUMPHOUSE	15,679.00	1,864
360.20	COLLECTION SEWERS - FORCE	169,734.00	87,243
361.20	COLLECTION SEWERS - GRAVITY	4,140,879.00	1,242,743
371.30	PUMPING EQUIPMENT	601,556.92	362,692
393.00	TOOLS AND WORK EQUIPMENT	3,800.00	2,248
	<b>TOTAL COMPANY</b>	<b>10,225,921.22</b>	<b>3,483,924</b>

TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER AND WATER SYSTEMS ASSETS

SUMMARY OF ANALYSIS OF ORIGINAL COST  
OF SEWER AND WATER SYSTEMS AS OF APRIL 30, 2018

ACCOUNT (1)	DESCRIPTION (2)	ORIGINAL COST (3)
303.40	LAND AND LAND RIGHTS	5.00
304.30	STRUCTURES AND IMPROVEMENTS - CHLORINATION	78,332.00
304.40	STRUCTURES AND IMPROVEMENTS - PUMPHOUSE	374,266.00
304.50	STRUCTURES AND IMPROVEMENTS	48,858.78
310.20	POWER GENERATION EQUIPMENT	159,191.00
311.40	PUMPING EQUIPMENT	568,582.10
330.40	DISTRIBUTION RESERVOIRS AND STANDPIPES	548,402.65
331.40	TRANSMISSION AND DISTRIBUTION MAINS	3,340,143.00
334.00	METERS AND METER INSTALLATIONS	12,391.00
335.00	HYDRANTS	11,431.00
340.10	OFFICE FURNITURE AND EQUIPMENT	4,141.46
340.20	COMPUTER AND SOFTWARE	18,410.28
345.00	POWER OPERATED EQUIPMENT	7,045.89
346.50	COMMUNICATION EQUIPMENT	123,072.14
354.30	STRUCTURES AND IMPROVEMENTS - PUMPHOUSE	15,679.00
360.20	COLLECTION SEWERS - FORCE	169,734.00
361.20	COLLECTION SEWERS - GRAVITY	4,140,879.00
371.30	PUMPING EQUIPMENT	601,556.92
393.00	TOOLS AND WORK EQUIPMENT	3,800.00
	<b>TOTAL COMPANY</b>	<b>10,225,921.22</b>

**TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER AND WATER SYSTEMS ASSETS**

**SUMMARY OF SERVICE LIFE ESTIMATES AND CALCULATED ACCRUED  
DEPRECIATION RELATED TO ORIGINAL COST AS OF APRIL 30, 2018**

ACCOUNT (1)	DESCRIPTION (2)	SURVIVOR CURVE (3)	ORIGINAL COST (4)	ACCRUED DEPRECIATION (5)
303.40	LAND AND LAND RIGHTS	NONDEPRECIABLE	5.00	
304.30	STRUCTURES AND IMPROVEMENTS - CHLORINATION	50-R3	78,332.00	49,726
304.40	STRUCTURES AND IMPROVEMENTS - PUMPHOUSE	50-R3	374,266.00	114,073
304.50	STRUCTURES AND IMPROVEMENTS	45-R3	48,858.78	11,041
310.20	POWER GENERATION EQUIPMENT	30-S2	159,191.00	27,194
311.40	PUMPING EQUIPMENT	40-R1.5	568,582.10	299,973
330.40	DISTRIBUTION RESERVOIRS AND STANDPIPES	55-R2.5	548,402.65	174,544
331.40	TRANSMISSION AND DISTRIBUTION MAINS	80-R3	3,340,143.00	997,356
334.00	METERS AND METER INSTALLATIONS	30-L2.5	12,391.00	2,416
335.00	HYDRANTS	60-R4	11,431.00	855
340.10	OFFICE FURNITURE AND EQUIPMENT	20-SQ	4,141.46	2,692
340.20	COMPUTER AND SOFTWARE	5-SQ	18,410.28	18,410
345.00	POWER OPERATED EQUIPMENT	15-L4	7,045.89	4,184
346.50	COMMUNICATION EQUIPMENT	15-SQ	123,072.14	84,670
354.30	STRUCTURES AND IMPROVEMENTS - PUMPHOUSE	50-R3	15,679.00	1,864
360.20	COLLECTION SEWERS - FORCE	65-R2.5	169,734.00	87,243
361.20	COLLECTION SEWERS - GRAVITY	65-R2.5	4,140,879.00	1,242,743
371.30	PUMPING EQUIPMENT	40-R1.5	601,556.92	362,692
393.00	TOOLS AND WORK EQUIPMENT	20-SQ	3,800.00	2,248
	<b>TOTAL COMPANY</b>		<b>10,225,921.22</b>	<b>3,483,924</b>

TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING WATER SYSTEM ASSETS

SUMMARY OF ORIGINAL COST AND ACCRUED DEPRECIATION  
OF WATER SYSTEM AS OF APRIL 30, 2018

ACCOUNT (1)	DESCRIPTION (2)	ORIGINAL COST (3)	ACCRUED DEPRECIATION (4)
303.40	LAND AND LAND RIGHTS	5.00	
304.30	STRUCTURES AND IMPROVEMENTS - CHLORINATION	78,332.00	49,726
304.40	STRUCTURES AND IMPROVEMENTS - PUMPHOUSE	374,266.00	114,073
304.50	STRUCTURES AND IMPROVEMENTS	48,858.78	11,041
310.20	POWER GENERATION EQUIPMENT	159,191.00	27,194
311.40	PUMPING EQUIPMENT	568,582.10	299,973
330.40	DISTRIBUTION RESERVOIRS AND STANDPIPES	548,402.65	174,544
331.40	TRANSMISSION AND DISTRIBUTION MAINS	3,340,143.00	997,356
334.00	METERS AND METER INSTALLATIONS	12,391.00	2,416
335.00	HYDRANTS	11,431.00	855
340.10	OFFICE FURNITURE AND EQUIPMENT	4,141.46	2,692
340.20	COMPUTER AND SOFTWARE	18,410.28	18,410
345.00	POWER OPERATED EQUIPMENT	7,045.89	4,184
346.50	COMMUNICATION EQUIPMENT	123,072.14	84,670
<b>TOTAL WATER</b>		<b>5,294,272.30</b>	<b>1,787,134</b>

TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER SYSTEM ASSETS

SUMMARY OF ORIGINAL COST AND ACCRUED DEPRECIATION  
OF SEWER SYSTEM AS OF APRIL 30, 2018

ACCOUNT (1)	DESCRIPTION (2)	ORIGINAL COST (3)	ACCRUED DEPRECIATION (4)
354.30	STRUCTURES AND IMPROVEMENTS - PUMPHOUSE	15,679.00	1,864
360.20	COLLECTION SEWERS - FORCE	169,734.00	87,243
361.20	COLLECTION SEWERS - GRAVITY	4,140,879.00	1,242,743
371.30	PUMPING EQUIPMENT	601,556.92	362,692
393.00	TOOLS AND WORK EQUIPMENT	3,800.00	2,248
<b>TOTAL SEWER</b>		<b>4,931,648.92</b>	<b>1,696,790</b>

**TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER AND WATER SYSTEM ASSETS**

**SUMMARY OF ORIGINAL COST BY ACCOUNT AND VINTAGE YEAR  
OF SEWER AND WATER SYSTEM AS OF APRIL 30, 2018**

ACCOUNT (1)	DESCRIPTION (2)	VINTAGE YEAR (3)	ORIGINAL COST (4)
303.40	LAND AND LAND RIGHTS	2017	5.00
304.30	STRUCTURES AND IMPROVEMENTS - CHLORINATION	1979	72,743.00
304.30	STRUCTURES AND IMPROVEMENTS - CHLORINATION	2009	5,589.00
304.40	STRUCTURES AND IMPROVEMENTS - PUMPHOUSE	1999	169,641.00
304.40	STRUCTURES AND IMPROVEMENTS - PUMPHOUSE	2004	200,000.00
304.40	STRUCTURES AND IMPROVEMENTS - PUMPHOUSE	2012	4,625.00
304.50	STRUCTURES AND IMPROVEMENTS	2004	29,458.78
304.50	STRUCTURES AND IMPROVEMENTS	2009	8,900.00
304.50	STRUCTURES AND IMPROVEMENTS	2014	2,100.00
304.50	STRUCTURES AND IMPROVEMENTS	2015	8,400.00
310.20	POWER GENERATION EQUIPMENT	2011	8,900.00
310.20	POWER GENERATION EQUIPMENT	2012	31,386.00
310.20	POWER GENERATION EQUIPMENT	2013	118,905.00
311.40	PUMPING EQUIPMENT	1979	363,715.00
311.40	PUMPING EQUIPMENT	2002	4,023.00
311.40	PUMPING EQUIPMENT	2003	179,705.45
311.40	PUMPING EQUIPMENT	2005	15,300.00
311.40	PUMPING EQUIPMENT	2006	1,875.65
311.40	PUMPING EQUIPMENT	2010	3,963.00
330.40	DISTRIBUTION RESERVOIRS AND STANDPIPES	1990	189,677.00
330.40	DISTRIBUTION RESERVOIRS AND STANDPIPES	1991	64,925.65
330.40	DISTRIBUTION RESERVOIRS AND STANDPIPES	2004	210,000.00
330.40	DISTRIBUTION RESERVOIRS AND STANDPIPES	2008	83,800.00
331.40	TRANSMISSION AND DISTRIBUTION MAINS	1978	55,910.00
331.40	TRANSMISSION AND DISTRIBUTION MAINS	1979	606,192.00
331.40	TRANSMISSION AND DISTRIBUTION MAINS	1982	901,388.00
331.40	TRANSMISSION AND DISTRIBUTION MAINS	1990	19,220.00
331.40	TRANSMISSION AND DISTRIBUTION MAINS	1998	512,071.00
331.40	TRANSMISSION AND DISTRIBUTION MAINS	2000	218,433.00
331.40	TRANSMISSION AND DISTRIBUTION MAINS	2004	688,141.00
331.40	TRANSMISSION AND DISTRIBUTION MAINS	2008	11,520.00
331.40	TRANSMISSION AND DISTRIBUTION MAINS	2009	221,815.00
331.40	TRANSMISSION AND DISTRIBUTION MAINS	2010	5,985.00
331.40	TRANSMISSION AND DISTRIBUTION MAINS	2014	96,862.00
331.40	TRANSMISSION AND DISTRIBUTION MAINS	2015	2,606.00
334.00	METERS AND METER INSTALLATIONS	2010	2,975.00
334.00	METERS AND METER INSTALLATIONS	2011	2,605.00
334.00	METERS AND METER INSTALLATIONS	2013	6,811.00
335.00	HYDRANTS	2012	6,337.00
335.00	HYDRANTS	2015	5,094.00
340.10	OFFICE FURNITURE AND EQUIPMENT	2004	3,000.00
340.10	OFFICE FURNITURE AND EQUIPMENT	2007	1,141.46
340.20	COMPUTER AND SOFTWARE	2000	6,600.00
340.20	COMPUTER AND SOFTWARE	2003	1,147.28
340.20	COMPUTER AND SOFTWARE	2005	10,663.00
345.00	POWER OPERATED EQUIPMENT	2008	2,725.89
345.00	POWER OPERATED EQUIPMENT	2009	4,320.00
346.50	COMMUNICATION EQUIPMENT	2005	77,856.30
346.50	COMMUNICATION EQUIPMENT	2006	6,430.00
346.50	COMMUNICATION EQUIPMENT	2008	1,990.84
346.50	COMMUNICATION EQUIPMENT	2012	7,480.00
346.50	COMMUNICATION EQUIPMENT	2013	19,636.00
346.50	COMMUNICATION EQUIPMENT	2014	9,679.00
354.30	STRUCTURES AND IMPROVEMENTS - PUMPHOUSE	2010	6,559.00
354.30	STRUCTURES AND IMPROVEMENTS - PUMPHOUSE	2013	9,120.00
360.20	COLLECTION SEWERS - FORCE	1979	169,734.00
361.20	COLLECTION SEWERS - GRAVITY	1978	119,448.00
361.20	COLLECTION SEWERS - GRAVITY	1979	727,431.00
361.20	COLLECTION SEWERS - GRAVITY	1982	521,186.00

**TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER AND WATER SYSTEM ASSETS**

**SUMMARY OF ORIGINAL COST BY ACCOUNT AND VINTAGE YEAR  
OF SEWER AND WATER SYSTEM AS OF APRIL 30, 2018**

<u>ACCOUNT</u>	<u>DESCRIPTION</u>	<u>VINTAGE YEAR</u>	<u>ORIGINAL COST</u>
(1)	(2)	(3)	(4)
361.20	COLLECTION SEWERS - GRAVITY	1990	23,492.00
361.20	COLLECTION SEWERS - GRAVITY	1992	113,096.70
361.20	COLLECTION SEWERS - GRAVITY	1993	26,626.30
361.20	COLLECTION SEWERS - GRAVITY	1997	183,934.38
361.20	COLLECTION SEWERS - GRAVITY	1998	489,158.00
361.20	COLLECTION SEWERS - GRAVITY	2000	331,257.00
361.20	COLLECTION SEWERS - GRAVITY	2004	621,113.00
361.20	COLLECTION SEWERS - GRAVITY	2006	17,268.46
361.20	COLLECTION SEWERS - GRAVITY	2007	17,813.84
361.20	COLLECTION SEWERS - GRAVITY	2008	7,222.74
361.20	COLLECTION SEWERS - GRAVITY	2009	494,679.58
361.20	COLLECTION SEWERS - GRAVITY	2011	21,573.00
361.20	COLLECTION SEWERS - GRAVITY	2012	284,507.00
361.20	COLLECTION SEWERS - GRAVITY	2014	137,888.00
361.20	COLLECTION SEWERS - GRAVITY	2015	3,184.00
371.30	PUMPING EQUIPMENT	1979	484,954.00
371.30	PUMPING EQUIPMENT	1995	38,500.00
371.30	PUMPING EQUIPMENT	1998	51,574.00
371.30	PUMPING EQUIPMENT	2001	2,600.00
371.30	PUMPING EQUIPMENT	2008	13,899.92
371.30	PUMPING EQUIPMENT	2013	2,441.00
371.30	PUMPING EQUIPMENT	2015	7,588.00
393.00	TOOLS AND WORK EQUIPMENT	2006	3,800.00
<b>TOTAL COMPANY</b>			<b>10,225,921.22</b>

TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER AND WATER SYSTEM ASSETS

ACCOUNT 303.40 LAND AND LAND RIGHTS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION  
RELATED TO ORIGINAL COST AT APRIL 30, 2018

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)		EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)		AMOUNT (8)
NONDEPRECIABLE								
2017	5.00							
	5.00							
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 0.00								

TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER AND WATER SYSTEM ASSETS

ACCOUNT 304.30 STRUCTURES AND IMPROVEMENTS - CHLORINATION

CALCULATED ANNUAL AND ACCRUED DEPRECIATION  
RELATED TO ORIGINAL COST AT APRIL 30, 2018

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 50-R3							
NET SALVAGE PERCENT.. 0							
1979	72,743.00	50.00	2.00	1,454.86	16.48	0.6704	48,767
2009	5,589.00	50.00	2.00	111.78	41.42	0.1716	959
	78,332.00			1,566.64			49,726

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 2.00

TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER AND WATER SYSTEM ASSETS

ACCOUNT 304.40 STRUCTURES AND IMPROVEMENTS - PUMPHOUSE

CALCULATED ANNUAL AND ACCRUED DEPRECIATION  
RELATED TO ORIGINAL COST AT APRIL 30, 2018

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 50-R3							
NET SALVAGE PERCENT.. 0							
1999	169,641.00	50.00	2.00	3,392.82	32.19	0.3562	60,426
2004	200,000.00	50.00	2.00	4,000.00	36.72	0.2656	53,120
2012	4,625.00	50.00	2.00	92.50	44.30	0.1140	527
	374,266.00			7,485.32			114,073

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 2.00

TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER AND WATER SYSTEM ASSETS

ACCOUNT 304.50 STRUCTURES AND IMPROVEMENTS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION  
RELATED TO ORIGINAL COST AT APRIL 30, 2018

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 45-R3							
NET SALVAGE PERCENT.. 0							
2004	29,458.78	45.00	2.22	653.98	31.78	0.2938	8,654
2009	8,900.00	45.00	2.22	197.58	36.44	0.1902	1,693
2014	2,100.00	45.00	2.22	46.62	41.25	0.0833	175
2015	8,400.00	45.00	2.22	186.48	42.22	0.0618	519
	48,858.78			1,084.66			11,041
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 2.22							

TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER AND WATER SYSTEM ASSETS

ACCOUNT 310.20 POWER GENERATION EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION  
RELATED TO ORIGINAL COST AT APRIL 30, 2018

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 30-S2							
NET SALVAGE PERCENT.. 0							
2011	8,900.00	30.00	3.33	296.37	23.22	0.2260	2,011
2012	31,386.00	30.00	3.33	1,045.15	24.19	0.1937	6,079
2013	118,905.00	30.00	3.33	3,959.54	25.18	0.1607	19,104
	159,191.00			5,301.06			27,194
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 3.33							

TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER AND WATER SYSTEM ASSETS

ACCOUNT 311.40 PUMPING EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION  
RELATED TO ORIGINAL COST AT APRIL 30, 2018

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 40-R1.5							
NET SALVAGE PERCENT.. 0							
1979	363,715.00	40.00	2.50	9,092.88	13.42	0.6645	241,689
2002	4,023.00	40.00	2.50	100.58	27.67	0.3083	1,240
2003	179,705.45	40.00	2.50	4,492.64	28.40	0.2900	52,115
2005	15,300.00	40.00	2.50	382.50	29.89	0.2528	3,867
2006	1,875.65	40.00	2.50	46.89	30.64	0.2340	439
2010	3,963.00	40.00	2.50	99.08	33.71	0.1573	623
	568,582.10			14,214.57			299,973
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 2.50							

TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER AND WATER SYSTEM ASSETS

ACCOUNT 330.40 DISTRIBUTION RESERVOIRS AND STANDPIPES

CALCULATED ANNUAL AND ACCRUED DEPRECIATION  
RELATED TO ORIGINAL COST AT APRIL 30, 2018

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 55-R2.5							
NET SALVAGE PERCENT.. 0							
1990	189,677.00	55.00	1.82	3,452.12	30.57	0.4442	84,251
1991	64,925.65	55.00	1.82	1,181.65	31.36	0.4298	27,906
2004	210,000.00	55.00	1.82	3,822.00	42.30	0.2309	48,491
2008	83,800.00	55.00	1.82	1,525.16	45.88	0.1658	13,896
	548,402.65			9,980.93			174,544
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.82							

TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER AND WATER SYSTEM ASSETS  
ACCOUNT 331.40 TRANSMISSION AND DISTRIBUTION MAINS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION  
RELATED TO ORIGINAL COST AT APRIL 30, 2018

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 80-R3							
NET SALVAGE PERCENT.. 0							
1978	55,910.00	80.00	1.25	698.88	43.17	0.4604	25,740
1979	606,192.00	80.00	1.25	7,577.40	44.01	0.4499	272,714
1982	901,388.00	80.00	1.25	11,267.35	46.54	0.4183	377,006
1990	19,220.00	80.00	1.25	240.25	53.56	0.3305	6,352
1998	512,071.00	80.00	1.25	6,400.89	60.89	0.2389	122,324
2000	218,433.00	80.00	1.25	2,730.41	62.76	0.2155	47,072
2004	688,141.00	80.00	1.25	8,601.76	66.56	0.1680	115,608
2008	11,520.00	80.00	1.25	144.00	70.40	0.1200	1,382
2009	221,815.00	80.00	1.25	2,772.69	71.37	0.1079	23,929
2010	5,985.00	80.00	1.25	74.81	72.33	0.0959	574
2014	96,862.00	80.00	1.25	1,210.78	76.23	0.0471	4,564
2015	2,606.00	80.00	1.25	32.58	77.21	0.0349	91
	3,340,143.00			41,751.80			997,356
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.25							

TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER AND WATER SYSTEM ASSETS

ACCOUNT 334.00 METERS AND METER INSTALLATIONS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION  
RELATED TO ORIGINAL COST AT APRIL 30, 2018

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 30-L2.5							
NET SALVAGE PERCENT.. 0							
2010	2,975.00	30.00	3.33	99.07	22.40	0.2533	754
2011	2,605.00	30.00	3.33	86.75	23.33	0.2223	579
2013	6,811.00	30.00	3.33	226.81	25.23	0.1590	1,083
	12,391.00			412.63			2,416

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 3.33

TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER AND WATER SYSTEM ASSETS

ACCOUNT 335.00 HYDRANTS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION  
RELATED TO ORIGINAL COST AT APRIL 30, 2018

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 60-R4							
NET SALVAGE PERCENT.. 0							
2012	6,337.00	60.00	1.67	105.83	54.18	0.0970	615
2015	5,094.00	60.00	1.67	85.07	57.17	0.0472	240
	11,431.00			190.90			855
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.67							

TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER AND WATER SYSTEM ASSETS

ACCOUNT 340.10 OFFICE FURNITURE AND EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION  
RELATED TO ORIGINAL COST AT APRIL 30, 2018

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. 20-SQUARE							
NET SALVAGE PERCENT.. 0							
2004	3,000.00	20.00	5.00	150.00	6.17	0.6915	2,074
2007	1,141.46	20.00	5.00	57.07	9.17	0.5415	618
	4,141.46			207.07			2,692

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 5.00

TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER AND WATER SYSTEM ASSETS

ACCOUNT 340.20 COMPUTER AND SOFTWARE

CALCULATED ANNUAL AND ACCRUED DEPRECIATION  
RELATED TO ORIGINAL COST AT APRIL 30, 2018

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. 5-SQUARE							
NET SALVAGE PERCENT.. 0							
2000	6,600.00	5.00				1.0000	6,600
2003	1,147.28	5.00				1.0000	1,147
2005	10,663.00	5.00				1.0000	10,663
	18,410.28						18,410
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 0.00							

TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER AND WATER SYSTEM ASSETS

ACCOUNT 345.00 POWER OPERATED EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION  
RELATED TO ORIGINAL COST AT APRIL 30, 2018

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 15-L4							
NET SALVAGE PERCENT.. 0							
2008	2,725.89	15.00	6.67	181.82	5.59	0.6273	1,710
2009	4,320.00	15.00	6.67	288.14	6.41	0.5727	2,474
	7,045.89			469.96			4,184

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 6.67

TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER AND WATER SYSTEM ASSETS

ACCOUNT 346.50 COMMUNICATION EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION  
RELATED TO ORIGINAL COST AT APRIL 30, 2018

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. 15-SQUARE							
NET SALVAGE PERCENT.. 0							
2005	77,856.30	15.00	6.67	5,193.02	2.17	0.8553	66,593
2006	6,430.00	15.00	6.67	428.88	3.17	0.7887	5,071
2008	1,990.84	15.00	6.67	132.79	5.17	0.6553	1,305
2012	7,480.00	15.00	6.67	498.92	9.17	0.3887	2,907
2013	19,636.00	15.00	6.67	1,309.72	10.17	0.3220	6,323
2014	9,679.00	15.00	6.67	645.59	11.17	0.2553	2,471
	123,072.14			8,208.92			84,670
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 6.67							

TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER AND WATER SYSTEM ASSETS

ACCOUNT 354.30 STRUCTURES AND IMPROVEMENTS - PUMPHOUSE

CALCULATED ANNUAL AND ACCRUED DEPRECIATION  
RELATED TO ORIGINAL COST AT APRIL 30, 2018

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 50-R3							
NET SALVAGE PERCENT.. 0							
2010	6,559.00	50.00	2.00	131.18	42.37	0.1526	1,001
2013	9,120.00	50.00	2.00	182.40	45.27	0.0946	863
	15,679.00			313.58			1,864

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 2.00

TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER AND WATER SYSTEM ASSETS

ACCOUNT 360.20 COLLECTION SEWERS - FORCE

CALCULATED ANNUAL AND ACCRUED DEPRECIATION  
RELATED TO ORIGINAL COST AT APRIL 30, 2018

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 65-R2.5							
NET SALVAGE PERCENT.. 0							
1979	169,734.00	65.00	1.54	2,613.90	31.59	0.5140	87,243
	169,734.00			2,613.90			87,243
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.54							

TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER AND WATER SYSTEM ASSETS

ACCOUNT 361.20 COLLECTION SEWERS - GRAVITY

CALCULATED ANNUAL AND ACCRUED DEPRECIATION  
RELATED TO ORIGINAL COST AT APRIL 30, 2018

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA		65-R2.5					
NET SALVAGE PERCENT..		0					
1978	119,448.00	65.00	1.54	1,839.50	30.86	0.5252	62,738
1979	727,431.00	65.00	1.54	11,202.44	31.59	0.5140	373,900
1982	521,186.00	65.00	1.54	8,026.26	33.85	0.4792	249,768
1990	23,492.00	65.00	1.54	361.78	40.19	0.3817	8,967
1992	113,096.70	65.00	1.54	1,741.69	41.84	0.3563	40,297
1993	26,626.30	65.00	1.54	410.05	42.67	0.3435	9,147
1997	183,934.38	65.00	1.54	2,832.59	46.07	0.2912	53,567
1998	489,158.00	65.00	1.54	7,533.03	46.94	0.2779	135,913
2000	331,257.00	65.00	1.54	5,101.36	48.68	0.2511	83,172
2004	621,113.00	65.00	1.54	9,565.14	52.23	0.1965	122,024
2006	17,268.46	65.00	1.54	265.93	54.03	0.1688	2,914
2007	17,813.84	65.00	1.54	274.33	54.94	0.1548	2,757
2008	7,222.74	65.00	1.54	111.23	55.85	0.1408	1,017
2009	494,679.58	65.00	1.54	7,618.07	56.76	0.1268	62,711
2011	21,573.00	65.00	1.54	332.22	58.61	0.0983	2,121
2012	284,507.00	65.00	1.54	4,381.41	59.53	0.0842	23,941
2014	137,888.00	65.00	1.54	2,123.48	61.39	0.0555	7,658
2015	3,184.00	65.00	1.54	49.03	62.33	0.0411	131
	4,140,879.00			63,769.54			1,242,743

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.54

TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER AND WATER SYSTEM ASSETS

ACCOUNT 371.30 PUMPING EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION  
RELATED TO ORIGINAL COST AT APRIL 30, 2018

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 40-R1.5							
NET SALVAGE PERCENT.. 0							
1979	484,954.00	40.00	2.50	12,123.85	13.42	0.6645	322,252
1995	38,500.00	40.00	2.50	962.50	22.75	0.4313	16,603
1998	51,574.00	40.00	2.50	1,289.35	24.81	0.3798	19,585
2001	2,600.00	40.00	2.50	65.00	26.94	0.3265	849
2008	13,899.92	40.00	2.50	347.50	32.16	0.1960	2,724
2013	2,441.00	40.00	2.50	61.02	36.08	0.0980	239
2015	7,588.00	40.00	2.50	189.70	37.68	0.0580	440
	601,556.92			15,038.92			362,692
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 2.50							

TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER AND WATER SYSTEM ASSETS

ACCOUNT 393.00 TOOLS AND WORK EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION  
RELATED TO ORIGINAL COST AT APRIL 30, 2018

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. 20-SQUARE							
NET SALVAGE PERCENT.. 0							
2006	3,800.00	20.00	5.00	190.00	8.17	0.5915	2,248
	3,800.00			190.00			2,248
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 5.00							

**TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER AND WATER SYSTEMS ASSETS**

**SUMMARY OF REPRODUCTION COST AND ACCRUED DEPRECIATION  
OF SEWER AND WATER SYSTEMS AS OF APRIL 30, 2018**

ACCOUNT (1)	DESCRIPTION (2)	REPRODUCTION COST (3)	ACCRUED DEPRECIATION (4)
303.40	LAND AND LAND RIGHTS	5.00	
304.30	STRUCTURES AND IMPROVEMENTS - CHLORINATION	344,723.31	227,582
304.40	STRUCTURES AND IMPROVEMENTS - PUMPHOUSE	671,402.93	208,311
304.50	STRUCTURES AND IMPROVEMENTS	70,516.90	17,003
310.20	POWER GENERATION EQUIPMENT	222,204.72	38,094
311.40	PUMPING EQUIPMENT	2,459,784.48	1,472,833
330.40	DISTRIBUTION RESERVOIRS AND STANDPIPES	1,514,442.40	525,619
331.40	TRANSMISSION AND DISTRIBUTION MAINS	9,246,989.07	3,208,230
334.00	METERS AND METER INSTALLATIONS	14,175.40	2,767
335.00	HYDRANTS	13,977.16	1,078
340.10	OFFICE FURNITURE AND EQUIPMENT	5,471.23	3,574
340.20	COMPUTER AND SOFTWARE	8,680.55	8,681
345.00	POWER OPERATED EQUIPMENT	8,587.10	5,102
346.50	COMMUNICATION EQUIPMENT	118,721.62	81,472
354.30	STRUCTURES AND IMPROVEMENTS - PUMPHOUSE	18,250.79	2,193
360.20	COLLECTION SEWERS - FORCE	724,810.05	372,552
361.20	COLLECTION SEWERS - GRAVITY	10,375,861.29	3,831,118
371.30	PUMPING EQUIPMENT	2,973,927.20	1,897,831
393.00	TOOLS AND WORK EQUIPMENT	5,088.47	3,010
	<b>TOTAL COMPANY</b>	<b>28,797,619.67</b>	<b>11,907,050</b>

TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER AND WATER SYSTEMS ASSETS

SUMMARY OF ANALYSIS OF REPRODUCTION COST  
OF SEWER AND WATER SYSTEMS AS OF APRIL 30, 2018

ACCOUNT (1)	DESCRIPTION (2)	REPRODUCTION COST (3)
303.40	LAND AND LAND RIGHTS	5.00
304.30	STRUCTURES AND IMPROVEMENTS - CHLORINATION	344,723.31
304.40	STRUCTURES AND IMPROVEMENTS - PUMPHOUSE	671,402.93
304.50	STRUCTURES AND IMPROVEMENTS	70,516.90
310.20	POWER GENERATION EQUIPMENT	222,204.72
311.40	PUMPING EQUIPMENT	2,459,784.48
330.40	DISTRIBUTION RESERVOIRS AND STANDPIPES	1,514,442.40
331.40	TRANSMISSION AND DISTRIBUTION MAINS	9,246,989.07
334.00	METERS AND METER INSTALLATIONS	14,175.40
335.00	HYDRANTS	13,977.16
340.10	OFFICE FURNITURE AND EQUIPMENT	5,471.23
340.20	COMPUTER AND SOFTWARE	8,680.55
345.00	POWER OPERATED EQUIPMENT	8,587.10
346.50	COMMUNICATION EQUIPMENT	118,721.62
354.30	STRUCTURES AND IMPROVEMENTS - PUMPHOUSE	18,250.79
360.20	COLLECTION SEWERS - FORCE	724,810.05
361.20	COLLECTION SEWERS - GRAVITY	10,375,861.29
371.30	PUMPING EQUIPMENT	2,973,927.20
393.00	TOOLS AND WORK EQUIPMENT	5,088.47
	<b>TOTAL COMPANY</b>	<b>28,797,619.67</b>

**TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER AND WATER SYSTEMS ASSETS**

**SUMMARY OF SERVICE LIFE ESTIMATES AND CALCULATED ACCRUED  
DEPRECIATION RELATED TO REPRODUCTION COST AS OF APRIL 30, 2018**

ACCOUNT (1)	DESCRIPTION (2)	SURVIVOR CURVE (3)	REPRODUCTION COST (4)	ACCRUED DEPRECIATION (5)
303.40	LAND AND LAND RIGHTS	NONDEPRECIABLE	5.00	
304.30	STRUCTURES AND IMPROVEMENTS - CHLORINATION	50-R3	344,723.31	227,582
304.40	STRUCTURES AND IMPROVEMENTS - PUMPHOUSE	50-R3	671,402.93	208,311
304.50	STRUCTURES AND IMPROVEMENTS	45-R3	70,516.90	17,003
310.20	POWER GENERATION EQUIPMENT	30-S2	222,204.72	38,094
311.40	PUMPING EQUIPMENT	40-R1.5	2,459,784.48	1,472,833
330.40	DISTRIBUTION RESERVOIRS AND STANDPIPES	55-R2.5	1,514,442.40	525,619
331.40	TRANSMISSION AND DISTRIBUTION MAINS	80-R3	9,246,989.07	3,208,230
334.00	METERS AND METER INSTALLATIONS	30-L2.5	14,175.40	2,767
335.00	HYDRANTS	60-R4	13,977.16	1,078
340.10	OFFICE FURNITURE AND EQUIPMENT	20-SQ	5,471.23	3,574
340.20	COMPUTER AND SOFTWARE	5-SQ	8,680.55	8,681
345.00	POWER OPERATED EQUIPMENT	15-L4	8,587.10	5,102
346.50	COMMUNICATION EQUIPMENT	15-SQ	118,721.62	81,472
354.30	STRUCTURES AND IMPROVEMENTS - PUMPHOUSE	50-R3	18,250.79	2,193
360.20	COLLECTION SEWERS - FORCE	65-R2.5	724,810.05	372,552
361.20	COLLECTION SEWERS - GRAVITY	65-R2.5	10,375,861.29	3,831,118
371.30	PUMPING EQUIPMENT	40-R1.5	2,973,927.20	1,897,831
393.00	TOOLS AND WORK EQUIPMENT	20-SQ	5,088.47	3,010
	<b>TOTAL COMPANY</b>		<b>28,797,619.67</b>	<b>11,907,050</b>

**TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING WATER SYSTEM ASSETS**

**SUMMARY OF REPRODUCTION COST AND ACCRUED DEPRECIATION  
OF WATER SYSTEM AS OF APRIL 30, 2018**

<b>ACCOUNT</b>	<b>DESCRIPTION</b>	<b>ORIGINAL COST</b>	<b>ACCRUED DEPRECIATION</b>
(1)	(2)	(3)	(4)
303.40	LAND AND LAND RIGHTS	5.00	
304.30	STRUCTURES AND IMPROVEMENTS - CHLORINATION	344,723.31	227,582
304.40	STRUCTURES AND IMPROVEMENTS - PUMPHOUSE	671,402.93	208,311
304.50	STRUCTURES AND IMPROVEMENTS	70,516.90	17,003
310.20	POWER GENERATION EQUIPMENT	222,204.72	38,094
311.40	PUMPING EQUIPMENT	2,459,784.48	1,472,833
330.40	DISTRIBUTION RESERVOIRS AND STANDPIPES	1,514,442.40	525,619
331.40	TRANSMISSION AND DISTRIBUTION MAINS	9,246,989.07	3,208,230
334.00	METERS AND METER INSTALLATIONS	14,175.40	2,767
335.00	HYDRANTS	13,977.16	1,078
340.10	OFFICE FURNITURE AND EQUIPMENT	5,471.23	3,574
340.20	COMPUTER AND SOFTWARE	8,680.55	8,681
345.00	POWER OPERATED EQUIPMENT	8,587.10	5,102
346.50	COMMUNICATION EQUIPMENT	118,721.62	81,472
	<b>TOTAL WATER</b>	<b>14,699,681.87</b>	<b>5,800,346</b>

TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER SYSTEM ASSETS

SUMMARY OF REPRODUCTION COST AND ACCRUED DEPRECIATION  
OF SEWER SYSTEM AS OF APRIL 30, 2018

<u>ACCOUNT</u> (1)	<u>DESCRIPTION</u> (2)	<u>ORIGINAL COST</u> (3)	<u>ACCRUED DEPRECIATION</u> (4)
354.30	STRUCTURES AND IMPROVEMENTS - PUMPHOUSE	18,250.79	2,193
360.20	COLLECTION SEWERS - FORCE	724,810.05	372,552
361.20	COLLECTION SEWERS - GRAVITY	10,375,861.29	3,831,118
371.30	PUMPING EQUIPMENT	2,973,927.20	1,897,831
393.00	TOOLS AND WORK EQUIPMENT	5,088.47	3,010
<b>TOTAL SEWER</b>		<b>14,097,937.80</b>	<b>6,106,704</b>

TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER AND WATER SYSTEM ASSETS

SUMMARY OF REPRODUCTION COST AND TREND FACTORS BY ACCOUNT AND VINTAGE YEAR  
OF SEWER AND WATER SYSTEM AS OF APRIL 30, 2018

ACCOUNT	DESCRIPTION	VINTAGE YEAR	ORIGINAL COST	INDEX FACTOR	FACTOR REFERENCE	REPRODUCTION COST
(1)	(2)	(3)	(4)	(5)	(6)	(7)
303.40	LAND AND LAND RIGHTS	2017	5.00	1.00	(1)	5.00
304.30	STRUCTURES AND IMPROVEMENTS - CHLORINATION	1979	72,743.00	4.64	(2)	337,665.14
304.30	STRUCTURES AND IMPROVEMENTS - CHLORINATION	2009	5,589.00	1.26	(2)	7,058.17
304.40	STRUCTURES AND IMPROVEMENTS - PUMPHOUSE	1999	169,641.00	2.00	(2)	339,776.58
304.40	STRUCTURES AND IMPROVEMENTS - PUMPHOUSE	2004	200,000.00	1.63	(2)	326,365.80
304.40	STRUCTURES AND IMPROVEMENTS - PUMPHOUSE	2012	4,625.00	1.14	(2)	5,260.55
304.50	STRUCTURES AND IMPROVEMENTS	2004	29,458.78	1.63	(2)	48,071.69
304.50	STRUCTURES AND IMPROVEMENTS	2009	8,900.00	1.26	(2)	11,239.52
304.50	STRUCTURES AND IMPROVEMENTS	2014	2,100.00	1.09	(2)	2,286.37
304.50	STRUCTURES AND IMPROVEMENTS	2015	8,400.00	1.06	(2)	8,919.32
310.20	POWER GENERATION EQUIPMENT	2011	8,900.00	1.52	(3)	13,563.03
310.20	POWER GENERATION EQUIPMENT	2012	31,386.00	1.45	(3)	45,645.12
310.20	POWER GENERATION EQUIPMENT	2013	118,905.00	1.37	(3)	162,996.57
311.40	PUMPING EQUIPMENT	1979	363,715.00	5.59	(3)	2,033,255.56
311.40	PUMPING EQUIPMENT	2002	4,023.00	2.17	(3)	8,715.23
311.40	PUMPING EQUIPMENT	2003	179,705.45	2.11	(3)	379,267.86
311.40	PUMPING EQUIPMENT	2005	15,300.00	1.87	(3)	28,650.00
311.40	PUMPING EQUIPMENT	2006	1,875.65	1.84	(3)	3,444.70
311.40	PUMPING EQUIPMENT	2010	3,963.00	1.63	(3)	6,451.13
330.40	DISTRIBUTION RESERVOIRS AND STANDPIPES	1990	189,677.00	3.50	(4)	663,455.36
330.40	DISTRIBUTION RESERVOIRS AND STANDPIPES	1991	64,925.65	3.17	(4)	205,555.12
330.40	DISTRIBUTION RESERVOIRS AND STANDPIPES	2004	210,000.00	2.60	(4)	546,136.36
330.40	DISTRIBUTION RESERVOIRS AND STANDPIPES	2008	83,800.00	1.18	(4)	99,295.56
331.40	TRANSMISSION AND DISTRIBUTION MAINS	1978	55,910.00	4.57	(5)	255,311.56
331.40	TRANSMISSION AND DISTRIBUTION MAINS	1979	606,192.00	4.27	(5)	2,588,603.68
331.40	TRANSMISSION AND DISTRIBUTION MAINS	1982	901,388.00	3.42	(5)	3,082,668.92
331.40	TRANSMISSION AND DISTRIBUTION MAINS	1990	19,220.00	2.54	(5)	48,822.51
331.40	TRANSMISSION AND DISTRIBUTION MAINS	1998	512,071.00	2.23	(5)	1,139,538.28
331.40	TRANSMISSION AND DISTRIBUTION MAINS	2000	218,433.00	2.10	(5)	457,724.32
331.40	TRANSMISSION AND DISTRIBUTION MAINS	2004	688,141.00	1.83	(5)	1,258,406.00
331.40	TRANSMISSION AND DISTRIBUTION MAINS	2008	11,520.00	1.34	(5)	15,477.55
331.40	TRANSMISSION AND DISTRIBUTION MAINS	2009	221,815.00	1.29	(5)	285,397.15
331.40	TRANSMISSION AND DISTRIBUTION MAINS	2010	5,985.00	1.27	(5)	7,577.16
331.40	TRANSMISSION AND DISTRIBUTION MAINS	2014	96,862.00	1.08	(5)	104,679.86
331.40	TRANSMISSION AND DISTRIBUTION MAINS	2015	2,606.00	1.07	(5)	2,782.08
334.00	METERS AND METER INSTALLATIONS	2010	2,975.00	1.15	(6)	3,433.91
334.00	METERS AND METER INSTALLATIONS	2011	2,605.00	1.15	(6)	2,983.03
334.00	METERS AND METER INSTALLATIONS	2013	6,811.00	1.14	(6)	7,758.46
335.00	HYDRANTS	2012	6,337.00	1.33	(7)	8,416.07
335.00	HYDRANTS	2015	5,094.00	1.09	(7)	5,561.09
340.10	OFFICE FURNITURE AND EQUIPMENT	2004	3,000.00	1.36	(8)	4,074.18
340.10	OFFICE FURNITURE AND EQUIPMENT	2007	1,141.46	1.22	(8)	1,397.05
340.20	COMPUTER AND SOFTWARE	2000	6,600.00	0.36	(9)	2,372.87
340.20	COMPUTER AND SOFTWARE	2003	1,147.28	0.47	(9)	539.62
340.20	COMPUTER AND SOFTWARE	2005	10,663.00	0.54	(9)	5,768.06
345.00	POWER OPERATED EQUIPMENT	2008	2,725.89	1.24	(10)	3,376.98
345.00	POWER OPERATED EQUIPMENT	2009	4,320.00	1.21	(10)	5,210.12
346.50	COMMUNICATION EQUIPMENT	2005	77,856.30	0.96	(11)	74,693.91
346.50	COMMUNICATION EQUIPMENT	2006	6,430.00	0.97	(11)	6,243.35
346.50	COMMUNICATION EQUIPMENT	2008	1,990.84	0.96	(11)	1,909.16
346.50	COMMUNICATION EQUIPMENT	2012	7,480.00	0.97	(11)	7,282.49
346.50	COMMUNICATION EQUIPMENT	2013	19,636.00	0.98	(11)	19,169.29
346.50	COMMUNICATION EQUIPMENT	2014	9,679.00	0.97	(11)	9,423.42
354.30	STRUCTURES AND IMPROVEMENTS - PUMPHOUSE	2010	6,559.00	1.23	(2)	8,046.49
354.30	STRUCTURES AND IMPROVEMENTS - PUMPHOUSE	2013	9,120.00	1.12	(2)	10,204.30
360.20	COLLECTION SEWERS - FORCE	1979	169,734.00	4.27	(5)	724,810.05
361.20	COLLECTION SEWERS - GRAVITY	1978	119,448.00	4.57	(5)	545,456.18
361.20	COLLECTION SEWERS - GRAVITY	1979	727,431.00	4.27	(5)	3,106,326.97
361.20	COLLECTION SEWERS - GRAVITY	1982	521,186.00	3.42	(5)	1,782,411.00

TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER AND WATER SYSTEM ASSETS

SUMMARY OF REPRODUCTION COST AND TREND FACTORS BY ACCOUNT AND VINTAGE YEAR  
OF SEWER AND WATER SYSTEM AS OF APRIL 30, 2018

ACCOUNT (1)	DESCRIPTION (2)	VINTAGE YEAR (3)	ORIGINAL COST (4)	INDEX FACTOR (5)	FACTOR REFERENCE (6)	REPRODUCTION COST (7)
361.20	COLLECTION SEWERS - GRAVITY	1990	23,492.00	2.54	(5)	59,674.21
361.20	COLLECTION SEWERS - GRAVITY	1992	113,096.70	2.42	(5)	273,230.56
361.20	COLLECTION SEWERS - GRAVITY	1993	26,626.30	2.46	(5)	65,528.90
361.20	COLLECTION SEWERS - GRAVITY	1997	183,934.38	2.28	(5)	418,755.50
361.20	COLLECTION SEWERS - GRAVITY	1998	489,158.00	2.23	(5)	1,088,548.79
361.20	COLLECTION SEWERS - GRAVITY	2000	331,257.00	2.10	(5)	694,145.97
361.20	COLLECTION SEWERS - GRAVITY	2004	621,113.00	1.83	(5)	1,135,831.64
361.20	COLLECTION SEWERS - GRAVITY	2006	17,268.46	1.58	(5)	27,338.84
361.20	COLLECTION SEWERS - GRAVITY	2007	17,813.84	1.49	(5)	26,552.70
361.20	COLLECTION SEWERS - GRAVITY	2008	7,222.74	1.34	(5)	9,704.02
361.20	COLLECTION SEWERS - GRAVITY	2009	494,679.58	1.29	(5)	636,476.98
361.20	COLLECTION SEWERS - GRAVITY	2011	21,573.00	1.22	(5)	26,300.42
361.20	COLLECTION SEWERS - GRAVITY	2012	284,507.00	1.15	(5)	327,162.34
361.20	COLLECTION SEWERS - GRAVITY	2014	137,888.00	1.08	(5)	149,017.13
361.20	COLLECTION SEWERS - GRAVITY	2015	3,184.00	1.07	(5)	3,399.14
371.30	PUMPING EQUIPMENT	1979	484,954.00	5.59	(3)	2,711,011.14
371.30	PUMPING EQUIPMENT	1995	38,500.00	2.59	(3)	99,821.27
371.30	PUMPING EQUIPMENT	1998	51,574.00	2.34	(3)	120,866.67
371.30	PUMPING EQUIPMENT	2001	2,600.00	2.17	(3)	5,653.89
371.30	PUMPING EQUIPMENT	2008	13,899.92	1.73	(3)	24,026.11
371.30	PUMPING EQUIPMENT	2013	2,441.00	1.37	(3)	3,346.16
371.30	PUMPING EQUIPMENT	2015	7,588.00	1.21	(3)	9,201.96
393.00	TOOLS AND WORK EQUIPMENT	2006	3,800.00	1.34	(12)	5,088.47
<b>TOTAL COMPANY</b>			<b>10,225,921.22</b>			<b>28,797,619.67</b>

## NOTES : (1) Not trended

- (2) Handy-Whitman Index of Public Utility Costs, 1/1/18, Cost Trends of Water Utility Construction, North Atlantic Region, Line 8
- (3) Handy-Whitman Index of Public Utility Costs, 1/1/18, Cost Trends of Water Utility Construction, North Atlantic Region, Line 9
- (4) Handy-Whitman Index of Public Utility Costs, 1/1/18, Cost Trends of Water Utility Construction, North Atlantic Region, Line 23
- (5) Handy-Whitman Index of Public Utility Costs, 1/1/18, Cost Trends of Water Utility Construction, North Atlantic Region, Line 34
- (6) Handy-Whitman Index of Public Utility Costs, 1/1/18, Cost Trends of Water Utility Construction, North Atlantic Region, Line 40
- (7) Handy-Whitman Index of Public Utility Costs, 1/1/18, Cost Trends of Water Utility Construction, North Atlantic Region, Line 42
- (8) U.S. Bureau of Labor Statistics, Producer Price Index: PPI industry data for Office furniture (including fixtures) mfg, not seasonally adjusted
- (9) U.S. Bureau of Labor Statistics, Producer Price Index: PPI industry data for Computer & peripheral equipment mfg, not seasonally adjusted
- (10) U.S. Bureau of Labor Statistics, Producer Price Index: PPI industry data for Construction machinery mfg-Other construction machinery and equipment (excluding parts), not seasonally adjusted
- (11) U.S. Bureau of Labor Statistics, Producer Price Index: PPI industry group data for Communications equipment mfg, not seasonally adjusted
- (12) U.S. Bureau of Labor Statistics, Producer Price Index: PPI industry data for Measuring, dispensing, and other pumping equipment mfg, not seasonally adjusted

TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER AND WATER SYSTEM ASSETS

ACCOUNT 303.40 LAND AND LAND RIGHTS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION  
RELATED TO REPRODUCTION COST AT APRIL 30, 2018

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
NONDEPRECIABLE							
2017	5.00						
	5.00						
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 0.00							

TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER AND WATER SYSTEM ASSETS

ACCOUNT 304.30 STRUCTURES AND IMPROVEMENTS - CHLORINATION

CALCULATED ANNUAL AND ACCRUED DEPRECIATION  
RELATED TO REPRODUCTION COST AT APRIL 30, 2018

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL RATE (4)	ACCRUAL-- AMOUNT (5)	EXP. (6)	--ACCRUED FACTOR (7)	DEPREC.-- AMOUNT (8)
SURVIVOR CURVE.. IOWA 50-R3							
NET SALVAGE PERCENT.. 0							
1979	337,665.14	50.00	2.00	6,753.30	16.48	0.6704	226,371
2009	7,058.17	50.00	2.00	141.16	41.42	0.1716	1,211
	344,723.31			6,894.46			227,582

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 2.00

TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER AND WATER SYSTEM ASSETS

ACCOUNT 304.40 STRUCTURES AND IMPROVEMENTS - PUMPHOUSE

CALCULATED ANNUAL AND ACCRUED DEPRECIATION  
RELATED TO REPRODUCTION COST AT APRIL 30, 2018

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL RATE (4)	ACCRUAL-- AMOUNT (5)	EXP. (6)	--ACCRUED FACTOR (7)	DEPREC.-- AMOUNT (8)
SURVIVOR CURVE.. IOWA 50-R3							
NET SALVAGE PERCENT.. 0							
1999	339,776.58	50.00	2.00	6,795.53	32.19	0.3562	121,028
2004	326,365.80	50.00	2.00	6,527.32	36.72	0.2656	86,683
2012	5,260.55	50.00	2.00	105.21	44.30	0.1140	600
	671,402.93			13,428.06			208,311

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 2.00

TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER AND WATER SYSTEM ASSETS

ACCOUNT 304.50 STRUCTURES AND IMPROVEMENTS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION  
RELATED TO REPRODUCTION COST AT APRIL 30, 2018

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 45-R3							
NET SALVAGE PERCENT.. 0							
2004	48,071.69	45.00	2.22	1,067.19	31.78	0.2938	14,123
2009	11,239.52	45.00	2.22	249.52	36.44	0.1902	2,138
2014	2,286.37	45.00	2.22	50.76	41.25	0.0833	191
2015	8,919.32	45.00	2.22	198.01	42.22	0.0618	551
	70,516.90			1,565.48			17,003
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 2.22							

TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER AND WATER SYSTEM ASSETS

ACCOUNT 310.20 POWER GENERATION EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION  
RELATED TO REPRODUCTION COST AT APRIL 30, 2018

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 30-S2							
NET SALVAGE PERCENT.. 0							
2011	13,563.03	30.00	3.33	451.65	23.22	0.2260	3,065
2012	45,645.12	30.00	3.33	1,519.98	24.19	0.1937	8,840
2013	162,996.57	30.00	3.33	5,427.79	25.18	0.1607	26,189
	222,204.72			7,399.42			38,094

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 3.33

TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER AND WATER SYSTEM ASSETS

ACCOUNT 311.40 PUMPING EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION  
RELATED TO REPRODUCTION COST AT APRIL 30, 2018

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 40-R1.5							
NET SALVAGE PERCENT.. 0							
1979	2,033,255.56	40.00	2.50	50,831.39	13.42	0.6645	1,351,098
2002	8,715.23	40.00	2.50	217.88	27.67	0.3083	2,686
2003	379,267.86	40.00	2.50	9,481.70	28.40	0.2900	109,988
2005	28,650.00	40.00	2.50	716.25	29.89	0.2528	7,241
2006	3,444.70	40.00	2.50	86.12	30.64	0.2340	806
2010	6,451.13	40.00	2.50	161.28	33.71	0.1573	1,014
	2,459,784.48			61,494.62			1,472,833
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 2.50							

TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER AND WATER SYSTEM ASSETS

ACCOUNT 330.40 DISTRIBUTION RESERVOIRS AND STANDPIPES

CALCULATED ANNUAL AND ACCRUED DEPRECIATION  
RELATED TO REPRODUCTION COST AT APRIL 30, 2018

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL RATE (4)	ACCRUAL-- AMOUNT (5)	EXP. (6)	--ACCRUED FACTOR (7)	DEPREC.-- AMOUNT (8)
SURVIVOR CURVE.. IOWA 55-R2.5							
NET SALVAGE PERCENT.. 0							
1990	663,455.36	55.00	1.82	12,074.89	30.57	0.4442	294,694
1991	205,555.12	55.00	1.82	3,741.10	31.36	0.4298	88,352
2004	546,136.36	55.00	1.82	9,939.68	42.30	0.2309	126,108
2008	99,295.56	55.00	1.82	1,807.18	45.88	0.1658	16,465
	1,514,442.40			27,562.85			525,619
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.82							

TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER AND WATER SYSTEM ASSETS  
ACCOUNT 331.40 TRANSMISSION AND DISTRIBUTION MAINS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION  
RELATED TO REPRODUCTION COST AT APRIL 30, 2018

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 80-R3							
NET SALVAGE PERCENT.. 0							
1978	255,311.56	80.00	1.25	3,191.39	43.17	0.4604	117,540
1979	2,588,603.68	80.00	1.25	32,357.55	44.01	0.4499	1,164,561
1982	3,082,668.92	80.00	1.25	38,533.36	46.54	0.4183	1,289,326
1990	48,822.51	80.00	1.25	610.28	53.56	0.3305	16,136
1998	1,139,538.28	80.00	1.25	14,244.23	60.89	0.2389	272,213
2000	457,724.32	80.00	1.25	5,721.55	62.76	0.2155	98,640
2004	1,258,406.00	80.00	1.25	15,730.08	66.56	0.1680	211,412
2008	15,477.55	80.00	1.25	193.47	70.40	0.1200	1,857
2009	285,397.15	80.00	1.25	3,567.46	71.37	0.1079	30,789
2010	7,577.16	80.00	1.25	94.71	72.33	0.0959	726
2014	104,679.86	80.00	1.25	1,308.50	76.23	0.0471	4,933
2015	2,782.08	80.00	1.25	34.78	77.21	0.0349	97
	9,246,989.07			115,587.36			3,208,230
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.25							

TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER AND WATER SYSTEM ASSETS

ACCOUNT 334.00 METERS AND METER INSTALLATIONS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION  
RELATED TO REPRODUCTION COST AT APRIL 30, 2018

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 30-L2.5							
NET SALVAGE PERCENT.. 0							
2010	3,433.91	30.00	3.33	114.35	22.40	0.2533	870
2011	2,983.03	30.00	3.33	99.33	23.33	0.2223	663
2013	7,758.46	30.00	3.33	258.36	25.23	0.1590	1,234
	14,175.40			472.04			2,767

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 3.33

TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER AND WATER SYSTEM ASSETS

ACCOUNT 335.00 HYDRANTS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION  
RELATED TO REPRODUCTION COST AT APRIL 30, 2018

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 60-R4							
NET SALVAGE PERCENT.. 0							
2012	8,416.07	60.00	1.67	140.55	54.18	0.0970	816
2015	5,561.09	60.00	1.67	92.87	57.17	0.0472	262
	13,977.16			233.42			1,078
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.67							

TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER AND WATER SYSTEM ASSETS

ACCOUNT 340.10 OFFICE FURNITURE AND EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION  
RELATED TO REPRODUCTION COST AT APRIL 30, 2018

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. 20-SQUARE							
NET SALVAGE PERCENT.. 0							
2004	4,074.18	20.00	5.00	203.71	6.17	0.6915	2,817
2007	1,397.05	20.00	5.00	69.85	9.17	0.5415	757
	5,471.23			273.56			3,574

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 5.00

TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER AND WATER SYSTEM ASSETS

ACCOUNT 340.20 COMPUTER AND SOFTWARE

CALCULATED ANNUAL AND ACCRUED DEPRECIATION  
RELATED TO REPRODUCTION COST AT APRIL 30, 2018

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. 5-SQUARE							
NET SALVAGE PERCENT.. 0							
2000	2,372.87	5.00				1.0000	2,373
2003	539.62	5.00				1.0000	540
2005	5,768.06	5.00				1.0000	5,768
	8,680.55						8,681

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 0.00

TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER AND WATER SYSTEM ASSETS

ACCOUNT 345.00 POWER OPERATED EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION  
RELATED TO REPRODUCTION COST AT APRIL 30, 2018

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 15-L4							
NET SALVAGE PERCENT.. 0							
2008	3,376.98	15.00	6.67	225.24	5.59	0.6273	2,118
2009	5,210.12	15.00	6.67	347.52	6.41	0.5727	2,984
	8,587.10			572.76			5,102
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 6.67							

TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER AND WATER SYSTEM ASSETS

ACCOUNT 346.50 COMMUNICATION EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION  
RELATED TO REPRODUCTION COST AT APRIL 30, 2018

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. 15-SQUARE							
NET SALVAGE PERCENT.. 0							
2005	74,693.91	15.00	6.67	4,982.08	2.17	0.8553	63,888
2006	6,243.35	15.00	6.67	416.43	3.17	0.7887	4,924
2008	1,909.16	15.00	6.67	127.34	5.17	0.6553	1,251
2012	7,282.49	15.00	6.67	485.74	9.17	0.3887	2,830
2013	19,169.29	15.00	6.67	1,278.59	10.17	0.3220	6,173
2014	9,423.42	15.00	6.67	628.54	11.17	0.2553	2,406
	118,721.62			7,918.72			81,472
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 6.67							

TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER AND WATER SYSTEM ASSETS

ACCOUNT 354.30 STRUCTURES AND IMPROVEMENTS - PUMPHOUSE

CALCULATED ANNUAL AND ACCRUED DEPRECIATION  
RELATED TO REPRODUCTION COST AT APRIL 30, 2018

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 50-R3							
NET SALVAGE PERCENT.. 0							
2010	8,046.49	50.00	2.00	160.93	42.37	0.1526	1,228
2013	10,204.30	50.00	2.00	204.09	45.27	0.0946	965
	18,250.79			365.02			2,193

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 2.00

TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER AND WATER SYSTEM ASSETS

ACCOUNT 360.20 COLLECTION SEWERS - FORCE

CALCULATED ANNUAL AND ACCRUED DEPRECIATION  
RELATED TO REPRODUCTION COST AT APRIL 30, 2018

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 65-R2.5							
NET SALVAGE PERCENT.. 0							
1979	724,810.05	65.00	1.54	11,162.07	31.59	0.5140	372,552
	724,810.05			11,162.07			372,552
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.54							

TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER AND WATER SYSTEM ASSETS

ACCOUNT 361.20 COLLECTION SEWERS - GRAVITY

CALCULATED ANNUAL AND ACCRUED DEPRECIATION  
RELATED TO REPRODUCTION COST AT APRIL 30, 2018

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 65-R2.5							
NET SALVAGE PERCENT.. 0							
1978	545,456.18	65.00	1.54	8,400.03	30.86	0.5252	286,490
1979	3,106,326.97	65.00	1.54	47,837.44	31.59	0.5140	1,596,652
1982	1,782,411.00	65.00	1.54	27,449.13	33.85	0.4792	854,185
1990	59,674.21	65.00	1.54	918.98	40.19	0.3817	22,777
1992	273,230.56	65.00	1.54	4,207.75	41.84	0.3563	97,355
1993	65,528.90	65.00	1.54	1,009.15	42.67	0.3435	22,512
1997	418,755.50	65.00	1.54	6,448.83	46.07	0.2912	121,954
1998	1,088,548.79	65.00	1.54	16,763.65	46.94	0.2779	302,453
2000	694,145.97	65.00	1.54	10,689.85	48.68	0.2511	174,286
2004	1,135,831.64	65.00	1.54	17,491.81	52.23	0.1965	223,145
2006	27,338.84	65.00	1.54	421.02	54.03	0.1688	4,614
2007	26,552.70	65.00	1.54	408.91	54.94	0.1548	4,110
2008	9,704.02	65.00	1.54	149.44	55.85	0.1408	1,366
2009	636,476.98	65.00	1.54	9,801.75	56.76	0.1268	80,686
2011	26,300.42	65.00	1.54	405.03	58.61	0.0983	2,586
2012	327,162.34	65.00	1.54	5,038.30	59.53	0.0842	27,531
2014	149,017.13	65.00	1.54	2,294.86	61.39	0.0555	8,276
2015	3,399.14	65.00	1.54	52.35	62.33	0.0411	140
10,375,861.29				159,788.28			3,831,118
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.54							

TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER AND WATER SYSTEM ASSETS

ACCOUNT 371.30 PUMPING EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION  
RELATED TO REPRODUCTION COST AT APRIL 30, 2018

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL RATE (4)	ACCRUAL-- AMOUNT (5)	EXP. (6)	--ACCRUED FACTOR (7)	DEPREC.-- AMOUNT (8)
SURVIVOR CURVE.. IOWA 40-R1.5							
NET SALVAGE PERCENT.. 0							
1979	2,711,011.14	40.00	2.50	67,775.28	13.42	0.6645	1,801,467
1995	99,821.27	40.00	2.50	2,495.53	22.75	0.4313	43,048
1998	120,866.67	40.00	2.50	3,021.67	24.81	0.3798	45,899
2001	5,653.89	40.00	2.50	141.35	26.94	0.3265	1,846
2008	24,026.11	40.00	2.50	600.65	32.16	0.1960	4,709
2013	3,346.16	40.00	2.50	83.65	36.08	0.0980	328
2015	9,201.96	40.00	2.50	230.05	37.68	0.0580	534
	2,973,927.20			74,348.18			1,897,831
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 2.50							

TOWNSHIP OF MAHONING  
TOWNSHIP OF MAHONING SEWER AND WATER SYSTEM ASSETS

ACCOUNT 393.00 TOOLS AND WORK EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION  
RELATED TO REPRODUCTION COST AT APRIL 30, 2018

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. 20-SQUARE							
NET SALVAGE PERCENT.. 0							
2006	5,088.47	20.00	5.00	254.42	8.17	0.5915	3,010
	5,088.47			254.42			3,010
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 5.00							

Income Approach  
Township of Mahoning Sewer and Water Systems Assets  
Pro Forma and Estimated Operations With MUNI Ownership  
DCF With Capitalization of Terminal Value Model and  
DCF With EBIT & EBITDA Terminal Value Model

	Actual		Estimated	Estimated	Estimated	Estimated	Estimated	Estimated
	2016	2017	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
<b>1. OPERATING REVENUES (1)</b>								
2. Charges for services	1,829,023	1,888,466	2,066,796	2,130,225	2,193,784	2,204,467	2,447,741	2,459,778
3. Other operating income	58,217	58,217	58,217	58,217	58,217	58,217	58,217	58,217
4. Other (Rate Increase)	0	0	0	0	0	231,469	0	0
<b>5. Total Operating Revenues</b>	<b>1,887,240</b>	<b>1,946,683</b>	<b>2,125,013</b>	<b>2,188,442</b>	<b>2,252,001</b>	<b>2,494,153</b>	<b>2,505,958</b>	<b>2,517,995</b>
6. Rate Increase						10%		
<b>7. OPERATING EXPENSES (1)</b>								
8. Operating & Maintenance Expenses	1,929,960	1,968,559	2,007,930	2,048,089	2,089,051	2,130,832	2,173,448	2,216,917
9. Remove Economies of Scale								
10. LESS: EOS - Wages & Benefits	0	0	0	(28,960)	(29,539)	(30,130)	(30,732)	(31,347)
11. LESS: EOS - Professional Services	0	0	0	(117,110)	(119,452)	(121,841)	(124,278)	(126,763)
12. LESS: EOS - Utilities	0	0	0	(3,866)	(3,943)	(4,022)	(4,103)	(4,185)
<b>13. Operating Expenses Before Depreciation</b>	<b>1,929,960</b>	<b>1,968,559</b>	<b>2,007,930</b>	<b>1,898,153</b>	<b>1,936,117</b>	<b>1,974,839</b>	<b>2,014,336</b>	<b>2,054,622</b>
14. Depreciation (2)	131,221	131,221	172,818	173,789	176,153	178,538	180,955	183,406
<b>15. Total Operating Expenses</b>	<b>2,061,181</b>	<b>2,099,780</b>	<b>2,180,748</b>	<b>2,071,942</b>	<b>2,112,269</b>	<b>2,153,377</b>	<b>2,195,291</b>	<b>2,238,028</b>
<b>16. Operating Income</b>	<b>(173,941)</b>	<b>(153,097)</b>	<b>(55,735)</b>	<b>116,500</b>	<b>139,732</b>	<b>340,776</b>	<b>310,667</b>	<b>279,967</b>
17. Revenues (3)	1,887,240	1,946,683	2,125,013	2,188,442	2,252,001	2,494,153	2,505,958	2,517,995
18. EBITDA (4)	(42,720)	(21,876)	117,083	290,289	315,884	519,314	491,622	463,373
19. EBIT (5)	(173,941)	(153,097)	(55,735)	116,500	139,732	340,776	310,667	279,967
20. EBIT	(173,941)	(153,097)	(55,735)	116,500	139,732	340,776	310,667	279,967
21. (-) Income Taxes	0	0	0	0	0	0	0	0
22. Debt Free Net Income	(173,941)	(153,097)	(55,735)	116,500	139,732	340,776	310,667	279,967
23. (+) Depreciation & Amortization	131,221	131,221	172,818	173,789	176,153	178,538	180,955	183,406
24. (-) Capital Expenditures (6)	135,908	0	0	164,177	165,099	167,345	169,611	171,907
25. (-) Changes in Working Capital (7)	(22,458)	(23,166)	(25,288)	(26,042)	(26,799)	(29,680)	(29,821)	(29,964)
<b>26. Debt Free Net Cash Flow</b>	<b>(\$156,170)</b>	<b>\$1,290</b>	<b>\$142,370</b>	<b>\$152,154</b>	<b>\$177,584</b>	<b>\$381,650</b>	<b>\$351,832</b>	<b>\$321,430</b>
27. PV Time Period (mid-year)				0.5	1.5	2.5	3.5	4.5
28. Present Value Factor: 3.84% (8)				0.9813	0.9450	0.9101	0.8764	0.8440
29. Present Value Debt Free Net Cash Flow				\$149,309	\$167,817	\$347,339	\$308,346	\$271,287
30. Present Value Factor: 2.84% (9)				0.9861	0.9589	0.9324	0.9066	0.8816
31. Present Value Debt Free Net Cash Flow				\$150,039	\$170,286	\$355,850	\$318,971	\$283,373

See last page of this EXHIBIT for notes and assumptions.

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	Estimated Year 6 2024	Estimated Year 7 2025	Estimated Year 8 2026	Estimated Year 9 2027	Estimated Year 10 2028	Estimated Year 11 2029	Estimated Year 12 2030	Estimated Year 13 2031
<b>1. OPERATING REVENUES (1)</b>								
2. Charges for services	2,472,077	2,576,361	2,589,243	2,602,189	2,711,963	2,725,522	2,739,150	2,854,701
3. Other operating income	58,217	58,217	58,217	58,217	58,217	58,217	58,217	58,217
4. Other (Rate Increase)	91,467	0	0	96,281	0	0	101,349	0
<b>5. Total Operating Revenues</b>	<b>2,621,761</b>	<b>2,634,578</b>	<b>2,647,460</b>	<b>2,756,687</b>	<b>2,770,180</b>	<b>2,783,739</b>	<b>2,898,716</b>	<b>2,912,918</b>
6. Rate Increase	4%			4%			4%	
<b>7. OPERATING EXPENSES (1)</b>								
8. Operating & Maintenance Expenses	2,261,256	2,306,481	2,352,610	2,399,663	2,447,656	2,496,609	2,546,541	2,597,472
9. Remove Economies of Scale								
10. LESS: EOS - Wages & Benefits	(31,974)	(32,613)	(33,266)	(33,931)	(34,610)	(35,302)	(36,008)	(36,728)
11. LESS: EOS - Professional Services	(129,298)	(131,884)	(134,522)	(137,213)	(139,957)	(142,756)	(145,611)	(148,523)
12. LESS: EOS - Utilities	(4,268)	(4,354)	(4,441)	(4,530)	(4,620)	(4,713)	(4,807)	(4,903)
<b>13. Operating Expenses Before Depreciation</b>	<b>2,095,715</b>	<b>2,137,629</b>	<b>2,180,382</b>	<b>2,223,989</b>	<b>2,268,469</b>	<b>2,313,838</b>	<b>2,360,115</b>	<b>2,407,318</b>
14. Depreciation (2)	185,888	188,405	190,955	193,535	196,151	198,802	201,489	204,211
<b>15. Total Operating Expenses</b>	<b>2,281,603</b>	<b>2,326,034</b>	<b>2,371,336</b>	<b>2,417,524</b>	<b>2,464,620</b>	<b>2,512,640</b>	<b>2,561,604</b>	<b>2,611,529</b>
<b>16. Operating Income</b>	<b>340,158</b>	<b>308,544</b>	<b>276,124</b>	<b>339,163</b>	<b>305,560</b>	<b>271,099</b>	<b>337,112</b>	<b>301,389</b>
17. Revenues (3)	2,621,761	2,634,578	2,647,460	2,756,687	2,770,180	2,783,739	2,898,716	2,912,918
18. EBITDA (4)	526,046	496,949	467,078	532,698	501,711	469,901	538,601	505,600
19. EBIT (5)	340,158	308,544	276,124	339,163	305,560	271,099	337,112	301,389
20. EBIT	340,158	308,544	276,124	339,163	305,560	271,099	337,112	301,389
21. (-) Income Taxes	0	0	0	0	0	0	0	0
22. Debt Free Net Income	340,158	308,544	276,124	339,163	305,560	271,099	337,112	301,389
23. (+) Depreciation & Amortization	185,888	188,405	190,955	193,535	196,151	198,802	201,489	204,211
24. (-) Capital Expenditures (6)	174,235	176,594	178,661	181,076	183,523	186,003	188,517	191,065
25. (-) Changes in Working Capital (7)	(31,199)	(31,351)	(31,505)	(32,805)	(32,965)	(33,126)	(34,495)	(34,664)
<b>26. Debt Free Net Cash Flow</b>	<b>\$383,010</b>	<b>\$351,706</b>	<b>\$319,922</b>	<b>\$384,426</b>	<b>\$351,153</b>	<b>\$317,024</b>	<b>\$384,578</b>	<b>\$349,199</b>
27. PV Time Period (mid-year)	5.5	6.5	7.5	8.5	9.5	10.5	11.5	12.5
28. Present Value Factor: 3.84% (8)	0.8128	0.7828	0.7538	0.7259	0.6991	0.6732	0.6483	0.6244
<b>29. Present Value Debt Free Net Cash Flow</b>	<b>\$311,311</b>	<b>\$275,316</b>	<b>\$241,157</b>	<b>\$279,055</b>	<b>\$245,491</b>	<b>\$213,421</b>	<b>\$249,322</b>	<b>\$218,040</b>
30. Present Value Factor: 2.84% (9)	0.8573	0.8336	0.8106	0.7882	0.7664	0.7452	0.7247	0.7047
<b>31. Present Value Debt Free Net Cash Flow</b>	<b>\$328,355</b>	<b>\$293,182</b>	<b>\$259,329</b>	<b>\$303,005</b>	<b>\$269,124</b>	<b>\$236,246</b>	<b>\$278,704</b>	<b>\$246,081</b>

See last page of this EXHIBIT for notes and assumptions.

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DCF With Capitalization of Terminal Value Model @ 3.84%	
	Terminal Value
Projected Debt Free Net Cash Flow (10)	\$349,199
Divided by Capitalization Factor (8)	<u>3.84%</u>
13th Year Terminal Value	9,093,728
13th Year Present Value Factor (11)	<u>0.6244</u>
Present Value of Terminal Value	5,678,124
Present Value Debt Free Net	
Cash Flow for 13 Years	<u>3,277,210</u>
Indicated Value	<u><u>\$8,955,334</u></u>

DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 3.84%			
		Multiples (13)	Terminal Value
Projected EBIT	\$301,389	14.6	\$4,400,284
Projected EBITDA	505,600	10.1	<u>5,106,565</u>
Weighted (1/3 EBIT 2/3 EBITDA) Terminal Value			4,873,492
13th Year Present Value Factor (11)			<u>0.6244</u>
Present Value of Terminal Value			3,043,008
Present Value Debt Free Net			
Cash Flow for 13 Years			<u>3,277,210</u>
Indicated Value			<u><u>\$6,320,219</u></u>

DCF With Capitalization of Terminal Value Model @ 2.84%	
	Terminal Value
Projected Debt Free Net Cash Flow (10)	\$349,199
Divided by Capitalization Factor (9)	<u>2.84%</u>
13th Year Terminal Value	12,295,746
13th Year Present Value Factor (12)	<u>0.6244</u>
Present Value of Terminal Value	7,677,464
Present Value Debt Free Net	
Cash Flow for 13 Years	<u>3,277,210</u>
Indicated Value	<u><u>\$10,954,674</u></u>

DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 2.84%			
		Multiples (13)	Terminal Value
Projected EBIT	\$301,389	14.6	\$4,400,284
Projected EBITDA	505,600	10.1	<u>5,106,565</u>
Weighted (1/3 EBIT 2/3 EBITDA) Terminal Value			4,873,492
13th Year Present Value Factor (12)			<u>0.6244</u>
Present Value of Terminal Value			3,043,008
Present Value Debt Free Net			
Cash Flow for 13 Years			<u>3,277,210</u>
Indicated Value			<u><u>\$6,320,219</u></u>

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Notes: (1) Assumptions:

Charges for services - Pre-2019 are actual 2016 adjusted for June 2017 rate increase. Post-2018 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 2018. 2021 assumed 10.5% rate increase so operating income is 5.2% of Net Property, Plant & Equipment (Similar to large MUNIs). 2024 assumes 3.75% rate increase every 3 years to account for increase to account for expense increases (2%) less growth in customers (EDU). Rate increases are added into charges for services year after they occur.

OPERATING EXPENSES - increase at 2% annually after 2016 unless noted elsewhere. Assumed economies of scale are shown on lines below.

Wages & Benefits - Post-2018 assumed 15% savings due to economies of scale. Increase at 2% afterwards.

Net Professional Services - Post-2018 assumed 50% savings due to economies of scale. Increase at 2% afterwards.

Utilities - Post-2018 assumed 10% savings due to economies of scale. Increase at 2% afterwards.

- (2) OCNLD depreciation rate plus same rate on half of CAPX.
- (3) Line 5.
- (4) Line 16 + line 14.
- (5) Line 16.
- (6) Capital Expenditures - Are estimates at 1.59% of prior year-end GROSS Property, plant and equipment.
- (7) Changes in Working Capital - based on water industry -1.19% of revenues.
- (8) Discount rate is the current MUNI discount rate. Capitalization rate, "K", at 4/30/2018 equal to discount rate, where capitalization rate =  $K - g$ .
- (9) Discount rate is the current MUNI discount rate. Capitalization rate, "K", at 4/30/2018 adjusted for stated growth, "g", where capitalization rate =  $K - g$ .
- (10) Final year shown, line 26.
- (11) Final year shown, line 28.
- (12) Final year shown, line 28.
- (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		Estimated	Estimated	Estimated	Estimated	Estimated	Estimated
	2016	2017	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
<b>1. OPERATING REVENUES (1)</b>								
2. Charges for services	1,829,023	1,888,466	2,066,796	2,130,225	2,193,784	2,204,467	2,796,627	2,810,380
3. Other operating income	58,217	58,217	58,217	58,217	58,217	58,217	58,217	58,217
4. Other (Rate Increase)	0	0	0	0	0	578,673	0	0
<b>5. Total Operating Revenues</b>	<b>1,887,240</b>	<b>1,946,683</b>	<b>2,125,013</b>	<b>2,188,442</b>	<b>2,252,001</b>	<b>2,841,357</b>	<b>2,854,844</b>	<b>2,868,597</b>
6. Rate Increase						26%		
<b>7. OPERATING EXPENSES (1)</b>								
8. Operating & Maintenance Expenses	1,929,960	1,968,559	2,007,930	2,048,089	2,089,051	2,130,832	2,173,448	2,216,917
9. Remove Economies of Scale								
10. LESS: EOS - Wages & Benefits	0	0	0	(28,960)	(29,539)	(30,130)	(30,732)	(31,347)
11. LESS: EOS - Professional Services	0	0	0	(117,110)	(119,452)	(121,841)	(124,278)	(126,763)
12. LESS: EOS - Utilities	0	0	0	(3,866)	(3,943)	(4,022)	(4,103)	(4,185)
13. ADD: PURTA & Reg Assessment				21,498	21,845	22,191	25,528	25,589
<b>14. Operating Expenses Before Depreciation</b>	<b>1,929,960</b>	<b>1,968,559</b>	<b>2,007,930</b>	<b>1,919,651</b>	<b>1,957,962</b>	<b>1,997,030</b>	<b>2,039,864</b>	<b>2,080,211</b>
15. Depreciation (2)	131,221	131,221	172,818	173,789	176,153	178,538	180,955	183,406
<b>16. Total Operating Expenses</b>	<b>2,061,181</b>	<b>2,099,780</b>	<b>2,180,748</b>	<b>2,093,440</b>	<b>2,134,114</b>	<b>2,175,568</b>	<b>2,220,819</b>	<b>2,263,617</b>
<b>17. Operating Income</b>	<b>(173,941)</b>	<b>(153,097)</b>	<b>(55,735)</b>	<b>95,002</b>	<b>117,887</b>	<b>665,789</b>	<b>634,025</b>	<b>604,980</b>
18. Revenues (3)	1,887,240	1,946,683	2,125,013	2,188,442	2,252,001	2,841,357	2,854,844	2,868,597
19. EBITDA (4)	(42,720)	(21,876)	117,083	268,791	294,039	844,327	814,980	788,386
20. EBIT (5)	(173,941)	(153,097)	(55,735)	95,002	117,887	665,789	634,025	604,980
21. EBIT	(173,941)	(153,097)	(55,735)	95,002	117,887	665,789	634,025	604,980
22. (-) Income Taxes	0	0	0	27,446	34,057	192,347	183,170	174,779
23. Debt Free Net Income	(173,941)	(153,097)	(55,735)	67,556	83,830	473,442	450,855	430,201
24. (+) Depreciation & Amortization	131,221	131,221	172,818	173,789	176,153	178,538	180,955	183,406
25. (-) Capital Expenditures (6)	135,908	0	0	164,177	165,099	167,345	169,611	171,907
26. (-) Changes in Working Capital (7)	(22,458)	(23,166)	(25,288)	(26,042)	(26,799)	(33,812)	(33,973)	(34,136)
<b>27. Debt Free Net Cash Flow</b>	<b>(\$156,170)</b>	<b>\$1,290</b>	<b>\$142,370</b>	<b>\$103,210</b>	<b>\$121,682</b>	<b>\$518,447</b>	<b>\$496,172</b>	<b>\$475,836</b>
28. PV Time Period (mid-year)				0.5	1.5	2.5	3.5	4.5
29. Present Value Factor: 7.12% (8)				0.9662	0.9020	0.8420	0.7861	0.7338
30. Present Value Debt Free Net Cash Flow				\$99,722	\$109,757	\$436,533	\$390,041	\$349,168
31. Present Value Factor: 8.48% (9)				0.9601	0.8851	0.8159	0.7521	0.6933
32. Present Value Debt Free Net Cash Flow				\$99,092	\$107,701	\$423,001	\$373,171	\$329,897
33. Present Value Factor: 6.87% (8)				0.9673	0.9051	0.8470	0.7925	0.7416
34. Present Value Debt Free Net Cash Flow				\$99,835	\$110,135	\$439,125	\$393,216	\$352,880
35. Present Value Factor: 8.23% (9)				0.9612	0.8881	0.8206	0.7582	0.7005
36. Present Value Debt Free Net Cash Flow				\$99,205	\$108,066	\$425,438	\$376,198	\$333,323

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	Estimated							
	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13
	2024	2025	2026	2027	2028	2029	2030	2031
<b>1. OPERATING REVENUES (1)</b>								
2. Charges for services	2,824,432	2,926,549	2,941,182	2,955,887	3,062,758	3,078,071	3,093,462	3,205,306
3. Other operating income	58,217	58,217	58,217	58,217	58,217	58,217	58,217	58,217
4. Other (Rate Increase)	87,557	0	0	91,633	0	0	95,897	0
<b>5. Total Operating Revenues</b>	<b>2,970,206</b>	<b>2,984,766</b>	<b>2,999,399</b>	<b>3,105,737</b>	<b>3,120,975</b>	<b>3,136,288</b>	<b>3,247,576</b>	<b>3,263,523</b>
6. Rate Increase	3%			3%			3%	
<b>7. OPERATING EXPENSES (1)</b>								
8. Operating & Maintenance Expenses	2,261,256	2,306,481	2,352,610	2,399,663	2,447,656	2,496,609	2,546,541	2,597,472
9. Remove Economies of Scale								
10. LESS: EOS - Wages & Benefits	(31,974)	(32,613)	(33,266)	(33,931)	(34,610)	(35,302)	(36,008)	(36,728)
11. LESS: EOS - Professional Services	(129,298)	(131,884)	(134,522)	(137,213)	(139,957)	(142,756)	(145,611)	(148,523)
12. LESS: EOS - Utilities	(4,268)	(4,354)	(4,441)	(4,530)	(4,620)	(4,713)	(4,807)	(4,903)
13. ADD: PURTA & Reg Assessment	25,651	26,212	26,278	26,345	26,932	27,000	27,068	27,684
<b>14. Operating Expenses Before Depreciation</b>	<b>2,121,366</b>	<b>2,163,841</b>	<b>2,206,660</b>	<b>2,250,334</b>	<b>2,295,401</b>	<b>2,340,838</b>	<b>2,387,183</b>	<b>2,435,002</b>
15. Depreciation (2)	185,888	188,405	190,955	193,535	196,151	198,802	201,489	204,211
<b>16. Total Operating Expenses</b>	<b>2,307,254</b>	<b>2,352,246</b>	<b>2,397,614</b>	<b>2,443,869</b>	<b>2,491,552</b>	<b>2,539,640</b>	<b>2,588,672</b>	<b>2,639,213</b>
<b>17. Operating Income</b>	<b>662,952</b>	<b>632,520</b>	<b>601,785</b>	<b>661,868</b>	<b>629,423</b>	<b>596,648</b>	<b>658,904</b>	<b>624,310</b>
18. Revenues (3)	2,970,206	2,984,766	2,999,399	3,105,737	3,120,975	3,136,288	3,247,576	3,263,523
19. EBITDA (4)	848,840	820,925	792,739	855,403	825,574	795,450	860,393	828,521
20. EBIT (5)	662,952	632,520	601,785	661,868	629,423	596,648	658,904	624,310
21. EBIT	662,952	632,520	601,785	661,868	629,423	596,648	658,904	624,310
22. (-) Income Taxes	191,527	182,735	173,856	191,214	181,840	172,371	190,357	180,363
23. Debt Free Net Income	471,425	449,785	427,929	470,654	447,583	424,277	468,547	443,947
24. (+) Depreciation & Amortization	185,888	188,405	190,955	193,535	196,151	198,802	201,489	204,211
25. (-) Capital Expenditures (6)	174,235	176,594	178,661	181,076	183,523	186,003	188,517	191,065
26. (-) Changes in Working Capital (7)	(35,345)	(35,519)	(35,693)	(36,958)	(37,140)	(37,322)	(38,646)	(38,836)
<b>27. Debt Free Net Cash Flow</b>	<b>\$518,424</b>	<b>\$497,115</b>	<b>\$475,915</b>	<b>\$520,071</b>	<b>\$497,351</b>	<b>\$474,397</b>	<b>\$520,165</b>	<b>\$495,929</b>
28. PV Time Period (mid-year)	5.5	6.5	7.5	8.5	9.5	10.5	11.5	12.5
29. Present Value Factor: 7.12% (8)	0.6850	0.6395	0.5970	0.5573	0.5203	0.4857	0.4534	0.4233
<b>30. Present Value Debt Free Net Cash Flow</b>	<b>\$355,120</b>	<b>\$317,905</b>	<b>\$284,121</b>	<b>\$289,836</b>	<b>\$258,771</b>	<b>\$230,415</b>	<b>\$235,843</b>	<b>\$209,927</b>
31. Present Value Factor: 8.48% (9)	0.6391	0.5892	0.5431	0.5006	0.4615	0.4254	0.3922	0.3615
<b>32. Present Value Debt Free Net Cash Flow</b>	<b>\$331,325</b>	<b>\$292,900</b>	<b>\$258,470</b>	<b>\$260,348</b>	<b>\$229,527</b>	<b>\$201,809</b>	<b>\$204,009</b>	<b>\$179,278</b>
33. Present Value Factor: 6.87% (8)	0.6939	0.6493	0.6075	0.5685	0.5319	0.4978	0.4658	0.4358
<b>34. Present Value Debt Free Net Cash Flow</b>	<b>\$359,734</b>	<b>\$322,777</b>	<b>\$289,118</b>	<b>\$295,660</b>	<b>\$264,541</b>	<b>\$236,155</b>	<b>\$242,293</b>	<b>\$216,126</b>
35. Present Value Factor: 8.23% (9)	0.6473	0.5981	0.5526	0.5106	0.4717	0.4359	0.4027	0.3721
<b>36. Present Value Debt Free Net Cash Flow</b>	<b>\$335,576</b>	<b>\$297,324</b>	<b>\$262,991</b>	<b>\$265,548</b>	<b>\$234,600</b>	<b>\$206,790</b>	<b>\$209,470</b>	<b>\$184,535</b>

See last page of this EXHIBIT for notes and assumptions.

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DCF With EBIT & EBITDA Terminal Value Model

DCF With Capitalization of Terminal Value Model @ 7.12%	
	<u>Terminal Value</u>
Projected Debt Free Net Cash Flow (10)	\$495,929
Divided by Capitalization Factor (8)	<u>7.12%</u>
13th Year Terminal Value	6,965,300
13th Year Present Value Factor (11)	<u>0.4233</u>
Present Value of Terminal Value	2,948,412
Present Value Debt Free Net	
Cash Flow for 13 Years	<u>3,567,159</u>
Indicated Value	<u>\$6,515,570</u>

DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 7.12%			
		<u>Multiples (13)</u>	<u>Terminal Value</u>
Projected EBIT	\$624,310	14.6	\$9,114,930
Projected EBITDA	828,521	10.1	<u>8,368,067</u>
Weighted (1/3 EBIT 2/3 EBITDA) Terminal Value			8,614,532
13th Year Present Value Factor (11)			<u>0.4233</u>
Present Value of Terminal Value			3,646,531
Present Value Debt Free Net			
Cash Flow for 13 Years			<u>3,567,159</u>
Indicated Value			<u>\$7,213,690</u>

DCF With Capitalization of Terminal Value Model @ 8.48%	
	<u>Terminal Value</u>
Projected Debt Free Net Cash Flow (10)	\$495,929
Divided by Capitalization Factor (9)	<u>8.48%</u>
13th Year Terminal Value	5,848,224
13th Year Present Value Factor (12)	<u>0.3615</u>
Present Value of Terminal Value	2,114,133
Present Value Debt Free Net	
Cash Flow for 13 Years	<u>3,290,527</u>
Indicated Value	<u>\$5,404,660</u>

DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 8.48%			
		<u>Multiples (13)</u>	<u>Terminal Value</u>
Projected EBIT	\$624,310	14.6	\$9,114,930
Projected EBITDA	828,521	10.1	<u>8,368,067</u>
Weighted (1/3 EBIT 2/3 EBITDA) Terminal Value			8,614,532
13th Year Present Value Factor (12)			<u>0.3615</u>
Present Value of Terminal Value			3,114,153
Present Value Debt Free Net			
Cash Flow for 13 Years			<u>3,290,527</u>
Indicated Value			<u>\$6,404,680</u>

DCF With Capitalization of Terminal Value Model @ 6.87%	
	<u>Terminal Value</u>
Projected Debt Free Net Cash Flow (10)	\$495,929
Divided by Capitalization Factor (8)	<u>6.87%</u>
13th Year Terminal Value	7,218,768
13th Year Present Value Factor (11)	<u>0.4233</u>
Present Value of Terminal Value	3,055,705
Present Value Debt Free Net	
Cash Flow for 13 Years	<u>3,567,159</u>
Indicated Value	<u>\$6,622,863</u>

DCF With Capitalization of Terminal Value Model @ 8.23%	
	<u>Terminal Value</u>
Projected Debt Free Net Cash Flow (10)	\$495,929
Divided by Capitalization Factor (9)	<u>8.23%</u>
13th Year Terminal Value	6,025,873
13th Year Present Value Factor (12)	<u>0.3615</u>
Present Value of Terminal Value	2,178,353
Present Value Debt Free Net	
Cash Flow for 13 Years	<u>3,290,527</u>
Indicated Value	<u>\$5,468,880</u>

See last page of this EXHIBIT for notes and assumptions.

Income Approach

Township of Mahoning Sewer and Water Systems Assets  
Pro Forma and Estimated 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-2019 are actual 2016 adjusted for June 2017 rate increase. Post-2018 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 2018. 2021 assumed 26.25% rate increase so EBIT is 10.2% of investor's capital (similar to IOU water industry). Beginning in 2024 assumes 3.1% rate increase every 3 years to account for expense increases (2%) less growth in customers. Rate increases are added into charges for services year after they occur.

OPERATING EXPENSES - increase at 2% annually after 2016 unless noted elsewhere. Assumed economies of scale are shown on lines below.

Wages & Benefits - Post-2018 assumed 15% savings due to economies of scale. Increase at 2% afterwards.

Net Professional Services - Post-2018 assumed 50% savings due to economies of scale. Increase at 2% afterwards.

Utilities - Post-2018 assumed 10% savings due to economies of scale. Increase at 2% afterwards.

PURTA & Reg Assessment - 2019 assumed due to IOU purchase at the end of 2018.

- (2) OCNLD depreciation rate plus same rate on half of CAPX.
- (3) Line 5.
- (4) Line 17 + line 15.
- (5) Line 17.
- (6) Capital Expenditures - Are estimates at 1.59% of prior year-end GROSS Property, plant and equipment.
  
- (7) Changes in Working Capital - based on water industry -1.19% of revenues.
- (8) Discount rate is the current lower end of the IOU discount rate. Capitalization rate, "K", at 4/30/2018 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 4/30/2018 adjusted for stated growth, "g", where capitalization rate =  $K - g$ .
- (10) Final year shown, line 27.
- (11) Final year shown, line 29.
- (12) Final year shown, line 31.
- (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

Income Approach  
Township of Mahoning Water System Assets  
Pro Forma and Estimated Operations With MUNI Ownership  
DCF With Capitalization of Terminal Value Model and  
DCF With EBIT & EBITDA Terminal Value Model

	Actual		Estimated	Estimated	Estimated	Estimated	Estimated	Estimated
	2016	2017	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
<b>1. OPERATING REVENUES (1)</b>								
2. Charges for services	713,319	731,152	784,651	809,388	834,177	838,344	842,512	846,707
3. Other operating income	22,705	22,705	22,705	22,705	22,705	22,705	22,705	22,705
4. Other (Rate Increase)	0	0	0	0	0	0	0	0
<b>5. Total Operating Revenues</b>	<b>736,024</b>	<b>753,857</b>	<b>807,356</b>	<b>832,093</b>	<b>856,882</b>	<b>861,049</b>	<b>865,217</b>	<b>869,412</b>
6. <span style="margin-left: 100px;">Rate Increase</span>								
<b>7. OPERATING EXPENSES (1)</b>								
8. Operating & Maintenance Expenses	590,138	601,941	613,980	626,259	638,784	651,560	664,591	677,883
9. Remove Economies of Scale								
10. LESS: EOS - Wages & Benefits	0	0	0	(11,584)	(11,816)	(12,052)	(12,293)	(12,539)
11. LESS: EOS - Professional Services	0	0	0	(44,502)	(45,392)	(46,300)	(47,226)	(48,170)
12. LESS: EOS - Utilities	0	0	0	(1,469)	(1,499)	(1,528)	(1,559)	(1,590)
<b>13. Operating Expenses Before Depreciation</b>	<b>590,138</b>	<b>601,941</b>	<b>613,980</b>	<b>568,704</b>	<b>580,078</b>	<b>591,680</b>	<b>603,514</b>	<b>615,584</b>
14. Depreciation (2)	60,448	60,448	91,061	91,582	92,850	94,130	95,426	96,741
<b>15. Total Operating Expenses</b>	<b>650,586</b>	<b>662,389</b>	<b>705,041</b>	<b>660,287</b>	<b>672,928</b>	<b>685,810</b>	<b>698,940</b>	<b>712,325</b>
<b>16. Operating Income</b>	<b>85,438</b>	<b>91,468</b>	<b>102,315</b>	<b>171,806</b>	<b>183,954</b>	<b>175,239</b>	<b>166,277</b>	<b>157,087</b>
17. Revenues (3)	736,024	753,857	807,356	832,093	856,882	861,049	865,217	869,412
18. EBITDA (4)	145,886	151,916	193,376	263,389	276,804	269,369	261,703	253,828
19. EBIT (5)	85,438	91,468	102,315	171,806	183,954	175,239	166,277	157,087
20. EBIT	85,438	91,468	102,315	171,806	183,954	175,239	166,277	157,087
21. (-) Income Taxes	0	0	0	0	0	0	0	0
22. Debt Free Net Income	85,438	91,468	102,315	171,806	183,954	175,239	166,277	157,087
23. (+) Depreciation & Amortization	60,448	60,448	91,061	91,582	92,850	94,130	95,426	96,741
24. (-) Capital Expenditures (6)	70,364	0	0	86,508	87,003	88,207	89,423	90,655
25. (-) Changes in Working Capital (7)	(8,759)	(8,971)	(9,608)	(9,902)	(10,197)	(10,246)	(10,296)	(10,346)
<b>26. Debt Free Net Cash Flow</b>	<b>\$84,281</b>	<b>\$160,887</b>	<b>\$202,984</b>	<b>\$186,783</b>	<b>\$199,997</b>	<b>\$191,408</b>	<b>\$182,576</b>	<b>\$173,519</b>
27. <span style="margin-left: 100px;">PV Time Period (mid-year)</span>				0.5	1.5	2.5	3.5	4.5
28. Present Value Factor: 3.84% (8)				0.9813	0.9450	0.9101	0.8764	0.8440
29. Present Value Debt Free Net Cash Flow				<b>\$183,290</b>	<b>\$188,998</b>	<b>\$174,201</b>	<b>\$160,010</b>	<b>\$146,450</b>
30. Present Value Factor: 3.34% (9)				0.9837	0.9519	0.9211	0.8914	0.8626
31. Present Value Debt Free Net Cash Flow				<b>\$183,738</b>	<b>\$190,378</b>	<b>\$176,306</b>	<b>\$162,749</b>	<b>\$149,678</b>

See last page of this EXHIBIT for notes and assumptions.

Income Approach  
Township of Mahoning Water System Assets  
Pro Forma and Estimated Operations With MUNI Ownership  
DCF With Capitalization of Terminal Value Model and  
DCF With EBIT & EBITDA Terminal Value Model

	Estimated Year 6 2024	Estimated Year 7 2025	Estimated Year 8 2026	Estimated Year 9 2027	Estimated Year 10 2028	Estimated Year 11 2029	Estimated Year 12 2030	Estimated Year 13 2031
<b>1. OPERATING REVENUES (1)</b>								
2. Charges for services	850,940	884,272	888,693	893,136	926,325	930,957	935,612	970,379
3. Other operating income	22,705	22,705	22,705	22,705	22,705	22,705	22,705	22,705
4. Other (Rate Increase)	28,932	0	0	28,580	0	0	29,940	0
5. <b>Total Operating Revenues</b>	<b>902,577</b>	<b>906,977</b>	<b>911,398</b>	<b>944,421</b>	<b>949,030</b>	<b>953,662</b>	<b>988,257</b>	<b>993,084</b>
6. Rate Increase	3%			3%			3%	
<b>7. OPERATING EXPENSES (1)</b>								
8. Operating & Maintenance Expenses	691,441	705,270	719,375	733,762	748,438	763,406	778,675	794,248
9. Remove Economies of Scale								
10. LESS: EOS - Wages & Benefits	(12,790)	(13,045)	(13,306)	(13,572)	(13,844)	(14,121)	(14,403)	(14,691)
11. LESS: EOS - Professional Services	(49,134)	(50,116)	(51,119)	(52,141)	(53,184)	(54,247)	(55,332)	(56,439)
12. LESS: EOS - Utilities	(1,622)	(1,654)	(1,688)	(1,721)	(1,756)	(1,791)	(1,827)	(1,863)
13. <b>Operating Expenses Before Depreciation</b>	<b>627,896</b>	<b>640,453</b>	<b>653,263</b>	<b>666,328</b>	<b>679,654</b>	<b>693,247</b>	<b>707,112</b>	<b>721,255</b>
14. Depreciation (2)	98,073	99,425	100,784	102,147	103,526	104,926	106,344	107,781
15. <b>Total Operating Expenses</b>	<b>725,969</b>	<b>739,878</b>	<b>754,047</b>	<b>768,474</b>	<b>783,181</b>	<b>798,174</b>	<b>813,457</b>	<b>829,036</b>
16. <b>Operating Income</b>	<b>176,608</b>	<b>167,099</b>	<b>157,351</b>	<b>175,947</b>	<b>165,849</b>	<b>155,488</b>	<b>174,800</b>	<b>164,048</b>
17. Revenues (3)	902,577	906,977	911,398	944,421	949,030	953,662	988,257	993,084
18. EBITDA (4)	274,681	266,524	258,135	278,093	269,376	260,415	281,145	271,829
19. EBIT (5)	176,608	167,099	157,351	175,947	165,849	155,488	174,800	164,048
20. EBIT	176,608	167,099	157,351	175,947	165,849	155,488	174,800	164,048
21. (-) Income Taxes	0	0	0	0	0	0	0	0
22. Debt Free Net Income	176,608	167,099	157,351	175,947	165,849	155,488	174,800	164,048
23. (+) Depreciation & Amortization	98,073	99,425	100,784	102,147	103,526	104,926	106,344	107,781
24. (-) Capital Expenditures (6)	91,904	93,170	92,651	93,903	95,172	96,459	97,762	99,084
25. (-) Changes in Working Capital (7)	(10,741)	(10,793)	(10,846)	(11,239)	(11,293)	(11,349)	(11,760)	(11,818)
26. <b>Debt Free Net Cash Flow</b>	<b>\$193,518</b>	<b>\$184,147</b>	<b>\$176,330</b>	<b>\$195,429</b>	<b>\$185,497</b>	<b>\$175,304</b>	<b>\$195,143</b>	<b>\$184,563</b>
27. PV Time Period (mid-year)	5.5	6.5	7.5	8.5	9.5	10.5	11.5	12.5
28. Present Value Factor: 3.84% (8)	0.8128	0.7828	0.7538	0.7259	0.6991	0.6732	0.6483	0.6244
29. Present Value Debt Free Net Cash Flow	<b>\$157,292</b>	<b>\$144,150</b>	<b>\$132,918</b>	<b>\$141,862</b>	<b>\$129,681</b>	<b>\$118,015</b>	<b>\$126,511</b>	<b>\$115,241</b>
30. Present Value Factor: 3.34% (9)	0.8347	0.8077	0.7816	0.7563	0.7319	0.7082	0.6854	0.6632
31. Present Value Debt Free Net Cash Flow	<b>\$161,530</b>	<b>\$148,735</b>	<b>\$137,820</b>	<b>\$147,803</b>	<b>\$135,765</b>	<b>\$124,150</b>	<b>\$133,751</b>	<b>\$122,402</b>

See last page of this EXHIBIT for notes and assumptions.

Income Approach

Township of Mahoning Water System Assets  
Pro Forma and Estimated 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 @ 3.84%	
	Terminal Value
Projected Debt Free Net Cash Flow (10)	\$184,563
Divided by Capitalization Factor (8)	<u>3.84%</u>
13th Year Terminal Value	4,806,330
13th Year Present Value Factor (11)	<u>0.6244</u>
Present Value of Terminal Value	3,001,073
Present Value Debt Free Net	
Cash Flow for 13 Years	<u>1,918,617</u>
Indicated Value	<u><u>\$4,919,690</u></u>

DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 3.84%			
		Multiples (13)	Terminal Value
Projected EBIT	\$164,048	14.6	\$2,395,106
Projected EBITDA	271,829	10.1	<u>2,745,477</u>
Weighted (1/3 EBIT 2/3 EBITDA) Terminal Value			2,629,854
13th Year Present Value Factor (11)			<u>0.6244</u>
Present Value of Terminal Value			1,642,081
Present Value Debt Free Net			
Cash Flow for 13 Years			<u>1,918,617</u>
Indicated Value			<u><u>\$3,560,698</u></u>

DCF With Capitalization of Terminal Value Model @ 3.34%	
	Terminal Value
Projected Debt Free Net Cash Flow (10)	\$184,563
Divided by Capitalization Factor (9)	<u>3.34%</u>
13th Year Terminal Value	5,525,841
13th Year Present Value Factor (12)	<u>0.6244</u>
Present Value of Terminal Value	3,450,335
Present Value Debt Free Net	
Cash Flow for 13 Years	<u>1,918,617</u>
Indicated Value	<u><u>\$5,368,953</u></u>

DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 3.34%			
		Multiples (13)	Terminal Value
Projected EBIT	\$164,048	14.6	\$2,395,106
Projected EBITDA	271,829	10.1	<u>2,745,477</u>
Weighted (1/3 EBIT 2/3 EBITDA) Terminal Value			2,629,854
13th Year Present Value Factor (12)			<u>0.6244</u>
Present Value of Terminal Value			1,642,081
Present Value Debt Free Net			
Cash Flow for 13 Years			<u>1,918,617</u>
Indicated Value			<u><u>\$3,560,698</u></u>

See last page of this EXHIBIT for notes and assumptions.

Income Approach

Township of Mahoning Water System Assets  
Pro Forma and Estimated 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-2019 are actual 2016 adjusted for June 2017 rate increase. Post-2018 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 2018. 2024 assumed 3.4% rate increase so operating income is 5.2% of Net Property, Plant & Equipment (Similar to large MUNIs). 2027 assumes 3.2% rate increase every 3 years to account for increase to account for expense increases (2%) less growth in customers (EDU). Rate increases are added into charges for services year after they occur.

OPERATING EXPENSES - increase at 2% annually after 2016 unless noted elsewhere. Assumed economies of scale are shown on lines below.

Wages & Benefits - Post-2018 assumed 15% savings due to economies of scale. Increase at 2% afterwards.

Net Professional Services - Post-2018 assumed 50% savings due to economies of scale. Increase at 2% afterwards.

Utilities - Post-2018 assumed 10% savings due to economies of scale. Increase at 2% afterwards.

- (2) OCNLD depreciation rate plus same rate on half of CAPX.
- (3) Line 5.
- (4) Line 16 + line 14.
- (5) Line 16.
- (6) Capital Expenditures - Are estimates at 1.59% of prior year-end GROSS Property, plant and equipment.
- (7) Changes in Working Capital - based on water industry -1.19% of revenues.
- (8) Discount rate is the current MUNI discount rate. Capitalization rate, "K", at 4/30/2018 equal to discount rate, where capitalization rate = K - g.
- (9) Discount rate is the current MUNI discount rate. Capitalization rate, "K", at 4/30/2018 adjusted for stated growth, "g", where capitalization rate = K - g.
- (10) Final year shown, line 26.
- (11) Final year shown, line 28.
- (12) Final year shown, line 28.
- (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

Income Approach  
Township of Mahoning Water System Assets  
Pro Forma and Estimated Operations With IOU Ownership  
DCF With Capitalization of Terminal Value Model and  
DCF With EBIT & EBITDA Terminal Value Model

	Actual		Estimated	Estimated	Estimated	Estimated	Estimated	Estimated	
	2016	2017	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	
<b>1. OPERATING REVENUES (1)</b>									
2. Charges for services	713,319	731,152	784,651	809,388	834,177	838,344	1,023,652	1,028,749	
3. Other operating income	22,705	22,705	22,705	22,705	22,705	22,705	22,705	22,705	
4. Other (Rate Increase)	0	0	0	0	0	180,244	0	0	
5. Total Operating Revenues	736,024	753,857	807,356	832,093	856,882	1,041,293	1,046,357	1,051,454	
6.									
							Rate Increase	22%	
<b>7. OPERATING EXPENSES (1)</b>									
8. Operating & Maintenance Expenses	590,138	601,941	613,980	626,259	638,784	651,560	664,591	677,883	
9. Remove Economies of Scale									
10. LESS: EOS - Wages & Benefits	0	0	0	(11,584)	(11,816)	(12,052)	(12,293)	(12,539)	
11. LESS: EOS - Professional Services	0	0	0	(44,502)	(45,392)	(46,300)	(47,226)	(48,170)	
12. LESS: EOS - Utilities	0	0	0	(1,469)	(1,499)	(1,528)	(1,559)	(1,590)	
13. ADD: PURTA & Reg Assessment				9,486	9,620	9,752	10,793	10,813	
14. Operating Expenses Before Depreciation	590,138	601,941	613,980	578,190	589,698	601,432	614,307	626,397	
15. Depreciation (2)	60,448	60,448	91,061	91,582	92,850	94,130	95,426	96,741	
16. Total Operating Expenses	650,586	662,389	705,041	669,773	682,548	695,562	709,733	723,138	
17. Operating Income	85,438	91,468	102,315	162,320	174,334	345,731	336,624	328,316	
18. Revenues (3)	736,024	753,857	807,356	832,093	856,882	1,041,293	1,046,357	1,051,454	
19. EBITDA (4)	145,886	151,916	193,376	253,903	267,184	439,861	432,050	425,057	
20. EBIT (5)	85,438	91,468	102,315	162,320	174,334	345,731	336,624	328,316	
21. EBIT	85,438	91,468	102,315	162,320	174,334	345,731	336,624	328,316	
22. (-) Income Taxes	0	0	0	46,894	50,365	99,882	97,251	94,850	
23. Debt Free Net Income	85,438	91,468	102,315	115,426	123,969	245,849	239,373	233,466	
24. (+) Depreciation & Amortization	60,448	60,448	91,061	91,582	92,850	94,130	95,426	96,741	
25. (-) Capital Expenditures (6)	70,364	0	0	86,508	87,003	88,207	89,423	90,655	
26. (-) Changes in Working Capital (7)	(8,759)	(8,971)	(9,608)	(9,902)	(10,197)	(12,391)	(12,452)	(12,512)	
27. Debt Free Net Cash Flow	\$84,281	\$160,887	\$202,984	\$130,403	\$140,012	\$264,163	\$257,828	\$252,064	
28.									
				PV Time Period (mid-year)	0.5	1.5	2.5	3.5	4.5
29. Present Value Factor: 7.12% (8)					0.9662	0.9020	0.8420	0.7861	0.7338
30. Present Value Debt Free Net Cash Flow					\$125,995	\$126,291	\$222,426	\$202,679	\$184,965
31. Present Value Factor: 8.48% (9)					0.9601	0.8851	0.8159	0.7521	0.6933
32. Present Value Debt Free Net Cash Flow					\$125,200	\$123,925	\$215,531	\$193,912	\$174,756
33. Present Value Factor: 7.02% (8)					0.9666	0.9032	0.8440	0.7886	0.7369
34. Present Value Debt Free Net Cash Flow					\$126,047	\$126,459	\$222,954	\$203,323	\$185,746
35. Present Value Factor: 8.38% (9)					0.9606	0.8863	0.8178	0.7545	0.6962
36. Present Value Debt Free Net Cash Flow					\$125,265	\$124,093	\$216,033	\$194,531	\$175,487

See last page of this EXHIBIT for notes and assumptions.

Income Approach  
Township of Mahoning Water System Assets  
Pro Forma and Estimated Operations With IOU Ownership  
DCF With Capitalization of Terminal Value Model and  
DCF With EBIT & EBITDA Terminal Value Model

	Estimated Year 6 2024	Estimated Year 7 2025	Estimated Year 8 2026	Estimated Year 9 2027	Estimated Year 10 2028	Estimated Year 11 2029	Estimated Year 12 2030	Estimated Year 13 2031
<b>1. OPERATING REVENUES (1)</b>								
2. Charges for services	1,033,892	1,063,999	1,069,319	1,074,666	1,105,960	1,111,490	1,117,047	1,149,576
3. Other operating income	22,705	22,705	22,705	22,705	22,705	22,705	22,705	22,705
4. Other (Rate Increase)	24,813	0	0	25,792	0	0	26,809	0
<b>5. Total Operating Revenues</b>	<b>1,081,410</b>	<b>1,086,704</b>	<b>1,092,024</b>	<b>1,123,163</b>	<b>1,128,665</b>	<b>1,134,195</b>	<b>1,166,561</b>	<b>1,172,281</b>
6. Rate Increase	2%			2%			2%	
<b>7. OPERATING EXPENSES (1)</b>								
8. Operating & Maintenance Expenses	691,441	705,270	719,375	733,762	748,438	763,406	778,675	794,248
9. Remove Economies of Scale								
10. LESS: EOS - Wages & Benefits	(12,790)	(13,045)	(13,306)	(13,572)	(13,844)	(14,121)	(14,403)	(14,691)
11. LESS: EOS - Professional Services	(49,134)	(50,116)	(51,119)	(52,141)	(53,184)	(54,247)	(55,332)	(56,439)
12. LESS: EOS - Utilities	(1,622)	(1,654)	(1,688)	(1,721)	(1,756)	(1,791)	(1,827)	(1,863)
13. ADD: PURTA & Reg Assessment	10,833	10,995	11,016	11,035	11,200	11,219	11,239	11,411
<b>14. Operating Expenses Before Depreciation</b>	<b>638,729</b>	<b>651,448</b>	<b>664,279</b>	<b>677,363</b>	<b>690,854</b>	<b>704,466</b>	<b>718,351</b>	<b>732,666</b>
15. Depreciation (2)	98,073	99,425	100,784	102,147	103,526	104,926	106,344	107,781
<b>16. Total Operating Expenses</b>	<b>736,802</b>	<b>750,873</b>	<b>765,063</b>	<b>779,509</b>	<b>794,381</b>	<b>809,393</b>	<b>824,696</b>	<b>840,447</b>
<b>17. Operating Income</b>	<b>344,608</b>	<b>335,831</b>	<b>326,961</b>	<b>343,654</b>	<b>334,284</b>	<b>324,802</b>	<b>341,865</b>	<b>331,834</b>
18. Revenues (3)	1,081,410	1,086,704	1,092,024	1,123,163	1,128,665	1,134,195	1,166,561	1,172,281
19. EBITDA (4)	442,681	435,256	427,745	445,800	437,811	429,729	448,210	439,615
20. EBIT (5)	344,608	335,831	326,961	343,654	334,284	324,802	341,865	331,834
21. EBIT	344,608	335,831	326,961	343,654	334,284	324,802	341,865	331,834
22. (-) Income Taxes	99,557	97,022	94,459	99,282	96,575	93,835	98,765	95,867
23. Debt Free Net Income	245,051	238,809	232,502	244,372	237,709	230,967	243,100	235,967
24. (+) Depreciation & Amortization	98,073	99,425	100,784	102,147	103,526	104,926	106,344	107,781
25. (-) Capital Expenditures (6)	91,904	93,170	92,651	93,903	95,172	96,459	97,762	99,084
26. (-) Changes in Working Capital (7)	(12,869)	(12,932)	(12,995)	(13,366)	(13,431)	(13,497)	(13,882)	(13,950)
<b>27. Debt Free Net Cash Flow</b>	<b>\$264,089</b>	<b>\$257,995</b>	<b>\$253,631</b>	<b>\$265,981</b>	<b>\$259,495</b>	<b>\$252,932</b>	<b>\$265,565</b>	<b>\$258,615</b>
28. PV Time Period (mid-year)	5.5	6.5	7.5	8.5	9.5	10.5	11.5	12.5
29. Present Value Factor: 7.12% (8)	0.6850	0.6395	0.5970	0.5573	0.5203	0.4857	0.4534	0.4233
<b>30. Present Value Debt Free Net Cash Flow</b>	<b>\$180,901</b>	<b>\$164,988</b>	<b>\$151,417</b>	<b>\$148,231</b>	<b>\$135,015</b>	<b>\$122,849</b>	<b>\$120,407</b>	<b>\$109,472</b>
31. Present Value Factor: 8.48% (9)	0.6391	0.5892	0.5431	0.5006	0.4615	0.4254	0.3922	0.3615
<b>32. Present Value Debt Free Net Cash Flow</b>	<b>\$168,779</b>	<b>\$152,011</b>	<b>\$137,747</b>	<b>\$133,150</b>	<b>\$119,757</b>	<b>\$107,597</b>	<b>\$104,154</b>	<b>\$93,489</b>
33. Present Value Factor: 7.02% (8)	0.6886	0.6434	0.6012	0.5618	0.5249	0.4905	0.4583	0.4282
<b>34. Present Value Debt Free Net Cash Flow</b>	<b>\$181,852</b>	<b>\$165,994</b>	<b>\$152,483</b>	<b>\$149,428</b>	<b>\$136,209</b>	<b>\$124,063</b>	<b>\$121,708</b>	<b>\$110,739</b>
35. Present Value Factor: 8.38% (9)	0.6424	0.5927	0.5469	0.5046	0.4656	0.4296	0.3964	0.3657
<b>36. Present Value Debt Free Net Cash Flow</b>	<b>\$169,651</b>	<b>\$152,914</b>	<b>\$138,711</b>	<b>\$134,214</b>	<b>\$120,821</b>	<b>\$108,659</b>	<b>\$105,270</b>	<b>\$94,575</b>

See last page of this EXHIBIT for notes and assumptions.

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DCF With Capitalization of Terminal Value Model and  
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DCF With Capitalization of Terminal Value Model @ 7.12%	
	Terminal Value
Projected Debt Free Net Cash Flow (10)	\$258,615
Divided by Capitalization Factor (8)	<u>7.12%</u>
13th Year Terminal Value	3,632,227
13th Year Present Value Factor (11)	<u>0.4233</u>
Present Value of Terminal Value	1,537,522
Present Value Debt Free Net	
Cash Flow for 13 Years	<u>1,995,636</u>
Indicated Value	<u>\$3,533,157</u>

DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 7.12%			
		Multiples (13)	Terminal Value
Projected EBIT	\$331,834	14.6	\$4,844,782
Projected EBITDA	439,615	10.1	<u>4,440,115</u>
Weighted (1/3 EBIT 2/3 EBITDA) Terminal Value			4,573,655
13th Year Present Value Factor (11)			<u>0.4233</u>
Present Value of Terminal Value			1,936,028
Present Value Debt Free Net			
Cash Flow for 13 Years			<u>1,995,636</u>
Indicated Value			<u>\$3,931,664</u>

DCF With Capitalization of Terminal Value Model @ 8.48%	
	Terminal Value
Projected Debt Free Net Cash Flow (10)	\$258,615
Divided by Capitalization Factor (9)	<u>8.48%</u>
13th Year Terminal Value	3,049,700
13th Year Present Value Factor (12)	<u>0.3615</u>
Present Value of Terminal Value	1,102,466
Present Value Debt Free Net	
Cash Flow for 13 Years	<u>1,850,009</u>
Indicated Value	<u>\$2,952,475</u>

DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 8.48%			
		Multiples (13)	Terminal Value
Projected EBIT	\$331,834	14.6	\$4,844,782
Projected EBITDA	439,615	10.1	<u>4,440,115</u>
Weighted (1/3 EBIT 2/3 EBITDA) Terminal Value			4,573,655
13th Year Present Value Factor (12)			<u>0.3615</u>
Present Value of Terminal Value			1,653,376
Present Value Debt Free Net			
Cash Flow for 13 Years			<u>1,850,009</u>
Indicated Value			<u>\$3,503,385</u>

DCF With Capitalization of Terminal Value Model @ 7.02%	
	Terminal Value
Projected Debt Free Net Cash Flow (10)	\$258,615
Divided by Capitalization Factor (8)	<u>7.02%</u>
13th Year Terminal Value	3,683,968
13th Year Present Value Factor (11)	<u>0.4233</u>
Present Value of Terminal Value	1,559,424
Present Value Debt Free Net	
Cash Flow for 13 Years	<u>1,995,636</u>
Indicated Value	<u>\$3,555,059</u>

DCF With Capitalization of Terminal Value Model @ 8.38%	
	Terminal Value
Projected Debt Free Net Cash Flow (10)	\$258,615
Divided by Capitalization Factor (9)	<u>8.38%</u>
13th Year Terminal Value	3,086,092
13th Year Present Value Factor (12)	<u>0.3615</u>
Present Value of Terminal Value	1,115,622
Present Value Debt Free Net	
Cash Flow for 13 Years	<u>1,850,009</u>
Indicated Value	<u>\$2,965,631</u>

See last page of this EXHIBIT for notes and assumptions.

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Township of Mahoning Water System Assets  
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Notes: (1) Assumptions:

Charges for services - Pre-2019 are actual 2016 adjusted for June 2017 rate increase. Post-2018 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 2018. 2021 assumed 21.5% rate increase so EBIT is 10.2% of investor's capital (similar to IOU water industry). Beginning in 2024 assumes 2.4% rate increase every 3 years to account for expense increases (2%) less growth in customers. Rate increases are added into charges for services year after they occur.

OPERATING EXPENSES - increase at 2% annually after 2016 unless noted elsewhere. Assumed economies of scale are shown on lines below.

Wages & Benefits - Post-2018 assumed 15% savings due to economies of scale. Increase at 2% afterwards.

Net Professional Services - Post-2018 assumed 50% savings due to economies of scale. Increase at 2% afterwards.

Utilities - Post-2018 assumed 10% savings due to economies of scale. Increase at 2% afterwards.

PURTA & Reg Assessment - 2019 assumed due to IOU purchase at the end of 2018.

- (2) OCNLD depreciation rate plus same rate on half of CAPX.
- (3) Line 5.
- (4) Line 17 + line 15.
- (5) Line 17.
- (6) Capital Expenditures - Are estimates at 1.59% of prior year-end GROSS Property, plant and equipment.
  
- (7) Changes in Working Capital - based on water industry -1.19% of revenues.
- (8) Discount rate is the current lower end of the IOU discount rate. Capitalization rate, "K", at 4/30/2018 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 4/30/2018 adjusted for stated growth, "g", where capitalization rate =  $K - g$ .
- (10) Final year shown, line 27.
- (11) Final year shown, line 29.
- (12) Final year shown, line 31.
- (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		Estimated	Estimated	Estimated	Estimated	Estimated	Estimated
	2016	2017	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
<b>1. OPERATING REVENUES (1)</b>								
2. Charges for services	1,115,704	1,157,543	1,283,060	1,321,737	1,360,492	1,366,977	1,604,203	1,612,011
3. Other operating income	35,512	35,512	35,512	35,512	35,512	35,512	35,512	35,512
4. Other (Rate Increase)	0	0	0	0	0	229,652	0	0
<b>5. Total Operating Revenues</b>	<b>1,151,216</b>	<b>1,193,055</b>	<b>1,318,572</b>	<b>1,357,249</b>	<b>1,396,004</b>	<b>1,632,141</b>	<b>1,639,715</b>	<b>1,647,523</b>
6. Rate Increase						17%		
<b>7. OPERATING EXPENSES (1)</b>								
8. Operating & Maintenance Expenses	1,339,822	1,366,618	1,393,951	1,421,830	1,450,266	1,479,272	1,508,857	1,539,034
9. Remove Economies of Scale								
10. LESS: EOS - Wages & Benefits	0	0	0	(17,376)	(17,723)	(18,078)	(18,439)	(18,808)
11. LESS: EOS - Professional Services	0	0	0	(72,608)	(74,060)	(75,541)	(77,052)	(78,593)
12. LESS: EOS - Utilities	0	0	0	(2,397)	(2,445)	(2,494)	(2,544)	(2,595)
<b>13. Operating Expenses Before Depreciation</b>	<b>1,339,822</b>	<b>1,366,618</b>	<b>1,393,951</b>	<b>1,329,449</b>	<b>1,356,038</b>	<b>1,383,159</b>	<b>1,410,822</b>	<b>1,439,038</b>
14. Depreciation (2)	70,773	70,773	81,865	82,318	83,417	84,527	85,650	86,790
<b>15. Total Operating Expenses</b>	<b>1,410,595</b>	<b>1,437,391</b>	<b>1,475,816</b>	<b>1,411,767</b>	<b>1,439,455</b>	<b>1,467,686</b>	<b>1,496,472</b>	<b>1,525,828</b>
<b>16. Operating Income</b>	<b>(259,379)</b>	<b>(244,337)</b>	<b>(157,245)</b>	<b>(54,518)</b>	<b>(43,451)</b>	<b>164,455</b>	<b>143,243</b>	<b>121,695</b>
17. Revenues (3)	1,151,216	1,193,055	1,318,572	1,357,249	1,396,004	1,632,141	1,639,715	1,647,523
18. EBITDA (4)	(188,606)	(173,564)	(75,379)	27,800	39,966	248,982	228,893	208,485
19. EBIT (5)	(259,379)	(244,337)	(157,245)	(54,518)	(43,451)	164,455	143,243	121,695
20. EBIT	(259,379)	(244,337)	(157,245)	(54,518)	(43,451)	164,455	143,243	121,695
21. (-) Income Taxes	0	0	0	0	0	0	0	0
22. Debt Free Net Income	(259,379)	(244,337)	(157,245)	(54,518)	(43,451)	164,455	143,243	121,695
23. (+) Depreciation & Amortization	70,773	70,773	81,865	82,318	83,417	84,527	85,650	86,790
24. (-) Capital Expenditures (6)	65,544	0	0	77,772	78,202	79,246	80,301	81,368
25. (-) Changes in Working Capital (7)	(13,699)	(14,197)	(15,691)	(16,151)	(16,612)	(19,422)	(19,513)	(19,606)
<b>26. Debt Free Net Cash Flow</b>	<b>(\$240,451)</b>	<b>(\$159,366)</b>	<b>(\$59,688)</b>	<b>(\$33,821)</b>	<b>(\$21,624)</b>	<b>\$189,159</b>	<b>\$168,105</b>	<b>\$146,722</b>
27. PV Time Period (mid-year)				0.5	1.5	2.5	3.5	4.5
28. Present Value Factor: 3.84% (8)				0.9813	0.9450	0.9101	0.8764	0.8440
29. Present Value Debt Free Net Cash Flow				(\$33,188)	(\$20,434)	\$172,153	\$147,327	\$123,833
30. Present Value Factor: 2.04% (9)				0.9900	0.9702	0.9508	0.9318	0.9131
31. Present Value Debt Free Net Cash Flow				(\$33,483)	(\$20,979)	\$179,852	\$156,640	\$133,972

See last page of this EXHIBIT for notes and assumptions.

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DCF With EBIT & EBITDA Terminal Value Model

	Estimated Year 6 2024	Estimated Year 7 2025	Estimated Year 8 2026	Estimated Year 9 2027	Estimated Year 10 2028	Estimated Year 11 2029	Estimated Year 12 2030	Estimated Year 13 2031
<b>1. OPERATING REVENUES (1)</b>								
2. Charges for services	1,620,071	1,690,042	1,698,492	1,706,984	1,784,140	1,793,061	1,802,026	1,881,667
3. Other operating income	35,512	35,512	35,512	35,512	35,512	35,512	35,512	35,512
4. Other (Rate Increase)	61,563	0	0	68,279	0	0	70,279	0
5. <b>Total Operating Revenues</b>	<b>1,717,146</b>	<b>1,725,554</b>	<b>1,734,004</b>	<b>1,810,775</b>	<b>1,819,652</b>	<b>1,828,573</b>	<b>1,907,817</b>	<b>1,917,179</b>
6. Rate Increase	4%			4%			4%	
<b>7. OPERATING EXPENSES (1)</b>								
8. Operating & Maintenance Expenses	1,569,815	1,601,211	1,633,236	1,665,900	1,699,218	1,733,203	1,767,867	1,803,224
9. Remove Economies of Scale								
10. LESS: EOS - Wages & Benefits	(19,184)	(19,568)	(19,959)	(20,359)	(20,766)	(21,181)	(21,605)	(22,037)
11. LESS: EOS - Professional Services	(80,165)	(81,768)	(83,404)	(85,072)	(86,773)	(88,509)	(90,279)	(92,084)
12. LESS: EOS - Utilities	(2,646)	(2,699)	(2,753)	(2,808)	(2,865)	(2,922)	(2,980)	(3,040)
13. <b>Operating Expenses Before Depreciation</b>	<b>1,467,819</b>	<b>1,497,176</b>	<b>1,527,119</b>	<b>1,557,662</b>	<b>1,588,815</b>	<b>1,620,591</b>	<b>1,653,003</b>	<b>1,686,063</b>
14. Depreciation (2)	87,944	89,114	90,308	91,528	92,765	94,018	95,289	96,578
15. <b>Total Operating Expenses</b>	<b>1,555,763</b>	<b>1,586,289</b>	<b>1,617,427</b>	<b>1,649,190</b>	<b>1,681,579</b>	<b>1,714,609</b>	<b>1,748,292</b>	<b>1,782,641</b>
16. <b>Operating Income</b>	<b>161,383</b>	<b>139,265</b>	<b>116,577</b>	<b>161,585</b>	<b>138,073</b>	<b>113,964</b>	<b>159,525</b>	<b>134,538</b>
17. Revenues (3)	1,717,146	1,725,554	1,734,004	1,810,775	1,819,652	1,828,573	1,907,817	1,917,179
18. EBITDA (4)	249,327	228,378	206,885	253,113	230,837	207,982	254,814	231,116
19. EBIT (5)	161,383	139,265	116,577	161,585	138,073	113,964	159,525	134,538
20. EBIT	161,383	139,265	116,577	161,585	138,073	113,964	159,525	134,538
21. (-) Income Taxes	0	0	0	0	0	0	0	0
22. Debt Free Net Income	161,383	139,265	116,577	161,585	138,073	113,964	159,525	134,538
23. (+) Depreciation & Amortization	87,944	89,114	90,308	91,528	92,765	94,018	95,289	96,578
24. (-) Capital Expenditures (6)	82,450	83,547	86,021	87,183	88,361	89,556	90,766	91,993
25. (-) Changes in Working Capital (7)	(20,434)	(20,534)	(20,635)	(21,548)	(21,654)	(21,760)	(22,703)	(22,814)
26. <b>Debt Free Net Cash Flow</b>	<b>\$187,311</b>	<b>\$165,365</b>	<b>\$141,498</b>	<b>\$187,479</b>	<b>\$164,130</b>	<b>\$140,186</b>	<b>\$186,751</b>	<b>\$161,937</b>
27. PV Time Period (mid-year)	5.5	6.5	7.5	8.5	9.5	10.5	11.5	12.5
28. Present Value Factor: 3.84% (8)	0.8128	0.7828	0.7538	0.7259	0.6991	0.6732	0.6483	0.6244
29. Present Value Debt Free Net Cash Flow	<b>\$152,246</b>	<b>\$129,448</b>	<b>\$106,662</b>	<b>\$136,091</b>	<b>\$114,743</b>	<b>\$94,373</b>	<b>\$121,071</b>	<b>\$101,114</b>
30. Present Value Factor: 2.04% (9)	0.8949	0.8770	0.8595	0.8423	0.8254	0.8089	0.7928	0.7769
31. Present Value Debt Free Net Cash Flow	<b>\$167,624</b>	<b>\$145,026</b>	<b>\$121,618</b>	<b>\$157,913</b>	<b>\$135,473</b>	<b>\$113,396</b>	<b>\$148,056</b>	<b>\$125,809</b>

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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 @ 3.84%	
	Terminal Value
Projected Debt Free Net Cash Flow (10)	\$161,937
Divided by Capitalization Factor (8)	<u>3.84%</u>
13th Year Terminal Value	4,217,122
13th Year Present Value Factor (11)	<u>0.6244</u>
Present Value of Terminal Value	2,633,171
Present Value Debt Free Net	
Cash Flow for 13 Years	<u>1,345,438</u>
Indicated Value	<u><u>\$3,978,609</u></u>

DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 3.84%			
		Multiples (13)	Terminal Value
Projected EBIT	\$134,538	14.6	\$1,964,260
Projected EBITDA	231,116	10.1	<u>2,334,272</u>
Weighted (1/3 EBIT 2/3 EBITDA) Terminal Value			2,212,168
13th Year Present Value Factor (11)			<u>0.6244</u>
Present Value of Terminal Value			1,381,278
Present Value Debt Free Net			
Cash Flow for 13 Years			<u>1,345,438</u>
Indicated Value			<u><u>\$2,726,716</u></u>

DCF With Capitalization of Terminal Value Model @ 2.04%	
	Terminal Value
Projected Debt Free Net Cash Flow (10)	\$161,937
Divided by Capitalization Factor (9)	<u>2.04%</u>
13th Year Terminal Value	7,938,112
13th Year Present Value Factor (12)	<u>0.6244</u>
Present Value of Terminal Value	4,956,557
Present Value Debt Free Net	
Cash Flow for 13 Years	<u>1,345,438</u>
Indicated Value	<u><u>\$6,301,996</u></u>

DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 2.04%			
		Multiples (13)	Terminal Value
Projected EBIT	\$134,538	14.6	\$1,964,260
Projected EBITDA	231,116	10.1	<u>2,334,272</u>
Weighted (1/3 EBIT 2/3 EBITDA) Terminal Value			2,212,168
13th Year Present Value Factor (12)			<u>0.6244</u>
Present Value of Terminal Value			1,381,278
Present Value Debt Free Net			
Cash Flow for 13 Years			<u>1,345,438</u>
Indicated Value			<u><u>\$2,726,716</u></u>

See last page of this EXHIBIT for notes and assumptions.

Income Approach

Township of Mahoning Sewer System Assets  
Pro Forma and Estimated 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-2019 are actual 2016 adjusted for June 2017 rate increase. Post-2018 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 2018. 2021 assumed 16.8% rate increase so operating income is 5.2% of Net Property, Plant & Equipment (Similar to large MUNIs). 2024 assumes 3.8% rate increase, 2027 assumes 4.0% rate increase, 2030 assumes 3.9% rate increase every 3 years to account for increase to account for expense increases (2%) less growth in customers (EDU). Rate increases are added into charges for services year after they occur.

OPERATING EXPENSES - increase at 2% annually after 2016 unless noted elsewhere. Assumed economies of scale are shown on lines below.

Wages & Benefits - Post-2018 assumed 15% savings due to economies of scale. Increase at 2% afterwards.

Net Professional Services - Post-2018 assumed 50% savings due to economies of scale. Increase at 2% afterwards.

Utilities - Post-2018 assumed 10% savings due to economies of scale. Increase at 2% afterwards.

- (2) OCNLD depreciation rate plus same rate on half of CAPX.
- (3) Line 5.
- (4) Line 16 + line 14.
- (5) Line 16.
- (6) Capital Expenditures - Are estimates at 1.59% of prior year-end GROSS Property, plant and equipment.
- (7) Changes in Working Capital - based on water industry -1.19% of revenues.
- (8) Discount rate is the current MUNI discount rate. Capitalization rate, "K", at 4/30/2018 equal to discount rate, where capitalization rate =  $K - g$ .
- (9) Discount rate is the current MUNI discount rate. Capitalization rate, "K", at 4/30/2018 adjusted for stated growth, "g", where capitalization rate =  $K - g$ .
- (10) Final year shown, line 26.
- (11) Final year shown, line 28.
- (12) Final year shown, line 28.
- (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

Income Approach  
Township of Mahoning Sewer System Assets  
Pro Forma and Estimated Operations With IOU Ownership  
DCF With Capitalization of Terminal Value Model and  
DCF With EBIT & EBITDA Terminal Value Model

	Actual		Estimated	Estimated	Estimated	Estimated	Estimated	Estimated
	2016	2017	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
	2016	2017	2018	2019	2020	2021	2022	2023
<b>1. OPERATING REVENUES (1)</b>								
2. Charges for services	1,115,704	1,157,543	1,283,060	1,321,737	1,360,492	1,366,977	1,771,766	1,780,389
3. Other operating income	35,512	35,512	35,512	35,512	35,512	35,512	35,512	35,512
4. Other (Rate Increase)	0	0	0	0	0	396,423	0	0
5. <b>Total Operating Revenues</b>	<b>1,151,216</b>	<b>1,193,055</b>	<b>1,318,572</b>	<b>1,357,249</b>	<b>1,396,004</b>	<b>1,798,912</b>	<b>1,807,278</b>	<b>1,815,901</b>
6. Rate Increase						29%		
<b>7. OPERATING EXPENSES (1)</b>								
8. Operating & Maintenance Expenses	1,339,822	1,366,618	1,393,951	1,421,830	1,450,266	1,479,272	1,508,857	1,539,034
9. Remove Economies of Scale								
10. LESS: EOS - Wages & Benefits	0	0	0	(17,376)	(17,723)	(18,078)	(18,439)	(18,808)
11. LESS: EOS - Professional Services	0	0	0	(72,608)	(74,060)	(75,541)	(77,052)	(78,593)
12. LESS: EOS - Utilities	0	0	0	(2,397)	(2,445)	(2,494)	(2,544)	(2,595)
13. ADD: PURTA & Reg Assessment				12,018	12,232	12,444	14,730	14,769
14. <b>Operating Expenses Before Depreciation</b>	<b>1,339,822</b>	<b>1,366,618</b>	<b>1,393,951</b>	<b>1,341,467</b>	<b>1,368,270</b>	<b>1,395,603</b>	<b>1,425,552</b>	<b>1,453,807</b>
15. Depreciation (2)	70,773	70,773	81,865	82,318	83,417	84,527	85,650	86,790
16. <b>Total Operating Expenses</b>	<b>1,410,595</b>	<b>1,437,391</b>	<b>1,475,816</b>	<b>1,423,785</b>	<b>1,451,687</b>	<b>1,480,130</b>	<b>1,511,202</b>	<b>1,540,597</b>
17. <b>Operating Income</b>	<b>(259,379)</b>	<b>(244,337)</b>	<b>(157,245)</b>	<b>(66,536)</b>	<b>(55,683)</b>	<b>318,782</b>	<b>296,076</b>	<b>275,304</b>
18. Revenues (3)	1,151,216	1,193,055	1,318,572	1,357,249	1,396,004	1,798,912	1,807,278	1,815,901
19. EBITDA (4)	(188,606)	(173,564)	(75,379)	15,782	27,734	403,309	381,726	362,094
20. EBIT (5)	(259,379)	(244,337)	(157,245)	(66,536)	(55,683)	318,782	296,076	275,304
21. EBIT	(259,379)	(244,337)	(157,245)	(66,536)	(55,683)	318,782	296,076	275,304
22. (-) Income Taxes	0	0	0	(19,222)	(16,087)	92,096	85,536	79,535
23. Debt Free Net Income	(259,379)	(244,337)	(157,245)	(47,314)	(39,596)	226,686	210,540	195,769
24. (+) Depreciation & Amortization	70,773	70,773	81,865	82,318	83,417	84,527	85,650	86,790
25. (-) Capital Expenditures (6)	65,544	0	0	77,772	78,202	79,246	80,301	81,368
26. (-) Changes in Working Capital (7)	(13,699)	(14,197)	(15,691)	(16,151)	(16,612)	(21,407)	(21,507)	(21,609)
27. <b>Debt Free Net Cash Flow</b>	<b>(\$240,451)</b>	<b>(\$159,366)</b>	<b>(\$59,688)</b>	<b>(\$26,617)</b>	<b>(\$17,769)</b>	<b>\$253,374</b>	<b>\$237,396</b>	<b>\$222,800</b>
28. PV Time Period (mid-year)				0.5	1.5	2.5	3.5	4.5
29. Present Value Factor: 7.12% (8)				0.9662	0.9020	0.8420	0.7861	0.7338
30. Present Value Debt Free Net Cash Flow				(\$25,717)	(\$16,027)	\$213,341	\$186,617	\$163,490
31. Present Value Factor: 8.48% (9)				0.9601	0.8851	0.8159	0.7521	0.6933
32. Present Value Debt Free Net Cash Flow				(\$25,555)	(\$15,727)	\$206,728	\$178,545	\$154,467
33. Present Value Factor: 6.62% (8)				0.9685	0.9083	0.8519	0.7990	0.7494
34. Present Value Debt Free Net Cash Flow				(\$25,778)	(\$16,139)	\$215,849	\$189,679	\$166,966
35. Present Value Factor: 7.98% (9)				0.9623	0.8912	0.8254	0.7644	0.7079
36. Present Value Debt Free Net Cash Flow				(\$25,613)	(\$15,835)	\$209,135	\$181,465	\$157,720

See last page of this EXHIBIT for notes and assumptions.

Income Approach  
Township of Mahoning Sewer System Assets  
Pro Forma and Estimated Operations With IOU Ownership  
DCF With Capitalization of Terminal Value Model and  
DCF With EBIT & EBITDA Terminal Value Model

	Estimated Year 6 2024	Estimated Year 7 2025	Estimated Year 8 2026	Estimated Year 9 2027	Estimated Year 10 2028	Estimated Year 11 2029	Estimated Year 12 2030	Estimated Year 13 2031
<b>1. OPERATING REVENUES (1)</b>								
2. Charges for services	1,789,291	1,861,175	1,870,481	1,879,834	1,955,356	1,965,133	1,974,958	2,054,302
3. Other operating income	35,512	35,512	35,512	35,512	35,512	35,512	35,512	35,512
4. Other (Rate Increase)	62,625	0	0	65,794	0	0	69,124	0
<b>5. Total Operating Revenues</b>	<b>1,887,428</b>	<b>1,896,687</b>	<b>1,905,993</b>	<b>1,981,140</b>	<b>1,990,868</b>	<b>2,000,645</b>	<b>2,079,594</b>	<b>2,089,814</b>
6. Rate Increase	3%			3%			4%	
<b>7. OPERATING EXPENSES (1)</b>								
8. Operating & Maintenance Expenses	1,569,815	1,601,211	1,633,236	1,665,900	1,699,218	1,733,203	1,767,867	1,803,224
9. Remove Economies of Scale								
10. LESS: EOS - Wages & Benefits	(19,184)	(19,568)	(19,959)	(20,359)	(20,766)	(21,181)	(21,605)	(22,037)
11. LESS: EOS - Professional Services	(80,165)	(81,768)	(83,404)	(85,072)	(86,773)	(88,509)	(90,279)	(92,084)
12. LESS: EOS - Utilities	(2,646)	(2,699)	(2,753)	(2,808)	(2,865)	(2,922)	(2,980)	(3,040)
13. ADD: PURTA & Reg Assessment	14,810	15,209	15,254	15,301	15,723	15,772	15,821	16,264
<b>14. Operating Expenses Before Depreciation</b>	<b>1,482,629</b>	<b>1,512,385</b>	<b>1,542,373</b>	<b>1,572,963</b>	<b>1,604,538</b>	<b>1,636,363</b>	<b>1,668,824</b>	<b>1,702,327</b>
15. Depreciation (2)	87,944	89,114	90,308	91,528	92,765	94,018	95,289	96,578
<b>16. Total Operating Expenses</b>	<b>1,570,573</b>	<b>1,601,498</b>	<b>1,632,681</b>	<b>1,664,491</b>	<b>1,697,302</b>	<b>1,730,381</b>	<b>1,764,113</b>	<b>1,798,905</b>
<b>17. Operating Income</b>	<b>316,855</b>	<b>295,189</b>	<b>273,312</b>	<b>316,649</b>	<b>293,566</b>	<b>270,264</b>	<b>315,481</b>	<b>290,909</b>
18. Revenues (3)	1,887,428	1,896,687	1,905,993	1,981,140	1,990,868	2,000,645	2,079,594	2,089,814
19. EBITDA (4)	404,799	384,302	363,620	408,177	386,330	364,282	410,770	387,487
20. EBIT (5)	316,855	295,189	273,312	316,649	293,566	270,264	315,481	290,909
21. EBIT	316,855	295,189	273,312	316,649	293,566	270,264	315,481	290,909
22. (-) Income Taxes	91,539	85,280	78,960	91,480	84,811	78,079	91,142	84,044
23. Debt Free Net Income	225,316	209,909	194,352	225,169	208,755	192,185	224,339	206,865
24. (+) Depreciation & Amortization	87,944	89,114	90,308	91,528	92,765	94,018	95,289	96,578
25. (-) Capital Expenditures (6)	82,450	83,547	86,021	87,183	88,361	89,556	90,766	91,993
26. (-) Changes in Working Capital (7)	(22,460)	(22,571)	(22,681)	(23,576)	(23,691)	(23,808)	(24,747)	(24,869)
<b>27. Debt Free Net Cash Flow</b>	<b>\$253,270</b>	<b>\$238,046</b>	<b>\$221,320</b>	<b>\$253,090</b>	<b>\$236,850</b>	<b>\$220,455</b>	<b>\$253,609</b>	<b>\$236,319</b>
28. PV Time Period (mid-year)	5.5	6.5	7.5	8.5	9.5	10.5	11.5	12.5
29. Present Value Factor: 7.12% (8)	0.6850	0.6395	0.5970	0.5573	0.5203	0.4857	0.4534	0.4233
<b>30. Present Value Debt Free Net Cash Flow</b>	<b>\$173,490</b>	<b>\$152,230</b>	<b>\$132,128</b>	<b>\$141,047</b>	<b>\$123,233</b>	<b>\$107,075</b>	<b>\$114,986</b>	<b>\$100,034</b>
31. Present Value Factor: 8.48% (9)	0.6391	0.5892	0.5431	0.5006	0.4615	0.4254	0.3922	0.3615
<b>32. Present Value Debt Free Net Cash Flow</b>	<b>\$161,865</b>	<b>\$140,257</b>	<b>\$120,199</b>	<b>\$126,697</b>	<b>\$109,306</b>	<b>\$93,781</b>	<b>\$99,466</b>	<b>\$85,429</b>
33. Present Value Factor: 6.62% (8)	0.7029	0.6592	0.6183	0.5799	0.5439	0.5101	0.4785	0.4488
<b>34. Present Value Debt Free Net Cash Flow</b>	<b>\$178,024</b>	<b>\$156,920</b>	<b>\$136,842</b>	<b>\$146,767</b>	<b>\$128,822</b>	<b>\$112,454</b>	<b>\$121,352</b>	<b>\$106,060</b>
35. Present Value Factor: 7.98% (9)	0.6556	0.6071	0.5622	0.5207	0.4822	0.4466	0.4136	0.3830
<b>36. Present Value Debt Free Net Cash Flow</b>	<b>\$166,044</b>	<b>\$144,518</b>	<b>\$124,426</b>	<b>\$131,784</b>	<b>\$114,209</b>	<b>\$98,455</b>	<b>\$104,893</b>	<b>\$90,510</b>

See last page of this EXHIBIT for notes and assumptions.

Income Approach

Township of Mahoning Sewer System Assets  
Pro Forma and Estimated Operations With IOU Ownership  
DCF With Capitalization of Terminal Value Model and  
DCF With EBIT & EBITDA Terminal Value Model

DCF With Capitalization of Terminal Value Model @ 7.12%	
	Terminal Value
Projected Debt Free Net Cash Flow (10)	\$236,319
Divided by Capitalization Factor (8)	<u>7.12%</u>
13th Year Terminal Value	3,319,085
13th Year Present Value Factor (11)	<u>0.4233</u>
Present Value of Terminal Value	1,404,969
Present Value Debt Free Net	
Cash Flow for 13 Years	<u>1,565,927</u>
Indicated Value	<u>\$2,970,896</u>

DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 7.12%			
		Multiples (13)	Terminal Value
Projected EBIT	\$290,909	14.6	\$4,247,277
Projected EBITDA	387,487	10.1	<u>3,913,619</u>
Weighted (1/3 EBIT 2/3 EBITDA) Terminal Value			4,023,726
13th Year Present Value Factor (11)			<u>0.4233</u>
Present Value of Terminal Value			1,703,243
Present Value Debt Free Net			
Cash Flow for 13 Years			<u>1,565,927</u>
Indicated Value			<u>\$3,269,170</u>

DCF With Capitalization of Terminal Value Model @ 8.48%	
	Terminal Value
Projected Debt Free Net Cash Flow (10)	\$236,319
Divided by Capitalization Factor (9)	<u>8.48%</u>
13th Year Terminal Value	2,786,779
13th Year Present Value Factor (12)	<u>0.3615</u>
Present Value of Terminal Value	1,007,421
Present Value Debt Free Net	
Cash Flow for 13 Years	<u>1,435,458</u>
Indicated Value	<u>\$2,442,879</u>

DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 8.48%			
		Multiples (13)	Terminal Value
Projected EBIT	\$290,909	14.6	\$4,247,277
Projected EBITDA	387,487	10.1	<u>3,913,619</u>
Weighted (1/3 EBIT 2/3 EBITDA) Terminal Value			4,023,726
13th Year Present Value Factor (12)			<u>0.3615</u>
Present Value of Terminal Value			1,454,577
Present Value Debt Free Net			
Cash Flow for 13 Years			<u>1,435,458</u>
Indicated Value			<u>\$2,890,035</u>

DCF With Capitalization of Terminal Value Model @ 6.62%	
	Terminal Value
Projected Debt Free Net Cash Flow (10)	\$236,319
Divided by Capitalization Factor (8)	<u>6.62%</u>
13th Year Terminal Value	3,569,771
13th Year Present Value Factor (11)	<u>0.4233</u>
Present Value of Terminal Value	1,511,084
Present Value Debt Free Net	
Cash Flow for 13 Years	<u>1,565,927</u>
Indicated Value	<u>\$3,077,011</u>

DCF With Capitalization of Terminal Value Model @ 7.98%	
	Terminal Value
Projected Debt Free Net Cash Flow (10)	\$236,319
Divided by Capitalization Factor (9)	<u>7.98%</u>
13th Year Terminal Value	2,961,389
13th Year Present Value Factor (12)	<u>0.3615</u>
Present Value of Terminal Value	1,070,542
Present Value Debt Free Net	
Cash Flow for 13 Years	<u>1,435,458</u>
Indicated Value	<u>\$2,506,000</u>

See last page of this EXHIBIT for notes and assumptions.

Income Approach

Township of Mahoning Sewer System Assets  
Pro Forma and Estimated 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-2019 are actual 2016 adjusted for June 2017 rate increase. Post-2018 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 2018. 2021 assumed 29.0% rate increase so EBIT is 10.2% of investor's capital (similar to IOU water industry). Beginning in 2024 assumes 3.5% rate increase every 3 years to account for expense increases (2%) less growth in customers. Rate increases are added into charges for services year after they occur.

OPERATING EXPENSES - increase at 2% annually after 2016 unless noted elsewhere. Assumed economies of scale are shown on lines below.

Wages & Benefits - Post-2018 assumed 15% savings due to economies of scale. Increase at 2% afterwards.

Net Professional Services - Post-2018 assumed 50% savings due to economies of scale. Increase at 2% afterwards.

Utilities - Post-2018 assumed 10% savings due to economies of scale. Increase at 2% afterwards.

PURTA & Reg Assessment - 2019 assumed due to IOU purchase at the end of 2018.

- (2) OCNLD depreciation rate plus same rate on half of CAPX.
- (3) Line 5.
- (4) Line 17 + line 15.
- (5) Line 17.
- (6) Capital Expenditures - Are estimates at 1.59% of prior year-end GROSS Property, plant and equipment.
  
- (7) Changes in Working Capital - based on water industry -1.19% of revenues.
- (8) Discount rate is the current lower end of the IOU discount rate. Capitalization rate, "K", at 4/30/2018 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 4/30/2018 adjusted for stated growth, "g", where capitalization rate =  $K - g$ .
- (10) Final year shown, line 27.
- (11) Final year shown, line 29.
- (12) Final year shown, line 31.
- (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

Market Multiples Method  
Township of Mahoning Sewer and Water Systems Assets  
2017 Operations  
Market Multiple Method

	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u> (Col B × Col C)	<u>E</u> (Col A × Col D)	
	Subject Company <u>Statistic (1)</u>	Comparison Group's Valuation Multiples <u>4/30/2018</u>	Mahoning's Growth & Risk <u>Adjustment</u>	Mahoning's Risk Adjusted Valuation Multiples <u>4/30/2018</u>	Mahoning's Market Multiples <u>Valuation</u>	
<b>Risk Adjusted Multiple</b>						
1.	<u>Township of Mahoning Sewer and Water Systems Assets</u>					
2.	Investor Provided Capital	\$5,675,460	1.94	70.00%	1.36	\$7,718,626
3.	Gross PP&E	\$10,225,921	1.17	95.00%	1.11	11,350,772
4.	Net PP&E	\$6,741,997	1.54	95.00%	1.46	9,843,316
5.	Revenues	\$1,946,683	6.11	70.00%	4.28	8,331,804
6.	EBITDA	(\$21,876)	14.48	70.00%	10.14	(221,822)
7.	EBIT	(\$153,097)	20.78	70.00%	14.55	(2,227,561)
8.	Customers	2,637	\$7,131	75.00%	\$5,348	14,102,676
9.	Population *	8,436	\$1,843	75.00%	\$1,382	11,658,552
10.						
11.	Average					\$7,569,545

\* - population doubled for Mahoning since customer are BOTH water & sewer

**Conclusion of Market Multiple Method Valuation**

		<u>Low</u>	<u>High</u>	<u>Conclusion</u>
12.	Capital Items	\$7,718,626	\$11,350,772	\$9,534,699
13.	(Items 3-4)			
14.	Income Statement Items	(2,227,561)	8,331,804	-
15.	(Items 5-7)			
16.	Demographics Items	11,658,552	14,102,676	12,880,614
17.	(Item 8)			
			Conclusion	<u>\$11,207,656</u>

Market Multiples Method  
Township of Mahoning Sewer and Water Systems Assets  
Development of Market Multiples Method for the Market Multiples Method

	Latest Quarter End			Latest 12 Months			2017		4/30/2018
	Gross PP&E (\$ Mill)	Net PP&E (\$ Mill)	Invest Total Capital (\$ Mill)	12 Mos Rev (\$ Mill)	12 Mos EBITDA (\$ Mill)	12 Mos EBIT (\$ Mill)	Customers	Population	Enterprise Value (\$ Mill)
American States Water Co	\$1,738,362	\$1,204,992	\$910,308	\$440,603	\$157,789	\$118,758	283,223	1,000,000	\$2,426,912
American Water Works Company Inc	\$20,440,000	\$14,970,000	\$13,110,000	\$3,357,000	\$1,714,000	\$1,222,000	3,353,000	15,000,000	\$23,258,742
Aqua America Inc	\$7,003,992	\$5,399,859	\$4,104,422	\$809,525	\$465,269	\$328,967	982,949	3,000,000	\$8,395,536
Artesian Resources Corp	\$582,018	\$464,384	\$263,489	\$82,235	\$36,450	\$26,895	86,500	290,000	\$468,391
California Water Service Group	\$3,025,611	\$2,083,038	\$1,478,005	\$677,101	\$202,506	\$124,209	514,300	2,000,000	\$2,624,859
Middlesex Water Co	\$703,512	\$557,240	\$405,518	\$130,775	\$52,542	\$38,620	114,920	412,000	\$852,880
SJW Corp	\$1,877,993	\$1,299,718	\$928,005	\$395,222	\$148,139	\$98,383	244,133	1,100,200	\$1,707,584
York Water Company (The)	\$363,657	\$289,524	\$210,547	\$48,589	\$29,242	\$22,473	69,604	198,000	\$505,908
Average	\$4,466,893	\$3,283,594	\$2,676,287	\$742,631	\$350,742	\$247,538	706,079	2,875,025	\$5,030,102
Max	\$20,440,000	\$14,970,000	\$13,110,000	\$3,357,000	\$1,714,000	\$1,222,000	3,353,000	15,000,000	\$23,258,742
Min	\$363,657	\$289,524	\$210,547	\$48,589	\$29,242	\$22,473	69,604	198,000	\$468,391
Median	\$1,808,177	\$1,252,355	\$919,156	\$417,912	\$152,964	\$108,570	263,678	1,050,100	\$2,067,248

	Enterprise Value as a Multiple of								Population Per Customer
	Invest Capital (x)	Gross PP&E (x)	Net PP&E (x)	Rev (x)	EBITDA (x)	EBIT (x)	Customers (\$)	Population (\$)	
American States Water Co	2.67	1.40	2.01	5.51	15.38	20.44	\$8,569	\$2,427	3.53
American Water Works Company Inc	1.77	1.14	1.55	6.93	13.57	19.03	\$6,937	\$1,551	4.47
Aqua America Inc	2.05	1.20	1.55	10.37	18.04	25.52	\$8,541	\$2,799	3.05
Artesian Resources Corp	1.78	0.80	1.01	5.70	12.85	17.42	\$5,415	\$1,615	3.35
California Water Service Group	1.78	0.87	1.26	3.88	12.96	21.13	\$5,104	\$1,312	3.89
Middlesex Water Co	2.10	1.21	1.53	6.52	16.23	22.08	\$7,422	\$2,070	3.59
SJW Corp	1.84	0.91	1.31	4.32	11.53	17.36	\$6,994	\$1,552	4.51
York Water Company (The)	2.40	1.39	1.75	10.41	17.30	22.51	\$7,268	\$2,555	2.84
Average	2.05	1.11	1.50	6.70	14.73	20.69	\$7,031	\$1,985	3.65
Max	2.67	1.40	2.01	10.41	18.04	25.52	\$8,569	\$2,799	4.51
Min	1.77	0.80	1.01	3.88	11.53	17.36	\$5,104	\$1,312	2.84
Median	1.94	1.17	1.54	6.11	14.48	20.78	\$7,131	\$1,843	3.56

Market Multiples Method  
Township of Mahoning Sewer and Water Systems Assets  
Quantification of the Effective Risk/Growth Adjustments

	Net PP&E	Gross PP&E	Invest. Capital
Comparable Group Multiple	1.54	1.17	1.94
Implied Capitalization Rate (1÷Multiple)	64.94%	85.47%	51.55%
Ratio of Net PP&E Mult. to Invest. Capital Mult.	126.0%		
Less 1	- 1.00		
Difference in Capital Source due to Contributions	25.97%		
Assumed Investor Financed (1-Difference in Capital Source)	74.03%	74.03%	
Implied Capitalization Rate (1÷Multiple)	X 64.94%	85.47%	
Not Contributed Cap. Rate	48.07%	63.27%	
Not Contributed Multiple (1÷Cap. Rate)	2.08	1.58	
Base Risk Factor	X 70%	70%	
Subject Company Adjusted Multiple	1.46	1.11	
Subject Company Adjusted Multiple	1.46	1.11	
Comparable Group Multiple	÷ 1.54	1.17	
Effective Risk/Growth Adjustment	95%	95%	

	Rev.	EBITDA	EBIT
Comparable Group Multiple	6.11	14.48	20.78
Implied Capitalization Rate (1÷Multiple)	16.37%	6.91%	4.81%
(-) Growth Adjustment	- 0.00%	0.00%	0.00%
Adjusted Capitalization Rate (k-G)	16.37%	6.91%	4.81%
Adjusted Multiple (1÷Adj. Cap. Rate)	6.11	14.48	20.78
Base Risk Factor	X 70%	70%	70%
Subject Company Adjusted Multiple	4.28	10.14	14.55
Subject Company Adjusted Multiple	4.28	10.14	14.55
Comparable Group Multiple	÷ 6.11	14.48	20.78
Effective Risk/Growth Adjustment	70%	70%	70%

Market Multiples Method  
Township of Mahoning Water System Assets  
2017 Operations  
Market Multiple Method

	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u> (Col B × Col C)	<u>E</u> (Col A × Col D)
Subject Company Statistic (1)		Comparison Group's Valuation Multiples 4/30/2018	Mahoning's Water Growth & Risk Adjustment	Mahoning's Water Risk Adjusted Valuation Multiples 4/30/2018	Mahoning's Water Market Multiples Valuation
<b>Risk Adjusted Multiple</b>					
<u>1. Township of Mahoning Water System Assets</u>					
2. Investor Provided Capital	\$2,952,333	1.94	70.00%	1.36	\$4,015,173
3. Gross PP&E	\$5,294,272	1.17	95.00%	1.11	5,876,642
4. Net PP&E	\$3,507,138	1.54	95.00%	1.46	5,120,421
5. Revenues	\$753,857	6.11	70.00%	4.28	3,226,508
6. EBITDA	\$151,916	14.48	70.00%	10.14	1,540,430
7. EBIT	\$91,468	20.78	70.00%	14.55	1,330,863
8. Customers	1,186	\$7,131	75.00%	\$5,348	6,342,728
9. Population	4,218	\$1,843	75.00%	\$1,382	5,829,276
10.					
11. Average					<u>\$4,160,255</u>

<b>Conclusion of Market Multiple Method Valuation</b>					
		<u>Low</u>	<u>High</u>		<u>Conclusion</u>
12.	Capital Items	\$4,015,173	\$5,876,642		\$4,945,907
13.	(Items 3-4)				
14.	Income Statement Items	1,330,863	3,226,508		-
15.	(Items 5 -7)				
16.	Demographics Items	5,829,276	6,342,728		6,086,002
17.	(Item 8)				
				Conclusion	<u>\$5,515,955</u>

Market Multiples Method  
Township of Mahoning Sewer System Assets  
2017 Operations  
Market Multiple Method

	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u> (Col B × Col C)	<u>E</u> (Col A × Col D)
Subject Company Statistic (1)		Comparison Group's Valuation Multiples 4/30/2018	Mahoning's Sewer Growth & Risk Adjustment	Mahoning's Sewer Risk Adjusted Valuation Multiples 4/30/2018	Mahoning's Sewer Market Multiples Valuation
<b>Risk Adjusted Multiple</b>					
<u>1. Township of Mahoning Sewer System Assets</u>					
2. Investor Provided Capital	\$2,723,127	1.94	70.00%	1.36	\$3,703,453
3. Gross PP&E	\$4,931,649	1.17	95.00%	1.11	5,474,130
4. Net PP&E	\$3,234,859	1.54	95.00%	1.46	4,722,894
5. Revenues	\$1,193,055	6.11	70.00%	4.28	5,106,275
6. EBITDA	(\$173,564)	14.48	70.00%	10.14	(1,759,934)
7. EBIT	(\$244,337)	20.78	70.00%	14.55	(3,555,097)
8. Customers	1,451	\$7,131	75.00%	\$5,348	7,759,948
9. Population	4,218	\$1,843	75.00%	\$1,382	5,829,276
10.					
11. Average					<u>\$3,410,118</u>

<b>Conclusion of Market Multiple Method Valuation</b>					
		<u>Low</u>	<u>High</u>		<u>Conclusion</u>
12.	Capital Items	\$3,703,453	\$5,474,130		\$4,588,792
13.	(Items 3-4)				
14.	Income Statement Items	(3,555,097)	5,106,275		-
15.	(Items 5 -7)				
16.	Demographics Items	5,829,276	7,759,948		6,794,612
17.	(Item 8)				
				Conclusion	<u>\$5,691,702</u>

Selected Transactions Method  
For Township of Mahoning Sewer and Water Systems Assets  
Summary

	<u>Low</u>	<u>High</u>	<u>Value</u>
<u>All Selected Transactions Companies</u>			
1. Capital Items	7,279,033.56	21,851,771.14	\$14,565,402
2. (Page 2, Items 1 - 3; 11 - 13; 21 -23; 31 -33)			
3. Income Statement Items	(15,369,945.44)	33,085,167.70	-
4. (Page 2, Items 4 - 6; 14 - 16; 24 - 26; 34 - 36)			
5. Demographics Items	4,242,607.12	43,313,752.78	<u>23,778,180</u>
6. (Page 2, Items 7 - 8; 17 - 18; 27 -28; 37 - 38)			
7.		Indicated Value	<u><u>\$19,171,791</u></u>
<u>Selected Transactions Companies Excluding East Bradford</u>			
8. Capital Items	7,279,033.56	17,446,598.91	\$12,362,816
9. (Page 2, Items 1 - 3; 11 - 13; 21 -23)			
10. Income Statement Items	(12,866,585.87)	33,085,167.70	-
11. (Page 2, Items 4 - 6; 14 - 16; 24 - 26)			
12. Demographics Items	20,244,685.04	43,313,752.78	<u>31,779,219</u>
13. (Page 2, Items 7 - 8; 17 - 18; 27 -28)			
14.		Indicated Value	<u><u>\$22,071,018</u></u>
<u>Selected Transactions Companies - East Bradford</u>			
15. Capital Items	21,851,771.14	21,851,771.14	\$21,851,771
16. (Page 2, Items 31 - 33)			
17. Income Statement Items	(15,369,945.44)	8,610,807.98	-
18. (Page 2, Items 34 - 36)			
19. Demographics Items	4,242,607.12	10,564,903.85	<u>7,403,755</u>
20. (Page 2, Items 37 - 38)			
21.		Indicated Value	<u><u>\$14,627,763</u></u>

Selected Transactions Method  
For Township of Mahoning Sewer and Water Systems Assets  
Based on 2016 - 2018 Acquisitions of Assets of Water or Sewer System, Without Discount for Customer Contributions

Municipal Authority of the City of Mckeesport		
Purchase Price was: \$156,000,000		
	<u>Subject Company Statistics</u>	<u>Transaction Multiple</u>
1. Investor Provided Capital	\$83,903,219	1.86
2. Gross PP&E	\$91,435,797	1.71
3. Net PP&E	\$73,813,794	2.11
4. Revenues	\$13,047,844	11.96
5. EBITDA	\$6,180,616	25.24
6. EBIT	\$3,811,679	40.93
7. Customers	20,320	\$7,677
8. Population	61,752	\$2,526
9.		
10. Average		

Township of Mahoning Sewer and Water Systems Assets		
	Township of Mahoning Sewer and Water Systems Assets's	Selected Transactions Multiples Valuation
Investor Provided Capital	\$5,675,460	10,552,298
Gross PP&E	\$10,225,921	17,446,599
Net PP&E	\$6,741,997	14,248,713
Revenues	\$1,946,683	23,274,541
EBITDA	(\$21,876)	(552,153)
EBIT	(\$153,097)	(6,265,775)
Customers	2,637	20,244,685
Population *	8,436	21,311,310
		<u>\$12,532,527</u>

\* - population doubled for Mahoning since customer are BOTH water & sewer

New Garden Township and Authority's Sewage Collection and Treatment System		
Purchase Price was: \$29,500,000		
	<u>Subject Company Statistics</u>	<u>Transaction Multiple</u>
11. Investor Provided Capital	\$23,001,140	1.28
12. Gross PP&E	\$25,988,330	1.14
13. Net PP&E	\$17,967,319	1.64
14. Revenues	\$2,261,294	13.05
15. EBITDA	\$907,386	32.51
16. EBIT	\$499,638	59.04
17. Customers	1,796	\$16,425
18. Population	12,085	\$2,441
19.		
20. Average		

Township of Mahoning Sewer and Water Systems Assets		
	Township of Mahoning Sewer and Water Systems Assets's	Selected Transactions Multiples Valuation
Investor Provided Capital	\$5,675,460	7,279,034
Gross PP&E	\$10,225,921	11,607,697
Net PP&E	\$6,741,997	11,069,482
Revenues	\$1,946,683	25,395,705
EBITDA	(\$21,876)	(711,208)
EBIT	(\$153,097)	(9,039,265)
Customers	2,637	43,313,753
Population *	8,436	20,592,635
		<u>\$13,688,479</u>

\* - population doubled for Mahoning since customer are BOTH water & sewer

Limerick Township Wastewater System's Assets		
Purchase Price was: \$75,100,000		
	<u>Subject Company Statistics</u>	<u>Transaction Multiple</u>
21. Investor Provided Capital	\$43,501,755	1.73
22. Gross PP&E	\$60,847,250	1.23
23. Net PP&E	\$36,113,701	2.08
24. Revenues	\$4,418,775	17.00
25. EBITDA	\$2,487,775	30.19
26. EBIT	\$893,600	84.04
27. Customers	5,416	\$13,866
28. Population	18,798	\$3,995
29.		
30. Average		

Township of Mahoning Sewer and Water Systems Assets		
	Township of Mahoning Sewer and Water Systems Assets's	Selected Transactions Multiples Valuation
Investor Provided Capital	\$5,675,460	9,797,928
Gross PP&E	\$10,225,921	12,621,222
Net PP&E	\$6,741,997	14,020,274
Revenues	\$1,946,683	33,085,168
EBITDA	(\$21,876)	(660,383)
EBIT	(\$153,097)	(12,866,586)
Customers	2,637	36,565,491
Population *	8,436	33,702,713
		<u>\$15,783,228</u>

\* - population doubled for Mahoning since customer are BOTH water & sewer

East Bradford Township Wastewater System Assets		
Purchase Price was: \$5,000,000		
	<u>Subject Company Statistics</u>	<u>Transaction Multiple</u>
31. Investor Provided Capital	\$1,298,627	3.85
32. Gross PP&E	NA	NA
33. Net PP&E	NA	NA
34. Revenues	\$1,130,372	4.42
35. EBITDA	\$49,804	100.39
36. EBIT	\$49,804	100.39
37. Customers	1,248	\$4,006
38. Population	9,942	\$503
39.		
40. Average		

Township of Mahoning Sewer and Water Systems Assets		
	Township of Mahoning Sewer and Water Systems Assets's	Selected Transactions Multiples Valuation
Investor Provided Capital	\$5,675,460	21,851,771
Gross PP&E	\$10,225,921	NA
Net PP&E	\$6,741,997	NA
Revenues	\$1,946,683	8,610,808
EBITDA	(\$21,876)	(2,196,204)
EBIT	(\$153,097)	(15,369,945)
Customers	2,637	10,564,904
Population *	8,436	4,242,607
		<u>\$4,617,323</u>

\* - population doubled for Mahoning since customer are BOTH water & sewer

Selected Transactions Method  
For Township of Mahoning Water System Assets  
Summary

	<u>Low</u>	<u>High</u>	<u>Value</u>
<u>All Selected Transactions Companies</u>			
1. Capital Items	3,786,500.30	11,367,132.36	\$7,576,816
2. (Page 4, Items 1 - 3; 11 - 13; 21 -23; 31 -33)			
3. Income Statement Items	3,334,552.59	15,251,407.02	-
4. (Page 4, Items 4 - 6; 14 - 16; 24 - 26; 34 - 36)			
5. Demographics Items	2,121,303.56	19,480,512.25	<u>10,800,908</u>
6. (Page 4, Items 7 - 8; 17 - 18; 27 -28; 37 - 38)			
7.		Indicated Value	<u><u>\$9,188,862</u></u>
 <u>Selected Transactions Companies Excluding East Bradford</u>			
8. Capital Items	3,786,500.30	9,032,637.75	\$6,409,569
9. (Page 4, Items 1 - 3; 11 - 13; 21 -23)			
10. Income Statement Items	3,743,505.56	12,812,297.26	-
11. (Page 4, Items 4 - 6; 14 - 16; 24 - 26)			
12. Demographics Items	9,105,118.11	19,480,512.25	<u>14,292,815</u>
13. (Page 4, Items 7 - 8; 17 - 18; 27 -28)			
14.		Indicated Value	<u><u>\$10,351,192</u></u>
 <u>Selected Transactions Companies - East Bradford</u>			
15. Capital Items	11,367,132.36	11,367,132.36	\$11,367,132
16. (Page 4, Items 31 - 33)			
17. Income Statement Items	3,334,552.59	15,251,407.02	-
18. (Page 4, Items 34 - 36)			
19. Demographics Items	2,121,303.56	4,751,602.56	<u>3,436,453</u>
20. (Page 4, Items 37 - 38)			
21.		Indicated Value	<u><u>\$7,401,793</u></u>



Selected Transactions Method  
For Township of Mahoning Sewer System Assets  
Summary

	<u>Low</u>	<u>High</u>	<u>Value</u>
<u>All Selected Transactions Companies</u>			
1. Capital Items	3,492,533.26	10,484,638.78	\$6,988,586
2. (Page 6, Items 1 - 3; 11 - 13; 21 -23; 31 -33)			
3. Income Statement Items	(24,529,810.86)	20,276,756.11	-
4. (Page 6, Items 4 - 6; 14 - 16; 24 - 26; 34 - 36)			
5. Demographics Items	2,121,303.56	23,833,240.53	<u>12,977,272</u>
6. (Page 6, Items 7 - 8; 17 - 18; 27 -28; 37 - 38)			
7.		Indicated Value	<u><u>\$9,982,929</u></u>
<u>Selected Transactions Companies Excluding East Bradford</u>			
8. Capital Items	3,492,533.26	8,413,961.15	\$5,953,247
9. (Page 6, Items 1 - 3; 11 - 13; 21 -23)			
10. Income Statement Items	(20,534,550.31)	20,276,756.11	-
11. (Page 6, Items 4 - 6; 14 - 16; 24 - 26)			
12. Demographics Items	10,296,317.75	23,833,240.53	<u>17,064,779</u>
13. (Page 6, Items 7 - 8; 17 - 18; 27 -28)			
14.		Indicated Value	<u><u>\$11,509,013</u></u>
<u>Selected Transactions Companies - East Bradford</u>			
15. Capital Items	10,484,638.78	10,484,638.78	\$10,484,639
16. (Page 6, Items 31 - 33)			
17. Income Statement Items	(24,529,810.86)	5,277,266.69	-
18. (Page 6, Items 34 - 36)			
19. Demographics Items	2,121,303.56	5,813,301.28	<u>3,967,302</u>
20. (Page 6, Items 37 - 38)			
21.		Indicated Value	<u><u>\$7,225,971</u></u>



Township of Mahoning Sewer and Water Systems Assets  
Summary of Approach Results and  
Fair Market Value Conclusion at Appraisal Date

<u>Valuation Approach</u>	<u>Indicated Value</u>	<u>Conclusion</u>	<u>Consideration</u>
Cost Approach	\$14,353,427		33%
Income Approach	7,575,609		33%
Market Approach	11,207,656		33%
		<b>Conclusion \$11,046,000</b>	

Township of Mahoning Water System Assets  
Summary of Approach Results and  
Fair Market Value Conclusion at Appraisal Date

<u>Valuation Approach</u>	<u>Indicated Value</u>	<u>Conclusion</u>	<u>Consideration</u>
Cost Approach	\$7,551,287		33%
Income Approach	3,997,024		33%
Market Approach	5,515,955	<b>Conclusion \$5,688,000</b>	33%

Township of Mahoning Sewer System Assets  
Summary of Approach Results and  
Fair Market Value Conclusion at Appraisal Date

<u>Valuation Approach</u>	<u>Indicated Value</u>	<u>Conclusion</u>	<u>Consideration</u>
Cost Approach	\$6,802,140		33%
Income Approach	3,748,940		33%
Market Approach	5,691,702	<div style="border: 1px solid black; padding: 5px; display: inline-block;"><b>Conclusion \$5,414,000</b></div>	33%



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ScottMadden, Inc.  
1900 West Park Drive  
Suite 250  
Westborough, MA 01581  
508-202-7918  
scottmadden.com

June 26, 2018

T.S. Scott  
Supervisor  
Mahoning Township Water and Sewer Department  
1101 Bloom Road  
Danville, PA 17821

Dear Mr. Scott,

On September 15, 2017, ScottMadden, Inc. (ScottMadden) performed a valuation of the Mahoning Township Water and Sewer Department (Mahoning) at the request of management for the purposes of establishing a fair value for the operations of Mahoning in accordance with Public Utility Code (66 PA.C.S) – Valuation of Acquired Water and Wastewater Systems for ratemaking purposes. Since the Valuation Report, several assets were dedicated to Mahoning's system that were not contemplated in the original report, but need to be reflected to ascertain the total value of Mahoning in accordance with the Public Utility Code. Subsequently, we have updated the September 15, 2017 report to include the newly dedicated assets. The resulting conclusion of value should not be used for any other purpose or by any other party for any other purpose. This valuation was conducted in accordance with the Statement on Standards for Valuation Services (SSVS) and the Uniform Standards of Professional Appraisal Practice (USPAP). The estimate of value that results from a valuation engagement is expressed as a conclusion of value.

We were restricted or limited in the scope of our work or data available for analysis as follows:

- The descriptions of Mahoning's assets were vague and general in nature;
- The dedicated lines' original cost information was not available. Because of this, we relied upon the engineering firm used in this transaction, Larson Design Group, for their estimation of original cost for these dedicated assets; and
- Mahoning's income statement data did not separate its water and wastewater operations.

Based on our analysis, as described in this valuation report, the conclusion of value of Mahoning as of September 15, 2017 is \$11,116,220 comprising of water operations (\$5,384,879) and wastewater operations (\$5,731,341). This conclusion of value is subject to the Statement of Assumptions and Limiting Conditions found in Appendix A and to the Valuation Analyst's Representation found in Appendix B. We have no obligation to update this report or our conclusion of value for information that comes to our attention after the date of this report.

ScottMadden has no financial interest or contemplated financial interest in the property that is the subject of this report.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read 'D. D.', with a stylized flourish underneath.

Dylan W. D'Ascendis, CVA, CRRA  
Director  
ScottMadden, Inc.

# Valuation Report

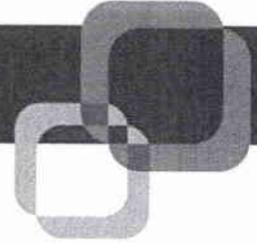
Mahoning Township Water and Sewer  
Department

June 26, 2018

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**scottmadden**  
MANAGEMENT CONSULTANTS



## INTRODUCTION AND PURPOSE

Dylan W. D'Ascendis, CVA, CRRA, Director at ScottMadden, Inc. (hereinafter "ScottMadden") (Full professional qualifications included in Appendix C to this report) has been retained by Mahoning Township Water and Sewer Department (hereinafter, the "Client") to value the assets of Mahoning Township's water and wastewater operations (hereinafter, "Mahoning" or the "Subject Interest") in accordance with Public Utility Code (66 PA.C.S.) – Valuation of Acquired Water and Wastewater Systems for Ratemaking Purposes as of September 15, 2017. The conclusion of value derived as a result of this engagement is valid only for the stated purpose as of the date of valuation. The valuation report does not reflect a value of the Subject Interest under any other circumstances other than those described in this report; therefore, no other purpose is intended or should be inferred.

For consideration in this transaction is a 100% interest in Mahoning, which means that the purchaser of the Subject Interest would be able to control the entity's operations going forward. The Subject Interest is not a marketable interest since it is not publicly traded, and it would be difficult to immediately turn the Subject Interest into cash.

ScottMadden has used fair market value as the standard of value for this engagement. The Internal Revenue Service's Revenue Ruling 59-60 recommends the use of fair market value for valuation of corporate stocks on which market quotations are either unavailable or of such scarcity that they do not reflect the fair market value. Fair market value is defined in Section 25.2512-1 of the U.S. Treasury Regulations (Gift Tax Regulations) as:

The price at which property would change hands between a willing buyer and willing seller, neither being under any compulsion to buy or to sell, and both having reasonable knowledge of relevant facts.

The premise of value is an assumption regarding the most likely set of transactional circumstances that may be applicable to the subject valuation. In lay terms, this explains what is going to happen to the Subject Interest after the transaction. There are any number of variations of premise of value, but two general premises of value are Liquidation (the Subject Interest does not continue operating after the

transaction) and Going Concern (the Subject Interest continues operating after the transaction). The premise of value applied in this valuation study is Going Concern as there is no indication that the Subject Interest would cease operations after the transaction.

## COMPANY BACKGROUND AND OPERATIONS

The Subject Interest is the water and wastewater operations of Mahoning Township, Montour County, Pennsylvania. The Mahoning Township Municipal Authority (predecessor company) was organized in 1951 by the Board of Supervisors of Mahoning Township, County of Montour, Pennsylvania under the Municipal Authorities Act of 1945. On February 2, 2017, the Board of Directors of the Mahoning Township Municipal Authority voted to authorize the filing of Praecipe to Settle, Discontinue, and End the Civil Suit No. 392-2016, seeking an injunction to stay the effectiveness of the Resolution enacted by the Board of Supervisors of Mahoning Township to dissolve the Authority.

Mahoning is located in Danville, PA and provides water and wastewater service in an expanding area along Bloom Road, and in various developments. This area is adjacent to the eastern boundary of the Borough of Danville, County of Montour, Pennsylvania (hereinafter, "Danville"). Service mains are connected with Danville and these services are purchased by Mahoning from Danville. The water and wastewater systems consist of the following:

- A water distribution system which consists of approximately 23 miles of pipe and three pump stations;
- Three above-ground water tanks that can hold approximately 875,000 gallons of water;
- Four water booster / pumping stations;
- A collection system that collects domestic and commercial wastewater through approximately 26 miles of sewer pipe and one lift station which conveys the wastewater to the treatment plant located in Danville.

Mahoning serves approximately 1,100 water customers and 1,400 sewer customers in Mahoning Township.

## **SUMMARY OF VALUATION APPROACHES**

The valuation of the Subject Interest as a Going Concern considers several methods. Each method, at times, may appear more theoretically justified in its use than others. The soundness of a particular method is based on the specific circumstances of each case. We are responsible for selecting the most appropriate approach/method of valuation for this case. The commonly used methods of valuation can be grouped into one of three general approaches: The Cost Approach, the Income Approach, and the Market Approach.

### **Cost Approach**

The Cost Approach is a valuation method that typically values the underlying assets of a company to derive their market value. Because this method only focuses on the company's underlying assets, it fails to reflect the past and projected profitability of the company, as well as the associated risks inherent in the company's operations. Typically, the analyst would start with the current replacement (or reproduction) cost new of the assets being valued and then deduct for the loss in value caused by physical deterioration, functional obsolescence, and economic obsolescence of those assets to arrive at an indicated market value.

### **Income Approach**

The Income approach provides an indication of value by discounting the expected or future cash flows of a company to a present value. The projected cash flows must account for additional investment and working capital additions, and reflect the specific growth potential of the system being valued. The discount rate used to calculate the present value of the company must be derived from market data of similar risk companies. The discount rate must also take into account how the potential acquirer will finance the transaction (e.g. debt, equity, or a combination of debt and equity).

### **Market Approach**

The Market Approach considers comparable transactions of similar utilities in the same general timeframe and general operational area as the company and other market-based data to establish a fair market value. Usually, finding comparable transactions is difficult, if not impossible, since no two companies are identical, nor are they usually timely. In addition, details surrounding utility transactions, particularly private transactions, are incomplete at best. In spite of these challenges, an analyst may be

able to pinpoint a relevant multiple of purchase price or transaction value and then apply that multiple to the Subject Interest to derive a value for that Interest. One can also look to the market data of publicly-traded companies comparable in risk to the Subject Interest for an indication of value.

## APPLICATION OF THE COST APPROACH

### Description of Facilities

The subject facilities are the water and wastewater assets of Mahoning, including those assets that were dedicated after the initial September 15, 2017 report.

### Water Facilities

All water is purchased from the Borough of Danville water department. There are two interconnections with Danville, both of which are gravity fed from the Danville system. The first interconnection is at Route 11, at the Mahoning Township boundary (6" turbine meter), and the second is at Bloom Road at the Mahoning Township boundary (4" turbine meter).

There are four booster pump stations. The first booster pump station is located at Route 11 and it boosts the water from the 12" Route 11 interconnection to the Woodbine Lane area of the Township and the Well House No. 8 Booster Station. This station has three pumps:

- No. 1: Peerless End Suction Close Coupled Hydroconstant pump, 500 gpm @ 165 TDH, 30 HP, 1655 RPM;
- No. 2: Peerless End Suction Close Coupled Hydroconstant pump, 700 gpm @ 165 TDH, 50 HP, 1655 RPM; and
- No. 3: Peerless End Suction Close Coupled Hydroconstant pump, 700 gpm @ 165 TDH, 50 HP, 1655 RPM.

Booster pump No. 1 is a hydroconstant pump that runs continuously to supply pressure to the Woodbine Lane area of the Township. Pump Nos. 2 and 3 are also hydroconstant pumps that are controlled by either the level of water in the storage tanks on Red Lane or the demand of the system.

The second booster pump station is located at Well House No. 8 (Montgomery Village). Water from the Woodbine Lane area of the Township (as supplied by the Route 11 booster pump station) is pumped into the distribution system with any excess water being pumped into the storage tanks on Red Lane.

Chlorination is available at this location as it is required. The chlorine detention tank at this site is 7"-8" in diameter by 20'-0' with a capacity of 5,000 gallons. This station has two pumps:

- No. 1: Goulds Pump Model 3410, horizontal split case, 600 gpm @ 150 ft TDH, 25 HP, 1800 RPM and
- No. 2: Goulds Pump Model 3410, horizontal split case, 600 gpm @ 150 ft TDH, 25 HP, 1800 RPM

These booster pumps are operated by water level in the storage tanks on Red Lane. When the water reaches a predetermined level, a signal is sent to the Well House No. 8 booster station and the Route 11 booster station. Both pump stations will continue to operate until the water in the storage tanks reach a predetermined level.

The third booster pump station is the Edgewood booster station, located at Red Lane at Kaseville Road. The Edgewood booster station boosts water from the main distribution system into the Red Lane area east to Kaseville Road and the Edgewood development. The source of water for this pump station is the distribution system. However, because of the close proximity to Reservoir No. 5, the operation of the booster pump station does not affect the pressure in the distribution system. The pumps are housed in an underground vault. This booster station has two pumps:

- No. 1: Peerless End Suction Close Coupled Hydroconstant pump, 40 gpm @ 145 TDH, 5 HP, 3500 RPM; and
- No. 2: Peerless End Suction Close Coupled Hydroconstant pump, 40 gpm @ 145 TDH, 5 HP, 3500 RPM.

Both pumps are hydroconstant pumps and are controlled by the demand in the Edgewood development. Pumps are alternated on a daily basis. These pumps do not have the capacity to satisfy fire flows. In the event of demands of this type, there is a bypass with a check valve that will supply larger quantities of water with lower pressure.

The final booster pump station is the Woods of Welsh (Red Lane) booster station, located near the Red Lane tank site and on the same land as the maintenance facility building. This booster station has two pumps:

- No. 1: Grundfos vertical can, 53 gpm @ 350 TDH, 3500 RPM; and
- No. 2: Grundfos vertical can, 53 gpm @ 350 TDH, 3500 RPM.

Mahoning has three storage facilities:

- Reservoir No. 1: 300,000 gallon welded steel tank, diameter 42ft., height 30ft;
- Reservoir No. 2: 500,000 gallon welded steel tank, diameter 53.5 ft., height 30 ft; and
- Reservoir No. 3: 75,000 gallon welded steel tank, diameter 20 ft., height 32 ft.

### Wastewater Facilities

Mahoning's wastewater collection system sends all its sewage to Danville for processing. Mahoning has three interconnections. The first interconnection is located at Route 11, which is pumped into Danville using an 8" forced main that turns into gravity at manhole #32 and flows to Danville's manhole #39. The second interconnection consists of an 8" and 12" gravity line that connects on Spring Street in Danville. The 12" line flows into manhole #241 and the 8" flows into Manhole #119. The third interconnection is an 8" clay gravity pipe that connects to Danville at Lower Street.

Mahoning has two pumping stations, Route 11, and Meadows, which contains the following:

Route 11 Station:

- Underground wet well station – 6.5ft in diameter, 30ft deep. Contains Muffin Monster sewage grinding head
- Pump No. 1: Fairbanks model #B54420, 525 gpm; and
- Pump No. 2: Fairbanks model #B54420, 525 gpm.

Meadows Station

- Pump No. 1: FLYGT Pump model #FP3102, 3.9 HP, 1740 RPM;
- Pump No. 2: FLYGT Pump model #FP3102, 3.9 HP, 1740 RPM; and
- SCADA System

### Condition of Facilities

ScottMadden performed a review and analysis of the fixed capital assets as listed by the Client, and an extensive on-site visit of the above ground facilities on August 9, 2017 to assess the future life expectancies of those assets. Based on that review, it was determined that the Mahoning system is in good condition commensurate with its age.

## Trended Original Cost Study

The first step in arriving at the fair market value of the assets of Mahoning using the Cost Approach derives the “reproduction cost new” for the assets that comprise Mahoning. In order to arrive at the reproduction cost new for Mahoning’s assets, ScottMadden began with the original cost of the assets provided by the Client, and used the Handy-Whitman Index to determine the current reproduction value. The Handy-Whitman Index is prepared specifically for electric, gas, and water utilities, and is the only publication of its kind available to the public. The Index has been published continuously since 1924. The Index is comprised of historical index values for various accounts prescribed by the National Association of Regulatory Utility Commissioners (hereinafter “NARUC”) Uniform System of Accounts, as well as for construction, material, and labor, by geographic region of the United States.

The trended original cost method consists of the development of adjustment factors from the time when the asset was put into service to the current date. For example, an average distribution main (NARUC account 331) placed into service in 1985 with an original cost of \$100,000 would be trended forward by the ratio of the index value at the current date divided by the index value at the time of installation. The index value of NARUC account 331 in January 2017 is 774.00, and the index value at 1985 when the assets were installed was 254.00, which means the ratio applied to the original cost of the distribution main would be 3.05.<sup>1</sup> This would translate into a current cost for the steel main of \$304,724.<sup>2</sup>

The next step in deriving the fair market value of Mahoning using the Cost Approach is to quantify the amount of physical deterioration, functional obsolescence, and economic obsolescence of the assets. Physical deterioration is caused by use, wear and tear, and the aging process. Functional obsolescence is caused by changes in design or construction to create efficiencies not present in the current asset. Economic obsolescence is a loss in value due to external factors not in the control of the Company such as economic conditions. The most common measure of physical deterioration is the reserve held for depreciation, which is based on the asset’s remaining life versus its average useful life. Functional obsolescence is measured by comparing the subject asset to a replacement asset with current technology. We have found no significant functional obsolescence for Mahoning assets. Economic obsolescence is usually measured by market conditions, which have been supportive towards water and

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<sup>1</sup> 774.00 / 254.00 = 3.05.

<sup>2</sup> (774.00 / 254.00) x \$100,000 = \$304,724.

wastewater in the recent past, as well as prospectively, so ScottMadden does not believe there is significant economic obsolescence present in the assets of Mahoning. Since the only applicable measure of loss of value is physical deterioration, the Client-provided reserves for depreciation were used for each Mahoning asset.

### **Indication of Value using the Cost Approach**

Using the Handy-Whitman Index to trend the original cost, less depreciation of Mahoning's water and wastewater assets forward, to replacement cost new, less depreciation, ScottMadden arrived at the reproduction cost new minus depreciation values of \$6,308,598 and \$6,221,550, respectively, totaling \$12,530,148 as shown on Schedule 1.

As stated above, the value derived from the Cost Approach is based solely on the underlying assets of the Subject Interest, which means it does not take into account the expected cash flows of these assets. Additionally, even though the Handy-Whitman Index takes into account the changes in the cost of various factors over time in different regions throughout the country, it cannot take into account intricacies such as terrain (e.g. mountains in Appalachia versus farmland in Pennsylvania) or changes in development and zoning since original installation. All else remaining equal, different terrains or changes in laws will translate into different timeframes to complete the project, which will directly affect costs.

As mentioned previously, the descriptions of Mahoning's assets vague and general in nature, and therefore, ScottMadden had to make its best guess as to what assets corresponded to which NARUC account. In addition, the newly dedicated assets did not have original costs assigned, so ScottMadden relied upon the estimation of original cost provided by Larson Design Group, the commonly used engineering firm, for this analysis. With this in mind, it is ScottMadden's opinion that the value of the Mahoning assets derived by the Cost Approach may be less accurate than if ScottMadden was provided the asset list with corresponding NARUC account numbers and actual original costs.

### **APPLICATION OF THE INCOME APPROACH**

ScottMadden performed an independent study of the value of the income generated from service to its customers. The Income Approach employed by ScottMadden is based on the "highest and best use" assumption that the assets of Mahoning would be "maximally productive" or profitable if owned by similar entities.

We have prepared several financial models to develop the indicated values of the Subject Interest. The underlying data was taken from the Client's financial books and records. Due to the limited purposes of these financial statements, they may be incomplete or contain departures from generally-accepted accounting principles. We have not audited, reviewed, or compiled these statements and express no assurance of them. Following an interview with key staff, we incorporated pro forma changes to the annual operating revenues, operating expenses, and future capital requirements to arrive at a reasonable projection of future cash flows for Mahoning.

### Operating Revenue Assumptions

The vast majority of Mahoning revenues are tied to fees for water and sewer service. Other revenues generated by Mahoning are related to tapping fees and other miscellaneous items. Because of this, Mahoning's revenues are dependent on two factors; rate increases and population growth. Assuming a two-year rate freeze after the closing of the transaction, which has been relatively common recently in Pennsylvania, the first opportunity for a rate increase will be in 2021 (purchase in 2018, rates frozen 2019-2020). After the rate freeze is lifted in 2021, ScottMadden assumes there will be a 15% rate increase in 2021 and 2023, and subsequent rate increases of 15% every three years (*i.e.*, 2026, 2029, 2032, etc.) for water and sewer service and tapping fees.

Upon review of US census data and interviews with key staff, ScottMadden has concluded that the population served by Mahoning will be flat going forward. Because of this, ScottMadden did not make any further adjustment to the going forward revenues due to population changes. Miscellaneous revenues will remain constant at \$40,000 per year.

### Operating Expense Assumptions

General operating expenses for Mahoning are comprised of purchased water and sewer services and operation and maintenance expenses. Since the acquiring company will not be tax exempt, we have assumed a composite income tax rate (state and federal) of 41.5%.<sup>3</sup>

- Purchased water and sewer services:

<sup>3</sup> Federal income tax of 35% and Pennsylvania corporate income tax of 9.99%.  $(100\% - 35\%) \times 9.99\% = 6.5\%$ .  $35\% + 6.5\% = 41.5\%$

- Mahoning's historic purchased water and sewer expenses are to be directly related to the amount of water and sewer fees collected and rate increases enacted by Danville (approximately 60% of total sales). Because of this, we have assumed that purchased water and sewer service will be held constant at 60% of total sales going forward.
- Operation and Maintenance Expenses:
    - With the exception of rent expense, all operation and maintenance expenses are assumed to increase at the projected level of the Consumer Price Index<sup>4</sup> (hereinafter, "CPI").
    - Rent expense is expected to increase from \$0 to \$10,000 annually based on 2015 data. It is also assumed that the rent will increase 5% every three years for lease renewal.
- State and Federal Income Taxes:
    - The State and Federal income tax rate that will be applied to income before taxes is 41.5% for Pennsylvania, which was also assumed to continue to remain constant going forward. I did not adjust the tax rate for the passage of the Tax Cuts and Jobs Act in late 2017, because that could not have been contemplated at the time of the furnishing of the bids. The current combined State and Federal income tax rate is 28.892%.
    - The State and Federal income taxes will be reduced by the tax shield created by its depreciation expense. To simplify, we will assume that book depreciation expense is equal to tax depreciation expense<sup>5</sup> and multiply depreciation expense by the effective tax rate to derive the value of the tax shield.

### Future Capital Requirements Assumptions

An interview with the Client revealed that the average capital spend per year has been approximately \$50,000. As such, our estimates will start at \$50,000 in 2019 and will increased by CPI for each subsequent year.

### Discount Rate

<sup>4</sup> ScottMadden employed a CPI projection of 2.2% per year, based on the long-term CPI projection published by Blue Chip Financial Forecasts. see Blue Chip Financial Forecasts, Vol. 36, No. 6, June 1, 2017 at 14.

<sup>5</sup> Book depreciation expense averaged approximately \$135,000 per year in the five-years ended 2016.

After calculating the expected cash flows, an appropriate discount rate must be calculated in order to arrive at a value of the Subject Interest based on the Income Approach. The discount rate is the investor-required expected rate of return on the assets. An investor in any company needs to be compensated for the risk of that investment, and a higher level of risk equates to a higher required rate of return. The overall rate of return in this instance is defined by the weighted average cost of capital (hereinafter “WACC”). ScottMadden has calculated a discount rate which relates to the traditional method of financing for publicly-traded water companies, which uses an equal mix between debt and equity capital.

For the common equity cost rate, ScottMadden applied the Discounted Cash Flow (hereinafter “DCF”), Risk Premium (hereinafter “RPM”) and Capital Asset Pricing Models (hereinafter “CAPM”) to a proxy group of publicly-traded water companies and a group of non-regulated companies comparable in total risk to the water utility group. Application of these cost of common equity models to these groups result in an indicated cost of common equity of 10.30% which is presented in Appendix E.

The representative capital structure is a hypothetical capital structure based on the range of capital structures for fiscal year 2016 of the publicly-traded proxy group companies used to derive the cost of common equity.<sup>6</sup> For the debt cost rate used in the WACC calculation, ScottMadden used a projected Moody’s A public utility bond rate of 4.92%.<sup>7</sup> Table 1 below illustrates the assumed WACC of an investor-owned water utility.

**Table 1: Assumed WACC for Water Utility Company**

Type of Capital	Cost Rate	Ratio	Weighted Cost
Long-Term Debt	4.92%	50.00%	2.46%
Common Equity	10.30%	50.00%	5.15%
<b>Total</b>		<b>100.00%</b>	<b>7.61%</b>

<sup>6</sup> The range of equity ratios of the proxy group companies were from 45.17% to 60.60% at 2016 fiscal year end.

<sup>7</sup> Appendix E at 15.

## Indicated Value using the Income Approach

Inputting the pro forma revenue, expense, and capital expenditure data into the model result in an indicated value of \$6,323,239 using the Income Approach as shown on Schedule 2.<sup>8</sup> As stated previously, Mahoning's income statement data was not separated into water and wastewater operations. Because of this, we allocated the \$6,323,239 indicated value by the percentages of water and wastewater assets to total assets.<sup>9</sup> Applying this allocation to the income approach result yields indicated values of \$3,183,583 (water) and \$3,139,655 (wastewater).

## Application of the Market Approach

The Market Approach is a valuation technique whereby the value of a company is estimated based on pricing relationships associated with market transactions involving similar companies. ScottMadden researched transactions involving companies who acquired 100% of a water or sewer interest since 2015. That research returned twenty-five results from around the country, nine of which were acquisitions in Pennsylvania, which are contained on page 2 of Schedule 3.<sup>10</sup> A common ratio which can be used to determine Mahoning's market value is transaction value per customer connection. The purchase price per customer connection ratios for the relevant transactions are also shown on page 2 of Schedule 3. As shown on page 2 of Schedule 3, the nationwide average purchase price to customer connection is 3.99x, while the Pennsylvania average purchase price to customer connection is 6.47x. Given Mahoning's 1,116 water connections and 1,377 wastewater connections, indicated values using this approach range from \$4,458,234 to \$7,216,145, with a midpoint of \$5,837,189 for the water operations and \$5,500,885 to \$8,903,792 with a midpoint of \$7,202,339 for the wastewater operations.

Another way to derive a value using market data would be to apply a market-to-book ratio of a comparable risk group to the book value of Mahoning's assets. As shown on page 3 of Schedule 3, market-to-book ratios of the water utility proxy group used to derive the WACC in the income approach range from 2.49x to 3.91x book value. Using the original cost less depreciation of Mahoning's water and wastewater assets (from Schedule 1) of \$2,626,811 and \$2,796,093, respectively, indicated values range from \$6,530,306 to \$10,292,577, with a midpoint of \$8,411,441 for the water operations and \$6,951,143 to \$10,955,869,

<sup>8</sup> If the current combined State and Federal income tax rate of 28.892% was applied in the Income Approach, the indicated value would be \$7,496,003.

<sup>9</sup> Asset values used were trended original cost less depreciation. Total assets = \$12,530,148, water assets = \$6,308,598 (50.35%), wastewater assets = \$6,221,550 (49.65%).

<sup>10</sup> Transaction details are provided in Appendix F.

with a midpoint of \$8,953,506 as shown on page 4 of Schedule 3. Averaging the midpoints of both measures for the water and wastewater operations indicates values of \$7,124,315 and \$8,077,922, respectively using the market approach as shown on page 1 of Schedule 3.

## CONCLUSION OF VALUE

No method of valuation will produce the exact value of a business. A valuation study cannot incorporate market conditions at the time of sale or predict a potential investor’s desire, or lack thereof, to acquire the business. The Client’s desire to sell additional assets to the potential acquirer may increase the desire of some investors and as a result increase the value of both sets of assets. Our valuation and report cannot incorporate these considerations.

ScottMadden has determined the range of values of the Subject Interest based on the relative weighting of the three valuation methods. The weightings indicate the value placed on each appraisal method from the valuation expert. In ScottMadden’s opinion, all three approaches should receive weight, with the Market and Income Approaches receiving more weight than the Cost Approach. We have placed less weight on the Cost Approach because of the limitations of the data provided by the Client. The range of values and relative weightings of the valuation approaches for Mahoning’s water and wastewater operations are set forth in Tables 2 and 3 below:

**Table 2: Conclusion of Value for Mahoning – Water Operations**

Valuation Approach	Indicated Value	Weight	Weighted Value
Cost	\$6,308,598	20%	\$1,261,720
Income	\$3,183,583	40%	\$1,261,720
Market	\$7,124,315	40%	\$2,849,726
<b>Indicated Value</b>			<b>\$5,384,879</b>

**Table 3: Conclusion of Value for Mahoning – Wastewater Operations**

Valuation Approach	Indicated Value	Weight	Weighted Value
Cost	\$6,221,550	20%	\$1,244,310
Income	\$3,139,655	40%	\$1,255,862
Market	\$8,077,922	40%	\$3,231,169
<b>Indicated Value</b>			<b>\$5,731,341</b>

In addition to the purchase price, the parties should consider the value of additional items including, but not limited to, the following; any balance of materials and supplies, prepaid expenses, and outstanding customer accounts receivable at the date of closing.

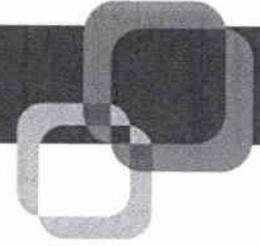
#### **CLOSURE**

ScottMadden strived to consider all relevant information and data presented by the Client. We appreciate the Client's willingness to provide critical data necessary to complete the engagement. We also appreciate the valuable input from the Client's management team. Again, ScottMadden has no financial interest or contemplated financial interest in the property that is the subject of this report.

Respectfully Submitted,



Dylan W. D'Ascendis, CVA, CRRA  
Director  
ScottMadden, Inc.



## **APPENDIX A: STATEMENT OF ASSUMPTIONS AND LIMITING CONDITIONS**

The conclusion of value arrived at herein is valid only for the stated purpose as of the date of the valuation.

Financial statement and other related information provided by the Client, or its representatives, in the course of the engagement, have been accepted without any verification as fully and correctly reflecting the enterprise's business conditions and operating results for the respective periods, except as specifically noted herein, ScottMadden, Inc. has not audited, reviewed, or compiled the financial information provided and, accordingly, expresses no audit opinion or any form of assurance on this information.

Public information has been obtained from sources ScottMadden, Inc. believes to be reliable. However, we make no representation as to the accuracy or completeness of such information and have performed no procedures to corroborate the information

ScottMadden, Inc. does not provide assurance on the achievability of the results forecasted by Mahoning Township Water and Sewer Department because unexpected events and circumstances frequently occur; differences between actual and expected results may be material; and achievement of the forecasted results is dependent on actions, plans, and assumptions of management.

The conclusion of value arrived at herein is based on the assumption that the current level of management expertise and effectiveness would continue to be maintained, and the character and integrity of the enterprise through any sale, reorganization, exchange, or diminution of the owners' participation would not be materially or significantly changed.

This report and the conclusion of value arrived at herein are for the exclusive use of the Client for the sole and specific purposes as noted herein. They may not be used for any other purpose or by any other party for any purpose. Furthermore, the report and conclusion of value are not intended by ScottMadden, Inc. and should not be construed by the reader to be investment advice in any manner whatsoever. The conclusion of value represents the considered opinion of ScottMadden, Inc. based on information furnished to it by the Client and other sources.

Neither all nor any part of the contents of this report (especially the conclusion of value) should be disseminated to the public through advertising media, public relations, news media, sales media, mail, direct transmittal, or any other means of communication without the prior written consent and approval of ScottMadden, Inc.

Future services regarding the subject matter of this report, including, but not limited to testimony or attendance in court, shall not be required of ScottMadden, Inc. unless previous arrangements have been made in writing.

ScottMadden, Inc. is not an environmental consultant or auditor, and it takes no responsibility for any actual or potential environmental liabilities. Any person entitled to rely on this report, wishing to know whether such liabilities exist, or the scope and their effect on the value of the property, is encouraged to

obtain a professional environmental assessment. ScottMadden, Inc. does not conduct or provide environmental assessments and has not performed one for the subject property.

No change of any item in this valuation report shall be made by anyone other than ScottMadden, Inc., and it will not have any responsibility for any such unauthorized change.

ScottMadden has conducted interviews with the current management of the Mahoning Township Water and Sewer Department concerning the past, present, and prospective operating results of the Company.

Except as noted, ScottMadden, Inc. has relied on the representations of management concerning the value and useful condition of all equipment, real estate, and any other assets, except as specifically stated to the contrary in this report.

ScottMadden, Inc. has no financial interest or contemplated financial interest in the Company that is the subject of this report.

## APPENDIX B: VALUATION ANALYST'S REPRESENTATIONS

The analyses, opinions, and conclusion of value included in the valuation report are subject to the specified assumptions and limiting conditions (see Appendix A), and they are the personal analyses, opinions, and conclusion of value of the valuation analyst.

The economic and market data included in the valuation report have been obtained from various printed or electronic reference sources that the valuation analyst believes to be reliable. The valuation analyst has not performed any corroborating procedures to substantiate that data.

The valuation engagement was performed in accordance with the American Institute of Certified Public Accountants Statement on Standards for Valuation Services and the Uniform Standards of Professional Appraisal Practice.

The parties for which the information and use of the valuation report is restricted are identified; the valuation report is not intended to be and should not be used by anyone other than such parties.

The analyst's compensation is fee-based and is not contingent upon the development or reporting of a predetermined value or direction of value that favors the cause of the Client, the amount of the estimate of value, or the attainment of a stipulated result.

The valuation analyst relied upon the Larson Design Group for the estimated original costs of the newly dedicated assets during the valuation engagement.

The valuation analyst has no obligation to update the report or the opinion of value for information that comes to their attention after the date of the report.

Signature of the Analyst:



Dylan W. D'Ascendis  
Director  
ScottMadden, Inc.

**Summary**

Dylan is an experienced consultant and a Certified Rate of Return Analyst (CRRA) and Certified Valuation Analyst (CVA). He has served as a consultant for investor-owned and municipal utilities and authorities for 9 years. Dylan has extensive experience in rate of return analyses, class cost of service, rate design, and valuation for regulated public utilities. He has testified as an expert witness in the subjects of rate of return, cost of service, rate design, and valuation before 13 regulatory commissions in the U.S. and an American Arbitration Association panel.

He also maintains the benchmark index against which the Hennessy Gas Utility Mutual Fund performance is measured. He serves on the Rates and Regulatory Committee of the National Association of Water Companies (NAWC).

**Areas of Specialization**

- |                            |   |                   |
|----------------------------|---|-------------------|
| ■ Regulation and Rates     | ■ Capital Market Risk                       | ■ Rate of Return  |
| ■ Utilities                | ■ Financial Modeling                        | ■ Cost of Service |
| ■ Mutual Fund Benchmarking | ■ Valuation                                 | ■ Rate Design     |
| ■ Capital Market Risk      | ■ Regulatory Strategy and Rate Case Support |                   |

**Recent Expert Testimony Submission/Appearances**

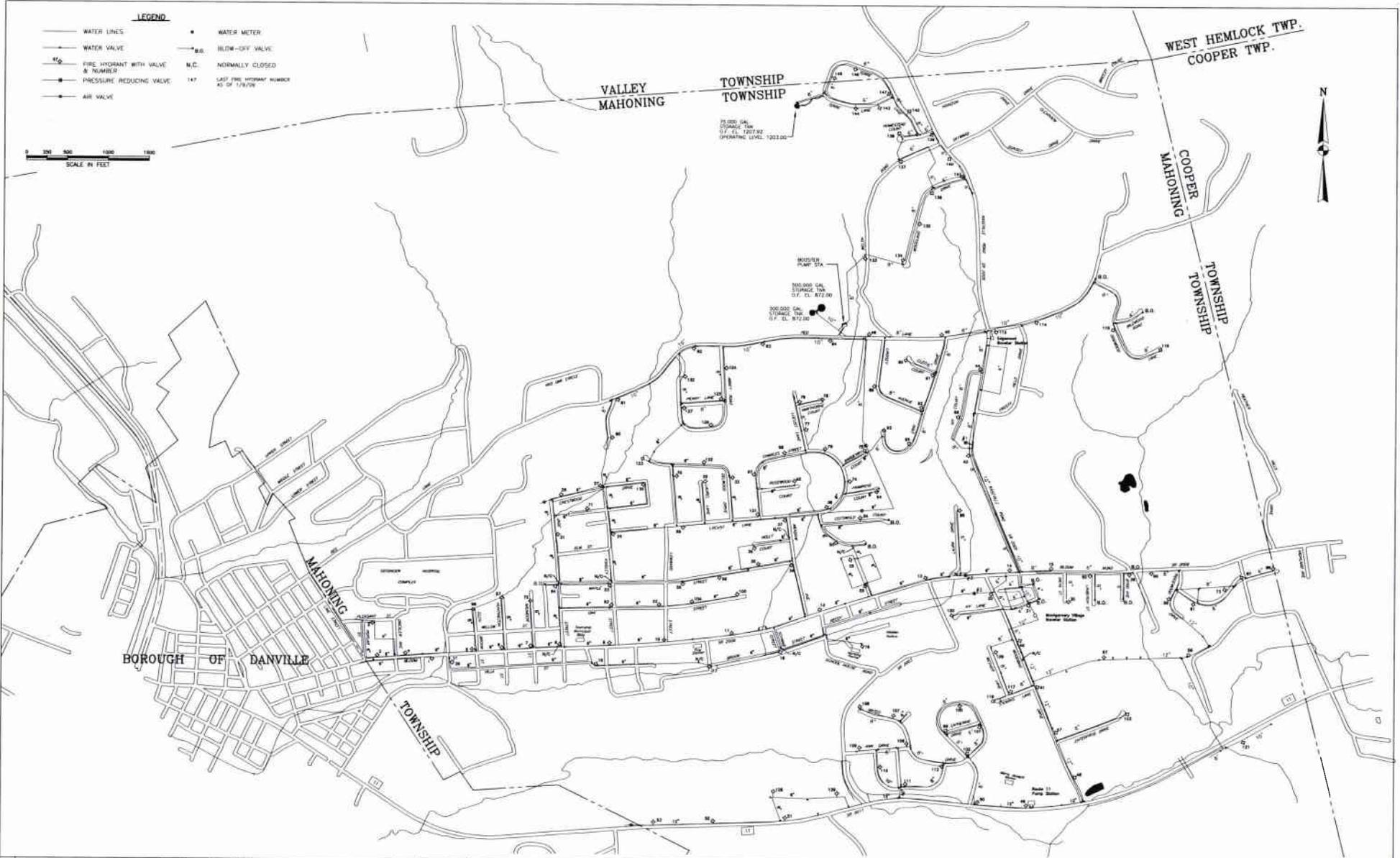
<i><b>Jurisdiction</b></i>	<i><b>Topic</b></i>
■ Regulatory Commission of Alaska	Return on Common Equity & Capital Structure
■ New Jersey Board of Public Utilities	Cost of Service, Rate Design
■ Pennsylvania Public Utility Commission	Return on Common Equity
■ South Carolina Public Service Commission	Return on Common Equity
■ American Arbitration Association	Valuation

**Recent Assignments**

- Provided expert testimony on the cost of capital for ratemaking purposes before numerous state utility regulatory agencies
- Maintains the benchmark index against which the Hennessy Gas Utility Mutual Fund performance is measured
- Sponsored valuation testimony for a large municipal water company in front of an American Arbitration Association Board to justify the reasonability of their lease payments to the City
- Co-authored a valuation report on behalf of a large investor-owned utility company in response to a new state regulation which allowed the appraised value of acquired assets into rate base

**Recent Publications and Speeches**

- Co-Author of: "The Impact of Decoupling on the Cost of Capital of Public Utilities", co-authored with Richard A. Michelfelder, Ph.D., Rutgers University and Pauline M. Ahern. (Forthcoming)
- "Past is Prologue: Future Test Year", Presentation before the National Association of Water Companies 2017 Southeast Water Infrastructure Summit, May 2, 2017, Savannah, GA.
- Co-author of: "Comparative Evaluation of the Predictive Risk Premium Model™, the Discounted Cash Flow Model and the Capital Asset Pricing Model", co-authored with Richard A. Michelfelder, Ph.D., Rutgers University, Pauline M. Ahern, and Frank J. Hanley, The Electricity Journal, May, 2013.
- "Decoupling: Impact on the Risk and Cost of Common Equity of Public Utility Stocks", before the Society of Utility and Regulatory Financial Analysts: 45th Financial Forum, April 17-18, 2013, Indianapolis, IN.



NO. REVISION		DATE	BY	APP.	NO.	DESIGNED BY		CHECKED	SCALE	SCALE	CLIENT & PROJECT	 Suite 100, 648 North Lewis Road Linwood, Pennsylvania 19468 Tel 610 495 0303	TITLE	WATER PLOT PLAN	DWG. NO.
A		1/23/08	DRB	DDH		DRAWN		CHECKED			MAHONING TOWNSHIP AUTHORITY 1101 BLOOM ROAD DANVILLE, PA. 17821 WATER PLOT PLAN MAHONING TOWNSHIP MONTGOMERY COUNTY, PENNSYLVANIA		AS NOTED		
NO. REVISION		DATE	BY	APP.	NO.	DATE		SURVEY DATE				PROJECT NO.	SHEET NO.	REV.	C1
						1/8/08		FIELD BOOK				5400	1 OF 1	A	

3/21/08  
C1



Mahoning Township Water and Sewer Department  
Recommended Capital Structure and Cost Rates  
for Valuation Purposes  
Estimated at September 15, 2017

<u>Type Of Capital</u>	<u>Ratios (1)</u>	<u>Cost Rate</u>	<u>Weighted Cost Rate</u>
Long-Term Debt	50.00%	4.92% (2)	2.46%
Common Equity	<u>50.00%</u>	10.30% (3)	<u>5.15%</u>
Total	<u><u>100.00%</u></u>		<u><u>7.61%</u></u>

Notes:

- (1) A hypothetical capital structure of 50.00% long-term debt and 50.00% common equity is appropriate for cost of capital purposes.
- (2) Projected yield on A rated utility bonds as shown on page 15 of this Appendix.
- (3) From page 2 of this Appendix.

Mahoning Township Water and Sewer Department  
Brief Summary of Common Equity Cost Rate

<u>Line No.</u>	<u>Principal Methods</u>	<u>Proxy Group of Eight Water Companies</u>
1.	Discounted Cash Flow Model (DCF) (1)	8.63 %
2.	Risk Premium Model (RPM) (2)	10.87
3.	Capital Asset Pricing Model (CAPM) (3)	10.09
4.	Market Models Applied to Comparable Risk, Non-Price Regulated Companies (4)	<u>11.22</u>
5.	Recommended Common Equity Cost Rate	<u><u>10.30</u> %</u>

- Notes: (1) From page 4 of this Appendix.  
 (2) From page 13 of this Appendix.  
 (3) From page 25 of this Appendix.  
 (4) From page 30 of this Appendix.

Capital Structure Based upon Total Permanent Capital for the  
Proxy Group of Eight Water Companies  
2012-2016, Inclusive

	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>2013</u>	<u>2012</u>	<u>5 YEAR AVERAGE</u>
<u>American States Water Co.</u>						
Long-Term Debt	39.40 %	41.15 %	39.15 %	40.30 %	42.49 %	40.50 %
Preferred Stock	0.00	0.00	0.00	0.00	0.00	0.00
Common Equity	<u>60.60</u>	<u>58.85</u>	<u>60.85</u>	<u>59.70</u>	<u>57.51</u>	<u>59.50</u>
Total Capital	<u>100.00 %</u>					
<u>American Water Works Company Inc.</u>						
Long-Term Debt	54.74 %	53.89 %	52.70 %	52.42 %	54.30 %	53.61 %
Preferred Stock	0.09	0.11	0.15	0.17	0.21	0.15
Common Equity	<u>45.17</u>	<u>46.00</u>	<u>47.15</u>	<u>47.41</u>	<u>45.49</u>	<u>46.24</u>
Total Capital	<u>100.00 %</u>					
<u>Aqua America Inc.</u>						
Long-Term Debt	50.81 %	50.76 %	49.45 %	50.32 %	53.41 %	50.95 %
Preferred Stock	0.00	0.00	0.00	0.01	0.01	0.00
Common Equity	<u>49.19</u>	<u>49.24</u>	<u>50.55</u>	<u>49.67</u>	<u>46.58</u>	<u>49.05</u>
Total Capital	<u>100.00 %</u>					
<u>California Water Service Group.</u>						
Long-Term Debt	45.83 %	44.69 %	40.46 %	42.03 %	50.39 %	44.68 %
Preferred Stock	0.00	0.00	0.00	0.00	0.00	0.00
Common Equity	<u>54.17</u>	<u>55.31</u>	<u>59.54</u>	<u>57.97</u>	<u>49.61</u>	<u>55.32</u>
Total Capital	<u>100.00 %</u>					
<u>Connecticut Water Service Inc.</u>						
Long-Term Debt	46.02 %	44.54 %	45.91 %	47.34 %	49.03 %	46.57 %
Preferred Stock	0.18	0.19	0.20	0.20	0.21	0.20
Common Equity	<u>53.80</u>	<u>55.27</u>	<u>53.89</u>	<u>52.46</u>	<u>50.76</u>	<u>53.23</u>
Total Capital	<u>100.00 %</u>					
<u>Middlesex Water Co.</u>						
Long-Term Debt	38.91 %	40.44 %	41.55 %	41.36 %	43.53 %	41.16 %
Preferred Stock	0.67	0.69	0.71	0.88	1.02	0.79
Common Equity	<u>60.42</u>	<u>58.87</u>	<u>57.74</u>	<u>57.76</u>	<u>55.45</u>	<u>58.05</u>
Total Capital	<u>100.00 %</u>					
<u>SIW Corp.</u>						
Long-Term Debt	50.69 %	50.03 %	51.66 %	51.09 %	55.39 %	51.77 %
Preferred Stock	0.00	0.00	0.00	0.00	0.00	0.00
Common Equity	<u>49.31</u>	<u>49.97</u>	<u>48.34</u>	<u>48.91</u>	<u>44.61</u>	<u>48.23</u>
Total Capital	<u>100.00 %</u>					
<u>York Water Co.</u>						
Long-Term Debt	42.60 %	44.46 %	44.81 %	45.07 %	45.98 %	44.58 %
Preferred Stock	0.00	0.00	0.00	0.00	0.00	0.00
Common Equity	<u>57.40</u>	<u>55.54</u>	<u>55.19</u>	<u>54.93</u>	<u>54.02</u>	<u>55.42</u>
Total Capital	<u>100.00 %</u>					
<u>Proxy Group of Eight Water Companies</u>						
Long-Term Debt	46.13 %	46.25 %	45.71 %	46.24 %	49.32 %	46.73 %
Preferred Stock	0.12	0.12	0.13	0.16	0.18	0.14
Common Equity	<u>53.75</u>	<u>53.63</u>	<u>54.16</u>	<u>53.60</u>	<u>50.50</u>	<u>53.13</u>
Total Capital	<u>100.00 %</u>					

Source of Information  
Annual Forms 10-K

**Mahoning Township Water and Sewer Department**  
**Indicated Common Equity Cost Rate Using the Discounted Cash Flow Model for**  
**Proxy Group of Eight Water Companies**

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
Proxy Group of Eight Water Companies	Average Dividend Yield (1)	Value Line Projected Five Year Growth in EPS (2)	Reuters Mean Consensus Projected Five Year Growth Rate in EPS	Zack's Five Year Projected Growth Rate in EPS	Yahoo! Finance Projected Five Year Growth in EPS	Average Projected Five Year Growth in EPS (3)	Adjusted Dividend Yield (4)	Indicated Common Equity Cost Rate (5)
American States Water Co.	2.06 %	6.50 %	4.45 %	4.00 %	4.45 %	4.85 %	2.11 %	6.96 %
American Water Works Company Inc	2.11	8.50	9.18	7.80	7.90	8.35	2.20	10.55
Aqua America Inc	2.34	7.00	6.83	5.50	5.50	6.21	2.41	8.62
California Water Service Group	1.99	9.00	7.85	6.00	7.85	7.68	2.07	9.75
Connecticut Water Service Inc	2.13	4.50	7.00	6.00	7.00	6.13	2.20	8.33
Middlesex Water Co.	2.25	8.50	NA	NA	2.70	5.60	2.31	7.91
SJW Corp	1.75	3.00	NA	NA	14.00	8.50	1.82	10.32
York Water Co.	1.84	7.00	NA	NA	4.90	5.95	1.89	7.84
							Average	<u>8.79 %</u>
							Median	<u>8.47 %</u>
							Average of Mean and Median	<u>8.63 %</u>

NA= Not Available

Notes:

- (1) Indicated dividend at 07/31/2017 divided by the average closing price of the last 60 trading days ending 07/31/2017 for each company.
- (2) From pages 5 through 12 of this Appendix.
- (3) Average of columns 2 through 5 excluding negative growth rates.
- (4) This reflects a growth rate component equal to one-half the conclusion of growth rate (from column 6) x column 1 to reflect the periodic payment of dividends (Gordon Model) as opposed to the continuous payment. Thus, for American States Water Co.,  $2.06\% \times (1 + (1/2 \times 4.85\%)) = 2.11\%$ .
- (5) Column 6 + column 7.

Source of Information:

Value Line Investment Survey  
www.reuters.com Downloaded on 07/31/2017  
www.zacks.com Downloaded on 07/31/2017  
www.yahoo.com Downloaded on 07/31/2017





AQUA AMERICA NYSE-WTR				RECENT PRICE	P/E RATIO	Trailing: 25.2 Median: 22.0	RELATIVE P/E RATIO	DIV'D YLD	VALUE LINE	Target Price Range																																																																																																																																																																																																																													
				33.04	23.9		1.21	2.5%		2020	2021	2022																																																																																																																																																																																																																											
<b>TIMELINESS</b> 3 Lowered 8/26/16	High: 23.8	21.3	17.6	17.2	18.4	19.0	21.5	28.1	28.2	31.1	35.8	34.4																																																																																																																																																																																																																											
<b>SAFETY</b> 2 Raised 4/20/12	Low: 16.1	15.1	9.8	12.3	13.2	15.4	16.8	20.6	22.4	24.4	28.0	29.4																																																																																																																																																																																																																											
<b>TECHNICAL</b> 2 Raised 7/14/17	<b>LEGENDS</b> 1.60 x Dividends p sh divided by Interest Rate Relative Price Strength 4-for-3 split 12/05 5-for-4 split 9/13 Options: Yes Shaded area indicates recession																																																																																																																																																																																																																																						
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.87	.96	1.06	1.23	1.47	1.64	1.43	1.58	1.66	1.89	1.90	1.98	1.73	1.84	2.07	2.16	2.05	2.25	Cap'l Spending per sh	2.25																																																																																																																																																																																																																				
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142.47	141.49	154.31	158.97	161.21	165.41	166.75	169.21	170.61	172.46	173.60	175.43	177.93	178.59	176.54	177.39	178.00	178.50	Common Shs Outst'g C	180.00																																																																																																																																																																																																																				
23.6	23.6	24.5	25.1	31.8	34.7	32.0	24.9	23.1	21.1	21.3	21.9	21.2	20.8	23.5	23.9	Bold figures are Value Line estimates		Avg Ann'l P/E Ratio	21.0																																																																																																																																																																																																																				
1.21	1.29	1.40	1.33	1.69	1.87	1.70	1.50	1.54	1.34	1.34	1.39	1.19	1.09	1.16	1.26			Relative P/E Ratio	1.30																																																																																																																																																																																																																				
2.5%	2.5%	2.5%	2.3%	1.8%	1.8%	2.1%	2.8%	3.1%	3.1%	2.8%	2.8%	2.4%	2.5%	2.6%	2.3%			Avg Ann'l Div'd Yield	2.9%																																																																																																																																																																																																																				
<b>CAPITAL STRUCTURE as of 3/31/17</b>																																																																																																																																																																																																																																							
Total Debt \$1944.5 mill Due in 5 Yrs \$430.5 mill																																																																																																																																																																																																																																							
LT Debt \$1797.5 mill LT Interest \$76.3 mill (49% of Cap'l)																																																																																																																																																																																																																																							
<table border="1"> <thead> <tr> <th>2001</th><th>2002</th><th>2003</th><th>2004</th><th>2005</th><th>2006</th><th>2007</th><th>2008</th><th>2009</th><th>2010</th><th>2011</th><th>2012</th><th>2013</th><th>2014</th><th>2015</th><th>2016</th><th>2017</th><th>2018</th><th>20-22</th></tr> </thead> <tbody> <tr> <td>602.5</td><td>627.0</td><td>670.5</td><td>726.1</td><td>712.0</td><td>757.8</td><td>768.6</td><td>779.9</td><td>814.2</td><td>819.9</td><td>840</td><td>890</td><td>Revenues (\$mill)</td><td>1085</td></tr> <tr> <td>95.0</td><td>97.9</td><td>104.4</td><td>124.0</td><td>144.8</td><td>153.1</td><td>205.0</td><td>213.9</td><td>201.8</td><td>234.2</td><td>245</td><td>260</td><td>Net Profit (\$mill)</td><td>335</td></tr> <tr> <td>38.9%</td><td>39.7%</td><td>39.4%</td><td>39.2%</td><td>32.9%</td><td>39.0%</td><td>10.0%</td><td>10.5%</td><td>6.9%</td><td>8.2%</td><td>9.0%</td><td>9.0%</td><td>Income Tax Rate</td><td>10.0%</td></tr> <tr> <td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>1.1%</td><td>2.4%</td><td>3.1%</td><td>3.8%</td><td>3.5%</td><td>3.0%</td><td>AFUDC % to Net Profit</td><td>3.5%</td></tr> <tr> <td>55.4%</td><td>54.1%</td><td>55.6%</td><td>56.6%</td><td>52.7%</td><td>52.7%</td><td>48.9%</td><td>48.5%</td><td>50.3%</td><td>48.4%</td><td>47.0%</td><td>49.0%</td><td>Long-Term Debt Ratio</td><td>51.0%</td></tr> <tr> <td>44.6%</td><td>45.9%</td><td>44.4%</td><td>43.4%</td><td>47.3%</td><td>47.3%</td><td>51.1%</td><td>51.5%</td><td>49.7%</td><td>51.6%</td><td>53.0%</td><td>51.0%</td><td>Common Equity Ratio</td><td>49.0%</td></tr> <tr> <td>2191.4</td><td>2306.6</td><td>2495.5</td><td>2706.2</td><td>2646.8</td><td>2929.7</td><td>3003.6</td><td>3216.0</td><td>3469.5</td><td>3587.7</td><td>3735</td><td>4100</td><td>Total Capital (\$mill)</td><td>5500</td></tr> <tr> <td>2792.8</td><td>2997.4</td><td>3227.3</td><td>3469.3</td><td>3612.9</td><td>3936.2</td><td>4167.3</td><td>4402.0</td><td>4688.9</td><td>5001.6</td><td>5080</td><td>5275</td><td>Net Plant (\$mill)</td><td>5800</td></tr> <tr> <td>5.9%</td><td>5.7%</td><td>5.6%</td><td>5.9%</td><td>6.9%</td><td>6.6%</td><td>8.0%</td><td>7.8%</td><td>6.9%</td><td>7.6%</td><td>7.5%</td><td>7.5%</td><td>Return on Total Cap'l</td><td>7.5%</td></tr> <tr> <td>9.7%</td><td>9.3%</td><td>9.4%</td><td>10.6%</td><td>11.6%</td><td>11.0%</td><td>13.4%</td><td>12.9%</td><td>11.7%</td><td>12.7%</td><td>12.5%</td><td>12.5%</td><td>Return on Shr. Equity</td><td>12.5%</td></tr> <tr> <td>9.7%</td><td>9.3%</td><td>9.4%</td><td>10.6%</td><td>11.6%</td><td>11.0%</td><td>13.4%</td><td>12.9%</td><td>11.7%</td><td>12.7%</td><td>12.5%</td><td>12.5%</td><td>Return on Com Equity</td><td>12.5%</td></tr> <tr> <td>3.2%</td><td>2.8%</td><td>2.7%</td><td>3.7%</td><td>4.6%</td><td>4.3%</td><td>6.7%</td><td>6.1%</td><td>4.7%</td><td>5.6%</td><td>5.5%</td><td>5.0%</td><td>Retained to Com Eq</td><td>4.5%</td></tr> <tr> <td>67%</td><td>70%</td><td>72%</td><td>65%</td><td>60%</td><td>61%</td><td>50%</td><td>52%</td><td>60%</td><td>56%</td><td>58%</td><td>59%</td><td>All Div'ds to Net Prof</td><td>62%</td></tr> </tbody> </table>													2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	20-22	602.5	627.0	670.5	726.1	712.0	757.8	768.6	779.9	814.2	819.9	840	890	Revenues (\$mill)	1085	95.0	97.9	104.4	124.0	144.8	153.1	205.0	213.9	201.8	234.2	245	260	Net Profit (\$mill)	335	38.9%	39.7%	39.4%	39.2%	32.9%	39.0%	10.0%	10.5%	6.9%	8.2%	9.0%	9.0%	Income Tax Rate	10.0%	--	--	--	--	--	--	1.1%	2.4%	3.1%	3.8%	3.5%	3.0%	AFUDC % to Net Profit	3.5%	55.4%	54.1%	55.6%	56.6%	52.7%	52.7%	48.9%	48.5%	50.3%	48.4%	47.0%	49.0%	Long-Term Debt Ratio	51.0%	44.6%	45.9%	44.4%	43.4%	47.3%	47.3%	51.1%	51.5%	49.7%	51.6%	53.0%	51.0%	Common Equity Ratio	49.0%	2191.4	2306.6	2495.5	2706.2	2646.8	2929.7	3003.6	3216.0	3469.5	3587.7	3735	4100	Total Capital (\$mill)	5500	2792.8	2997.4	3227.3	3469.3	3612.9	3936.2	4167.3	4402.0	4688.9	5001.6	5080	5275	Net Plant (\$mill)	5800	5.9%	5.7%	5.6%	5.9%	6.9%	6.6%	8.0%	7.8%	6.9%	7.6%	7.5%	7.5%	Return on Total Cap'l	7.5%	9.7%	9.3%	9.4%	10.6%	11.6%	11.0%	13.4%	12.9%	11.7%	12.7%	12.5%	12.5%	Return on Shr. Equity	12.5%	9.7%	9.3%	9.4%	10.6%	11.6%	11.0%	13.4%	12.9%	11.7%	12.7%	12.5%	12.5%	Return on Com Equity	12.5%	3.2%	2.8%	2.7%	3.7%	4.6%	4.3%	6.7%	6.1%	4.7%	5.6%	5.5%	5.0%	Retained to Com Eq	4.5%	67%	70%	72%	65%	60%	61%	50%	52%	60%	56%	58%	59%	All Div'ds to Net Prof	62%																		
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38.9%	39.7%	39.4%	39.2%	32.9%	39.0%	10.0%	10.5%	6.9%	8.2%	9.0%	9.0%	Income Tax Rate	10.0%																																																																																																																																																																																																																										
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44.6%	45.9%	44.4%	43.4%	47.3%	47.3%	51.1%	51.5%	49.7%	51.6%	53.0%	51.0%	Common Equity Ratio	49.0%																																																																																																																																																																																																																										
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Pension Assets-12/16 \$242.4 mill. Oblig. \$308.2 mill																																																																																																																																																																																																																																							
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<b>MARKET CAP: \$5.9 billion (Large Cap)</b>																																																																																																																																																																																																																																							
<b>CURRENT POSITION (SMILL)</b>																																																																																																																																																																																																																																							
2015 2016 3/31/17																																																																																																																																																																																																																																							
Cash Assets	3.2	3.7	4.4																																																																																																																																																																																																																																				
Receivables	99.1	97.4	89.4																																																																																																																																																																																																																																				
Inventory (AvgCst)	12.4	13.0	14.0																																																																																																																																																																																																																																				
Other	13.7	14.6	14.7																																																																																																																																																																																																																																				
Current Assets	128.4	128.7	122.5																																																																																																																																																																																																																																				
Accts Payable	56.5	59.9	50.2																																																																																																																																																																																																																																				
Debt Due	52.3	157.2	147.0																																																																																																																																																																																																																																				
Other	84.4	84.4	80.4																																																																																																																																																																																																																																				
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Revenues	4.0%	2.0%	5.0%																																																																																																																																																																																																																																				
"Cash Flow"	7.5%	7.0%	6.0%																																																																																																																																																																																																																																				
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Dividends	8.0%	8.0%	9.0%																																																																																																																																																																																																																																				
Book Value	7.0%	7.5%	6.5%																																																																																																																																																																																																																																				
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Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31																																																																																																																																																																																																																																			
2014	182.7	195.3	210.5	191.4	779.9																																																																																																																																																																																																																																		
2015	190.3	205.8	221.0	197.1	814.2																																																																																																																																																																																																																																		
2016	192.6	203.9	226.6	196.8	819.9																																																																																																																																																																																																																																		
2017	187.8	210	235	207.2	840																																																																																																																																																																																																																																		
2018	200	225	250	215	890																																																																																																																																																																																																																																		
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2014	.24	.31	.38	.27	1.20																																																																																																																																																																																																																																		
2015	.27	.32	.38	.17	1.14																																																																																																																																																																																																																																		
2016	.29	.34	.41	.28	1.32																																																																																																																																																																																																																																		
2017	.28	.35	.44	.31	1.38																																																																																																																																																																																																																																		
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2013	.14	.14	.152	.152	.58																																																																																																																																																																																																																																		
2014	.152	.152	.165	.165	.63																																																																																																																																																																																																																																		
2015	.165	.165	.178	.178	.69																																																																																																																																																																																																																																		
2016	.178	.178	.1913	.1913	.74																																																																																																																																																																																																																																		
2017	.1913	.1913																																																																																																																																																																																																																																					

(A) Diluted eqs. Excl. nonrec. gains: '01, 2¢; '02, 4¢; '03, 3¢; '12, 18¢. Excl. gain from disc. operations: '12, 7¢; '13, 9¢; '14, 11¢. May not sum due to rounding. Next earnings report due

mid-August.  
(B) Dividends historically paid in early March, June, Sept. & Dec. ■ Div'd. reinvestment plan available (5% discount).

(C) In millions, adjusted for stock splits.

Company's Financial Strength		A
Stock's Price Stability		95
Price Growth Persistence		70
Earnings Predictability		90

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16%; industrial, wastewater & other, 25%. Off & dir. own less than 1% of the common stock: Vanguard Group, 8.9%; Blackrock, Inc., 8.1%; State Street Capital, 6.0% (3/17 Proxy) President & Chief Executive Officer: Christopher Franklin, Incorporated: Pennsylvania. Address: 762 West Lancaster Avenue, Bryn Mawr, Pennsylvania 19010. Tel.: 610-525-1400. Internet: www.aquaamerica.com.

**Aqua America should enjoy decent near-term bottom line growth.** We think the company's share earnings can rise almost 5% to \$1.38, in 2017. The gain is more impressive than it sounds due to a difficult 2016 comparison. In 2018, once again, share earnings will probably rise 5% to \$1.45.

**Capital spending will be greater than previously estimated.** Last April, we thought the company's outlays for this year and next would be \$365 million and \$400 million, respectively. Management recently stated that \$450 million will be spent in 2017 and we are assuming the same amount will be required in 2018.

**The balance sheet is capable of handling the greater outlays.** As one of only two water utilities that carries an (A) Financial Strength rating, Aqua should be able to fund the increased outlays without taking on too much debt and weakening its strong financial position.

**Aqua should benefit from the consolidation taking place in the industry.** As the second biggest publicly traded water utility, we expect the company to make tuck-in acquisitions to help spur ex-

ternal growth. Since there are thousands of small municipal water districts that can't fund the large capital expenditures required, these entities have been selling themselves to bigger utilities. There is a tremendous amount of redundancies involved in this industry, and economies of scale can be substantial. Hence, this strategy, which has been the modus operandi of industry titan American Water Works (AWK), should help Aqua grow, as well.

**Shares of Aqua America may appeal to accounts that must own a water utility.** While we believe AWK is the best run company in the industry, WTR seems to offer more on a value basis. The dividend growth prospects are higher than the group average through 2020-2022. This usually means that investors must accept a yield that is below the group norm. That is not the case with WTR, however. It has a high yield and offers annual dividend increases of about 9% through early next decade. Long-term total return potential might not stack up well against the Value Line median, but it is more attractive than most equities in this sector.

James A. Flood

July 14, 2017



CONNECTICUT WATER NDQ-CTWS										RECENT PRICE	57.00	P/E RATIO	25.9	(Trailing: 26.4 Median: 20.0)	RELATIVE P/E RATIO	1.31	DIV'D YLD	2.1%	VALUE LINE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
<b>TIMELINESS</b> 2	Raised 6/30/17	High: 27.7	25.6	29.0	26.4	27.9	29.1	32.8	36.4	37.5	39.9	58.3	62.2	Target Price Range																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
<b>SAFETY</b> 3	New 1/18/13	Low: 20.3	22.4	19.3	17.3	20.0	23.3	26.2	27.8	31.0	33.2	37.5	50.8	2020	2021	2022																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
<b>TECHNICAL</b> 3	Raised 7/7/17	<b>LEGENDS</b> — 1.30 x Dividends p sh divided by Interest Rate ... Relative Price Strength Options: Yes Shaded area indicates recession																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
<b>BETA</b> 65	(1.00 = Market)	<b>2020-22 PROJECTIONS</b> <table border="1"> <tr> <th>Price</th> <th>Gain</th> <th>Ann'l Total Return</th> </tr> <tr> <td>High 60</td> <td>(+5%)</td> <td>4%</td> </tr> <tr> <td>Low 40</td> <td>(-30%)</td> <td>-5%</td> </tr> </table>															Price	Gain	Ann'l Total Return	High 60	(+5%)	4%	Low 40	(-30%)	-5%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
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LLC 20-22</th> </tr> <tr> <td>5.93</td><td>5.77</td><td>5.91</td><td>6.04</td><td>5.81</td><td>5.68</td><td>7.05</td><td>7.24</td><td>6.93</td><td>7.65</td><td>7.93</td><td>9.47</td><td>8.29</td><td>8.45</td><td>8.58</td><td>8.77</td><td>9.00</td><td>9.60</td><td>Revenues per sh</td><td>12.80</td> </tr> <tr> <td>1.78</td><td>1.78</td><td>1.89</td><td>1.91</td><td>1.62</td><td>1.52</td><td>1.90</td><td>1.95</td><td>1.93</td><td>2.04</td><td>2.11</td><td>2.64</td><td>2.63</td><td>2.97</td><td>3.18</td><td>3.31</td><td>3.40</td><td>3.50</td><td>"Cash Flow" per sh</td><td>3.85</td> </tr> <tr> <td>1.13</td><td>1.12</td><td>1.15</td><td>1.16</td><td>.88</td><td>.81</td><td>1.05</td><td>1.11</td><td>1.19</td><td>1.13</td><td>1.13</td><td>1.53</td><td>1.66</td><td>1.92</td><td>2.04</td><td>2.08</td><td>2.20</td><td>2.35</td><td>Earnings per sh A</td><td>2.65</td> </tr> <tr> <td>.80</td><td>.81</td><td>.83</td><td>.84</td><td>.85</td><td>.86</td><td>.87</td><td>.88</td><td>.90</td><td>.92</td><td>.94</td><td>.96</td><td>.98</td><td>1.01</td><td>1.05</td><td>1.12</td><td>1.18</td><td>1.24</td><td>Div'd Decl'd per sh B=C</td><td>1.40</td> </tr> <tr> <td>1.86</td><td>1.98</td><td>1.49</td><td>1.56</td><td>1.96</td><td>1.96</td><td>2.24</td><td>2.44</td><td>3.28</td><td>3.06</td><td>2.61</td><td>2.79</td><td>3.02</td><td>4.11</td><td>4.29</td><td>5.93</td><td>4.50</td><td>4.35</td><td>Cap'l Spending per sh</td><td>3.35</td> </tr> <tr> <td>9.25</td><td>10.06</td><td>10.46</td><td>10.94</td><td>11.52</td><td>11.60</td><td>11.95</td><td>12.23</td><td>12.67</td><td>13.05</td><td>13.50</td><td>20.95</td><td>17.92</td><td>18.63</td><td>20.01</td><td>20.98</td><td>21.70</td><td>21.65</td><td>Book Value per sh D</td><td>22.80</td> </tr> <tr> <td>7.65</td><td>7.94</td><td>7.97</td><td>8.04</td><td>8.17</td><td>8.27</td><td>8.38</td><td>8.46</td><td>8.57</td><td>8.68</td><td>8.76</td><td>8.85</td><td>11.04</td><td>11.12</td><td>11.19</td><td>11.25</td><td>11.75</td><td>12.00</td><td>Common Shs Outst'g C</td><td>12.50</td> </tr> <tr> <td>21.5</td><td>24.3</td><td>23.5</td><td>22.9</td><td>28.6</td><td>29.0</td><td>23.0</td><td>22.2</td><td>18.4</td><td>20.7</td><td>23.0</td><td>19.4</td><td>18.4</td><td>17.5</td><td>17.6</td><td>23.3</td><td>Bold figures are Value Line estimates</td><td></td><td>Avg Ann'l P/E Ratio</td><td>19.0</td> </tr> <tr> <td>1.10</td><td>1.33</td><td>1.34</td><td>1.21</td><td>1.52</td><td>1.57</td><td>1.22</td><td>1.34</td><td>1.23</td><td>1.32</td><td>1.44</td><td>1.23</td><td>1.03</td><td>.92</td><td>.89</td><td>1.22</td><td></td><td></td><td>Relative P/E Ratio</td><td>1.20</td> </tr> <tr> <td>3.3%</td><td>3.0%</td><td>3.0%</td><td>3.1%</td><td>3.4%</td><td>3.6%</td><td>3.6%</td><td>3.6%</td><td>4.1%</td><td>3.9%</td><td>3.6%</td><td>3.2%</td><td>3.2%</td><td>3.0%</td><td>2.9%</td><td>2.3%</td><td></td><td></td><td>Avg Ann'l Div'd Yield</td><td>2.8%</td> </tr> <tr> <td colspan="17"> <b>CAPITAL STRUCTURE as of 3/31/17</b>            Total Debt \$210.8 mill. Due in 5 Yrs \$19.8 mill.            LT Debt \$205.6 mill. LT Interest \$7.7 mill. (45% of Cap'l)         </td> </tr> <tr> <td colspan="17"> <b>Leases, Uncapitalized:</b> Annual rentals \$3 mill.  <b>Pension Assets-12/16</b> \$62.7 mill. Oblig. \$79.3 mill.         </td> </tr> <tr> <td colspan="17"> <b>Pfd Stock</b> \$0.8 mill. <b>Pfd Divd</b> NMF         </td> </tr> <tr> <td colspan="17"> <b>Common Stock</b> 11,564,346 shs.         </td> </tr> <tr> <td colspan="17"> <b>MARKET CAP:</b> \$650 million (Small Cap)         </td> </tr> <tr> <td colspan="17"> <b>CURRENT POSITION</b> 2015 2016 3/31/17         </td> </tr> <tr> <td colspan="17"> <b>Cash Assets</b> 7 1.6 3.0  <b>Accounts Receivable</b> 11.0 13.0 11.6  <b>Other</b> 15.3 14.8 16.5  <b>Current Assets</b> 27.0 29.4 31.1  <b>Accts Payable</b> 11.9 13.1 8.4  <b>Debt Due</b> 2.8 4.9 5.2  <b>Other</b> 22.2 37.1 40.2  <b>Current Liab.</b> 36.9 55.1 53.8         </td> </tr> <tr> <td colspan="17"> <b>ANNUAL RATES of change (per sh)</b> Past 10 Yrs. Past 5 Yrs. Est'd '14-'16 to '20-'22            Revenues 4.0% 3.0% 7.0%            "Cash Flow" 6.5% 9.5% 3.5%            Earnings 8.0% 12.0% 4.5%            Dividends 2.5% 3.0% 4.5%            Book Value 6.0% 9.0% 2.5%         </td> </tr> <tr> <td colspan="17"> <b>QUARTERLY REVENUES (\$mill.)</b> Full Year  <table border="1"> <tr> <th>Cal-endar</th> <th>Mar.31</th> <th>Jun.30</th> <th>Sep.30</th> <th>Dec.31</th> <th>Full Year</th> </tr> <tr> <td>2014</td> <td>20.3</td> <td>25.4</td> <td>27.6</td> <td>20.7</td> <td>94.0</td> </tr> <tr> <td>2015</td> <td>20.0</td> <td>26.6</td> <td>28.4</td> <td>21.0</td> <td>96.0</td> </tr> <tr> <td>2016</td> <td>21.6</td> <td>26.1</td> <td>29.5</td> <td>21.5</td> <td>98.7</td> </tr> <tr> <td>2017</td> <td>22.5</td> <td>28.5</td> <td>32.0</td> <td>23.0</td> <td>106</td> </tr> <tr> <td>2018</td> <td>25.0</td> <td>30.0</td> <td>35.0</td> <td>25.0</td> <td>115</td> </tr> </table> </td> </tr> <tr> <td colspan="17"> <b>EARNINGS PER SHARE A</b> Full Year  <table border="1"> <tr> <th>Cal-endar</th> <th>Mar.31</th> <th>Jun.30</th> <th>Sep.30</th> <th>Dec.31</th> <th>Full Year</th> </tr> <tr> <td>2014</td> <td>.27</td> <td>.67</td> <td>.76</td> <td>.22</td> <td>1.92</td> </tr> <tr> <td>2015</td> <td>.28</td> <td>.77</td> <td>.79</td> <td>.20</td> <td>2.04</td> </tr> <tr> <td>2016</td> <td>.28</td> <td>.89</td> <td>.84</td> <td>.07</td> <td>2.08</td> </tr> <tr> <td>2017</td> <td>.36</td> <td>.78</td> <td>.86</td> <td>.20</td> <td>2.20</td> </tr> <tr> <td>2018</td> <td>.35</td> <td>.80</td> <td>.90</td> <td>.30</td> <td>2.35</td> </tr> </table> </td> </tr> <tr> <td colspan="17"> <b>QUARTERLY DIVIDENDS PAID B=C</b> Full Year  <table border="1"> <tr> <th>Cal-endar</th> <th>Mar.31</th> <th>Jun.30</th> <th>Sep.30</th> <th>Dec.31</th> <th>Full Year</th> </tr> <tr> <td>2013</td> <td>.2425</td> <td>.2425</td> <td>.2475</td> <td>.2475</td> <td>.98</td> </tr> <tr> <td>2014</td> <td>.2475</td> <td>.2475</td> <td>.2575</td> <td>.2575</td> <td>1.01</td> </tr> <tr> <td>2015</td> <td>.2575</td> <td>.2575</td> <td>.2675</td> <td>.2675</td> <td>1.05</td> </tr> <tr> <td>2016</td> <td>.2675</td> <td>.2825</td> <td>.2825</td> <td>.2825</td> <td>1.12</td> </tr> <tr> <td>2017</td> <td>.2825</td> <td>.2975</td> <td></td> <td></td> <td></td> </tr> </table> </td> </tr> <tr> <td colspan="17"> <b>BUSINESS:</b> Connecticut Water Service, Inc. is a non-operating holding company, whose income is derived from earnings of its wholly-owned subsidiary companies (regulated water utilities). In 2016, 95% of net income was derived from these activities. Provides water services to 440,000 people in 79 municipalities throughout Connecticut and Maine. Acquired The Maine Water Company, January, 2012; Biddeford and Saco Water, December, 2012; Heritage Village, February, 2017. Inc.: Conn. Has 266 employees. Chairman/President/Chief Executive Officer: Eric W. Thornburg. Officers and directors own 2.5% of the common stock; BlackRock, Inc., 7.2% (4/17 proxy). Address: 93 West Main Street, Clinton, CT 06413. Telephone: (860) 669-8636. Internet: www.ctwater.com.         </td> </tr> <tr> <td colspan="17"> <b>Connecticut Water Service completed its purchase of The Avon Water Company.</b> The cash-and-stock deal reflects a total enterprise value of just over \$40 million. Approval by the Connecticut Public Utilities Regulatory Authority was received in April, and the deal is in effect as of July 1st. Avon serves about 4,800 water customers across several communities and will retain its name, service locations, and employees. This deal comes shortly after its addition of Heritage Village (February, 2017), a transaction that is already contributing to its financials.         </td> </tr> <tr> <td colspan="17"> <b>Connecticut's first-quarter showing is encouraging.</b> Revenues of \$22.5 million, while slightly below our call improved nicely, year over year. This result was aided by recovery costs for completed infrastructure upgrades (WICA), higher water surcharges (WISC), specifically in Maine, and the abovementioned benefit of Heritage Village. Meanwhile, operating costs declined 50 basis points compared to the previous year, thanks to lower pension and compensation expenses, as well as a continued overall focus on cost reduction. As a result, profitability rose sharply for         </td> </tr> <tr> <td colspan="17">           the March period, to \$0.36 a share. For this year and next, we remain optimistic that a high single-digit rate of growth is achievable for both the top and bottom lines.         </td> </tr> <tr> <td colspan="17"> <b>Elevated capital spending and acquisitions are likely to be the main growth drivers through decade's end.</b> Connecticut has guided an investment budget of more than \$55 million for 2017, and is poised to reap the rewards of qualifying infrastructure upgrades and replacements through WICA and WISC. Furthermore, we expect several small-to-midsize acquisitions to surface in the coming years, as CTWS' balance sheet is fundamentally sound and can support additional tuck-in purchases.         </td> </tr> <tr> <td colspan="17"> <b>Short-term-minded investors may find something to like here.</b> The issue is now ranked to outperform the year-ahead broader market averages (Timeliness: 2). However, the recent valuation gives us pause. Shares of CTWS are already trading near the high end of our 3- to 5-year Target Price Range, thus limiting their appeal over the pull to 2020-2022.         </td> </tr> <tr> <td colspan="17">           Nicholas P. Patrikis July 14, 2017         </td> </tr> <tr> <td colspan="17"> <b>Company's Financial Strength</b> B+  <b>Stock's Price Stability</b> 90  <b>Price Growth Persistence</b> 50  <b>Earnings Predictability</b> 90         </td> </tr> <tr> <td colspan="17"> <b>To subscribe call 1-800-VALUELINE</b> </td> </tr> </table>																	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	© VALUE LINE PUB. LLC 20-22		5.93	5.77	5.91	6.04	5.81	5.68	7.05	7.24	6.93	7.65	7.93	9.47	8.29	8.45	8.58	8.77	9.00	9.60	Revenues per sh	12.80	1.78	1.78	1.89	1.91	1.62	1.52	1.90	1.95	1.93	2.04	2.11	2.64	2.63	2.97	3.18	3.31	3.40	3.50	"Cash Flow" per sh	3.85	1.13	1.12	1.15	1.16	.88	.81	1.05	1.11	1.19	1.13	1.13	1.53	1.66	1.92	2.04	2.08	2.20	2.35	Earnings per sh A	2.65	.80	.81	.83	.84	.85	.86	.87	.88	.90	.92	.94	.96	.98	1.01	1.05	1.12	1.18	1.24	Div'd Decl'd per sh B=C	1.40	1.86	1.98	1.49	1.56	1.96	1.96	2.24	2.44	3.28	3.06	2.61	2.79	3.02	4.11	4.29	5.93	4.50	4.35	Cap'l Spending per sh	3.35	9.25	10.06	10.46	10.94	11.52	11.60	11.95	12.23	12.67	13.05	13.50	20.95	17.92	18.63	20.01	20.98	21.70	21.65	Book Value per sh D	22.80	7.65	7.94	7.97	8.04	8.17	8.27	8.38	8.46	8.57	8.68	8.76	8.85	11.04	11.12	11.19	11.25	11.75	12.00	Common Shs Outst'g C	12.50	21.5	24.3	23.5	22.9	28.6	29.0	23.0	22.2	18.4	20.7	23.0	19.4	18.4	17.5	17.6	23.3	Bold figures are Value Line estimates		Avg Ann'l P/E Ratio	19.0	1.10	1.33	1.34	1.21	1.52	1.57	1.22	1.34	1.23	1.32	1.44	1.23	1.03	.92	.89	1.22			Relative P/E Ratio	1.20	3.3%	3.0%	3.0%	3.1%	3.4%	3.6%	3.6%	3.6%	4.1%	3.9%	3.6%	3.2%	3.2%	3.0%	2.9%	2.3%			Avg Ann'l Div'd Yield	2.8%	<b>CAPITAL STRUCTURE as of 3/31/17</b> Total Debt \$210.8 mill. Due in 5 Yrs \$19.8 mill. LT Debt \$205.6 mill. LT Interest \$7.7 mill. (45% of Cap'l)																	<b>Leases, Uncapitalized:</b> Annual rentals \$3 mill. <b>Pension Assets-12/16</b> \$62.7 mill. Oblig. \$79.3 mill.																	<b>Pfd Stock</b> \$0.8 mill. <b>Pfd Divd</b> NMF																	<b>Common Stock</b> 11,564,346 shs.																	<b>MARKET CAP:</b> \$650 million (Small Cap)																	<b>CURRENT POSITION</b> 2015 2016 3/31/17																	<b>Cash Assets</b> 7 1.6 3.0 <b>Accounts Receivable</b> 11.0 13.0 11.6 <b>Other</b> 15.3 14.8 16.5 <b>Current Assets</b> 27.0 29.4 31.1 <b>Accts Payable</b> 11.9 13.1 8.4 <b>Debt Due</b> 2.8 4.9 5.2 <b>Other</b> 22.2 37.1 40.2 <b>Current Liab.</b> 36.9 55.1 53.8																	<b>ANNUAL RATES of change (per sh)</b> Past 10 Yrs. Past 5 Yrs. 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In 2016, 95% of net income was derived from these activities. Provides water services to 440,000 people in 79 municipalities throughout Connecticut and Maine. Acquired The Maine Water Company, January, 2012; Biddeford and Saco Water, December, 2012; Heritage Village, February, 2017. Inc.: Conn. Has 266 employees. Chairman/President/Chief Executive Officer: Eric W. Thornburg. Officers and directors own 2.5% of the common stock; BlackRock, Inc., 7.2% (4/17 proxy). Address: 93 West Main Street, Clinton, CT 06413. Telephone: (860) 669-8636. Internet: www.ctwater.com.																	<b>Connecticut Water Service completed its purchase of The Avon Water Company.</b> The cash-and-stock deal reflects a total enterprise value of just over \$40 million. Approval by the Connecticut Public Utilities Regulatory Authority was received in April, and the deal is in effect as of July 1st. Avon serves about 4,800 water customers across several communities and will retain its name, service locations, and employees. This deal comes shortly after its addition of Heritage Village (February, 2017), a transaction that is already contributing to its financials.																	<b>Connecticut's first-quarter showing is encouraging.</b> Revenues of \$22.5 million, while slightly below our call improved nicely, year over year. This result was aided by recovery costs for completed infrastructure upgrades (WICA), higher water surcharges (WISC), specifically in Maine, and the abovementioned benefit of Heritage Village. Meanwhile, operating costs declined 50 basis points compared to the previous year, thanks to lower pension and compensation expenses, as well as a continued overall focus on cost reduction. As a result, profitability rose sharply for																	the March period, to \$0.36 a share. For this year and next, we remain optimistic that a high single-digit rate of growth is achievable for both the top and bottom lines.																	<b>Elevated capital spending and acquisitions are likely to be the main growth drivers through decade's end.</b> Connecticut has guided an investment budget of more than \$55 million for 2017, and is poised to reap the rewards of qualifying infrastructure upgrades and replacements through WICA and WISC. Furthermore, we expect several small-to-midsize acquisitions to surface in the coming years, as CTWS' balance sheet is fundamentally sound and can support additional tuck-in purchases.																	<b>Short-term-minded investors may find something to like here.</b> The issue is now ranked to outperform the year-ahead broader market averages (Timeliness: 2). However, the recent valuation gives us pause. Shares of CTWS are already trading near the high end of our 3- to 5-year Target Price Range, thus limiting their appeal over the pull to 2020-2022.																	Nicholas P. Patrikis July 14, 2017																	<b>Company's Financial Strength</b> B+ <b>Stock's Price Stability</b> 90 <b>Price Growth Persistence</b> 50 <b>Earnings Predictability</b> 90																	<b>To subscribe call 1-800-VALUELINE</b>																
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<b>EARNINGS PER SHARE A</b> Full Year <table border="1"> <tr> <th>Cal-endar</th> <th>Mar.31</th> <th>Jun.30</th> <th>Sep.30</th> <th>Dec.31</th> <th>Full Year</th> </tr> <tr> <td>2014</td> <td>.27</td> <td>.67</td> <td>.76</td> <td>.22</td> <td>1.92</td> </tr> <tr> <td>2015</td> <td>.28</td> <td>.77</td> <td>.79</td> <td>.20</td> <td>2.04</td> </tr> <tr> <td>2016</td> <td>.28</td> <td>.89</td> <td>.84</td> <td>.07</td> <td>2.08</td> </tr> <tr> <td>2017</td> <td>.36</td> <td>.78</td> <td>.86</td> <td>.20</td> <td>2.20</td> </tr> <tr> <td>2018</td> <td>.35</td> <td>.80</td> <td>.90</td> <td>.30</td> <td>2.35</td> </tr> </table>																	Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year	2014	.27	.67	.76	.22	1.92	2015	.28	.77	.79	.20	2.04	2016	.28	.89	.84	.07	2.08	2017	.36	.78	.86	.20	2.20	2018	.35	.80	.90	.30	2.35																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
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<b>BUSINESS:</b> Connecticut Water Service, Inc. is a non-operating holding company, whose income is derived from earnings of its wholly-owned subsidiary companies (regulated water utilities). In 2016, 95% of net income was derived from these activities. Provides water services to 440,000 people in 79 municipalities throughout Connecticut and Maine. Acquired The Maine Water Company, January, 2012; Biddeford and Saco Water, December, 2012; Heritage Village, February, 2017. Inc.: Conn. Has 266 employees. Chairman/President/Chief Executive Officer: Eric W. Thornburg. Officers and directors own 2.5% of the common stock; BlackRock, Inc., 7.2% (4/17 proxy). Address: 93 West Main Street, Clinton, CT 06413. Telephone: (860) 669-8636. Internet: www.ctwater.com.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
<b>Connecticut Water Service completed its purchase of The Avon Water Company.</b> The cash-and-stock deal reflects a total enterprise value of just over \$40 million. Approval by the Connecticut Public Utilities Regulatory Authority was received in April, and the deal is in effect as of July 1st. Avon serves about 4,800 water customers across several communities and will retain its name, service locations, and employees. This deal comes shortly after its addition of Heritage Village (February, 2017), a transaction that is already contributing to its financials.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
<b>Connecticut's first-quarter showing is encouraging.</b> Revenues of \$22.5 million, while slightly below our call improved nicely, year over year. This result was aided by recovery costs for completed infrastructure upgrades (WICA), higher water surcharges (WISC), specifically in Maine, and the abovementioned benefit of Heritage Village. Meanwhile, operating costs declined 50 basis points compared to the previous year, thanks to lower pension and compensation expenses, as well as a continued overall focus on cost reduction. As a result, profitability rose sharply for																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
the March period, to \$0.36 a share. For this year and next, we remain optimistic that a high single-digit rate of growth is achievable for both the top and bottom lines.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
<b>Elevated capital spending and acquisitions are likely to be the main growth drivers through decade's end.</b> Connecticut has guided an investment budget of more than \$55 million for 2017, and is poised to reap the rewards of qualifying infrastructure upgrades and replacements through WICA and WISC. Furthermore, we expect several small-to-midsize acquisitions to surface in the coming years, as CTWS' balance sheet is fundamentally sound and can support additional tuck-in purchases.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
<b>Short-term-minded investors may find something to like here.</b> The issue is now ranked to outperform the year-ahead broader market averages (Timeliness: 2). However, the recent valuation gives us pause. Shares of CTWS are already trading near the high end of our 3- to 5-year Target Price Range, thus limiting their appeal over the pull to 2020-2022.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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<b>Company's Financial Strength</b> B+ <b>Stock's Price Stability</b> 90 <b>Price Growth Persistence</b> 50 <b>Earnings Predictability</b> 90																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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(A) Diluted earnings. Next earnings report due late August.  
 (B) Dividends historically paid in mid-March, June, September, and December. ■ Div'd reinvestment plan available.  
 (C) In millions.  
 (D) Includes intangibles. In 2016: \$30.4 million/\$2.70 a share.  
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SJW GROUP NYSE-SJW				RECENT PRICE	49.91	P/E RATIO	22.7	(Trailing: 19.3)	Median: 23.0	RELATIVE P/E RATIO	1.15	DIV'D YLD	1.7%	VALUE LINE					
<b>TIMELINESS</b> 3	Raised 6/30/17	High: 45.3	43.0	35.1	30.4	28.2	26.8	26.9	30.1	33.7	35.7	56.9	56.4	Target Price Range 2020 2021 2022					
<b>SAFETY</b> 3	New 4/22/11	Low: 21.2	27.7	20.0	18.2	21.6	20.9	22.6	24.5	25.5	27.5	28.6	45.4						
<b>TECHNICAL</b> 3	Lowered 6/16/17	<b>LEGENDS</b> 1.50 x Dividends p sh divided by Interest Rate Relative Price Strength 3 for 1 split 3/04 2 for 1 split 3/06 Options: Yes Shaded area indicates recession																	
<b>BETA</b> 70	(1.00 - Market)	<b>2020-22 PROJECTIONS</b> Price Gain Ann'l Total High 75 50 (+50%) 12% Low 50 (Nil) 2%																	
<b>Insider Decisions</b>																			
<b>Institutional Decisions</b>				Percent shares traded 15 10 5															
<b>3Q2016</b> 50 81 83 <b>4Q2016</b> 70 59 59 <b>1Q2017</b> 9513 9218 10726				<b>% TOT. RETURN 6/17</b> THIS STOCK VL ARITH+ INDEX 1 yr. 27.2 18.8 3 yr. 93.7 20.3 5 yr. 132.1 91.4															
<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>20-22</b>	
7.45	7.97	8.20	9.14	9.86	10.35	11.25	12.12	11.68	11.62	12.85	14.01	13.73	15.76	14.97	16.61	16.45	15.90	Revenues per sh	19.55
1.49	1.55	1.75	1.89	2.21	2.38	2.30	2.44	2.21	2.38	2.80	2.97	2.90	4.42	3.86	4.76	4.40	4.40	"Cash Flow" per sh	4.90
.77	.78	.91	.87	1.12	1.19	1.04	1.08	.81	.84	1.11	1.18	1.12	2.54	1.85	2.57	2.20	2.35	Earnings per sh <sup>A</sup>	2.75
.43	.46	.49	.51	.53	.57	.61	.65	.66	.68	.69	.71	.73	.75	.78	.81	.87	.93	Div'd Decl'd per sh <sup>B</sup>	1.12
2.63	2.06	3.41	2.31	2.83	3.87	6.62	3.79	3.17	5.65	3.75	5.67	4.68	5.02	5.24	6.95	6.00	5.50	Cap'l Spending per sh	5.00
8.17	8.40	9.11	10.11	10.72	12.48	12.90	13.99	13.66	13.75	14.20	14.71	15.92	17.75	18.83	20.61	21.20	21.60	Book Value per sh	23.90
18.27	18.27	18.27	18.27	18.27	18.28	18.36	18.18	18.50	18.55	18.59	18.67	20.17	20.29	20.38	20.46	21.00	22.00	Common Shs Outst'g <sup>C</sup>	23.00
18.5	17.3	15.4	19.6	19.7	23.5	33.4	26.2	28.7	29.1	21.2	20.4	24.3	11.2	16.6	15.7	15.7	15.7	Avg Ann'l P/E Ratio	22.0
.95	.94	.88	1.04	1.05	1.27	1.77	1.58	1.91	1.85	1.33	1.30	1.37	.59	.84	.83	.83	.83	Relative P/E Ratio	1.40
3.0%	3.4%	3.5%	3.0%	2.4%	2.0%	1.7%	2.3%	2.8%	2.8%	2.9%	3.0%	1.7%	2.6%	2.5%	2.0%	2.0%	2.0%	Avg Ann'l Div'd Yield	1.8%
<b>CAPITAL STRUCTURE as of 3/31/17</b>				<b>2006</b> 206.6 220.3 216.1 215.6 239.0 261.5 276.9 319.7 305.1 339.7 345 350 <b>2007</b> 19.3 20.2 15.2 15.8 20.9 22.3 23.5 51.8 37.9 52.8 46.0 52.0 <b>2008</b> 39.4% 39.5% 40.4% 38.8% 41.1% 41.1% 38.7% 32.5% 38.1% 38.8% 39.0% 39.0% <b>2009</b> 2.7% 2.3% 2.0% -- -- -- -- -- 2.0% 1.0% 1.5% 1.5% <b>2010</b> 47.7% 46.0% 49.4% 53.7% 56.6% 55.0% 51.1% 51.6% 49.8% 50.7% 49.0% 48.5% <b>2011</b> 52.3% 54.0% 50.6% 46.3% 43.4% 45.0% 48.9% 48.4% 50.2% 49.3% 51.0% 51.5% <b>2012</b> 453.2 470.9 499.6 550.7 607.9 610.2 656.2 744.5 764.6 855.0 870 925 <b>2013</b> 645.5 684.2 718.5 785.5 756.2 831.6 898.7 963.0 1036.8 1146.4 1200 1250 <b>2014</b> 5.7% 5.8% 4.4% 4.3% 4.9% 5.0% 5.0% 8.3% 6.3% 7.4% 6.5% 6.5% <b>2015</b> 8.2% 8.0% 6.0% 6.2% 7.9% 8.1% 7.3% 14.4% 9.9% 12.5% 10.5% 11.0% <b>2016</b> 8.2% 8.0% 6.0% 6.2% 7.9% 8.1% 7.3% 14.4% 9.9% 12.5% 10.5% 11.0% <b>2017</b> 3.5% 3.3% 1.2% 1.2% 3.1% 3.3% 2.8% 10.2% 5.7% 8.6% 6.5% 6.5% <b>2018</b> 5.7% 5.9% 8.0% 8.0% 6.1% 5.9% 6.2% 29% 4.2% 3.1% 4.0% 4.0%															
<b>Leases, Uncapitalized: Annual rentals \$6.6 mill.</b>				<b>2006</b> 206.6 220.3 216.1 215.6 239.0 261.5 276.9 319.7 305.1 339.7 345 350 <b>2007</b> 19.3 20.2 15.2 15.8 20.9 22.3 23.5 51.8 37.9 52.8 46.0 52.0 <b>2008</b> 39.4% 39.5% 40.4% 38.8% 41.1% 41.1% 38.7% 32.5% 38.1% 38.8% 39.0% 39.0% <b>2009</b> 2.7% 2.3% 2.0% -- -- -- -- -- 2.0% 1.0% 1.5% 1.5% <b>2010</b> 47.7% 46.0% 49.4% 53.7% 56.6% 55.0% 51.1% 51.6% 49.8% 50.7% 49.0% 48.5% <b>2011</b> 52.3% 54.0% 50.6% 46.3% 43.4% 45.0% 48.9% 48.4% 50.2% 49.3% 51.0% 51.5% <b>2012</b> 453.2 470.9 499.6 550.7 607.9 610.2 656.2 744.5 764.6 855.0 870 925 <b>2013</b> 645.5 684.2 718.5 785.5 756.2 831.6 898.7 963.0 1036.8 1146.4 1200 1250 <b>2014</b> 5.7% 5.8% 4.4% 4.3% 4.9% 5.0% 5.0% 8.3% 6.3% 7.4% 6.5% 6.5% <b>2015</b> 8.2% 8.0% 6.0% 6.2% 7.9% 8.1% 7.3% 14.4% 9.9% 12.5% 10.5% 11.0% <b>2016</b> 8.2% 8.0% 6.0% 6.2% 7.9% 8.1% 7.3% 14.4% 9.9% 12.5% 10.5% 11.0% <b>2017</b> 3.5% 3.3% 1.2% 1.2% 3.1% 3.3% 2.8% 10.2% 5.7% 8.6% 6.5% 6.5% <b>2018</b> 5.7% 5.9% 8.0% 8.0% 6.1% 5.9% 6.2% 29% 4.2% 3.1% 4.0% 4.0%															
<b>Pension Assets-12/16 \$113.9 mill. Oblig. \$174.1 mill.</b>				<b>2006</b> 206.6 220.3 216.1 215.6 239.0 261.5 276.9 319.7 305.1 339.7 345 350 <b>2007</b> 19.3 20.2 15.2 15.8 20.9 22.3 23.5 51.8 37.9 52.8 46.0 52.0 <b>2008</b> 39.4% 39.5% 40.4% 38.8% 41.1% 41.1% 38.7% 32.5% 38.1% 38.8% 39.0% 39.0% <b>2009</b> 2.7% 2.3% 2.0% -- -- -- -- -- 2.0% 1.0% 1.5% 1.5% <b>2010</b> 47.7% 46.0% 49.4% 53.7% 56.6% 55.0% 51.1% 51.6% 49.8% 50.7% 49.0% 48.5% <b>2011</b> 52.3% 54.0% 50.6% 46.3% 43.4% 45.0% 48.9% 48.4% 50.2% 49.3% 51.0% 51.5% <b>2012</b> 453.2 470.9 499.6 550.7 607.9 610.2 656.2 744.5 764.6 855.0 870 925 <b>2013</b> 645.5 684.2 718.5 785.5 756.2 831.6 898.7 963.0 1036.8 1146.4 1200 1250 <b>2014</b> 5.7% 5.8% 4.4% 4.3% 4.9% 5.0% 5.0% 8.3% 6.3% 7.4% 6.5% 6.5% <b>2015</b> 8.2% 8.0% 6.0% 6.2% 7.9% 8.1% 7.3% 14.4% 9.9% 12.5% 10.5% 11.0% <b>2016</b> 8.2% 8.0% 6.0% 6.2% 7.9% 8.1% 7.3% 14.4% 9.9% 12.5% 10.5% 11.0% <b>2017</b> 3.5% 3.3% 1.2% 1.2% 3.1% 3.3% 2.8% 10.2% 5.7% 8.6% 6.5% 6.5% <b>2018</b> 5.7% 5.9% 8.0% 8.0% 6.1% 5.9% 6.2% 29% 4.2% 3.1% 4.0% 4.0%															
<b>Pfd Stock None.</b>				<b>2006</b> 206.6 220.3 216.1 215.6 239.0 261.5 276.9 319.7 305.1 339.7 345 350 <b>2007</b> 19.3 20.2 15.2 15.8 20.9 22.3 23.5 51.8 37.9 52.8 46.0 52.0 <b>2008</b> 39.4% 39.5% 40.4% 38.8% 41.1% 41.1% 38.7% 32.5% 38.1% 38.8% 39.0% 39.0% <b>2009</b> 2.7% 2.3% 2.0% -- -- -- -- -- 2.0% 1.0% 1.5% 1.5% <b>2010</b> 47.7% 46.0% 49.4% 53.7% 56.6% 55.0% 51.1% 51.6% 49.8% 50.7% 49.0% 48.5% <b>2011</b> 52.3% 54.0% 50.6% 46.3% 43.4% 45.0% 48.9% 48.4% 50.2% 49.3% 51.0% 51.5% <b>2012</b> 453.2 470.9 499.6 550.7 607.9 610.2 656.2 744.5 764.6 855.0 870 925 <b>2013</b> 645.5 684.2 718.5 785.5 756.2 831.6 898.7 963.0 1036.8 1146.4 1200 1250 <b>2014</b> 5.7% 5.8% 4.4% 4.3% 4.9% 5.0% 5.0% 8.3% 6.3% 7.4% 6.5% 6.5% <b>2015</b> 8.2% 8.0% 6.0% 6.2% 7.9% 8.1% 7.3% 14.4% 9.9% 12.5% 10.5% 11.0% <b>2016</b> 8.2% 8.0% 6.0% 6.2% 7.9% 8.1% 7.3% 14.4% 9.9% 12.5% 10.5% 11.0% <b>2017</b> 3.5% 3.3% 1.2% 1.2% 3.1% 3.3% 2.8% 10.2% 5.7% 8.6% 6.5% 6.5% <b>2018</b> 5.7% 5.9% 8.0% 8.0% 6.1% 5.9% 6.2% 29% 4.2% 3.1% 4.0% 4.0%															
<b>Common Stock 20,498,733 shs.</b>				<b>2006</b> 206.6 220.3 216.1 215.6 239.0 261.5 276.9 319.7 305.1 339.7 345 350 <b>2007</b> 19.3 20.2 15.2 15.8 20.9 22.3 23.5 51.8 37.9 52.8 46.0 52.0 <b>2008</b> 39.4% 39.5% 40.4% 38.8% 41.1% 41.1% 38.7% 32.5% 38.1% 38.8% 39.0% 39.0% <b>2009</b> 2.7% 2.3% 2.0% -- -- -- -- -- 2.0% 1.0% 1.5% 1.5% <b>2010</b> 47.7% 46.0% 49.4% 53.7% 56.6% 55.0% 51.1% 51.6% 49.8% 50.7% 49.0% 48.5% <b>2011</b> 52.3% 54.0% 50.6% 46.3% 43.4% 45.0% 48.9% 48.4% 50.2% 49.3% 51.0% 51.5% <b>2012</b> 453.2 470.9 499.6 550.7 607.9 610.2 656.2 744.5 764.6 855.0 870 925 <b>2013</b> 645.5 684.2 718.5 785.5 756.2 831.6 898.7 963.0 1036.8 1146.4 1200 1250 <b>2014</b> 5.7% 5.8% 4.4% 4.3% 4.9% 5.0% 5.0% 8.3% 6.3% 7.4% 6.5% 6.5% <b>2015</b> 8.2% 8.0% 6.0% 6.2% 7.9% 8.1% 7.3% 14.4% 9.9% 12.5% 10.5% 11.0% <b>2016</b> 8.2% 8.0% 6.0% 6.2% 7.9% 8.1% 7.3% 14.4% 9.9% 12.5% 10.5% 11.0% <b>2017</b> 3.5% 3.3% 1.2% 1.2% 3.1% 3.3% 2.8% 10.2% 5.7% 8.6% 6.5% 6.5% <b>2018</b> 5.7% 5.9% 8.0% 8.0% 6.1% 5.9% 6.2% 29% 4.2% 3.1% 4.0% 4.0%															
<b>MARKET CAP: \$1.0 billion (Mid Cap)</b>				<b>2006</b> 206.6 220.3 216.1 215.6 239.0 261.5 276.9 319.7 305.1 339.7 345 350 <b>2007</b> 19.3 20.2 15.2 15.8 20.9 22.3 23.5 51.8 37.9 52.8 46.0 52.0 <b>2008</b> 39.4% 39.5% 40.4% 38.8% 41.1% 41.1% 38.7% 32.5% 38.1% 38.8% 39.0% 39.0% <b>2009</b> 2.7% 2.3% 2.0% -- -- -- -- -- 2.0% 1.0% 1.5% 1.5% <b>2010</b> 47.7% 46.0% 49.4% 53.7% 56.6% 55.0% 51.1% 51.6% 49.8% 50.7% 49.0% 48.5% <b>2011</b> 52.3% 54.0% 50.6% 46.3% 43.4% 45.0% 48.9% 48.4% 50.2% 49.3% 51.0% 51.5% <b>2012</b> 453.2 470.9 499.6 550.7 607.9 610.2 656.2 744.5 764.6 855.0 870 925 <b>2013</b> 645.5 684.2 718.5 785.5 756.2 831.6 898.7 963.0 1036.8 1146.4 1200 1250 <b>2014</b> 5.7% 5.8% 4.4% 4.3% 4.9% 5.0% 5.0% 8.3% 6.3% 7.4% 6.5% 6.5% <b>2015</b> 8.2% 8.0% 6.0% 6.2% 7.9% 8.1% 7.3% 14.4% 9.9% 12.5% 10.5% 11.0% <b>2016</b> 8.2% 8.0% 6.0% 6.2% 7.9% 8.1% 7.3% 14.4% 9.9% 12.5% 10.5% 11.0% <b>2017</b> 3.5% 3.3% 1.2% 1.2% 3.1% 3.3% 2.8% 10.2% 5.7% 8.6% 6.5% 6.5% <b>2018</b> 5.7% 5.9% 8.0% 8.0% 6.1% 5.9% 6.2% 29% 4.2% 3.1% 4.0% 4.0%															
<b>CURRENT POSITION</b>				<b>2015</b> 5.2 25.3 7.1 <b>2016</b> 16.4 16.4 28.5 <b>3/31/17</b> 51.8 57.9 38.1 <b>2015</b> 73.4 99.6 73.7 <b>2016</b> 16.2 18.7 20.7 <b>2017</b> 38.1 14.3 .1 <b>2018</b> 25.3 30.6 30.0 <b>2019</b> 79.6 63.6 50.8															
<b>CASH ASSETS</b>				<b>2015</b> 5.2 25.3 7.1 <b>2016</b> 16.4 16.4 28.5 <b>3/31/17</b> 51.8 57.9 38.1 <b>2015</b> 73.4 99.6 73.7 <b>2016</b> 16.2 18.7 20.7 <b>2017</b> 38.1 14.3 .1 <b>2018</b> 25.3 30.6 30.0 <b>2019</b> 79.6 63.6 50.8															
<b>ACCTS RECEIVABLE</b>				<b>2015</b> 5.2 25.3 7.1 <b>2016</b> 16.4 16.4 28.5 <b>3/31/17</b> 51.8 57.9 38.1 <b>2015</b> 73.4 99.6 73.7 <b>2016</b> 16.2 18.7 20.7 <b>2017</b> 38.1 14.3 .1 <b>2018</b> 25.3 30.6 30.0 <b>2019</b> 79.6 63.6 50.8															
<b>OTHER</b>				<b>2015</b> 5.2 25.3 7.1 <b>2016</b> 16.4 16.4 28.5 <b>3/31/17</b> 51.8 57.9 38.1 <b>2015</b> 73.4 99.6 73.7 <b>2016</b> 16.2 18.7 20.7 <b>2017</b> 38.1 14.3 .1 <b>2018</b> 25.3 30.6 30.0 <b>2019</b> 79.6 63.6 50.8															
<b>CURRENT ASSETS</b>				<b>2015</b> 5.2 25.3 7.1 <b>2016</b> 16.4 16.4 28.5 <b>3/31/17</b> 51.8 57.9 38.1 <b>2015</b> 73.4 99.6 73.7 <b>2016</b> 16.2 18.7 20.7 <b>2017</b> 38.1 14.3 .1 <b>2018</b> 25.3 30.6 30.0 <b>2019</b> 79.6 63.6 50.8															
<b>ACCTS PAYABLE</b>				<b>2015</b> 5.2 25.3 7.1 <b>2016</b> 16.4 16.4 28.5 <b>3/31/17</b> 51.8 57.9 38.1 <b>2015</b> 73.4 99.6 73.7 <b>2016</b> 16.2 18.7 20.7 <b>2017</b> 38.1 14.3 .1 <b>2018</b> 25.3 30.6 30.0 <b>2019</b> 79.6 63.6 50.8															
<b>DEBT DUE</b>				<b>2015</b> 5.2 25.3 7.1 <b>2016</b> 16.4 16.4 28.5 <b>3/31/17</b> 51.8 57.9 38.1 <b>2015</b> 73.4 99.6 73.7 <b>2016</b> 16.2 18.7 20.7 <b>2017</b> 38.1 14.3 .1 <b>2018</b> 25.3 30.6 30.0 <b>2019</b> 79.6 63.6 50.8															
<b>OTHER</b>				<b>2015</b> 5.2 25.3 7.1 <b>2016</b> 16.4 16.4 28.5 <b>3/31/17</b> 51.8 57.9 38.1 <b>2015</b> 73.4 99.6 73.7 <b>2016</b> 16.2 18.7 20.7 <b>2017</b> 38.1 14.3 .1 <b>2018</b> 25.3 30.6 30.0 <b>2019</b> 79.6 63.6 50.8															
<b>CURRENT LIAB.</b>				<b>2015</b> 5.2 25.3 7.1 <b>2016</b> 16.4 16.4 28.5 <b>3/31/17</b> 51.8 57.9 38.1 <b>2015</b> 73.4 99.6 73.7 <b>2016</b> 16.2 18.7 20.7 <b>2017</b> 38.1 14.3 .1 <b>2018</b> 25.3 30.6 30.0 <b>2019</b> 79.6 63.6 50.8															
<b>ANNUAL RATES</b>				<b>Past 10 Yrs.</b> 5.0% 5.5% 3.5% <b>Past 5 Yrs.</b> 7.0% 12.0% 2.0% <b>Est'd '14-'16</b> 8.0% 20.5% 3.0% <b>'17-'18</b> 4.0% 3.0% 6.0% <b>'19-'20</b> 5.5% 6.5% 4.0%															
<b>QUARTERLY REVENUES (\$ mill.)</b>				<b>2014</b> 54.6 70.4 125.4 69.3 319.7 <b>2015</b> 62.1 72.4 83.0 87.6 305.1 <b>2016</b> 61.1 86.9 112.3 79.4 339.7 <b>2017</b> 69.0 90.0 100 86.0 345 <b>2018</b> 68.0 92.0 103 87.0 350															
<b>EARNINGS PER SHARE<sup>A</sup></b>																			

YORK WATER NDQ:YORW				RECENT PRICE	35.25	P/E RATIO	34.2	(Trailing: 37.9)	RELATIVE P/E RATIO	1.73	DIV'D YLD	1.8%	VALUE LINE														
<b>TIMELINESS</b> 4	Raised 6/2/17	High: 21.0	18.5	16.5	18.0	18.0	18.1	18.5	22.0	24.3	26.7	39.8	39.9														
<b>SAFETY</b> 3	Lowered 7/17/15	Low: 15.3	15.5	6.2	9.7	12.8	15.8	16.8	17.6	18.8	19.7	23.8	31.7														
<b>TECHNICAL</b> 3	Lowered 6/23/17	<b>LEGENDS</b> --- 1.10 x Dividends p sh divided by interest Rate .... Relative Price Strength 3-for-2 split 9/06 Options: Yes Shaded area indicates recession																									
<b>BETA</b> 80	(1.00 = Market)	<b>2020-22 PROJECTIONS</b> Ann'l Total Return High Price 40 Gain (+15%) Low 25 (-30%) -5%																									
<b>Insider Decisions</b> S O N D J F M A M to Buy 0 0 0 1 1 1 1 3 2 Options 0 0 0 1 0 0 0 0 1 3 to Sell 0 0 0 0 0 0 0 0 0 0																											
<b>Institutional Decisions</b> 3Q2016 4Q2016 1Q2017 to Buy 37 46 38 to Sell 36 34 33 Hld's(000) 4033 4284 5127																											
<b>Percent shares traded</b> 12 8 4																											
<b>% TOT. RETURN 6/17</b> THIS STOCK VL ARITH' INDEX 1 yr 10.8 18.8 3 yr 79.1 20.3 5 yr 119.2 91.4																											
<b>© VALUE LINE PUB. LLC 20-22</b>																											
2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Revenues per sh	5.65								
2.05	2.05	2.17	2.18	2.58	2.56	2.79	2.89	2.95	3.07	3.18	3.21	3.27	3.58	3.68	3.70	3.85	4.15	"Cash Flow" per sh	2.05								
.59	.57	.65	.65	.79	.77	.86	.88	.95	1.07	1.09	1.12	1.19	1.36	1.45	1.42	1.65	1.70	Earnings per sh A	1.40								
.43	.40	.47	.49	.56	.58	.57	.57	.64	.71	.71	.72	.75	.89	.97	.97	1.03	1.10	Div'd Decl'd per sh B	.90								
.34	.35	.37	.39	.42	.45	.48	.49	.51	.52	.53	.54	.55	.57	.60	.63	.66	.70	Cap'l Spending per sh	.85								
.75	.66	1.07	2.50	1.69	1.85	1.69	2.17	1.18	.83	.74	.94	.76	1.10	1.11	1.03	1.50	1.25	Book Value per sh	11.00								
3.79	3.90	4.06	4.65	4.85	5.84	5.97	6.14	6.92	7.19	7.45	7.73	7.98	8.15	8.51	8.88	9.10	9.55	Common Shs Outs't'g C	12.00								
9.46	9.55	9.63	10.33	10.40	11.20	11.27	11.37	12.56	12.69	12.79	12.92	12.98	12.83	12.81	12.85	13.00	12.75	Avg Ann'l P/E Ratio	22.5								
17.8	26.9	24.5	25.7	26.3	31.2	30.3	24.6	21.9	20.7	23.9	24.4	26.3	23.1	23.5	32.8	32.8	32.8	Relative P/E Ratio	1.40								
.91	1.47	1.40	1.36	1.40	1.68	1.61	1.48	1.46	1.32	1.50	1.55	1.48	1.22	1.18	1.72	1.72	1.72	Avg Ann'l Div'd Yield	2.80								
4.4%	3.3%	3.2%	3.1%	2.9%	2.5%	2.8%	3.5%	3.6%	3.5%	3.1%	3.1%	2.8%	2.8%	2.6%	2.1%	2.1%	2.1%	<i>Bold figures are Value Line estimates</i>									
<b>CAPITAL STRUCTURE as of 3/31/17</b> Total Debt \$84.6 mill. Due in 5 Yrs \$30.5 mill. LT Debt \$84.6 mill. LT Interest \$5.4 mill.														31.4	32.8	37.0	39.0	40.6	41.4	42.4	45.9	47.1	47.6	50.0	53.0	Revenues (\$mill)	68.0
Pension Assets 12/16 \$35.5 mill. Oblig. \$40.8 mill.														6.4	6.4	7.5	8.9	9.1	9.3	9.7	11.5	12.5	11.8	13.5	14.0	Net Profit (\$mill)	17.0
Pfd Stock None														36.5%	36.1%	37.9%	38.5%	35.3%	37.6%	37.6%	29.8%	27.5%	31.3%	30.0%	30.0%	Income Tax Rate	32.5%
Common Stock 12,843,000 shs.														3.6%	10.1%	--	1.2%	1.1%	1.1%	8%	1.8%	1.6%	1.9%	1.5%	1.5%	AFUDC % to Net Profit	1.0%
<b>MARKET CAP: \$450 million (Small Cap)</b>														46.5%	54.5%	45.7%	48.3%	47.1%	46.0%	45.1%	44.8%	44.4%	42.6%	43.5%	44.0%	Long-Term Debt Ratio	45.0%
<b>CURRENT POSITION (\$MILL)</b>														53.5%	45.5%	54.3%	51.7%	52.9%	54.0%	54.9%	55.2%	55.6%	57.4%	56.5%	56.0%	Common Equity Ratio	55.0%
Cash Assets 2.9 4.2 4.4														125.7	153.4	160.1	176.4	180.2	184.8	188.4	189.4	196.3	198.7	210	215	Total Capital (\$mill)	240
Accounts Receivable 3.5 4.3 4.0														191.6	211.4	222.0	228.4	233.0	240.3	244.2	253.2	261.4	270.9	275	280	Net Plant (\$mill)	295
Inventory (Avg. Cost) .8 .7 .9														6.7%	5.7%	6.2%	6.5%	6.4%	6.4%	6.5%	7.4%	7.6%	7.2%	7.5%	7.5%	Return on Total Cap'l	8.0%
Other 4.6 3.4 3.7														9.5%	9.2%	8.6%	9.8%	9.5%	9.3%	9.3%	11.0%	11.5%	10.4%	11.5%	11.5%	Return on Shr. Equity	12.5%
Current Assets 11.8 12.6 9.0														9.5%	9.2%	8.6%	9.8%	9.5%	9.3%	9.3%	11.0%	11.5%	10.4%	11.5%	11.5%	Return on Com Equity	12.5%
Accts Payable 1.8 3.7 3.4														1.7%	1.4%	1.9%	2.7%	2.5%	2.4%	2.4%	3.9%	4.4%	3.4%	4.0%	4.0%	Retained to Com Eq	4.5%
Debt Due -- -- --														82%	85%	78%	72%	73%	74%	74%	64%	62%	67%	64%	64%	All Div'ds to Net Prof	64%
Other 4.4 4.5 4.7														<b>BUSINESS:</b> The York Water Company is the oldest investor-owned regulated water utility in the United States. It has operated continuously since 1816. As of December 31, 2016, the company's average daily availability was 35.4 million gallons and its service territory had an estimated population of 196,000. Has more than 67,000 customers. Residential customers accounted for 63% of 2016 revenues; commercial and industrial (29%); other (8%). It also provides sewer billing services. Incorporated: PA York had 105 full-time employees at 12/31/16. President/CEO: Jeffrey R. Hines. Officers/directors own 1.1% of the common stock (3/17 proxy). Address: 130 East Market Street, York, Pennsylvania 17401. Telephone: (717) 845-3601. Internet: www.yorkwater.com.													
Current Liab. 6.2 8.2 8.1														<b>York Water was unable to generate any meaningful growth in the first quarter.</b> Year over year, its top- and bottom-line figures of \$11.3 million and \$0.20 a share, respectively, were relatively flattish. March-period revenues were likely held back due to lower consumption (seasonality), more than offsetting positive contributions from its recent acquisition of West York Borough sewer. Meanwhile, its penny improvement on the bottom line can largely be attributed to a lower effective tax rate (discussed below), as operating costs in the first quarter were nearly 40% of total revenues.													
<b>ANNUAL RATES of change (per sh)</b>														<b>We still think the company is on track to post solid gains this year.</b> However, we are lowering our estimates. We now look for revenues of \$50 million, or a 5% annual advance, and earnings of \$1.03 a share, representing a 12% improvement over the prior-year tally.													
Past 10 Yrs. Past 5 Yrs. Est'd '14-'16 to '20-'22														<b>Higher capital expenditures should trigger favorable tax deductions under the IRS tangible property rules.</b> We are beginning to see this bear fruit, as York's effective tax rate in the first quarter declined significantly thanks to greater qualifying expenditures (first-quarter capex rose three times, year over year.) Looking forward, the company's plan to ramp up spending to approximately \$23 million this year remains in reach, with next year's investment allocation slowing slightly, to \$16 million. Moreover, capital spending on pipes, facilities, and pumping stations ought to help lift operating margins this year and next.													
Revenues 4.0% 3.5% 7.5%														<b>At this juncture, the issue does not fit the needs of income-seekers quite like it has in the past.</b> As a result of the stock's year-and-a-half-long run-up in price, YORW shares presently offer a yield that is below the broader market average, even though the company has raised its annual payout, year after year.													
"Cash Flow" 6.5% 6.5% 6.5%														<b>Based on our Timeliness Ranking System, York stock is an unfavorable selection for relative year-ahead price performance (4).</b> What's more, appreciation potential three to five years hence is unenticing, as much of the gains we foresee over that time frame have already been factored into the price. Thus, we advise investors to take a pass, for now.													
Earnings 5.5% 6.0% 7.0%														<i>Nicholas P. Patrikis July 14, 2017</i>													
Dividends 3.5% 3.0% 7.0%																											
Book Value 5.0% 3.5% 4.5%																											
<b>QUARTERLY REVENUES (\$ mill.)</b>																											
Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year																						
2014	10.6	11.8	12.0	11.5	45.9																						
2015	11.2	11.9	12.4	11.6	47.1																						
2016	11.3	11.8	12.6	11.9	47.6																						
2017	11.3	12.2	13.5	13.0	50.0																						
2018	12.5	13.0	14.0	13.5	53.0																						
<b>EARNINGS PER SHARE A</b>																											
Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year																						
2014	.16	.22	.23	.28	.89																						
2015	.20	.22	.28	.27	.97																						
2016	.19	.23	.27	.23	.92																						
2017	.20	.25	.30	.28	1.03																						
2018	.23	.26	.32	.29	1.10																						
<b>QUARTERLY DIVIDENDS PAID B</b>																											
Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year																						
2013	.138	.138	.138	.138	.552																						
2014	.1431	.1431	.1431	.1431	.572																						
2015	.1495	.1495	.1495	.1555	.604																						
2016	.1555	.1555	.1555	.1602	.627																						
2017	.1602	.1602																									

(A) Diluted earnings. Next earnings report due late August.  
(B) Dividends historically paid in late-December, February, June, and September.

(C) In millions, adjusted for splits.

Company's Financial Strength	B+
Stock's Price Stability	70
Price Growth Persistence	55
Earnings Predictability	95

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**Mahoning Township Water and Sewer Department**  
**Summary of Risk Premium Models for the**  
**Proxy Group of Eight Water Companies**

	<u>Proxy Group of Eight Water Companies</u>
Predictive Risk Premium Model (PRPM) (1)	12.00 %
Risk Premium Using an Adjusted Total Market Approach (2)	<u>9.74 %</u>
Average	<u><u>10.87 %</u></u>

Notes:

- (1) From page 14 of this Appendix.
- (2) From page 15 of this Appendix.

Mahoning Township Water and Sewer Department  
Indicated ROE  
Derived by the Predictive Risk Premium Model (1)

	[1]	[2]	[3]	[4]	[5]	[6]	[7]
<u>Proxy Group of Eight Water Companies</u>	<u>LT Average Predicted Variance</u>	<u>Spot Predicted Variance</u>	<u>Average Predicted Variance</u>	<u>GARCH Coefficient</u>	<u>Predicted Risk Premium (2)</u>	<u>Risk-Free Rate (3)</u>	<u>Indicated ROE (4)</u>
American States Water Co.	0.39%	0.33%	0.36%	1.75035	7.83%	3.61%	11.44%
American Water Works Company Inc	NMF	NMF	NMF	5.52903	NMF	3.61%	NMF
Aqua America Inc	0.45%	0.25%	0.35%	2.27879	10.00%	3.61%	13.61%
California Water Service Group	0.32%	0.29%	0.31%	1.94818	7.49%	3.61%	11.10%
Connecticut Water Service Inc	0.29%	0.24%	0.26%	1.91732	6.15%	3.61%	9.76%
Middlesex Water Co.	0.29%	0.52%	0.41%	2.02793	10.45%	3.61%	14.06%
SJW Corp	0.42%	0.40%	0.41%	1.54524	7.87%	3.61%	11.48%
York Water Co.	0.46%	0.46%	0.46%	2.16051	12.60%	3.61%	16.21%
						Average	<u>12.52%</u>
						Median	<u>11.48%</u>
					Average of Mean and Median		<u>12.00%</u>

NMF = Not Meaningful Figure

Notes:

- (1) The Predictive Risk Premium Model uses historical data to generate a predicted variance and a GARCH coefficient. The historical data used are the equity risk premiums for the first available trading month as reported by Bloomberg Professional Service.
- (2)  $(1 + (\text{Column [3]} * \text{Column [4]})^{12}) - 1$ .
- (3) From note 2 on page 26 of this Appendix.
- (4) Column [5] + Column [6].

Mahoning Township Water and Sewer Department  
Indicated Common Equity Cost Rate  
Through Use of a Risk Premium Model  
Using an Adjusted Total Market Approach

<u>Line No.</u>		<u>Proxy Group of Eight Water Companies</u>
1.	Prospective Yield on Aaa Rated Corporate Bonds (1)	4.65 %
2.	Adjustment to Reflect Yield Spread Between Aaa Rated Corporate Bonds and A Rated Public Utility Bonds	<u>0.27</u> (2)
3.	Adjusted Prospective Yield on A Rated Public Utility Bonds	4.92 %
4.	Adjustment to Reflect Bond Rating Difference of Proxy Group	<u>0.06</u> (3)
5.	Adjusted Prospective Bond Yield	4.98 %
6.	Equity Risk Premium (4)	<u>4.76</u>
7.	Risk Premium Derived Common Equity Cost Rate	<u><u>9.74</u></u> %

- Notes:
- (1) Consensus forecast of Moody's Aaa Rated Corporate bonds from Blue Chip Financial Forecasts (see pages 22-23 of this Appendix).
  - (2) The average yield spread of A rated public utility bonds over Aaa rated corporate bonds of 0.27% from page 16 of this Appendix.
  - (3) Adjustment to reflect the A2 / A3 Moody's LT issuer rating of the proxy group of eight water companies as shown on page 17 of this Appendix. The 0.06% upward adjustment is derived by taking 1/6 of the spread between A2 and A3 Public Utility Bonds ( $1/6 * 0.38\% = 0.06\%$ ) as derived from page 16 of this Appendix.
  - (4) From page 19 of this Appendix.

**Mahoning Township Water and Sewer Department**  
**Interest Rates and Bond Spreads for**  
**Moody's Corporate and Public Utility Bonds**

**Selected Bond Yields**

	[1]	[2]	[3]
	<u>Aaa Rated Corporate Bond</u>	<u>A Rated Public Utility Bond</u>	<u>Baa Rated Public Utility Bond</u>
Jul-2017	3.78 %	4.05 %	4.43 %
Jun-2017	3.68	3.94	4.32
May-2017	<u>3.85</u>	<u>4.12</u>	<u>4.50</u>
Average	<u><u>3.77 %</u></u>	<u><u>4.04 %</u></u>	<u><u>4.42 %</u></u>

**Selected Bond Spreads**

A Rated Public Utility Bonds Over Aaa Rated Corporate Bonds:  
0.27 % (1)

Baa Rated Public Utility Bonds Over A Rated Public Utility Bonds:  
0.38 % (2)

**Notes:**

(1) Column [2] - Column [1].

(2) Column [3] - Column [2].

**Source of Information:**

Bloomberg Professional Service

**Mahoning Township Water and Sewer Department**  
**Comparison of Long-Term Issuer Ratings for**  
**Proxy Group of Eight Water Companies**

	<u>Moody's</u>		<u>Standard &amp; Poor's</u>	
	<u>Long-Term Issuer Rating</u>		<u>Long-Term Issuer Rating</u>	
	July 2017		July 2017	
<u>Proxy Group of Eight Water Companies</u>	<u>Long-Term Issuer Rating</u>	<u>Numerical Weighting(1)</u>	<u>Long-Term Issuer Rating</u>	<u>Numerical Weighting(1)</u>
American States Water Co. (2)	A2	6.0	A+	5.0
American Water Works Company Inc (3)	A3	7.0	A	6.0
Aqua America Inc (4)	NR	--	A+	5.0
California Water Service Group (5)	NR	--	A+	5.0
Connecticut Water Service Inc (6)	NR	--	A	6.0
Middlesex Water Co.	NR	--	A	6.0
SJW Corp (7)	NR	--	A	6.0
York Water Co.	NR	--	A-	7.0
Average	<u>A2/A3</u>	<u>6.5</u>	<u>A</u>	<u>5.8</u>

Notes:

- (1) From page 18 of this Appendix.
- (2) Ratings that of Golden State Water Company.
- (3) Ratings that of New Jersey and Pennsylvania American Water Companies.
- (4) Ratings that of Aqua Pennsylvania, Inc.
- (5) Ratings that of California Water Service Company.
- (6) Ratings that of Connecticut Water Company.
- (7) Ratings that of San Jose Water Company.

Source Information: Moody's Investors Service  
Standard & Poor's Global Utilities Rating Service

**Numerical Assignment for  
Moody's and Standard & Poor's Bond Ratings**

<u>Moody's Bond Rating</u>	<u>Numerical Bond Weighting</u>	<u>Standard &amp; Poor's Bond Rating</u>
Aaa	1	AAA
Aa1	2	AA+
Aa2	3	AA
Aa3	4	AA-
A1	5	A+
A2	6	A
A3	7	A-
Baa1	8	BBB+
Baa2	9	BBB
Baa3	10	BBB-
Ba1	11	BB+
Ba2	12	BB
Ba3	13	BB-
B1	14	B+
B2	15	B
B3	16	B-

Mahoning Township Water and Sewer Department  
Judgment of Equity Risk Premium for  
Proxy Group of Eight Water Companies

<u>Line No.</u>		<u>Proxy Group of Eight Water Companies</u>
1.	Calculated equity risk premium based on the total market using the beta approach (1)	5.48 %
2.	Mean equity risk premium based on a study using the holding period returns of public utilities with A rated bonds (2)	<u>4.03</u>
3.	Average equity risk premium	<u><u>4.76 %</u></u>

Notes: (1) From page 20 of this Appendix.  
(2) From page 24 of this Appendix.

Mahoning Township Water and Sewer Department  
Derivation of Equity Risk Premium Based on the Total Market Approach  
Using the Beta for the  
Proxy Group of Eight Water Companies

<u>Line No.</u>	<u>Equity Risk Premium Measure</u>	<u>Proxy Group of Eight Water Companies</u>
<u>Ibbotson-Based Equity Risk Premiums:</u>		
1.	Ibbotson Equity Risk Premium (1)	5.56 %
2.	Regression on Ibbotson Risk Premium Data (2)	7.32
3.	Ibbotson Equity Risk Premium based on PRPM (3)	<u>6.00</u>
4.	Average Ibbotson Equity Risk Premium	<u><u>6.29</u></u>
<u>Value Line-Based Equity Risk Premiums:</u>		
5.	Equity Risk Premium Based on Value Line Summary and Index (4)	4.98
6.	Equity Risk Premium Based on Value Line S&P 500 Companies (5)	<u>9.38</u>
7.	Average Value Line Equity Risk Premium	<u><u>7.18</u></u>
<u>Bloomberg-Based Equity Risk Premium:</u>		
8.	Equity Risk Premium Based on Bloomberg S&P 500 Companies (6)	<u><u>8.72</u></u>
9.	Conclusion of Equity Risk Premium (7)	7.40 %
10.	Adjusted Beta (8)	<u>0.74</u>
11.	Forecasted Equity Risk Premium	<u><u>5.48 %</u></u>

Notes provided on page 9 of this Schedule.

Mahoning Township Water and Sewer Department  
Derivation of Equity Risk Premium Based on the Total Market Approach  
Using the Beta for the  
Proxy Group of Eight Water Companies

Notes:

- (1) Based on the arithmetic mean historical monthly returns on large company common stocks from Ibbotson® SBBI® 2017 Market Report minus the arithmetic mean monthly yield of Moody's average Aaa and Aa corporate bonds from 1926-2016.
- (2) This equity risk premium is based on a regression of the monthly equity risk premiums of large company common stocks relative to Moody's average Aaa and Aa rated corporate bond yields from 1928-2016 referenced in Note 1 above.
- (3) The Predictive Risk Premium Model (PRPM) is discussed in the accompanying direct testimony. The Ibbotson equity risk premium based on the PRPM is derived by applying the PRPM to the monthly risk premiums between Ibbotson large company common stock monthly returns and average Aaa and Aa corporate monthly bond yields, from January 1928 through July 2017.
- (4) The equity risk premium based on the Value Line Summary and Index is derived by subtracting the average consensus forecast of Aaa corporate bonds of 4.65% (from page 3 of this Schedule) from the projected 3-5 year total annual market return of 9.63% (described fully in note 1 of page 26 of this Appendix).
- (5) Using data from Value Line for the S&P 500, an expected total return of 14.03% was derived based upon expected dividend yields and long-term earnings growth estimates as a proxy for capital appreciation. Subtracting the average consensus forecast of Aaa corporate bonds of 4.65% results in an expected equity risk premium of 9.38%.
- (6) Using data from the Bloomberg Professional Service for the S&P 500, an expected total return of 13.37% was derived based upon expected dividend yields and long-term earnings growth estimates as a proxy for capital appreciation. Subtracting the average consensus forecast of Aaa corporate bonds of 4.65% results in an expected equity risk premium of 8.72%.
- (7) Average of lines 4, 7, and 8.
- (8) Average of mean and median beta from page 25 of this Appendix.

Sources of Information:

Stocks, Bonds, Bills, and Inflation - 2017 SBBI Yearbook, John Wiley & Sons, Inc.  
Industrial Manual and Mergent Bond Record Monthly Update.  
Value Line Summary and Index  
Blue Chip Financial Forecasts, June 1, 2017 and August 1, 2017  
Bloomberg Professional Services

### Consensus Forecasts Of U.S. Interest Rates And Key Assumptions<sup>1</sup>

Interest Rates	History								Consensus Forecasts-Quarterly Avg.					
	Average For Week Ending				Average For Month		Latest Qtr		3Q 2017	4Q 2017	1Q 2018	2Q 2018	3Q 2018	4Q 2018
	July 21	July 14	July 7	June 30	Jun	May	Apr	2Q 2017	2017	2017	2018	2018	2018	2018
Federal Funds Rate	1.16	1.16	1.12	1.16	1.03	0.90	0.90	0.94	1.2	1.3	1.5	1.6	1.8	2.0
Prime Rate	4.25	4.25	4.25	4.25	4.13	4.00	4.00	4.04	4.3	4.4	4.5	4.7	4.9	5.1
LIBOR, 3-mo.	1.31	1.30	1.30	1.30	1.26	1.18	1.16	1.20	1.4	1.5	1.7	1.9	2.1	2.3
Commercial Paper, 1-mo.	1.11	1.10	1.09	1.06	1.00	0.84	0.83	0.89	1.2	1.3	1.5	1.7	1.9	2.1
Treasury bill, 3-mo.	1.11	1.05	1.05	1.02	1.00	0.90	0.81	0.90	1.1	1.2	1.4	1.6	1.8	2.0
Treasury bill, 6-mo.	1.11	1.13	1.14	1.13	1.11	1.03	0.95	1.03	1.2	1.3	1.5	1.7	1.9	2.1
Treasury bill, 1 yr.	1.22	1.22	1.23	1.22	1.20	1.12	1.04	1.12	1.3	1.5	1.7	1.9	2.1	2.2
Treasury note, 2 yr.	1.36	1.37	1.41	1.37	1.33	1.31	1.24	1.29	1.5	1.6	1.8	2.0	2.2	2.3
Treasury note, 5 yr.	1.83	1.90	1.94	1.83	1.77	1.85	1.83	1.82	1.9	2.1	2.3	2.4	2.6	2.7
Treasury note, 10 yr.	2.27	2.35	2.36	2.23	2.19	2.31	2.30	2.27	2.4	2.6	2.7	2.9	3.0	3.1
Treasury note, 30 yr.	2.85	2.91	2.89	2.78	2.81	2.97	2.94	2.91	3.0	3.1	3.3	3.4	3.6	3.7
Corporate Aaa bond	3.75	3.84	3.85	3.76	3.81	3.99	4.00	3.93	3.9	4.1	4.3	4.5	4.7	4.8
Corporate Baa bond	4.34	4.44	4.44	4.34	4.39	4.57	4.60	4.52	4.6	4.8	5.0	5.1	5.4	5.5
State & Local bonds	3.41	3.46	3.47	3.40	3.37	3.51	3.55	3.48	3.6	3.8	4.0	4.1	4.3	4.4
Home mortgage rate	3.96	4.03	3.96	3.88	3.90	4.01	4.05	3.99	4.1	4.2	4.4	4.6	4.7	4.8

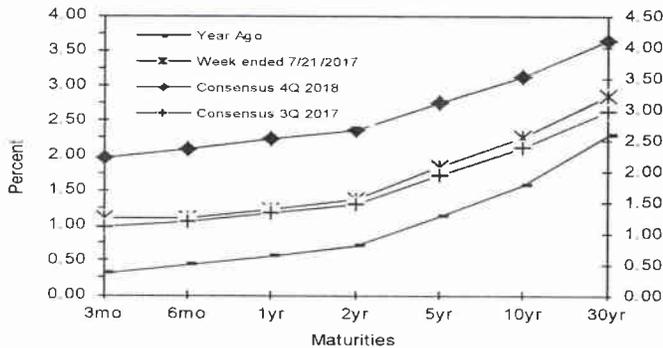
  

Key Assumptions	History								Consensus Forecasts-Quarterly					
	3Q 2015	4Q 2015	1Q 2016	2Q 2016	3Q 2016	4Q 2016	1Q 2017	2Q 2017	3Q 2017	4Q 2017	1Q 2018	2Q 2018	3Q 2018	4Q 2018
	2015	2015	2016	2016	2016	2016	2017	2017	2017	2017	2018	2018	2018	2018
Major Currency Index	91.8	93.1	93.3	89.6	90.3	93.7	94.4	93.0	90.9	90.9	91.1	91.6	91.4	91.4
Real GDP	1.6	0.5	0.6	2.2	2.8	1.8	1.2	2.6	2.4	2.3	2.3	2.4	2.3	2.2
GDP Price Index	1.4	0.8	0.3	2.4	1.4	2.0	2.0	1.0	1.7	2.0	2.1	2.1	2.1	2.2
Consumer Price Index	1.5	0.4	0.1	2.3	1.8	3.0	3.1	-0.3	1.6	2.2	2.3	2.2	2.2	2.4

Forecasts for interest rates and the Federal Reserve's Major Currency Index represent averages for the quarter. Forecasts for Real GDP, GDP Price Index and Consumer Price Index are seasonally-adjusted annual rates of change (saar). Individual panel members' forecasts are on pages 4 through 9. Historical data: Treasury rates from the Federal Reserve Board's H.15; AAA-AA and A-BBB corporate bond yields from Bank of America-Merrill Lynch and are 15+ years, yield to maturity; State and local bond yields from Bank of America-Merrill Lynch, A-rated, yield to maturity; Mortgage rates from Freddie Mac, 30-year, fixed, LIBOR quotes from Intercontinental Exchange. All interest rate data is sourced from Flaver Analytics. Historical data for Fed's Major Currency Index is from FRSR H.10. Historical data for Real GDP and GDP Chained Price Index are from the Bureau of Economic Analysis (BEA). Consumer Price Index (CPI) history is from the Department of Labor's Bureau of Labor Statistics (BLS).

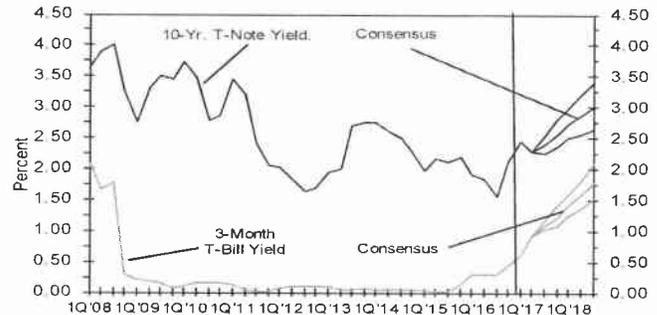
#### U.S. Treasury Yield Curve

Week ended July 22, 2017 and Year Ago v.s.  
3Q 2017 and 4Q 2018 Consensus Forecasts



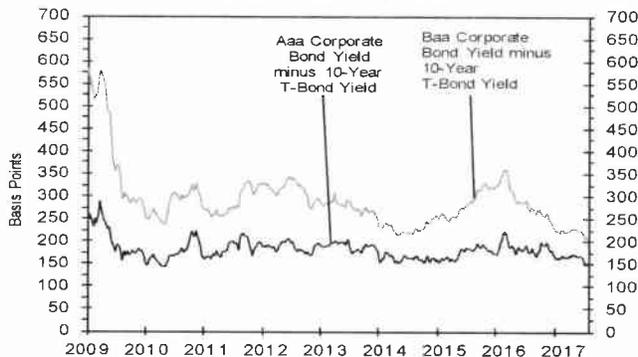
#### U.S. 3-Mo. T-Bills & 10-Yr. T-Note Yield

(Quarterly Average) Forecast



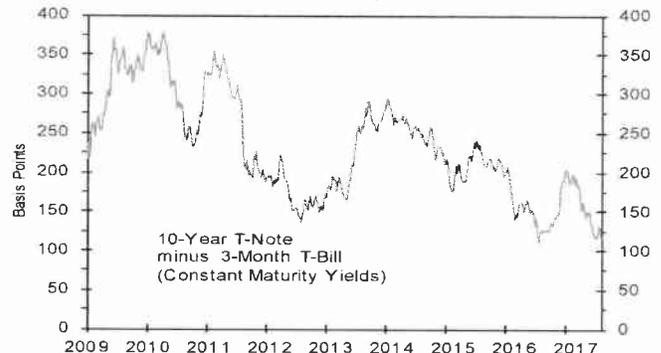
#### Corporate Bond Spreads

As of week ended July 22, 2017



#### U.S. Treasury Yield Curve

As of week July 22, 2017



## Long-Range Survey:

The table below contains the results of our twice-annual long-range CONSENSUS survey. There are also Top 10 and Bottom 10 averages for each variable. Shown are consensus estimates for the years 2019 through 2023 and averages for the five-year periods 2019-2023 and 2024-2028. Apply these projections cautiously. Few if any economic, demographic and political forces can be evaluated accurately over such long time spans.

Interest Rates		Average For The Year					Five-Year Averages	
		2019	2020	2021	2022	2023	2019-2023	2024-2028
1. Federal Funds Rate	<b>CONSENSUS</b>	2.6	2.9	2.9	2.9	2.9	2.8	3.0
	Top 10 Average	3.1	3.5	3.4	3.5	3.5	3.4	3.5
	Bottom 10 Average	2.0	2.3	2.3	2.3	2.4	2.3	2.4
2. Prime Rate	<b>CONSENSUS</b>	5.6	5.9	5.9	5.9	5.9	5.8	6.0
	Top 10 Average	6.1	6.5	6.5	6.5	6.5	6.4	6.5
	Bottom 10 Average	5.0	5.3	5.3	5.2	5.3	5.2	5.4
3. LIBOR, 3-Mo.	<b>CONSENSUS</b>	2.9	3.1	3.2	3.1	3.2	3.1	3.2
	Top 10 Average	3.4	3.7	3.7	3.7	3.8	3.7	3.8
	Bottom 10 Average	2.4	2.6	2.6	2.5	2.6	2.5	2.6
4. Commercial Paper, 1-Mo.	<b>CONSENSUS</b>	2.7	3.0	3.0	3.0	3.1	3.0	3.1
	Top 10 Average	3.2	3.5	3.5	3.6	3.6	3.5	3.6
	Bottom 10 Average	2.2	2.5	2.5	2.4	2.5	2.4	2.6
5. Treasury Bill Yield, 3-Mo.	<b>CONSENSUS</b>	2.5	2.8	2.8	2.8	2.9	2.8	2.9
	Top 10 Average	3.1	3.4	3.4	3.4	3.5	3.3	3.5
	Bottom 10 Average	1.9	2.2	2.3	2.2	2.3	2.2	2.3
6. Treasury Bill Yield, 6-Mo.	<b>CONSENSUS</b>	2.6	2.9	3.0	3.0	3.0	2.9	3.0
	Top 10 Average	3.2	3.6	3.5	3.6	3.6	3.5	3.6
	Bottom 10 Average	2.0	2.4	2.4	2.4	2.4	2.3	2.4
7. Treasury Bill Yield, 1-Yr.	<b>CONSENSUS</b>	2.8	3.1	3.1	3.1	3.1	3.0	3.2
	Top 10 Average	3.4	3.7	3.7	3.7	3.7	3.6	3.7
	Bottom 10 Average	2.1	2.5	2.5	2.5	2.5	2.4	2.5
8. Treasury Note Yield, 2-Yr.	<b>CONSENSUS</b>	2.9	3.2	3.3	3.3	3.3	3.2	3.3
	Top 10 Average	3.5	3.9	3.9	3.9	3.9	3.8	4.0
	Bottom 10 Average	2.3	2.6	2.7	2.6	2.6	2.6	2.7
10. Treasury Note Yield, 5-Yr.	<b>CONSENSUS</b>	3.3	3.5	3.5	3.6	3.6	3.5	3.6
	Top 10 Average	3.9	4.2	4.2	4.2	4.2	4.1	4.3
	Bottom 10 Average	2.7	2.9	2.9	3.0	3.0	2.9	3.0
11. Treasury Note Yield, 10-Yr.	<b>CONSENSUS</b>	3.6	3.8	3.8	3.9	3.9	3.8	3.9
	Top 10 Average	4.2	4.5	4.4	4.5	4.5	4.4	4.6
	Bottom 10 Average	2.9	3.1	3.1	3.2	3.3	3.1	3.3
12. Treasury Bond Yield, 30-Yr.	<b>CONSENSUS</b>	4.2	4.3	4.4	4.4	4.4	4.3	4.5
	Top 10 Average	4.9	5.0	5.0	5.0	5.0	5.0	5.1
	Bottom 10 Average	3.5	3.7	3.7	3.8	3.8	3.7	3.8
13. Corporate Aaa Bond Yield	<b>CONSENSUS</b>	5.2	5.4	5.4	5.4	5.5	5.4	5.5
	Top 10 Average	5.7	5.9	5.9	6.0	5.9	5.9	6.0
	Bottom 10 Average	4.7	4.9	4.9	4.9	5.0	4.9	5.1
13. Corporate Baa Bond Yield	<b>CONSENSUS</b>	6.1	6.3	6.3	6.3	6.3	6.3	6.4
	Top 10 Average	6.8	7.0	6.9	7.0	6.9	6.9	7.0
	Bottom 10 Average	5.5	5.6	5.7	5.6	5.8	5.6	5.7
14. State & Local Bonds Yield	<b>CONSENSUS</b>	4.6	4.7	4.7	4.7	4.7	4.7	4.8
	Top 10 Average	5.1	5.3	5.2	5.3	5.3	5.2	5.3
	Bottom 10 Average	4.2	4.2	4.2	4.1	4.1	4.2	4.2
15. Home Mortgage Rate	<b>CONSENSUS</b>	5.3	5.5	5.5	5.5	5.5	5.4	5.6
	Top 10 Average	5.9	6.2	6.1	6.2	6.1	6.1	6.2
	Bottom 10 Average	4.6	4.8	4.8	4.7	4.9	4.8	4.9
A. FRB - Major Currency Index	<b>CONSENSUS</b>	93.8	93.2	93.1	93.0	92.7	93.2	92.5
	Top 10 Average	96.5	96.6	96.9	97.1	97.2	96.9	97.1
	Bottom 10 Average	91.0	89.7	89.2	88.7	88.1	89.3	88.1
		Year-Over-Year, % Change					Five-Year Averages	
		2019	2020	2021	2022	2023	2019-2023	2024-2028
B. Real GDP	<b>CONSENSUS</b>	2.2	2.0	2.0	2.0	2.0	2.0	2.1
	Top 10 Average	2.6	2.4	2.4	2.4	2.3	2.4	2.3
	Bottom 10 Average	1.7	1.6	1.6	1.6	1.6	1.6	1.8
C. GDP Chained Price Index	<b>CONSENSUS</b>	2.2	2.1	2.1	2.0	2.0	2.1	2.0
	Top 10 Average	2.5	2.3	2.3	2.2	2.2	2.3	2.3
	Bottom 10 Average	1.9	1.9	1.9	1.9	1.7	1.8	1.9
D. Consumer Price Index	<b>CONSENSUS</b>	2.3	2.3	2.3	2.3	2.2	2.2	2.2
	Top 10 Average	2.6	2.6	2.5	2.5	2.4	2.5	2.4
	Bottom 10 Average	1.9	2.0	2.0	2.1	1.8	2.0	2.0

Mahoning Township Water and Sewer Department  
Derivation of Mean Equity Risk Premium Based Studies  
Using Holding Period Returns and  
Projected Market Appreciation of the S&P Utility Index

<u>Line No.</u>		<u>Implied Equity Risk Premium</u>
<u>Equity Risk Premium based on S&amp;P Utility Index Holding Period Returns (1):</u>		
1.	Historical Equity Risk Premium	3.96 %
2.	Regression of Historical Equity Risk Premium (2)	5.54
3.	Forecasted Equity Risk Premium Based on PRPM (3)	<u>4.09</u>
4.	Average Equity Risk Premium Using S&P Holding Period Returns	<u>4.53 %</u>
<u>Equity Risk Premium based on Projected Market Appreciation of the S&amp;P Utility Index</u>		
5.	Forecasted Equity Risk Premium based on Projected Total Return on the S&P Utilities Index (Value Line Data) (4)	<u>4.08</u>
6.	Forecasted Equity Risk Premium based on Projected Total Return on the S&P Utilities Index (Bloomberg Data) (5)	<u>3.47</u>
7.	Average Equity Risk Premium (6)	<u>4.03 %</u>

- Notes: (1) Based on S&P Public Utility Index monthly total returns and Moody's Public Utility Bond average monthly yields from 1928-2016. Holding period returns are calculated based upon income received (dividends and interest) plus the relative change in the market value of a security over a one-year holding period.
- (2) This equity risk premium is based on a regression of the monthly equity risk premiums of the S&P Utility Index relative to Moody's A rated public utility bond yields from 1928 - 2016 referenced in note 1 above.
- (3) The Predictive Risk Premium Model (PRPM) is applied to the risk premium of the monthly total returns of the S&P Utility Index and the monthly yields on Moody's A rated public utility bonds from January 1928 - July 2017.
- (4) Using data from Value Line for the S&P Utilities Index, an expected return of 9.00% was derived based on expected dividend yields and long-term growth estimates as a proxy for market appreciation. Subtracting the expected A rated public utility bond yield of 4.92%, calculated on line 3 of page 3 of this Schedule results in an equity risk premium of 4.08%. (9.00% - 4.92% = 4.08%)
- (5) Using data from Bloomberg Professional Service for the S&P Utilities Index, an expected return of 8.39% was derived based on expected dividend yields and long-term growth estimates as a proxy for market appreciation. Subtracting the expected A rated public utility bond yield of 4.92%, calculated on line 3 of page 3 of this Schedule results in an equity risk premium of 3.47%. (8.39% - 4.92% = 3.47%)
- (6) Average of Lines 4 through 6.

Mahoning Township Water and Sewer Department  
Indicated Common Equity Cost Rate Through Use  
of the Traditional Capital Asset Pricing Model (CAPM) and Empirical Capital Asset Pricing Model (ECAPM)

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
<u>Proxy Group of Eight Water Companies</u>	<u>Value Line Adjusted Beta</u>	<u>Bloomberg Adjusted Beta</u>	<u>Average Beta</u>	<u>Market Risk Premium (1)</u>	<u>Risk-Free Rate (2)</u>	<u>Traditional CAPM Cost Rate</u>	<u>ECAPM Cost Rate</u>	<u>Indicated Common Equity Cost Rate (3)</u>
American States Water Co.	0.75	0.70	0.73	8.46 %	3.61 %	9.78 %	10.35 %	10.07 %
American Water Works Company Inc	0.60	0.58	0.59	8.46	3.61	8.60	9.47	9.03
Aqua America Inc	0.70	0.60	0.65	8.46	3.61	9.11	9.85	9.48
California Water Service Group	0.75	0.74	0.75	8.46	3.61	9.95	10.48	10.22
Connecticut Water Service Inc	0.65	0.65	0.65	8.46	3.61	9.11	9.85	9.48
Middlesex Water Co.	0.75	0.86	0.81	8.46	3.61	10.46	10.86	10.66
SJW Corp	0.70	0.80	0.75	8.46	3.61	9.95	10.48	10.22
York Water Co.	0.80	0.93	0.87	8.46	3.61	10.97	11.24	11.10
Mean			<u>0.73</u>			<u>9.74 %</u>	<u>10.32 %</u>	<u>10.03 %</u>
Median			<u>0.74</u>			<u>9.87 %</u>	<u>10.42 %</u>	<u>10.15 %</u>
Average of Mean and Median			<u>0.74</u>			<u>9.81</u>	<u>10.37</u>	<u>10.09 %</u>

Notes on page 26 of this Appendix.

Mahoning Township Water and Sewer Department  
Notes to Accompany the Application of the CAPM and ECAPM

Notes:

- (1) The market risk premium (MRP) is derived by using six different measures from three sources: Ibbotson, *Value Line*, and Bloomberg as illustrated below:

Historical Data MRP Estimates:

Measure 1: Ibbotson Arithmetic Mean MRP (1926-2016)

Arithmetic Mean Monthly Returns for Large Stocks 1926-2016:	11.97 %
Arithmetic Mean Income Returns on Long-Term Government Bonds:	5.17
MRP based on Ibbotson Historical Data:	6.80 %

Measure 2: Application of a Regression Analysis to Ibbotson Historical Data (1926-2016)

8.57 %

Measure 3: Application of the PRPM to Ibbotson Historical Data: (January 1926 - July 2017)

6.79 %

Average Historical Data MRP 7.39 %

Value Line MRP Estimates:

Measure 4: Value Line Projected MRP (Thirteen weeks ending August 04, 2017)

Total projected return on the market 3-5 years hence*:	9.63 %
Projected Risk-Free Rate (see note 2):	3.61
MRP based on Value Line Summary & Index:	6.02 %
*Forecasted 3-5 year capital appreciation plus expected dividend yield	

Measure 5: Value Line Projected Return on the Market based on the S&P 500

Total return on the Market based on the S&P 500:	14.03 %
Projected Risk-Free Rate (see note 2):	3.61
MRP based on Value Line data	10.42 %

Average Value Line MRP: 8.22 %

Measure 6: Bloomberg Projected MRP

Total return on the Market based on the S&P 500:	13.37 %
Projected Risk-Free Rate (see note 2):	3.61
MRP based on Bloomberg data	9.76 %

Average of Value Line, Ibbotson, and Bloomberg MRP: 8.46 %

- (2) The appropriate risk-free rate for cost of capital purposes is the average forecast of 30 year Treasury Bonds per the consensus of nearly 50 economists reported in Blue Chip Financial Forecasts. (See pages 22-23 of this Appendix.) The projection of the risk-free rate is illustrated below:

Third Quarter 2017	3.00 %
Fourth Quarter 2017	3.10
First Quarter 2018	3.30
Second Quarter 2018	3.40
Third Quarter 2018	3.60
Fourth Quarter 2018	3.70
2019-2023	4.30
2024-2028	4.50 %
	3.61 %

- (3) Average of Column 6 and Column 7.

Sources of Information:

Value Line Summary and Index  
Blue Chip Financial Forecasts, June 1, 2017 and August 1, 2017  
Stocks, Bonds, Bills, and Inflation - 2017 SBBI Yearbook, John Wiley & Sons, Inc.  
Bloomberg Professional Services

Mahoning Township Water and Sewer Department  
Basis of Selection of the Group of Non-Price Regulated Companies  
Comparable in Total Risk to the Utility Proxy Group

The criteria for selection of the proxy group of seventeen non-price regulated companies was that the non-price regulated companies be domestic and reported in Value Line Investment Survey (Standard Edition).

The proxy group of seventeen non-price regulated companies were then selected based on the unadjusted beta range of 0.34 – 0.70 and residual standard error of the regression range of 2.3533 – 2.8069 of the water proxy group.

These ranges are based upon plus or minus two standard deviations of the unadjusted beta and standard error of the regression. Plus or minus two standard deviations captures 95.50% of the distribution of unadjusted betas and residual standard errors of the regression.

The standard deviation of the water industry's residual standard error of the regression is 0.1134. The standard deviation of the standard error of the regression is calculated as follows:

$$\text{Standard Deviation of the Std. Err. of the Regr.} = \frac{\text{Standard Error of the Regression}}{\sqrt{2N}}$$

where: N = number of observations. Since Value Line betas are derived from weekly price change observations over a period of five years, N = 259

$$\text{Thus, } 0.1134 = \frac{2.5801}{\sqrt{518}} = \frac{2.5801}{22.7596}$$

Source of Information: Value Line, Inc., June 2017  
Value Line Investment Survey (Standard Edition)

Mahoning Township Water and Sewer Department  
Basis of Selection of Comparable Risk  
Domestic Non-Price Regulated Companies

	[1]	[2]	[3]	[4]
<u>Proxy Group of Eight Water Companies</u>	<u>Value Line Adjusted Beta</u>	<u>Unadjusted Beta</u>	<u>Residual Standard Error of the Regression</u>	<u>Standard Deviation of Beta</u>
American States Water Co.	0.60	0.39	1.9839	0.0691
American Water Works Company Inc	0.75	0.58	2.7924	0.0973
Aqua America Inc	0.65	0.41	2.3746	0.0827
California Water Service Group	0.75	0.56	2.5374	0.0884
Connecticut Water Service Inc	0.75	0.57	2.8058	0.0978
Middlesex Water Co.	0.70	0.53	2.9297	0.1021
SJW Corp	0.70	0.47	2.2248	0.0775
York Water Co.	0.80	0.62	2.9920	0.1042
Average	<u>0.71</u>	<u>0.52</u>	<u>2.5801</u>	<u>0.0899</u>
Beta Range (+/- 2 std. Devs. of Beta) 2 std. Devs. of Beta	0.34 0.18	0.70		
Residual Std. Err. Range (+/- 2 std. Devs. of the Residual Std. Err.)	2.3533	2.8069		
Std. dev. of the Res. Std. Err.	0.1134			
2 std. devs. of the Res. Std. Err.	0.2268			

Source of Information: Valueline Proprietary Database, June 2017

Mahoning Township Water and Sewer Department  
Proxy Group of Non-Price Regulated Companies  
Comparable in Total Risk to the  
Proxy Group of Eight Water Companies

	[1]	[2]	[3]	[4]
<u>Proxy Group of Seventeen Non-Price Regulated Companies</u>	<u>VL Adjusted Beta</u>	<u>Unadjusted Beta</u>	<u>Residual Standard Error of the Regression</u>	<u>Standard Deviation of Beta</u>
ABM Industries Inc.	0.80	0.65	2.4419	0.0851
Bright Horizons Fami	0.85	0.70	2.4641	0.0949
Cheesecake Factory	0.85	0.70	2.5709	0.0896
CBOE Holdings	0.70	0.50	2.5345	0.0883
Chemed Corp.	0.85	0.70	2.8000	0.0976
CME Group	0.75	0.60	2.4401	0.0850
Forrester Research	0.70	0.53	2.7803	0.0969
Genpact Limited	0.75	0.57	2.7009	0.0941
Hormel Foods	0.75	0.58	2.4245	0.0845
Intercontinental Exc	0.80	0.63	2.3619	0.0823
Lancaster Colony	0.80	0.65	2.3708	0.0826
Lilly (Eli)	0.75	0.60	2.5343	0.0883
Mercury General	0.70	0.53	2.5576	0.0891
O'Reilly Automotive	0.80	0.69	2.6083	0.0909
Pinnacle Foods	0.80	0.67	2.5855	0.1007
Target Corp.	0.80	0.67	2.5354	0.0883
WD-40 Co.	0.80	0.64	2.4838	0.0865
Average	<u>0.78</u>	<u>0.62</u>	<u>2.5400</u>	<u>0.0900</u>
Proxy Group of Eight Water Companies	<u>0.71</u>	<u>0.52</u>	<u>2.5801</u>	<u>0.0899</u>

Source of Information:

Valueline Proprietary Database, June 2017

Mahoning Township Water and Sewer Department  
 Summary of Cost of Equity Models Applied to  
 Proxy Group of Seventeen Non-Price Regulated Companies  
 Comparable in Total Risk to the  
Proxy Group of Eight Water Companies

<u>Principal Methods</u>	<u>Proxy Group of Seventeen Non- Price Regulated Companies</u>
Discounted Cash Flow Model (DCF) (1)	12.58 %
Risk Premium Model (RPM) (2)	11.02
Capital Asset Pricing Model (CAPM) (3)	10.65
	Mean <u>11.42 %</u>
	Median <u>11.02 %</u>
	Average of Mean and Median <u>11.22 %</u>

Notes:

- (1) From page 31 of this Appendix.
- (2) From page 32 of this Appendix.
- (3) From page 35 of this Appendix.

**Mahoning Township Water and Sewer Department**  
 DCF Results for the Proxy Group of Non-Price-Regulated Companies Comparable in Total Risk to the  
Proxy Group of Eight Water Companies

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
<u>Proxy Group of Seventeen Non-Price Regulated Companies</u>	<u>Average Dividend Yield</u>	<u>Value Line Projected Five Year Growth in EPS</u>	<u>Reuters Mean Consensus Projected Five Year Growth Rate in EPS</u>	<u>Zack's Five Year Projected Growth Rate in EPS</u>	<u>Yahoo! Finance Projected Five Year Growth in EPS</u>	<u>Average Projected Five Year Growth Rate in EPS</u>	<u>Adjusted Dividend Yield</u>	<u>Indicated Common Equity Cost Rate (1)</u>
ABM Industries Inc.	1.60 %	14.50 %	NA %	NA %	5.10 %	9.80 %	1.68 %	11.48 %
Bright Horizons Fami	-	19.50	18.42	20.00	18.43	19.09	-	NA
Cheesecake Factory	1.57	10.00	11.25	14.30	11.25	11.70	1.66	13.36
CBOE Holdings	1.21	12.50	NA	16.40	18.28	15.73	1.31	17.04
Chemed Corp.	0.51	13.50	10.00	10.00	10.00	10.88	0.54	11.42
CME Group	2.18	8.50	8.90	10.60	8.90	9.23	2.28	11.51
Forrester Research	1.92	10.00	12.00	12.00	12.00	11.50	2.03	13.53
Genpact Limited	0.88	11.00	11.03	11.70	11.03	11.19	0.93	12.12
Hormel Foods	2.00	10.50	5.68	9.30	5.02	7.63	2.08	9.71
Intercontinental Exc	1.26	12.00	11.20	11.20	11.20	11.40	1.33	12.73
Lancaster Colony	1.77	7.00	NA	NA	3.00	5.00	1.81	6.81
Lilly (Eli)	2.55	11.00	11.76	10.80	11.76	11.33	2.69	14.02
Mercury General	4.53	14.00	23.40	23.40	23.40	21.05	5.01	26.06
O'Reilly Automotive	-	13.00	13.83	13.80	13.70	13.58	-	NA
Pinnacle Foods	1.89	NA	11.04	9.30	11.02	10.45	1.99	12.44
Target Corp.	4.57	4.50	(4.07)	4.40	(4.07)	4.45	4.67	9.12
WD-40 Co.	1.82	8.00	NA	10.00	13.00	10.33	1.91	12.24
							<b>Mean</b>	<b>12.91 %</b>
							<b>Median</b>	<b>12.24 %</b>
						<b>Average of Mean and Median</b>		<b>12.58 %</b>

NA= Not Available

NMF= Not Meaningful Figure

(1) The application of the DCF model to the domestic, non-price regulated comparable risk companies is identical to the application of the DCF to the utility proxy group. The dividend yield is derived by using the 60 day average price and the spot indicated dividend as of July 31, 2017. The dividend yield is then adjusted by 1/2 the average projected growth rate in EPS, which is calculated by averaging the 5 year projected growth in EPS provided by Value Line, www.reuters.com, www.zacks.com, and www.yahoo.com (excluding any negative growth rates) and then adding that growth rate to the adjusted dividend yield.

Source of Information: Value Line Investment Survey:  
 www.reuters.com Downloaded on 07/31/2017  
 www.zacks.com Downloaded on 07/31/2017  
 www.yahoo.com Downloaded on 07/31/2017

**Mahoning Township Water and Sewer Department**  
**Indicated Common Equity Cost Rate**  
**Through Use of a Risk Premium Model**  
**Using an Adjusted Total Market Approach**

<u>Line No.</u>		<u>Proxy Group of Seventeen Non- Price Regulated Companies</u>
1.	Prospective Yield on Baa Rated Corporate Bonds (1)	5.39 %
2.	Adjustment to Reflect Bond rating Difference of Non-Price Regulated Companies (2)	<u>(0.36)</u>
3.	Adjusted Prospective Bond Yield	5.03
4.	Equity Risk Premium (3)	<u>5.99</u>
5.	Risk Premium Derived Common Equity Cost Rate	<u><u>11.02 %</u></u>

Notes: (1) Average forecast of Baa corporate bonds based upon the consensus of nearly 50 economists reported in Blue Chip Financial Forecasts dated June 1, 2017 and August 1, 2017 (see pages 22-23 of this Appendix). The estimates are detailed below.

Third Quarter 2017	4.60 %
Fourth Quarter 2017	4.80
First Quarter 2018	5.00
Second Quarter 2018	5.10
Third Quarter 2018	5.40
Fourth Quarter 2018	5.50
2019-2023	6.30
2024-2028	<u>6.40</u>
Average	<u><u>5.39 %</u></u>

(2) The average yield spread of Baa rated corporate bonds over A corporate bonds for the three months ending July 2017. To reflect the A2/A3 average rating of the non-utility proxy group, the prospective yield on Baa corporate bonds must be adjusted by 5/6 of the spread between A and Baa corporate bond yields as shown below:

	A Corp. Bond Yield		Baa Corp. Bond Yield		Spread
Jul-2017	4.03	%	4.46	%	0.43 %
Jun-2017	3.93		4.37		0.44
May-2017	4.11		4.55		<u>0.44</u>
	Average yield spread				<u>0.44 %</u>
	5/6 of spread				<u><u>0.36 %</u></u>

(3) From page 34 of this Appendix.

Mahoning Township Water and Sewer Department  
Comparison of Long-Term Issuer Ratings for the  
Proxy Group of Seventeen Non-Price Regulated Companies of Comparable risk to the  
Proxy Group of Eight Water Companies

<u>Proxy Group of Seventeen Non-Price Regulated Companies</u>	<u>Moody's</u> <u>Long-Term Issuer Rating</u> <u>July 2017</u>		<u>Standard &amp; Poor's</u> <u>Long-Term Issuer Rating</u> <u>July 2017</u>	
	<u>Long-Term Issuer Rating</u>	<u>Numerical Weighting (1)</u>	<u>Long-Term Issuer Rating</u>	<u>Numerical Weighting (1)</u>
ABM Industries Inc.	NR	--	NR	--
Bright Horizons Fami	NR	--	NR	--
Cheesecake Factory	NR	--	NR	--
CBOE Holdings	Baa1	8.0	BBB+	8.0
Chemed Corp.	WR	--	NR	--
CME Group	Aa3	4.0	AA-	4.0
Forrester Research	NR	--	NR	--
Genpact Limited	NR	--	BBB-	10.0
Hormel Foods	A1	5.0	A	6.0
Intercontinental Exc	A2	6.0	A	6.0
Lancaster Colony	NR	--	NR	--
Lilly (Eli)	A2	6.0	AA-	4.0
Mercury General	Baa2	9.0	NR	--
O'Reilly Automotive	Baa1	8.0	BBB+	8.0
Pinnacle Foods	NR	--	BB-	13.0
Target Corp.	A2	6.0	A	6.0
WD-40 Co.	NR	--	NR	--
<b>Average</b>	<b><u>A2/A3</u></b>	<b><u>6.5</u></b>	<b><u>A-</u></b>	<b><u>7.2</u></b>

Notes:

(1) From page 18 of this Appendix.

Source of Information:

Bloomberg Professional Services

**Mahoning Township Water and Sewer Department**  
**Derivation of Equity Risk Premium Based on the Total Market Approach**  
**Using the Beta for**  
**Proxy Group of Seventeen Non-Price Regulated Companies of Comparable risk to the**  
**Proxy Group of Eight Water Companies**

<u>Line No.</u>	<u>Equity Risk Premium Measure</u>	<u>Proxy Group of Seventeen Non- Price Regulated Companies</u>
<b><u>Ibbotson-Based Equity Risk Premiums:</u></b>		
1.	Ibbotson Equity Risk Premium (1)	5.56 %
2.	Regression on Ibbotson Risk Premium Data (2)	7.32
3.	Ibbotson Equity Risk Premium based on PRPM (3)	<u>6.00</u>
4.	Average Ibbotson Equity Risk Premium	<u><u>6.29</u></u>
<b><u>Value Line-Based Equity Risk Premiums:</u></b>		
5.	Equity Risk Premium Based on <u>Value Line</u> Summary and Index (4)	4.98
6.	Equity Risk Premium Based on <u>Value Line</u> S&P 500 Companies (5)	<u>9.38</u>
7.	Average <u>Value Line</u> Equity Risk Premium	<u><u>7.18</u></u>
<b><u>Bloomberg-Based Equity Risk Premium:</u></b>		
8.	Equity Risk Premium Based on Bloomberg S&P 500 Companies (6)	<u>8.72</u>
9.	Conclusion of Equity Risk Premium (7)	7.40 %
10.	Adjusted Beta (8)	<u>0.81</u>
11.	Forecasted Equity Risk Premium	<u><u>5.99 %</u></u>

Notes:

- (1) From note 1 of page 21 of this Appendix.
- (2) From note 2 of page 21 of this Appendix.
- (3) From note 3 of page 21 of this Appendix.
- (4) From note 4 of page 21 of this Appendix.
- (5) From note 5 of page 21 of this Appendix.
- (6) From note 6 of page 21 of this Appendix.
- (7) Average of lines 4, 7, and 8.
- (8) Average of mean and median beta from page 35 of this Appendix.

Sources of Information:

Stocks, Bonds, Bills, and Inflation - 2017 SBBi Yearbook, John Wiley & Sons, Inc.  
Value Line Summary and Index  
Blue Chip Financial Forecasts, June 1, 2017 and August 1, 2017  
Bloomberg Professional Services

Mahoning Township Water and Sewer Department  
 Traditional CAPM and ECAPM Results for the Proxy Group of Non-Price-Regulated Companies Comparable in Total Risk to the  
Proxy Group of Eight Water Companies

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
<u>Proxy Group of Seventeen Non-Price Regulated Companies</u>	<u>Value Line Adjusted Beta</u>	<u>Bloomberg Beta</u>	<u>Average Beta</u>	<u>Market Risk Premium (1)</u>	<u>Risk-Free Rate (2)</u>	<u>Traditional CAPM Cost Rate</u>	<u>ECAPM Cost Rate</u>	<u>Indicated Common Equity Cost Rate (3)</u>
ABM Industries Inc.	0.80	0.90	0.85	8.46 %	3.61 %	10.80 %	11.11 %	10.96 %
Bright Horizons Fami	0.85	0.93	0.89	8.46	3.61	11.14	11.37	11.25
Cheesecake Factory	0.85	0.86	0.85	8.46	3.61	10.80	11.11	10.96
CBOE Holdings	0.70	0.81	0.75	8.46	3.61	9.95	10.48	10.22
Chemed Corp.	0.85	1.04	0.94	8.46	3.61	11.56	11.69	11.62
CME Group	0.75	0.93	0.84	8.46	3.61	10.71	11.05	10.88
Forrester Research	0.70	0.96	0.83	8.46	3.61	10.63	10.99	10.81
Genpact Limited	0.75	0.77	0.76	8.46	3.61	10.04	10.54	10.29
Hormel Foods	0.75	0.58	0.67	8.46	3.61	9.28	9.97	9.62
Intercontinental Exc	0.80	0.85	0.82	8.46	3.61	10.54	10.92	10.73
Lancaster Colony	0.80	0.67	0.73	8.46	3.61	9.78	10.35	10.07
Lilly (Eli)	0.75	0.70	0.73	8.46	3.61	9.78	10.35	10.07
Mercury General	0.70	0.92	0.81	8.46	3.61	10.46	10.86	10.66
O'Reilly Automotive	0.80	0.94	0.87	8.46	3.61	10.97	11.24	11.10
Pinnacle Foods	0.80	0.76	0.78	8.46	3.61	10.21	10.67	10.44
Target Corp.	0.80	0.78	0.79	8.46	3.61	10.29	10.73	10.51
WD-40 Co.	0.80	0.76	<u>0.78</u>	8.46	3.61	<u>10.21</u>	<u>10.67</u>	<u>10.44</u>
Mean			<u>0.81</u>			<u>10.42 %</u>	<u>10.83 %</u>	<u>10.63 %</u>
Median			<u>0.81</u>			<u>10.46 %</u>	<u>10.86 %</u>	<u>10.66 %</u>
Average of Mean and Median			<u>0.81</u>			<u>10.44 %</u>	<u>10.85 %</u>	<u>10.65 %</u>

Notes:

(1) From note 1 of page 26 of this Appendix.

(2) From note 2 of page 26 of this Appendix.

(3) Average of CAPM and ECAPM cost rates.

## Global Water Announces Completion of the Transfer of Valencia Assets to Buckeye

PHOENIX, AZ, July 15, 2015 /CNW/ - GWR Global Water Resources Corp. ("GWRC") (TSX: GWR) today announced that Global Water Resources, Inc. ("Global Water" or the "Company") has closed on the transfer of the assets of Valencia Water Company, Inc. ("Valencia"), a subsidiary of Global Water, to the City of Buckeye ("Buckeye").

Through a settlement agreement for stipulated condemnation and stipulated court order, Buckeye has acquired substantially all of the assets of Valencia and today assumed the operations of the utility. Buckeye paid Global Water US\$55 million on closing, plus an additional \$198,000 as a result of a working capital adjustment. As of March 31, 2015, Valencia accounted for 6,719, or 15.3%, of Global Water's 43,866 active service connections.

Under the terms of the settlement, Buckeye will pay to Global Water a growth premium equal to US\$3,000 for each new water meter installed within the prior service areas of Valencia for a 20-year period ending December 31, 2034, subject to a maximum payout of US\$45 million. The first growth premium payment due to the Company will occur in mid-November, and will include payment for the new water meters installed during the first three quarters of 2015. Subsequently, growth premium payments will be paid quarterly.

Approximately US\$21.5 million of the proceeds received from the transaction were used to repay in full, the Company's commercial debt with MidFirst Bank.

"We are very pleased to announce the closing of this transaction, which materially strengthens our balance sheet," said Ron Fleming, President and CEO of Global Water. "When combined with the ongoing phase-in of new rates, the improvement in the housing market, and the successful execution of our strategic plan to focus on our core, regulated utility assets, the fundamentals of our company are very strong."

### **About GWR Global Water Resources Corp.**

GWRC was incorporated in British Columbia to acquire shares of U.S. based Global Water and to actively participate in the management, business and operations of Global Water through its representation on the board of directors of Global Water and its shared management of Global Water. GWRC owns an approximate 48.1% interest in Global Water, a pure-play, high growth, water resources company located in Phoenix, Arizona that owns and operates regulated water, wastewater and recycled water utilities.

### **Cautionary Note Regarding Forward-Looking Statements**

*This press release includes certain forward-looking statements. These forward looking statements include, but are not limited to, statements that are not historical facts as well as statements identified by words such as "expects", "anticipates", "intends", "plans", "believes", "seeks", "estimates", or the negative of these terms, or other words of similar meaning. These statements are based on our current beliefs or expectations and are inherently subject to significant uncertainties and changes in circumstances, many of which are beyond our control. Actual results may differ materially from these expectations due to changes in political, economic, business, competitive, market and regulatory factors and other factors discussed under the heading "Risk Factors" in the Company's most recent Annual Information Form. We undertake no obligation to publicly update any forward-looking statement, except as required by law, whether as a result of new information, future developments or otherwise.*

SOURCE GWR Global Water Resources Corp.

For further information: Marina Proskurovsky, Investor Relations, Tel: 416.815.0700 ext. 288, Email: [mproskurovsky@tmxequicom.com](mailto:mproskurovsky@tmxequicom.com), [www.gwresources.com](http://www.gwresources.com)

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6/1/2017

EPCOR Water USA Completes Willow Valley Water Company Acquisition

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Today's Charts **Ford gains on May sales; Lululemon earnings on tap; Palo Alto Net...**

# PCOR Water USA ompletes Willow alley Water ompany acquisition

Marketwired May 9, 2016

PHOENIX, ARIZONA--(Marketwired - May 9, 2016) - EPCOR Water (USA) Inc. (EPCOR USA), a wholly owned subsidiary of EPCOR Utilities Inc. (EPCOR), has completed the previously announced acquisition of Willow Valley Water Company (Willow Valley).

"Willow Valley complements our existing regional footprint in northwestern Arizona and is a natural step as we continue to expand our business," said Joe Gysel, President of EPCOR USA. "We believe that our focus on customer service and operational excellence will benefit the customers of Willow Valley, now and in the future."

Through its Arizona subsidiary EPCOR Water Arizona Inc., EPCOR USA acquired substantially all of the assets and operations of Willow Valley Water Company for approximately US\$2.27 million. The acquisition has received regulatory approval from the Arizona Corporation Commission.

Willow Valley provides water service to approximately 1,600 customer connections in the Bullhead City area, a service territory approximately 10 miles south of EPCOR USA's Mohave and North Mohave water districts.

With the acquisition of Willow Valley, EPCOR USA now provides water service to more than 21,000 connections in Mohave County. EPCOR USA also provides wastewater service to approximately 1,560 connections in Fort Mohave.

Willow Valley is the company's sixth acquisition since entering the United States. In 2011, the company acquired Chaparral City Water Company, followed by the 2012 acquisition of American Water's Arizona and New Mexico assets and operations. In 2013, EPCOR USA acquired North Mohave Valley Corporation in Arizona and Thunder Mountain Water Company in New Mexico, as well as the existing agreements and master-planning responsibilities to provide wastewater and recycled water services to a 7,000-acre development corridor in Glendale, Arizona.

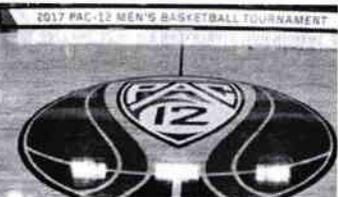
Today, EPCOR USA is the largest, private regulated water utility in Arizona and New Mexico, providing water and wastewater service to

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YHOO Yahoo! Inc.	50.63	0.31	0.6
DUK Duke Energy Corporation	85.72	0.04	0.1
AEP American Electric Power Company, Inc.	72.06	0.28	0.4
EMA.TO Emera Incorporated	48.63	0.45	0.9

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6/1/2017

EPCOR Water USA Completes Willow Valley Water Company Acquisition

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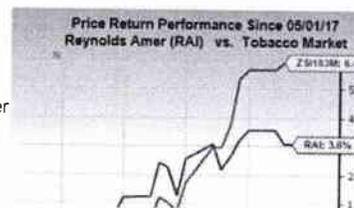
meaning of Canadian securities laws as it relates to anticipated financial performance, events or strategies. When used in this context, words such as "will", "anticipate", "believe", "plan", "intend", "target" and "expect" or similar words suggest future outcomes. The purpose of forward-looking information is to provide investors with management's assessment of future plans and possible outcomes and may not be appropriate for other purposes. Forward-looking information in this news release includes expectations regarding the timing of regulatory approval of the acquisition.



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These statements are based on the assumptions and analyses made by the Company in light of its experience and perception of historical trends, current conditions and expected future developments and other factors it believes are appropriate. Readers are cautioned not to place undue reliance on forward-looking statements as actual results could differ materially from the plans, expectations, estimates or intentions expressed in the forward-looking statements. Except as required by law, EPCOR disclaims any intention and assumes no obligation to update any forward-looking statement even if new information becomes available, as a result of future events or for any other reason.



**Reynolds Announces Leadership Roles Post Acquisition by BAT**

Zacks

**About EPCOR Water USA**

EPCOR USA is an indirect, wholly owned subsidiary of EPCOR Utilities Inc. Headquartered in Phoenix, Arizona, EPCOR USA's wholly owned subsidiaries build, own and operate water and wastewater treatment facilities and infrastructure in the southwestern United States. EPCOR USA is the parent company of EPCOR Water Arizona Inc.



**UK space firms may need EU units after Brexit**

Reuters

**About EPCOR Utilities Inc.**

EPCOR's wholly owned subsidiaries build, own and operate electrical transmission and distribution networks, water and wastewater treatment facilities and infrastructure in Canada and the United States. The Company's subsidiaries also provide electricity and water services and products to residential and commercial customers. EPCOR, headquartered in Edmonton, is an Alberta top 70 employer. EPCOR's website address is [www.epcor.com](http://www.epcor.com).



## Aqua America Announces Acquisitions in Virginia, Texas, Pennsylvania, North Carolina and Illinois

BRYN MAWR, Pa.--(BUSINESS WIRE)-- Aqua America (NYSE:WTR) announced today that its subsidiaries in Virginia, Texas, Pennsylvania, North Carolina and Illinois have completed the acquisitions of water and wastewater systems in their states.

Aqua Virginia acquired the assets of Wintergreen Valley Utility Company, L.P., owner of the Wintergreen Stoney Creek public water and sewer systems, which serve water to approximately 1,200 residents and provide wastewater service to approximately 475 residents in Nelson County, Virginia. The water and wastewater systems were purchased for \$537,950 and \$113,250, respectively. The company also acquired the assets of the Venter Heights public water system, which serves approximately 400 people in King William County, Virginia, for \$85,000.

Aqua Texas acquired the assets of Union Hill Water Supply Corporation, which serves approximately 500 people in Henderson County, Texas, for \$356,000.

Aqua Pennsylvania purchased the assets of the Bunker Hill Wastewater Company and the Factoryville Bunker Hill Water Company, each of which serves approximately 180 residents in Factoryville Borough, Wyoming County, for \$135,000.

Aqua North Carolina acquired the assets of the Water Works of Alamance County, which serves approximately 300 residents in Cary, for \$43,000. In addition, Aqua North Carolina invested \$5,200 to acquire the assets of the Mountain Ridge Estates water system, a utility that serves 100 residents in Watauga County.

Aqua Illinois acquired the water utility assets of Summerdale from the Village of Norridge in Cook County for \$5,000. This system serves approximately 180 residents in unincorporated Norwood Township, near Aqua's recently acquired North Maine Utility.

"Each of these acquisitions represents our ability to fill in our footprint and take advantage of economies of scale in areas where we currently do business," explained Aqua America President and CEO Christopher Franklin. "While we will continue to add acquisitions like these to our portfolio where they make sense, we are concentrating our growth efforts on larger municipal acquisitions, similar to the North Maine Utilities acquisition we completed in April. With our 2015 completed acquisitions to date, we are in the position to exceed our 2014 performance in customer growth, the number of total acquisitions and the number of municipal acquisitions for the year."

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](http://AquaAmerica.com) for more information.

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 exceed 2014 performance in customer growth. 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 facility, the ability to close the additional acquisitions on a timely basis, and other factors discussed in our Annual Report on Form 10-K, which is on file with the Securities and Exchange Commission. For more information regarding risks and uncertainties associated with Aqua America's business, please refer to Aqua America's annual, quarterly and other SEC filings. Aqua America is not under any obligation — and expressly disclaims any such obligation — to update or alter its forward-looking statements whether as a result of new information, future events or otherwise.

WTRF

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Source: Aqua America

News Provided by Acquire Media



April 20, 2016

## **Aqua America Completes Seven Acquisitions, Adds More Than 4,700 Customer Connections in Q1**

BRYN MAWR, Pa.--(BUSINESS WIRE)-- Aqua America, Inc. (NYSE: WTR) announced today that the company has completed seven acquisitions in Pennsylvania, Illinois, Indiana and North Carolina during the first quarter of 2016, adding 4,722 customer connections.

- Superior Water Company, Inc. is comprised of five water systems that serve 3,868 customer connections (approximately 11,000 people) in parts of Berks, Chester and Montgomery counties in southeastern Pennsylvania
- The Galena wastewater system serves 123 wastewater connections (approximately 400 people) near Greenville in Floyd County, Indiana.
- The Eastwood Manor Water Company and the Nunda Utility Company in McHenry County, Illinois collectively serve 525 customer connections and approximately 1,600 people. Both systems were acquired under the provisions of the Illinois Water Systems Viability Act 98-0213, a law that promotes the acquisition of smaller, often troubled utilities by larger, more efficient utilities.
- The water and wastewater utility assets of Golf Greenwood Gardens Improvement Association each serve 72 customer connections located in unincorporated Cook County, within Aqua Illinois' existing North Maine Utility's certificated area.
- The Clear Meadow water system in the Mint Hill area of Mecklenburg County, North Carolina serves 62 customer connections.

"We welcome our new customers in these four states," said Executive Vice President for Strategy and Corporate Development Dan Schuller. "We look forward to serving these customers and investing in the utility infrastructure necessary to provide them with the quality water and reliable water and wastewater service they deserve, and for which Aqua is known."

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](http://AquaAmerica.com) for more information.

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 invest capital in these systems. There are important factors that could cause actual results to differ materially from those expressed or implied by such forward-looking statements including: the successful integration of the customers and the facilities; the company's ability to execute capital improvements to ensure compliance with state and federal environmental regulations; and other factors discussed in our Annual Report on Form 10-K, which is on file with the Securities and Exchange Commission. For more information regarding risks and uncertainties associated with Aqua America's business, please refer to Aqua America's annual, quarterly and other SEC filings. Aqua America is not under any obligation — and expressly disclaims any such obligation — to update or alter its forward-looking statements whether as a result of new information, future events or otherwise.

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December 29, 2015

## Aqua America Subsidiaries End 2015 With 16 Acquisitions

### Three completed in 4Q - total includes four municipal systems

BRYN MAWR, Pa.--(BUSINESS WIRE)-- Aqua America, Inc. (NYSE: WTR) announced that its subsidiaries in Pennsylvania and Virginia completed purchases of one wastewater and two water utilities in the fourth quarter of this year, bringing its total to 16 acquisitions for 2015.

- Aqua Virginia acquired the assets of the Captain's Cove Utility Company in Accomack County, Virginia, which provides water and wastewater service to the Captain's Cove subdivision in that county for \$2.4 million. The utility has 977 active water customer connections and 280 active wastewater connections. There are also 2,489 availability customers who currently pay for service to properties planned for future construction.
- Aqua Pennsylvania completed the \$231,000 purchase of the Robin Hood Lakes Water Company, which serves Polk Township, helping to fill out its footprint in Monroe County where Aqua Pennsylvania serves customers in Hamilton and Ross townships. The system consists of 210 customer connections and serves approximately 600 people.

"Our business development team worked very hard this year to complete 16 acquisitions, including four municipal deals, which added 10,588 additional customer connections to Aqua's growing customer base," said Aqua America President and CEO Christopher Franklin. "We have seen more municipalities considering their options now that recent legislation in several states has allowed regulated utilities to pay fair market value for these municipal assets."

Franklin notes that as a result of these new customers and organic growth of approximately 0.6 percent, the company anticipates meeting its 2015 customer base growth goal of 1.7 to 2 percent.

"I'm confident our new customers in Pennsylvania and Virginia will find that Aqua offers exceptional service and improved infrastructure in the communities we have the privilege to serve," Franklin said. "We welcome them to Aqua."

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](http://AquaAmerica.com) for more information.

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 invest capital, receive governmental approval of the transition and close the acquisition. 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 company's ability to meet its anticipated growth goals, the successful integration of the customers, employees and the acquired facilities; and other factors discussed in our Annual Report on Form 10-K, which is on file with the Securities and Exchange Commission. For more information regarding risks and uncertainties associated with Aqua America's business, please refer to Aqua America's annual, quarterly and other SEC filings. Aqua America is not under any obligation — and expressly disclaims any such obligation — to update or alter its forward-looking statements whether as a result of new information, future events or otherwise.

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## **Illinois American Water Acquires Dana/Long Point/Reading/Ancona Public Water District Water System**

### **Acquisition will add about 150 new direct customers in Streator District**

January 26, 2016 04:14 PM Eastern Standard Time

STREATOR, Ill.--(BUSINESS WIRE)--Illinois American Water President Bruce Hauk today announced the Company's acquisition of the Dana/Long Point/Reading/Ancona Public Water District (Water District) water system. The purchase of the system adds approximately 150 customers to the Company's customer base in the Streator District and serves a population of nearly 300 residents.

Illinois American Water is familiar with the Water District water system, and vice versa. Since 2009, the Water District continued to own its water distribution system while Illinois American Water operated and maintained the system. With the dissolution of the Water District in April 2015, the Water District chose to sell the water system to Illinois American Water.

"We have a strong legacy and presence in this area and nearby Streator where we've been providing water service for over 125 years," said Bruce Hauk, president of Illinois American Water. "With this acquisition, we will expand our existing footprint and help ensure local residents have access to a long-term, reliable water supply for years to come."

Former Water District Board President Ron Guest said, "We are pleased residents will continue to have excellent water service from Illinois American Water and also have access to all of the benefits their customers enjoy. Residents are assured of not only a reliable water supply, but one of high quality."

The appraisal process used for the system was conducted under the supervision of the Illinois Commerce Commission (ICC) and established as part of the Illinois Water Systems Viability Act. According to Hauk, this new law gives communities an alternative to value their water and/or wastewater system when considering being acquired by an investor-owned water utility. He said, "Previous law only allowed the investor-owned water or sewer utility to pay the original cost minus depreciation to acquire a small system, public or private. Because of this, systems were deprived of receiving adequate value for their system."

The acquisition of the Water District water system for \$1.075 million was approved by the ICC on Dec. 16, 2015. The sale was closed today, Jan. 26, 2016, by Illinois American Water and the Water District. Customers will receive an Illinois American Water welcome packet in the mail.

Under Illinois American Water's ownership, Water District customers will experience a decrease in their water bill due to no longer being required to reimburse the Water District for the local water system infrastructure. This will result in an approximate decrease of about \$45 a month per customer. The typical residential customer uses between 4,500 and

6,000 gallons of water per month. Under Illinois American Water's rate structure, customers using about 5,000 a month will pay a little over \$44.00 a month for water service.

The Water District will be incorporated into the company's Streator District service area and join Illinois American Water's other systems as a regulated utility under the jurisdiction of the ICC. Customers with questions may contact the local operations office at 815-672-4557.

#### **About Illinois American Water**

Illinois American Water, a wholly owned subsidiary of American Water (NYSE: AWK), is the largest investor-owned water utility in the state, providing high-quality and reliable water and/or wastewater services to approximately 1.2 million people. American Water also operates a customer service center in Alton and a quality control and research laboratory in Belleville.

Founded in 1886, American Water is the largest and most geographically diverse publicly traded U.S. water and wastewater utility company. With headquarters in Voorhees, N.J., the company employs 6,800 dedicated professionals who provide regulated and market-based drinking water, wastewater and other related services to an estimated 15 million people in 47 states and Ontario, Canada. More information can be found at [www.amwater.com](http://www.amwater.com).

#### **Contacts**

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## Missouri American Water Acquires City of Arnold's Sewer System

### *Arnold voters overwhelmingly approved referendum in November 2014*

May 22, 2015 04:17 PM Eastern Daylight Time

ST. LOUIS--(**BUSINESS WIRE**)--Today, Missouri American Water announced the closing of the company's acquisition of the City of Arnold's sanitary sewer system. The acquisition adds 8,800 sewer customers to Missouri American Water's operations in St. Louis County.

The Missouri Public Service Commission approved the sale on April 14, 2015.

Arnold voters overwhelmingly approved a public referendum of the sale to Missouri American Water in November 2014.

Arnold is the largest city in Jefferson County. The city's population is an estimated 21,000 residents.

Missouri American Water's sewer bills will continue Arnold's current rates and rate structure -- based on winter water usage.

"Missouri American Water's St. Louis County operation serves more than one million people just a few miles north of Arnold," said Frank Kartmann, President of Missouri American Water. "We are pleased to bring our engineering and system operation expertise to deliver high quality sanitary sewer service to our new Arnold customers."

"Over the next four years, Missouri American Water will invest approximately \$5 million to upgrade and improve the infrastructure of the Arnold sanitary sewer system," said Kartmann.

The company expects a smooth transition for customers. Starting today, the sewer system is managed and operated by Missouri American Water. Sewer employees, formerly employed by the City of Arnold, will continue to provide system operation and field services now as Missouri American Water employees.

Customers are receiving information about the sanitary sewer system transition in their current City of Arnold sewer/storm water and trash bills. Missouri American Water will also mail a new customer information package to all Arnold customers prior to the first Missouri American Water sanitary sewer bills, which will arrive in August.

A new company website at [www.amoldmoaw.com](http://www.amoldmoaw.com) will keep City of Arnold customers informed during the transition.

**Missouri American Water**

6/1/2017

Arnold nears sale of sewer system | Political Fix | stltoday.com

## Political Fix

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[http://www.stltoday.com/news/local/govt-and-politics/arnold-nears-sale-of-sewer-system/article\\_df4bdc0-4430-5cbc-bf1e-4255301961af.html](http://www.stltoday.com/news/local/govt-and-politics/arnold-nears-sale-of-sewer-system/article_df4bdc0-4430-5cbc-bf1e-4255301961af.html)

### Arnold nears sale of sewer system

Special to the Post-Dispatch May 22, 2015

**ARNOLD** • Officials are set to close on the sale of the city sewer system to the Missouri American Water Co.

On Nov. 4, voters agreed to sell the wastewater utility to Missouri American Water for \$13.2 million. The city would net \$5.2 million from the sale, along with a sewer reserve fund of \$4 million.

At the meeting Thursday night, the City Council approved legislation to grant the franchise the right to use the city's infrastructure, including streets, right of ways, parks and other public places for the wastewater system. It also authorized the city to assign its Metropolitan Sewer Department obligations to the water company.

The city will lease office space to the water company on a temporary basis for about \$2,000 per month until a permanent facility can be located. In addition, five of the city's sewer employees will be employed by the company.

Dan Kroupa, city treasurer, said the sale would allow the city to pay off an existing debt of \$8 million and be relieved of the \$12 million it currently owes to MSD for the treatment plant, along with any future expansion costs.

"It puts Arnold in a good financial position," he said. "And residents will have the same level of service as they did before."

Syberg's restaurant to open in Arnold

Arnold to use money from sale of sewer system for road work



## Indiana American Water Acquires American Suburban Utilities Water System in North Central Indiana

September 21, 2015 06:53 PM Eastern Daylight Time

GREENWOOD, Ind.--(BUSINESS WIRE)--Indiana American Water President Alan DeBoy today announced the company's acquisition of an investor owned water utility in north central Indiana from American Suburban Utilities. The purchase of the system increases the company's customer base by approximately 330 residents.

"The acquisition of this system will provide American Suburban water customers with lower rates and access to operations and capital management water professionals and a number of customer service options and payment methods," said DeBoy. "Indiana American Water already provides water service to the nearby City of West Lafayette in this part of the state, so this is a good fit for us and a continuation of our efforts to expand our presence across Indiana.

"The acquisition will also improve water quality for area residents," DeBoy continued. "We have made significant investments recently in new and existing water treatment facilities in the area, and customers should notice less iron and manganese in their water after we hook them into our West Lafayette water system."

The acquisition of the American Suburban Utilities system for approximately \$140,000 was approved by the Indiana Utility Regulatory Commission last month and closed by Indiana American Water and American Suburban on Monday, September 21, 2015. The American Suburban water system will be incorporated into the company's West Lafayette district, which currently serves approximately 11,000 customers or approximately 28,000 residents in the area.

### About Indiana American Water

Indiana American Water, a subsidiary of American Water (NYSE: AWK), is the largest investor-owned water utility in the state, providing high-quality and reliable water and/or wastewater services to more than 1.2 million people. Founded in 1886, American Water is the largest and most geographically diverse publicly traded U.S. water and wastewater utility company. With headquarters in Voorhees, N.J., the company employs 6,800 dedicated professionals who provide regulated and market-based drinking water, wastewater and other related services to an estimated 15 million people in 47 states and Ontario, Canada. More information can be found at [www.amwater.com](http://www.amwater.com).

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LOCAL

## McHenry-, Island Lake-area water companies sale to Aqua Illinois approved by ICC

Unanimous vote means about doubled water bills for some families, businesses locally

By **EMILY K. COLEMAN** - [ecoleman@shawmedia.com](mailto:ecoleman@shawmedia.com)

Nov. 12, 2015

McHENRY - The sale of two small water companies in unincorporated McHenry County to the state's second-largest water and sewer utility was approved by a state regulatory agency.

The unanimous approval by the five-member Illinois Commerce Commission means 510 single-family residential users and 20 commercial users in eastern unincorporated McHenry and western unincorporated Island Lake will see their water bills about double





# NORTHWEST HERALD



Aqua Illinois will take over the operations and maintenance over the Eastwood Manor and Nunda water companies in exchange for \$1.5 million in cash and company stock, according to its petition to the ICC.

The company also purchased McHenry Shores Water Company in the spring of 2014 after the owner filed for bankruptcy.

Aqua Illinois plans on investing about \$165,000 in the Eastwood system and about \$116,000 in the Nunda system over the first year, part of \$720,000 total to be spent on the two systems over the first six years, according to testimony submitted by the company's president, Craig Blanchette.

The improvements include repairs to and replacement of wells, tanks, buildings' roofs and eaves and fencing; water tower inspections and painting; the installation of a master meter at Eastwood's well house so water loss can be calculated; installing control systems for both water systems so failures can be "addressed in a timely manner;" and the replacement of all of the meters so they can be read remotely, Blanchette testified.

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## Pennsylvania American Water Acquires Municipal Wastewater System in York County

December 22, 2015 12:08 PM Eastern Standard Time

HERSHEY, Pa.--(BUSINESS WIRE)--Pennsylvania American Water, a subsidiary of American Water (NYSE: AWK), announced today that it has acquired the wastewater system of Fairview Township, York County. The purchase price for acquisition is approximately \$16.8 million.

The newly acquired system provides wastewater service to approximately 4,000 customers, including more than 200 businesses and commercial accounts where Pennsylvania American Water is already the provider of water service for Fairview Township.

"We are very pleased to close the year with a significant acquisition that further expands our roster of wastewater operations," said Pennsylvania American Water President Kathy L. Pape. "The acquisition provides a long-term wastewater solution and financial relief for the local community, and is also a perfect fit within our existing water footprint."

In addition to the \$16.8 million purchase price, the company agreed to invest \$13 million in system improvements and reimburse the township for up to \$1 million for a sewer line relocation project related to the Pennsylvania Turnpike.

"This transaction brings a number of benefits for our community," said Fairview Township Board of Supervisors Chairman Robert P. Stanley Jr. "As a result of the sale, township residents will receive a 50 percent reduction in real estate taxes in 2016. The sale's proceeds will help pay off approximately \$21 million in sewer debt and avoid an anticipated \$14 million in additional debt that might have been incurred to complete planned projects."

Under terms of the purchase agreement approved by the Pennsylvania Public Utility Commission, Pennsylvania American Water has adopted Fairview Township's existing wastewater rates through December 31, 2017. In addition, the four township employees who operate the wastewater system have been offered employment with Pennsylvania American Water.

As part of its \$13 million capital improvement commitment, Pennsylvania American Water will install approximately 23,500 feet of new wastewater lines to provide public wastewater service to about 200 homes and businesses in Fairview Township. Furthermore, under the company's ownership, the \$9,500 per EDU tap-in fee for existing homes and businesses, which the township had been charging, will not be required. The company's tap-in fees for new homes and business will be \$4,000 per EDU.

This transaction follows a series of acquisitions announced by the company in October, comprising five municipal and privately owned water and wastewater systems in Clarion, Northumberland and Butler counties. Pennsylvania American Water also operates wastewater systems in Adams, Beaver, Chester, Monroe, Pike and Washington counties.

Pennsylvania American Water, a subsidiary of American Water (NYSE: AWK), is the largest water utility in the state, providing high-quality and reliable water and/or wastewater services to approximately 2.2 million people. Founded in 1886, American Water is the largest and most geographically diverse publicly traded U.S. water and wastewater utility company. With headquarters in Voorhees, N.J., the company employs approximately 6,800 dedicated professionals who provide drinking water, wastewater and other related services to an estimated 15 million people in 47 states and parts of Canada.

*This release contains forward looking statements, including, among others, our plan to continue our long-term strategy of capital investment in our systems. 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, unfavorable weather conditions, changes in regulations or regulatory treatment and availability and the cost of capital. We undertake no obligation to publicly update or revise any forward-looking statement.*

## Contacts

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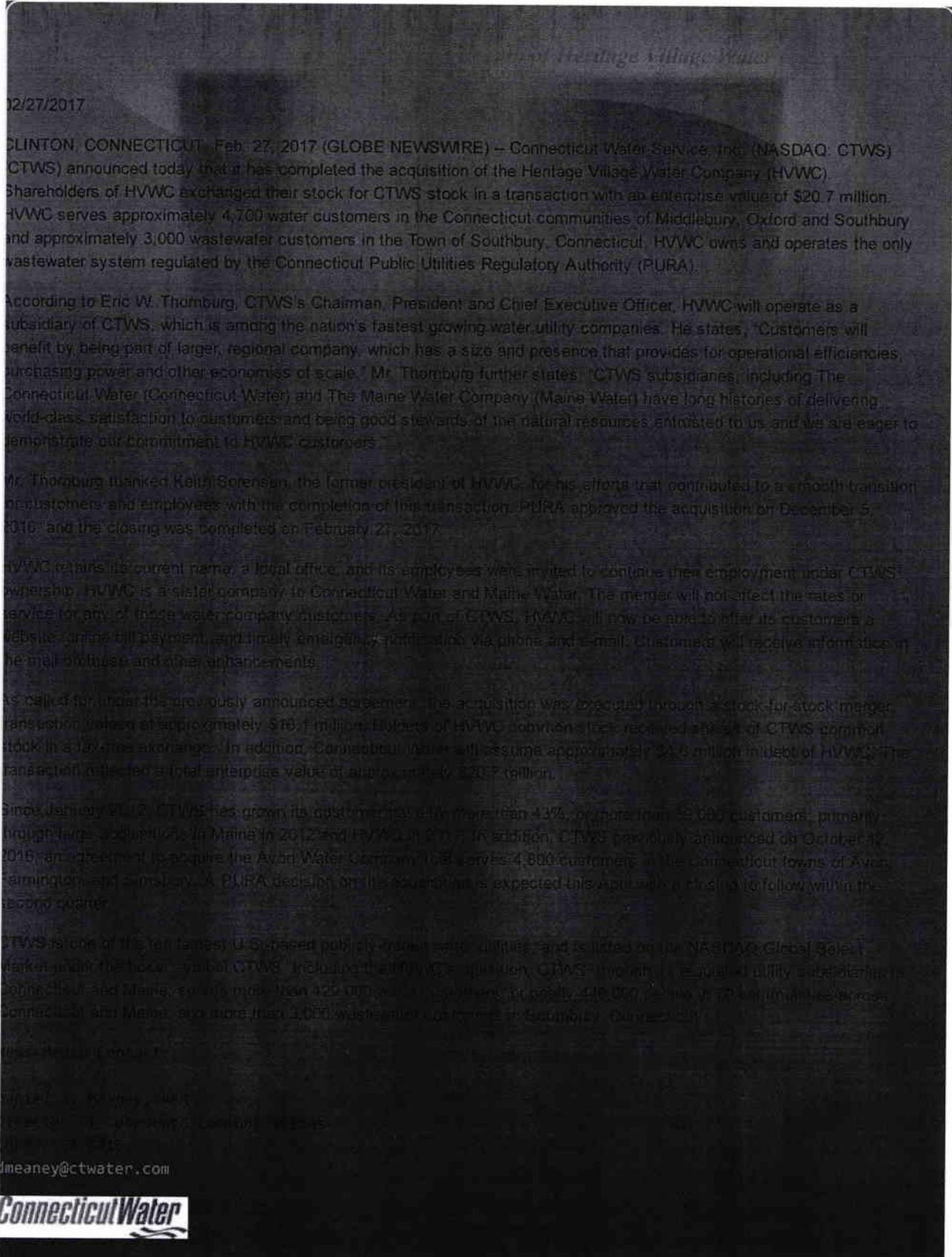
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5/31/2017

Connecticut Water - Connecticut Water Service, Inc. Completes Acquisition of Heritage Village Water Company





## Indiana American Water Acquires Russiaville Water System in Northern Indiana

### Town's Residents Approved Sale in November 2014 Referendum

July 27, 2015 05:36 PM Eastern Daylight Time

GREENWOOD, Ind.--(BUSINESS WIRE)--Indiana American Water President Alan DeBoy today announced the company's acquisition of Russiaville Water, a municipal water utility located in northern Indiana. The purchase of the system adds approximately 430 customers to the company's customer base and serves a population of approximately 1,200 residents.

"The acquisition of this system will provide Russiaville customers with lower rates and access to operations and capital management water professionals and a number of customer service options and payment methods," said DeBoy. "Indiana American Water already provides water service to the nearby City of Kokomo in this part of the state, so this is a good fit for us and a continuation of our efforts to expand our presence across Indiana."

"In a time when communities are looking for new and innovative ways to deal with challenges they're facing and hold the bottom-line on expenses, this acquisition is a great solution for the utility and its customers," DeBoy continued. "Indiana American Water brings a broad range of experience, resources and knowledge to the community through this transaction that ultimately will have a positive impact on the area."

The acquisition of the Russiaville system for approximately \$1.8 million was approved by the Indiana Utility Regulatory Commission earlier this month and closed by Indiana American Water and the Town of Russiaville on Monday, July 27, 2015. Town residents also approved the sale in a referendum conducted in November 2014. The Russiaville system will be incorporated into the company's Kokomo district, which currently serves approximately 57,000 residents.

#### About Indiana American Water

Indiana American Water, a subsidiary of American Water (NYSE: AWK), is the largest investor-owned water utility in the state, providing high-quality and reliable water and/or wastewater services to more than 1.2 million people. Founded in 1886, American Water is the largest and most geographically diverse publicly traded U.S. water and wastewater utility company. With headquarters in Voorhees, N.J., the company employs 6,400 dedicated professionals who provide regulated and market-based drinking water, wastewater and other related services to an estimated 15 million people in 47 states and Ontario, Canada. More information can be found at [www.amwater.com](http://www.amwater.com).

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Press Release

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## Pennsylvania American Water Announces Agreement to Acquire McKeesport Wastewater System

Company Release - 9/9/2016 10:19 AM ET

PITTSBURGH--(BUSINESS WIRE)-- Pennsylvania American Water, a subsidiary of American Water (NYSE: AWK), announced today that it has signed an asset purchase agreement to acquire the McKeesport wastewater system. The agreement signing follows recent votes by the McKeesport City Council and the Municipal Authority of the City of McKeesport (MACM) in favor of Pennsylvania American Water purchasing the wastewater assets.

"I firmly believe this transaction is being made in the best interest of the wastewater customers served by this system now and in the future," Mayor Michael Cherepko said. "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. This transaction will balance the city's current financial problems, allow this administration to safeguard the city's future and ensure reliable wastewater service for 22,000 customers."

The total value of the transaction is approximately \$156 million, subject to certain adjustments provided in the agreement. The McKeesport wastewater system serves approximately 22,000 customers.

"Our company and our employees have been providing water service in the Mon Valley for decades, and we are excited for the opportunity to be the future wastewater provider to the residents of McKeesport, Dravosburg, Duquesne and Port Vue," said Pennsylvania American Water President Kathy L. Pape. "We look forward to closing the proposed acquisition and to providing wastewater services that reflect our commitment to environmental stewardship and quality customer service."

Pennsylvania American Water and the City of McKeesport will seek approval of the acquisition from the Pennsylvania Public Utility Commission (PUC) and other necessary approvals, such as the Pennsylvania Department of Environmental Protection. The MACM initially issued a request for bids in June 2016 for the potential acquisition of its wastewater system.

Pape said long-term rate stability is one of the most important benefits for wastewater customers. Under the purchase agreement, Pennsylvania American Water will not increase base wastewater rates any earlier than one calendar year after the closing.

The company's rates are regulated by the PUC and any future rate changes would have to be reviewed and approved by the PUC. Pennsylvania American Water offers its low-income wastewater customers grants and discounted service to those who qualify through its H2O Help to Others Program.

Pape said upon closing the proposed acquisition that "we look forward to welcoming the MACM's employees and customers to the Pennsylvania American Water family." The company currently expects to close the transaction in the second half of 2017, pending regulatory approvals and the satisfaction of other closing conditions.

Pennsylvania American Water, a subsidiary of American Water, is the largest investor-owned water utility in Pennsylvania, providing high-quality and reliable water and/or wastewater services to approximately 2.3 million people. Founded in 1886, American Water is the largest publicly traded U.S. water and wastewater utility company. Marking its 130th anniversary this year, the company employs more than 6,700 dedicated professionals who provide regulated and market-based drinking water, wastewater and other related services to an estimated 15 million people in 47 states and Ontario, Canada. More information can be found at [www.amwater.com](http://www.amwater.com).

### Cautionary Statement Concerning Forward-Looking Statements

Certain statements in this press release are forward-looking statements within the meaning of the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Forward-looking statements relate to, among other things, the execution of a definitive purchase agreement; the completion of the proposed acquisition; the ability to satisfy closing and other conditions related to the proposed transaction, including obtaining regulatory approvals; anticipated capital investments; and the ability to achieve certain benefits, synergies and goals relating to the transaction and the operations to be acquired. These statements are based on the current expectations of management of Pennsylvania American Water. There are a number of risks and uncertainties that could cause actual results to differ materially from these forward-looking statements, including with respect to (1) obtaining the regulatory and other approvals required for the acquisition; (2) satisfying other conditions to the closing of the acquisition; (3) the occurrence of the benefits and synergies expected or predicted to occur as a result of the acquisition; (4) unexpected costs, liabilities or delays associated with the acquisition or the integration of the acquired business; (5) regulatory, legislative, local or municipal actions affecting the water and wastewater industries, which could adversely affect Pennsylvania American Water; and (6) other economic, business and other factors. Forward-looking statements are not guarantees or assurances of future performance or results, and Pennsylvania American Water and its affiliates do not undertake any duty to update any forward-looking statement.

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Source: Pennsylvania American Water



## Pennsylvania American Water Signs Agreement to Acquire New Cumberland Wastewater System

May 05, 2016 11:03 AM Eastern Daylight Time

HERSHEY, Pa.--(BUSINESS WIRE)--Pennsylvania American Water, a subsidiary of American Water (NYSE: AWK), announced today that it has signed an agreement to acquire the wastewater assets of the Borough of New Cumberland in Cumberland County. The total value of the transaction is approximately \$23 million.

Pennsylvania American Water and the Borough will seek approval of the acquisition from the Pennsylvania Public Utility Commission and other necessary approvals from the Pennsylvania Department of Environmental Protection. The signing of the purchase agreement is the culmination of negotiations between Pennsylvania American Water and Borough officials since the Borough Council unanimously voted in March to accept the company's proposal. The Borough initially issued a request for bids in January 2016, for the potential acquisition of its wastewater system.

"Our company and our employees have been the water service provider for this community for many, many years, and we are excited for the opportunity to be the future provider of wastewater service to our New Cumberland customers," said Pennsylvania American Water President Kathy L. Pape. "We look forward to providing the technical expertise and financial resources needed to ensure the system meets all the environmental compliance challenges it will face in the future."

The New Cumberland wastewater system serves approximately 3,100 customers.

Pape said long-term rate stability is one of the most important benefits for wastewater customers, who faced significant rate increases if the Borough continued to operate the system. Under the purchase agreement, Pennsylvania American Water will not change wastewater rates any earlier than January 1, 2018, with a maximum 2.5 percent increase in both 2018 and 2019. The company's rates are regulated by the Public Utility Commission and future rate changes would have to be reviewed and approved by the PUC.

Pennsylvania American Water's purchase of the sewer system will enable the Borough to eliminate all debt, which is approximately \$16 million, by retiring outstanding bonds within the next three years.

Pennsylvania American Water has also committed to invest \$2 million in wastewater and/or water improvements within New Cumberland over the next five years. The company will partner with the Borough to identify areas where aging wastewater and water facilities can be replaced in conjunction with street and sidewalk improvements.

Pape said upon closing the acquisition that "we look forward to welcoming the Borough's five wastewater employees to the Pennsylvania American Water team." All active employees will be offered jobs, subject to standard pre-employment screening.

[http://www.theadvocate.com/new\\_orleans/news/communities/article\\_b7ef581a-9d26-5759-b04f-a0b1e1b9695e.html](http://www.theadvocate.com/new_orleans/news/communities/article_b7ef581a-9d26-5759-b04f-a0b1e1b9695e.html)

## Tentative deal made for Ascension Parish to buy Peoples Water system in Donaldsonville

Ascension plans to buy Donaldsonville system

by David J. Mitchell [dmitchell@theadvocate.com](mailto:dmitchell@theadvocate.com) SEP 6, 2015 - 3:22 PM

GONZALES — Ascension Parish government has reached an agreement in principle with Peoples Water Service Co. to buy its water operations in Donaldsonville for \$5.9 million.

If the deal goes through, the parish plans to inject another \$5 million in upgrades to the water system, parish officials said.

After months of negotiations, Ascension Parish President Tommy Martinez said Friday, company and parish officials were able to agree on a number between the parish's earlier offer of \$5 million and Peoples Water's most recent price of \$7.5 million.

*Story Continued Below*

Many steps need to happen for the deal to go through, including state Public Service Commission review of the sale and Parish Council approval of it.

But the proposed purchase would allow the parish to combine the 3,100-customer water system serving Donaldsonville with a parish-owned system of 700 customers that exists on the city's periphery and extends far afield to the upriver community of Modeste.

The parish system, known as Ascension Consolidated Utilities District No. 1, has not been able to turn a profit, and recently, tests revealed that the brain-eating amoeba *Naegleria fowleri* was in the water.

After discovery of the amoeba July 28, the state Department of Health and Hospitals ordered the district to conduct a chlorine burn, in which chlorine levels are increased and maintained at that level for a 60-day period to kill the amoeba. State officials said the system hit the required chlorine levels Aug. 17 to start the 60-day clock on the burn.

The Peoples Water purchase would give the parish a centrally located, 3 million-gallon-per-day water plant and disinfection system on the Mississippi River with excess capacity and would allow the parish to stop buying and piping in water from neighboring parishes.

The deal's financing also is projected to turn an annual profit for the now money-losing ACUD No. 1 system but would come with a 33 percent rate increase for current Peoples Water customers in Donaldsonville to help finance the Peoples Water system upgrades and for paying off the debt owed on ACUD, parish officials said.

"I think it's a great deal for everyone concerned here, and I think it'll work and it's a step in the right direction," Martinez told the Parish Council Utilities Committee Thursday night when he first announced the agreement.

As the purchase plan is envisioned, the parish would use \$5.9 million in cash to buy the system and then would borrow \$9.1 million, either with a low-interest loan through DHH or revenue bonds. The loan would provide \$5 million in upgrades for the Peoples Water system, while the remaining \$4.1 million would pay off the remaining debt for the ACUD No. 1 system, Martinez said.

Donaldsonville officials have aired their concerns about the parish's proposed purchase and the possible rate hike, which they see as their city bailing out the debt-laden ACUD system. Those worries have spurred anew long-standing interest in Donaldsonville to buy Peoples Water, but Mayor Leroy Sullivan has acknowledged the city also would have to raise rates to finance a purchase of Peoples Water.

Martinez pointed out, though, that while ACUD No. 1 customers would not see the water rate increase as Donaldsonville customers would, existing ACUD customers would continue to pay a 10-mill property tax adopted in 2006 to pay for the debt taken out for ACUD's infrastructure. With all that taken together, he argued, overall water bills for city and existing ACUD No. 1 customers would end up about the same.

When and if the entire financing effort takes place, Martinez said, the ACUD system is projected to net \$525,000 per year in profit. The system now must rely on the general fund and other parish sources because it runs at an annual loss with its existing revenue sources.

The council previously had authorized Martinez to offer up to \$5 million to buy Peoples Water, but, at his request Thursday, the committee recommended the new offer price, plus other terms requested by Peoples Water.

The parish also must keep the 15 Peoples Water employees.

Martinez said Friday that the council could vote on the new offer as soon as Thursday evening in Donaldsonville.

Sherlock "Shockey" Gillet Jr., president of Peoples Water, confirmed Friday that the two sides had reached an agreement, but he was reluctant to offer many details due to confidentiality agreements his company has with the parish and Donaldsonville. He did say a lot of details must be worked out with the parish.

"It seems that it's going, as both partners are interested in it, and we'll just see if we get across the finish line," Gillet said.

He declined to comment on the status of Donaldsonville's purchase bid.

Peoples Water, which is based in Maryland, runs water systems in Bastrop and Pensacola, Florida, in addition to Donaldsonville. The company has been in the city since 1941.

Even if Martinez's deal gains council backing Thursday, he said the council would have to come back and adopt an ordinance — a process that happens over two meetings with extensive public advertising in advance. He said the deal would not be wrapped up until early December, just before his term as parish president ends.

Follow David J. Mitchell on Twitter, @NewsieDave.

# PRESS RELEASE



FOR IMMEDIATE RELEASE

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## PENNSYLVANIA AMERICAN WATER CLOSES ACQUISITION OF SCRANTON WASTEWATER SYSTEM

*Transaction ranks among largest wastewater acquisition in company history*

**SCRANTON, Pa. (December 29, 2016)** – Pennsylvania American Water, a wholly owned subsidiary of American Water, announced today that it has completed the acquisition of the wastewater system assets of the Scranton Sewer Authority (SSA). The purchase price is approximately \$195 million.

The newly acquired system provides wastewater service to approximately 31,000 customers in Scranton and Dunmore. Pennsylvania American Water already provides water service to residents and businesses in both communities. The transaction represents one of American Water's largest wastewater acquisitions in the parent company's history.

"This acquisition marks a significant milestone for our company and our employees, based on the size and scope of this wastewater operation and the environmental challenges facing the system," said Pennsylvania American Water President Kathy L. Pape. "We bring both the technical expertise and financial resources to meet these challenges and provide a long-term wastewater solution, while establishing a plan to maintain reasonable rates for the customers."

The transaction's closing follows a lengthy regulatory approval process by the U.S. Environmental Protection Agency (EPA), Pennsylvania Department of Environmental Protection (DEP), the U.S. Department of Justice, and the Pennsylvania Public Utility Commission (PUC). The wastewater system is under an EPA Consent Decree that mandates significant upgrades, totaling an estimated \$140 million, to bring the system into environmental compliance. As the system's owner, Pennsylvania American Water will continue the projects started by the SSA and assume the SSA's obligations under the Consent Decree.

As part of the PUC's approval of the purchase, Pennsylvania American Water agreed to adopt the existing wastewater rates for customers served by the SSA system, although such rates will now be billed on a monthly rather than bi-monthly basis. The PUC regulates the company's rates, rules and regulations of service, so any future rate change will need to be reviewed and approved by the PUC.

"Our employees have been providing water service for a long time for the Scranton and Dunmore communities, and we are very pleased to now be the wastewater provider as well," said Pape. "We are also excited to welcome the SSA employees to the Pennsylvania American Water team."

All of the approximately 80 SSA workers who operate the wastewater system have been offered employment. The employees are represented by the Teamsters Union, Local 229, who voted on Dec. 2, to ratify a new contract offered by Pennsylvania American Water. The employees gain immediate access to the training,

## PENNSYLVANIA AMERICAN WATER CLOSES ACQUISITION OF SCRANTON WASTEWATER SYSTEM

development and career opportunities in any of the operations of Pennsylvania American Water or its parent company.

Pennsylvania American Water's purchase of the sewer system enables SSA to pay off its existing debt.

Under the purchase agreement, Pennsylvania American Water also committed to bring 100 new jobs to Scranton by 2020. "As we continue to invest in the region and expand our operations, these will be important jobs to support not only Pennsylvania but the growth of our national footprint," said American Water Chief Operating Officer Walter Lynch. "We expect the new jobs to generate a very positive economic impact for the Greater Scranton Area."

This acquisition adds to the company's series of large municipal wastewater transactions. In December 2015, Pennsylvania American Water acquired the wastewater assets of Fairview Township, York County. On October 31, 2016, the company purchased the wastewater assets of the Borough of New Cumberland in Cumberland County. In September 2016, Pennsylvania American Water executed an agreement to acquire the wastewater system assets of the Municipal Authority of the City of McKeesport, Allegheny County, which is currently pending regulatory approvals. Pennsylvania American Water now operates wastewater systems in Adams, Beaver, Butler, Chester, Clarion, Cumberland, Lackawanna, Monroe, Northumberland, Pike, Washington and York counties.

Pennsylvania American Water, a wholly owned subsidiary of American Water (NYSE: AWK), is the largest water utility in Pennsylvania, providing high-quality and reliable water and/or wastewater services to approximately 2.3 million people. Founded in 1886, American Water is the largest publicly traded U.S. water and wastewater utility company. Marking its 130th anniversary this year, the company employs more than 6,700 dedicated professionals who provide regulated and market-based drinking water, wastewater and other related services to an estimated 15 million people in 47 states and Ontario, Canada. More information can be found at [www.amwater.com](http://www.amwater.com).

### **Cautionary Statement Concerning Forward-Looking Statements**

Certain statements in this press release are forward-looking statements within the meaning of the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Forward-looking statements relate to, among other things, anticipated capital investments, the ability of Pennsylvania American Water to comply with the Consent Decree, and the ability to achieve certain benefits, synergies and goals relating to the transaction and the acquired operations. These statements are based on the current expectations of management of Pennsylvania American Water. There are a number of risks and uncertainties that could cause actual results to differ materially from these forward-looking statements, including with respect to (1) the occurrence of the benefits and synergies expected or predicted to occur as a result of the acquisition; (2) unexpected costs, liabilities or delays associated with the integration of the acquired business; (3) regulatory, legislative, local or municipal actions affecting the water and wastewater industries, which could adversely affect Pennsylvania American Water; (4) Pennsylvania American Water's ongoing compliance with the Consent Decree; and (5) other economic, business and other factors. Forward-looking statements are not guarantees or assurances of future performance or results, and Pennsylvania American Water and its affiliates do not undertake any duty to update any forward-looking statement.

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[http://www.theadvocate.com/acadiana/news/article\\_d56674ad-accf-5ac7-bbcc-c581bab2de31.html](http://www.theadvocate.com/acadiana/news/article_d56674ad-accf-5ac7-bbcc-c581bab2de31.html)

## After years of complaints, 220 TESI water and sewer systems in south Louisiana may be sold to new owner

All 220 owned by troubled TESI

By Richard Burgess [rburgess@theadvocate.com](mailto:rburgess@theadvocate.com) AUG 21, 2015 - 12:34 PM



Advocate file photo by MICHELLE MILLHOLLON -- Graeme Tuminello, far left, brought samples of the water at his house to the State Capitol in 2014. State Sen. Page Cortez, R-Lafayette, center, authored Senate Bill 425 to improve water conditions for Lafayette Parish residents. At right is Bryan Corcoran, Tuminello's neighbor in Shenandoah.

An Illinois-based company is negotiating a deal to buy 220 community water and sewer systems in south Louisiana owned by Total Environmental Solutions Inc., a company that has faced years of complaints about poor service.

The proposed sale comes after the state Public Service Commission launched an investigation last year into whether TESI was investing enough to maintain its water wells, pipes, sewer plants and other infrastructure.

Utilities Inc. has agreed in principle to pay \$9.3 million to acquire TESI's 28 water systems and 192 sewer systems in Louisiana, effectively ending that company's operations here, according to filings with the PSC.

*Story Continued Below*

"I think we see an opportunity to improve service and compliance," said Don Sudduth, who oversees Utilities Inc. subsidiaries in Louisiana.

TESI has roughly 2,350 water customers and 14,387 sewer customers in 18 parishes, but operations are heavily concentrated in rural Lafayette Parish, serving subdivisions beyond the reach of municipal water and sewer systems.

Lafayette City-Parish Councilman Don Bertrand said he has heard nothing but complaints about TESI — cloudy water, substandard service, environmental issues.

"Hopefully, they will see some relief," he said of TESI customers. "I would like to see somebody reputable who has the ability to improve the system."

Shenandoah Estates, a subdivision near Broussard, has been a source of many of the complaints.

TESI provides water and sewer service to the subdivision, where residents have talked of spotty sewer service and of appliances and clothes fouled by water clouded with iron and manganese.

Shenandoah Estates resident Graeme Tuminello said some of the sewer problems have been addressed in recent years, but water quality continues to be an issue.

He is optimistic — but at the same time wary — about a new company taking over, and he longs for the day when basic water and sewer service is "something we don't have to worry about."

The proposed deal, which could come before the PSC for approval as early as this month, calls for \$23 million in upgrades spread across all the water and sewer facilities.

Customers can expect the phasing in of varying rate increases, depending on how much work is slated for the system serving their subdivision, according to the PSC filings.

"TESI is actually selling its assets to a company we believe has a better track record of taking care of these types of systems," said Scott Angelle, a public service commissioner who represents the Acadiana area.

Angelle had called for the investigation into TESI's finances last year, but he said it was put on hold once the sale was proposed.

"I'm glad they reached that conclusion because that's what needs to happen," he said.

Utilities Inc. operates more than 600 water and sewer systems, serving some 300,000 customers in 15 states, Sudduth said.

The company has owned systems in St. Tammany Parish for several years but began expanding its footprint in Louisiana last year, buying up smaller operators with the hope a larger company's expertise and economies of scale could improve service and profits.

"We've been acquiring some of the troubled systems," Sudduth said.

He said Utilities Inc. is under contract to purchase TESI, but there are still a few loose ends, such as securing pledges from state and federal regulators that Utilities Inc. would not be liable for any environmental violations that happened on TESI's watch.

Sudduth said he is confident those issues will be resolved.

"The EPA has signaled that they do want us to be the operator," he said.

TESI officials declined comment on the potential sale, acknowledging an interested buyer but citing a confidentiality agreement that prevents them from discussing the deal.

Follow Richard Burgess on Twitter, @rbb100.

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## Illinois American Water Acquires Village of Ransom Water System

### *Acquisition will add about 170 new water customers in Streator District*

April 26, 2016 03:24 PM Eastern Daylight Time

RANSOM, Ill.--(BUSINESS WIRE)--Illinois American Water President Bruce Hauk, today announced the Company's acquisition of the Village of Ransom water system. The purchase of the system adds approximately 170 customers to the Company's customer base in the Streator District and serves a population of nearly 370 residents.

The Village of Ransom Board voted in favor of the sale on Sept. 9, 2015 and the Illinois Commerce Commission (ICC) approved the sale for \$175,000 on Feb. 24, 2016. Today, Illinois American Water acquired the water system.

"We look forward to investing in the Village of Ransom and ensuring customers have access to quality water service," said Hauk. "We are excited to join and contribute to the Ransom community."

Acting Village of Ransom President Matt Hauser is also enthusiastic in his support of the acquisition. He said, "We are looking forward to Illinois American Water joining our community and helping us meet our water needs. Their knowledge and ability to provide reliable water service to our residents is an investment in our public health and economic future."

Currently the drinking water in Ransom has exceedingly high levels of Radium. Bottled water will continue to be distributed at Village Hall until the Village of Ransom is connected to Illinois American Water's Streator District water distribution system. This investment of approximately \$2 million to install 10 miles of water main will ensure quality drinking water that meets all EPA requirements. Barring no unforeseen circumstances, this project is expected to be completed by the end of 2016.

Additional information will be provided to customers in an Illinois American Water welcome packet in the mail. This packet will include information about online account management, billing and more. Typical water service customers use between 4,500 and 6,000 gallons of water per month. A Village of Ransom customer using 5,000 gallons a month will pay approximately \$45 for water service. This is a decrease of about \$8 a month.

The appraisal process used for the Ransom water system was conducted under the supervision of the Illinois Commerce Commission (ICC) and established as part of the Illinois Water Systems Viability Act. According to Hauk, this new law gives communities an alternative to value their water and/or wastewater system when considering being acquired by an investor-owned water utility. He said, "Previous law only allowed the investor-owned water or sewer utility to pay the original cost minus depreciation to acquire a small system, public or private. Because of this, systems were deprived of receiving adequate value for their system."

The Ransom water system will be incorporated into the company's Streator District, which currently serves residents in Streator, Kangley, Reading, Dana, Long Point and Ancona.

#### **About Illinois American Water**

Illinois American Water, a subsidiary of American Water (NYSE: AWK), is the largest investor-owned water utility in the state, providing high-quality and reliable water and/or wastewater services to approximately 1.2 million people. American Water also operates a customer service center in Alton and a quality control and research laboratory in Belleville. American Water is the largest and most geographically diverse publicly traded U.S. water and wastewater utility company. Marking its 130th anniversary this year, the company employs 6,700 dedicated professionals who provide regulated and market-based drinking water, wastewater and other related services to an estimated 15 million people in 47 states and Ontario, Canada. More information can be found by visiting [www.amwater.com](http://www.amwater.com).

#### **Contacts**

Illinois American Water

Karen Cotton

External Affairs Manager

309-566-4126

## **POCONO RECORD**

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### **Tobyhanna sewer system sale**

**By David Pierce**

**Pocono Record Writer**

Posted Apr 30, 2016 at 11:58 AM

Updated Apr 30, 2016 at 11:58 AM

#### **Aqua America buys municipal operation for \$5.5 million**

Tobyhanna Township is about to get out of the sewage collection and treatment business through a \$5.5 million sale of its system to Aqua America.

Tobyhanna Township supervisors unanimously approved sale of the Blakeslee treatment plant, sewer lines and pump station in February. Aqua — which has operated the system for the past 18 months under a management contract with the township — will receive all future revenue generated from about 800 residential and commercial customers.

The dormant Tobyhanna Township Sewer Authority has scheduled a 2016 reorganizational meeting and vote Monday to ratify the assets purchase agreement by Aqua Pennsylvania Wastewater, Inc. This will be the sewer authority's first, and presumably last, meeting of the year. The authority met once last year, Tobyhanna Township Manager Phyllis Haase said.

The sale also requires regulatory approval from the Pennsylvania Public Utility Commission before becoming final.

The township has held public hearings and discussions on possible sale of the plant for at least the past 18 months, Haase said. One other private company investigated possible purchase of the system, but Aqua was the only company to make an offer, according to minutes of a February supervisors' meeting posted on the township website.

An outside company performed a financial analysis for the township, to determine the sewage system's value.

The sale will relieve the township of a financial burden, Haase said. Tobyhanna has an outstanding \$4.2 million note on the system, in addition to costs related to reconstruction of a treatment building.

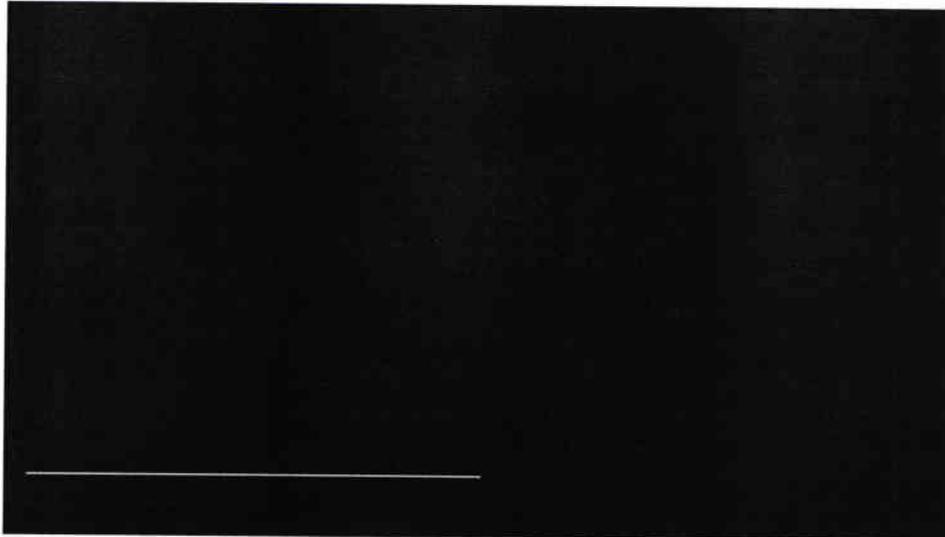
“We still have a note on the plant,” Haase said. “It’s not like we’re walking away with \$5.5 million.”

Even with ownership of the system, Aqua America will still have to meet provisions of the township’s Act 537 plan, which sets regulations for how and where sewage is collected and treated. The 537 plan also is subject to approval by the state Department of Environmental Protection.

Customers shouldn’t notice any changes in the quality of service due to the sale, Aqua America spokeswoman Gretchen Toner said.

“We don’t plan any changes to the staff, and the rates will stay the same upon acquisition,” Toner said. “Any future rate changes would be part of a broader Aqua rate request and set and approved by the state Public Utility Commission.”

### **MOST POPULAR STORIES**



Limerick, PA

## Sewer Department

The Limerick Township Sewer Department maintains the sewer system within Limerick Township. It also handles sewer bills for approximately 6,000 customers. The department includes 17 Pump Stations throughout the Township, a King Road Plant which has a total capacity of 1,700,000 gallons but is currently running at 1,000,000 gallons per day, a Possum Hollow Plant which has a total capacity of 700,000 gallons but is currently running at 200,000 gallons per day.

## Sewer Emergency

If you have a sewer emergency, please contact the plant at 610-948-4250 and a staff person will assist you.

## Inspections

Inspections are made Monday through Friday from 8:00AM - 2:00PM with 48 hours notice. Please call 610-495-5750 to schedule an inspection.

## Related Documents

- [Connection Permit Application \(PDF\)](#)
- [Guidelines for Residential Grinder Pumps \(PDF\)](#)
- [Township Sewer Map \(PDF\)](#)
- [Water Shut Off Policy \(PDF\)](#)

## Contact Us

### Frank Rodden

Superintendent

[frodden@limerickpa.org](mailto:frodden@limerickpa.org)

Phone: 610-948-4250

Hours: 6:30AM-2:30PM

## For Billing Questions:

### Contact Us

### Sewer Billing Inquiries

[Email](#)

Phone: 610-495-5750

Hours: 8:00AM-4:00PM



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## 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.

### Related Lawyers

Thomas S. Wyatt  
Skye C.A. Nickalls  
Marc A. Feller

### Related Practices

Corporate and Business

### Related Offices

Philadelphia, PA

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 conclude that Aqua had demonstrated it was technically, legally, and financially fit to provide the proposed utility service, and that its proposed rate base value of \$29,500,000 was reasonable.

Exceptions to the judge's Recommended Decision were filed by the Bureau of Investigation and Enforcement, the Office of Consumer Advocates, New Garden Township, the New Garden Township Sewer Authority that had been permitted to intervene, and Aqua.

Aqua, New Garden, and the Authority argued that the judge was not following the requirements of the Act 12 process, undermining the PUC's long-standing stated goals—under its Final Policy Statement on Acquisitions of Water and Wastewater Systems—of encouraging investor-owned utilities to acquire utility systems and achieving the public benefits of regionalization and consolidation. In emphasizing the PUC's policy of encouraging regionalization, Aqua also cited its capability to relieve distressed or otherwise cash-strapped municipalities from the burden of financing needed capital improvements to aging sewer and water systems. New Garden noted that the PUC would retain the ability to regulate rates to protect the interests of Aqua's existing customers at the time of the next general rate case.

In the final four-to-one decision, the PUC departed from the judge's Recommended Decisions and approved Aqua's application, clearing the way for the completion of the first transfer of a wastewater system under Act 12. In his remarks while moving for the approval of the New Garden sale, PUC Commissioner Robert Powelson noted the PUC's continuing focus on the potential rate impact of fair market value transactions, while also noting that those issues will be appropriately addressed in Aqua's next general rate case.

At least two other Act 12 applications have been submitted to the PUC, and several other municipalities are considering a transaction. If a municipality is interested in considering a sale of their water and/or wastewater system, the first step is to determine the value of the system with the assistance of an experienced financial advisor, and examine the status of its contracts and assets, including all property, real estate, easements, and rights-of-way owned and/or used by the system.

While Act 12 has made the purchase of wastewater and water systems by investor-owned public utilities more attractive, municipal authorities are also quite active in the marketplace. Noting the recently signed deal for the purchase by the Borough of Conshohocken Authority of the Borough of West Conshohocken's sewer system, and the recently closed transaction with Bucks County Water and Sewer Authority purchasing the sanitary sewer system of Township of Springfield, Montgomery County, Dilworth Paxson attorney Thomas Wyatt stated, "As the capital costs and regulatory requirements of providing safe and reliable water and

wastewater service continue to increase, Act 12 provides a valuable new tool for municipalities wishing to monetize those assets and redeploy the proceeds to other long-lived assets or to bolster core government functions." Dilworth Paxson serves as special counsel to the selling municipality in each of those transactions.



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FRONT PAGE

CLARION, PA WEATHER

## Aqua Pennsylvania buys Emlenton wastewater system



POSTED BY: CLARIONEXTRA.COM   JANUARY 21, 2017

From staff reports

EMLENTON- Aqua Pennsylvania announced Friday it has purchased the wastewater assets of the Emlenton Area Municipal Authority.

The authority serves about 450 customer connections in a portion of Richland Township, Venango County, and portions of Richland and Salem townships in Clarion County.

Aqua expects to spend \$1.5 million to improve the wastewater treatment plants and bring them into compliance with Pennsylvania Department of Environmental Protection (DEP) regulations. As part of the sales agreement, Aqua assumed responsibility for an existing corrective action plan imposed by the DEP.

The company also announced it is about to begin the latest in \$9 million of infrastructure improvements that have transformed the formerly troubled Emlenton water system to one that complies with federal and state drinking water laws and environmental laws.

In the coming months, Aqua will complete the installation of a new source water facility along the bank of the Allegheny River for its Emlenton water treatment plant. Aqua says this project will ensure reliability and protect against impact to the federally protected fresh water club-foot mussels, which live on the riverbed, where the current 100-year-old intake is located.

Monday will be the eighth anniversary of the day Aqua announced the end of a 6-month boil water advisory for Emlenton water customers a little more than three weeks after assuming ownership of the system on Dec. 31, 2008.

Aqua outlines in a press release the improvements it has made since assuming ownership of the Emlenton water system:

- \$3.3 million for construction of a new 288,000-gallon per day water treatment plant
- \$4.5 million to replace nearly every water main in the system, connect previously dead-end mains to reduce the



Complaint details charges against 3 in Clarion drug case  
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Access restored to residents of Upper Florida Keys



Pet of the day 9/12/17  
Indecent assault charge dismissed

potential for water quality issues and other distribution system improvements

– \$392,000 worth of improvements to the existing finished water reservoir, including the installation of a dome roof

Construction of the new water treatment facility was completed in 2010 and enjoys membership in the Partnership for Safe Water – a voluntary cooperative effort between the U.S. Environmental Protection Agency, the American Water Works Association and other drinking water organizations that represent more than 200 surface water utilities throughout the United States. Aqua first introduced itself to the customers of the then Emlenton Water Company in November 2008 via hand-delivered notices to customers letting them know that they had assumed operations of the system and reminding them that a six-month-old boil order remained in effect. The water system also had an outstanding consent order from the state DEP at the time.

“The improvements we’ve made to the Emlenton water system are an example of our commitment to the communities where we live and work. We operate, maintain and improve our facilities so that these communities can thrive,” Aqua Pennsylvania president Marc Lucca said.

Aqua’s Western Pennsylvania division provides water service to about 75,000 people throughout its service territory, which spans parts of Lawrence, Mercer, Forest, Crawford, Venango, Clarion, Warren, Clearfield and McKean counties.

Overall, the company serves about 1.4 million people in 32 counties throughout Pennsylvania.

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Mahoning Township Water and Sewer Department  
Book Asset Detail as of 9/30/16

Property Description	Included In Sale?	Date in Service	Expected Life	Original Cost	Accumulated Depreciation	Net Book Value - Water	Net Book Value - Wastewater	Cost Index Number Date in Service	Cost Index Number 2017	Ratio	Reproduction Cost New Less Depreciation - Water	Reproduction Cost New Less Depreciation - Wastewater	Notes
<b>General Assets</b>													
Computer	NO	5/1/1999	5.00	\$ 2,638	\$ 2,638	\$ -							
Office Furniture	NO	3/1/2000	7.00	3,010	3,010	-							
Software Package - Solut		10/1/2000	5.00	6,600	6,600	-							
ECS Leak Detector	NO	2/20/2001	5.00	3,800	3,800	-							
Meadows Grinder Pump		3/1/2001	5.00	2,600	2,600	-							
DECO ENT Sewer Jetter Pump	NO	8/8/2002	10.00	31,876	31,876	-							
Computer (Lucy)		7/24/2002	5.00	4,023	4,023	-							
Oil Furnace		10/20/2003	5.00	1,147	1,147	-							
Time Clock		11/15/2004	10.00	2,990	2,990	-							
Line Camera	NO	12/20/2004	5.00	3,000	3,000	-							
Software Billing Program		3/21/2005	5.00	7,275	7,275	-							
Computer / Printer		10/1/2005	5.00	8,215	8,215	-							
Pump Rebuild		10/11/2005	5.00	2,448	2,448	-							
Pump		12/19/2005	5.00	15,300	15,300	-							
I&I Spy		3/13/2006	5.00	1,876	1,876	-							
Manhole Lifter (Magnet)	NO	8/21/2006	5.00	3,800	3,800	-							
Handheld Meter Reader		9/18/2006	5.00	1,609	1,609	-							
Gas Meter Kit	NO	5/21/2007	5.00	6,430	6,430	-							
Filing Cabinets (2)		5/21/2007	5.00	1,907	1,907	-							
Flyte Pump Rebuild		3/20/2007	5.00	1,141	1,141	-							
Flyte Pump Rebuild		3/17/2008	5.00	4,136	4,136	-							
Flyte Pump		2/11/2008	5.00	4,547	4,547	-							
Pressure Transmitter		5/19/2008	5.00	5,217	5,217	-							
Valves		4/21/2008	5.00	1,991	1,991	-							
Tamper		5/19/2008	5.00	2,630	2,630	-							
Equipment		6/18/2008	5.00	1,720	1,720	-							
Equipment		12/15/2008	5.00	1,006	1,006	-							
Pump / Generator		3/16/2009	5.00	4,320	4,320	-							
Water Meter		2/22/2011	5.00	8,900	8,900	-							
Pressure Reducer Valve		10/18/2010	5.00	2,975	2,975	-							
Meter		12/15/2010	5.00	5,985	5,985	-							
Rebuild Pump / Rotator		5/16/2011	5.00	2,605	2,605	-							
Generator Upgrade		11/15/2010	5.00	3,963	3,963	-							
Turbo Meter		6/30/2012	10.00	31,386	15,695	15,691		487.00	579.00	1.18891	\$ 18,656		Turbo-Generator - M
Radios		7/8/2013	10.00	6,811	2,724	4,087		381.00	404.00	1.06037	4,334		Meters-Water -W1
Root Cutter	NO	8/8/2013	10.00	9,957	3,984		5,973	602.00	638.00	1.0598		6,331	Services Installed - W1
		4/21/2015	10.00	1,653	330	1,323		568.00	575.00	1.01232	1,339		Construction Equipment - M
<b>Subtotal</b>				<b>\$ 211,487</b>	<b>\$ 184,412</b>	<b>\$ 21,101</b>					<b>\$ 24,328</b>	<b>\$ 6,331</b>	
<b>Subtotal Excluding Assets not Included in Sale</b>				<b>\$ 157,719</b>	<b>\$ 131,967</b>	<b>\$ 19,778</b>					<b>\$ 22,989</b>	<b>\$ 6,331</b>	
<b>Vehicles</b>													
Scagg Wildcat Tractor	NO	5/24/2007	5.00	\$ 7,292	\$ 7,292	\$ -							
2008 Ford Pickup	NO	11/1/2007	5.00	41,818	41,818	-							
2008 Ford Focus	NO	12/13/2007	5.00	13,851	13,851	-							
<b>Subtotal</b>				<b>\$ 62,961</b>	<b>\$ 62,961</b>	<b>\$ -</b>					<b>\$ -</b>	<b>\$ -</b>	
<b>Subtotal Excluding Assets not Included in Sale</b>				<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>					<b>\$ -</b>	<b>\$ -</b>	

Mahoning Township Water and Sewer Department  
Book Asset Detail as of 9/30/16

Property Description	Included In Sale?	Date in Service	Expected Life	Original Cost	Accumulated Depreciation	Net Book Value -		Cost Index Number Date in Service	Cost Index Number 2017	Ratio	Reproduction Cost		Notes	
						Water	Wastewater				New Less Depreciation - Water	New Less Depreciation - Wastewater		
<b>Water and Sewer System and Related Assets</b>														
1		Original Water & Sewer Lines	1/1/1979											
1a		Water - Pumping Equipment	1/1/1979	50.00	363,715	253,149	110,566	205.00	1,052.00	5.13171	567,392			
1b		Water - Treatment Equipment	1/1/1979	50.00	72,743	50,630	22,113	175.00	774.00	4.42286	97,803			Electric Pumping Equipment - W1
1c		Water - Mains	1/1/1979	50.00	606,192	421,915	184,277	185.00	774.00	4.18378	770,975			Large Treatment Plant Equipment - W1
1d		Wastewater - Force Mains	1/1/1979	50.00	169,734	118,136		51,599	185.00	774.00	4.18378		215,875	Mains - Average All types - W1
1e		Wastewater - Gravity Mains	1/1/1979	50.00	727,431	506,298		221,133	185.00	774.00	4.18378		925,173	Mains - Average All types - W1
1f		Wastewater - Pumping Equipment	1/1/1979	50.00	484,954	337,532		147,422	205.00	1,052.00	5.13171		756,527	Electric Pumping Equipment - W1
2		Water Tank Purchased	9/30/1990	50.00	189,677	102,438	87,239	278.00	1,161.00	4.17626	364,335			Elevated Steel Tanks - W1
3		Water & Sewer Ext Lines	9/30/1990											
3a		Water - Mains	9/30/1990	50.00	19,220	10,375	8,844	301.00	774.00	2.57143	22,742			Mains - Average All types - W1
3b		Wastewater - Gravity Mains	9/30/1990	50.00	23,482	12,682		10,810	301.00	774.00	2.57143		27,797	Mains - Average All types - W1
4		Additional Water Tank Purchased	9/30/1991	50.00	27,875	14,508	13,368	285.00	1,161.00	4.07368	54,457			Elevated Steel Tanks - W1
5		Restoration of Old Water Tank	9/30/1991	50.00	37,050	19,266	17,784	285.00	1,161.00	4.07368	72,447			Elevated Steel Tanks - W1
6		Addition to Sewer System	9/30/1992	50.00	113,097	56,542		56,555	311.00	774.00	2.48875		140,750	Mains - Average All types - W1
7		Addition to Sewer System	9/30/1993	50.00	26,626	12,792		13,835	321.00	774.00	2.41121		33,359	Mains - Average All types - W1
8		Muffin Monster	12/18/1995	50.00	38,500	16,170		22,330	357.00	774.00	2.16807		48,413	Large Treatment Plant Equipment - W1
9		Spring St / Jade Ave Sewer	3/30/1997	50.00	183,934	71,743		112,192	347.00	774.00	2.23055		250,249	Mains - Average All types - W1
10		Meadows W/S Lines & Pump	5/30/1998											
10a		Water - Mains	5/30/1998	50.00	264,314	97,794	166,520	355.00	774.00	2.18028	363,061			Mains - Average All types - W1
10b		Wastewater - Gravity Mains	5/30/1998	50.00	328,781	121,646		207,135	355.00	774.00	2.18028		451,613	Mains - Average All types - W1
10c		Wastewater - Pumping Equipment	5/30/1998	50.00	51,574	19,082		32,492	489.00	1,052.00	2.15133		69,901	Electric Pumping Equipment - W1
11		Edgewood Station	12/20/1999	50.00	169,641	54,287	115,354	343.00	672.00	1.95918	226,000			Structures and Improvements - W1
12		Route 11 Upgrade	9/30/2003	50.00	179,705	48,407	131,298	546.00	1,052.00	1.92674	252,978			Electric Pumping Equipment - W1
13		Storage Building	9/30/2004	20.00	26,469	16,538	9,930	418.00	672.00	1.60766	15,965			Structures and Improvements - W1
14		Telemetry	9/30/2005	50.00	77,856	18,684		59,172	467.00	774.00	1.54604		91,482	Meter installations - W1
15		Red Lane Project	9/30/2006	50.00	17,268	3,450		13,818	494.00	774.00	1.5668		21,650	Mains - Average All types - W1
16		Red Lane Project	9/30/2007	50.00	17,814	3,204		14,610	523.00	774.00	1.47992		21,621	Mains - Average All types - W1
17		Red Lane Project	9/30/2008	50.00	7,223	1,296		5,926	588.00	774.00	1.31633		7,801	Mains - Average All types - W1
18		Red Lane Project	9/30/2009	50.00	161,687	25,872		135,815	608.00	774.00	1.27303		172,896	Mains - Average All types - W1
19		Red Lane Valve	9/30/2008	50.00	8,890	1,602		7,288	736.00	825.00	1.12092		8,170	Gate Valves - M
20		Tank Refurbishing	9/30/2008	50.00	83,800	15,084	68,716	866.00	1,161.00	1.34065	92,124			Elevated Steel Tanks - W1
21		Paving	10/28/2009	20.00	7,400	2,590	4,810	536.00	672.00	1.25373	6,030			Structures and Improvements - W1
22		Red Lane Furnace	12/31/2009	20.00	1,500	525	975	631.00	774.00	1.22662	1,196			Large Treatment Plant Equipment - W1
23		Red Lane / Oak St. Project	12/21/2009											
23a		Water - Mains	12/21/2009	50.00	18,280	2,558	15,722	617.00	774.00	1.25446	19,723			Mains - Average All types - W1
23b		Wastewater - Gravity Mains	12/21/2009	50.00	22,343	3,126		19,217	617.00	774.00	1.25446		24,107	Mains - Average All types - W1
24		Chlorination Building	10/19/2009	20.00	5,589	1,953	3,636	536.00	672.00	1.25373	4,558			Structures and Improvements - W1
25		Chart Recorder Upgrade	2/8/2010	10.00	6,559	4,592		1,967	552.00	672.00	1.21739		2,395	Structures and Improvements - W1
26		In-Lining Project (Sewer)	6/30/2011	50.00	21,573	2,586		18,987	574.00	638.00	1.1115		21,104	Services Installed - W1
27		Sewer Villa Sewer Rehab	6/30/2012	50.00	284,507	28,450		256,057	600.00	638.00	1.06333		272,274	Services Installed - W1
28		Hydrants	8/15/2012	10.00	6,337	3,170	3,167	758.00	980.00	1.29288	4,095			Hydrants Installed - W1
29		Telemetry	10/11/2012	50.00	7,480	600		6,880	673.00	722.00	1.07281		7,381	Meter installations - W1
30		Red Lane Pump Station Paving	11/12/2012	20.00	4,625	924	3,701	600.00	672.00	1.12	4,145			Structures and Improvements - W1
31		Route 11 Pump Station Upgrade	3/8/2013	50.00	9,120	728		8,392	618.00	672.00	1.08738		9,125	Structures and Improvements - W1
32		Route 11 Generator Upgrade	4/12/2013	50.00	118,905	9,512	109,393	564.00	579.00	1.0266	112,302			Turbo-Generator - M
33		Transducer	5/13/2013	10.00	2,441	976		1,465	764.00	881.00	1.15314		1,689	Small Treatment Plant Equipment
34		Telemetry	12/12/2013	50.00	9,679	582		9,097	677.00	722.00	1.06647		9,702	Meter installations - W1
35		Telemetry	5/21/2014	50.00	9,679	582		9,097	688.00	722.00	1.04942		9,547	Meter installations - W1
36		Cooper Twp. Connection (EI)	5/15/2014	50.00	19,173	1,149		18,024	693.00	774.00	1.11688		20,130	Mains - Average All types - W1
37		Bloom Road Water Project	5/15/2014	50.00	48,176	2,892	45,284	693.00	774.00	1.11688	50,577			Mains - Average All types - W1
38		Sewer Rehab	3/13/2014	50.00	64,015	3,840		60,175	602.00	638.00	1.0598		63,773	Services Installed - W1
39		New 4" Sensus Complete	10/19/2014	10.00	5,944	1,188	4,756	693.00	774.00	1.11688	5,311			Mains - Average All types - W1
40		Re-line 33 ft. Clay Pipe	10/19/2014	50.00	4,035	162		3,873	602.00	638.00	1.0598		4,105	Services Installed - W1
41		New Shed Rubber Roof	11/5/2014	20.00	2,100	210	1,890	630.00	672.00	1.08667	2,016			Structures and Improvements - W1
42		Metal Roof Storage Shed	2/2/2015	20.00	8,400	840	7,560	642.00	672.00	1.04673	7,913			Structures and Improvements - W1
43		New Pipe	6/1/2015	50.00										
43a		Water - Mains	6/1/2015	50.00	2,606	104	2,502	736.00	774.00	1.05163	2,631			Mains - Average All types - W1
43b		Wastewater - Gravity Mains	6/1/2015	50.00	3,164	127		3,037	736.00	774.00	1.05163		3,215	Mains - Average All types - W1
44		Fairbanks Pump Rebuild	6/11/2015	10.00	7,588	1,518		6,070	928.00	1,052.00	1.13362		6,881	Electric Pumping Equipment - W1
45		Fire Hydrant Woodbine	8/13/2015	10.00	5,094	1,018	4,076	930.00	980.00	1.05376	4,295			Hydrants Installed - W1
Subtotal					\$ 5,185,595	\$ 2,507,625	\$ 1,150,770	\$ 1,527,200				\$ 3,133,240	\$ 3,690,534	

Mahoning Township Water and Sewer Department  
Book Asset Detail as of 9/30/16

Property Description	Included In Sale?	Date in Service	Expected Life	Original Cost	Accumulated Depreciation	Net Book Value - Water	Net Book Value - Wastewater	Cost Index Number Date in Service	Cost Index Number 2017	Ratio	Reproduction Cost New Less Depreciation - Water	Reproduction Cost New Less Depreciation - Wastewater	Notes
ASSETS SUBSEQUENTLY DEDICATED TO MAHONING													
46 Hidden HoWoodbine Pl/Montg V/Evergreen													
47 4" and 6" water mains and appurtenances		1978	50.00	\$ 55,910	43,610	\$ 12,300		173.00	774.00	4.4740	\$ 55,031		Mains - Average All types - W1
48 8" gravity sewer and appurtenances		1978	50.00	119,448	93,169		26,279	173.00	774.00	4.4740		117,570	Mains - Average All types - W1
49 Peachtree/Woodbine Indust Park													
50 6-12" water mains and appurtenances		1982	50.00	901,388	630,972	270,416		231.00	774.00	3.3506	906,071		Mains - Average All types - W1
51 8" gravity sewer and appurtenances		1982	50.00	521,186	364,830		156,356	231.00	774.00	3.3506		523,893	Mains - Average All types - W1
52 Delwood Drive/Hawkins													
53 6-10" water main and appurtenances		1998	50.00	247,757	94,148	153,609		355.00	774.00	2.1803	334,912		Mains - Average All types - W1
54 8" gravity sewer and appurtenances		1998	50.00	160,377	60,943		99,434	355.00	774.00	2.1803		216,794	Mains - Average All types - W1
55 Strawberry Fields													
56 8" water main and appurtenances		2000	50.00	218,433	74,267	144,166		377.00	774.00	2.0531	295,980		Mains - Average All types - W1
57 8" sewer main and appurtenances		2000	50.00	331,257	112,627		218,630	377.00	774.00	2.0531		448,858	Mains - Average All types - W1
58 Woods of Welsh													
59 6-8" water mains and appurtenances		2004	50.00	688,141	178,917	509,224		426.00	774.00	1.8169	925,210		Mains - Average All types - W1
60 75,000 gallon water storage tank		2004	50.00	210,000	54,600	155,400		481.00	1,161.00	2.4137	375,092		Mains - Average All types - W1
61 Water booster station		2004	10.00	200,000	260,000	-		418.00	672.00	1.6077			Structures and Improvements - W1
62 8" gravity sewer and appurtenances		2004	50.00	621,113	161,489		459,624	426.00	774.00	1.8169		835,091	Mains - Average All types - W1
63 Mahoning Terrace													
64 6" water main and appurtenances		2009	50.00	203,535	32,566	170,969		608.00	774.00	1.2730	217,649		Mains - Average All types - W1
65 8" gravity sewer and appurtenances		2009	50.00	310,650	49,704		260,946	608.00	774.00	1.2730		332,191	Mains - Average All types - W1
66 Laid Drive													
67 6" water main and appurtenances		2014	50.00	42,742	2,565	40,177		733.00	774.00	1.0559	42,425		Mains - Average All types - W1
68 8" gravity sewer and appurtenances		2014	50.00	50,665	3,040		47,625	733.00	774.00	1.0559		50,289	Mains - Average All types - W1
69 Subtotal New/Recently Dedicated Facilities				\$ 4,882,602	\$ 2,217,447	\$ 1,456,263	\$ 1,268,892				\$ 3,152,369	\$ 2,524,686	
70 Grand Total				\$ 10,342,645	\$ 4,972,445	\$ 2,628,134	\$ 2,796,093				\$ 6,309,937	\$ 6,221,550	
71 Grand Total for Assets included in Sale				\$ 10,225,916	\$ 4,857,039	\$ 2,628,811	\$ 2,796,093				\$ 6,308,598	\$ 6,221,550	
72 Combined Value											\$	\$ 12,530,148	

**Mahoning Township  
Potential Purchase - DCF Analysis Model No. 1.1  
Traditionally Financed Water/Wastewater Company**

Assumptions:	Lease Renewal	5.00% Tax Rate	41.500%
	Inflation	2.20% Purchased Water to Sales	16.92%
	WACC	7.61% Purchased Sewer to Sales	42.12%
	Rate Increase	15.00%	

Sewer Systems	ACTUAL		2017		BUDGET		PROJECTED		
	2015	2016	2017	Rate Increase	2018	2019	2018	2019	
<b>REVENUES</b>									
Charges for Service	\$ 1,886,078	83.13%	\$ 1,829,023	94.01%	\$ 2,001,945	96.67%	\$ 2,143,688	96.79%	\$ 2,143,688
Miscellaneous Revenues	\$ 13,325	0.59%	\$ 58,217	2.99%	\$ 29,046	1.40%	\$ 31,103	1.40%	\$ 40,000
Tapping Fees	\$ 369,380	16.28%	\$ 58,349	3.00%	\$ 40,000	1.93%	\$ 40,000	1.81%	\$ 40,000
<b>TOTAL REVENUES</b>	<b>\$ 2,268,783</b>		<b>\$ 1,945,589</b>		<b>\$ 2,070,992</b>		<b>\$ 2,214,791</b>		<b>\$ 2,223,688</b>
<b>EXPENSES</b>									
Water Services Purchased	\$ 302,724	13.34%	\$ 360,835	18.55%	\$ 383,000	18.49%	\$ 383,000	17.29%	\$ 376,224
Sewer Services Purchased	\$ 771,197	33.99%	\$ 975,272	50.13%	\$ 903,000	43.60%	\$ 903,000	40.77%	\$ 936,688
Payroll and Benefits	\$ 195,417	8.61%	\$ 181,930	9.35%	\$ 188,200	9.09%	\$ 191,465	8.64%	\$ 195,677
Payroll Taxes	\$ -	0.00%	\$ -	0.00%	\$ 3,200	0.15%	\$ 3,200	0.14%	\$ 3,270
Administration	\$ 11,935	0.53%	\$ 2,479	0.13%	\$ 2,100	0.10%	\$ 2,100	0.09%	\$ 2,146
Telephone	\$ 7,987	0.35%	\$ 11,483	0.59%	\$ 11,500	0.56%	\$ 11,500	0.52%	\$ 11,753
Rent	\$ 10,500	0.46%	\$ 7,500	0.39%	\$ -	0.00%	\$ -	0.00%	\$ 10,000
Insurance	\$ 20,593	0.91%	\$ 19,390	1.00%	\$ 20,000	0.97%	\$ 20,000	0.90%	\$ 20,000
Professional Fees	\$ 209,505	9.23%	\$ 183,782	9.45%	\$ 120,200	5.80%	\$ 90,200	4.07%	\$ 92,184
Office Expenses and Advertising	\$ 11,336	0.50%	\$ 8,300	0.43%	\$ 8,800	0.42%	\$ 8,800	0.40%	\$ 8,994
Utilities	\$ 25,810	1.14%	\$ 24,948	1.28%	\$ 25,750	1.24%	\$ 25,750	1.18%	\$ 26,317
Vehicle Expense	\$ 8,106	0.36%	\$ 1,029	0.05%	\$ 3,000	0.14%	\$ 3,000	0.14%	\$ 3,000
Sewer and Water Supplies	\$ 12,731	0.56%	\$ 28,152	1.45%	\$ 28,000	1.35%	\$ 28,000	1.26%	\$ 28,616
Water Analysis	\$ 1,276	0.06%	\$ 1,985	0.10%	\$ 2,000	0.10%	\$ 2,000	0.09%	\$ 2,044
Outside Services	\$ 29,190	1.29%	\$ 18,426	0.95%	\$ 16,800	0.81%	\$ 19,800	0.89%	\$ 20,236
Engineering Fees	\$ 14,481	0.64%	\$ 18,502	0.95%	\$ 32,000	1.55%	\$ 30,000	1.35%	\$ 30,660
Maintenance	\$ 162,148	7.15%	\$ 82,093	4.22%	\$ 69,800	3.37%	\$ 75,000	3.39%	\$ 76,650
Dues and Subscriptions	\$ 3,236	0.14%	\$ 3,854	0.20%	\$ 1,000	0.05%	\$ 1,000	0.05%	\$ 1,022
<b>TOTAL EXPENSES</b>	<b>\$ 1,798,172</b>	<b>79.26%</b>	<b>\$ 1,929,960</b>	<b>99.20%</b>	<b>\$ 1,818,350</b>	<b>87.80%</b>	<b>\$ 1,797,815</b>	<b>81.17%</b>	<b>\$ 1,845,481</b>
<b>Income Before Taxes</b>									<b>\$ 378,207</b>
<b>State and Federal Income Taxes</b>									<b>\$ 100,931</b>
<b>NET INCOME</b>	<b>\$ 470,611</b>	<b>20.74%</b>	<b>\$ 15,629</b>	<b>0.80%</b>	<b>\$ 252,642</b>	<b>12.20%</b>	<b>\$ 416,976</b>	<b>18.83%</b>	<b>\$ 277,276</b>
<b>CAPITAL EXPENDITURES</b>									<b>\$ 50,000</b>
<b>TOTAL CAPITAL EXPENDITURES</b>	<b>\$ -</b>		<b>\$ -</b>		<b>\$ -</b>		<b>\$ -</b>		<b>\$ 50,000</b>
<b>CASH FLOW</b>	<b>\$ 470,611</b>		<b>\$ 15,629</b>		<b>\$ 252,642</b>		<b>\$ 416,976</b>		<b>\$ 227,276</b>
Period									0.5
PW Factor									0.9640
PWCF									219,093
Value - 2019 through 2048									<b>6,323,239</b>

**Mahoning Township  
Potential Purchase - DCF Analysis Model  
Traditionally Financed Water/Wastewater**

<b>Sewer Systems</b>	<b>PROJECTED 2020</b>	<b>PROJECTED 2021 Rate Increase</b>	<b>PROJECTED 2022</b>	<b>PROJECTED 2023 Rate Increase</b>	<b>PROJECTED 2024</b>	<b>PROJECTED 2025</b>	<b>PROJECTED 2026 Rate Increase</b>	<b>PROJECTED 2027</b>	<b>PROJECTED 2028</b>	<b>PROJECTED 2029 Rate Increase</b>
<b>REVENUES</b>										
Charges for Service	\$ 2,143,688	\$ 2,465,241	\$ 2,465,241	\$ 2,835,027	\$ 2,835,027	\$ 2,835,027	\$ 3,260,281	\$ 3,260,281	\$ 3,260,281	\$ 3,749,324
Miscellaneous Revenues	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000
Tapping Fees	\$ 40,000	\$ 46,000	\$ 46,000	\$ 52,900	\$ 52,900	\$ 52,900	\$ 60,835	\$ 60,835	\$ 60,835	\$ 69,960
<b>TOTAL REVENUES</b>	<b>\$ 2,223,688</b>	<b>\$ 2,551,241</b>	<b>\$ 2,551,241</b>	<b>\$ 2,927,927</b>	<b>\$ 2,927,927</b>	<b>\$ 2,927,927</b>	<b>\$ 3,361,116</b>	<b>\$ 3,361,116</b>	<b>\$ 3,361,116</b>	<b>\$ 3,859,284</b>
<b>EXPENSES</b>										
Water Services Purchased	\$ 376,224	\$ 431,643	\$ 431,643	\$ 495,374	\$ 495,374	\$ 495,374	\$ 568,665	\$ 568,665	\$ 568,665	\$ 652,949
Sewer Services Purchased	\$ 936,688	\$ 1,074,663	\$ 1,074,663	\$ 1,233,336	\$ 1,233,336	\$ 1,233,336	\$ 1,415,808	\$ 1,415,808	\$ 1,415,808	\$ 1,625,652
Payroll and Benefits	\$ 199,982	\$ 204,382	\$ 208,878	\$ 213,473	\$ 218,170	\$ 222,970	\$ 227,875	\$ 232,888	\$ 238,012	\$ 243,248
Payroll Taxes	\$ 3,342	\$ 3,416	\$ 3,491	\$ 3,568	\$ 3,646	\$ 3,727	\$ 3,809	\$ 3,892	\$ 3,978	\$ 4,065
Administration	\$ 2,193	\$ 2,242	\$ 2,291	\$ 2,341	\$ 2,393	\$ 2,446	\$ 2,499	\$ 2,554	\$ 2,611	\$ 2,668
Telephone	\$ 12,012	\$ 12,276	\$ 12,546	\$ 12,822	\$ 13,104	\$ 13,392	\$ 13,687	\$ 13,988	\$ 14,296	\$ 14,610
Rent	\$ 10,000	\$ 10,000	\$ 10,500	\$ 10,500	\$ 10,500	\$ 11,025	\$ 11,025	\$ 11,025	\$ 11,576	\$ 11,576
Insurance	\$ 20,440	\$ 20,890	\$ 21,349	\$ 21,819	\$ 22,299	\$ 22,790	\$ 23,291	\$ 23,803	\$ 24,327	\$ 24,862
Professional Fees	\$ 94,212	\$ 96,285	\$ 98,403	\$ 100,568	\$ 102,781	\$ 105,042	\$ 107,353	\$ 109,715	\$ 112,128	\$ 114,595
Office Expenses and Advertising	\$ 9,191	\$ 9,394	\$ 9,600	\$ 9,812	\$ 10,027	\$ 10,248	\$ 10,473	\$ 10,704	\$ 10,939	\$ 11,180
Utilities	\$ 26,895	\$ 27,487	\$ 28,092	\$ 28,710	\$ 29,342	\$ 29,987	\$ 30,647	\$ 31,321	\$ 32,010	\$ 32,714
Vehicle Expense	\$ 3,066	\$ 3,133	\$ 3,202	\$ 3,273	\$ 3,345	\$ 3,418	\$ 3,494	\$ 3,570	\$ 3,649	\$ 3,729
Sewer and Water Supplies	\$ 29,246	\$ 29,889	\$ 30,547	\$ 31,219	\$ 31,905	\$ 32,607	\$ 33,325	\$ 34,058	\$ 34,807	\$ 35,573
Water Analysis	\$ 2,089	\$ 2,135	\$ 2,182	\$ 2,230	\$ 2,279	\$ 2,329	\$ 2,380	\$ 2,433	\$ 2,486	\$ 2,541
Outside Services	\$ 20,681	\$ 21,136	\$ 21,601	\$ 22,076	\$ 22,562	\$ 23,058	\$ 23,565	\$ 24,084	\$ 24,614	\$ 25,155
Engineering Fees	\$ 31,335	\$ 32,024	\$ 32,728	\$ 33,448	\$ 34,184	\$ 34,936	\$ 35,705	\$ 36,490	\$ 37,293	\$ 38,114
Maintenance	\$ 78,336	\$ 80,060	\$ 81,821	\$ 83,621	\$ 85,461	\$ 87,341	\$ 89,262	\$ 91,226	\$ 93,233	\$ 95,284
Dues and Subscriptions	\$ 1,044	\$ 1,067	\$ 1,091	\$ 1,115	\$ 1,139	\$ 1,165	\$ 1,190	\$ 1,216	\$ 1,243	\$ 1,270
<b>TOTAL EXPENSES</b>	<b>\$ 1,856,977</b>	<b>\$ 2,062,121</b>	<b>\$ 2,074,629</b>	<b>\$ 2,309,304</b>	<b>\$ 2,321,846</b>	<b>\$ 2,335,189</b>	<b>\$ 2,604,053</b>	<b>\$ 2,617,442</b>	<b>\$ 2,631,676</b>	<b>\$ 2,939,788</b>
Income Before Taxes	\$ 366,711	\$ 489,120	\$ 476,612	\$ 618,623	\$ 606,081	\$ 592,738	\$ 757,063	\$ 743,675	\$ 729,441	\$ 919,496
State and Federal Income Taxes	\$ 96,160	\$ 146,960	\$ 141,769	\$ 200,704	\$ 195,499	\$ 189,961	\$ 258,156	\$ 252,600	\$ 246,693	\$ 325,566
<b>NET INCOME</b>	<b>\$ 270,551</b>	<b>\$ 342,160</b>	<b>\$ 334,843</b>	<b>\$ 417,919</b>	<b>\$ 410,582</b>	<b>\$ 402,777</b>	<b>\$ 498,907</b>	<b>\$ 491,075</b>	<b>\$ 482,748</b>	<b>\$ 593,930</b>
<b>CAPITAL EXPENDITURES</b>	<b>\$ 51,100</b>	<b>\$ 52,224</b>	<b>\$ 53,373</b>	<b>\$ 54,547</b>	<b>\$ 55,747</b>	<b>\$ 56,974</b>	<b>\$ 58,227</b>	<b>\$ 59,508</b>	<b>\$ 60,817</b>	<b>\$ 62,155</b>
<b>TOTAL CAPITAL EXPENDITURES</b>	<b>\$ 51,100</b>	<b>\$ 52,224</b>	<b>\$ 53,373</b>	<b>\$ 54,547</b>	<b>\$ 55,747</b>	<b>\$ 56,974</b>	<b>\$ 58,227</b>	<b>\$ 59,508</b>	<b>\$ 60,817</b>	<b>\$ 62,155</b>
<b>CASH FLOW</b>	<b>\$ 219,451</b>	<b>\$ 289,936</b>	<b>\$ 281,470</b>	<b>\$ 363,372</b>	<b>\$ 354,835</b>	<b>\$ 345,803</b>	<b>\$ 440,680</b>	<b>\$ 431,567</b>	<b>\$ 421,930</b>	<b>\$ 531,775</b>
Period	1.5	2.5	3.5	4.5	5.5	6.5	7.5	8.5	9.5	10.5
PW Factor	0.8958	0.8325	0.7736	0.7189	0.6681	0.6208	0.5769	0.5361	0.4982	0.4630
PWCF	196,589	241,363	217,745	261,225	237,048	214,677	254,231	231,366	210,204	246,193
Value - 2019 through 2048										

**Mahoning Township  
Potential Purchase - DCF Analysis Model  
Traditionally Financed Water/Wastewater**

	PROJECTED 2030	PROJECTED 2031	PROJECTED 2032 Rate Increase	PROJECTED 2033	PROJECTED 2034	PROJECTED 2035 Rate Increase	PROJECTED 2036	PROJECTED 2037	PROJECTED 2038 Rate Increase	PROJECTED 2039
<b>Sewer Systems</b>										
<b>REVENUES</b>										
Charges for Service	\$ 3,749,324	\$ 3,749,324	\$ 4,311,722	\$ 4,311,722	\$ 4,311,722	\$ 4,958,481	\$ 4,958,481	\$ 4,958,481	\$ 5,702,253	\$ 5,702,253
Miscellaneous Revenues	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000
Tapping Fees	\$ 69,960	\$ 69,960	\$ 80,454	\$ 80,454	\$ 80,454	\$ 92,522	\$ 92,522	\$ 92,522	\$ 106,401	\$ 106,401
<b>TOTAL REVENUES</b>	<b>\$ 3,859,284</b>	<b>\$ 3,859,284</b>	<b>\$ 4,432,177</b>	<b>\$ 4,432,177</b>	<b>\$ 4,432,177</b>	<b>\$ 5,091,003</b>	<b>\$ 5,091,003</b>	<b>\$ 5,091,003</b>	<b>\$ 5,848,653</b>	<b>\$ 5,848,653</b>
<b>EXPENSES</b>										
Water Services Purchased	\$ 652,949	\$ 652,949	\$ 749,877	\$ 749,877	\$ 749,877	\$ 861,343	\$ 861,343	\$ 861,343	\$ 989,529	\$ 989,529
Sewer Services Purchased	\$ 1,625,652	\$ 1,625,652	\$ 1,866,973	\$ 1,866,973	\$ 1,866,973	\$ 2,144,491	\$ 2,144,491	\$ 2,144,491	\$ 2,463,638	\$ 2,463,638
Payroll and Benefits	\$ 248,599	\$ 254,069	\$ 259,658	\$ 265,371	\$ 271,209	\$ 277,175	\$ 283,273	\$ 289,505	\$ 295,874	\$ 302,384
Payroll Taxes	\$ 4,155	\$ 4,246	\$ 4,340	\$ 4,435	\$ 4,533	\$ 4,632	\$ 4,734	\$ 4,839	\$ 4,945	\$ 5,054
Administration	\$ 2,727	\$ 2,787	\$ 2,848	\$ 2,911	\$ 2,975	\$ 3,040	\$ 3,107	\$ 3,175	\$ 3,245	\$ 3,317
Telephone	\$ 14,932	\$ 15,260	\$ 15,596	\$ 15,939	\$ 16,290	\$ 16,648	\$ 17,014	\$ 17,389	\$ 17,771	\$ 18,162
Rent	\$ 11,576	\$ 12,155	\$ 12,155	\$ 12,155	\$ 12,763	\$ 12,763	\$ 12,763	\$ 13,401	\$ 13,401	\$ 13,401
Insurance	\$ 25,409	\$ 25,968	\$ 26,539	\$ 27,123	\$ 27,720	\$ 28,330	\$ 28,953	\$ 29,590	\$ 30,241	\$ 30,906
Professional Fees	\$ 117,116	\$ 119,693	\$ 122,326	\$ 125,017	\$ 127,768	\$ 130,579	\$ 133,451	\$ 136,387	\$ 139,388	\$ 142,454
Office Expenses and Advertising	\$ 11,426	\$ 11,677	\$ 11,934	\$ 12,197	\$ 12,465	\$ 12,739	\$ 13,020	\$ 13,306	\$ 13,599	\$ 13,898
Utilities	\$ 33,434	\$ 34,170	\$ 34,921	\$ 35,690	\$ 36,475	\$ 37,277	\$ 38,097	\$ 38,935	\$ 39,792	\$ 40,667
Vehicle Expense	\$ 3,811	\$ 3,895	\$ 3,981	\$ 4,068	\$ 4,158	\$ 4,249	\$ 4,343	\$ 4,439	\$ 4,536	\$ 4,636
Sewer and Water Supplies	\$ 36,355	\$ 37,155	\$ 37,973	\$ 38,808	\$ 39,662	\$ 40,534	\$ 41,426	\$ 42,337	\$ 43,269	\$ 44,221
Water Analysis	\$ 2,597	\$ 2,654	\$ 2,712	\$ 2,772	\$ 2,833	\$ 2,895	\$ 2,959	\$ 3,024	\$ 3,091	\$ 3,159
Outside Services	\$ 25,708	\$ 26,274	\$ 26,852	\$ 27,443	\$ 28,047	\$ 28,664	\$ 29,294	\$ 29,939	\$ 30,597	\$ 31,270
Engineering Fees	\$ 38,952	\$ 39,809	\$ 40,685	\$ 41,580	\$ 42,495	\$ 43,430	\$ 44,385	\$ 45,362	\$ 46,360	\$ 47,379
Maintenance	\$ 97,381	\$ 99,523	\$ 101,712	\$ 103,950	\$ 106,237	\$ 108,574	\$ 110,963	\$ 113,404	\$ 115,899	\$ 118,449
Dues and Subscriptions	\$ 1,298	\$ 1,327	\$ 1,356	\$ 1,386	\$ 1,416	\$ 1,448	\$ 1,480	\$ 1,512	\$ 1,545	\$ 1,579
<b>TOTAL EXPENSES</b>	<b>\$ 2,954,079</b>	<b>\$ 2,969,264</b>	<b>\$ 3,322,439</b>	<b>\$ 3,337,694</b>	<b>\$ 3,353,893</b>	<b>\$ 3,758,812</b>	<b>\$ 3,775,097</b>	<b>\$ 3,792,378</b>	<b>\$ 4,256,720</b>	<b>\$ 4,274,103</b>
Income Before Taxes	\$ 905,205	\$ 890,020	\$ 1,109,738	\$ 1,094,482	\$ 1,078,283	\$ 1,332,191	\$ 1,315,906	\$ 1,298,625	\$ 1,591,933	\$ 1,574,550
State and Federal Income Taxes	\$ 319,635	\$ 313,333	\$ 404,516	\$ 398,185	\$ 391,463	\$ 496,834	\$ 490,076	\$ 482,904	\$ 604,627	\$ 597,413
<b>NET INCOME</b>	<b>\$ 585,570</b>	<b>\$ 576,687</b>	<b>\$ 705,222</b>	<b>\$ 696,297</b>	<b>\$ 686,821</b>	<b>\$ 835,357</b>	<b>\$ 825,830</b>	<b>\$ 815,721</b>	<b>\$ 987,306</b>	<b>\$ 977,137</b>
<b>CAPITAL EXPENDITURES</b>	<b>\$ 63,523</b>	<b>\$ 64,920</b>	<b>\$ 66,349</b>	<b>\$ 67,808</b>	<b>\$ 69,300</b>	<b>\$ 70,825</b>	<b>\$ 72,383</b>	<b>\$ 73,975</b>	<b>\$ 75,603</b>	<b>\$ 77,266</b>
<b>TOTAL CAPITAL EXPENDITURES</b>	<b>\$ 63,523</b>	<b>\$ 64,920</b>	<b>\$ 66,349</b>	<b>\$ 67,808</b>	<b>\$ 69,300</b>	<b>\$ 70,825</b>	<b>\$ 72,383</b>	<b>\$ 73,975</b>	<b>\$ 75,603</b>	<b>\$ 77,266</b>
<b>CASH FLOW</b>	<b>\$ 522,047</b>	<b>\$ 511,766</b>	<b>\$ 638,873</b>	<b>\$ 628,489</b>	<b>\$ 617,521</b>	<b>\$ 764,532</b>	<b>\$ 753,447</b>	<b>\$ 741,745</b>	<b>\$ 911,703</b>	<b>\$ 899,871</b>
Period	11.5	12.5	13.5	14.5	15.5	16.5	17.5	18.5	19.5	20.5
PW Factor	0.4302	0.3998	0.3715	0.3453	0.3208	0.2981	0.2771	0.2575	0.2393	0.2223
PWCF	224,597	204,604	237,358	216,967	198,123	227,943	208,753	190,977	218,136	200,079
Value - 2019 through 2048										

**Mahoning Township  
Potential Purchase - DCF Analysis Model  
Traditionally Financed Water/Wastewater**

	PROJECTED 2040	PROJECTED 2041 Rate Increase	PROJECTED 2042	PROJECTED 2043	PROJECTED 2044 Rate Increase	PROJECTED 2045	PROJECTED 2046	PROJECTED 2047 Rate Increase	PROJECTED 2048	PROJECTED Perpetuity
<b>Sewer Systems</b>										
<b>REVENUES</b>										
Charges for Service	\$ 5,702,253	\$ 6,557,591	\$ 6,557,591	\$ 6,557,591	\$ 7,541,229	\$ 7,541,229	\$ 7,541,229	\$ 8,672,414	\$ 8,672,414	\$ 8,672,414
Miscellaneous Revenues	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000	\$ 40,000
Tapping Fees	\$ 106,401	\$ 122,361	\$ 122,361	\$ 122,361	\$ 140,715	\$ 140,715	\$ 140,715	\$ 161,822	\$ 161,822	\$ 161,822
<b>TOTAL REVENUES</b>	<b>\$ 5,848,653</b>	<b>\$ 6,719,952</b>	<b>\$ 6,719,952</b>	<b>\$ 6,719,952</b>	<b>\$ 7,721,944</b>	<b>\$ 7,721,944</b>	<b>\$ 7,721,944</b>	<b>\$ 8,874,236</b>	<b>\$ 8,874,236</b>	<b>\$ 8,874,236</b>
<b>EXPENSES</b>										
Water Services Purchased	\$ 989,529	\$ 1,136,944	\$ 1,136,944	\$ 1,136,944	\$ 1,306,470	\$ 1,306,470	\$ 1,306,470	\$ 1,501,426	\$ 1,501,426	\$ 1,501,426
Sewer Services Purchased	\$ 2,463,638	\$ 2,830,656	\$ 2,830,656	\$ 2,830,656	\$ 3,252,727	\$ 3,252,727	\$ 3,252,727	\$ 3,738,109	\$ 3,738,109	\$ 3,738,109
Payroll and Benefits	\$ 309,036	\$ 315,835	\$ 322,783	\$ 329,884	\$ 337,142	\$ 344,559	\$ 352,139	\$ 359,886	\$ 367,804	\$ 375,896
Payroll Taxes	\$ 5,165	\$ 5,279	\$ 5,395	\$ 5,513	\$ 5,635	\$ 5,759	\$ 5,885	\$ 6,015	\$ 6,147	\$ 6,282
Administration	\$ 3,390	\$ 3,464	\$ 3,540	\$ 3,618	\$ 3,698	\$ 3,779	\$ 3,862	\$ 3,947	\$ 4,034	\$ 4,123
Telephone	\$ 18,562	\$ 18,970	\$ 19,387	\$ 19,814	\$ 20,250	\$ 20,695	\$ 21,151	\$ 21,616	\$ 22,091	\$ 22,577
Rent	\$ 14,071	\$ 14,071	\$ 14,071	\$ 14,775	\$ 14,775	\$ 14,775	\$ 15,513	\$ 15,513	\$ 15,513	\$ 16,289
Insurance	\$ 31,586	\$ 32,281	\$ 32,991	\$ 33,717	\$ 34,459	\$ 35,217	\$ 35,992	\$ 36,784	\$ 37,593	\$ 38,420
Professional Fees	\$ 145,588	\$ 148,791	\$ 152,065	\$ 155,410	\$ 158,829	\$ 162,323	\$ 165,894	\$ 169,544	\$ 173,274	\$ 177,086
Office Expenses and Advertising	\$ 14,204	\$ 14,516	\$ 14,836	\$ 15,162	\$ 15,496	\$ 15,836	\$ 16,185	\$ 16,541	\$ 16,905	\$ 17,277
Utilities	\$ 41,562	\$ 42,476	\$ 43,411	\$ 44,366	\$ 45,342	\$ 46,340	\$ 47,359	\$ 48,401	\$ 49,466	\$ 50,554
Vehicle Expense	\$ 4,738	\$ 4,842	\$ 4,949	\$ 5,058	\$ 5,169	\$ 5,283	\$ 5,399	\$ 5,518	\$ 5,639	\$ 5,763
Sewer and Water Supplies	\$ 45,194	\$ 46,188	\$ 47,204	\$ 48,243	\$ 49,304	\$ 50,389	\$ 51,497	\$ 52,630	\$ 53,788	\$ 54,971
Water Analysis	\$ 3,228	\$ 3,299	\$ 3,372	\$ 3,446	\$ 3,522	\$ 3,599	\$ 3,678	\$ 3,759	\$ 3,842	\$ 3,927
Outside Services	\$ 31,958	\$ 32,661	\$ 33,380	\$ 34,114	\$ 34,865	\$ 35,632	\$ 36,416	\$ 37,217	\$ 38,036	\$ 38,873
Engineering Fees	\$ 48,422	\$ 49,487	\$ 50,576	\$ 51,688	\$ 52,826	\$ 53,988	\$ 55,176	\$ 56,389	\$ 57,630	\$ 58,898
Maintenance	\$ 121,055	\$ 123,718	\$ 126,439	\$ 129,221	\$ 132,064	\$ 134,969	\$ 137,939	\$ 140,973	\$ 144,075	\$ 147,244
Dues and Subscriptions	\$ 1,614	\$ 1,650	\$ 1,686	\$ 1,723	\$ 1,761	\$ 1,800	\$ 1,839	\$ 1,880	\$ 1,921	\$ 1,963
<b>TOTAL EXPENSES</b>	<b>\$ 4,292,539</b>	<b>\$ 4,825,128</b>	<b>\$ 4,843,684</b>	<b>\$ 4,863,352</b>	<b>\$ 5,474,331</b>	<b>\$ 5,494,139</b>	<b>\$ 5,515,122</b>	<b>\$ 6,216,148</b>	<b>\$ 6,237,292</b>	<b>\$ 6,259,677</b>
<b>Income Before Taxes</b>	<b>\$ 1,556,114</b>	<b>\$ 1,894,823</b>	<b>\$ 1,876,267</b>	<b>\$ 1,856,599</b>	<b>\$ 2,247,613</b>	<b>\$ 2,227,805</b>	<b>\$ 2,206,823</b>	<b>\$ 2,658,088</b>	<b>\$ 2,636,944</b>	<b>\$ 2,614,559</b>
<b>State and Federal Income Taxes</b>	<b>\$ 589,762</b>	<b>\$ 730,327</b>	<b>\$ 722,626</b>	<b>\$ 714,464</b>	<b>\$ 876,734</b>	<b>\$ 868,514</b>	<b>\$ 859,806</b>	<b>\$ 1,047,082</b>	<b>\$ 1,038,307</b>	<b>\$ 1,029,017</b>
<b>NET INCOME</b>	<b>\$ 966,352</b>	<b>\$ 1,164,497</b>	<b>\$ 1,153,641</b>	<b>\$ 1,142,136</b>	<b>\$ 1,370,879</b>	<b>\$ 1,359,291</b>	<b>\$ 1,347,016</b>	<b>\$ 1,611,007</b>	<b>\$ 1,598,637</b>	<b>\$ 1,585,542</b>
<b>CAPITAL EXPENDITURES</b>	<b>\$ 78,966</b>	<b>\$ 80,703</b>	<b>\$ 82,478</b>	<b>\$ 84,293</b>	<b>\$ 86,147</b>	<b>\$ 88,043</b>	<b>\$ 89,980</b>	<b>\$ 91,959</b>	<b>\$ 93,982</b>	<b>\$ 96,050</b>
<b>TOTAL CAPITAL EXPENDITURES</b>	<b>\$ 78,966</b>	<b>\$ 80,703</b>	<b>\$ 82,478</b>	<b>\$ 84,293</b>	<b>\$ 86,147</b>	<b>\$ 88,043</b>	<b>\$ 89,980</b>	<b>\$ 91,959</b>	<b>\$ 93,982</b>	<b>\$ 96,050</b>
<b>CASH FLOW</b>	<b>\$ 887,386</b>	<b>\$ 1,083,794</b>	<b>\$ 1,071,163</b>	<b>\$ 1,057,843</b>	<b>\$ 1,284,731</b>	<b>\$ 1,271,248</b>	<b>\$ 1,257,037</b>	<b>\$ 1,519,047</b>	<b>\$ 1,504,655</b>	<b>\$ 1,489,492</b>
Period	21.5	22.5	23.5	24.5	25.5	26.5	27.5	28.5	29.5	30.5
PW Factor	0.2066	0.1920	0.1784	0.1658	0.1541	0.1432	0.1331	0.1237	0.1149	0.1068
PWCF	183,350	208,095	191,126	175,401	197,957	182,027	167,263	187,833	172,896	3,000,938
Value - 2019 through 2048										

Mahoning Township Water and Sewer Department  
Conclusion of Value using the Market Approach

Mahoning Water Department

Application of Purchase Price to Customer Multiples to  
Mahoning Customer Count (1)

<u>Based on Country- Wide Sales</u>	<u>Based on Pennsylvania Sales</u>
\$ 4,458,234	\$ 7,216,145
<u>Midpoint</u>	
\$ 5,837,189	

Application of Market-to-Book Ratios of Publicly-Traded  
Water Utilities to Book Value of Mahoning Assets (2)

<u>Low</u>	<u>High</u>
\$ 6,530,306	\$ 10,292,577
<u>Midpoint</u>	
\$ 8,411,441	

Conclusion of Value using the Market Approach

\$ 7,124,315

Mahoning Sewer Department

Application of Purchase Price to Customer Multiples to  
Mahoning Customer Count (1)

<u>Based on Country- Wide Sales</u>	<u>Based on Pennsylvania Sales</u>
\$ 5,500,885	\$ 8,903,792
<u>Midpoint</u>	
\$ 7,202,339	

Application of Market-to-Book Ratios of Publicly-Traded  
Water Utilities to Book Value of Mahoning Assets (2)

<u>Low</u>	<u>High</u>
\$ 6,951,143	\$ 10,955,869
<u>Midpoint</u>	
\$ 8,953,506	

Conclusion of Value using the Market Approach

\$ 8,077,922

Notes:

- (1) From page 2 of this Schedule.
- (2) From page 4 of this Schedule.

Mahoning Township Water and Sewer Department  
Comparable Water and Sewer Transactions  
2015 to Present

Target State	Target	Buyer	Water Connections	Wastewater Connections	Implied Enterprise Value (\$000)	Implied Enterprise Value (\$000)/Customer	Date
AZ	Valencia Water Company, Inc.	City of Buckeye	6,719		55,198	8.22	3/17/2015
AZ	Willow Valley Water Company	EPCOR Water Arizona Inc.	1,600		2,270	1.42	3/24/2015
VA	Venter Heights Public Water System	Aqua Virginia, Inc.	400		85	0.21	5/5/2015
MO	City of Arnold's sanitary sewer system	Missouri-American Water Company, Inc.		8,800	13,200	1.50	5/22/2015
IN	Russiaville Water System	Indiana American	430		1,800	4.19	7/27/2015
PA	Robin Hood Lakes Water Company	Aqua Pennsylvania	210		231	1.10	7/30/2015
VA	Wintergreen Valley Utility Company	Aqua Virginia, Inc.	1,200	475	651	0.39	8/5/2015
LA	Total Environmental Solutions, Inc.	Utilities, Inc.	2,350	14,387	9,300	0.56	8/15/2015
LA	Peoples Water of Donaldsonville	Ascension Parrish	3,100		5,900	1.90	8/31/2015
TX	Union Hill Water Supply	Aqua Texas	500		356	0.71	9/18/2015
IN	American Suburban Utilities Water System	Indiana American	330		140	0.42	9/21/2015
PA	Wastewater System of Fairview Township	Pennsylvania-American Water Company, Inc.		3,912	16,800	4.29	12/22/2015
VA	Captain's Cove Utility Company	Aqua Virginia, Inc.	977	280	2,400	1.91	12/29/2015
PA	Superior Water Company, Inc.	Aqua America, Inc.	3,868		16,800	4.34	1/4/2016
IL	Dana/Long Point/Reading/Ancona Public Water District System	Illinois American	150		1,075	7.17	1/26/2016
IL	Village of Ransom	Illinois American	170		175	1.03	1/26/2016
PA	Scranton Sewer Authority	Pennsylvania-American Water Company, Inc.		31,000	195,000	6.29	3/3/2016
PA	Emlenton Area Municipal Authority	Aqua Pennsylvania		484	350	0.72	3/28/2016
IL	Eastwood Manor Water and Nunda Utility	Aqua Illinois, Inc.	505		1,500	2.97	4/20/2016
PA	Borough of New Cumberland Wastewater Assets	Pennsylvania-American Water Company, Inc.		3,100	23,000	7.42	5/5/2016
CT	The Heritage Village Water Company	Connecticut Water Service Inc.	4,867	3,040	20,700	2.62	5/10/2016
PA	McKeesport Wastewater System	Pennsylvania-American Water Company, Inc.		22,000	156,000	7.09	9/9/2016
PA	Tobyhanna Township	Aqua Pennsylvania		800	5,500	6.88	11/8/2016
PA	New Garden Township	Aqua Pennsylvania		2,106	29,500	14.01	12/15/2016
PA	Limerick Township	Aqua Pennsylvania		6,000	75,100	12.52	5/22/2017

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Average: 3.99

PA Average: 6.47

Target State	Target	Water Connections	Wastewater Connections	Implied Enterprise Value (\$000) Based on Average Transaction Multiple	Implied Enterprise Value (\$000) Based on PA Transaction Multiple
PA	Mahoning Township Water	1,116		\$ 4,458,234	\$ 7,216,145
PA	Mahoning Township Sewer		1,377	\$ 5,500,885	\$ 8,903,792

Mahoning Township Water and Sewer Department  
Market-to Book Ratios of Publicly-Traded Water Utilities  
as of July 31, 2017

<u>Company Name</u>	<u>Market to Book Ratio at July 31, 2017</u>
American States Water Co.	3.63629
American Water Works Co., Inc.	2.72628
Aqua America, Inc.	3.17461
California Water Service Group	2.82231
Connecticut Water Service, Inc.	2.59092
Middlesex Water Co.	2.90971
SJW Corporation	2.48602
York Water Co.	<u>3.91828</u>
 Average	 <u><u>3.03305</u></u>
 Median	 <u><u>2.86601</u></u>
 Low	 <u><u>2.48602</u></u>
 High	 <u><u>3.91828</u></u>

Source: Bloomberg Professional Services

Mahoning Township Water and Sewer Department  
 Application of Market-to-Book Ratios to  
the Book Value of Mahoning Township Assets

Original Cost less Depreciation of Mahoning Twp. Water Assets:	\$ 2,626,811	Original Cost less Depreciation of Mahoning Twp. Wastewater Assets:	\$ 2,796,093
Average Market to Book Ratio of Publicly-Traded Water Utilities	3.033055	Average Market to Book Ratio of Publicly-Traded Wastewater Utilities	3.033055
Low Market to Book Ratio of Publicly-Traded Water Utilities	2.486020	Low Market to Book Ratio of Publicly-Traded Wastewater Utilities	2.486020
High Market to Book Ratio of Publicly-Traded Water Utilities	<u>3.918278</u>	High Market to Book Ratio of Publicly-Traded Wastewater Utilities	<u>3.918278</u>
Indicated Market Value of Mahoning Twp. Water Assets Based on Average Market-To Book Ratio:	\$ 7,967,261	Indicated Market Value of Mahoning Twp. Wastewater Assets Based on Average Market-To Book Ratio:	\$ 8,480,701
Indicated Market Value of Mahoning Twp. Water Assets Based on Low Market-To Book Ratio:	\$ 6,530,306	Indicated Market Value of Mahoning Twp. Wastewater Assets Based on Low Market-To Book Ratio:	\$ 6,951,143
Indicated Market Value of Mahoning Twp. Water Assets Based on High Market-To Book Ratio:	\$ 10,292,577	Indicated Market Value of Mahoning Twp. Wastewater Assets Based on High Market-To Book Ratio:	\$ 10,955,869