Application of Pennsylvania-American Water Company for the Acquisition of the Wastewater Treatment Plant and Collection System Owned and Operated by Elizabeth Borough Municipal Authority ("EBMA")

Docket No. A-2025-3052983

66 Pa. C.S. § 1329
Application Filing Checklist – Water/Wastewater

5. Provide copies of two independent appraisals by separate utility valuation experts for use in establishing the fair market value of the Selling Utility.

RESPONSE: See enclosed appraisals performed by Jerome C. Weinert, ASA, P.E., CDP, Principal and Director for Weinert Appraisal and Depreciation Services LLC (also known as WADS Consultants) on behalf of PAWC and Harold Walker III, Manager, Financial Studies Gannett Fleming Valuation and Rate Consultants, LLC at **Appendix A-5.1** and at **Appendix A-5.2**, respectively.

Jerome C. Weinert
Principal

WADS Consultants

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July 13, 2024

Mr. Scott D. Fogelsanger
Senior Manager - Business Development
Pennsylvania-American Water Company
852 Wesley Drive
Mechanicsburg, PA 17055

RE: UVE Market Value Appraisal of Elizabeth Borough's Wastewater Collection and Treatment System

Enclosed is Weinert Appraisal and Depreciation Services, LLC's (WADS Consultants) fair market value appraisal report for Elizabeth Borough's wastewater collection and treatment system (System) as of January 24, 2023, prepared for Pennsylvania American Water Company (PAWC). The report was prepared based on the 2024-2025 Uniform Standards of Professional Practices (USPAP) and is intended to meet the criteria established with Title 66 (Public Utilities) of the Pennsylvania Consolidated Statues (PA CS) Paragraph 1329 "Valuation of acquired water and wastewater systems", collectively referred to as Act 12 of the 2016 Pennsylvania legislative session (Act 12). The intended users of this appraisal are Pennsylvania American Water Company and the Pennsylvania Public Utility Commission.

Based on our appraisal the Fair Market Value of Elizabeth Borough's wastewater collection and treatment system's property, plant, and equipment operating as a Pennsylvania rate regulated wastewater utility is $28,741,014 determined based on the cost, income, and market approaches to value, as detailed in the following table:

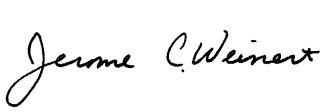
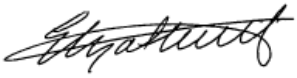
Elizabeth Borough Municipal Authority
Wastewater System
Investor-Owned Utility
As of January 24, 2023
Fair Market Value Appraisal

Appraisal Approach		Investor-owned Utility	Weight	Wtd Valuation Indications
Cost Approach				
Inventory of Assets				
Original Cost ($OC)		19,220,012		
Depreciated Original Cost ($OCLD)		16,360,544		
Construction Work in Progress (CWIP)		317,500		
Total Tangible Assets		16,678,044		
Intangible Assets (Treatement contracts)		4,518,924		
Cost Approach of all assets Conclusion		21,196,968		
Replacement Cost				
Replacement Cost New (COR)		41,115,131		
Depreciated Replacement Cost New (CORLD)	$	**25,820,797**		
Construction Work in Progress (CWIP)	$	**317,500**		
External or Economic Obsolescence			AUS Input	
Market Value of Tangible Assets	$	**26,138,297**		
Intangible Assets (Treatement contracts)	$	4,518,924		
Cost Approach of all assets Conclusion		**30,657,221**		
Cost Approach Conclusion		**30,657,221**	**33.33%**	**10,219,074**
Income Approach				
Required Rate Increases: 40% period 3, 35% period 6, 30% period 9, 15% period 12, and 6% every 3rd year beginning in period 15 (Input 6)		28,344,391		
Income Approach Conclusion		**28,344,391**	**33.33%**	**9,448,130**
Market Approach				
Market Comparables (to)				
OCLD		38,095,898		
CORLD		26,169,515		
Customers		20,194,383		
Cash Flows (EBITDA) Periods 1-5		24,526,770		
Cash Flows (EBITDA) Periods 1-13		22,602,560		
Market Financials (to)				
OCLD		31,739,456		
Market Approach Conclusion		**27,221,430**	**33.33%**	**9,073,810**
Appraisal Conclusion	$	**28,741,014**	**100%**	**28,741,014**
Conclusion (cost approach)	$	**30,657,221**		

As the purpose of this appraisal was to fulfill the requirements of Act 12 in the establishment of value for rate making of the Elizabeth Borough's wastewater collection and treatment system's property, plant and equipment the appraisal's conclusion of $27,741,014 is consistent with the purpose of this appraisal. As the cost approach work papers detail our value conclusion by National Association of Regulatory Utility Commissioners' (NARUC) Uniform System of Accounts (USOA) for the wastewater industry account classifications and the installation year of the property this detail can be used to allocate the appraisal conclusion to establish the booked value for future accounting and rate making.

Respectfully Submitted,
WAD Consultants
July 13, 2024

By:

	
Jerome C. Weinert, ASA, P.E., CDP Principal and Director	Elizabeth A. Weinert Associate

ASA: Accredited Senior Appraiser in the Machinery and Equipment (Public Utilities) discipline of the American Society of Appraisers
P.E.: Registered Professional Engineer State of Wisconsin
CDP: Certified Depreciation Professions in the Society of Depreciation Professionals

Elizabeth Borough's (Pennsylvania) Wastewater Collection and Treatment System

Fair Market Value Appraisal Report
As of January 24, 2023
for
Pennsylvania American Water Company

Finalized on July 13, 2024

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WADS CONSULTANTS

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July 13, 2024

Pennsylvania American Water Company
Mechanicsburg, Pennsylvania

WADS Consultants

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RE: UVE Market Value Appraisal of Elizabeth Borough's Wastewater Collection and Treatment System

Enclosed is Weinert Appraisal and Depreciation Services, LLC's (WADS Consultants) fair market value appraisal report of the Elizabeth Borough's (Pennsylvania) wastewater collection and treatment system (System) as of January 24, 2023, prepared for our client Pennsylvania American Water Company (PAWC). The report was prepared based on the 2024-2025 Uniform Standards of Professional Practices (USPAP) and is intended to meet the criteria established with Title 66 (Public Utilities) of the Pennsylvania Consolidated (PA CS) Statues Section 1329 "Valuation of acquired water and wastewater systems", collectively referred to as Act 12 of the 2016 Pennsylvania legislative session (Act 12). The intended users of this appraisal are Pennsylvania American Water Company and the Pennsylvania Public Utility Commission.

Based on our appraisal, the Fair Market Value of the Elizabeth Borough's (Pennsylvania) wastewater collection and treatment system's property, plant, and equipment operating as Pennsylvania rate regulated wastewater utility is $28,741,014 determined based on the cost, income, and market approaches to value, as detailed in the following table:

Elizabeth Borough Municipal Authority
Wastewater System
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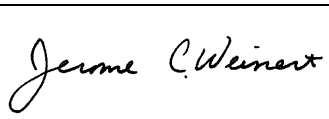
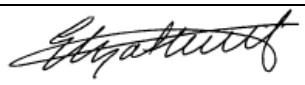
Appraisal Conclusion	**$**	**28,741,014**	**100%**	**28,741,014**
Conclusion (cost approach)	**$**	**30,657,221**		

As the purpose of this appraisal was to fulfill the requirements of Section 1329 of the PA CS in the establishment of value for rate making of the Elizabeth Borough's wastewater collection and treatment system's property, plant and equipment this appraisal's conclusion of $28,741,014 is consistent with the purpose of the appraisal. As the cost approach work papers detail our value conclusion by National Association of Regulatory Utility Commissioners' (NARUC) Uniform System of Accounts (USOA) for the wastewater industry account classifications and the installation year of the property, this detail can be used to allocate the appraisal conclusion to establish the booked value for future accounting and rate making.

Respectfully Submitted,
WADS Consultants
July13, 2024

By: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APPRAISAL CERTIFICATION
for the Fair Market Appraisal of
Elizabeth Borough, Pennsylvania's
Wastewater Collection and Treatment System
As of January 24, 2023
Prepared for
Pennsylvania American Water Company

WADS Consultants certifies that, to the best of its knowledge and belief:

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

- Prior to this appraisal during the last three-year period, WADS Consultants has previously appraised these properties.

- 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.

- Neither WADS Consultants nor its professional staff has no present or prospective interest in the property that is the subject of this report and has no personal interest with respect to the parties involved.

- Neither WADS Consultants nor its professional staff has any bias with respect to the property that is the subject of this report or to the parties involved.

- 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 2024-2025 Edition.

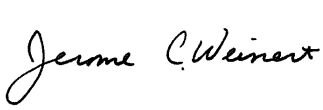
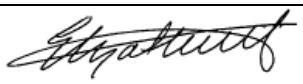
- The signers of this report have not made personal inspections of the property that is the subject of this report.

- No individuals provided significant professional assistance to the persons signing this report. However, Scott Fogelsanger of Pennsylvania American Wastewater Company provided assistance in obtaining information and data from the Elizabeth Borough, Pennsylvania and the Engineer's Assessment report prepared by Senate Engineering, Inc which was the inventory starting point of the Cost Approach.

WADS CONSULTANTS

WADS Consultants
July 13, 2024

By: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NARRATIVE REPORT

WADS CONSULTANTS

EXECUTIVE SUMMARY

The purpose of this value appraisal is the determination of the fair market value of the property plant and equipment of the Elizabeth Borough's wastewater collection and treatment system (System) for our client Pennsylvania American Water Company (PAWC). The report was prepared based on the 2024-2025 Uniform Standards of Professional Practices (USPAP) and is intended to meet the criteria established with Title 66 (Public Utilities) of the Pennsylvania Consolidated Statues Paragraph 1329: "Valuation of acquired water and wastewater systems", collectively referred to as Act 12 of the 2016 Pennsylvania legislative session (Act 12) and the Pennsylvania Public Utility Commission's Final Implementation Order M-2016-2543193 adopted October 27, 2016. The intended users of this appraisal are Pennsylvania American Water Company and the Pennsylvania Public Utility Commission (PA PUC).

The value established in this appraisal was based on the definition of Market Value as:

> *"The most probable price, as of a specified date, in cash, or in terms equivalent to cash, or in other precisely revealed terms, for which the specified property rights should sell after reasonable exposure in a competitive market under all conditions requisite to a fair sale, with the buyer and seller each acting prudently, knowledgeably, and for self-interest, and assuming that neither is under undue duress."* *The Appraisal of Real Estate, 14th Edition, page 58.*

In arriving at our opinion of value of the System's property, plant, and equipment as it is operated as an investor-owned Pennsylvania PUC rate regulated wastewater utility the cost, income, and market approaches to value were considered. Detailed explanations of each approach to value are included below in the section "Appraisal Procedures and Results". The following summarizes the data, analysis and conclusions of each of those valuation approaches.

Cost Approach - The philosophy in the cost approach to value is that the maximum value of a property's tangible assets is established by the cost to acquire or build a similar property. In this appraisal, the cost approach to value was analyzed using reproduction/replacement cost approach.

Reproduction cost and replacement cost are defined as:

> Reproduction cost – "Reproduction cost is the estimated cost to construct, as of the effective appraisal date, an exact duplicate or replica of the building [property] being appraised, insofar as possible, using the same materials, construction standards, design, layout, and quality of workmanship and embodying all the deficiencies, super-adequacies, and obsolescence of the subject improvements [property]."[1]
>
> Replacement cost – "Replacement cost is the estimated cost to construct, as of the effective appraisal date, a substitute for the building [property] being appraised using contemporary materials, standards, design and layout. When this cost basis is used, some existing obsolescence in the property may be cured. Replacement cost may be the only alternative if reproduction cost cannot be estimated"[2]
>
> In the wastewater industry the property's reproduction costs and replacement costs are quite similar; therefore, the property's cost new was determined based on its replacement cost new estimated by the trended original cost and the inventory-unit cost methods.

The trended original cost method was utilized in preparing the replacement cost new. "Trending is a method of estimating a property's replacement cost new in which an *index* or *trend factor* is applied to the property's *historical costs* to convert the known historical costs into an indication of current (appraisal date) costs. Simply put, trending reflects the movement of price over time."[3] In the trended original cost method, Elizabeth Borough's investment in wastewater collection plant and equipment is restated to costs reflective of the appraisal date, by the application of cost trends to the property's original investment. WADS Consultants utilized the Engineer's Assessment performed by Senate Engineering Inc.'s (Engineer's Assessment tab) as the starting point of the Cost Approach. Utilizing the Engineer's Assessment WADS Consultants developed the System's original cost less depreciation (OCLD) and replacement cost new less depreciation (CORLD) in property, plant and equipment on January 24, 2023 (Cost Approach tab).

[1] The Appraisal of Real Estate, 14th Edition. pages 569-570
[2] Ibid, page 570
[3] Valuing Machinery and Equipment: The Fundamentals of Appraising Machinery and Technical Assets, Third Edition. Page 50

The cost trends were applied to each of the System's various investment categories (NARUC plant accounts) by original year of placement for that investment. The cost indexes used in these studies were the Handy-Whitman Index of Public Utility Construction Costs for the water industry in the northeastern region of the United States which includes the Commonwealth of Pennsylvania, the AUS General Plant Indexes, and various United States Bureau of Labor Statistics (US BLS) indexes as detailed in the following table:

Pennsylvania American Water Company (PAWC)
Elizabeth Borough Municipal Authority
Wastewater System
Investor-Owned Utility
January 24, 2023

Summary of Account Costing and Depreciation Parameters Used in the Depreciation Original Cost and the Depreciated Replacement Cost New Studies

(1)	(2)	(3)				
		(3a)	(3b)	(3c)	(3d)	(3e)
Account Number	Description	Costing Parameters				Reproduction to Replacement Cost Factor
		Index Series	Table	Line Reference	Lookup	AUS Input
353.30	Land & Land Rights - Pumping	USBLS	PPI	1.00	USBLS1	1.00
354.30	Stuctures & Improvements - Treatment	HW	W-1	15.00	HWW-115	1.00
354.70	Stuctures & Improvements - General	HW	W-1	15.00	HWW-115	1.00
361.00	Mains Gravity	HW	W-1	44.00	HWW-144	1.00
361.70	Collection Sewers - Gravity - Manholes	HW	W-1	45.00	HWW-145	1.00
364.00	Flow Measuring Devices	HW	W-1	40.00	HWW-140	1.00
371.00	Pumping Equipment	HW	W-1	9.00	HWW-19	1.00
380.00	Treatment and Disposal Equipment	HW	W-1	17.00	HWW-117	1.00
390.00	Office Furniture and Equipment	AUS	T-1	15.00	AUST-115	1.00
391.00	Transportation Equipment	AUS	T-1	4.00	AUST-14	1.00
393.00	Tools, Shop, & Garage Equipment	AUS	T-1	7.00	AUST-17	1.00
394.00	Laboratory Equipment	AUS	T-1	7.00	AUST-17	1.00
400.00	Not Used	AUS	T-1	8.00	AUST-18	1.00
400.00	Not Used	AUS	T-1	8.00	AUST-18	1.00

Using the trended original cost method, the System's investment in plant, property and equipment of $19,220,012 was determined to have a reproduction cost new of $41,115,131 as summarized in the following table:

Pennsylvania American Water Company (PAWC)
Elizabeth Borough Municipal Authority
Wastewater System
Investor-Owned Utility
As of January 24, 2023

Replacement Cost New (RCN)

(1)	(2)	(3)	(9)	(10)	(13)	(14)	(15)	(16)
Account	Account	Asset Description	Original Cost	Costing Parameter	Cost Translator	Reproduction Cost New (RCN)	Reproduction Cost New (RCN) to Replacement Cost New (COR)	Replacement Cost New (COR)
			OC $s			RCN $s	COR $s / RCN $s	COR $s
Input	Input	Input	Input	Input	Calculation	Calculation	Input	Calculation
Eng Assmnt NARUC Code	AUS Input NARUC Code	Elizabeth Borough Municipal Authority Asset Description	Eng Assmnt Original Cost	AUS Input Cost Index Table	Translator	RCN	AUS Input COR / RCN Factor	Col (14) * (15) COR
353.00	353.00	Land and Land Rights	299,069.00	Varies	2.040	610,131	1.000	610,131
380.00	380.00	Wastewater Treatment Plants	2,032,382.55	Varies	3.578	7,272,877	1.000	7,272,877
371.00	371.00	Pumping Stations	9,157,492.41	Varies	1.023	9,367,166	1.000	9,367,166
361.00	361.00	Collection System	7,395,088.47	Varies	3.168	23,429,736	1.000	23,429,736
390.00	390.00	Other Plant	335,979.66	Varies	1.295	435,221	1.000	435,221
		Total - Inservice	**19,220,012.08**		**2.139**	**41,115,131**	**1.000**	**41,115,131**
361 CWIP	361 CWIP	Collection System - CWIP	310,000.00	-	1.000	310,000	1.000	310,000
371 CWIP	371 CWIP	Pumping Stations - CWIP	7,500.00	-	1.000	7,500	1.000	7,500
		Total CWIP	317,500.00			317,500		317,500
		Grand Total	19,537,512.08			41,432,631		41,432,631

Replacement Cost New Less Depreciation - The replacement cost described above reflects the cost of new property; however, Elizabeth Borough's wastewater collection and treatment system property is not new and has experienced normal depreciation and potentially functional and/or economic obsolescence. These various forms of depreciation are defined as follows:

> Normal depreciation/deterioration, akin to physical deterioration, is "loss in value caused by wear, tear, age and use."[4]
>
> Functional obsolescence is "the loss in value or usefulness of a property caused by inefficiencies or inadequacies of the property itself, when compared to a more efficient of less costly replacement property that new technology has developed."[5]
>
> Economic, or external, obsolescence is defined as "a loss in value caused by factors outside a property"[6] and is most often indicated by insufficient earning.

[4] The Dictionary of Real Estate Appraisal, 4th Edition
[5] Valuing Machinery and Equipment: The Fundamentals of Appraising Machinery and Technical Assets, Second Edition. Page 67.
[6] The Appraisal of Real Estate, 13th Edition, page 442.

Based on our experience in regard to water and wastewater depreciation studies and our analysis of Elizabeth Borough's wastewater collection and treatment system operating performance; we found that the Elizabeth Borough's wastewater utility's property experiences normal depreciation but not any significant functional obsolescence; economic obsolescence is best evaluated after the results of the income and market approaches to values are determined (see Cost Approach Revisited).

The service lives used in the depreciation and functional obsolescence calculations were developed based on the property and its use, AUS Consultants' experience in developing depreciation studies for the water and wastewater industries and depreciation studies filed with PAWC and Aqua America rate cases. With each of their recent rate case filings PAWC and Aqua America have filed depreciation studies in support of their depreciation service lives and associated depreciation expenses contained within their revenue requirements. The depreciation studies were prepared by Gannett Fleming Rate Consultants a recognized firm in the depreciation consulting area. WAD Consultants has reviewed the PAWC studies which are summarized in the following table:

Pennsylvania American Water Company (PAWC)
Elizabeth Borough Municipal Authority
Wastewater System
Investor-Owned Utility
January 24, 2023

Summary of Account Costing and Depreciation Parameters Used in the Depreciation Original Cost and the Depreciated Replacement Cost New Studies

(1)	(2)	(4)		(5)	(6)	
		(4a)	(4b)		(6a)	(6b)
Account Number	Description	Iowa Survivor / Retirement Curve	Normal Service Life	Economic Obsolescence	Tax Depreciation	
			years	% of CORLD	Table	Life
353.30	Land & Land Rights - Pumping	ZNonDep	0.00	0.00%	Non-Depr	0.00
354.30	Stuctures & Improvements - Treatment	R4.0	55.00	0.00%	MACRS	25.00
354.70	Stuctures & Improvements - General	R4.0	55.00	0.00%	MACRS	25.00
361.00	Mains Gravity	R2.5	70.00	0.00%	MACRS	25.00
361.70	Collection Sewers - Gravity - Manholes	S2.0	70.00	0.00%	MACRS	25.00
364.00	Flow Measuring Devices	S2.0	30.00	0.00%	MACRS	25.00
371.00	Pumping Equipment	R3.0	35.00	0.00%	MACRS	25.00
380.00	Treatment and Disposal Equipment	R2.0	45.00	0.00%	MACRS	25.00
390.00	Office Furniture and Equipment	R3.0	12.00	0.00%	MACRS	12.00
391.00	Transportation Equipment	R3.0	15.00	0.00%	MACRS	10.00
393.00	Tools, Shop, & Garage Equipment	R3.0	35.00	0.00%	MACRS	25.00
394.00	Laboratory Equipment	R3.0	20.00	0.00%	MACRS	20.00
400.00	Not Used	R3.0	20.00	0.00%	MACRS	20.00
400.00	Not Used	R3.0	20.00	0.00%	MACRS	20.00

Normal Depreciation – The extent of the normal depreciation in the property was evaluated using age-life depreciation techniques. In age-life depreciation, the property's depreciation or condition is estimated using the following formulas:

$$\text{Depreciation (\%)} = \frac{\text{Age (years)} \times 100\%}{\text{Service Life (years)}}$$

$$\text{Condition (\%)} = \frac{\text{Remaining Life (years)} \times (100\%)}{\text{Service Life (years)}}$$

where: the property's Service Life = Age + Remaining Life and
Remaining Life = *f*(Survival Characteristic, Service Life, and Age)

However, due to the age of some of the assets the extent of the depreciation was limited to 85% of the asset's original cost and its replacement cost new.

When the above depreciation lives are used to quantify the property's depreciation is applied to the replacement cost new (COR) of $41,115,131 the resultant COR less normal depreciation (CORLD) was found to be $25,820,745 detailed as follows:

Pennsylvania American Water Company (PAWC)
Elizabeth Borough Municipal Authority
Wastewater System
Investor-Owned Utility
As of January 24, 2023

Replacement Cost New less Depreciation (RCNLD)

(18)	(19)	(21)	(22)	(23)	(24)	(28)	(29)	(30)	(31)
Account	Description	Age at January 24, 2023 Appraisal Date	Replacement Cost New (COR)	Retirement Dispersion Iowa-type	Normal Service Life (NSL)	Normal Remaining Life	Total Life Expectancy	Condition	Preliminary Cost Approach (COR less Normal Depreciation)
		years	COR $s		years	years	years	% of COR	CORLD $s
Input	Input	Calculation	Calculation	Input	Input	Calculation	Calculation	Calculation	Calculation
Eng Assmnt	Elizabeth Borough Municipal Authority		Col (16)	AUS Input	AUS Input		Col (21) + (28)	Col (28) / (29)	Col (22) * (30)
Account	Description	Age	RCN	Iowa	NL	Rem Life	Total Life	Condition	CORLD
353.00	Land and Land Rights	32.84	610,131	ZNonDep	-	-	-		610,131
380.00	Wastewater Treatment Plants	35.7	7,272,877	R2.5	50.24	20.91	56.61		2,964,113
371.00	Pumping Stations	0.5	9,367,166	R2.5	45.92	45.47	45.97		9,264,099
361.00	Collection System	37.3	23,429,736	R2.5	68.23	38.52	75.81		12,763,428
390.00	Other Plant	13.19	435,221	R2.5	21.93	13.18	26.37		219,026
	Total - Inservice	**28.31**	**41,115,131**	-	**58.47**	**36.15**	**63.97**		**25,820,797**
361 CWIP	Collection System - CWIP	0	310,000	R2.5	70.00	70.00	70.00		310,000
371 CWIP	Pumping Stations - CWIP	0	7,500	R2.5	45.92	45.47	45.97		7,500
	Total CWIP		317,500						317,500
			41,432,631						26,138,297

The preliminary cost approach to value of Elizabeth Borough's wastewater system property was found to be $25,820,745.

Intangible Assets

In addition to the above-described tangible assets are the intangible assets, in Elizabeth Borough's case which consist of the contract associated with its wastewater treatment contracts with the following communities:

Municipalitiy	Revenues	Customers
Elizabeth Borough	511,141	688
Elizabeth Township	762,207	1,172
Forward Township	376,835	320
Lincoln Borough	5,193	10
	1,655,376	**2,190**

These contract represent value assets which are included in the overall income and market approaches which are not specifically address in the cost approach of the tangible assets; therefore, in order to make the cost approach comparable to the income and market these intangible assets were separately appraised and included in the cost

approach totals. WADS Consultants developed both a market and income approach estimate to the value of the above contracts.

Market Approach to Treatment Contracts – The previous water and wastewater Section 1329 acquisitions were analyzed allowed for the determination of the purchase price per customer separately for wastewater collection and treatment and wastewater collection only which allowed for the estimation of the purchase price per customer for wastewater treatment only as follows:

Wastewater Collecton & Treatment	10,200
Wastewater Collecton	6,507
Wastewater Treatment only	3,693

Based on the above analysis the market values of the treatment contracts were estimated as follows:

Pennsylvania American Water Company (PAWC)
Elizabeth Borough Municipal Authority
Wastewater System
Investor-Owned Utility
As of January 24, 2023

Comparable Sales Approach

Market Sales Data

Municipality	Residential	Market Value Per Treatment only customer	Market Value of Treatment Contract
Elizabeth Borough		10,200	-
Elizabeth Township	1,172	10,200	11,954,400
Forward Township	320	3,693	1,181,760
Lincoln Borough	10	3,693	36,930
Total	**1,502**		**13,173,090**

Income Approach to Treatment Contracts – WAD Consultants also developed a income approach analysis of the treatment contracts. Using the 2022 estimate the revenues and expenses of the treatment contracts in order to develop the estimated operating income as a surrogate for the cash flows associated the treatment contracts. The estimated cash flows were next discounted to appraisal date values using the cost of capital of 5.15% i.e., the cost of capital of 7.97% with the embedded growth rate of 2.68% removed; the development which is described in the Cost of Capital section of the workpapers. The income approach to the treatment contract was developed as follows:

Pennsylvania American Water Company (PAWC)
Elizabeth Borough Municipal Authority
Wastewater System
Investor-Owned Utility
As of January 24, 2023

Municipality	2022 YTD Revenues	Expenses	Operating Income	Income Tax 28.89%	Cash Flow	Value Capitalized @ 5.15% 5.15%	Present Worth
Elizabeth Borough		-	-	-	-	-	-
Elizabeth Township	762,207	457,324	304,883	88,081	216,802	5,920,058	**3,010,182**
Forward Township	376,835	226,101	150,734	43,547	107,187	2,926,874	**1,488,235**
Lincoln Borough	5,193	3,116	2,077	600	1,477	40,330	**20,507**
Total	**1,144,235**	**686,541**	**457,694**	**132,228**	**325,466**	**8,887,262**	**4,518,924**

Operating Expense as % of Revenues 60.00%

Based on the Market analysis of the treatment contract value of $13,173,090 and the income analysis of the treatment contracts of $4,518,924 the value of the treatment contracts were determined to be $4,518,924 which was included in the final cost approach to value.

Income Approach

The income approach to value establishes the value of the property based on its economic returns. There are two generally accepted procedures in performing an income analysis: the direct capitalization of anticipated income, and the discounted cash flow procedures.

In the direct capitalization approach, anticipated earnings are capitalized directly into value using a market-required capitalization rate. The Elizabeth Borough's wastewater system's operation will be moving from a municipal operation, wherein economic returns are not the primary objective of the operation to a private (investor owned) rate regulated sewer utility operation in which economic returns are one of the objectives of the operation; therefore, the direct capitalization of earnings approach was not utilized in this appraisal.

In the discounted cash flow (DCF) approach, the property's economic returns are forecast for future periods. The cash flows (debt-free after-tax net cash flows) from operations are discounted to the appraisal date using a market derived discount rate resulting in the DCF approach's income indicator of value. Use of the DCF approach allows the appraiser to address the property's historical operating experience and its migration, in future periods, to an operation as a rate regulated income taxed (local, state, and federal) operation; thus, making the DCF approach preferable in this case.

In preparing this appraisal's DCF analysis (Income Approach tab), first the results from the Elizabeth Borough's wastewater system's operations were evaluated based on an analysis of historical operating performances over the period 2016 through budgetary 2023 (Financials tab) resulting in operating statistics such as revenues and their growth, various operating expenses stated as function of their typical drivers (revenues, plant investment, income from operations, etc.). Next, the results of future periods operations were forecast for a period of 20 years based on the migration of the Elizabeth Borough's historical operations over time to operations of the wastewater operation similar to a public investor-owned water/wastewater utility. Finally, the resultant cash flows from future period operations on the System were discounted to the appraisal date using a market derived discount rate for a public investor-owned water/wastewater utility. The following table details the market discount rate developed using the weighted average cost of capital (WACC) of the market debt and equity:

Water and Wastewater Cost of Capital
First Quarter 2023 (01-01-2023)

As an Investor-Owned Utility

Weighted Cost of Capital (Discount Rate)

(1)	(2)	(2a)	(3)	(3a)	(4)	(4a)	(5)
	Portion of Capital AUS Input	Type of Data	Capital Cost AUS Input	Type of Data	Tax Rate	Tax affect on cost of capital	After-tax Market Capital Cost (2)*(3)*(4a)
Debt	30%	Market	5.34%	Market	28.89%	71.11%	1.14%
Equity	70%	Market	9.75%	Market	0.0%	100.0%	6.83%
Total Capital r	**100.0%**						**7.97%**
Growth (g)							**2.68%**
Rate without Growth: [(1+r)/(1+g)]-1							**5.15%**

The following table presents the results of the discounted cash flow analysis:

Pennsylvania American Water Company (PAWC)
Elizabeth Borough Municipal Authority
Wastewater System
Potential Purchaser: Investor-Owned Utility
As of January 24, 2023
Discounted Cash Flow Analysis

Discount Rate: 7.97%
Capitalization Rate: 5.15%

(1) Period	(2) Age	(3) Revenues	(4) O&M Expenses	(5) Tax Depreciation	(6) Cash Flow from Operations (3)-(4)	(7) Taxable Income before State & Federal Taxes (6)-(5)	(8) State and Federal Taxes @ 28.89% (7) *28.89%	(9) Capital Expenditures	(10) Change in Working Capital	(11) Net Cash Flows (3)-(4)-(8)-(9)-(10)	(12) Period Present Worth Factor (PW)	(13) PW of Cashflow (11)*(12)	(14) Accumulated PW of Cashflows Sum (13)
1	0.5	2,061,700	976,538	1,107,754	1,085,162	(22,592)	(6,527)	437,271	-	654,418	0.962	629,550	629,550
2	1.5	2,061,700	1,005,834	1,121,115	1,055,866	(65,249)	(18,850)	440,746	-	633,970	0.891	564,867	1,194,417
3	2.5	2,886,380	1,036,008	1,134,701	1,850,372	715,671	206,757	444,051	44,532	1,155,032	0.826	954,056	2,148,473
4	3.5	2,886,380	1,067,088	1,148,522	1,819,292	670,770	193,785	447,380	-	1,178,127	0.765	901,267	3,049,740
5	4.5	2,886,380	1,099,101	1,162,581	1,787,279	624,698	180,475	450,736	-	1,156,068	0.708	818,496	3,868,236
6	5.5	3,896,613	1,132,074	1,176,880	2,764,539	1,587,659	458,675	454,116	54,553	1,797,195	0.656	1,178,960	5,047,196
7	6.5	3,896,613	1,166,036	1,191,401	2,730,577	1,539,176	444,668	463,975	-	1,821,934	0.607	1,105,914	6,153,110
8	7.5	3,896,613	1,201,017	1,206,188	2,695,596	1,489,408	430,290	467,454	-	1,797,852	0.563	1,012,191	7,165,301
9	8.5	5,065,597	1,237,049	1,221,223	3,828,548	2,607,325	753,256	470,959	63,125	2,541,208	0.521	1,323,969	8,489,270
10	9.5	5,065,597	1,274,162	1,236,511	3,791,435	2,554,924	738,117	474,492	-	2,578,826	0.483	1,245,573	9,734,843
11	10.5	5,065,597	1,312,387	1,252,054	3,753,210	2,501,156	722,584	478,050	-	2,552,576	0.447	1,141,001	10,875,844
12	11.5	5,825,437	1,351,758	1,267,855	4,473,679	3,205,824	926,163	481,636	41,031	3,024,849	0.414	1,252,287	12,128,131
13	12.5	5,825,437	1,392,311	1,283,917	4,433,126	3,149,209	909,806	485,249	-	3,038,071	0.383	1,163,581	13,291,712
14	13.5	5,825,437	1,434,081	1,300,243	4,391,356	3,091,113	893,023	488,888	-	3,009,445	0.355	1,068,353	14,360,065
15	14.5	6,174,963	1,477,104	1,316,836	4,697,859	3,381,023	976,777	492,555	18,875	3,209,652	0.329	1,055,976	15,416,041
16	15.5	6,174,963	1,521,417	1,333,699	4,653,546	3,319,847	959,104	496,250	-	3,198,192	0.305	975,449	16,391,490
17	16.5	6,174,963	1,567,060	1,350,835	4,607,903	3,257,068	940,967	499,971	-	3,166,965	0.282	893,084	17,284,574
18	17.5	6,545,461	1,614,072	1,368,247	4,931,389	3,563,142	1,029,392	503,720	20,007	3,378,270	0.261	881,728	18,166,302
19	18.5	6,545,461	1,662,495	1,385,940	4,882,966	3,497,026	1,010,291	507,499	-	3,365,176	0.242	814,373	18,980,675
20 and beyond	19.5	6,545,461	1,712,370	1,403,914	4,833,091	3,429,177	990,689	511,304	-	3,331,098	2.811	9,363,716	28,344,391
								9,496,302					

Age	19.5				
PW(Age) = 1/(1+Discount Rate)$^{(Age)}$	0.224				
PW to Perpetuity = 1/Capitalization Rate	12.547				
PW$_{(20and Beyond)}$ = PW to Perpetuity * PW Factor$_{(19.5)}$	2.811				

Net Plant		21,427,869			
ADIT		(2,578,729)			
Rate Base		18,849,140	0.224	4,222,207	23,202,882
Annual Plant Construction Inflation Rate	0.0422 Input				
Plant Inflation over 19.5 years		43,083,691	0.224	9,650,747	28,631,422
PP	28,000,000				
OCLD	16,678,044				
PP/OCLD	1.679				
RCNLD	26,138,297				
RCNLD/PP	0.933510607				
		17,595,871.67	0.224	3,941,475	22,922,150
Average					25,775,211

Based on the above-described discounted cash flow analysis, the Income Approach to value of the System's property operating as a rate regulated wastewater utility under the regulation of the Pennsylvania Public Utility Commission (PA PUC) was determined to

be $21,280,929. To ensure that the above-described forecast captured the entire economic returns of the property an additional 40-year period beyond the original 20-year forecast was made. This additional forecast indicated the reasonableness of the initial forecast results.

Market Approach

The market or comparable sales approach to value looks to market sales of comparable properties in order to arrive at value. In this appraisal, the market approach was addressed from a comparable sales approach of Pennsylvania water and wastewater systems and market value to book value ratios based on investor-owned water utilities' financial performance as reported in Value Line Investment Survey (January 6, 2023).

Market Sales – In the comparable sale market approach, the sales of Pennsylvania municipal water and wastewater systems to investor-owned water/wastewater utilities were used to insure comparability. As the purpose of this appraisal is to define the value of Elizabeth Borough's wastewater collection system under Section 1329 of the PA CS the market comparable sales were limited to sales subsequent to the passage of Section 1329 in 2016. The following sales were considered:

Water and Wastewater System Sales

Comparable Sales Approach

Market Sales Data post Section 1329

RowID	Pennsylvania Public Utility Commission Case	Approximate Date	Buyer	Seller	AUS Consultants (AUS) or Weinert Appraisal and Depreciation Services, LLC (WAD)	Type of Purchase Process	County	Type of Facility	Initial Purchase Price
1	A-2017-2606103	9/1/2016	PA American Water	City of McKeesport	AUS for PAWC		Allegheny	Wastewater Collection and Treatment	156,000,000
2	A-2016-2580061	8/1/2016	Aqua PA	New Garden Twp. SA	AUS for Seller		Chester	Wastewater Collection and Treatment	29,500,000
3	A-2017-2605434	11/16/2016	Aqua PA	Limerick Township			Montgomery	Wastewater Collection and Treatment	75,100,000
4	A-2018-3001582	12/10/2017	Aqua PA	East Bradford Township	AUS for Seller		Chester	Wastewater Collection and Treatment	5,000,000
5	A-2018-3003519	4/20/2018	SUEZ	Mahoning		Competitive 2 bidders	Carbon	Water Distribution	4,734,800
6	A-2018-3003517	4/20/2018	SUEZ	Mahoning		Competitive 2 bidders	Carbon	Wastewater Collection	4,765,200
7	A-2019-3008491	6/1/2018	Aqua PA	Cheltenham	AUS for Seller	Competitive 3 bidder:	Montgomery	Wastewater Collection	50,250,000
8	A-2019-3006880	11/14/2018	PA American Water	Steelton	AUS for PAWC	Competitive 4 bidder:	Dauphin	Water Treatment and Distribution	22,500,000
9	A-2018-3002437	1/1/2017	PA American Water	Sadsbury	AUS for PAWC		Chester	Wastewater Collection	9,250,000
10	A-2018-3004933	5/28/2018	PA American Water	Exeter	AUS for PAWC		Berks	Wastewater Collection and Treatment	96,000,000
11	A-2019-3009052	10/29/2018	Aqua PA	East Norriton	AUS for Seller	Competitive 3 bidder:	Montgomery	Wastewater Collection	21,000,000
12	A-2019-3014248	9/30/2018	PA American	Kane	AUS for PAWC		McKean	Wastewater Collection and Treatment	17,560,000
13	A-2020-3019634	12/10/2019	PA American	Royersford	AUS for PAWC		Montgomery	Wastewater Collection and Treatment	13,000,000
14	A-2020-3019859	12/17/2019	PA American	Valley	AUS for PAWC		Chester	Water Treatment and Distribution	7,325,000
15	A-2020-3014248	12/17/2019	PA American	Valley	AUS for PAWC		Chester	Wastewater Collection	13,950,000
16	A-2019-3015173	12/31/2019	Aqua PA	Delaware County Regional Water Quality Authority (DELCORA)			Delaware	Wastewater Collection and Treatment	276,500,000
17	A-2020-3021460	4/28/2020	PA American Water	Upper Pottsgrove	AUS for PAWC	Competitive 2 bidders PAWC & Aqua	Montgomery	Wastewater Collection	13,750,000
18	A-2021-3024267	9/17/2020	Aqua PA	Lower Makefield	AUS for Seller	Competitive 3 bidders 2 IOUs AQUA & PAWC & 1 Muni	Bucks	Wastewater Collection and Treatment	53,000,000
19	A-2021-3026132	1/8/2021	Aqua PA	East Whiteland Township	AUS for Seller		Chester	Wastewater Collection and Treatment	54,930,000
20	A-2021-3027268	1/20/2021	Aqua PA	Willistown Township	AUS for Seller		Chester	Wastewater Collection and Treatment	17,500,000
21	A-2021-3024681	4/6/2021	PA American Water	City of York	AUS for PAWC		York	Wastewater Collection and Treatment	235,000,000
22	A-2022-3033138		Aqua PA	City of Beaver Falls				Wastewater Collection and Treatment	41,250,000
23	A-2022-3034143	7/8/2022	Aqua PA	Municipal Authority of the Borough of Shenandoah				Water Treatment and Distribution	12,000,000
24	A-2021-3024058	1/1/2023	PA American Water	Borough of Brentwood	WAD for PAWC			Wastewater Collection	19,200,000
25	A-2022-3037047	10/11/2022	PA American Water	Butler Area Sewer Authority	WAD for PAWC			Wastewater Collection and Treatment	231,500,000
26	A-2023-3039900		PA American Water	Towamencin Township				Wastewater Collection and Treatment	104,000,000
	End of Section 1329 Data								
					Count 19			Wastewater Collection and Treatment	15
								Wastewater Collection	7
								Water Treatment and Distribution	3
								Water Distribution	1
								All section 1329 Mean	26

In order to arrive at a measure of comparability these system sales were analyzed in relationship of the purchase price to the properties' depreciated original cost (OCLD), depreciated replacement cost (CORLD), Customers, and EBITDA (periods 1-5 and 1-13) (Market Approach tab).

Financial Market Ratios – In the market approach based on market financial ratios the market data of companies (six) in the water/wastewater industry as reported in Value Line Investment Surveys (January 6, 2023) were analyzed. In the analysis the companies' stock (market) and debt (book value) per share are compared as a ratio to the book investment value per share.

The following table summarizes both the comparable sales and financial market ratio analysis and the Market Approach conclusion of this appraisal:

Pennsylvania American Water Company (PAWC)
Elizabeth Borough Municipal Authority
Wastewater System
Investor-Owned Utility
As of January 24, 2023

Comparable Sales Approach

Summary of Market Analyses

Indicators	
OCLD	38,095,898
CORLD	26,169,515
Customers	20,194,383
Cash Flows	
EBITDA Periods 1-5	24,526,770
EBITDA Periods 1-13	22,602,560
Value Line	31,739,456
Mean	27,221,430
Median	25,348,143
Conclusion	**27,221,430**

The market approach conclusion of this appraisal was determined to be $27,221,430 detail as follow:

Market comparables to OCLD and CORLD:

Pennsylvania American Water Company (PAWC)
Elizabeth Borough Municipal Authority
Wastewater System
Investor-Owned Utility
As of January 24, 2023

Comparable Sales Approach

Market Sales Data

Market Sales Analysis - PP/OCLD	Simple		**Market Sales Analysis - PP/CORLD**	Simple	
All Section 1329 Acquistions			All Section 1329 Acquistions		
Mean	1.9760		Mean	0.8216	
Standard Deviation	0.9114		Standard Deviation	0.2210	
Median	1.5514		Median	0.8951	
Water Treatment & Distribution			Water Treatment & Distribution		
Mean	1.4354		Mean	0.7686	
Water Distribution			Water Distribution		
Mean	0.00		Mean	0.00	
Wastewater Collection & Treatment			Wastewater Collection & Treatment		
Mean	1.7972		Mean	0.8536	
Wastewater Collection			Wastewater Collection		
Mean	1.8733		Mean	0.8077	
Wastewater Treatment Only			Wastewater Treatment Only		
Mean	-0.07607		Mean	0.0459	
WADS Conclusion	1.7972	WADS Input	WADS Conclusion	0.8536	WADS Input
Elizabeth Borough Municipal Authority OCLD	21,196,968	Cost Approach - OCLD	Elizabeth Borough Municipal Authority CORLD	30,657,221	Cost Approach - CORLD
Market Value Indication	**38,095,898**		**Market Value Indication**	**26,169,515**	

Market Comparable to Customers and Value Line Comparables:

Pennsylvania American Water Company (PAWC)
Elizabeth Borough Municipal Authority
Wastewater System
Investor-Owned Utility
As of January 24, 2023

Comparable Sales Approach

Market Sales Analysis - PP/Customer

	Simple	
All Section 1329 Acquistions		
Mean	8,924	
Standard Deviation	4,355	
Median	8,551	
Water Treatment and Distribution		
Mean	7,188	
Water Distribution		
Mean	3,992	
Wastewater Collection & Treatment		
Mean	10,200	
Wastewater Collection		
Mean	6,507	
Watewater Treatment Only		
Mean	3,693	

Financial Basis[1]

Financial Markets	Market Value per Share to Book Value per Share	
Market to Book (equity)	3.21	
Market to Book (equity and debt)	1.94	
Use (equity and debt)	1.94	WADS Input

Conclusion

Elizabeth Borough Municipal Authority Customers	1,860	WADS Input	Elizabeth Borough Municipal Authority OCLD	16,360,544	Cost Approach - OCLD
Wastewater Collection & Treatment	10,200	WADS Input			
Collection and Treatement Customers Market Value Indication	**18,972,000**		**Market Value Indication**	**31,739,456**	
Treatement Only Market Value Indication					
Treatment Only PP/customer	3,693	WADS Input			
Treatment Only Customers	330	WADS Input			
Market Value Indication Treatment Only	**1,218,690**				
Total Market Value Indication	**20,194,383**				

Market Comparables to EBITDA: 5-year and 13-year averages:

Pennsylvania American Water Company (PAWC)
Elizabeth Borough Municipal Authority
Wastewater System
Investor-Owned Utility
As of January 24, 2023

Comparable Sales Approach

Market Sales Analysis - PP/Cash Flows (EBITDA Period 1-5)	Simple	
All Section 1329 Acquistions		
Mean	16.95	
Standard Deviation	5.91	
Median	16.94	
Conclusion	18.00	WADS Input
Water Treatment and Distribution		
Mean	14.13	
Water Distribution		
Mean	0.00	
Wastewater Collection & Treatment		
Mean	16.51	
Wastewater Collection		
Mean	18.71	
Watewater Treatment Only		
Mean	(2.20)	
Conclusion		
		Income
Elizabeth Borough Municipal Authority Cash Flows	1,485,443	Approach
Wastewater Collection & Treatment	16.51	
Market Value Indication	**24,526,770**	

Market Sales Analysis - PP/Cash Flows (EBITDA Period 1-13)	Simple	
All Section 1329 Acquistions		
Mean	12.04	
Standard Deviation	3.59	
Median	11.98	
Conclusion	12.00	WADS Input
Water Treatment and Distribution		
Mean	7.37	
Water Distribution		
Mean	0.00	
Wastewater Collection & Treatment		
Mean	11.45	
Wastewater Collection		
Mean	12.89	
Watewater Treatment Only		
Mean	(1.44)	
Conclusion		
		Income
Elizabeth Borough Municipal Authority Cash Flows	1,973,423	Approach
Wastewater Collection & Treatment	11.45	
	22,602,560	

Cost Approach Revisited – Before concluding this appraisal's fair market value, the preliminary cost approach conclusion of $26,138,297 needs to be reviewed in light of the above-described income and market analyses in order to evaluate if external obsolescence exists in the preliminary replacement cost new less depreciation conclusion. The appraisal literature in regard to developing a cost approach states:

> "The last step in the implementation of the cost approach is to estimate *economic obsolescence*. Economic obsolescence (sometimes called "external obsolescence") has been previously defined as the loss in value or usefulness of a property caused by factors external to the asset. These factors include increased cost of raw materials, labor, utilities (without an offsetting increase in product price); reduced demand for the product; increased competition; environmental or other regulations; or similar factors.
>
> The difficulty in measuring the full effect of economic obsolescence is one of the weaknesses of the cost approach. Because economic obsolescence is usually a function of outside influences that affect an entire business (i.e., all tangible and intangible assets) rather than individual assets or isolated groups of assets, it is sometimes measured using the income approach or by using the income approach to help identify the existence of economic influences on value. However, the cost

approach can be used to measure some forms of economic obsolescence."[7]

The above-described income approach value conclusion of $28,344,391 and the market approach conclusion of $27,221,4307 for the Elizabeth Borough's future wastewater system compared to the preliminary cost approach conclusion of $26,138,297 indicates no significant external obsolescence exists in the cost approach conclusion of $26,138,297 detailed as follows:

Elizabeth Borough Municipal Authority
Wastewater System
Investor-Owned Utility
As of January 24, 2023

	Column Reference in OCLD & RCNLD	Amount in $s		Intangible Assets		
				Income	Customer	Use
Depreciated Replacement Cost (RCNLD)						
Original Cost (OC)	(9)	19,220,012				
Replacement Cost New (RCN)	(16)	41,115,131				
Replacement Cost New less Depreciation (RCNLD)	(31)	25,820,797	Purchase Price			28,000,000
Construction Work in Progress (CWIP)		317,500				
Tangible Assets		26,138,297				
Economic Obsolescence				4,518,924	13,173,090	4,518,924
EO Factor	(40)	0.00%	Economic Obsolescence			
RCNLD less EO	(41)	26,138,297		Enterprise Analysis		
				28,344,391	27,221,430	1.00000000

[7] Valuing Machinery and Equipment: The Fundamentals of Appraising Machinery and Technical Assets, Second Edition, pp. 96-97.

Pennsylvania American Water Company (PAWC)
Elizabeth Borough Municipal Authority
Wastewater System
Investor-Owned Utility
As of January 24, 2023

Fair Market Value

(36)	(37)	(39)	(40)	(41)
Account	Description	Preliminary Cost Approach	Economic Obsolescence	Fair Market Value
		CORLD $s	% of Preliminary Cost Approach	Appraisal Date Value $s
Input	Input	Calculation	Input	Calculation
Eng Assmnt	Eng Assmnt	Col (31)	AUS Economic Obsolescence Analysis	(39) * [1.00-Col (40)]
Account	Description	Prelim CORLD	EO%	FMV
353.00	Land and Land Rights	610,131	0.00%	610,131
380.00	Wastewater Treatment Plants	2,964,113	0.00%	2,964,113
371.00	Pumping Stations	9,264,099	0.00%	9,264,099
361.00	Collection System	12,763,428	0.00%	12,763,428
390.00	Other Plant	219,026	0.00%	219,026
-	**Total - Inservice**	**25,820,797**	**0.00%**	**25,820,797**
361 CWIP	Collection System - CWIP	310,000	0.00%	310,000
371 CWIP	Pumping Stations - CWIP	7,500	0.00%	7,500
	Total CWIP	317,500	0.00%	317,500
	Grand Total	26,138,297		26,138,297

Value Conclusion

The Fair Market Value of the Borough of Brentwood's wastewater collection system's property, plant and equipment and its operation was determined to be $28,741,014 as follows:

Elizabeth Borough Municipal Authority
Wastewater System
Investor-Owned Utility
As of January 24, 2023
Fair Market Value Appraisal

Appraisal Approach		Investor-owned Utility	Weight	Wtd Valuation Indications
Cost Approach				
Inventory of Assets				
Original Cost ($OC)		19,220,012		
Depreciated Original Cost ($OCLD)		16,360,544		
Construction Work in Progress (CWIP)		317,500		
Total Tangible Assets		16,678,044		
Intangible Assets (Treatement contracts)		4,518,924		
Cost Approach of all assets Conclusion		21,196,968		
Replacement Cost				
Replacement Cost New (COR)		41,115,131		
Depreciated Replacement Cost New (CORLD)	**$**	**25,820,797**		
Construction Work in Progress (CWIP)	**$**	**317,500**		
External or Economic Obsolescence			AUS Input	
Market Value of Tangible Assets	**$**	**26,138,297**		
Intangible Assets (Treatement contracts)	$	4,518,924		
Cost Approach of all assets Conclusion		**30,657,221**		
Cost Approach Conclusion		**30,657,221**	**33.33%**	**10,219,074**
Income Approach				
Required Rate Increases: 40% period 3, 35% period 6, 30% period 9, 15% period 12, and 6% every 3rd year beginning in period 15 (Input 6)		28,344,391		
Income Approach Conclusion		**28,344,391**	**33.33%**	**9,448,130**
Market Approach				
Market Comparables (to)				
OCLD		38,095,898		
CORLD		26,169,515		
Customers		20,194,383		
Cash Flows (EBITDA) Periods 1-5		24,526,770		
Cash Flows (EBITDA) Periods 1-13		22,602,560		
Market Financials (to)				
OCLD		31,739,456		
Market Approach Conclusion		**27,221,430**	**33.33%**	**9,073,810**
Appraisal Conclusion	**$**	**28,741,014**	**100%**	**28,741,014**
Conclusion (cost approach)	**$**	**30,657,221**		

As the purpose of this appraisal was to fulfill the requirements of Section 1329 of the PA CS in the establishment of value for rate making of the Elizabeth Borough's property, plant and equipment this appraisal's conclusion of $28,741,014 is consistent with the purpose of the appraisal. As the cost approach work papers detail our value conclusion by National Association of Regulatory Utility Commissioners' (NARUC) Uniform System of Accounts (USOA) for the wastewater industry account classifications and the installation year of the property this detail can be used to allocate the appraisal conclusion to establish the booked value for future accounting and rate making.

PURPOSE AND SCOPE OF WORK

- The purpose of this appraisal of the Elizabeth Borough's wastewater collection and treatment system is the determination of the fair market value of the property plant and equipment of wastewater utility. The report was prepared based on the 2024-2025 Uniform Standards of Professional Practices (USPAP) and is intended to meet the criteria established with Title 66 (Public Utilities) of the Pennsylvania Consolidated Statues (PA CS) Paragraph 1329: Valuation of acquired water and wastewater systems, collectively referred to as Act 12 of the 2016 Pennsylvania legislative session (Act 12). The intended users of this appraisal are our client Pennsylvania American Water Company and the Pennsylvania Public Utility Commission.

The value established in this appraisal was based on the definition of Market Value as:

> *"The most probable price, as of a specified date, in cash, or in terms equivalent to cash, or in other precisely revealed terms, for which the specified property rights should sell after reasonable exposure in a competitive market under all conditions requisite to a fair sale, with the buyer and seller each acting prudently, knowledgeably, and for self-interest, and assuming that neither is under undue duress."* *The Appraisal of Real Estate, 14th Edition, page 58.*

In conducting this appraisal, we utilized several sources of data:

- Annual (year-ending December 31) Elizabeth Borough (Pennsylvania) wastewater collection and treatment operational financial statements cover the period 2016 through 2022 and budgets for 2022 and 2023.

- The Senate Engineering, Inc.'s' Engineer's Assessment and inventory of the Elizabeth Borough's wastewater system's property dated February 2024 and revised July 2024.

- The Handy-Whitman (water industry) Index of Public Utilities Construction Costs for northeastern United States, AUS Consultant General Plant Cost Indexes for

the period 1912 through January 1, 2023, and various cost indexes published by the United States Bureau of Labor Statistics (US BLS).

In preparing this fair market value appraisal of the System's property, plant and equipment, and its operations: the cost, income, and market approaches to value were considered. Primary reliance was placed on the cost approach for the property, plant and equipment, with the income approach and market approaches being utilized to confirm the overall value of the sewer system's operation. A detailed explanation of each approach to value is included below in the section "Appraisal Procedures and Results".

WATER/WASTEWATER INDUSTRY NATIONALLY AND IN PENNSYLVANIA AND ELIZABETH BOROUGH'S WASTEWATER COLLECTION AND TREATMENT SYSTEM FACILITIES

Water/wastewater Industry

The water and wastewater industry in the United States consist of both municipal authorities (literally thousands) and private investor-owned companies. Of the investor owned there are nine which are large enough to be tracked by Value Line Investment Surveys, of which, two are major players in the northeast portion of the United States, American Water Works Company, Inc. and Aqua America, Inc. (on February 3, 2020 Aqua's name changed to Essential Utilities, Inc.) American and Aqua have been particularly active in the acquisition of municipal water and wastewater systems.

Pennsylvania Water / Wastewater Industry

The water and wastewater industry in Pennsylvania also consist of both municipal and investor-owned systems. Over last several years the need for infrastructure improvements has led the Pennsylvania legislature to pass legislation facilitating the acquisition of municipal water and/or wastewater systems to a private investor-owned rate regulated companies such as American Water and Aqua America. This legislation was Act 12 of the Pennsylvania legislator's 2016 legislative session (Act 12). The Act 12 legislation added a section (1329) modifying Title 66 (Public Utilities) of the Pennsylvania Consolidated Statues (PA CS) adding Section 1329: Valuation of acquired water and wastewater systems, collectively referred to as Act 12. This appraisal was developed to meet the valuation criteria established by Section 1329 and the PA PUC's subsequent Implementation Orders in the valuation of acquired water and wastewater systems.

Elizabeth Borough's Wastewater Collection and Treatment System Facilities, its Property and Operations[8]

System Description

The Elizabeth Borough Municipal Authority (Authority) owns and operates a combined sewer system including collection, pumping and treatment facilities. The Authority's service area includes all or portions of Elizabeth Borough, Forward Township, Elizabeth Township, and Lincoln Borough. Pennsylvania American Water Company (PAWC) and the Authority have entered into an Asset Purchase Agreement (APA) to transfer ownership of the system assets to PAWC. In January 2023 Senate Engineering, Inc. (Senate) was contracted by PAWC and the Authority to prepare an assessment of the Authority tangible assets. This assessment was compiled and organized in organized in accordance with the National Association of Regulatory Utility Commissions (NARUC) system of accounts. The Authority is considered a Class A wastewater utility under the NARUC guidelines since the annual revenues exceed $,000,000.

The Authority was incorporated on December 29, 1949, under the Municipal Act of May 2, 1945 (P.L. 382) as amended. The Authority operates under the Pennsylvania Municipal Authorities Act and is governed by a Board of appointed members who direct the business of the Authority. The Board is composed of seven (7) members, five (5) of whom are appointed by the Elizabeth Borough Council, and two (2) appointed by the Commissioners from the Township of Elizabeth.

The authority currently employs two operators/laborers and an administrative assistant. Contract employees are used as needed to complement the workforce.

The Authority's service area includes all or portions of four municipalities:

Elizabeth Borough
Forward Township
Elizabeth Township
Lincoln Borough

[8] Extracted from Engineer's Assessment page 3 & 4

Elizabeth Borough Service Area

Elizabeth Borough Municipal Authority owns and operates a combined sewage collection and treatment system located within Elizabeth Borough. The wastewater treatment facility is operated under NPDES Permit No. PA-0028436 as originally issued by DEP on August 3, 1995. A renewal application for the NPDES permit was submitted to DEP in February 2007 and remains under review by DEP. The Authority continues operations under the terms and conditions of the existing permit. The Borough is well established and has limited area available for growth. Elizabeth Borough has 688 customer connections as of the appraisal date. The Southwestern Pennsylvania Commission estimates a 2020 Borough population of 1,345 and a 2040 population of 1,355, or a 20-year increase of less than 1%.

Forward Township Service Area

Forward Township owns and operates a separate sanitary sewer system with a primary point of connection to the Authority's system at Center Avenue. There are 5 other points of connection near the southeast boundary of the Borough. Forward Township has 320 customer connections as of the appraisal date. The Southwestern Pennsylvania Commission estimates a 2020 Township population of 3,291 and a 2040 population of3,334, or a 20-year increase of approximately 1%.

Elizabeth Township Service Area

Elizabeth Township owns a separate sanitary sewer system and the Wylie Pump Station that discharges directly to the Authority to the Authority's WWTP headworks. The Elizabeth Township sewers connected multiple locations including the Wylie pump station force main, the Fallen Timber trunk sewer, and other connections at Church Street, Chicago Avenue and Blaine Hill. Elizabeth Township has 1,172 customer connections as of the appraisal date. The Southwestern Pennsylvania Commission estimates a 2020 Township population of 13,222 and a 2040 population of 14,195, or a 20-year increase of approximately 7%.

Lincoln Borough Service Area

Lincoln Borough has allocation for 17 connections which were approved on an emergency basis by the DEP in 1987. Ten 910) connections have been made at this time. The Lincoln Borough system connects to Elizabeth Townships sanitary-y sewer

system and eventually to the Wylie Pump Station for conveyance to EBMA. The Southwestern Pennsylvania Commission estimates a 2020 Borough population of 980 and a 2040 population of 976, or a 20-year decrease of less than 1%.

APPRAISAL PROCEDURES AND RESULTS

The purpose of this appraisal of the Elizabeth Borough's wastewater collection and treatment system is the determination of the fair market value of the wastewater's property plant and equipment as of January 24, 2023. The report was prepared based on the 2024-2025 Uniform Standards of Professional Practices (USPAP) and is intended to meet the criteria established with Title 66 (Public Utilities) of the Pennsylvania Consolidated Statues (PS CS) Section 1329: Valuation of acquired water and wastewater systems, collectively referred to as Act 12 of the Pennsylvania legislator's 2016 legislative session (Act 12). The intended users of this appraisal are Pennsylvania American Water Company and the Pennsylvania Public Utility Commission (PA PUC).

The value established in this appraisal was based on the definition of Market Value as:

> *"The most probable price, as of a specified date, in cash, or in terms equivalent to cash, or in other precisely revealed terms, for which the specified property rights should sell after reasonable exposure in a competitive market under all conditions requisite to a fair sale, with the buyer and seller each acting prudently, knowledgeably, and for self-interest, and assuming that neither is under undue duress."* *The Appraisal of Real Estate, 14th Edition, page 58.*

In conducting this appraisal, we utilized several sources of data:

- Annual (year-ending December 31) Elizabeth Borough's wastewater system's operational financial statements cover the period 2016 through 2022 and budgetary 2023.

- The Senate Engineering, Inc.'s Engineer's Assessment and inventory of the Elizabeth Borough's wastewater system's property date February 2024 revised July 2024.

- The Handy-Whitman (water industry) Index of Public Utilities Construction Costs for northeastern United States, AUS Consultant General Plant Cost Indexes for the period 1912 through January 1, 2023, and various cost indexes published by the United States Bureau of Labor Statistics (US BLS).

In preparing this fair market value appraisal of the System's wastewater system's property, plant and equipment, and its operations; the cost, income, and market approaches to value were considered. Primary reliance was placed on the cost approach for the property, plant and equipment, with the income approach and market approaches being utilized to confirm the overall value of the sewer system's operation. Detailed explanation of each approach to value is included below.

Cost Approach (Cost Approach tab) - The philosophy in the cost approach to value is that the maximum value of a property's tangible assets is established by the cost to acquire or build a similar property. In this appraisal, the cost approach to value was analyzed using reproduction/replacement cost approach.

Reproduction cost and replacement cost are defined as:

> Reproduction cost – "The estimated cost to construct, at current prices as of the effective date of the appraisal, an exact duplicate or replica of the [property] being appraised, using the same materials, construction standards, design, layout, and quality of workmanship and embodying all the deficiencies, super-adequacies, and obsolescence of the subject [property]."[9]
>
> Replacement cost – "The estimated cost to construct, at current prices as of the effective appraisal date, a substitute for the [property] being appraised using modern materials and current standards, design and layout."[10]
>
> In the wastewater industry the property's reproduction costs and replacement costs are quite similar; therefore, the property's cost new was determined based on its replacement cost new.

The trended original cost method was utilized in preparing the replacement cost new. "Trending is a method of estimating a property's replacement cost new in which an *index* or *trend factor* is applied to the property's *historical cost* to convert the known cost into an indication of current cost. Simply put, trending reflects the movement of price over

[9] The Appraisal of Real Estate, 13th Edition. Page 385
[10] ibid

time."[11] In the trended original cost method, the System's investment in wastewater plant and equipment is restated to costs reflective of the appraisal date, by the application of cost trends to the property's original investment. WAD Consultants utilized the Engineer's Assessment performed by Senate Engineering, Inc.'s (Engineer's Assessment tab) as the starting point of the Cost Approach. Utilizing the Engineer's Assessment of the System's original cost in property, plant and equipment WAD Consultants developed the plant's depreciated original cost (OCLD) and depreciated replacement cost (RCNLD) on January 24, 2023 (Cost Approach tab).

The cost trends are applied to each of the various investment categories (NARUC plant accounts) by original year of placement for that investment. The cost indexes used in these studies were the Handy-Whitman Index of Public Utility Construction Costs for the water industry of the northeastern region of the United States which includes the Commonwealth of Pennsylvania (HW), the AUS Consultants of General Plant Indexes AUS), and various United States Bureau of Labor Statistics (US BLS) indexes. The following table details the costing parameters using in the trending costing procedures:

Pennsylvania American Water Company (PAWC)
Elizabeth Borough Municipal Authority
Wastewater System
Investor-Owned Utility
January 24, 2023

Summary of Account Costing and Depreciation Parameters Used in the Depreciation Original Cost and the Depreciated Replacement Cost New Studies

(1)	(2)	(3)				
		(3a)	(3b)	(3c)	(3d)	(3e)
Account Number	Description	Costing Parameters				Reproduction to Replacement Cost Factor
		Index Series	Table	Line Reference	Lookup	AUS Input
353.30	Land & Land Rights - Pumping	USBLS	PPI	1.00	USBLS1	1.00
354.30	Stuctures & Improvements - Treatment	HW	W-1	15.00	HWW-115	1.00
354.70	Stuctures & Improvements - General	HW	W-1	15.00	HWW-115	1.00
361.00	Mains Gravity	HW	W-1	44.00	HWW-144	1.00
361.70	Collection Sewers - Gravity - Manholes	HW	W-1	45.00	HWW-145	1.00
364.00	Flow Measuring Devices	HW	W-1	40.00	HWW-140	1.00
371.00	Pumping Equipment	HW	W-1	9.00	HWW-19	1.00
380.00	Treatment and Disposal Equipment	HW	W-1	17.00	HWW-117	1.00
390.00	Office Furniture and Equipment	AUS	T-1	15.00	AUST-115	1.00
391.00	Transportation Equipment	AUS	T-1	4.00	AUST-14	1.00
393.00	Tools, Shop, & Garage Equipment	AUS	T-1	7.00	AUST-17	1.00
394.00	Laboratory Equipment	AUS	T-1	7.00	AUST-17	1.00
400.00	Not Used	AUS	T-1	8.00	AUST-18	1.00
400.00	Not Used	AUS	T-1	8.00	AUST-18	1.00

[11] Valuing Machinery and Equipment: The Fundamentals of Appraising Machinery and Technical Assets, Second Edition. Page 59

The following table presents the development of the cost approach for the 10” Gravity Collection Mains (Accounts 361.12 / 361.10) portion of the Elizabeth Borough’s wastewater service area this example will be used to describe the entire cost approach process:

Pennsylvania American Water Company (PAWC)
Elizabeth Borough Municipal Authority
Wastewater System
Investor-Owned Utility
As of January 24, 2023

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Account	Account	Asset Description	Average Year Installed	Average Year Installed	Units	Quantity	Replacement cost per unit	Original Cost	Costing Parameter	Placement Date Cost Index	Appraisal Date Cost Index	Cost Translator	Reproduction Cost New (RCN)	Reproduction Cost New (RCN) to Replacement Cost New (COR)	Replacement Cost New (COR)
								OC $s					RCN $s	COR $s / RCN $s	COR $s
Input	Input	Input	Input	Input	Input	Input	Input	Input	Input	Input	Input	Calculation	Calculation	Input	Calculation
Eng Assmnt	AUS Input	Elizabeth Borough Municipal Authority	Eng Assmnt	AUS Input	Eng Assmnt	Eng Assmnt	AUS Input	Eng Assmnt	AUS Input	Cost Indices Lookup Cods(10) & (5)	Cost Indices Lookup Cols(10) & Study YR	Col (12) / (11)	Col (5) * (13)	AUS Input	Col (14) * (15)
NARUC Code	NARUC Code	Asset Description	Service Date	Year Installed	Units	Quantity	COR Cost	Original Cost	Cost Index Table	YearIndex	APPCostIndex	Translator	RCN	COR / RCN Factor	COR
		10" Gravity Collection Sewer													
361.12	361.10		105	1950	1950	LF	175	0.00	1,270.18	HWW-144	46	840.6	18.274	23,211	1.000	23,211
361.12	361.10		168	1950	1950	LF	251	0.00	1,815.78	HWW-144	46	840.6	18.274	33,182	1.000	33,182
361.12	361.10		169	1950	1950	LF	393	0.00	2,843.95	HWW-144	46	840.6	18.274	51,970	1.000	51,970
		Subtotal 10" Gravity Collection Sewer					**818**		**5,929.91**				**18.274**	**108,363**	**1.000**	**108,363**

Using the trended original cost method, Elizabeth Borough’s investment in this example of $5,929.91 was determined to have a replacement cost new of $108,363.

When the trended cost method is applied to each of Elizabeth Borough’s investment in plant, property and equipment of $19,537,512.08 was determined to have a replacement cost new of $41,432,631 detailed as follows:

Pennsylvania American Water Company (PAWC)
Elizabeth Borough Municipal Authority
Wastewater System
Investor-Owned Utility
As of January 24, 2023

Replacement Cost New (RCN)

(1)	(2)	(3)	(9)	(10)	(13)	(14)	(15)	(16)
Account	Account	Asset Description	Original Cost	Costing Parameter	Cost Translator	Reproduction Cost New (RCN)	Reproduction Cost New (RCN) to Replacement Cost New (COR)	Replacement Cost New (COR)
			OC $s			RCN $s	COR $s / RCN $s	COR $s
Input	Input	Input	Input	Input	Calculation	Calculation	Input	Calculation
Eng Assmnt	AUS Input	Elizabeth Borough Municipal Authority	Eng Assmnt	AUS Input			AUS Input	Col (14) * (15)
NARUC Code	NARUC Code	Asset Description	Original Cost	Cost Index Table	Translator	RCN	COR / RCN Factor	COR
353.00	353.00	Land and Land Rights	299,069.00	Varies	2.040	610,131	1.000	610,131
380.00	380.00	Wastewater Treatment Plants	2,032,382.55	Varies	3.578	7,272,877	1.000	7,272,877
371.00	371.00	Pumping Stations	9,157,492.41	Varies	1.023	9,367,166	1.000	9,367,166
361.00	361.00	Collection System	7,395,088.47	Varies	3.168	23,429,736	1.000	23,429,736
390.00	390.00	Other Plant	335,979.66	Varies	1.295	435,221	1.000	435,221
		Total - Inservice	**19,220,012.08**		**2.139**	**41,115,131**	**1.000**	**41,115,131**
361 CWIP	361 CWIP	Collection System - CWIP	310,000.00	-	1.000	310,000	1.000	310,000
371 CWIP	371 CWIP	Pumping Stations - CWIP	7,500.00	-	1.000	7,500	1.000	7,500
		Total CWIP	317,500.00			317,500		317,500
		Grand Total	19,537,512.08			41,432,631		41,432,631

Replacement Cost New less Depreciation - The replacement cost described above reflects the cost of new property; however, the Elizabeth Borough's wastewater system property is not new and has experienced normal depreciation and potentially functional and or economic obsolescence. These various forms of depreciation are defined as follows:

> Normal depreciation/deterioration, akin to physical deterioration, is "loss in value caused by wear, tear, age and use."[12]
>
> Functional obsolescence is "the loss in value or usefulness of a property caused by inefficiencies or inadequacies of the property itself, when compared to a more efficient of less costly replacement property that new technology has developed."[13]
>
> Economic, or external, obsolescence is defined as "A loss in value caused by factors outside a property"[14] and is most often indicated by insufficient earning.

[12] The Dictionary of Real Estate Appraisal, 4th Edition
[13] Valuing Machinery and Equipment: The Fundamentals of Appraising Machinery and Technical Assets, Second Edition. Page 67.
[14] The Appraisal of Real Estate, 13th Edition, page 442.

Wastewater Depreciation Service Life Experience in Pennsylvania

The service lives used in the depreciation and functional obsolescence calculations were developed based on the property and its use, WADS Consultants' experience in developing depreciation studies for the water and wastewater industries and depreciation studies filed with PAWC and Aqua America rate cases. With each of their recent rate case filings PAWC and Aqua America have filed depreciation studies in support of their depreciation service lives and associated depreciation expenses contained within their revenue requirements. The depreciation studies were prepared by Gannett Fleming Rate Consultants a recognized firm in the depreciation consulting area. WAD Consultants has reviewed the PAWC studies which are summarized in the following table:

Summary of PAWC Depreciation Studies Prepared for Rate Case

Account	Account Description	Iowa Curves		Service Life		Remaining Life	
		12/31/2016	12/31/2019	12/31/2016	12/31/2019	12/31/2016	12/31/2019
				years	years	years	years
354.20	STRUCTURES AND IMPROVEMENTS - COLLECTION	R3	R3	45	45	39.1	33.3
354.30	STRUCTURES AND IMPROVEMENTS - SPP	R2.5	S0	50	55	45.2	32.6
354.40	STRUCTURES AND IMPROVEMENTS - TDP	R2	S0	65	55	56.6	31.7
354.70	STRUCTURES AND IMPROVEMENTS - GENERAL	S1	S1	35	35	33.3	23.2
355.00	POWER GENERATION EQUIPMENT	R2.5	S0.5	35	35	29.7	19.3
360.10	COLLECTION SEWERS - FORCE MAINS	S2	R3	70	75	53.1	52.5
361.10	COLLECTION SEWERS - GRAVITY MAINS	R2.5	R2.5	70	80	56.9	54.8
361.20	MANHOLES	S1.5	S2.5	50	50	41.3	32.2
363.00	SERVICES	R3	R3	38	47	22.9	30.2
364.00	FLOW MEASURING DEVICES	L3	L2.5	20	15	13.3	5.1
365.00	FLOW MEASURING INSTALLATIONS	S1.5	S2	30	25	23.1	10.8
370.00	RECEIVING WELLS	R3	R3	50	50	42.7	33.7
371.00	PUMPING EQUIPMENT	SO	S0.5	40	30	35.5	18.2
380.00	TREATMENT EQUIPMENT	5-R2	S1.5	45	35	37.1	20.1
381.00	PLANT SEWERS	R3	R3	50	50	43.1	32.7
382.00	OUTFALL SEWER LINES	R3	R3	50	50	37.8	28.3
389.10	OTHER PLANT AND MISCELLANEOUS EQUIPMENT - INTANGIBLES	52.5	S2.5	20	20	13.6	11.3
389.60	OTHER PLANT AND MISCELLANEOUS EQUIPMENT - CPS	SQ	SQ	20	5	12.3	3.5
390.00	OFFICE FURNITURE AND EQUIPMENT	L4	SQ	15	20	9.5	10.1
391.00	TRANSPORTATION EQUIPMENT	SQ	L4	25	14	19,9	9.8
392.00	STORES EQUIPMENT	SQ	SQ	20	25	16.4	17.2
393.00	TOOLS, SHOP AND GARAGE EQUIPMENT	SQ	SQ	15	20	11,3	15.4
394.00	LABORATORY EQUIPMENT	L2.5	SQ	16	15	8.7	10.4
395.00	POWER OPERATED EQUIPMENT	SQ	R2	15	22	10.3	13.2
396.00	COMMUNICATION EQUIPMENT	SQ	SQ	15	15	9.6	6.9
397.00	MISCELLANEOUS EQUIPMENT		SQ		15		12.8
398.00	OTHER TANGIBLE PLANT		SQ		25		21.5

It is of particular importance in the above table the service life extension of the mains plant categories between the 2016 and the 2020 studies. The mains service lives increased as follows:

Account	Description	Service Life	
		2016	2020
360.10	COLLECTION SEWERS - FORCE MAINS	70	75
361.10	COLLECTION SEWERS - GRAVITY MAINS	70	80

WADS Consultants believe this increase in service lives is attributable to the widespread use of relining older mains instead of replacing mains which are in need of repair. The practice of relining mains with a cured in place plastic liner not only repairs specific main but has the effect of extending the life of the original mains by the length of time which the relining can be expected to last. Most relining vendors warranty their product and procedure for 50 years. Thus, in essence the original main's service life will be extended by 50 plus years at the date the relining occurred. For those mains associated with relining their installation date was established at the date of their relining and their depreciation parameters were established the same as the depreciation parameters of the relining, i.e., R2.5 – 60 years.

The following table details the lives used in the depreciation portion of the replacement cost new less depreciation analysis:

Pennsylvania American Water Company (PAWC)
Elizabeth Borough Municipal Authority
Wastewater System
Investor-Owned Utility
January 24, 2023

Summary of Account Costing and Depreciation Parameters Used in the Depreciation Original Cost and the Depreciated Replacement Cost New Studies

(1)	(2)	(4)	(4a)	(4b)	(5)	(6)	(6a)	(6b)
Account Number	Description	Iowa Survivor / Retirement Curve		Normal Service Life	Economic Obsolescence	Tax Depreciation		
				years	% of CORLD	Table		Life
353.30	Land & Land Rights - Pumping	ZNonDep		0.00	0.00%	Non-Depr		0.00
354.30	Stuctures & Improvements - Treatment	R4.0		55.00	0.00%	MACRS		25.00
354.70	Stuctures & Improvements - General	R4.0		55.00	0.00%	MACRS		25.00
361.00	Mains Gravity	R2.5		70.00	0.00%	MACRS		25.00
361.70	Collection Sewers - Gravity - Manholes	S2.0		70.00	0.00%	MACRS		25.00
364.00	Flow Measuring Devices	S2.0		30.00	0.00%	MACRS		25.00
371.00	Pumping Equipment	R3.0		35.00	0.00%	MACRS		25.00
380.00	Treatment and Disposal Equipment	R2.0		45.00	0.00%	MACRS		25.00
390.00	Office Furniture and Equipment	R3.0		12.00	0.00%	MACRS		12.00
391.00	Transportation Equipment	R3.0		15.00	0.00%	MACRS		10.00
393.00	Tools, Shop, & Garage Equipment	R3.0		35.00	0.00%	MACRS		25.00
394.00	Laboratory Equipment	R3.0		20.00	0.00%	MACRS		20.00
400.00	Not Used	R3.0		20.00	0.00%	MACRS		20.00
400.00	Not Used	R3.0		20.00	0.00%	MACRS		20.00

As the above table demonstrates, the depreciation lives selected for the WAD Consultants appraisal are consistent with the depreciation studies' finding for wastewater plant.

Normal Depreciation – The extent of the depreciation in the property was evaluated using age-life depreciation techniques. In age-life depreciation, the property's depreciation or condition is estimated using the following formulas:

$$\text{Depreciation (\%)} = \frac{\text{Age (years)} \times 100\%}{\text{Service Life (years)}}$$

$$\text{Condition (\%)} = \frac{\text{Remaining Life (years)} \times (100\%)}{\text{Service Life (years)}}$$

where: the property's Service Life = Age + Remaining Life
and Remaining Life = f(Survival Characteristic, Service Life, Age)

However due to the age of some of the property the extent of the depreciation was limited to 85% of the assets original cost and its replacement cost new.

When the above depreciation lives are used to quantify the property's depreciation is applied to the replacement cost new of the example 10" Gravity Collection Mains portion of the Elizabeth Borough's wastewater service area of $108,363, the replacement cost new less depreciation was determined to be $19,077 detailed as follows:

Pennsylvania American Water Company (PAWC)
Elizabeth Borough Municipal Authority
Wastewater System
Investor-Owned Utility
As of January 24, 2023

(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)
Account	Description	Placement Year	Age at January 24, 2023 Appraisal Date	Replacement Cost New (COR)	Retirement Dispersion Iowa-type	Normal Service Life (NSL)	Age as % of NSL	Iowa Lookup	Iowa Condition Percent of Percent New	Normal Remaining Life	Total Life Expectancy	Condition	Preliminary Cost Approach (COR less Normal Depreciation)
			years	COR $s		years	% of NSL	Lookup	%	years	years	% of COR	CORLD $s
Input	Input	Input	Calculation	Calculation	Input	Input	Calculation	Calculation	Lookup	Calculation	Calculation	Calculation	Calculation
AUS Input	Eng Assmnt	Eng Assmnt	2023-[(20)+0.5]	Col (16)	AUS Input	AUS Input	Col (21) / (24)	Col (23) & (25)	Lookup Iowa Curves Life Tables @ col (26)	Col (24) * (27)	Col (21) + (28)	Col (28) / (29)	Col (22) * (30)
Account	Description	Year1	Age	RCN	Iowa	NLife	AgeP	IowaLookup	IowaCondition	Rem Life	Total Life	Condition	CORLD
	10" Gravity Collection Sewer												
361.1	105	1950	72.50	23,211	R2.5	70.0	104	R2.5104	0.22128	15.49	87.99	17.604273%	4,086
361.1	168	1950	72.50	33,182	R2.5	70.0	104	R2.5104	0.22128	15.49	87.99	17.604273%	5,841
361.1	169.1	1950	72.50	51,970	R2.5	70.0	104	R2.5104	0.22128	15.49	87.99	17.604273%	9,149
	Subtotal 10" Gravity Collection Sewer		**72.50**	**108,363**						**15.49**	**87.99**	**17.600000%**	**19,077**

When the above depreciation lives are used to quantify the property's depreciation is applied to each of the Elizabeth Borough's investment in plant, property and equipment the replacement cost new (RCN) of $41,432,631 the resultant RCN less depreciation (RCNLD) was found to be $26,138,297 detailed as follows:

Pennsylvania American Water Company (PAWC)
Elizabeth Borough Municipal Authority
Wastewater System
Investor-Owned Utility
As of January 24, 2023

Replacement Cost New less Depreciation (RCNLD)

(18)	(19)	(21)	(22)	(23)	(24)	(28)	(29)	(30)	(31)
Account	Description	Age at January 24, 2023 Appraisal Date	Replacement Cost New (COR)	Retirement Dispersion Iowa-type	Normal Service Life (NSL)	Normal Remaining Life	Total Life Expectancy	Condition	Preliminary Cost Approach (COR less Normal Depreciation)
		years	COR $s		years	years	years	% of COR	CORLD $s
Input	Input	Calculation	Calculation	Input	Input	Calculation	Calculation	Calculation	Calculation
Eng Assmnt	Elizabeth Borough Municipal Authority		Col (16)	AUS Input	AUS Input		Col (21) + (28)	Col (28) / (29)	Col (22) * (30)
Account	Description	Age	RCN	Iowa	NL	Rem Life	Total Life	Condition	CORLD
353.00	Land and Land Rights	32.84	610,131	ZNonDep	-	-	-		610,131
380.00	Wastewater Treatment Plants	35.7	7,272,877	R2.5	50.24	20.91	56.61		2,964,113
371.00	Pumping Stations	0.5	9,367,166	R2.5	45.92	45.47	45.97		9,264,099
361.00	Collection System	37.3	23,429,736	R2.5	68.23	38.52	75.81		12,763,428
390.00	Other Plant	13.19	435,221	R2.5	21.93	13.18	26.37		219,026
	Total - Inservice	**28.31**	**41,115,131**	-	**58.47**	**36.15**	**63.97**		**25,820,797**
361 CWIP	Collection System - CWIP	0	310,000	R2.5	70.00	70.00	70.00		310,000
371 CWIP	Pumping Stations - CWIP	0	7,500	R2.5	45.92	45.47	45.97		7,500
	Total CWIP		317,500						317,500
			41,432,631						26,138,297

The preliminary cost approach to value of the Elizabeth Borough's wastewater utility property was found to be $26,138,297.

Intangible Assets

In addition to the above-described tangible assets are the intangible assets, in Elizabeth Borough's case which consist of the contract associated with its wastewater treatment contracts with the following communities:

Municipalitiy	Revenues	Customers
Elizabeth Borough	511,141	688
Elizabeth Township	762,207	1,172
Forward Township	376,835	320
Lincoln Borough	5,193	10
	1,655,376	**2,190**

These contract represent value assets which are included in the overall income and market approaches which are not specifically address in the cost approach of the tangible assets; therefore, in order to make the cost approach comparable to the income and market these intangible assets were separately appraised and included in the cost

approach totals. WADS Consultants developed both a market and income approach estimate to the value of the above contracts.

Market Approach to Treatment Contracts – The previous water and wastewater Section 1329 acquisitions were analyzed allowed for the determination of the purchase price per customer separately for wastewater collection and treatment and wastewater collection only which allowed for the estimation of the purchase price per customer for wastewater treatment only as follows:

Wastewater Collecton & Treatment	10,200
Wastewater Collecton	6,507
Wastewater Treatment only	3,693

Based on the above analysis the market values of the treatment contracts were estimated as follows:

Pennsylvania American Water Company (PAWC)
Elizabeth Borough Municipal Authority
Wastewater System
Investor-Owned Utility
As of January 24, 2023

Comparable Sales Approach

Market Sales Data

Municipality	Residential	Market Value Per Treatment only customer	Market Value of Treatment Contract
Elizabeth Borough		10,200	-
Elizabeth Township	1,172	10,200	11,954,400
Forward Township	320	3,693	1,181,760
Lincoln Borough	10	3,693	36,930
Total	**1,502**		**13,173,090**

Income Approach to Treatment Contracts – WAD Consultants also developed a income approach analysis of the treatment contracts. Using the 2022 estimate the revenues and expenses of the treatment contracts in order to develop the estimated operating income as a surrogate for the cash flows associated the treatment contracts. The estimated cash flows were next discounted to appraisal date values using the cost of capital of 5.15% i.e., the cost of capital of 7.97% with the embedded growth rate of 2.68% removed; the development which is described in the Cost of Capital section of the workpapers. The income approach to the treatment contract was developed as follows:

Pennsylvania American Water Company (PAWC)
Elizabeth Borough Municipal Authority
Wastewater System
Investor-Owned Utility
As of January 24, 2023

Municipality	2022 YTD Revenues	Expenses	Operating Income	Income Tax	Cash Flow	Value Capitalized @ 5.15%	Present Worth
				28.89%		5.15%	
Elizabeth Borough		-	-	-	-	-	-
Elizabeth Township	762,207	457,324	304,883	88,081	216,802	5,920,058	**3,010,182**
Forward Township	376,835	226,101	150,734	43,547	107,187	2,926,874	**1,488,235**
Lincoln Borough	5,193	3,116	2,077	600	1,477	40,330	**20,507**
Total	**1,144,235**	**686,541**	**457,694**	**132,228**	**325,466**	**8,887,262**	**4,518,924**

Operating Expense as % of Revenues 60.00%

Based on the Market analysis of the treatment contract value of $13,173,090 and the income analysis of the treatment contracts of $4,518,924 the value of the treatment contracts were determined to be $4,518,924 which was included in the final cost approach to value.

Income Approach (Income Approach tabs)

The income approach to value establishes the value of the property based on its economic returns. There are two generally accepted procedures in performing an income analysis: the direct capitalization of anticipated income, and the discounted cash flow procedures.

In the direct capitalization approach, anticipated earnings are capitalized directly into value using a market-required capitalization rate. The Elizabeth Borough's wastewater operation will be moving from a municipal operation, wherein economic returns are not the primary objective of the operation to a private (investor owned) rate regulated sewer utility operation in which economic returns are one of the objectives of the operation; therefore, the direct capitalization of earnings approach was not utilized in this appraisal.

In the discounted cash flow (DCF) approach, the property's economic returns are forecast for future periods. The cash flows (debt-free after-tax net cash flows) from operations are discounted to the appraisal date using a market derived discount rate resulting in the DCF approach's income indicator of value. Use of the DCF approach allows the appraiser to address the property's historical operating experience and its migration, in future periods, to an operation as a rate regulated income taxed (local, state and federal) operation; thus, making the DCF approach preferable in this case.

In preparing this appraisal's DCF analysis first the results from the Borough of Brentwood's wastewater utility's operations were evaluated based on an analysis of historical operating performances over the period 2016 through 2022 and budgetary 2023 (Financials tab). In this analysis operating statistics such as revenues and their growth, various operating expenses were stated as function of their typical drivers (revenues, plant investment, income from operations, etc.) were analyzed. Details are provided in Income Approach tab. Using the above-described analyses, the results of future periods operations were forecast based on the migration of the Elizabeth Borough's of historical operations type experience over time to operations of the wastewater operation similar to a public investor-owned water/wastewater utilities. These forecasts are detailed in the Income Approach tab.

In this appraisal, future operating results were forecasted as follows:

- Revenues
- Operating Expenses
  - Operating and Maintenance Expense
  - Depreciation & Amortization
- Total Operating Expenses
- Operating Income (Revenues less Operating Expenses)
- Taxes
  - Property
  - Income (state & federal)
- Total Taxes
- After Tax Income (Operating Income less Total Taxes)
- Net Cash Flows
  - Plus: After Tax Income
  - Plus: Depreciation
  - Less: Capital Expenditures
  - Plus/less: Change in Working Capital
- Equals: Debt-free after-tax net cash flows

In the above-described table, the depreciation expense (both book and tax) and the capital expenditures were forecast based on the investment in property plant and equipment at the appraisal date and in subsequent periods. The initial investment in the plant and depreciation forecast were based on the criteria established in Section 1329 for the acquisition and subsequent regulation (rate base) of the acquired property by the acquiring investor-owned utility company. The following table details the forecasts of plant investment, book depreciation, tax depreciation forecast, and the resultant net plant investment and rate base as follows:

- Plant Investment
  - Initial Investment/ Beginning Plant Balance
  - Additions (Capital Expenditures)
  - Retirements
  - Ending Plant Balance

Depreciation (book)

- Initial Book Depreciation Reserve / Beginning Book Reserve Balance
- Book Depreciation & Amortization
- Retirements
- Ending Book Reserve Balance

Depreciation (tax)

- Initial Tax Reserve / Beginning Tax Reserve
- Tax Depreciation
- Retirement
- Ending Tax Reserve Balance

In these forecasts, the initial plant investment was based on the allocated purchase price of $28,000,000. Initially, the Cost Approach results are utilized to allocate the purchase price by category of plant (NARUC account). The Cost Approach results also define the property's ages and remaining lives of the various plant investment categories. Using these inputs, the future periods book and tax depreciation can be forecast, as well as the accumulated deferred taxes and resulting rate base.

With a forecast of the future rate base and an estimate of the Pennsylvania Commission's authorized return on rate base, the future return on rate base can be estimated which along with the forecast operating expenses (operating expenses, depreciation, and taxes) the future period revenue requirement forecasts can be made. An estimate of the PA Commission return on rate base is detailed as follows:

Water and Wastewater Cost of Capital
First Quarter 2023 (01-01-2023)

As an Investor-Owned Utility

Weighted Cost of Capital (Rate of Return on Rate Base)

(1)	(2)	(2a)	(3)	(3a)	(4)	(4a)	(5)
	Portion of Capital AUS Input	Type of Data	Capital Cost AUS Input	Type of Data	Tax Rate	Tax affect on cost of capital	Required Return on Rate Base (2)*(3)
Debt	50%	Embedded	3.76%	Embedded	Not Applicable	Not Applicable	1.88%
Equity	50%	Embedded	9.75%	Market	Not Applicable	Not Applicable	4.88%
Total Capital r	**100.0%**						**6.76%**
Growth (g)						Not Applicable	**0.00%**
Rate without Growth: [(1+r)/(1+g)]-1							**6.76%**

Based on a comparison of the forecast revenues and the forecast of the estimated revenue requirement, future period rate increases were forecast. The criteria in making future period rate adjustments was to bring the forecast achieved return in line with the required return. Based on this process the results of future operations were forecast for the next 20-year period. Period 20 of the forecast was treated in the discounted cash flow as the forecast for period 20 through perpetuity.

Finally, the resultant cash flows from future period operations of the System were discounted to the appraisal date using a market derived discount rate for a public investor-owned water/wastewater utility (Cost of Capital / Required Return tab). The following table details the market discount rate developed using the weighted average cost of capital (WACC) of the market debt and equity:

Water and Wastewater Cost of Capital
First Quarter 2023 (01-01-2023)

As an Investor-Owned Utility

Weighted Cost of Capital (Discount Rate)

(1)	(2)	(2a)	(3)	(3a)	(4)	(4a)	(5)
	Portion of Capital AUS Input	Type of Data	Capital Cost AUS Input	Type of Data	Tax Rate	Tax affect on cost of capital	After-tax Market Capital Cost (2)*(3)*(4a)
Debt	30%	Market	5.34%	Market	28.89%	71.11%	1.14%
Equity	70%	Market	9.75%	Market	0.0%	100.0%	6.83%
Total Capital r	**100.0%**						**7.97%**
Growth (g)							**2.68%**
Rate without Growth: [(1+r)/(1+g)]-1							**5.15%**

The market cost of debt was developed based on market returns for utilities debt as reported in the Value Line Investment Survey. The market cost of equity was developed

using the capital asset pricing model (CAPM) and the dividend-growth model (DGM). Input to these equity costing models were developed based on Value Line Investment Surveys for the water industry published for January 6, 2023, consisting of the following nine companies:

Company	
American States Water (NYSE-AWR)	American Water ((NYSE-AWK)
California Water (NYSE-CWT)	Essential Utilities, Inc. (NYSE-WTRG)
Middlesex Water (NDQ-MSEX)	SJW Corporation (NYSE-SJW)

The Value Line data was also used to develop the market capital structure used in the WACC determination. The market required return analysis can be found in the Cost of Capital / Required Return tab.

The following table presents the results of the discounted cash flow analysis:

Pennsylvania American Water Company (PAWC)
Elizabeth Borough Municipal Authority
Wastewater System
Potential Purchaser: Investor-Owned Utility
As of January 24, 2023
Discounted Cash Flow Analysis

Discount Rate: 7.97%
Capitalization Rate: 5.15%

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Period	Age	Revenues	O&M Expenses	Tax Depreciation	Cash Flow from Operations	Taxable Income before State & Federal Taxes	State and Federal Taxes @ 28.89%	Capital Expenditures	Change in Working Capital	Net Cash Flows	Period Present Worth Factor (PW)	PW of Cashflow	Accumulated PW of Cashflows
					(3)-(4)	(6)-(5)	(7) *28.89%			(3)-(4)-(8)-(9)-(10)		(11)*(12)	Sum (13)
1	0.5	2,061,700	976,538	1,107,754	1,085,162	(22,592)	(6,527)	437,271	-	654,418	0.962	629,550	629,550
2	1.5	2,061,700	1,005,834	1,121,115	1,055,866	(65,249)	(18,850)	440,746	-	633,970	0.891	564,867	1,194,417
3	2.5	2,886,380	1,036,008	1,134,701	1,850,372	715,671	206,757	444,051	44,532	1,155,032	0.826	954,056	2,148,473
4	3.5	2,886,380	1,067,088	1,148,522	1,819,292	670,770	193,785	447,380	-	1,178,127	0.765	901,267	3,049,740
5	4.5	2,886,380	1,099,101	1,162,581	1,787,279	624,698	180,475	450,736	-	1,156,068	0.708	818,496	3,868,236
6	5.5	3,896,613	1,132,074	1,176,880	2,764,539	1,587,659	458,675	454,116	54,553	1,797,195	0.656	1,178,960	5,047,196
7	6.5	3,896,613	1,166,036	1,191,401	2,730,577	1,539,176	444,668	463,975	-	1,821,934	0.607	1,105,914	6,153,110
8	7.5	3,896,613	1,201,017	1,206,188	2,695,596	1,489,408	430,290	467,454	-	1,797,852	0.563	1,012,191	7,165,301
9	8.5	5,065,597	1,237,049	1,221,223	3,828,548	2,607,325	753,256	470,959	63,125	2,541,208	0.521	1,323,969	8,489,270
10	9.5	5,065,597	1,274,162	1,236,511	3,791,435	2,554,924	738,117	474,492	-	2,578,826	0.483	1,245,573	9,734,843
11	10.5	5,065,597	1,312,387	1,252,054	3,753,210	2,501,156	722,584	478,050	-	2,552,576	0.447	1,141,001	10,875,844
12	11.5	5,825,437	1,351,758	1,267,855	4,473,679	3,205,824	926,163	481,636	41,031	3,024,849	0.414	1,252,287	12,128,131
13	12.5	5,825,437	1,392,311	1,283,917	4,433,126	3,149,209	909,806	485,249	-	3,038,071	0.383	1,163,581	13,291,712
14	13.5	5,825,437	1,434,081	1,300,243	4,391,356	3,091,113	893,023	488,888	-	3,009,445	0.355	1,068,353	14,360,065
15	14.5	6,174,963	1,477,104	1,316,836	4,697,859	3,381,023	976,777	492,555	18,875	3,209,652	0.329	1,055,976	15,416,041
16	15.5	6,174,963	1,521,417	1,333,699	4,653,546	3,319,847	959,104	496,250	-	3,198,192	0.305	975,449	16,391,490
17	16.5	6,174,963	1,567,060	1,350,835	4,607,903	3,257,068	940,967	499,971	-	3,166,965	0.282	893,084	17,284,574
18	17.5	6,545,461	1,614,072	1,368,247	4,931,389	3,563,142	1,029,392	503,720	20,007	3,378,270	0.261	881,728	18,166,302
19	18.5	6,545,461	1,662,495	1,385,940	4,882,966	3,497,026	1,010,291	507,499	-	3,365,176	0.242	814,373	18,980,675
20 and beyond	19.5	6,545,461	1,712,370	1,403,914	4,833,091	3,429,177	990,689	511,304	-	3,331,098	2.811	9,363,716	28,344,391
								9,496,302					

Age				19.5									
PW(Age) = 1/(1+Discount Rate)$^{(Age)}$				0.224									
PW to Perpetuity = 1/Capitalization Rate				12.547									
$PW_{(20and\ Beyond)}$ = PW to Perpetuity * PW $Factor_{(19.5)}$				2.811									
								Net Plant		21,427,869			
								ADIT		(2,578,729)			
								Rate Base		18,849,140	0.224	4,222,207	23,202,882
								Annual Plant Construction Inflation Rate		0.0422 Input			
								Plant Inflation over 19.5 years		43,083,691	0.224	9,650,747	28,631,422
								PP	28,000,000				
								OCLD	16,678,044				
								PP/OCLD	1.679				
								RCNLD	26,138,297				
								RCNLD/PP		0.933510607			
										17,595,871.67	0.224	3,941,475	22,922,150
								Average					25,775,211

Based on the above-described discounted cash flow analysis, the Income Approach to value of the System's wastewater property and its operations was determined to be $28,344,391. To ensure that the above-described forecast captured the entire economic returns of the property an additional 40-year period beyond the original 20-year forecast was made. This additional forecast indicated the reasonableness of the initial forecast results.

Market Approach (Market Approach tab)

The market or comparable sales approach to value looks to market sales of comparable properties in order to arrive at value. In this appraisal, the market approach was

addressed from a comparable sales approach using Pennsylvania water and wastewater systems and market value to book value ratios based on investor-owned water utilities reported in Value Line Investment Survey.

Market Sales – In the comparable sales market approach the sales of Pennsylvania municipal water and wastewater systems to investor-owned water/wastewater utilities following the passage of Section 1329 were used to insure comparability. The following sales were considered:

Water and Wastewater System Sales

Comparable Sales Approach

Market Sales Data post Section 1329

RowID	Pennsylvania Public Utility Commission Case	Approximate Date	Buyer	Seller	AUS Consultants (AUS) or Weinert Appraisal and Depreciation Services, LLC (WAD)	Type of Purchase Process	County	Type of Facility	Initial Purchase Price
1	A-2017-2606103	9/1/2016	PA American Water	City of McKeesport	AUS for PAWC		Allegheny	Wastewater Collection and Treatment	156,000,000
2	A-2016-2580061	8/1/2016	Aqua PA	New Garden Twp. SA	AUS for Seller		Chester	Wastewater Collection and Treatment	29,500,000
3	A-2017-2605434	11/16/2016	Aqua PA	Limerick Township			Montgomery	Wastewater Collection and Treatment	75,100,000
4	A-2018-3001582	12/10/2017	Aqua PA	East Bradford Township	AUS for Seller		Chester	Wastewater Collection and Treatment	5,000,000
5	A-2018-3003519	4/20/2018	SUEZ	Mahoning		Competitive 2 bidders	Carbon	Water Distribution	4,734,800
6	A-2018-3003517	4/20/2018	SUEZ	Mahoning		Competitive 2 bidders	Carbon	Wastewater Collection	4,765,200
7	A-2019-3008491	6/1/2018	Aqua PA	Cheltenham	AUS for Seller	Competitive 3 bidder	Montgomery	Wastewater Collection	50,250,000
8	A-2019-3006880	11/14/2018	PA American Water	Steelton	AUS for PAWC	Competitive 4 bidder	Dauphin	Water Treatment and Distribution	22,500,000
9	A-2018-3002437	1/1/2017	PA American Water	Sadsbury	AUS for PAWC		Chester	Wastewater Collection	9,250,000
10	A-2018-3004933	5/28/2018	PA American Water	Exeter	AUS for PAWC		Berks	Wastewater Collection and Treatment	96,000,000
11	A-2019-3009052	10/29/2018	Aqua PA	East Norriton	AUS for Seller	Competitive 3 bidder	Montgomery	Wastewater Collection	21,000,000
12	A-2019-3014248	9/30/2018	PA American	Kane	AUS for PAWC		McKean	Wastewater Collection and Treatment	17,560,000
13	A-2020-3019634	12/10/2019	PA American	Royersford	AUS for PAWC		Montgomery	Wastewater Collection and Treatment	13,000,000
14	A-2020-3019859	12/17/2019	PA American	Valley	AUS for PAWC		Chester	Water Treatment and Distribution	7,325,000
15	A-2020-3014248	12/17/2019	PA American	Valley	AUS for PAWC		Chester	Wastewater Collection	13,950,000
16	A-2019-3015173	12/31/2019	Aqua PA	Delaware County Regional Water Quality Authority (DELCORA)			Delaware	Wastewater Collection and Treatment	276,500,000
17	A-2020-3021460	4/28/2020	PA American Water	Upper Pottsgrove	AUS for PAWC	Competitive 2 bidders PAWC & Aqua	Montgomery	Wastewater Collection	13,750,000
18	A-2021-3024267	9/17/2020	Aqua PA	Lower Makefield	AUS for Seller	Competitive 3 bidders 2 IOUs AQUA & PAWC & 1 Muni	Bucks	Wastewater Collection and Treatment	53,000,000
19	A-2021-3026132	1/8/2021	Aqua PA	East Whiteland Township	AUS for Seller		Chester	Wastewater Collection and Treatment	54,930,000
20	A-2021-3027268	1/20/2021	Aqua PA	Willistown Township	AUS for Seller		Chester	Wastewater Collection and Treatment	17,500,000
21	A-2021-3024681	4/6/2021	PA American Water	City of York	AUS for PAWC		York	Wastewater Collection and Treatment	235,000,000
22	A-2022-3033138		Aqua PA	City of Beaver Falls				Wastewater Collection and Treatment	41,250,000
23	A-2022-3034143	7/8/2022	Aqua PA	Municipal Authority of the Borough of Shenandoah				Water Treatment and Distribution	12,000,000
24	A-2021-3024058	1/1/2023	PA American Water	Borough of Brentwood	WAD for PAWC			Wastewater Collection	19,200,000
25	A-2022-3037047	10/11/2022	PA American Water	Butler Area Sewer Authority	WAD for PAWC			Wastewater Collection and Treatment	231,500,000
26	A-2023-3039900		PA American Water	Towamencin Township				Wastewater Collection and Treatment	104,000,000
	End of Section 1329 Data								
					Count 19			Wastewater Collection and Treatment	15
								Wastewater Collection	7
								Water Treatment and Distribution	3
								Water Distribution	1
								All section 1329 Mean	26

In order to arrive at a measure of comparability these system sales were analyzed in relationship of the purchase price to the properties' depreciated original cost (OCLD) and depreciated replacement cost (RCNLD) (Market tab).

The following table summarizes both the comparable sales and financial market ratio analysis and the Market Approach conclusion of this appraisal:

Market Comparables to OCLD and CORLD:

Pennsylvania American Water Company (PAWC)
Elizabeth Borough Municipal Authority
Wastewater System
Investor-Owned Utility
As of January 24, 2023

Comparable Sales Approach

Market Sales Data

Market Sales Analysis - PP/OCLD	Simple		**Market Sales Analysis - PP/CORLD**	Simple	
All Section 1329 Acquistions			All Section 1329 Acquistions		
Mean	1.9760		Mean	0.8216	
Standard Deviation	0.9114		Standard Deviation	0.2210	
Median	1.5514		Median	0.8951	
Water Treatment & Distribution			Water Treatment & Distribution		
Mean	1.4354		Mean	0.7686	
Water Distribution			Water Distribution		
Mean	0.00		Mean	0.00	
Wastewater Collection & Treatment			Wastewater Collection & Treatment		
Mean	1.7972		Mean	0.8536	
Wastewater Collection			Wastewater Collection		
Mean	1.8733		Mean	0.8077	
Wastewater Treatment Only			Wastewater Treatment Only		
Mean	-0.07607		Mean	0.0459	
WADS Conclusion	1.7972	WADS Input	WADS Conclusion	0.8536	WADS Input
Elizabeth Borough Municipal Authority OCLD	21,196,968	Cost Approach - OCLD	Elizabeth Borough Municipal Authority CORLD	30,657,221	Cost Approach - CORLD
Market Value Indication	**38,095,898**		**Market Value Indication**	**26,169,515**	

Market Comparables to Customer and Value Line Comparables:

Pennsylvania American Water Company (PAWC)
Elizabeth Borough Municipal Authority
Wastewater System
Investor-Owned Utility
As of January 24, 2023

Comparable Sales Approach

Market Sales Analysis - PP/Customer

	Simple
All Section 1329 Acquistions	
Mean	8,924
Standard Deviation	4,355
Median	8,551
Water Treatment and Distribution	
Mean	7,188
Water Distribution	
Mean	3,992
Wastewater Collection & Treatment	
Mean	10,200
Wastewater Collection	
Mean	6,507
Watewater Treatment Only	
Mean	3,693

Financial Basis[1]

Financial Markets	Market Value per Share to Book Value per Share	
Market to Book (equity)	3.21	
Market to Book (equity and debt)	1.94	
Use (equity and debt)	1.94	WADS Input

Conclusion

Elizabeth Borough Municipal Authority Customers	1,860	WADS Input	Elizabeth Borough Municipal Authority OCLD	16,360,544	Cost Approach - OCLD
Wastewater Collection & Treatment	10,200	WADS Input			
Collection and Treatement Customers Market Value Indication	**18,972,000**		**Market Value Indication**	**31,739,456**	
Treatement Only Market Value Indication					
Treatment Only PP/customer	3,693	WADS Input			
Treatment Only Customers	330	WADS Input			
Market Value Indication Treatment Only	**1,218,690**				
Total Market Value Indication	**20,194,383**				

Market Comparables to EBITDA: 5-year and 13-year Averages:

Pennsylvania American Water Company (PAWC)
Elizabeth Borough Municipal Authority
Wastewater System
Investor-Owned Utility
As of January 24, 2023

Comparable Sales Approach

Market Sales Analysis - PP/Cash Flows (EBITDA Period 1-5)	Simple		**Market Sales Analysis - PP/Cash Flows (EBITDA Period 1-13)**	Simple	
All Section 1329 Acquistions			All Section 1329 Acquistions		
Mean	16.95		Mean	12.04	
Standard Deviation	5.91		Standard Deviation	3.59	
Median	16.94		Median	11.98	
Conclusion	18.00	WADS Input	Conclusion	12.00	WADS Input
Water Treatment and Distribution			Water Treatment and Distribution		
Mean	14.13		Mean	7.37	
Water Distribution			Water Distribution		
Mean	0.00		Mean	0.00	
Wastewater Collection & Treatment			Wastewater Collection & Treatment		
Mean	16.51		Mean	11.45	
Wastewater Collection			Wastewater Collection		
Mean	18.71		Mean	12.89	
Watewater Treatment Only			Watewater Treatment Only		
Mean	(2.20)		Mean	(1.44)	
Conclusion			**Conclusion**		
		Income			Income
Elizabeth Borough Municipal Authority Cash Flows	1,485,443	Approach	Elizabeth Borough Municipal Authority Cash Flows	1,973,423	Approach
Wastewater Collection & Treatment	16.51		Wastewater Collection & Treatment	11.45	
Market Value Indication	**24,526,770**			**22,602,560**	

The market approach conclusion of this appraisal was determined to be $27,221,430 summarized as follows:

Pennsylvania American Water Company (PAWC)
Elizabeth Borough Municipal Authority
Wastewater System
Investor-Owned Utility
As of January 24, 2023

Comparable Sales Approach

Summary of Market Analyses

Indicators	
OCLD	38,095,898
CORLD	26,169,515
Customers	20,194,383
Cash Flows	
EBITDA Periods 1-5	24,526,770
EBITDA Periods 1-13	22,602,560
Value Line	31,739,456
Mean	27,221,430
Median	25,348,143
Conclusion	**27,221,430**

Cost Approach Revisited – Before concluding this appraisal's fair market value, the preliminary cost approach conclusion of $26,138,297 needs to be evaluated to determine if external obsolescence exists in the preliminary replacement cost new less depreciation. The appraisal literature regarding developing a cost approach state:

> "The last step in the implementation of the cost approach is to estimate *economic obsolescence*. Economic obsolescence (sometimes called "external obsolescence") has been previously defined as the loss in value or usefulness of a property caused by factors external to the asset. These factors include increased cost of raw materials, labor, utilities (without an offsetting increase in product price); reduced demand for the product; increased competition; environmental or other regulations; or similar factors.
>
> The difficulty in measuring the full effect of economic obsolescence is one of the weaknesses of the cost approach. Because economic obsolescence is usually a function of outside influences that affect an entire business (i.e., all tangible and intangible assets) rather than individual assets or isolated groups of assets, it is sometimes measured using the income approach or by using the income approach to help identify the existence of economic influences on value. However, the cost approach can be used to measure some forms of economic obsolescence."[15]

The above-described income approach value conclusion of $28,344,391 and the approach conclusion of $27,221,430 for the Elizabeth Borough's future wastewater system compared to the preliminary cost approach conclusion of $26,138,297 indicates no significant external obsolescence exists in the cost approach conclusion of $26,138,297 detailed as follows:

[15] Valuing Machinery and Equipment: The Fundamentals of Appraising Machinery and Technical Assets, Second Edition, pp. 96-97.

Elizabeth Borough Municipal Authority
Wastewater System
Investor-Owned Utility
As of January 24, 2023

	Column Reference in OCLD & RCNLD	Amount in $s		Intangible Assets Income	Customer	Use
Depreciated Replacement Cost (RCNLD)						
Original Cost (OC)	(9)	19,220,012				
Replacement Cost New (RCN)	(16)	41,115,131				
Replacement Cost New less Depreciation (RCNLD)	(31)	25,820,797	Purchase Price			28,000,000
Construction Work in Progress (CWIP)		317,500				
Tangible Assets		26,138,297				
Economic Obsolescence				4,518,924	13,173,090	4,518,924
EO Factor	(40)	0.00%	Economic Obsolescence			
RCNLD less EO	(41)	26,138,297	Enterprise Analysis			
				28,344,391	27,221,430	1.00000000

Pennsylvania American Water Company (PAWC)
Elizabeth Borough Municipal Authority
Wastewater System
Investor-Owned Utility
As of January 24, 2023

(36)	(37)		(38)	(39)	(40)	(41)
Account	Description		Placement Year	Preliminary Cost Approach CORLD $s	Economic Obsolescence % of Preliminary Cost Approach	Fair Market Value Appraisal Date Value $s
Input	Input		Input	Calculation	Input	Calculation
AUS Input	Eng Assmnt		Eng Assmnt	CORLD	AUS Economic Obsolescence Analysis	(39) * [1.00-Col (40)]
Account	Description			Year	Prelim CORLD	EO%	FMV
	10" Gravity Collection Sewer						
361.1		105		1950	4,086	0.00%	4,086
361.1		168		1950	5,841	0.00%	5,841
361.1		169.1		1950	9,149	0.00%	9,149
	Subtotal 10" Gravity Collection Sewer				**19,077**	**0.00%**	**19,077**

Therefore, the preliminary cost approach conclusion of $26,138,297 can be considered the final cost approach conclusion as follows:

Pennsylvania American Water Company (PAWC)
Elizabeth Borough Municipal Authority
Wastewater System
Investor-Owned Utility
As of January 24, 2023

Fair Market Value

(36)	(37)	(39)	(40)	(41)
Account	Description	Preliminary Cost Approach	Economic Obsolescence	Fair Market Value
		CORLD $s	% of Preliminary Cost Approach	Appraisal Date Value $s
Input	Input	Calculation	Input	Calculation
Eng Assmnt	Eng Assmnt	Col (31)	AUS Economic Obsolescence Analysis	(39) * [1.00-Col (40)]
Account	Description	Prelim CORLD	EO%	FMV
353.00	Land and Land Rights	610,131	0.00%	610,131
380.00	Wastewater Treatment Plants	2,964,113	0.00%	2,964,113
371.00	Pumping Stations	9,264,099	0.00%	9,264,099
361.00	Collection System	12,763,428	0.00%	12,763,428
390.00	Other Plant	219,026	0.00%	219,026
-	**Total - Inservice**	**25,820,797**	**0.00%**	**25,820,797**
361 CWIP	Collection System - CWIP	310,000	0.00%	310,000
371 CWIP	Pumping Stations - CWIP	7,500	0.00%	7,500
	Total CWIP	317,500	0.00%	317,500
	Grand Total	26,138,297		26,138,297

Value Conclusion

The Fair Market Value of the Elizabeth Borough's, Pennsylvania's wastewater property, plant and equipment and its operation were determined to be $28,741,014 as follows:

Elizabeth Borough Municipal Authority
Wastewater System
Investor-Owned Utility
As of January 24, 2023
Fair Market Value Appraisal

Appraisal Approach		Investor-owned Utility	Weight	Wtd Valuation Indications
Cost Approach				
Inventory of Assets				
Original Cost ($OC)		19,220,012		
Depreciated Original Cost ($OCLD)		16,360,544		
Construction Work in Progress (CWIP)		317,500		
Total Tangible Assets		16,678,044		
Intangible Assets (Treatement contracts)		4,518,924		
Cost Approach of all assets Conclusion		21,196,968		
Replacement Cost				
Replacement Cost New (COR)		41,115,131		
Depreciated Replacement Cost New (CORLD)	$	**25,820,797**		
Construction Work in Progress (CWIP)	$	**317,500**		
External or Economic Obsolescence			AUS Input	
Market Value of Tangible Assets	$	**26,138,297**		
Intangible Assets (Treatement contracts)	$	4,518,924		
Cost Approach of all assets Conclusion		**30,657,221**		
Cost Approach Conclusion		**30,657,221**	**33.33%**	**10,219,074**
Income Approach				
Required Rate Increases: 40% period 3, 35% period 6, 30% period 9, 15% period 12, and 6% every 3rd year beginning in period 15 (Input 6)		28,344,391		
Income Approach Conclusion		**28,344,391**	**33.33%**	**9,448,130**
Market Approach				
Market Comparables (to)				
OCLD		38,095,898		
CORLD		26,169,515		
Customers		20,194,383		
Cash Flows (EBITDA) Periods 1-5		24,526,770		
Cash Flows (EBITDA) Periods 1-13		22,602,560		
Market Financials (to)				
OCLD		31,739,456		
Market Approach Conclusion		**27,221,430**	**33.33%**	**9,073,810**
Appraisal Conclusion	**$**	**28,741,014**	**100%**	**28,741,014**
Conclusion (cost approach)	**$**	**30,657,221**		

As the purpose of this appraisal was to fulfill the requirements of Section 1329 of the PA CS in the establishment of value for rate making of the Elizabeth Borough's wastewater collection and treatment system's property, plant and equipment this appraisal's conclusion of $28,741,014 is consistent with the purpose of the appraisal. As the cost approach work papers detail our value conclusion by National Association of Regulatory Utility Commissioners' (NARUC) Uniform System of Accounts (USOA) for the water industry account classifications and the installation year of the property, this detail can be used to allocate the appraisal conclusion to establish the booked value for future accounting and rate making.

ELIZABETH BOROUGH MUNICIPAL AUTHORITY

WASTEWATER SYSTEM ASSETS

FAIR MARKET VALUE APPRAISAL

AT

MARCH 31, 2023

Prepared by:

GANNETT FLEMING

Gannett Fleming
Valuation and Rate Consultants, LLC

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

gannettfleming.com

April 26, 2024

Via email to adminassist@ebmastp.com

Mr. Timothy Guffey
Chairman
Elizabeth Borough Municipal Authority
1 Locust Street
Elizabeth, PA 15037

Dear Mr. Guffey:

Fair Market Value Appraisal

In accordance with your request, we have prepared a fair market value appraisal of the Elizabeth Borough Municipal Authority's wastewater system assets ("Wastewater System") consistent with the Engineer's Assessment's inventory date of March 31, 2023.

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

Based on our analysis, as described in the attached appraisal report, we are of the opinion that the fair market value of the Wastewater System is $28.1 million ($28,136,000 rounded), as of March 31, 2023.

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

The attached narrative appraisal presents our findings and opinion regarding the fair market value of the Wastewater System's assets of March 31, 2023. The report describes the valuation methodologies employed and the Exhibits that present the valuation results.

GANNETT FLEMING

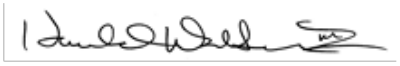
The results of the analyses and calculations completed for each applicable approach are detailed throughout the report and the Exhibits and are summarized below.

Valuation Approach	Indicated Value
Cost Approach	$28,371,029
Income Approach	28,359,361
Market Approach	27,678,195

We thank the Elizabeth Borough Municipal Authority for this opportunity to provide valuation services in connection with the fair market value appraisal of the Wastewater System's assets.

Respectfully Submitted,

GANNETT FLEMING VALUATION
AND RATE CONSULTANTS, LLC



HAROLD WALKER, III
Manager, Financial Studies

HW:mle

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INTRODUCTION

Introduction and Summary. The following narrative report presents our findings and opinion regarding the fair market value of the wastewater system assets of the Elizabeth Borough Municipal Authority ("EBMA") as of March 31, 2023. This report describes the valuation methodologies employed and the Exhibits that present the valuation results. Our conclusion of value is based upon the values indicated by the Cost, Income, and Market approaches to valuation. During our analysis we found measures of value that ranged from $27.7 million to $28.4 million. Based upon our analyses, we are of the opinion that the fair market value of EBMA's wastewater system assets is $28.1 million ($28,136,000 rounded), as of March 31, 2023.

Description of the Assignment. Gannett Fleming Valuation and Rate Consultants, LLC was retained by EBMA to estimate the fair market value of the EBMA's wastewater system assets ("Wastewater System"), as of March 31, 2023, in compliance with the Uniform Standards of Professional Appraisal Practices ("USPAP"), considering the cost, market, and income approaches to valuation reflecting the Engineers Assessment's inventory.

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

Standard and Premise of Value. The standard of value for this engagement is fair market value.[1] 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."[2]

As stated, the standard of value for this engagement is fair market value. The premise of value is the going concern. The going concern premise of business value assumes that the business will continue running normally using all its assets to produce income and will continue running normally as a viable entity for the foreseeable future (i.e., not liquidated).

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

Subject Interest. This subject is fee simple interest, is marketable but is not a liquid interest. The binding agreement governing this transaction is the asset purchase agreement.

Effective Date. The valuation date or effective date is the date on which the appraisal of the Wastewater System applies. The effective date is March 31, 2023.

Date of Report. The date of the report is the date on which the appraisal is transmitted to the client. The date of the report is April 26, 2024.

1 Pratt, Shannon P. "Defining Standards of Value." Valuation 34, no. 2, June 1989. http://www.appraisers.org/docs/default-source/college-of-fellows-articles/defining-standards-of-value.pdf .
2 National Association of Certified Valuators and Analysts, s.v. "Fair Market Value," *The International Glossary of Business Valuation Terms*

Client and Users. The client is the Elizabeth Borough Municipal Authority. The intended users of the valuation are Elizabeth Borough Municipal Authority, Pennsylvania American Water Company, Inc., and the Pennsylvania Public Utility Commission ("PUC").

Type of Property. The Wastewater System is a combined sewage collection, conveyance, and treatment system that provides wastewater service in Elizabeth Borough, and parts of Elizabeth Township, Forward Township, and Lincoln Borough, all located in Allegheny County, Pennsylvania. The Wastewater System is a special purpose property.

Special Purpose Property. The Wastewater System is considered a special purpose property. Special purpose property is property that has limited use, is uniquely designed, or has other features that limit the property's use for purposes other than the one for which it was built and has no widespread market for the type of property. Examples of special purpose property include churches, schools, and public utilities.[3] Special purpose property often have special process-related equipment installed (e.g., filters, pumps, chemical systems, etc.) that cannot be removed without significantly altering the property's improvements. The function of the Wastewater System is the collection, conveyance, and treatment of wastewater. The Wastewater System was specially built for the specific purposes for which it was designed and continues to be used for those purposes.

Highest and Best Use. The highest and best use for the Wastewater System is as a combined sewage collection, conveyance, and treatment system. Since the property is specifically designed, configured, and constructed solely as a combined sewage collection, conveyance, and treatment system, no alternate highest and best use was considered.

3 "Special-Purpose Property Law and Legal Definition," *USLegal, Inc.* Accessed 6/1/23. https://definitions.uslegal.com/s/special-purpose-property/#:~:text=This%20type%20of%20property%20has,for%20which%20it%20was%20built.

Market Participants. The market participants expected to be a buyer in a fair and open negotiation to purchase the Wastewater System are assumed to include large investor-owned utilities ("IOU") and larger regional municipal authorities ("MUNI") that are involved in owning and/or operating other water and/or wastewater systems.

Market Exposure. The time duration of market exposure for a sale, or asset purchase agreement, is estimated at one year.

Condition. Gannett Fleming relied on the engineering assessment of the Wastewater System's facilities report, "Engineering Assessment Study, Physical Assets of the Elizabeth Borough Municipal Authority," dated February 2024, and related files prepared by LSSE, Inc. ("Engineering Assessment"), to confirm the condition of the Wastewater System's property and equipment. According to the Engineering Assessment, LSSE, Inc. found the Wastewater System to be in good to fair condition.

Jurisdictional Exceptions. In accordance with 66 Pa. C.S. Section 1329, and PUC rules, the acquiring public utility and selling utility jointly retain a licensed engineer to conduct an assessment of the tangible assets of the system (i.e., Engineering Assessment) to be acquired. The Engineering Assessment is required to be used by the appraiser in determining fair market value. The Engineering Assessment provides both a condition assessment and original cost inventory of the assets.

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

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

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

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

Site Inspection. We viewed or observed the Wastewater System's facilities on April 17, 2024. We also relied on Engineering Assessment of the Wastewater System to confirm the condition of the Wastewater System's property and equipment.

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

Gannett Fleming attests that it does not derive any material financial benefit from the sale of, or purchase of, a selling utility other than fees for services rendered. Gannett Fleming also verifies it does not have any immediate family members who are directors, officers or employees of either an acquiring public utility, entity or selling utility within a 12-month period of the date

of hire to perform this appraisal. We further affirm that Gannett Fleming is not directly or indirectly owned, partnered or in any way affiliated with a water/wastewater distribution company.

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

"Engineering Assessment Study, Physical Assets of the Elizabeth Borough Municipal Authority," dated February 2024, and related files prepared by LSSE, Inc.;

EBMA provided electronic files (e.g., PDF and/or Excel);

EBMA's Audited Financials (2019-2022);

EBMA's Budget (2023 and 2024);

Asset Purchase Agreement;

Wastewater System's Service Agreements;

EBMA's Customer List;

EBMA's Maps;

STP Compliance Evaluation Inspection Reports;

EBMA's CSO Long-Term Control Plan;

EBMA's NPDES Electronic Discharge Monitoring Reports;

Wastewater System's Fee Schedule;

Wastewater System's Act 537 Plan update;

Wastewater System's 2022 Chapter 94 Report;

Blue Chip Financial Forecasts;

US Census Bureau, various data files;

Value Line Investment Survey; and

S&P Capital IQ.

Description of Elizabeth Borough. Elizabeth Borough is located in southern Allegheny County, in western Pennsylvania. Elizabeth Borough is bordered to its west and northwest by the Monongahela River, Elizabeth Township to the northeast and east and Forward Township to the southeast and south. Elizabeth Borough is the 119th largest land mass of Allegheny County's 128 municipalities and was the 102nd most populous with 1,476 people (2019) and 736 housing units (2018). Elizabeth Borough consists of 0.3 square miles and lies approximately 46 miles south-southeast of Pittsburgh, Pennsylvania. According to U.S. Census figures, Elizabeth Borough's population shrank 6.4% from 2010 to 2020, while population in Pennsylvania grew 2.4% and Allegheny County's population grew 2.2%.

Description of the Elizabeth Borough Municipal Authority. The Elizabeth Borough Municipal Authority was incorporated in 1949 pursuant to an Ordinance of Elizabeth Borough. The EBMA is not a component unit of Elizabeth Borough. The EBMA operates under a seven member board of directors, five of whom are appointed by Elizabeth Borough, and two appointed by Elizabeth Township.

Description of the Wastewater System. EBMA owns and operates the Wastewater System which is a combined sewer system that consists of a wastewater treatment plant ("WWTP"), a pump station, combined sewer overflow ("CSO") structures, over 8 miles of mains, approximately 248 manholes, associated infrastructure and appurtenances, and related land and land rights, all located within Elizabeth Borough.

The Wastewater System's WWTP receives and treats wastewater from the following municipalities: Elizabeth Borough, and parts of Elizabeth Township, Forward Township, and

Lincoln Borough.[4] The Wastewater System's WWTP is a 1.2 million gallons per day ("MGD") capacity plant. In 2022, the WWTP's average daily flow was 1.1 MGD (Exhibit 2). The WWTP, originally constructed in 1959 for a permitted capacity of 0.6 MGD, utilizes the activated sludge process for sewage treatment. The WWTP was upgraded in 1972, and in 1992, improvements were added and placed into operation to expand treatment to 1.2 MGD. The WWTP's dewatered sludge and process residuals are disposed at a regional landfill. The WWTP operates under NPDES Permit No. PA0028436.

The Wastewater System's pump station, constructed in 2022, has a current pumping capacity of 1.3 MGD. The pump station's channels and wetwell can accommodate future wet weather pumps to increase pumping capacity which will help reduce CSOs. The pump station is also equipped with a mechanical screen and grit removal to improve treatment efficiency at the WWTP and reduce wear on the raw sewage pumps. The Wastewater System's pump station connects to the WWTP through approximately 800 feet of dual 8-inch and 30-inch force mains.

Portions of the Wastewater System's collection system are combined sewers that convey sanitary sewage and stormwater. The EBMA submitted a Long-Term Control Plan ("LTCP") program to the Pennsylvania Department of Environmental Protection ("DEP") in 2004 to annually remove portions of the storm sewers from the sanitary sewer system. A revision of the LTCP was submitted to DEP in 2017 and was approved in 2018. The approved LTCP also addresses the forecasted hydraulic overload at the WWTP. The conveyance capacity of the collection system is exceeded in portions of the combined sewer system during wet weather events. The excess flow is currently discharged through one or more of five permitted and active CSO

4 Elizabeth Township and Forward Township own separate sanitary sewer conveyance systems that connect to the Wastewater System for transportation and treatment. The Lincoln Borough's sanitary sewer system connects to the Elizabeth Township system for conveyance to the Wastewater System.

structures. Additionally, as part of the LTCP the EBMA has separated some storm and sanitary sewer systems contributing to CSOs.[5] However, some inlets and piping in the stormwater system remain connected to the Wastewater System's combined sewer system.

The Wastewater System uses CCTV to document the conditions of the combined and sanitary sewer lines sewers and to plan for future repairs. Since 2013, CCTV inspections of over 47,400 linear feet of combined and sanitary sewer lines sewers have been completed. The CCTV inspections have resulted in excavated spot repairs, trenchless spot repairs, and manhole installation and grade ring/lid replacements. Additionally, the CCTV inspections have resulted in the Wastewater System's relining of approximately 30% (13,099 linear feet) of gravity mains in 2015 and 2016.

The Wastewater System's 43,949 linear feet of gravity mains (sewer trunk and interceptor mains) are primarily vitrified clay pipe (VCP) and polyvinylchloride pipe (PVC) installed in 1950 and 1998 that range in diameter between 6-inches to 48-inches. About 80% of the gravity mains are 12-inches in diameter or larger, with 64% being 12-inches in diameter. Almost 90% of the gravity mains were installed in 1950 and 10% in 1998. Over 23% of the segments of gravity mains were spot repaired (trenchless or excavated) in 2015 and approximately 30% of the linear feet of gravity mains were lined in 2015 and 2016. There are 248 manholes and there are no service laterals in the system.[6]

The EBMA utilizes a proprietary fund type measurement to account for the Wastewater System's operations. The EBMA's financial statements reflect the use of full accrual accounting,

5 For example, a storm sewer separation project of 2,291 linear feet of storm sewer was completed in 2017, a sewer separation project of 1,830 linear feet of storm sewer pipe was completed 2018 and in 2020, a sewer separation project of 3,080 linear feet was completed.
6 Service laterals are owned by property owners from the structure to the main sewer line and are not included in this appraisal.

which measures revenues when earned and expenses when a liability is incurred, regardless of the timing of related cash flows.

During our analysis, we used the EBMA's audited financial statements which encompassed the years 2019 to 2022. For the year ended December 31, 2022 (shown on Exhibit 1) the Wastewater System reported revenues of $1.822 million and expenses of $1.077 million. At the same point in time, the Wastewater System was capitalized with $5.519 million of fund equity and $13.446 million of debt. At the same point in time, the Wastewater System had total assets of $19.150 million, including $16.740 million of net utility plant.

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

As shown on Exhibit 2, the Wastewater System provides service directly to 683 customers ("domestic customers"). The Wastewater System's domestic customers include 680 retail

customers located in the Elizabeth Borough and three wholesale or bulk customers whose flows are transported and treated at the WWTP.[7] The Wastewater System's three wholesale customers service 1,502 customers whose flows are ultimately transported and treated at the WWTP ("ultimate wholesale customers"). In total, the Wastewater System provides wastewater service directly and indirectly to 2,182 customers ("ultimate customers"). The Wastewater System's 2,182 ultimate customers are comprised of 680 retail customers and 1,502 ultimate wholesale customers as shown on Exhibit 2.

The Wastewater System provides service to a population of 5,384 people and services to approximately 3,070 Equivalent Dwelling Units ("EDU"). EDUs are estimated to increase by 25 EDUs through 2027.

Demographics and Growth for the Wastewater System. As shown on Exhibit 3, Table 3.1, according to U.S. Census figures, the U.S. population grew 7.4% from 2010 to 2020, and the population in Pennsylvania grew 2.4%. During this same period, Allegheny County's population increased by 2.2%, the Elizabeth Borough's population decreased 6.4%, and the population of all four municipalities that are provided service by the Wastewater System decreased by 4.3% (Exhibit 3, Table 3.2). The Elizabeth Borough's population growth was ranked 1,856 of the 2,572 municipalities in Pennsylvania and the growth rate of the population for the four municipalities that are provided service by the Wastewater System would be ranked 1,595 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

7 The Wastewater System's three wholesale or bulk customers include: Elizabeth Township, Forward Township, and Lincoln Borough.

determine predictable demand for utility services, housing, roads, business services and facilities. The Southwestern Pennsylvania Commission ("SPC") is the regional planning agency serving the 10-county Southwestern Pennsylvania region. The 10-county Southwestern Pennsylvania region includes the counties of Allegheny, Armstrong, Beaver, Butler, Fayette, Greene, Indiana, Lawrence, Washington, and Westmoreland, and the City of Pittsburgh. The SPC publishes population projections and employment projections for the 10-county Southwestern Pennsylvania region and the municipalities which comprise the counties, which include the Wastewater System's service area.

As shown on Page 2 of Exhibit 3, Table 3.3, the Wastewater System service area's population growth is projected to be about 62% of the growth rate projected for the total SPC Region during each five-year period from 2020 through 2045. The Wastewater System service area's projected population growth would place them in the upper 61 percent or 61st percentile of the 586 municipalities analyzed by SPC, with a ranking of 230. Page 3 of Exhibit 3, Table 3.4 shows the Wastewater System service area's employment growth is projected to be 7.8%, which would rank them 143 and place them in the upper 76 percent, or 76th percentile of the 586 municipalities analyzed by SPC.

Currently, there are approximately 18,092 people (Exhibit 2) in the Wastewater System's service area and 17,989 people in households. There are 7,855 occupied housing units in the Wastewater System's service area, and the ratio of people to households is 2.29 persons per household. The Wastewater System's service area density is 7.9 people per customer based on an estimated service area population of 5,384 and 683 domestic customers.[8] The Wastewater

8 The service area density for ultimate customers is 2.5 people per customer.

System's service area density is higher than the 3.4 per customer density of water and water systems (see Table 2 in this report) indicating lower market penetration.

HISTORY AND NATURE OF THE BUSINESS

Economic Outlook. The valuation date (March 31, 2023) is the specific date at which the value of the Wastewater System is based. Generally, only the circumstances existing at the valuation date and events occurring up to the valuation date are considered. Events which could affect the value may occur after the valuation date.

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 March 31, 2023. We focused on the forecasts and economic commentary presented in Blue Chip Financial Forecasts in the March 1, 2023, edition. Some of these economic forecasts are presented in Table 1.

Economic Indicators

	Latest Qtr	Consensus Forecasts	
	4Q 2022	1Q 2023	2Q 2023
Key Assumptions			
Real GDP	2.7	0.5	-0.3
GDP Price Index	3.9	3.2	2.8
Consumer Price Index	4.2	3.7	3.1
Interest Rates			
3-mo. Treasury Bills	4.18	4.8	5.1
10 Year Notes	3.83	3.8	3.8
30 Year Notes	3.90	3.9	4.0
Aaa Corporate Bond Yield	5.15	4.8	5.1
Baa Corporate Bond Yield	5.89	5.8	6.0
State & Local Bonds	4.45	4.1	4.3
Home Mortgage Rate	6.69	6.3	6.4

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 2,069 U.S. Businesses with a SIC code of 4952.

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

A comparative industry to the wastewater utility industry is the water supply industry. The water utility industry has a Standard Industrial Classification ("SIC") code of 4941 (Water Supply), has water utilities, and includes establishments primarily engaged in distributing water for sale for residential, commercial, and industrial uses. Government controlled establishments such as municipal service districts and public utilities dominate the industry. Private companies or IOUs are active in the construction and improvement of water supply facilities and infrastructure. There are currently 11,424 U.S. Businesses with a SIC code of 4941.

The water supply industry is the most fragmented of the major utility industries with more than 53,000 community water systems in the U.S. (82% of which serve less than 3,300 customers).

The nation's water systems range in size from large municipally owned systems, such as the New York City water system that serves approximately 9 million people, to small systems, where a few customers share a common well.

An estimated 14% of all water suppliers are managed or owned by IOUs. IOUs consist of companies with common stock that are either actively traded or inactively traded, as well as companies that are closely held, or not publicly traded. Currently (March 31, 2023), there are only about nine investor-owned water utility companies with publicly traded stock in the U.S.

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

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

In summary, the result of increased capital spending, to meet the SDWA and CWA requirements[9] and to replace the aging infrastructure of many systems, has moved the water and wastewater industries toward consolidation. Moreover, Federal and State regulations and controls concerning water quality are still in the process of being developed and it is not possible to predict the scope or the enforceability of regulations or standards which may be established in the future, or the cost and effect of existing and potential regulations and legislation upon the water and wastewater systems. However, as a small to medium sized wastewater system, the Wastewater System faces the cost of compliance with significantly limited financial resources, competing for financial needs against other municipal services and the general unwillingness of elected officials to raise taxes when compared to larger IOU water utilities.

QUANTITATIVE AND QUALITATIVE ANALYSIS

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

The companies in the Comparable Group were selected based upon: (1) the availability of

9 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.

financial information; (2) inclusion in the S&P Capital IQ database; (3) a March 31, 2023 market value of common stock, the product of multiplying the closing stock price by the number of common shares outstanding, greater than $350.0 million; (4) a March 31, 2023 total enterprise value (the sum of market value, preferred stock and total debt) greater than $550.0 million; (5) were not the subject of a known acquisition at March 31, 2023; (6) with a Standard Industrial Classification (SIC) of 4941 (i.e., Water Supply Facilities and Infrastructure) and (7) with a North American Industry Classification System (NAICS) of 221310 (i.e., Water Supply and Irrigation Systems). The eight companies ("Comparable Group") that met the criteria for selection are listed in Table 2.

Acquisition Date Size Statistics

	Revenues (Mill. $)	Customers	Population	Customer Density
Elizabeth Borough MA Wastewater System Assets	$1.780	683	5,384	7.9
Comparable Group				
American States Water Co	$491.528	287,970	1,000,000	3.5
American Water Works Co Inc	3,792.000	3,449,000	14,000,000	4.1
Artesian Resources -CL A	98.897	104,740	324,220	3.1
California Water Service Gp	846.431	553,000	2,000,000	3.6
Essential Utilities, Inc.	2,288.032	1,851,586	5,000,000	2.7
Middlesex Water Co	162.434	122,300	500,000	4.1
SJW Corp	620.698	402,900	1,536,000	3.8
York Water Co	60.061	76,731	208,000	2.7
Median	$556.113	345,435	1,268,000	3.4

Table 2

We believe that similar economic, industry and business risks have affected the

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

Financial Review. We conducted a financial review that considered the financial and operating statistics for the Wastewater System and the Comparable Group for the three-year period, 2020 to 2022. It is our opinion that the economic, industry and business risks affecting the Comparable Group selected are similar to those faced by the Wastewater System. However, consideration must be given to the fact that no two companies are exactly alike.

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

It is the responsibility of the utility seeking changes in rates to present sufficient evidence to their regulators in support of their request. Historically, the Wastewater System's rates have not considered a fair rate of return nor taxes. That is, the Wastewater System's rates would have been higher, and their financial results would have been healthier if they included a provision for

a fair rate of return and taxes. Consequently the results of the Wastewater System's historical financial performance shown on Exhibits 4 and 6 should be viewed with this knowledge.

Financial Benchmark Analysis. To gain insight into the risk differences between the Wastewater System and the Comparable Group, we reviewed financial ratios and coverages. Unfortunately, there is no single measure that best indicates investment risk from an investor's perspective. However, from a creditor's viewpoint, the best measure of investment risk is debt rating. The debt rating process generally provides a good measure of investment risk for common stockholders because the factors considered in the debt rating process are usually relevant factors that a common stock investor would consider in assessing the risk of an investment.

The types of financial benchmarks applied by credit rating agencies such as Standard and Poor's ("S&P") for rating IOU public utility debt are broader than the traditional measure of financial risk, leverage. Besides reviewing the amounts of leverage employed (i.e., percentage of debt used in the capital structure), S&P also focuses on earnings protection and cash flow adequacy. During the period 2020-2022, the Wastewater System's financial benchmark ratios mostly show (Exhibit 4) higher investment risk than the Comparable Group based on coverage and cash flow.

Risk Analysis. 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. From an operations standpoint, the Wastewater System and the Comparable Group are indistinguishable. Both are required to meet SDWA and CWA requirements and are also required to provide safe and reliable services to their customers. However, based on size, the Wastewater System's risk is higher than the Comparable Group given Wastewater System's relatively small size. Table 2 details the size difference between the

Wastewater System and the Comparable Group. As shown in Table 2, the Wastewater System is many times smaller than the Comparable Group.

Size is a determinant of risk because the loss of a large customer impacts a small company much more than a large company because a large customer of a small company usually accounts for a larger percentage of the small company's sales. Further, a larger company has much more diversification in customer mix, economic conditions, source of supplies, weather, demographic, and financing than the Wastewater System. Because the larger Comparable Group has a more diverse geographic operation than the Wastewater System, it enables them to sustain earnings fluctuations caused by adverse weather conditions in one portion of its service territory. Further, the larger Comparable Group has a more diverse customer base and is less susceptible to local downturns associated with regional economic conditions than the Wastewater System.

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

The Comparable Group's market value on March 31, 2023, ranged from $519 million to $28,509 million as shown on Table 5.2 of Exhibit 5. Based on their market value, the Comparable Group's median market quartile was 2. Since the largest company in quartile 4 on Table 5.1 had a market value of $452 million, Wastewater System's market value would place it in quartile 4.

The change in risk adjusted common stock return rate between quartile 2 and quartile 4 (column J) is 180 basis points (3.45% - 1.65%). The results of the illustration shown on Exhibit 5 suggest the Wastewater System's common equity cost rate could be about 1.80 percentage points higher than the Comparable Group. The history of common stock returns indicates small company stocks are riskier than large company stocks because as one moves from the larger to smaller quartiles, the standard deviation (a measure of risk) of returns increases. Historically, common stock investors have been compensated for taking on this additional risk by the higher returns provided by small company stocks.

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

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

A higher return requirement for companies the size of Wastewater System translates into a higher capitalization rate. All else being equal, a higher capitalization rate will produce a lower value. However, all things are seldom equal as shown by the array of market multiples for the companies that comprise the Comparable Group (Exhibit 18, page 2). As shown in 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 Wastewater System can best be characterized as a fully integrated domestic wastewater system with wholesale customers ("integrated with wholesale").[10] The Wastewater System does not have the number of large treatment facilities that the Comparable Group. The Wastewater System's gross property, plant and equipment is in relatively good condition given its age (Exhibit 6, Table 6.1) with 86% of their gross property, plant and equipment remaining undepreciated while 79% of the Comparable Group's gross property, plant and equipment remained undepreciated.[11]

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

We found an 18% (100% - 82%) difference between the Comparable Group's net property, plant and equipment and the Comparable Group's investor provided capital on the valuation date (Exhibit 6, page 1, Table 6.2). The difference between the Comparable Group's net property, plant and equipment and the Comparable Group's investor provided capital is comprised of "cost

10 A fully integrated domestic wastewater system is characterized as having both collection assets and treatment assets.
11 The Wastewater System's gross and net property, plant and equipment is developed on Exhibit 7.

free" capital such as customer contributions.[12] This is evidenced by the 18% difference in the Comparable Group's net property, plant and equipment and the Comparable Group's investor provided capital (Exhibit 6, page 1, Table 6.2). Additionally, we verified known components of the Comparable Group's "cost free" capital by reviewing their individual balance sheets (Exhibit 6, page 1, Table 6.2) at year-end 2022.

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

Capital Expenditures Analysis. The level of capital expenditure required for business purposes is an indicator of risk. Over the last four years, the Comparable Group has had annual capital expenditures of about 9% of net plant (Exhibit 6, page 2, Table 6.3). During this same time, 2019-22, the Wastewater System had annual capital expenditures of about 15% of net plant. Therefore, the Wastewater System historical capital spending was higher than the Comparable Group's median.

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

Profit Margin Analyses. Higher profit margins are an indication of less risk. We

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

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

VALUATION

The purpose of this valuation is to comply with 66 Pa. C.S. Section 1329 (Valuation of Acquired Water and Wastewater Systems) and conduct a fair market value appraisal of the Wastewater System's assets as of March 31, 2023, in compliance with the USPAP. There are three primary approaches to valuation including the cost, income, and market approaches. Each approach to valuation has its strengths and weaknesses and one may be more appropriate to use than another approach depending on the asset(s) being valued, the information available and/or the purpose of the valuation or intended use. USPAP requires consideration be given the cost, market and income approaches to valuation or an explanation for the basis of their exclusion, if any. Consequently, three basic valuation approaches were considered in this analysis: the cost approach, the income approach, and the market approach.

The Cost Approach. In general terms, the cost approach measures value by determining the amount of money required to replace the future service capability of an asset.[13] The cost approach is based on the premise that an informed purchaser will not pay more for a property than

13 American Society of Appraisers, s.v. "Cost Approach," *ASA Business Valuation Standards,* 2009.

the cost of constructing an equally desirable substitute property, minus applicable depreciation, and assuming no undue delay.

Generally, the cost approach can be established using the trended original cost method, reproduction cost method, or replacement cost method after the calculated accrued depreciation (accumulated depreciation) is subtracted. The trended original cost method requires the determination of the original cost method.

The original cost method begins with establishing the original cost new ("OCN") measure of the cost of the assets when first constructed.[14] 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.[15] 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

14 International Association of Assessing Officers, s.v. "Original Cost," *Glossary for Property Appraisal and Assessment*, Second Edition, 2013.
15 International Association of Assessing Officers, s.v. "Trended Original Cost," *Glossary for Property Appraisal and Assessment*, Second Edition, 2013.

reproduction cost method, though not as precise.

The reproduction cost method begins with determining the reproduction cost new ("RPCN") by determining the current cost of constructing identical new property.[16] The replacement cost method begins with estimating the replacement cost new ("RCN") based on approximating the current cost of replacing service of existing property with similar new property having the nearest equivalent utility to the property being valued.[17]

The RPCN and the RCN methods include the research and verification of the inventory of a company's tangible personal property. Upon verification of the inventory, current material costs, current construction costs, engineering costs, administration costs, interest during construction, and entrepreneurial profit[18] are applied to the inventory listing in order to determine the RPCN and to determine the RCN.

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

16 American Society of Appraisers, s.v. "Reproduction Cost," *ASA Business Valuation Standards,* 2009.
17 American Society of Appraisers, s.v. "Replacement Cost," *ASA Business Valuation Standards,* 2009.
18 The administration costs and entrepreneurial profit are those of the contractors and engineers. The cost of overhead of the entity having the assets constructed can also be included. Generally overhead costs are allocated as part of an asset's cost, and usually represent at least 5% to 15% of infrastructure asset total costs.

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

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

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

The Original Cost Method. For this report, WBMA provided us a copy of the Engineering Assessment, the Wastewater System's 2022 Chapter 94 report, and the system's 537 Plan, to confirm the condition of the Wastewater System's property and equipment. We utilized the Engineering Assessment and calculated the Original Cost and Related Accrued Depreciation of the Wastewater System as of March 31, 2023 ("OCNLD Study") shown on Exhibit 7.

Page 1 of Exhibit 7 summarizes the original cost and related accrued depreciation by

account for the Wastewater System as of March 31, 2023. The original cost was brought forward from page 2 of Exhibit 7 and the accrued depreciation from page 3 of Exhibit 7.

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

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

The results of the OCNLD Study established that the OCN of the Wastewater System's utility plant in service as of March 31, 2023, was not less than $19.2 million ($19,220,013 rounded). The OCNLD Study also determined a theoretical calculated accrued depreciation reserve of the utility plant in service of $2.6 million ($2,599,035 rounded) as of March 31, 2023. After factoring in the OCNLD Study's accrued depreciation reserve, the OCNLD of Wastewater System's utility plant in service as of March 31, 2023, was determined to be $16.6 million ($19,220,013 - $2,599,035 = $16,620,978).

The Replacement Cost Method. We utilized the OCN to calculate the trended original cost (TOC) measures, or the replacement cost of the depreciable assets (RCN), by multiplying the

OCN by specific preliminary transition factors.[19] The transition factors included both cost changes measured during TOC process and preliminary obsolescence, so all RPCN values were valued on an RCN basis. The result of this analysis is shown in the Replacement Cost and Related Accrued Depreciation of the Wastewater System as of March 31, 2023 ("RCNLD Study") shown on Exhibit 9.

Page 1 of Exhibit 9 summarizes the replacement cost new and related accrued depreciation by account for the Wastewater System as of March 31, 2023. The replacement cost new was brought forward from page 2 of Exhibit 9 and the accrued depreciation from page 3 of Exhibit 9.

The replacement cost new of the Wastewater System (see Exhibit 10) was calculated by trending the original cost measures by multiplying the OCN by Handy-Whitman indices and preliminary obsolescence factors.[20] A summarizing analysis of the replacement cost new of the Wastewater System by account and vintage year and related preliminary transition factors is shown on Exhibit 10.[21]

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

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

The results of the RCNLD Study established that the RCN of the Wastewater System's utility plant in service as of March 31, 2023, was not less than $43.4 million ($43,385,139 rounded). The RCNLD Study also determined a theoretical calculated accrued depreciation reserve of the utility plant in service of $15.0 million ($15,014,110 rounded) as of March 31, 2023. After factoring in the RCNLD Study's accrued depreciation reserve, the preliminary RCNLD of Wastewater System's utility plant in service as of March 31, 2023, was determined to be $28.4 million ($43,385,139 - $15,014,110 = $28,371,029).

The results of the OCNLD and preliminary RCNLD Cost Approaches show a range of value for the Wastewater System of $16.6 million to $28.4 million and collectively, indicated a preliminary value of $28.4 million ($28,371,029 rounded) for the Wastewater System based on the results of the preliminary RCNLD.

Benchmark Metrics. Besides providing an indication of value based upon a cost method, the OCN and OCNLD can also be used to calculate meaningful benchmark metrics. These benchmark metrics are utilized to evaluate the reasonableness of other indications of value produced by alternative valuation methods, including the cost method itself. For example, the Comparable Group's market value of common equity plus minority interest, preferred stock, and total debt net of cash and cash equivalents ("Enterprise Value") is currently 1.70-times (Exhibit 18, page 2) their OCNLD or net property, plant and equipment. Similarly, the Comparable Group's Enterprise Value is currently 1.35-times (Exhibit 18, page 2) their OCN or gross property, plant and equipment.

The above-mentioned property, plant and equipment "multiples" may understate the multiple applicable to the Wastewater System because some of the Comparable Group's property, plant and equipment includes assets that were originally financed with "cost free" capital such as

customer contributions.[22] Subtracting customer contributions ("CIAC") from the Comparable Group's property, plant and equipment (Exhibit 18, page 3) based on differences between investor provided capital and OCN results in CIAC adjusted multiples of 1.94-times OCNLD and 1.54-times OCN for the Comparable Group.

Multiplying the Wastewater System's OCN of $19.2 million by the Comparable Group's 1.35-times OCN multiple or the 1.54-times contributions adjusted OCN multiple indicates a range of market value of $25.9 million to $29.6 million for the Wastewater System, similar to the preliminary RCNLD of $28.4 million. Further, multiplying the Wastewater System's OCNLD of $16.6 million by the Comparable Group's 1.70-times OCNLD multiple or the 1.94-times contributions adjusted OCNLD multiple indicates a range of market value of $28.2 million to $32.2 million for the Wastewater System, similar to the preliminary RCNLD of $28.4 million.[23] Using a similar technique, we multiplied the Wastewater System's number of customers of 683 by the Comparable Group's $10,044-times customer multiple and produced a market value of $6.9 million, which is dissimilar to the preliminary RCNLD of $28.4 million.[24] However, this technique does not account for the additional value of the 1,502 ultimate wholesale customers. If the 1,502 ultimate wholesale customers were factored into this technique, the result would be closer to RCNLD.

Accrued Depreciation and Obsolescence. The accrued depreciation reflects the total loss

22 Under rate regulation "cost free" capital, such as customer contributions, is subtracted from plant assets in determining the dollar amount of property on which a utility may earn a "fair rate of return" and therefore, "cost free" capital has no economic value to investors.
23 The range of benchmark metrics values suggested for the Wastewater System are not a substitute for an appraisal. However, the referenced range of market values for the Wastewater System can be a meaningful metric to evaluate the reasonableness of other indication of value produced by other valuation methods.
24 Customers "multiples" may understate the multiple applicable to the Wastewater System because some of the Comparable Group's property, plant and equipment includes assets that were originally financed with "cost free" capital, such as customer contributions, which diminishes the value of a customer.

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

Functional obsolescence ("FO") is a "form of deterioration due to a feature in the property that is no longer useful or functional, resulting in a loss of value for the entire property."[25] FO is sometimes evident due to increased operating costs, increased maintenance costs, lost profits and for a wastewater utility, excess inflow and infiltration ("I&I"). Neither the Engineering Assessment nor the Wastewater System's Chapter 94 Report note excess I&I, capacity-related bypassing, SSOs or surcharging that are not being addressed. Additionally, the Engineering Assessment did not find any assets that were no longer useful or functional. Therefore, we conclude no significant FO is suggested.

Economic obsolescence ("EO") refers to the loss of value that is caused by factors that are external to the property. "EO manifests itself in the profit margin of business. If the operating margin of an asset or group of assets is below what provides a sufficient economic return to the supporting assets, and there is a difference between the existing operating level/capacity and a sufficient operating/level capacity, EO may be an issue."[26] To evaluate EO we compared our

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

26 Mickle, Joseph and Sapnas, Charles. "Perspectives, Economic Obsolescence: Discover Loss of Value Caused by External Factors," *Valuation Research Corporation*. Accessed 6/20/22. https://www.valuationresearch.com/pure-perspectives/economic-obsolescence-determining-loss-value-caused-external-factors/#:~:text=Economic%20obsolescence%20(EO)%20is%20the,companies%20in%20capital%2Dintensive%20industries.

preliminary RCNLD value of $28.4 million to the economic values produced by our Income and Market Approaches, discussed later in this report, and conclude no significant EO is suggested.

Cost Approach Conclusion. On page 4 of Exhibit 9 we reduced our RCN indicated value of $43.4 million for accrued depreciation in reaching our RCNLD conclusion. The RCNLD's accrued depreciation reflects the total loss in value from RCN due to physical deterioration, functional and economic obsolescence. We ascribed $15.0 million to physical deterioration and found no functional obsolescence or economic obsolescence in reaching our $28.4 million RCNLD conclusion. The results of the RCNLD method of $28.4 million ($28,371,029 rounded) form the basis for our Cost Approach conclusion, shown on Exhibit 9, page 4. Based on this result, the Cost Approach to valuation indicates a value of $28.4 million for the Wastewater System's based on the RCNLD method.

The Income Approach. Capitalizing or discounting a future income stream to a present value provides an indication of the value of a security or asset. The capitalization or discount rate reflects future growth, business risk, economic factors, financial risk, and industry risk of the assets. The theory behind the income approach is that the value of a business is the future economic benefit that ownership will provide. The income approach is defined as, "a general way of determining a value indication of a business, business ownership interest, security, or intangible asset by using one or more methods that convert anticipated economic benefits into a present single amount."[27]

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

27 American Society of Appraisers, s.v. "Income Approach," ASA Business Valuation Standards, 2009.

of earning method converts a single base economic income number to a value by dividing it by a capitalization rate. The capitalization of earnings is best suited when the future earnings, or cash flow, can be predicted. The implicit assumption in the capitalization of earning method is that the cash flow is a perpetuity, and the capitalization rate is a constant.

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

The capitalization rate used in the capitalization of earnings method and the discount rate used in the DCF method are related. The discount rate is the market participant's opportunity cost rate related to the risk of the cash flows. For the Wastewater System, the market participants are assumed to include IOU and MUNI. For the Wastewater System, the appropriate discount rate is the current municipal revenue bond yield on March 31, 2023, of 4.11%. The appropriate IOU discount rate is the current net of tax overall cost of capital (weighted average cost of capital) on March 31, 2023, and ranges from 7.85% to 9.71%.[28] 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.

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

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

For a MUNI, the appropriate discount rate is the current municipal revenue bond, 4.11%, because debt is the only major source of capital available to finance an acquisition (Exhibit 23, pages 2-6). Although a MUNI likely carries equity on their books (balance sheet), all existing equity is already invested in other assets and therefore, cannot be used to finance an acquisition.[29] For valuation purposes, an embedded cost of debt, or the historical cost of all debt issuances outstanding is not used because this capital is already invested in assets. Whereas the marginal cost of debt, 4.11%, at the valuation date is used in accordance with accepted valuation practices and used for market valuation purposes.

As discussed previously, for an IOU, the appropriate discount rate is the net of tax overall cost of capital (weighted average cost of capital), 7.85% to 9.71% (Exhibit 23, pages 2-8). In this instance, the net of tax overall cost of capital (weighted average cost of capital) is based on the Comparable Group's market value capital structure of 25.3% debt and 74.7% equity, a market cost

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

of debt of 5.12% and a range of market cost of equity of 9.27% to 11.75%.[30] The Comparable Group's net of tax overall cost of capital (weighted average cost of capital) is used as a proxy to conform to the "hypothetical buyer" or "hypothetical seller" of fair market valuation. Use of the buyer's net of tax overall cost of capital (weighted average cost of capital) would produce an investment valuation, not a fair market valuation.[31]

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

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

Exhibit 1 presents the Wastewater System's financial information contained in their

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

31 We did not use the 6.73% Comparable Group's DSIC (distribution system improvement charge) related net of tax overall cost of capital in our valuation because a "hypothetical buyer" cannot finance an acquisition at such a rate and therefore, its use would provide a meaningless result. Where the 6.73% DSIC related cost was determined based the Comparable Group's book value capital structure of 49.8% debt and 50.2% equity, a cost of debt of 5.12% and a DSIC cost of equity of 9.75%. We note the 6.73% Comparable Group's DSIC related net of tax overall cost of capital falls below the 7.85% to 9.71% range of discount rates used in our Income Approach.

financial statements, so it is more consistent with the Comparable Group and more practical for valuation purposes. The information on Exhibit 1 was used to develop Exhibits 12 through 16. As noted previously, the Wastewater System's financial statements and their rates did not include taxes nor a fair rate of return. Accordingly, on Exhibits 13 through 16 we adjusted the Wastewater System's post-2024 financial information for pro forma expenses and returns to be reflective of a MUNI or IOU ownership.

The Capitalization of Earnings Method. The capitalization of earnings method begins with an estimate of the income or cash flow producing capabilities of the business (Exhibit 12) for a recent time period and assumes current ownership and operations. We began the capitalization of earnings method for the Wastewater System by first determining the Debt Free Net Cash Flow to be capitalized. The Debt Free Net Cash Flow is comprised of current EBIT, minus income taxes, plus current depreciation and amortization, minus projected changes in net cash working capital, and minus projected capital expenditures. Specifically, our capitalization of earnings method capitalizes Wastewater System's current (budget 2023) Debt Free Net Cash Flow. The second element of the capitalization of earnings method is the determination of an appropriate capitalization rate. Our analysis uses the current municipal revenue bond yield on March 31, 2023, of 4.11% (Exhibit 12, line 24) as the capitalization rate. We also did a second capitalization of earnings calculation based on a 4.01% capitalization rate (Exhibit 12, line 27), or 10-basis points below the current level because we assumed the Wastewater System's Debt Free Net Cash Flow growth will be at least 0.1% (10-basis points).

We computed the Wastewater System's indicated value based on the capitalization of earnings method 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. We considered a range of growth in the capitalization of earnings method. Essentially, we considered a range of growth in the capitalization of earnings method, no growth and 0.1% growth. However, based upon our quantitative and qualitative analysis, and prospective rate increase, we believe the 0.1% growth scenario is reasonable for the Water System based on current ownership and operations.

For pro forma 2023, we adjusted the Wastewater System's Debt Free Net Cash Flow (Exhibit 12, lines 23 and 28) to include the average 2021-2023 capital expenditure to get a clearer picture of Debt Free Net Cash Flow. Exhibit 12 shows the results of the capitalization of earnings method. For the Wastewater System, the capitalization of earnings method using a 4.11% capitalization rate (no growth) indicates a value of $9.4 million, and $0.9 million based on pro forma 2023 results. The capitalization of earnings method using a 4.01% capitalization rate (growth) indicates a value of $9.6 million, and $1.0 million based on pro forma 2023 results. Collectively, for Wastewater System, we believe the 0.1% growth scenario is the most probable result based on current ownership and operations and therefore, the capitalization of earnings method suggests a value of $1.0 million based on pro forma 2023 results and current operations (without rate increases) and ownership. These results are indicative of a system which requires adjustments to their rates if they plan to remain operational.

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

The DCF method begins with an estimate of the income or cash flow producing capabilities of the business. Specifically, our DCF methods use estimates of the results of the Wastewater

System's operations over the next 20 years. We use two different assumptions for the Wastewater System's future operations in the DCF methods: MUNI ownership shown on Exhibits 13 and 15; and IOU ownership shown on Exhibits 14 and 16.

Under the MUNI ownership the discount rate is the current 4.11% municipal revenue bond yield and under the IOU ownership the discount rate is the current net of tax overall cost of capital, reflecting the upper and lower range of the net of tax overall cost of capital for the Comparable Group of 7.85% to 9.71%. 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 0.1% (i.e., discount rate – 0.1% growth = capitalization rate) under MUNI ownership and 0.1% growth (i.e., discount rate – 0.1% growth = capitalization rate) under IOU ownership based on inflation, population growth, and changes in Debt Free Net Cash Flows.

We computed the Market Multiple DCF terminal values by multiplying the Wastewater System's projected EBITDA and EBIT by the Comparable Group's adjusted multiples of 18.5-times and 28.6-times, respectively. We computed the Capitalization DCF terminal value by dividing the projected Debt Free Net Cash Flow by the capitalization factor. The capitalization factor is equal to the discount rate minus assumed growth in projected Debt Free Net Cash Flow.

Exhibit 13 shows the results of the DCF method under the MUNI ownership scenario. The results of the Capitalization DCF shown on Exhibit 13 show a range of value for the Wastewater System of $15.8 million to $16.0 million. The results of the Market Multiple DCF shown on Exhibit 13 show a value of $17.7 million. Collectively, the DCF method based on the MUNI ownership scenario indicates a value of $16.8 million for the Wastewater System based on the 0.1% growth assumption.

Exhibit 14 shows the results of the DCF method under the IOU ownership scenario. The

results of the Capitalization DCF shown on Exhibit 14 show a range of value for Wastewater System of $11.9 million to $15.1 million. The results of the Market Multiple DCF shown on Exhibit 14 show a range of value of $17.4 million to $22.0 million. Collectively, the DCF method based on the IOU ownership scenario and a 0.1% growth assumption indicates a value of $16.3 million for the Wastewater System.[32]

The DCF method based on the MUNI ownership scenario indicates a value of $16.8 million and the DCF method based on the IOU ownership scenario indicates a value of $16.3 million. Collectively, the DCF method indicates a value of $16.5 million based on OCNLD.

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

Therefore, Exhibits 13 and 14 are recalculated on Exhibits 15 and 16 to reflect revenues and cash flows derived from an earnings base between the values indicated by the RCNLD and the Market Approach. Exhibit 15 shows the results of the DCF method under the MUNI ownership

32 If we used the 6.73% Comparable Group's DSIC (distribution system improvement charge) related net of tax overall cost of capital in our valuation shown on Exhibit 14, the results of the Capitalization DCF would show a value for Wastewater System of $17.9 million. Further, the results of the Market Multiple DCF would show a value of $25.5 million and collectively, the DCF method based on the IOU ownership scenario and a 1% growth assumption indicates a value of $21.7 million for the Wastewater System. The DCF method based on the MUNI ownership scenario indicates a value of $16.8 million and the DCF method based on the IOU ownership scenario indicates a value of $21.7 million. Collectively, the DCF method indicates a value of $19.3 million when DSIC is considered.

scenario. The results of the Capitalization DCF shown on Exhibit 15 show a range of value for the Wastewater System of $27.9 million to $28.2 million. The results of the Market Multiple DCF shown on Exhibit 15 show a value of $30.0 million. Collectively, the DCF method based on the MUNI ownership scenario indicates a value of $29.1 million for the Wastewater System based on the 0.1% growth assumption.

Exhibit 16 shows the results of the DCF method under IOU ownership. The results of the Capitalization DCF shown on Exhibit 16 show a range of value for Wastewater System of $19.8 million to $25.6 million. The results of the Market Multiple DCF shown on Exhibit 16 show a range of value of $29.6 million to $37.8 million. Collectively, the DCF method based on the IOU ownership scenario and a 0.1% growth assumption indicates a value of indicates a value of $27.6 million for the Wastewater System.[33]

The DCF method based on the MUNI ownership scenario indicates a value of $29.1 million and the DCF method based on the IOU ownership scenario indicates a value of $27.6 million. Collectively, the DCF method indicates a value of $28.4 million ($28,359,361 rounded) as summarized on Exhibit 17.

The Market Approach. The market approach determines the value of an asset based on the recent selling price of similar assets. The market approach entails analyzing certain public information relating to transactions involving the purchase or sales of businesses involved in the same or similar business line as the subject entity (e.g., the Wastewater System). The market

33 If we used the 6.73% Comparable Group's DSIC (distribution system improvement charge) related net of tax overall cost of capital in our valuation shown on Exhibit 16, the results of the Capitalization DCF would show a value for Wastewater System of $30.6 million. Further, the results of the Market Multiple DCF would show a value of $44.1 million and collectively, the DCF method based on the IOU ownership scenario and a 0.1% growth assumption indicates a value of $37.4 million for the Wastewater System. The DCF method based on the MUNI ownership scenario indicates a value of $29.1 million and the DCF method based on the IOU ownership scenario using DSIC indicates a value of $37.4 million. Collectively, the DCF method indicates a value of $33.3 million when DSIC is considered.

approach is defined as, "a general way of determining a value indication of a business, business ownership interest, security or intangible asset by using one or more methods that compare the subject to similar businesses, business ownership interests, securities or intangible assets that have been sold."[34] 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 Wastewater System. We relied upon market data for the Comparable Group for these purposes since they are equally affected by similar economic, industry, and business risks as the Wastewater System. Since no marketplace exists for the common stock of the Wastewater System, an alternative to estimate the value of the Wastewater System is to analyze the price investors are willing to pay for the publicly traded common stock of companies that are similar to the Wastewater System. The specific market price data reviewed includes the market value of common equity plus minority interest, preferred stock, and total debt net of cash and cash equivalents (i.e., Enterprise Value). Where the market value of common equity is the product of multiplying the closing stock price by the number of common shares outstanding. 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 March 31, 2023, based on the latest twelve months of financial data available at the appraisal date (Exhibit 18, page 2).

34 American Society of Appraisers, *ASA Business Valuation Standards,* theory 12.

We used the Comparable Group's Enterprise Value on March 31, 2023, 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 Wastewater System. The Comparable Group's Market Multiples reflect their capitalization rate of each financial and operating statistic. For example, a Market Multiple of EBIT of 16.14 times equates to a capitalization of EBIT of 6.20% (1 ÷ 16.14 = 6.20%). Each capitalization rate is unique to the entity and the statistic being evaluated and reflects the growth and investment risk of the entity.

We believe that similar economic, industry and business risks have affected the Comparable Group as those faced by the Wastewater System. However, consideration must be given to the fact that no two companies are exactly alike. On average, the utilities in the Comparable Group are larger than the Wastewater System. The relative size difference between the Comparable Group and Wastewater System suggests that the risk to investors of the Wastewater System is higher than the Comparable Group. Further, based upon our quantitative and qualitative analysis, we concluded that the Wastewater System has more risk than the Comparable Group.

Accordingly, the Comparable Group's Market Multiples are not directly applicable to the Wastewater System. We assumed the higher risk due to the Wastewater System's size is added to the higher risk found in our quantitative and qualitative analysis. This combined risk was assumed to result in the Wastewater System being 5% more risky than the Comparable Group and produces a 95% (100% - 5%) base risk adjustment to the Comparable Group's Market Multiples. We

applied the 95% base risk adjustment to all financial multiples. For example, the Comparable Group's ICAP multiple was multiplied by 95% to produce a lower multiple applicable to the Wastewater System to account for risk differences.

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

The net risk adjustments applied 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: 95% of ICAP (more risk/less growth); 108% of GPPE (more risk/lower growth and contributions); 108% of NPPE (more risk/lower growth and contributions); 95% of Revenue (more risk/lower growth); 95% of EBIT; 95% EBITDA (more risk/lower growth); 111% of Customers (growth, earning rate, and contributions); and 111% Population (growth, earning rate, and contributions). The calculation of the net risk adjustments that are applied to the Comparable Group's Market Multiples are shown on page 3 of Exhibit 18.

Page 1 of Exhibit 18 shows the market multiples method indicated values based on: Revenue, EBIT and EBITDA (collectivity called "Income Statement Items"); ICAP, GPPE and NPPE (collectivity called "Capital Items"); and Customers and Population (collectivity called "Demographics Items"). For most municipal utilities, the indicated values based on Income

Statement Items are far below the indicated values that are based on Capital Items and those based on Demographics Items. We attribute this to the fact that the dollars of Revenue, EBIT and EBITDA do not reflect any provision for taxes while the multiples for the Comparable Group do.[35] Consequently, we do not believe the results of the multiples of Revenue, EBIT and EBITDA are meaningful and should not be used for municipal utilities.

In the market multiples method, the meaningful Market Multiples of the Comparable Group are used to develop an indicated value of the Wastewater System.[36] This is accomplished by multiplying the Wastewater System's financial and operating data by the Comparable Group's median Market Multiples (Exhibit 18, page 1). The results of the market multiples method (Exhibit 18, page 1) show a range of value for the Wastewater System's domestic customers of $13.4 million to $31.5 million. We note the value indicated by the Demographics Items are substantially different (lower) than the other indicated values, including OCN and OCNLD. Accordingly, we gave the Capital Items 75% weight, while weighting the Demographics Items 25%, in determining an indicated value of $27.0 million ($26,954,062 rounded) for the Wastewater System's domestic customers using the market multiples method.[37] The additional value attributable to the Wastewater System's ultimate wholesale customers is determined later in the Market Value of Ultimate Wholesale Customers section of this report.

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

35 The Revenue, EBIT and EBITDA for the Wastewater System also do not include a fair rate of return.
36 Initially, the value of the Wastewater System's domestic customers is determined before the value attributable to the Wastewater System's ultimate wholesale customers is added.
37 The results of the market multiples method would indicate a value of $22.4 million had we given Capital Items and Demographics Items equal weight.

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 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 (March 31, 2023). Because of the rapid rise in valuation multiples since early 2016 we limited our search for selected transactions to: (1) those that occurred in 2016 or later; (2) purchases of water or sewer systems; (3) assets being purchased; and (4) those that did not discount "cost free" capital/customer contributions in the valuation. The selected transactions that met the stated selection criteria are shown on pages 2 and 3 of Exhibit 19.

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

of Income Statement Items do not reflect any provision for taxes.[38] Consequently, we do not believe the results of the multiples of Income Statement Items are meaningful.

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

In the selected transactions method, the significant selected transactions multiples of the selling utilities are used to develop an indicated value of the Wastewater System. Initially, the value of the Wastewater System's domestic customers is determined before the value attributable to the Wastewater System's ultimate wholesale customers is added. This process is accomplished by multiplying the Wastewater System's financial and operating data by the selling utilities' transactions multiples (Exhibit 19, pages 2 and 3).

Previously we noted our concerns regarding the values suggested by the Demographics Items being substantially different (lower) than the other indicated values, including OCN and OCNLD and therefore, gave more weight (i.e., 75%) to the results indicated by the Asset Items then the Demographics Items (i.e., 25%) in reaching our conclusion of the selected transactions

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

method.[39] The results of the selected transactions method (Exhibit 19, page 1) show a range of value for the Wastewater System's domestic customers of $10.6 million to $32.1 million when all transactions are considered and a range of value of $12.1 million to $30.2 million when fully integrated assets (excluding wholesale) are solely considered. We determined an indicated value of $25.5 million ($25,515,483 rounded) for the Wastewater System using the selected transactions method by considering the results of all transactions, $26.7 million, and the results of the fully integrated assets (excluding wholesale) of $25.7 million (Exhibit 19, page 1).[40] The additional value attributable to the Wastewater System's ultimate wholesale customers is determined later in the Market Value of Ultimate Wholesale Customers section of this report.

Wall Street Transactions. In 2018 two IOUs, Connecticut Water Service, Inc. ("Connecticut Water") and SJW Group, announced a planned merger with Connecticut Water being acquired by SJW through a stock purchase (stock swap). SJW Group's purchase of Connecticut Water was approved in late 2019. Similarly, in 2021 two IOUs, were involved in another transaction which involved Aquarion Company, parent of Aquarion Water Company, completing its acquisition of the New England Service Company, Inc. ("NESC") through a stock purchase (stock swap).[41] Again in 2022, two IOUs, were involved in another transaction which involved Aquarion Company, parent of Aquarion Water Company, announcing its acquisition of The Torrington Water Company, Inc. ("TORW") through a stock purchase (stock swap).

39 If equal weighting was given to both Asset Items and Demographic Items, the indicated value for the Wastewater System's domestic customers would have been $20.8 million.
40 The appraisal gave 25% weight to the collection/distribution assets selected transactions results and 75% weight to the integrated systems (excluding wholesale) transactions results. We did so due to the small sample size of integrated systems (excluding wholesale) transactions and the fact that similar multiples occurred in both the collection/distribution systems and integrated systems selected transactions, therefore, consideration was given to both.
41 NESC was the sole stockholder of four regulated water companies operating in three separate states.

Connecticut Water, NESC and TORW were publicly traded as was the stock they received in the transactions.

Although these acquisitions are not directly applicable to the Wastewater System, they do provide a range of indicated values for the Wastewater System's domestic customers (Exhibit 20, page 1) which we relied on as checks.[42] In these selected transactions, the significant selected transactions multiples of the selling utilities (i.e., Connecticut Water, NESC, and TORW) are used to develop an indicated value of the Wastewater System's domestic customers. This is accomplished by multiplying the Wastewater System's financial and operating data by the selling utilities' transactions multiples. The results of the Connecticut Water selected transactions (Exhibit 20, page 2) show a range of value for the Wastewater System's domestic customers of $24.6 million when the reported significant selected transactions multiples are considered and a value of $30.1 million when the reported significant selected transactions multiples have been adjusted for "cost free" capital. The results of the NESC selected transactions (Exhibit 20, page 3) show a range of value for the Wastewater System's domestic customers of $21.3 million when the reported significant selected transactions multiples are considered and a value of $27.8 million when the reported significant selected transactions multiples have been adjusted for "cost free" capital. The TORW selected transactions (Exhibit 20, page 4) show a range of value for the Wastewater System's domestic customers of $29.6 million when the reported significant selected transactions multiples are considered and a value of $39.2 million when the reported significant selected transactions multiples have been adjusted for "cost free" capital.

42 Similar to the selected transactions method discussed previously, we gave the Capital Items 75% weight and weighted the Demographics Items 25% in determining their indicated values.

Collectively, the Wall Street selected transactions indicate values of $27.8 million to $39.2 million, are similar to the values found by the market multiples method of $27.0 million and the selected transaction method of $25.5 million for the Wastewater System's domestic customers.[43]

The market multiples method, shown on Exhibit 18, shows a value of $27.0 million for the Wastewater System's domestic customers. The selected transactions method, shown on Exhibit 19, implies a value of $25.5 million for the Wastewater System's domestic customers. Based on these results, the Market Approach to valuation indicates a value of $26.2 million for the Wastewater System's domestic customers reflecting the results of the market multiples method and the selected transactions method. The additional value attributable to the Wastewater System's ultimate wholesale customers is determined in the next section of this report.

Market Value of Ultimate Wholesale Customers. The market value of ultimate whole customers and the Market Approach conclusion are shown Exhibit 21. As shown, we computed the market value of receiving only treatment services of $0.7 million for domestic customers by subtracting the value of collection/distribution assets from the value of integrated systems (excluding wholesale).[44] We then determined the number of ultimate wholesale customers of 1,502 to be valued by subtracting the number of domestic customers from the number of ultimate customers (2,182 - 680).

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

44 See the Selected Transactions section of this report for the asset value determination of collection/distribution assets and integrated systems (excluding wholesale).

The market value of receiving only treatment services of $0.7 million for domestic customers was then divided by the number of domestic customers to produce the treatment value per domestic customer of $1,012 ($688,280 ÷ 680). We applied a relative ultimate wholesale customer equivalency factor of 95% as a discount for control. The relative wholesale customer equivalency factor was multiplied by the treatment value per domestic customer to determine the treatment value per ultimate wholesale customer of $961 ($1,012 × 95%).

The treatment value per ultimate wholesale customer was then multiplied by number of ultimate wholesale customers to produce the market value of the Wastewater System's ultimate wholesale customers of $1.4 million ($961 × 1,502). The market value of the Wastewater System's ultimate wholesale customers was then added to the market value of the Wastewater System's domestic customers to produce the total market value for the Wastewater System. Based on the previously mentioned results, the Market Approach to valuation indicates a value of $27.7 million ($27,678,195 rounded) for the Wastewater System ($26.2 million + $1.4 million) after the value of the Wastewater System's ultimate wholesale customers was reflected, as shown on Exhibit 21.

Conclusion. Each approach to valuation has its strengths and weaknesses and one may be more appropriate to use than another approach depending on the asset(s) being valued, the information available and/or the purpose of the valuation or intended use. USPAP requires consideration be given the Cost, Market and Income approaches to valuation or an explanation for the basis of their exclusion, if any. Consequently, three basic valuation approaches were considered in this analysis: the cost approach, the income approach, and the market approach.

We summarize our findings for the Wastewater System on Exhibit 22. Our fair market value conclusion and our opinion of the value of the Wastewater System is based on the Cost, Market, and Income Approaches to valuation. We used seven methods under the Cost, Market,

and Income Approaches to valuation: Original Cost Method, Replacement Cost Method, Capitalization of Earnings Method, Market Multiple Discounted Cash Flow Method, Capitalization Discounted Cash Flow Method, Market Multiples Method, and the Selected Transactions Method.

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

We considered the results of each approach as an indicator of value individually, or as independent indicators of value. Therefore, all three approaches to valuation were given consideration in arriving at our opinion of the fair market value. Based on these facts, our opinion regarding the fair market value is $28.1 million. Our conclusion regarding the fair market value can be described by the weights and the specific results of the three approaches to valuation that are shown on Exhibit 22. The results of our analyses, shown on Exhibit 22, show a range of value of $27.7 million to $28.4 million and collectively support our opinion of a fair market value for the Wastewater System of $28,136,000, as of March 31, 2023.

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 obtained a license as a licensed Municipal Advisor Representative (Series 50) by Municipal Securities Rulemaking Board (MSRB) and the Financial Industry Regulatory Authority (FINRA).

BUSINESS EXPERIENCE

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

Head, Gannett Fleming GASB 34 Task Force responsible for developing Governmental

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

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

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

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

EXPERT TESTIMONY

Mr. Walker has submitted testimony or been deposed on various topics before regulatory commissions and courts in 27 states including: Alaska, Arizona, California, Colorado, Connecticut, Delaware, Hawaii, Idaho, Illinois, Indiana, Kentucky, Maryland, Massachusetts, Michigan, Missouri, New Hampshire, Nevada, New Jersey, New York, North Carolina, Oklahoma, Pennsylvania, Rhode Island, South Carolina, Vermont, Virginia, and West Virginia. His testimonies covered various subjects including: fair market value, the taking of natural resources, appropriate capital structure and fixed capital cost rates, depreciation, fair rate of return, purchased water adjustments, synchronization of interest charges for income tax purposes, valuation, cash working capital, lead-lag studies, financial analyses of investment alternatives, benchmarking, and fair value.

PROFESSIONAL AFFILIATIONS

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

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

TECHNICAL PUBLICATIONS & PRESENTATIONS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

COMPLIANCE & APPRAISAL CERTIFICATION

Compliance with Uniform Standards of Professional Appraisal Practice (USPAP) 2024*

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 the Elizabeth Borough Municipal Authority. The intended users of the valuation are Elizabeth Borough Municipal Authority, Pennsylvania American Water Company, Inc., and the Pennsylvania Public Utility Commission ("PUC").

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

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

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

  The Elizabeth Borough Municipal Authority ("EBMA") was incorporated in 1949 pursuant to an Ordinance of Elizabeth Borough. The EBMA is not a component unit of Elizabeth Borough. The EBMA operates under a seven member board of directors, five of whom are appointed by Elizabeth Borough, and two appointed by Elizabeth Township.

  Elizabeth Borough is located in southern Allegheny County, in western Pennsylvania. Elizabeth Borough is bordered to its west and northwest by the Monongahela River, Elizabeth Township to the northeast and east and Forward Township to the southeast and south.

  EBMA owns and operates the Wastewater System which is a combined sewer system that consists of a wastewater treatment plant ("WWTP"), a pump station, combined sewer overflow ("CSO") structures, over 8 miles of mains, approximately 248 manholes, associated infrastructure and appurtenances, and related land and land rights, all located within Elizabeth Borough.

  The Wastewater System's WWTP receives and treats wastewater from the following municipalities: Elizabeth Borough, and parts of Elizabeth Township, Forward Township, and Lincoln Borough. The Wastewater System's WWTP is a 1.2 million gallons per day ("MGD") capacity plant. In 2022, the WWTP's average daily flow was 1.1 MGD (Exhibit 2). The WWTP, originally constructed in 1959 for a permitted capacity of 0.6 MGD, utilizes the activated sludge process for sewage treatment. The WWTP was upgraded in 1972, and in 1992, improvements were added and placed into operation to expand treatment to 1.2 MGD. The

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WWTP's dewatered sludge and process residuals are disposed at a regional landfill. The WWTP operates under NPDES Permit No. PA0028436.

The Wastewater System's pump station, constructed in 2022, has a current pumping capacity of 1.3 MGD. The pump station's channels and wetwell can accommodate future wet weather pumps to increase pumping capacity which will help reduce CSOs. The pump station is also equipped with a mechanical screen and grit removal to improve treatment efficiency at the WWTP and reduce wear on the raw sewage pumps. The Wastewater System's pump station connects to the WWTP through approximately 800 feet of dual 8-inch and 30-inch force mains.

Portions of the Wastewater System's collection system are combined sewers that convey sanitary sewage and stormwater. The EBMA submitted a Long-Term Control Plan ("LTCP") program to the Pennsylvania Department of Environmental Protection ("DEP") in 2004 to annually remove portions of the storm sewers from the sanitary sewer system. A revision of the LTCP was submitted to DEP in 2017 and was approved in 2018. The approved LTCP also addresses the forecasted hydraulic overload at the WWTP. The conveyance capacity of the collection system is exceeded in portions of the combined sewer system during wet weather events. The excess flow is currently discharged through one or more of five permitted and active CSO structures. Additionally, as part of the LTCP the EBMA has separated some storm and sanitary sewer systems contributing to CSOs. However, some inlets and piping in the stormwater system remain connected to the Wastewater System's combined sewer system.

The Wastewater System uses CCTV to document the conditions of combined and sanitary sewer lines sewers and to plan for future repairs. Since 2013, CCTV inspections of over 47,400 linear feet of combined and sanitary sewer lines sewers have been completed. The CCTV inspections have resulted in excavated spot repairs, trenchless spot repairs, and manhole installation and grade ring/lid replacements. Additionally, the CCTV inspections have resulted in the Wastewater System's relining of approximately 30% (13,099 linear feet) of gravity mains in 2015 and 2016.

The Wastewater System's 43,949 linear feet of gravity mains (sewer trunk and interceptor mains) are primarily vitrified clay pipe (VCP) and polyvinylchloride pipe (PVC) installed in 1950 and 1998 that range in diameter between 6-inches to 48-inches. About 80% of the gravity mains are 12-inches in diameter or larger, with 64% being 12-inches in diameter. Almost 90% of the gravity mains were installed in 1950 and 10% in 1998. Over 23% of the segments of gravity mains were spot repaired (trenchless or excavated) in 2015 and approximately 30% of the

Compliance with Uniform Standards of Professional Appraisal Practice (USPAP) 2024*

Fulfillment of Requirements for a Personal Property Appraisal and Report

linear feet of gravity mains were lined in 2015 and 2016. There are 248 manholes and there are no service laterals in the system.

The Wastewater System's land and land rights include land used for wastewater treatment plant, a pump station, combined sewer overflow ("CSO") structures, over 8 miles of mains, approximately 248 manholes, associated infrastructure and appurtenances and multiple easements and rights-of-way necessary to operate the Wastewater System.

- **State the real property interests appraised**

  The Wastewater System's plant assets include land and land rights agreements necessary to access its property.

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

  Fair market value is defined as:

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

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

  The effective date of the appraisal is as of March 31, 2023, and the appraisal report date is April 26, 2024.

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

  Gannett Fleming Valuation and Rate Consultants, LLC was retained by Elizabeth Borough Municipal Authority ("EBMA") to prepare a fair market value appraisal of the Elizabeth Borough Municipal Authority's wastewater system assets ("Wastewater System") consistent with the date of the Engineer's Assessment.

*- "The 2024 edition of USPAP has an effective start date but no end date." (USPAP 2024 Edition, page vii)

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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 Wastewater System in compliance with the Uniform Standards of Professional Appraisal Practices, employing the cost, market, and income approaches.

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

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

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

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

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

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Compliance with Uniform Standards of Professional Appraisal Practice (USPAP) 2024*

Fulfillment of Requirements for a Personal Property Appraisal and Report

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

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

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

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

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

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

    Not applicable.

*- "The 2024 edition of USPAP has an effective start date but no end date." (USPAP 2024 Edition, page vii)

Compliance with Uniform Standards of Professional Appraisal Practice (USPAP) 2024*

Fulfillment of Requirements for a Personal Property Appraisal and Report

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

  Not applicable.

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

  See scope of work above. Data collection on this assignment involved requests for records of the Wastewater System, and site visit., The process utilized was confirming the valuation assignment, gathering the necessary information for the report activities, conducting, evaluating, and considering the cost approach, the income approach, and the market approach. Following the consideration of each distinct approach, Mr. Walker weighed the approaches utilizing his training, experience, and knowledge of the special purpose property market and the subject system. Following the reconciliation of the approaches, an Opinion of Value was determined and reported in the appraisal report.

- **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 Wastewater System's land and land rights include land used for wastewater treatment plant, a pump station, combined sewer overflow ("CSO") structures, over 8 miles of mains, approximately 248 manholes, associated infrastructure and appurtenances and multiple easements and rights-of-way necessary to operate the Wastewater System.

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

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

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

*- "The 2024 edition of USPAP has an effective start date but no end date." (USPAP 2024 Edition, page vii)

Compliance with Uniform Standards of Professional Appraisal Practice (USPAP) 2024*

Fulfillment of Requirements for a Personal Property Appraisal and Report

- **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.

*- "The 2024 edition of USPAP has an effective start date but no end date." (USPAP 2024 Edition, page vii)

APPRAISAL CERTIFICATION

Allegheny County, Pennsylvania

Elizabeth Borough Municipal Authority

Wastewater System Assets

Fair Market Value Appraisal Report

As of March 31, 2023

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 Elizabeth Borough Municipal Authority's wastewater system prior to this current appraisal.

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

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

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

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

- Our analyses, opinions, and conclusions were developed, and this report has been prepared, in conformity with the Uniform Standards of Professional Appraisal Practice (2024)

APPRAISAL CERTIFICATION

Allegheny County, Pennsylvania

Elizabeth Borough Municipal Authority

Wastewater System Assets

Fair Market Value Appraisal Report

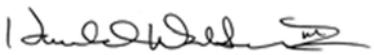
As of March 31, 2023

— The signers of this report relied upon LSSE, Inc., who inspected the property that is the subject of this report. The signers of this report also relied on Noah Harvey, Associate Designer, Water, at Gannett Fleming, Inc., who viewed or observed the property that is the subject of this report.

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

Gannett Fleming Valuation and Rate Consultants, LLC

By,



HAROLD WALKER, III

Manager, Financial Studies

EXHIBITS

EXHIBIT 1

Elizabeth Borough MA Wastewater System Assets
Selected Audited Financial Information

	12-Months Ended December 31:			
	2019	2020	2021	2022
Gross property, plant & equipment	10,814,702	15,593,120	17,036,078	17,259,928
Accumulated depreciation	162,876	263,497	376,809	519,504
Net property, plant & equipment	10,651,826	15,329,623	16,659,269	16,740,424
Assets	13,410,602	18,115,577	19,208,016	19,149,562
Debt Current	235,000	240,000	245,000	250,000
Debt	7,817,010	12,247,839	13,390,087	13,196,112
Equity	3,865,399	4,472,666	5,027,622	5,519,208
Total Capital	11,917,409	16,960,505	18,662,709	18,965,320
OPERATING REVENUES				
Charges for services	1,581,441	1,640,811	1,809,152	1,820,534
Other operating income	4,825	1,466	3,786	1,356
TOTAL OPERATING REVENUES	1,586,266	1,642,277	1,812,938	1,821,890
Expenses	948,207	914,645	897,207	933,099
Depreciation	76,060	100,623	131,419	143,695
TOTAL OPERATING EXPENSES	1,024,267	1,015,268	1,028,626	1,076,794
CAPX	1,819,509	5,227,098	1,461,065	224,850
Interest	5,985,000	235,000	376,276	653,203
Principal	230,897	219,876	251,064	253,023

Source of Information: Audited/DCED Financial Statements (2019-2022)

Elizabeth Borough MA Wastewater System Assets
Population, Housing Units, Customer Count, EDUs, and Flows

	Borough	Ultimate	System
Population in Houses (2023)	1,390	17,989	
Occupied Housing Units (2023)	625	7,855	
Average Size	2.22	2.29	

	Domestic	Ultimate
Population to Customers	7.9	2.5

Customers (2023)	Domestic Customers	Ultimate Wholesale Customers	Ultimate Customers
Retail Customers			
Elizabeth Borough	680		680
Wholesale Customers			
Elizabeth Township	1	1,172	1,172
Forward Township	1	320	320
Lincoln Borough	1	10	10
Total	683	1,502	2,182

Total EDUs	3,070

Projected New EDUs

	2023	2024	2025	2026	2027
New EDUs	5	5	5	5	5

Annual Daily Average Sewage Flow (MGD)

	2018	2019	2020	2021	2022
WWTP Totals	1.516	1.177	1.055	1.145	1.072

Population and Housing Units (2023)

	Total Population	Population in Households	Occupied Housing Units	Persons Per Housing Unit	Estimated Population Served
Elizabeth Borough	1,390	1,390	625	2.22	1,390
Elizabeth Township	12,762	12,668	5,476	2.31	3,191
Forward Township	3,031	3,023	1,336	2.26	758
Lincoln Borough	909	908	418	2.17	45
Total	18,092	17,989	7,855	2.29	5,384

TABLE 3.1 US Population Census Counts, 2010 & 2020

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

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

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

Geographic Area	Population 2010	Population 2020	Percentage Change	Municipal Growth Rank
Pennsylvania	12,702,379	13,002,700	2.4%	-
Allegheny County	1,223,348	1,250,578	2.2%	-
Elizabeth Borough	1,493	1,398	-6.4%	1,856 out of 2,572
Elizabeth Township	13,271	12,982	-2.2%	1,274 out of 2,572
Forward Township	3,376	3,070	-9.1%	2,120 out of 2,572
Lincoln Borough	1,072	932	-13.1%	2,349 out of 2,572
System Total	19,212	18,382	-4.3%	1,595 out of 2,572

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

TABLE 3.3 Forecasted Population by County and Municipality, 2020-2045

	Population						Percentage Change					
	Estimate 2020	Forecast 2025	Forecast 2030	Forecast 2035	Forecast 2040	Forecast 2045	2020 to 2025	2025 to 2030	2030 to 2035	2035 to 2040	2040 to 2045	2020 to 2045
Pittsburgh, City of	304,900	311,659	321,969	333,067	344,473	357,154	2.2%	3.3%	3.4%	3.4%	3.4%	17.1%
Allegheny (Excl. Pittsburgh)	924,120	938,526	963,797	989,969	1,015,104	1,043,734	1.6%	2.7%	2.7%	2.5%	2.5%	12.9%
Armstrong	64,822	63,052	62,573	63,017	63,683	64,156	-2.7%	-0.8%	0.7%	1.1%	1.1%	-1.0%
Beaver	165,356	165,660	169,639	174,012	177,584	180,383	0.2%	2.4%	2.6%	2.1%	2.1%	9.1%
Butler	189,577	193,864	201,009	209,286	216,520	222,117	2.3%	3.7%	4.1%	3.5%	3.5%	17.2%
Fayette	129,158	126,620	126,610	127,595	128,255	128,468	-2.0%	0.0%	0.8%	0.5%	0.5%	-0.5%
Greene	37,184	36,790	36,981	37,450	37,912	38,341	-1.1%	0.5%	1.3%	1.2%	1.2%	3.1%
Indiana	87,307	88,299	90,698	93,276	95,010	95,804	1.1%	2.7%	2.8%	1.9%	1.9%	9.7%
Lawrence	85,935	84,432	85,425	87,531	89,361	90,583	-1.7%	1.2%	2.5%	2.1%	2.1%	5.4%
Washington	209,558	213,562	220,429	228,261	235,444	241,574	1.9%	3.2%	3.6%	3.1%	3.1%	15.3%
Westmoreland	355,285	357,066	366,299	377,950	387,880	394,643	0.5%	2.6%	3.2%	2.6%	2.6%	11.1%
Total - SPC Region	2,553,202	2,579,530	2,645,429	2,721,414	2,791,226	2,856,957	1.0%	2.6%	2.9%	2.6%	2.6%	11.9%
Elizabeth Borough	1,345	1,330	1,331	1,337	1,355	1,375	-1.1%	0.1%	0.5%	1.3%	1.3%	2.2%
Elizabeth Township	13,222	13,354	13,637	13,932	14,195	14,511	1.0%	2.1%	2.2%	1.9%	1.9%	9.7%
Forward Township	3,291	3,279	3,300	3,322	3,334	3,357	-0.4%	0.6%	0.7%	0.4%	0.4%	2.0%
Lincoln Borough	980	966	966	969	976	992	-1.4%	0.0%	0.3%	0.7%	0.7%	1.2%
System Total	18,838	18,929	19,234	19,560	19,860	20,235	0.5%	1.6%	1.7%	1.5%	1.5%	7.4%

Source: Southwestern Pennsylvanaia Commission, June 2019.

TABLE 3.4 Forecasted Employment by County and Municipality, 2020-2045

	Employment						Percentage Change					
	Estimate 2020	Forecast 2025	Forecast 2030	Forecast 2035	Forecast 2040	Forecast 2045	2020 to 2025	2025 to 2030	2030 to 2035	2035 to 2040	2035 to 2040	2020 to 2045
Pittsburgh, City of	32,014	31,555	31,463	32,272	33,601	35,092	-1.4%	-0.3%	2.6%	4.1%	4.1%	9.6%
Allegheny (Excl. Pittsburgh)	110,038	107,804	106,063	107,535	110,874	114,757	-2.0%	-1.6%	1.4%	3.1%	3.1%	4.3%
Armstrong	4,160	4,016	3,916	3,920	3,963	3,993	-3.5%	-2.5%	0.1%	1.1%	1.1%	-4.0%
Beaver	13,247	12,932	12,750	12,821	12,989	13,147	-2.4%	-1.4%	0.6%	1.3%	1.3%	-0.8%
Butler	21,551	21,255	21,043	21,405	21,957	22,436	-1.4%	-1.0%	1.7%	2.6%	2.6%	4.1%
Fayette	10,604	10,262	10,026	10,042	10,138	10,177	-3.2%	-2.3%	0.2%	1.0%	1.0%	-4.0%
Greene	2,568	2,475	2,411	2,420	2,460	2,491	-3.6%	-2.6%	0.4%	1.7%	1.7%	-3.0%
Indiana	7,947	7,810	7,726	7,848	8,009	8,125	-1.7%	-1.1%	1.6%	2.1%	2.1%	2.2%
Lawrence	6,751	6,556	6,446	6,496	6,599	6,669	-2.9%	-1.7%	0.8%	1.6%	1.6%	-1.2%
Washington	19,660	19,321	19,089	19,440	20,066	20,650	-1.7%	-1.2%	1.8%	3.2%	3.2%	5.0%
Westmoreland	37,420	36,547	36,028	36,450	37,175	37,705	-2.3%	-1.4%	1.2%	2.0%	2.0%	0.8%
Total - SPC Region	265,960	260,533	256,961	260,649	267,831	275,242	-2.0%	-1.4%	1.4%	2.8%	2.8%	3.5%
Elizabeth Borough	69	66	64	64	66	68	-4.3%	-3.0%	0.0%	3.1%	3.1%	-1.4%
Elizabeth Township	600	592	588	603	629	660	-1.3%	-0.7%	2.6%	4.3%	4.3%	10.0%
Forward Township	72	69	67	68	70	74	-4.2%	-2.9%	1.5%	2.9%	2.9%	2.8%
Lincoln Borough	40	38	37	37	38	40	-5.0%	-2.6%	0.0%	2.7%	2.7%	0.0%
System Total	781	765	756	772	803	842	-2.0%	-1.2%	2.1%	4.0%	4.0%	7.8%

Source: Southwestern Pennsylvanaia Commission, June 2019.

EXHIBIT 4

Comparison of Credit Market Financial Risk Metrics
For Elizabeth Borough MA Wastewater System Assets
And the Comparable Group
2020 - 2022 (1)

	Elizabeth Borough MA Wastewater System Assets			Comparable Group		
	2022	2021	2020	2022	2021	2020
Debt Service Coverage	1.0	1.5	1.6	4.1	2.3	2.4
Pre-Tax Interest Coverage - Including AFC(2)(x)	1.1	2.1	2.7	3.6	4.4	3.7
Post-Tax Interest Coverage - Including AFC(2)(x)	1.1	2.1	2.7	3.1	3.7	3.2
GCF / Interest Coverage(3)(x)	1.4	2.4	3.1	5.1	5.9	5.2
GCF / Tot. Debt(4)(%)	1.8	4.0	3.9	16.2	18.2	15.9
GCF / Construction(5)(%)	104.8	36.9	9.4	68.2	73.2	72.2

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

Source: 2020-22 Annual Reports
S&P Capital IQ
EXHIBIT 1

EXHIBIT 5

Elizabeth Borough MA Wastewater System Assets
Illustrating the Impact of Size on Risk and Retun
Through Common Stock Returns

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

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

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

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

	3/31/2023 Market Value (Mill $)	Market Quartile Name	Market Quartile
Comparable Group			
American States Water Co	3,286	Mid-Cap	2
American Water Works Co Inc	28,509	Large-Cap	1
Artesian Resources -Cl A	519	Low-Cap	3
California Water Service Gp	3,236	Mid-Cap	2
Essential Utilities, Inc.	11,540	Mid-Cap	2
Middlesex Water Co	1,378	Low-Cap	3
SJW Corp	2,348	Low-Cap	3
York Water Co	639	Low-Cap	3
Median	2,792	Mid-Cap	2

Elizabeth Borough MA Wastewater System Assets
Property Plant & Equipment Analysis
Capital Expenditures Analysis
Growth Rate Analyses
Profit Margin Analyses

TABLE 6.1 Property Plant & Equipment Analysis

(Current Know Statistics)

	Gross Property, Plant & Equipment	Net Property, Plant & Equipment	Percentage of Property, Plant & Equipment Not Depreciated
	(Millions of $)		
Elizabeth Borough MA Wastewater System Assets *	$19.220	$16.621	86%
Comparable Group			
American States Water Co	$2,378.337	$1,772.106	75%
American Water Works Co Inc	29,818.000	23,305.000	78%
Artesian Resources -CL A	846.182	672.238	79%
California Water Service Gp	4,523.255	3,470.882	77%
Essential Utilities, Inc.	13,779.121	11,172.680	81%
Middlesex Water Co	1,153.975	935.584	81%
SJW Corp	3,876.151	2,654.825	68%
York Water Co	541.122	431.901	80%
Median			79%

* - Developed on Exhibit 7.

TABLE 6.2 Property Plant & Equipment Analysis for Contributions

(As of 12/31/2022)

	Net Property, Plant & Equipment	Investor's Capital	Percentage of Property, Plant & Equipment Net of Contributions	2022 Percentage of Known "Cost Free" Capital
	(Millions of $)			
Comparable Group				
American States Water Co	$1,772.106	$1,443.977	81%	21%
American Water Works Co Inc	23,305.000	20,148.000	86%	18%
Artesian Resources -CL A	672.238	386.237	57%	42%
California Water Service Gp	3,470.882	2,463.094	71%	27%
Essential Utilities, Inc.	11,172.680	12,251.975	110%	19%
Middlesex Water Co	935.584	769.360	82%	23%
SJW Corp	2,654.825	2,766.771	104%	25%
York Water Co	431.901	347.328	80%	24%
Median			82%	24%

Elizabeth Borough MA Wastewater System Assets
Property Plant & Equipment Analysis
Capital Expenditures Analysis
Growth Rate Analyses
Profit Margin Analyses

TABLE 6.3 Capital Expenditures Analysis

	PP&E-Total Net (Millions of $)				Capital Expenditures (Millions of $)			
	2022	2021	2020	2019	2022	2021	2020	2019
Elizabeth Borough MA Wastewater System Assets	$16.740	$16.659	$15.330	$10.652	$0.225	$1.461	$5.227	$1.820
Comparable Group								
American States Water Co	$1,772.137	$1,676.718	$1,557.936	$1,458.595	$166.240	$144.515	$130.423	$151.940
American Water Works Co Inc	23,305.000	21,176.000	19,805.000	18,335.000	2,297.000	1,764.000	1,822.000	1,654.000
Artesian Resources -CL A	672.238	594.633	563.817	535.013	48.483	40.814	34.277	40.677
California Water Service Gp	3,056.821	2,849.059	2,654.027	2,409.873	335.523	293.194	298.651	273.770
Essential Utilities, Inc.	11,172.680	10,300.796	9,573.211	6,358.657	1,062.763	1,020.519	835.642	550.273
Middlesex Water Co	935.584	881.299	813.014	722.044	91.335	79.378	105.619	89.125
SJW Corp	2,654.825	2,518.530	2,356.988	2,230.343	218.784	233.933	195.323	164.325
York Water Co	431.901	383.626	344.365	313.993	53.920	46.400	33.299	20.537

	Capital Expenditures / PP&E-Total Net			
	2022	2021	2020	2019
Elizabeth Borough MA Wastewater System Assets	1%	9%	34%	17%
Comparable Group				
American States Water Co	9%	9%	8%	10%
American Water Works Co Inc	10%	8%	9%	9%
Artesian Resources -CL A	7%	7%	6%	8%
California Water Service Gp	11%	10%	11%	11%
Essential Utilities, Inc.	10%	10%	9%	9%
Middlesex Water Co	10%	9%	13%	12%
SJW Corp	8%	9%	8%	7%
York Water Co	12%	12%	10%	7%
Median	10%	9%	9%	9%

Elizabeth Borough MA Wastewater System Assets
Property Plant & Equipment Analysis
Capital Expenditures Analysis
Growth Rate Analyses
Profit Margin Analyses

	Revenues				EBITDA			
	2022	2021	2020	2019	2022	2021	2020	2019
	(Millions of $)				(Millions of $)			
Elizabeth Borough MA Wastewater System Assets	$1.822	$1.813	$1.642	$1.586	$0.889	$0.916	$0.728	$0.638
Comparable Group								
American States Water Co	$491.528	$498.853	$488.243	$473.869	$175.850	$185.064	$171.044	$164.085
American Water Works Co Inc	3,792.000	3,930.000	3,777.000	3,610.000	1,306.476	1,154.957	1,102.741	917.849
Artesian Resources -CL A	98.897	90.859	88.141	83.595	433.284	387.423	380.137	340.460
California Water Service Gp	846.431	790.909	794.307	714.557	30.401	25.800	26.382	25.061
Essential Utilities, Inc.	2,288.032	1,878.144	1,462.698	889.692	147.867	140.577	127.710	122.709
Middlesex Water Co	162.434	143.141	141.592	134.598	38.056	33.947	35.841	28.720
SJW Corp	620.698	573.686	564.526	420.482	86.302	83.532	68.003	63.335
York Water Co	60.061	55.119	53.852	51.578	25.743	24.780	24.359	21.800

	EBIT			
	2022	2021	2020	2019
	(Millions of $)			
Elizabeth Borough MA Wastewater System Assets	$0.745	$0.784	$0.627	$0.562
Comparable Group				
American States Water Co	$134.153	$145.090	$133.840	$128.372
American Water Works Co Inc	1,350.000	1,274.000	1,297.000	1,230.000
Artesian Resources -CL A	29.784	28.031	27.979	25.106
California Water Service Gp	145.352	139.248	143.065	109.924
Essential Utilities, Inc.	669.275	615.095	459.298	357.241
Middlesex Water Co	46.649	35.241	37.699	34.318
SJW Corp	129.804	107.206	117.296	70.089
York Water Co	23.208	22.182	23.069	22.335

Elizabeth Borough MA Wastewater System Assets
Property Plant & Equipment Analysis
Capital Expenditures Analysis
Growth Rate Analyses
Profit Margin Analyses

TABLE 6.4 Growth Rate Analyses

	Revenue Growth			EBITDA Growth		
	2022	2021	2020	2022	2021	2020
Elizabeth Borough MA Wastewater System Assets	0.5%	10.4%	3.5%	-2.9%	25.8%	14.1%
Comparable Group						
American States Water Co	-1.5%	2.2%	3.0%	-5.0%	8.2%	4.2%
American Water Works Co Inc	-3.5%	4.1%	4.6%	13.1%	4.7%	20.1%
Artesian Resources -CL A	8.8%	3.1%	5.4%	11.8%	1.9%	11.7%
California Water Service Gp	7.0%	-0.4%	11.2%	17.8%	-2.2%	5.3%
Essential Utilities, Inc.	21.8%	28.4%	64.4%	5.2%	10.1%	4.1%
Middlesex Water Co	13.5%	1.1%	5.2%	12.1%	-5.3%	24.8%
SJW Corp	8.2%	1.6%	34.3%	3.3%	22.8%	7.4%
York Water Co	9.0%	2.4%	4.4%	3.9%	1.7%	11.7%
Median	8.5%	2.3%	5.3%	8.5%	3.3%	9.6%

	EBIT Growth		
	2022	2021	2020
Elizabeth Borough MA Wastewater System Assets	-5.0%	25.0%	11.6%
Comparable Group			
American States Water Co	-7.5%	8.4%	4.3%
American Water Works Co Inc	6.0%	-1.8%	5.4%
Artesian Resources -CL A	6.3%	0.2%	11.4%
California Water Service Gp	4.4%	-2.7%	30.1%
Essential Utilities, Inc.	8.8%	33.9%	28.6%
Middlesex Water Co	32.4%	-6.5%	9.9%
SJW Corp	21.1%	-8.6%	67.4%
York Water Co	4.6%	-3.8%	3.3%
Median	6.2%	-2.3%	10.7%

Elizabeth Borough MA Wastewater System Assets
Property Plant & Equipment Analysis
Capital Expenditures Analysis
Growth Rate Analyses
Profit Margin Analyses

TABLE 6.5 Profit Margin Analyses

	EBITDA / Revenue - Margin		
	2022	2021	2020
Elizabeth Borough MA Wastewater System Assets	48.8%	50.5%	44.3%
Comparable Group			
American States Water Co	35.8%	37.1%	35.0%
American Water Works Co Inc	34.5%	29.4%	29.2%
Artesian Resources -CL A	438.1%	426.4%	431.3%
California Water Service Gp	3.6%	3.3%	3.3%
Essential Utilities, Inc.	6.5%	7.5%	8.7%
Middlesex Water Co	23.4%	23.7%	25.3%
SJW Corp	13.9%	14.6%	12.0%
York Water Co	42.9%	45.0%	45.2%
Median	28.9%	26.6%	27.3%

	EBIT / Revenue - Margin		
	2022	2021	2020
Elizabeth Borough MA Wastewater System Assets	40.9%	43.2%	38.2%
Comparable Group			
American States Water Co	27.3%	29.1%	27.4%
American Water Works Co Inc	35.6%	32.4%	34.3%
Artesian Resources -CL A	30.1%	30.9%	31.7%
California Water Service Gp	17.2%	17.6%	18.0%
Essential Utilities, Inc.	29.3%	32.8%	31.4%
Middlesex Water Co	28.7%	24.6%	26.6%
SJW Corp	20.9%	18.7%	20.8%
York Water Co	38.6%	40.2%	42.8%
Median	29.0%	30.0%	29.4%

Source: S&P Capital IQ
EXHIBIT 1

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

SUMMARY OF ORIGINAL COST AND ACCRUED DEPRECIATION
OF WASTEWATER SYSTEM AS OF MARCH 31, 2023

ACCOUNT	DESCRIPTION	ORIGINAL COST	ACCRUED DEPRECIATION
(1)	(2)	(3)	(4)
353.00	LAND AND LAND RIGHTS	299,069.00	
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	7,147,112.56	81,334
354.40	STRUCTURES AND IMPROVEMENTS - TREATMENT	1,040,090.23	337,021
355.00	POWER GENERATION EQUIPMENT	123,284.19	3,082
360.10	FORCE MAINS	260,224.50	2,639
361.10	INTERCEPTOR	1,780,977.60	568,898
361.20	GRAVITY MAINS	1,397,717.25	306,133
361.30	MAINS RELINING AND SPOT REPAIR	1,913,526.43	267,918
361.40	MANHOLES	213,313.14	78,440
362.00	SPECIAL COLLECTING STRUCTURES	1,843,814.08	410,186
364.00	FLOW MEASURING DEVICES	261,996.09	71,797
371.00	PUMPING EQUIPMENT	198,923.62	13,683
380.00	TREATMENT AND DISPOSAL EQUIPMENT	1,332,969.81	153,842
381.00	PLANT SEWERS	939,940.21	84,942
382.00	OUTFALL SEWERS	126,075.60	30,943
390.10	OFFICE FURNITURE AND EQUIPMENT	17,262.40	7,037
390.20	COMPUTER AND PERIPHERAL	20,869.63	20,870
391.70	TRANSPORTATION EQUIPMENT	111,516.80	89,758
393.70	TOOLS, SHOP AND GARAGE EQUIPMENT	47,989.76	22,042
394.10	CAMERA AND RELATED EQUIPMENT	83,582.78	10,418
394.70	LABORATORY EQUIPMENT	33,653.16	18,790
395.70	POWER OPERATED EQUIPMENT	18,504.13	14,829
396.70	COMMUNICATION EQUIPMENT	7,600.00	4,433
	TOTAL COMPANY	**19,220,012.97**	**2,599,035**

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

SUMMARY OF ANALYSIS OF ORIGINAL COST
OF WASTEWATER SYSTEM AS OF MARCH 31, 2023

ACCOUNT	DESCRIPTION	ORIGINAL COST
(1)	(2)	(3)
353.00	LAND AND LAND RIGHTS	299,069.00
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	7,147,112.56
354.40	STRUCTURES AND IMPROVEMENTS - TREATMENT	1,040,090.23
355.00	POWER GENERATION EQUIPMENT	123,284.19
360.10	FORCE MAINS	260,224.50
361.10	INTERCEPTOR	1,780,977.60
361.20	GRAVITY MAINS	1,397,717.25
361.30	MAINS RELINING AND SPOT REPAIR	1,913,526.43
361.40	MANHOLES	213,313.14
362.00	SPECIAL COLLECTING STRUCTURES	1,843,814.08
364.00	FLOW MEASURING DEVICES	261,996.09
371.00	PUMPING EQUIPMENT	198,923.62
380.00	TREATMENT AND DISPOSAL EQUIPMENT	1,332,969.81
381.00	PLANT SEWERS	939,940.21
382.00	OUTFALL SEWERS	126,075.60
390.10	OFFICE FURNITURE AND EQUIPMENT	17,262.40
390.20	COMPUTER AND PERIPHERAL	20,869.63
391.70	TRANSPORTATION EQUIPMENT	111,516.80
393.70	TOOLS, SHOP AND GARAGE EQUIPMENT	47,989.76
394.10	CAMERA AND RELATED EQUIPMENT	83,582.78
394.70	LABORATORY EQUIPMENT	33,653.16
395.70	POWER OPERATED EQUIPMENT	18,504.13
396.70	COMMUNICATION EQUIPMENT	7,600.00
	TOTAL COMPANY	**19,220,012.97**

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

SUMMARY OF SERVICE LIFE ESTIMATES AND CALCULATED ACCRUED DEPRECIATION RELATED TO ORIGINAL COST AS OF MARCH 31, 2023

ACCOUNT	DESCRIPTION	SURVIVOR CURVE	ORIGINAL COST	ACCRUED DEPRECIATION
(1)	(2)	(3)	(4)	(5)
353.00	LAND AND LAND RIGHTS	NONDEPRECIABLE	299,069.00	
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	65-R3	7,147,112.56	81,334
354.40	STRUCTURES AND IMPROVEMENTS - TREATMENT	70-R2.5	1,040,090.23	337,021
355.00	POWER GENERATION EQUIPMENT	30-S2	123,284.19	3,082
360.10	FORCE MAINS	70-R2.5	260,224.50	2,639
361.10	INTERCEPTOR	70-R2.5	1,780,977.60	568,898
361.20	GRAVITY MAINS	75-R1.0	1,397,717.25	306,133
361.30	MAINS RELINING AND SPOT REPAIR	50-R2.5	1,913,526.43	267,918
361.40	MANHOLES	60-R3	213,313.14	78,440
362.00	SPECIAL COLLECTING STRUCTURES	70-R2.5	1,843,814.08	410,186
364.00	FLOW MEASURING DEVICES	30-L3	261,996.09	71,797
371.00	PUMPING EQUIPMENT	40-R1.5	198,923.62	13,683
380.00	TREATMENT AND DISPOSAL EQUIPMENT	45-S0.5	1,332,969.81	153,842
381.00	PLANT SEWERS	65-R3	939,940.21	84,942
382.00	OUTFALL SEWERS	70-R2.5	126,075.60	30,943
390.10	OFFICE FURNITURE AND EQUIPMENT	20-SQ	17,262.40	7,037
390.20	COMPUTER AND PERIPHERAL	5-SQ	20,869.63	20,870
391.70	TRANSPORTATION EQUIPMENT	11-S1.5	111,516.80	89,758
393.70	TOOLS, SHOP AND GARAGE EQUIPMENT	20-SQ	47,989.76	22,042
394.10	CAMERA AND RELATED EQUIPMENT	15-SQ	83,582.78	10,418
394.70	LABORATORY EQUIPMENT	15-SQ	33,653.16	18,790
395.70	POWER OPERATED EQUIPMENT	15-L2.5	18,504.13	14,829
396.70	COMMUNICATION EQUIPMENT	15-SQ	7,600.00	4,433
	TOTAL COMPANY		**19,220,012.97**	**2,599,035**

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

SUMMARY OF ORIGINAL COST NEW AND ORIGINAL COST NEW LESS DEPRECIATION
OF WASTEWATER SYSTEM AS OF MARCH 31, 2023

	DESCRIPTION (1)		ORIGINAL COST (2)
1.	ORIGINAL COST NEW	$	19,220,013
2.	LESS: ACCRUED DEPRECIATION	–	2,599,035
3.	**OCNLD**	**$**	**16,620,978**

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

ACCOUNT 353.00 LAND AND LAND RIGHTS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT MARCH 31, 2023

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
NONDEPRECIABLE							
1957	26,000.00						
1990	1.00						
1997	5,550.00						
1999	297.00						
2000	6,220.00						
2018	170,000.00						
2019	91,000.00						
2021	1.00						
	299,069.00						

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

ACCOUNT 354.30 STRUCTURES AND IMPROVEMENTS - PUMPING

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT MARCH 31, 2023

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 65-R3							
NET SALVAGE PERCENT.. 0							
2022	7,147,112.56	65.00	1.54	110,065.53	64.26	0.0114	81,334
	7,147,112.56			110,065.53			81,334

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

ACCOUNT 354.40 STRUCTURES AND IMPROVEMENTS - TREATMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT MARCH 31, 2023

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 70-R2.5							
NET SALVAGE PERCENT.. 0							
1959	61,116.97	70.00	1.43	873.97	19.84	0.7166	43,795
1972	108,246.73	70.00	1.43	1,547.93	27.72	0.6040	65,381
1992	488,990.16	70.00	1.43	6,992.56	42.64	0.3909	191,127
2015	332,649.51	70.00	1.43	4,756.89	62.75	0.1036	34,453
2017	4,803.68	70.00	1.43	68.69	64.61	0.0770	370
2019	19,108.18	70.00	1.43	273.25	66.47	0.0504	964
2020	25,175.00	70.00	1.43	360.00	67.41	0.0370	931
	1,040,090.23			14,873.29			337,021

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

ACCOUNT 355.00 POWER GENERATION EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT MARCH 31, 2023

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 30-S2							
NET SALVAGE PERCENT.. 0							
2022	123,284.19	30.00	3.33	4,105.36	29.25	0.0250	3,082
	123,284.19			4,105.36			3,082

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

ACCOUNT 360.10 FORCE MAINS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT MARCH 31, 2023

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 70-R2.5							
NET SALVAGE PERCENT.. 0							
2022	260,224.50	70.00	1.43	3,721.21	69.29	0.0101	2,639
	260,224.50			3,721.21			2,639

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

ACCOUNT 361.10 INTERCEPTOR

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT MARCH 31, 2023

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 70-R2.5							
NET SALVAGE PERCENT.. 0							
1998	1,780,977.60	70.00	1.43	25,467.98	47.64	0.3194	568,898
	1,780,977.60			25,467.98			568,898

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

ACCOUNT 361.20 GRAVITY MAINS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT MARCH 31, 2023

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 75-R1							
NET SALVAGE PERCENT.. 0							
1950	337,676.90	75.00	1.33	4,491.10	28.65	0.6180	208,684
1998	267,397.80	75.00	1.33	3,556.39	57.44	0.2341	62,606
2016	26,581.20	75.00	1.33	353.53	70.05	0.0660	1,754
2017	151,593.60	75.00	1.33	2,016.19	70.78	0.0563	8,530
2018	360,398.57	75.00	1.33	4,793.30	71.50	0.0467	16,820
2019	87,381.78	75.00	1.33	1,162.18	72.23	0.0369	3,227
2020	166,687.40	75.00	1.33	2,216.94	72.97	0.0271	4,512
	1,397,717.25			18,589.63			306,133

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

ACCOUNT 361.30 MAINS RELINING AND SPOT REPAIR

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT MARCH 31, 2023

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 50-R2.5							
NET SALVAGE PERCENT.. 0							
2013	228,809.04	50.00	2.00	4,576.18	40.98	0.1804	41,277
2014	24,587.14	50.00	2.00	491.74	41.88	0.1624	3,993
2015	838,091.53	50.00	2.00	16,761.83	42.79	0.1442	120,853
2016	808,938.72	50.00	2.00	16,178.77	43.71	0.1258	101,764
2023	13,100.00	50.00	2.00	262.00	49.88	0.0024	31
	1,913,526.43			38,270.52			267,918

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

ACCOUNT 361.40 MANHOLES

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT MARCH 31, 2023

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 60-R3							
NET SALVAGE PERCENT.. 0							
1950	62,009.94	60.00	1.67	1,035.57	7.31	0.8782	54,455
1998	10,077.60	60.00	1.67	168.30	36.74	0.3877	3,907
2014	141,225.60	60.00	1.67	2,358.47	51.47	0.1422	20,078
	213,313.14			3,562.34			78,440

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

ACCOUNT 362.00 SPECIAL COLLECTING STRUCTURES

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT MARCH 31, 2023

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 70-R2.5							
NET SALVAGE PERCENT.. 0							
1950	71,467.54	70.00	1.43	1,021.99	15.51	0.7784	55,632
1998	846,786.00	70.00	1.43	12,109.04	47.64	0.3194	270,489
2015	758,734.14	70.00	1.43	10,849.90	62.75	0.1036	78,582
2018	83,830.80	70.00	1.43	1,198.78	65.54	0.0637	5,341
2023	82,995.60	70.00	1.43	1,186.84	69.88	0.0017	142
	1,843,814.08			26,366.55			410,186

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

ACCOUNT 364.00 FLOW MEASURING DEVICES

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT MARCH 31, 2023

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 30-L3							
NET SALVAGE PERCENT.. 0							
1992	10,400.00	30.00	3.33	346.32	8.88	0.7040	7,322
1996	5,855.31	30.00	3.33	194.98	9.62	0.6793	3,978
2013	100,391.00	30.00	3.33	3,343.02	20.42	0.3193	32,058
2014	68,790.00	30.00	3.33	2,290.71	21.36	0.2880	19,812
2019	48,252.60	30.00	3.33	1,606.81	26.25	0.1250	6,032
2020	28,307.18	30.00	3.33	942.63	27.25	0.0917	2,595
	261,996.09			8,724.47			71,797

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

ACCOUNT 371.00 PUMPING EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT MARCH 31, 2023

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 40-R1.5							
NET SALVAGE PERCENT.. 0							
1972	8,780.76	40.00	2.50	219.52	8.53	0.7868	6,908
2017	25,596.92	40.00	2.50	639.92	35.35	0.1163	2,976
2021	60,914.53	40.00	2.50	1,522.86	38.56	0.0360	2,193
2022	103,631.41	40.00	2.50	2,590.79	39.38	0.0155	1,606
	198,923.62			4,973.09			13,683

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

ACCOUNT 380.00 TREATMENT AND DISPOSAL EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT MARCH 31, 2023

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 45-S0.5							
NET SALVAGE PERCENT.. 0							
1959	11,259.00	45.00	2.22	249.95	8.98	0.8004	9,012
1972	14,682.40	45.00	2.22	325.95	13.82	0.6929	10,173
1992	136,557.84	45.00	2.22	3,031.58	22.87	0.4918	67,156
2015	179,182.19	45.00	2.22	3,977.84	37.99	0.1558	27,913
2016	58,223.20	45.00	2.22	1,292.56	38.83	0.1371	7,983
2017	126,328.25	45.00	2.22	2,804.49	39.68	0.1182	14,935
2018	14,296.50	45.00	2.22	317.38	40.56	0.0987	1,411
2019	35,733.67	45.00	2.22	793.29	41.45	0.0789	2,819
2022	756,706.76	45.00	2.22	16,798.89	44.26	0.0164	12,440
	1,332,969.81			29,591.93			153,842

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

ACCOUNT 381.00 PLANT SEWERS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT MARCH 31, 2023

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 65-R3							
NET SALVAGE PERCENT.. 0							
1992	173,407.17	65.00	1.54	2,670.47	36.43	0.4395	76,219
2022	766,533.04	65.00	1.54	11,804.61	64.26	0.0114	8,723
	939,940.21			14,475.08			84,942

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

ACCOUNT 382.00 OUTFALL SEWERS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT MARCH 31, 2023

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 70-R2.5							
NET SALVAGE PERCENT.. 0							
2004	126,075.60	70.00	1.43	1,802.88	52.82	0.2454	30,943
	126,075.60			1,802.88			30,943

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

ACCOUNT 390.10 OFFICE FURNITURE AND EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT MARCH 31, 2023

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. 20-SQUARE							
NET SALVAGE PERCENT.. 0							
1995	1,829.50	20.00				1.0000	1,830
2005	3,049.00	20.00	5.00	152.45	2.25	0.8875	2,706
2017	1,794.90	20.00	5.00	89.74	14.25	0.2875	516
2019	10,589.00	20.00	5.00	529.45	16.25	0.1875	1,985
	17,262.40			771.64			7,037

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

ACCOUNT 390.20 COMPUTER AND PERIPHERAL

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT MARCH 31, 2023

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. 5-SQUARE							
NET SALVAGE PERCENT.. 0							
2005	199.00	5.00				1.0000	199
2009	549.00	5.00				1.0000	549
2017	20,121.63	5.00				1.0000	20,122
	20,869.63						20,870

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

ACCOUNT 391.70 TRANSPORTATION EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT MARCH 31, 2023

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 11-S1.5							
NET SALVAGE PERCENT.. 0							
1989	24,517.50	11.00				1.0000	24,518
2008	60,549.30	11.00	9.09	5,503.93	1.90	0.8273	50,091
2015	26,450.00	11.00	9.09	2,404.30	4.70	0.5727	15,149
	111,516.80			7,908.23			89,758

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

ACCOUNT 393.70 TOOLS, SHOP AND GARAGE EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT MARCH 31, 2023

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. 20-SQUARE							
NET SALVAGE PERCENT.. 0							
1985	5,238.99	20.00				1.0000	5,239
1995	3,714.99	20.00				1.0000	3,715
1996	4,144.00	20.00				1.0000	4,144
2003	3,590.20	20.00	5.00	179.51	0.25	0.9875	3,545
2005	120.00	20.00	5.00	6.00	2.25	0.8875	106
2010	1,304.05	20.00	5.00	65.20	7.25	0.6375	831
2012	854.95	20.00	5.00	42.75	9.25	0.5375	460
2013	183.60	20.00	5.00	9.18	10.25	0.4875	90
2014	807.42	20.00	5.00	40.37	11.25	0.4375	353
2015	1,999.90	20.00	5.00	100.00	12.25	0.3875	775
2016	1,100.00	20.00	5.00	55.00	13.25	0.3375	371
2017	637.97	20.00	5.00	31.90	14.25	0.2875	183
2018	43.95	20.00	5.00	2.20	15.25	0.2375	10
2019	220.00	20.00	5.00	11.00	16.25	0.1875	41
2020	12,500.00	20.00	5.00	625.00	17.25	0.1375	1,719
2021	816.97	20.00	5.00	40.85	18.25	0.0875	71
2022	10,295.00	20.00	5.00	514.75	19.25	0.0375	386
2023	417.77	20.00	5.00	20.89	19.88	0.0060	3
	47,989.76			1,744.60			22,042

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

ACCOUNT 394.10 CAMERA AND RELATED EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT MARCH 31, 2023

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. 15-SQUARE							
NET SALVAGE PERCENT.. 0							
2019	4,999.00	15.00	6.67	333.43	11.25	0.2500	1,250
2021	78,583.78	15.00	6.67	5,241.54	13.25	0.1167	9,168
	83,582.78			5,574.97			10,418

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

ACCOUNT 394.70 LABORATORY EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT MARCH 31, 2023

	ORIGINAL	AVG.	--ANNUAL ACCRUAL--			--ACCRUED DEPREC.--	
YEAR	COST	LIFE	RATE	AMOUNT	EXP.	FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. 15-SQUARE							
NET SALVAGE PERCENT.. 0							
1979	1,578.95	15.00				1.0000	1,579
1995	260.76	15.00				1.0000	261
1997	481.07	15.00				1.0000	481
2006	2,310.66	15.00				1.0000	2,311
2007	295.07	15.00				1.0000	295
2008	853.99	15.00	6.67	56.96	0.25	0.9833	840
2009	147.69	15.00	6.67	9.85	1.25	0.9167	135
2010	1,754.00	15.00	6.67	116.99	2.25	0.8500	1,491
2012	925.19	15.00	6.67	61.71	4.25	0.7167	663
2013	15,442.00	15.00	6.67	1,029.98	5.25	0.6500	10,037
2016	231.85	15.00	6.67	15.46	8.25	0.4500	104
2019	624.14	15.00	6.67	41.63	11.25	0.2500	156
2022	8,747.79	15.00	6.67	583.48	14.25	0.0500	437
	33,653.16			1,916.06			18,790

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

ACCOUNT 395.70 POWER OPERATED EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT MARCH 31, 2023

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 15-L2.5							
NET SALVAGE PERCENT.. 0							
1989	3,100.00	15.00	6.67	206.77	1.59	0.8940	2,771
1990	5,000.00	15.00	6.67	333.50	1.75	0.8833	4,417
1995	7,096.90	15.00	6.67	473.36	2.49	0.8340	5,919
2007	1,129.99	15.00	6.67	75.37	5.04	0.6640	750
2015	1,927.25	15.00	6.67	128.55	8.03	0.4647	896
2018	249.99	15.00	6.67	16.67	10.45	0.3033	76
	18,504.13			1,234.22			14,829

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

ACCOUNT 396.70 COMMUNICATION EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT MARCH 31, 2023

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. 15-SQUARE NET SALVAGE PERCENT.. 0							
2014	7,600.00	15.00	6.67	506.92	6.25	0.5833	4,433
	7,600.00			506.92			4,433

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

SUMMARY OF REPLACEMENT COST AND ACCRUED DEPRECIATION
OF WASTEWATER SYSTEM AS OF MARCH 31, 2023

ACCOUNT	DESCRIPTION	REPLACEMENT COST	ACCRUED DEPRECIATION
(1)	(2)	(3)	(4)
353.00	LAND AND LAND RIGHTS	299,069.00	
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	7,234,369.21	82,327
354.40	STRUCTURES AND IMPROVEMENTS - TREATMENT	4,262,958.73	2,087,974
355.00	POWER GENERATION EQUIPMENT	127,459.72	3,186
360.10	FORCE MAINS	273,653.81	2,775
361.10	INTERCEPTOR	5,418,185.37	1,730,731
361.20	GRAVITY MAINS	10,351,650.12	5,478,705
361.30	MAINS RELINING AND SPOT REPAIR	2,782,259.78	391,474
361.40	MANHOLES	1,796,768.25	1,409,263
362.00	SPECIAL COLLECTING STRUCTURES	5,363,203.02	2,259,190
364.00	FLOW MEASURING DEVICES	673,069.15	205,400
371.00	PUMPING EQUIPMENT	386,772.25	138,712
380.00	TREATMENT AND DISPOSAL EQUIPMENT	2,268,277.76	627,265
381.00	PLANT SEWERS	1,408,276.89	273,858
382.00	OUTFALL SEWERS	315,189.00	77,357
390.10	OFFICE FURNITURE AND EQUIPMENT	25,534.56	11,797
390.20	COMPUTER AND PERIPHERAL	20,392.75	20,393
391.70	TRANSPORTATION EQUIPMENT	141,436.77	115,472
393.70	TOOLS, SHOP AND GARAGE EQUIPMENT	65,799.39	35,472
394.10	CAMERA AND RELATED EQUIPMENT	94,436.14	11,818
394.70	LABORATORY EQUIPMENT	42,961.56	25,740
395.70	POWER OPERATED EQUIPMENT	25,375.39	20,511
396.70	COMMUNICATION EQUIPMENT	8,040.54	4,690
	TOTAL COMPANY	**43,385,139.16**	**15,014,110**

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

SUMMARY OF ANALYSIS OF REPLACEMENT COST
OF WASTEWATER SYSTEM AS OF MARCH 31, 2023

ACCOUNT	DESCRIPTION	REPLACEMENT COST
(1)	(2)	(3)
353.00	LAND AND LAND RIGHTS	299,069.00
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	7,234,369.21
354.40	STRUCTURES AND IMPROVEMENTS - TREATMENT	4,262,958.73
355.00	POWER GENERATION EQUIPMENT	127,459.72
360.10	FORCE MAINS	273,653.81
361.10	INTERCEPTOR	5,418,185.37
361.20	GRAVITY MAINS	10,351,650.12
361.30	MAINS RELINING AND SPOT REPAIR	2,782,259.78
361.40	MANHOLES	1,796,768.25
362.00	SPECIAL COLLECTING STRUCTURES	5,363,203.02
364.00	FLOW MEASURING DEVICES	673,069.15
371.00	PUMPING EQUIPMENT	386,772.25
380.00	TREATMENT AND DISPOSAL EQUIPMENT	2,268,277.76
381.00	PLANT SEWERS	1,408,276.89
382.00	OUTFALL SEWERS	315,189.00
390.10	OFFICE FURNITURE AND EQUIPMENT	25,534.56
390.20	COMPUTER AND PERIPHERAL	20,392.75
391.70	TRANSPORTATION EQUIPMENT	141,436.77
393.70	TOOLS, SHOP AND GARAGE EQUIPMENT	65,799.39
394.10	CAMERA AND RELATED EQUIPMENT	94,436.14
394.70	LABORATORY EQUIPMENT	42,961.56
395.70	POWER OPERATED EQUIPMENT	25,375.39
396.70	COMMUNICATION EQUIPMENT	8,040.54
	TOTAL COMPANY	**43,385,139.16**

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

SUMMARY OF SERVICE LIFE ESTIMATES AND CALCULATED ACCRUED DEPRECIATION RELATED TO REPLACEMENT COST AS OF MARCH 31, 2023

ACCOUNT	DESCRIPTION	SURVIVOR CURVE	REPLACEMENT COST	ACCRUED DEPRECIATION
(1)	(2)	(3)	(4)	(5)
353.00	LAND AND LAND RIGHTS	NONDEPRECIABLE	299,069.00	
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	65-R3	7,234,369.21	82,327
354.40	STRUCTURES AND IMPROVEMENTS - TREATMENT	70-R2.5	4,262,958.73	2,087,974
355.00	POWER GENERATION EQUIPMENT	30-S2	127,459.72	3,186
360.10	FORCE MAINS	70-R2.5	273,653.81	2,775
361.10	INTERCEPTOR	70-R2.5	5,418,185.37	1,730,731
361.20	GRAVITY MAINS	75-R1.0	10,351,650.12	5,478,705
361.30	MAINS RELINING AND SPOT REPAIR	50-R2.5	2,782,259.78	391,474
361.40	MANHOLES	60-R3	1,796,768.25	1,409,263
362.00	SPECIAL COLLECTING STRUCTURES	70-R2.5	5,363,203.02	2,259,190
364.00	FLOW MEASURING DEVICES	30-L3	673,069.15	205,400
371.00	PUMPING EQUIPMENT	40-R1.5	386,772.25	138,712
380.00	TREATMENT AND DISPOSAL EQUIPMENT	45-S0.5	2,268,277.76	627,265
381.00	PLANT SEWERS	65-R3	1,408,276.89	273,858
382.00	OUTFALL SEWERS	70-R2.5	315,189.00	77,357
390.10	OFFICE FURNITURE AND EQUIPMENT	20-SQ	25,534.56	11,797
390.20	COMPUTER AND PERIPHERAL	5-SQ	20,392.75	20,393
391.70	TRANSPORTATION EQUIPMENT	11-S1.5	141,436.77	115,472
393.70	TOOLS, SHOP AND GARAGE EQUIPMENT	20-SQ	65,799.39	35,472
394.10	CAMERA AND RELATED EQUIPMENT	15-SQ	94,436.14	11,818
394.70	LABORATORY EQUIPMENT	15-SQ	42,961.56	25,740
395.70	POWER OPERATED EQUIPMENT	15-L2.5	25,375.39	20,511
396.70	COMMUNICATION EQUIPMENT	15-SQ	8,040.54	4,690
	TOTAL COMPANY		**43,385,139.16**	**15,014,110**

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

SUMMARY OF REPLACEMENT COST NEW AND REPLACEMENT COST NEW LESS DEPRECIATION OF WASTEWATER SYSTEM AS OF MARCH 31, 2023

	DESCRIPTION		REPLACEMENT COST
	(1)		(2)
1.	REPLACEMENT COST NEW		$ 43,385,139
2.	LESS: ACCRUED DEPRECIATION	-	15,014,110
3.	PRELIMINARY RCNLD		$ 28,371,029
4.	**CONCLUSION RCNLD**		**$ 28,371,029**

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

SUMMARY OF REPLACEMENT COST AND TRANSITION FACTORS BY ACCOUNT AND VINTAGE YEAR
OF WASTEWATER SYSTEM AS OF MARCH 31, 2023

ACCOUNT	DESCRIPTION	VINTAGE YEAR	BASE COST	TRANSITION FACTOR	FACTOR REFERENCE	REPLACEMENT COST
(1)	(2)	(3)	(4)	(5)	(6)	(7)
353.00	LAND AND LAND RIGHTS	1957	26,000.00	1.00000	(1)	26,000.00
353.00	LAND AND LAND RIGHTS	1990	1.00	1.00000	(1)	1.00
353.00	LAND AND LAND RIGHTS	1997	5,550.00	1.00000	(1)	5,550.00
353.00	LAND AND LAND RIGHTS	1999	297.00	1.00000	(1)	297.00
353.00	LAND AND LAND RIGHTS	2000	6,220.00	1.00000	(1)	6,220.00
353.00	LAND AND LAND RIGHTS	2018	170,000.00	1.00000	(1)	170,000.00
353.00	LAND AND LAND RIGHTS	2019	91,000.00	1.00000	(1)	91,000.00
353.00	LAND AND LAND RIGHTS	2021	1.00	1.00000	(1)	1.00
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	2022	7,147,112.56	1.01221	(2)	7,234,369.21
354.40	STRUCTURES AND IMPROVEMENTS - TREATMENT	1959	61,116.97	17.53846	(2)	1,071,897.63
354.40	STRUCTURES AND IMPROVEMENTS - TREATMENT	1972	108,246.73	9.91304	(2)	1,073,054.54
354.40	STRUCTURES AND IMPROVEMENTS - TREATMENT	1992	488,990.16	3.24555	(2)	1,587,042.80
354.40	STRUCTURES AND IMPROVEMENTS - TREATMENT	2015	332,649.51	1.40958	(2)	468,896.99
354.40	STRUCTURES AND IMPROVEMENTS - TREATMENT	2017	4,803.68	1.35111	(2)	6,490.31
354.40	STRUCTURES AND IMPROVEMENTS - TREATMENT	2019	19,108.18	1.27374	(2)	24,338.91
354.40	STRUCTURES AND IMPROVEMENTS - TREATMENT	2020	25,175.00	1.24082	(2)	31,237.55
355.00	POWER GENERATION EQUIPMENT	2022	123,284.19	1.03387	(3)	127,459.72
360.10	FORCE MAINS	2022	260,224.50	1.05161	(4)	273,653.81
361.10	INTERCEPTOR	1998	1,780,977.60	3.04225	(4)	5,418,185.37
361.20	GRAVITY MAINS	1950	337,676.90	25.11628	(4)	8,481,187.26
361.20	GRAVITY MAINS	1998	267,397.80	3.04225	(4)	813,491.90
361.20	GRAVITY MAINS	2016	26,581.20	1.43046	(4)	38,023.44
361.20	GRAVITY MAINS	2017	151,593.60	1.38996	(4)	210,709.25
361.20	GRAVITY MAINS	2018	360,398.57	1.34496	(4)	484,720.37
361.20	GRAVITY MAINS	2019	87,381.78	1.30120	(4)	113,701.59
361.20	GRAVITY MAINS	2020	166,687.40	1.25874	(4)	209,816.31
361.30	MAINS RELINING AND SPOT REPAIR	2013	228,809.04	1.54066	(4)	352,516.07
361.30	MAINS RELINING AND SPOT REPAIR	2014	24,587.14	1.47743	(4)	36,325.73
361.30	MAINS RELINING AND SPOT REPAIR	2015	838,091.53	1.45946	(4)	1,223,160.61
361.30	MAINS RELINING AND SPOT REPAIR	2016	808,938.72	1.43046	(4)	1,157,157.37
361.30	MAINS RELINING AND SPOT REPAIR	2023	13,100.00	1.00000	(4)	13,100.00
361.40	MANHOLES	1950	62,009.94	25.11628	(4)	1,557,458.96
361.40	MANHOLES	1998	10,077.60	3.04225	(4)	30,658.61
361.40	MANHOLES	2014	141,225.60	1.47743	(4)	208,650.68
362.00	SPECIAL COLLECTING STRUCTURES	1950	71,467.54	25.33333	(2)	1,810,511.01
362.00	SPECIAL COLLECTING STRUCTURES	1998	846,786.00	2.70623	(2)	2,291,598.91
362.00	SPECIAL COLLECTING STRUCTURES	2015	758,734.14	1.40958	(2)	1,069,498.51
362.00	SPECIAL COLLECTING STRUCTURES	2018	83,830.80	1.29545	(2)	108,598.99
362.00	SPECIAL COLLECTING STRUCTURES	2023	82,995.60	1.00000	(2)	82,995.60
364.00	FLOW MEASURING DEVICES	1992	10,400.00	4.96429	(5)	51,628.57
364.00	FLOW MEASURING DEVICES	1996	5,855.31	4.70048	(5)	27,522.79
364.00	FLOW MEASURING DEVICES	2013	100,391.00	2.55381	(5)	256,379.12
364.00	FLOW MEASURING DEVICES	2014	68,790.00	2.52073	(5)	173,400.70
364.00	FLOW MEASURING DEVICES	2019	48,252.60	2.17673	(5)	105,033.06
364.00	FLOW MEASURING DEVICES	2020	28,307.18	2.08798	(5)	59,104.91
371.00	PUMPING EQUIPMENT	1972	8,780.76	18.76042	(3)	164,730.72
371.00	PUMPING EQUIPMENT	2017	25,596.92	1.61235	(3)	41,271.31
371.00	PUMPING EQUIPMENT	2021	60,914.53	1.20872	(3)	73,628.91
371.00	PUMPING EQUIPMENT	2022	103,631.41	1.03387	(3)	107,141.31
380.00	TREATMENT AND DISPOSAL EQUIPMENT	1959	11,259.00	20.77778	(6)	233,937.00
380.00	TREATMENT AND DISPOSAL EQUIPMENT	1972	14,682.40	11.68750	(6)	171,600.55
380.00	TREATMENT AND DISPOSAL EQUIPMENT	1992	136,557.84	3.37952	(6)	461,499.69
380.00	TREATMENT AND DISPOSAL EQUIPMENT	2015	179,182.19	1.51417	(6)	271,312.30
380.00	TREATMENT AND DISPOSAL EQUIPMENT	2016	58,223.20	1.47438	(6)	85,842.88
380.00	TREATMENT AND DISPOSAL EQUIPMENT	2017	126,328.25	1.42930	(6)	180,560.89
380.00	TREATMENT AND DISPOSAL EQUIPMENT	2018	14,296.50	1.38007	(6)	19,730.23
380.00	TREATMENT AND DISPOSAL EQUIPMENT	2019	35,733.67	1.32468	(6)	47,335.51
380.00	TREATMENT AND DISPOSAL EQUIPMENT	2022	756,706.76	1.05253	(6)	796,458.71
381.00	PLANT SEWERS	1992	173,407.17	3.47267	(4)	602,185.67
381.00	PLANT SEWERS	2022	766,533.04	1.05161	(4)	806,091.22
382.00	OUTFALL SEWERS	2004	126,075.60	2.50000	(4)	315,189.00
390.10	OFFICE FURNITURE AND EQUIPMENT	1995	1,829.50	1.98580	(7)	3,633.02
390.10	OFFICE FURNITURE AND EQUIPMENT	2005	3,049.00	1.78165	(7)	5,432.26

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

SUMMARY OF REPLACEMENT COST AND TRANSITION FACTORS BY ACCOUNT AND VINTAGE YEAR OF WASTEWATER SYSTEM AS OF MARCH 31, 2023

ACCOUNT (1)	DESCRIPTION (2)	VINTAGE YEAR (3)	BASE COST (4)	TRANSITION FACTOR (5)	FACTOR REFERENCE (6)	REPLACEMENT COST (7)
390.10	OFFICE FURNITURE AND EQUIPMENT	2017	1,794.90	1.42487	(7)	2,557.51
390.10	OFFICE FURNITURE AND EQUIPMENT	2019	10,589.00	1.31379	(7)	13,911.77
390.20	COMPUTERS AND PRINTERS	2005	199.00	0.84452	(8)	168.06
390.20	COMPUTERS AND PRINTERS	2009	549.00	0.86978	(8)	477.51
390.20	COMPUTERS AND PRINTERS	2017	20,121.63	0.98139	(8)	19,747.18
391.70	TRANSPORTATION EQUIPMENT	1989	24,517.50	1.43098	(9)	35,084.17
391.70	TRANSPORTATION EQUIPMENT	2008	60,549.30	1.26372	(9)	76,517.43
391.70	TRANSPORTATION EQUIPMENT	2015	26,450.00	1.12798	(9)	29,835.17
393.70	TOOLS, SHOP AND GARAGE EQUIPMENT	1985	5,238.99	2.08995	(10)	10,949.23
393.70	TOOLS, SHOP AND GARAGE EQUIPMENT	1995	3,714.99	1.58185	(10)	5,876.54
393.70	TOOLS, SHOP AND GARAGE EQUIPMENT	1996	4,144.00	1.54550	(10)	6,404.57
393.70	TOOLS, SHOP AND GARAGE EQUIPMENT	2003	3,590.20	1.47903	(10)	5,310.02
393.70	TOOLS, SHOP AND GARAGE EQUIPMENT	2005	120.00	1.45454	(10)	174.54
393.70	TOOLS, SHOP AND GARAGE EQUIPMENT	2010	1,304.05	1.43365	(10)	1,869.55
393.70	TOOLS, SHOP AND GARAGE EQUIPMENT	2012	854.95	1.38902	(10)	1,187.54
393.70	TOOLS, SHOP AND GARAGE EQUIPMENT	2013	183.60	1.37961	(10)	253.30
393.70	TOOLS, SHOP AND GARAGE EQUIPMENT	2014	807.42	1.36002	(10)	1,098.10
393.70	TOOLS, SHOP AND GARAGE EQUIPMENT	2015	1,999.90	1.33168	(10)	2,663.23
393.70	TOOLS, SHOP AND GARAGE EQUIPMENT	2016	1,100.00	1.30257	(10)	1,432.82
393.70	TOOLS, SHOP AND GARAGE EQUIPMENT	2017	637.97	1.28359	(10)	818.89
393.70	TOOLS, SHOP AND GARAGE EQUIPMENT	2018	43.95	1.25883	(10)	55.33
393.70	TOOLS, SHOP AND GARAGE EQUIPMENT	2019	220.00	1.23994	(10)	272.79
393.70	TOOLS, SHOP AND GARAGE EQUIPMENT	2020	12,500.00	1.22492	(10)	15,311.56
393.70	TOOLS, SHOP AND GARAGE EQUIPMENT	2021	816.97	1.15498	(10)	943.58
393.70	TOOLS, SHOP AND GARAGE EQUIPMENT	2022	10,295.00	1.04516	(10)	10,759.93
393.70	TOOLS, SHOP AND GARAGE EQUIPMENT	2023	417.77	1.00023	(10)	417.87
394.10	CAMERA AND RELATED EQUIPMENT	2019	4,999.00	1.20057	(11)	6,001.66
394.10	CAMERA AND RELATED EQUIPMENT	2021	78,583.78	1.12535	(11)	88,434.48
394.70	LABORATORY EQUIPMENT	1979	1,578.95	1.84916	(12)	2,919.73
394.70	LABORATORY EQUIPMENT	1995	260.76	1.61346	(12)	420.73
394.70	LABORATORY EQUIPMENT	1997	481.07	1.57364	(12)	757.03
394.70	LABORATORY EQUIPMENT	2006	2,310.66	1.39867	(12)	3,231.85
394.70	LABORATORY EQUIPMENT	2007	295.07	1.38887	(12)	409.81
394.70	LABORATORY EQUIPMENT	2008	853.99	1.35743	(12)	1,159.23
394.70	LABORATORY EQUIPMENT	2009	147.69	1.34050	(12)	197.98
394.70	LABORATORY EQUIPMENT	2010	1,754.00	1.33313	(12)	2,338.31
394.70	LABORATORY EQUIPMENT	2012	925.19	1.31722	(12)	1,218.68
394.70	LABORATORY EQUIPMENT	2013	15,442.00	1.29986	(12)	20,072.45
394.70	LABORATORY EQUIPMENT	2016	231.85	1.23807	(12)	287.05
394.70	LABORATORY EQUIPMENT	2019	624.14	1.16111	(12)	724.69
394.70	LABORATORY EQUIPMENT	2022	8,747.79	1.05444	(12)	9,224.02
395.70	POWER OPERATED EQUIPMENT	1989	3,100.00	1.47307	(13)	4,566.52
395.70	POWER OPERATED EQUIPMENT	1990	5,000.00	1.43117	(13)	7,155.83
395.70	POWER OPERATED EQUIPMENT	1995	7,096.90	1.34395	(13)	9,537.84
395.70	POWER OPERATED EQUIPMENT	2007	1,129.99	1.28793	(13)	1,455.35
395.70	POWER OPERATED EQUIPMENT	2015	1,927.25	1.22385	(13)	2,358.67
395.70	POWER OPERATED EQUIPMENT	2018	249.99	1.20478	(13)	301.18
396.70	COMMUNICATION EQUIPMENT	2014	7,600.00	1.05797	(14)	8,040.54
	TOTAL COMPANY		**19,220,012.97**			**43,385,139.16**

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

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

ACCOUNT 353.00 LAND AND LAND RIGHTS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT MARCH 31, 2023

YEAR	REPLACEMENT COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
NONDEPRECIABLE							
1957	26,000.00						
1990	1.00						
1997	5,550.00						
1999	297.00						
2000	6,220.00						
2018	170,000.00						
2019	91,000.00						
2021	1.00						
	299,069.00						

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

ACCOUNT 354.30 STRUCTURES AND IMPROVEMENTS - PUMPING

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT MARCH 31, 2023

YEAR	REPLACEMENT COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 65-R3							
NET SALVAGE PERCENT.. 0							
2022	7,234,369.21	65.00	1.54	111,409.29	64.26	0.0114	82,327
	7,234,369.21			111,409.29			82,327

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

ACCOUNT 354.40 STRUCTURES AND IMPROVEMENTS - TREATMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT MARCH 31, 2023

YEAR	REPLACEMENT COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 70-R2.5							
NET SALVAGE PERCENT.. 0							
1959	1,071,897.63	70.00	1.43	15,328.14	19.84	0.7166	768,090
1972	1,073,054.54	70.00	1.43	15,344.68	27.72	0.6040	648,125
1992	1,587,042.80	70.00	1.43	22,694.71	42.64	0.3909	620,312
2015	468,896.99	70.00	1.43	6,705.23	62.75	0.1036	48,564
2017	6,490.31	70.00	1.43	92.81	64.61	0.0770	500
2019	24,338.91	70.00	1.43	348.05	66.47	0.0504	1,227
2020	31,237.55	70.00	1.43	446.70	67.41	0.0370	1,156
	4,262,958.73			60,960.32			2,087,974

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

ACCOUNT 355.00 POWER GENERATION EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT MARCH 31, 2023

YEAR (1)	REPLACEMENT 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							
2022	127,459.72	30.00	3.33	4,244.41	29.25	0.0250	3,186
	127,459.72			4,244.41			3,186

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

ACCOUNT 360.10 FORCE MAINS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT MARCH 31, 2023

YEAR	REPLACEMENT COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 70-R2.5							
NET SALVAGE PERCENT.. 0							
2022	273,653.81	70.00	1.43	3,913.25	69.29	0.0101	2,775
	273,653.81			3,913.25			2,775

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

ACCOUNT 361.10 INTERCEPTOR

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT MARCH 31, 2023

YEAR	REPLACEMENT COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 70-R2.5							
NET SALVAGE PERCENT.. 0							
1998	5,418,185.37	70.00	1.43	77,480.05	47.64	0.3194	1,730,731
	5,418,185.37			77,480.05			1,730,731

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

ACCOUNT 361.20 GRAVITY MAINS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT MARCH 31, 2023

YEAR	REPLACEMENT COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 75-R1							
NET SALVAGE PERCENT.. 0							
1950	8,481,187.26	75.00	1.33	112,799.79	28.65	0.6180	5,241,374
1998	813,491.90	75.00	1.33	10,819.44	57.44	0.2341	190,463
2016	38,023.44	75.00	1.33	505.71	70.05	0.0660	2,510
2017	210,709.25	75.00	1.33	2,802.43	70.78	0.0563	11,857
2018	484,720.37	75.00	1.33	6,446.78	71.50	0.0467	22,622
2019	113,701.59	75.00	1.33	1,512.23	72.23	0.0369	4,199
2020	209,816.31	75.00	1.33	2,790.56	72.97	0.0271	5,680
	10,351,650.12			137,676.94			5,478,705

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

ACCOUNT 361.30 MAINS RELINING AND SPOT REPAIR

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT MARCH 31, 2023

YEAR	REPLACEMENT COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 50-R2.5							
NET SALVAGE PERCENT.. 0							
2013	352,516.07	50.00	2.00	7,050.32	40.98	0.1804	63,594
2014	36,325.73	50.00	2.00	726.51	41.88	0.1624	5,899
2015	1,223,160.61	50.00	2.00	24,463.21	42.79	0.1442	176,380
2016	1,157,157.37	50.00	2.00	23,143.15	43.71	0.1258	145,570
2023	13,100.00	50.00	2.00	262.00	49.88	0.0024	31
	2,782,259.78			55,645.19			391,474

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

ACCOUNT 361.40 MANHOLES

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT MARCH 31, 2023

YEAR	REPLACEMENT COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 60-R3							
NET SALVAGE PERCENT.. 0							
1950	1,557,458.96	60.00	1.67	26,009.56	7.31	0.8782	1,367,714
1998	30,658.61	60.00	1.67	512.00	36.74	0.3877	11,885
2014	208,650.68	60.00	1.67	3,484.47	51.47	0.1422	29,664
	1,796,768.25			30,006.03			1,409,263

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

ACCOUNT 362.00 SPECIAL COLLECTING STRUCTURES

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT MARCH 31, 2023

YEAR	REPLACEMENT COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 70-R2.5							
NET SALVAGE PERCENT.. 0							
1950	1,810,511.01	70.00	1.43	25,890.31	15.51	0.7784	1,409,356
1998	2,291,598.91	70.00	1.43	32,769.86	47.64	0.3194	732,005
2015	1,069,498.51	70.00	1.43	15,293.83	62.75	0.1036	110,768
2018	108,598.99	70.00	1.43	1,552.97	65.54	0.0637	6,919
2023	82,995.60	70.00	1.43	1,186.84	69.88	0.0017	142
	5,363,203.02			76,693.81			2,259,190

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

ACCOUNT 364.00 FLOW MEASURING DEVICES

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT MARCH 31, 2023

YEAR	REPLACEMENT COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 30-L3							
NET SALVAGE PERCENT.. 0							
1992	51,628.57	30.00	3.33	1,719.23	8.88	0.7040	36,347
1996	27,522.79	30.00	3.33	916.51	9.62	0.6793	18,697
2013	256,379.12	30.00	3.33	8,537.42	20.42	0.3193	81,870
2014	173,400.70	30.00	3.33	5,774.24	21.36	0.2880	49,939
2019	105,033.06	30.00	3.33	3,497.60	26.25	0.1250	13,129
2020	59,104.91	30.00	3.33	1,968.19	27.25	0.0917	5,418
	673,069.15			22,413.19			205,400

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

ACCOUNT 371.00 PUMPING EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT MARCH 31, 2023

YEAR	REPLACEMENT COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 40-R1.5							
NET SALVAGE PERCENT.. 0							
1972	164,730.72	40.00	2.50	4,118.27	8.53	0.7868	129,602
2017	41,271.31	40.00	2.50	1,031.78	35.35	0.1163	4,798
2021	73,628.91	40.00	2.50	1,840.72	38.56	0.0360	2,651
2022	107,141.31	40.00	2.50	2,678.53	39.38	0.0155	1,661
	386,772.25			9,669.30			138,712

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

ACCOUNT 380.00 TREATMENT AND DISPOSAL EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT MARCH 31, 2023

YEAR	REPLACEMENT COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 45-S0.5							
NET SALVAGE PERCENT.. 0							
1959	233,937.00	45.00	2.22	5,193.40	8.98	0.8004	187,253
1972	171,600.55	45.00	2.22	3,809.53	13.82	0.6929	118,900
1992	461,499.69	45.00	2.22	10,245.29	22.87	0.4918	226,956
2015	271,312.30	45.00	2.22	6,023.13	37.99	0.1558	42,265
2016	85,842.88	45.00	2.22	1,905.71	38.83	0.1371	11,770
2017	180,560.89	45.00	2.22	4,008.45	39.68	0.1182	21,346
2018	19,730.23	45.00	2.22	438.01	40.56	0.0987	1,947
2019	47,335.51	45.00	2.22	1,050.85	41.45	0.0789	3,734
2022	796,458.71	45.00	2.22	17,681.38	44.26	0.0164	13,094
	2,268,277.76			50,355.75			627,265

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

ACCOUNT 381.00 PLANT SEWERS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT MARCH 31, 2023

YEAR	REPLACEMENT COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 65-R3							
NET SALVAGE PERCENT.. 0							
1992	602,185.67	65.00	1.54	9,273.66	36.43	0.4395	264,685
2022	806,091.22	65.00	1.54	12,413.80	64.26	0.0114	9,173
	1,408,276.89			21,687.46			273,858

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

ACCOUNT 382.00 OUTFALL SEWERS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT MARCH 31, 2023

YEAR (1)	REPLACEMENT COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 70-R2.5							
NET SALVAGE PERCENT.. 0							
2004	315,189.00	70.00	1.43	4,507.20	52.82	0.2454	77,357
	315,189.00			4,507.20			77,357

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

ACCOUNT 390.10 OFFICE FURNITURE AND EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT MARCH 31, 2023

YEAR	REPLACEMENT COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. 20-SQUARE							
NET SALVAGE PERCENT.. 0							
1995	3,633.02	20.00				1.0000	3,633
2005	5,432.26	20.00	5.00	271.61	2.25	0.8875	4,821
2017	2,557.51	20.00	5.00	127.88	14.25	0.2875	735
2019	13,911.77	20.00	5.00	695.59	16.25	0.1875	2,608
	25,534.56			1,095.08			11,797

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

ACCOUNT 390.20 COMPUTER AND PERIPHERAL

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT MARCH 31, 2023

YEAR	REPLACEMENT COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. 5-SQUARE							
NET SALVAGE PERCENT.. 0							
2005	168.06	5.00				1.0000	168
2009	477.51	5.00				1.0000	478
2017	19,747.18	5.00				1.0000	19,747
	20,392.75						20,393

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

ACCOUNT 391.70 TRANSPORTATION EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT MARCH 31, 2023

	REPLACEMENT	AVG.	--ANNUAL ACCRUAL--			--ACCRUED DEPREC.--	
YEAR	COST	LIFE	RATE	AMOUNT	EXP.	FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 11-S1.5							
NET SALVAGE PERCENT.. 0							
1989	35,084.17	11.00				1.0000	35,084
2008	76,517.43	11.00	9.09	6,955.43	1.90	0.8273	63,301
2015	29,835.17	11.00	9.09	2,712.02	4.70	0.5727	17,087
	141,436.77			9,667.45			115,472

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

ACCOUNT 393.70 TOOLS, SHOP AND GARAGE EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT MARCH 31, 2023

YEAR	REPLACEMENT COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. 20-SQUARE							
NET SALVAGE PERCENT.. 0							
1985	10,949.23	20.00				1.0000	10,949
1995	5,876.54	20.00				1.0000	5,877
1996	6,404.57	20.00				1.0000	6,405
2003	5,310.02	20.00	5.00	265.50	0.25	0.9875	5,244
2005	174.54	20.00	5.00	8.73	2.25	0.8875	155
2010	1,869.55	20.00	5.00	93.48	7.25	0.6375	1,192
2012	1,187.54	20.00	5.00	59.38	9.25	0.5375	638
2013	253.30	20.00	5.00	12.66	10.25	0.4875	123
2014	1,098.10	20.00	5.00	54.90	11.25	0.4375	480
2015	2,663.23	20.00	5.00	133.16	12.25	0.3875	1,032
2016	1,432.82	20.00	5.00	71.64	13.25	0.3375	484
2017	818.89	20.00	5.00	40.94	14.25	0.2875	235
2018	55.33	20.00	5.00	2.77	15.25	0.2375	13
2019	272.79	20.00	5.00	13.64	16.25	0.1875	51
2020	15,311.56	20.00	5.00	765.58	17.25	0.1375	2,105
2021	943.58	20.00	5.00	47.18	18.25	0.0875	83
2022	10,759.93	20.00	5.00	538.00	19.25	0.0375	403
2023	417.87	20.00	5.00	20.89	19.88	0.0060	3
	65,799.39			2,128.45			35,472

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

ACCOUNT 394.10 CAMERA AND RELATED EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT MARCH 31, 2023

YEAR	REPLACEMENT COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. 15-SQUARE							
NET SALVAGE PERCENT.. 0							
2019	6,001.66	15.00	6.67	400.31	11.25	0.2500	1,500
2021	88,434.48	15.00	6.67	5,898.58	13.25	0.1167	10,318
	94,436.14			6,298.89			11,818

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

ACCOUNT 394.70 LABORATORY EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT MARCH 31, 2023

YEAR	REPLACEMENT COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. 15-SQUARE							
NET SALVAGE PERCENT.. 0							
1979	2,919.73	15.00				1.0000	2,920
1995	420.73	15.00				1.0000	421
1997	757.03	15.00				1.0000	757
2006	3,231.85	15.00				1.0000	3,232
2007	409.81	15.00				1.0000	410
2008	1,159.23	15.00	6.67	77.32	0.25	0.9833	1,140
2009	197.98	15.00	6.67	13.21	1.25	0.9167	181
2010	2,338.31	15.00	6.67	155.97	2.25	0.8500	1,988
2012	1,218.68	15.00	6.67	81.29	4.25	0.7167	873
2013	20,072.45	15.00	6.67	1,338.83	5.25	0.6500	13,047
2016	287.05	15.00	6.67	19.15	8.25	0.4500	129
2019	724.69	15.00	6.67	48.34	11.25	0.2500	181
2022	9,224.02	15.00	6.67	615.24	14.25	0.0500	461
	42,961.56			2,349.35			25,740

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

ACCOUNT 395.70 POWER OPERATED EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT MARCH 31, 2023

YEAR	REPLACEMENT COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 15-L2.5							
NET SALVAGE PERCENT.. 0							
1989	4,566.52	15.00	6.67	304.59	1.59	0.8940	4,082
1990	7,155.83	15.00	6.67	477.29	1.75	0.8833	6,321
1995	9,537.84	15.00	6.67	636.17	2.49	0.8340	7,955
2007	1,455.35	15.00	6.67	97.07	5.04	0.6640	966
2015	2,358.67	15.00	6.67	157.32	8.03	0.4647	1,096
2018	301.18	15.00	6.67	20.09	10.45	0.3033	91
	25,375.39			1,692.53			20,511

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
WASTEWATER SYSTEM ASSETS

ACCOUNT 396.70 COMMUNICATION EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT MARCH 31, 2023

YEAR	REPLACEMENT COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. 15-SQUARE							
NET SALVAGE PERCENT.. 0							
2014	8,040.54	15.00	6.67	536.30	6.25	0.5833	4,690
	8,040.54			536.30			4,690

Income Approach
Elizabeth Borough MA Wastewater System Assets
Pro Forma Operations
Earnings Capitalization Model

		Actual			Budget Year 0
		2020	2021	2022	2023
1.	**OPERATING REVENUES (1)**				
2.	Charges for services	1,640,811	1,809,152	1,820,534	1,780,000
3.	Other operating revenue	1,466	3,786	1,356	0
4.	Tap Fees	0	0	0	0
5.	**Total Operating Revenues**	1,642,277	1,812,938	1,821,890	1,780,000
6.	**Rate Increase**				
7.	**OPERATING EXPENSES (1)**				
8.	Operating & Maintenance Expenses	914,645	897,207	933,099	1,057,000
9.	**Operating Expenses Before Depreciation**	914,645	897,207	933,099	1,057,000
10.	Depreciation (2)	100,623	131,419	131,419	0
11.	**Total Operating Expenses**	1,015,268	1,028,626	1,064,518	1,057,000
12.	**Operating Income**	627,009	784,312	757,372	723,000
13.	Revenues (3)	1,642,277	1,812,938	1,821,890	1,780,000
14.	EBITDA (4)	727,632	915,731	888,791	723,000
15.	EBIT (5)	627,009	784,312	757,372	723,000
16.	EBIT	627,009	784,312	757,372	723,000
17.	(-) Income Taxes	0	0	0	0
18.	Debt Free Net Income	627,009	784,312	757,372	723,000
19.	(+) Depreciation & Amortization	100,623	131,419	131,419	0
20.	(-) Capital Expenditures (6)	5,227,098	1,461,065	224,850	323,951
21.	(-) Changes in Working Capital (7)	13,138	14,504	14,575	14,240
22.	Debt Free Net Cash Flow	($4,512,604)	($559,838)	$649,366	$384,809

Income Approach
Elizabeth Borough MA Wastewater System Assets
Pro Forma Operations
Earnings Capitalization Model

		2023	Pro Forma 2023 (11)
		4.11% Capitalization Rate Model (No Growth)	4.11% Capitalization Rate Model (No Growth)
23.	Debt Free Net Cash Flow (10)	$384,809	$38,805
24.	Capitalization Factor: (8)	4.11%	4.11%
25.	Indicated Value (line 23 ÷ line 24)	$9,362,749	$944,152
		4.01% Capitalization Rate Model (0.10% Growth)	4.01% Capitalization Rate Model (0.10% Growth)
26.	Debt Free Net Cash Flow (10)	$384,809	$38,805
27.	Capitalization Factor: (9)	4.01%	4.01%
28.	Indicated Value (line 26 ÷ line 27)	$9,596,234	$967,697

See last page of this EXHIBIT for notes and assumptions.

Income Approach
Elizabeth Borough MA Wastewater System Assets
Pro Forma Operations
Earnings Capitalization Model

Notes: (1) Assumptions:

Charges for services - Pre-2023 are actual. 2023 results are based on 2023 budget. Post-2023 based on customer growth (EDU) and average revenue per customer.

OPERATING EXPENSES - increase at 2.5% annually after 2024 unless noted elsewhere. Assumed economies of scale are shown on lines below.

(2) Depreciation - Pre-2023 based on actual depreciation. Post-2023 based on depreciation rate plus same rate on half of CAPX.

(3) Line 5.

(4) Line 12 + line 10.

(5) Line 12.

(6) Capital Expenditures - Pre-2025 based on financials/budget. Post-2024 years are estimates based on 1.66% of prior year-end GROSS Property, plant and equipment.

(7) Changes in Working Capital - based on water industry 0.80% of revenues.

(8) Discount rate is the the current MUNI discount rate. Capitalization rate (K) at 3/31/2023 equal to discount rate, where capitalization rate = K - g.

(9) Discount rate is the current MUNI discount rate. Capitalization rate (K) at 3/31/2023 adjusted for stated growth (g) where capitalization rate = K - g.

(10) Final year shown, line 22.

(11) Debt Free Net Cash Flow adjusted for average 2021-2023 CAPX.

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
Elizabeth Borough MA Wastewater System Assets
Pro Forma and Estimted Operations With MUNI Ownership
DCF With Capitalization of Terminal Value Model and
DCF With EBIT & EBITDA Terminal Value Model

	Actual			Budget Year 0	Budget Year 1	Estimated Year 2
	2020	2021	2022	2023	2024	2025
1. **OPERATING REVENUES (1)**						
2. Charges for services	1,640,811	1,809,152	1,820,534	1,780,000	1,873,600	1,874,970
3. Other operating revenue	1,466	3,786	1,356	0	0	0
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	0	0	0	0	299,995
6. **Total Operating Revenues**	1,642,277	1,812,938	1,821,890	1,780,000	1,873,600	2,174,965
7. **Rate Increase**						**16%**
8. **OPERATING EXPENSES (1)**						
9. Operating & Maintenance Expenses	914,645	897,207	933,099	1,057,000	1,117,600	1,145,540
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	0	0	0	(54,060)	(59,070)	(60,547)
12. LESS: EOS - Professional Services	0	0	0	(56,400)	(74,000)	(75,850)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	0	0	0	0	0	0
15. **Operating Expenses Before Depreciation**	914,645	897,207	933,099	946,540	984,530	1,009,143
16. Depreciation (2)	100,623	131,419	131,419	0	326,701	331,301
17. **Total Operating Expenses**	1,015,268	1,028,626	1,064,518	946,540	1,311,231	1,340,444
18. **Operating Income**	627,009	784,312	757,372	833,460	562,369	834,521
19. Revenues (3)	1,642,277	1,812,938	1,821,890	1,780,000	1,873,600	2,174,965
20. EBITDA (4)	727,632	915,731	888,791	833,460	889,070	1,165,822
21. EBIT (5)	627,009	784,312	757,372	833,460	562,369	834,521
22. EBIT	627,009	784,312	757,372	833,460	562,369	834,521
23. (-) Income Taxes	0	0	0	0	0	0
24. Debt Free Net Income	627,009	784,312	757,372	833,460	562,369	834,521
25. (+) Depreciation & Amortization	100,623	131,419	131,419	0	326,701	331,301
26. (-) Capital Expenditures (6)	5,227,098	1,461,065	224,850	323,951	318,322	322,803
27. (-) Changes in Working Capital (7)	13,138	14,504	14,575	14,240	14,989	17,400
28. Debt Free Net Cash Flow	($4,512,604)	($559,838)	$649,366	$495,269	$555,759	$825,619
29. PV Time Period (mid-year)				(0.5)	0.5	1.5
					1	2
30. Present Value Factor: 4.11% (8)					0.9801	0.9414
31. Present Value Debt Free Net Cash Flow					$544,700	$777,238
					1	2
32. Present Value Factor: 4.01% (9)					0.9805	0.9427
33. Present Value Debt Free Net Cash Flow					$544,922	$778,311

See last page of this EXHIBIT for notes and assumptions.

Income Approach
Elizabeth Borough MA Wastewater System Assets
Pro Forma and Estimted Operations With MUNI Ownership
DCF With Capitalization of Terminal Value Model and
DCF With EBIT & EBITDA Terminal Value Model

	Estimated Year 3	Estimated Year 4	Estimated Year 5	Estimated Year 6	Estimated Year 7	Estimated Year 8
	2026	2027	2028	2029	2030	2031
1. **OPERATING REVENUES (1)**						
2. Charges for services	2,178,142	2,181,320	2,185,637	2,256,834	2,262,476	2,268,132
3. Other operating revenue	0	0	0	0	0	0
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	0	65,569	0	0	22,681
6. **Total Operating Revenues**	2,178,142	2,181,320	2,251,206	2,256,834	2,262,476	2,290,813
7. **Rate Increase**			**3%**			**1%**
8. **OPERATING EXPENSES (1)**						
9. Operating & Maintenance Expenses	1,174,179	1,203,533	1,233,621	1,264,462	1,296,073	1,328,475
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	(62,060)	(63,612)	(65,202)	(66,832)	(68,503)	(70,216)
12. LESS: EOS - Professional Services	(77,746)	(79,690)	(81,682)	(83,724)	(85,817)	(87,963)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	0	0	0	0	0	0
15. **Operating Expenses Before Depreciation**	1,034,372	1,060,231	1,086,737	1,113,905	1,141,753	1,170,297
16. Depreciation (2)	335,964	340,694	345,491	350,354	355,286	360,287
17. **Total Operating Expenses**	1,370,336	1,400,925	1,432,227	1,464,260	1,497,039	1,530,584
18. **Operating Income**	807,806	780,395	818,979	792,574	765,437	760,229
19. Revenues (3)	2,178,142	2,181,320	2,251,206	2,256,834	2,262,476	2,290,813
20. EBITDA (4)	1,143,770	1,121,089	1,164,469	1,142,929	1,120,723	1,120,516
21. EBIT (5)	807,806	780,395	818,979	792,574	765,437	760,229
22. EBIT	807,806	780,395	818,979	792,574	765,437	760,229
23. (-) Income Taxes	0	0	0	0	0	0
24. Debt Free Net Income	807,806	780,395	818,979	792,574	765,437	760,229
25. (+) Depreciation & Amortization	335,964	340,694	345,491	350,354	355,286	360,287
26. (-) Capital Expenditures (6)	327,347	331,956	336,629	341,368	346,174	351,047
27. (-) Changes in Working Capital (7)	17,425	17,451	18,010	18,055	18,100	18,327
28. Debt Free Net Cash Flow	$798,998	$771,682	$809,830	$783,506	$756,449	$751,143
29. PV Time Period (mid-year)	2.5	3.5	4.5	5.5	6.5	7.5
	3	4	5	6	7	8
30. Present Value Factor: 4.11% (8)	0.9042	0.8685	0.8342	0.8013	0.7697	0.7393
31. Present Value Debt Free Net Cash Flow	$722,454	$670,206	$675,561	$627,823	$582,239	$555,320
	3	4	5	6	7	8
32. Present Value Factor: 4.01% (9)	0.9064	0.8714	0.8378	0.8055	0.7745	0.7446
33. Present Value Debt Free Net Cash Flow	$724,212	$672,444	$678,476	$631,114	$585,870	$559,301

See last page of this EXHIBIT for notes and assumptions.

Income Approach
Elizabeth Borough MA Wastewater System Assets
Pro Forma and Estimted Operations With MUNI Ownership
DCF With Capitalization of Terminal Value Model and
DCF With EBIT & EBITDA Terminal Value Model

	Estimated Year 9	Estimated Year 10	Estimated Year 11	Estimated Year 12	Estimated Year 13	Estimated Year 14
	2032	2033	2034	2035	2036	2037
1. **OPERATING REVENUES (1)**						
2. Charges for services	2,296,541	2,302,282	2,308,038	2,336,946	2,342,788	2,348,645
3. Other operating revenue	0	0	0	0	0	0
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	0	23,080	0	0	23,486
6. **Total Operating Revenues**	2,296,541	2,302,282	2,331,118	2,336,946	2,342,788	2,372,131
7. **Rate Increase**			**1%**			**1%**
8. **OPERATING EXPENSES (1)**						
9. Operating & Maintenance Expenses	1,361,687	1,395,729	1,430,622	1,466,388	1,503,048	1,540,624
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	(71,971)	(73,770)	(75,615)	(77,505)	(79,443)	(81,429)
12. LESS: EOS - Professional Services	(90,162)	(92,416)	(94,726)	(97,094)	(99,522)	(102,010)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	0	0	0	0	0	0
15. **Operating Expenses Before Depreciation**	1,199,554	1,229,543	1,260,282	1,291,789	1,324,083	1,357,185
16. Depreciation (2)	365,359	370,503	375,718	381,008	386,372	391,811
17. **Total Operating Expenses**	1,564,914	1,600,046	1,636,000	1,672,797	1,710,455	1,748,997
18. **Operating Income**	731,627	702,236	695,118	664,149	632,333	623,134
19. Revenues (3)	2,296,541	2,302,282	2,331,118	2,336,946	2,342,788	2,372,131
20. EBITDA (4)	1,096,987	1,072,739	1,070,836	1,045,157	1,018,705	1,014,946
21. EBIT (5)	731,627	702,236	695,118	664,149	632,333	623,134
22. EBIT	731,627	702,236	695,118	664,149	632,333	623,134
23. (-) Income Taxes	0	0	0	0	0	0
24. Debt Free Net Income	731,627	702,236	695,118	664,149	632,333	623,134
25. (+) Depreciation & Amortization	365,359	370,503	375,718	381,008	386,372	391,811
26. (-) Capital Expenditures (6)	355,989	361,000	366,082	371,236	376,462	381,762
27. (-) Changes in Working Capital (7)	18,372	18,418	18,649	18,696	18,742	18,977
28. Debt Free Net Cash Flow	$722,625	$693,321	$686,105	$655,226	$623,500	$614,206
29. PV Time Period (mid-year)	8.5	9.5	10.5	11.5	12.5	13.5
	9	10	11	12	13	14
30. Present Value Factor: 4.11% (8)	0.7101	0.6821	0.6551	0.6293	0.6044	0.5806
31. Present Value Debt Free Net Cash Flow	$513,136	$472,914	$449,468	$412,334	$376,844	$356,608
	9	10	11	12	13	14
32. Present Value Factor: 4.01% (9)	0.7159	0.6883	0.6618	0.6363	0.6117	0.5881
33. Present Value Debt Free Net Cash Flow	$517,328	$477,213	$454,065	$416,920	$381,395	$361,215

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DCF With EBIT & EBITDA Terminal Value Model

	Estimated Year 15	Estimated Year 16	Estimated Year 17	Estimated Year 18	Estimated Year 19	Estimated Year 20
	2038	2039	2040	2041	2042	2043
1. **OPERATING REVENUES (1)**						
2. Charges for services	2,378,062	2,384,007	2,413,867	2,419,902	2,501,156	2,507,409
3. Other operating revenue	0	0	0	0	0	0
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	23,840	0	75,017	0	76,476
6. **Total Operating Revenues**	2,378,062	2,407,847	2,413,867	2,494,919	2,501,156	2,583,885
7. **Rate Increase**		**1%**		**3%**		**3%**
8. **OPERATING EXPENSES (1)**						
9. Operating & Maintenance Expenses	1,579,140	1,618,618	1,659,083	1,700,561	1,743,075	1,786,651
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	(83,464)	(85,551)	(87,690)	(89,882)	(92,129)	(94,432)
12. LESS: EOS - Professional Services	(104,560)	(107,174)	(109,853)	(112,600)	(115,415)	(118,300)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	0	0	0	0	0	0
15. **Operating Expenses Before Depreciation**	1,391,115	1,425,893	1,461,540	1,498,079	1,535,531	1,573,919
16. Depreciation (2)	397,327	402,920	408,592	414,344	420,177	426,093
17. **Total Operating Expenses**	1,788,442	1,828,813	1,870,133	1,912,423	1,955,708	2,000,012
18. **Operating Income**	589,620	579,034	543,734	582,496	545,448	583,873
19. Revenues (3)	2,378,062	2,407,847	2,413,867	2,494,919	2,501,156	2,583,885
20. EBITDA (4)	986,947	981,954	952,327	996,840	965,625	1,009,966
21. EBIT (5)	589,620	579,034	543,734	582,496	545,448	583,873
22. EBIT	589,620	579,034	543,734	582,496	545,448	583,873
23. (-) Income Taxes	0	0	0	0	0	0
24. Debt Free Net Income	589,620	579,034	543,734	582,496	545,448	583,873
25. (+) Depreciation & Amortization	397,327	402,920	408,592	414,344	420,177	426,093
26. (-) Capital Expenditures (6)	387,136	392,586	398,113	403,717	409,401	415,164
27. (-) Changes in Working Capital (7)	19,024	19,263	19,311	19,959	20,009	20,671
28. Debt Free Net Cash Flow	$580,786	$570,105	$534,903	$573,164	$536,215	$574,131
29. PV Time Period (mid-year)	14.5	15.5	16.5	17.5	18.5	19.5
	15	16	17	18	19	20
30. Present Value Factor: 4.11% (8)	0.5576	0.5356	0.5145	0.4942	0.4747	0.4559
31. Present Value Debt Free Net Cash Flow	$323,846	$305,348	$275,207	$283,258	$254,541	$261,746
	15	16	17	18	19	20
32. Present Value Factor: 4.01% (9)	0.5655	0.5437	0.5227	0.5026	0.4832	0.4646
33. Present Value Debt Free Net Cash Flow	$328,435	$309,966	$279,594	$288,072	$259,099	$266,741

See last page of this EXHIBIT for notes and assumptions.

Income Approach
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DCF With Capitalization of Terminal Value Model and
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DCF With Capitalization of Terminal Value Model @ 4.11%	Terminal Value
Projected Debt Free Net Cash Flow (10)	$574,131
Divided by Capitalization Factor (8)	4.11%
20th Year Terminal Value	13,969,121
20th Year Present Value Factor (11)	0.4559
Present Value of Terminal Value	6,368,522
Present Value Debt Free Net Cash Flow for 20 Years	9,440,791
Indicated Value	$15,809,313

DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 4.11%		Multiples (13)	Terminal Value
Projected EBIT	$583,873	28.6	$16,698,779
Projected EBITDA	1,009,966	18.5	18,684,370
Weighted (1/3 EBIT 2/3 EBITDA) Terminal Value			18,029,125
20th Year Present Value Factor (11)			0.4559
Present Value of Terminal Value			8,219,478
Present Value Debt Free Net Cash Flow for 20 Years			9,440,791
Indicated Value			$17,660,269

DCF With Capitalization of Terminal Value Model @ 4.01%	Terminal Value
Projected Debt Free Net Cash Flow (10)	$574,131
Divided by Capitalization Factor (9)	4.01%
20th Year Terminal Value	14,317,478
20th Year Present Value Factor (12)	0.4559
Present Value of Terminal Value	6,527,338
Present Value Debt Free Net Cash Flow for 20 Years	9,440,791
Indicated Value	$15,968,129

DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 4.01%		Multiples (13)	Terminal Value
Projected EBIT	$583,873	28.6	$16,698,779
Projected EBITDA	1,009,966	18.5	18,684,370
Weighted (1/3 EBIT 2/3 EBITDA) Terminal Value			18,029,125
20th Year Present Value Factor (12)			0.4559
Present Value of Terminal Value			8,219,478
Present Value Debt Free Net Cash Flow for 20 Years			9,440,791
Indicated Value			$17,660,269

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

Charges for services - Pre-2025 are actual or based on 2024 budget. Post-2024 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 in 2023 with shown rate increases.

OPERATING EXPENSES - increase at 2.5% annually after 2024 unless noted elsewhere. Assumed economies of scale are shown on lines below.
Wages & Benefits - Post-2024 assumed 15% savings due to economies of scale. Increase at 2.5% afterwards.

Professional Services - Post-2024 assumed 50% savings due to economies of scale. Increase at 2.5% afterwards.

No Additional O&M.

(2) Depreciation - Pre-2023 based on actual depreciation. Post-2023 based on depreciation rate plus same rate on half of CAPX.
(3) Line 6.
(4) Line 18 + line 16.
(5) Line 18.
(6) Capital Expenditures - Pre-2025 based on financials/budget. Post-2024 years are estimates based on 1.66% of prior year-end GROSS Property, plant and equipment.
(7) Changes in Working Capital - based on water industry 0.80% of revenues.
(8) Discount rate is the the current MUNI discount rate. Capitalization rate (K) at 3/31/2023 equal to discount rate, where capitalization rate = K - g.
(9) Discount rate is the current MUNI discount rate. Capitalization rate (K) at 3/31/2023 adjusted for stated growth (g) where capitalization rate = K - g.
(10) Final year shown, line 28.
(11) Final year shown, line 30.
(12) Final year shown, line 30.
(13) Developed on Market Multiples EXHIBIT 18.

Terms:

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

Income Approach
Elizabeth Borough MA Wastewater System Assets
Pro Forma and Estimted Operations With IOU Ownership
DCF With Capitalization of Terminal Value Model and
DCF With EBIT & EBITDA Terminal Value Model

	Actual			Budget Year 0	Budget Year 1	Estimated Year 2
	2020	2021	2022	2023	2024	2025
1. **OPERATING REVENUES (1)**						
2. Charges for services	1,640,811	1,809,152	1,820,534	1,780,000	1,873,600	1,874,970
3. Other operating revenue	1,466	3,786	1,356	0	0	0
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	0	0	0	0	843,736
6. **Total Operating Revenues**	1,642,277	1,812,938	1,821,890	1,780,000	1,873,600	2,718,706
7. **Rate Increase**						**45%**
8. **OPERATING EXPENSES (1)**						
9. Operating & Maintenance Expenses	914,645	897,207	933,099	1,057,000	1,117,600	1,145,540
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	0	0	0	(54,060)	(59,070)	(60,547)
12. LESS: EOS - Professional Services	0	0	0	(56,400)	(74,000)	(75,850)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	0	0	0	0	0	0
15. ADD: PURTA & Reg Assessment	0	0	0	0	33,929	34,450
16. **Operating Expenses Before Depreciation**	914,645	897,207	933,099	946,540	1,018,459	1,043,593
17. Depreciation (2)	100,623	131,419	131,419	0	326,701	331,301
18. **Total Operating Expenses**	1,015,268	1,028,626	1,064,518	946,540	1,345,160	1,374,894
19. **Operating Income**	627,009	784,312	757,372	833,460	528,440	1,343,812
20. Revenues (3)	1,642,277	1,812,938	1,821,890	1,780,000	1,873,600	2,718,706
21. EBITDA (4)	727,632	915,731	888,791	833,460	855,141	1,675,113
22. EBIT (5)	627,009	784,312	757,372	833,460	528,440	1,343,812
23. EBIT	627,009	784,312	757,372	833,460	528,440	1,343,812
24. (-) Income Taxes	0	0	0	240,787	152,666	388,227
25. Debt Free Net Income	627,009	784,312	757,372	592,673	375,774	955,585
26. (+) Depreciation & Amortization	100,623	131,419	131,419	0	326,701	331,301
27. (-) Capital Expenditures (6)	5,227,098	1,461,065	224,850	323,951	318,322	322,803
28. (-) Changes in Working Capital (7)	13,138	14,504	14,575	14,240	14,989	21,750
29. Debt Free Net Cash Flow	($4,512,604)	($559,838)	$649,366	$254,482	$369,164	$942,333
30. PV Time Period (mid-year)				(0.5)	0.5	1.5
31. Present Value Factor: 7.85% (8)					0.9629	0.8928
32. Present Value Debt Free Net Cash Flow					$355,468	$841,315
					1	2
33. Present Value Factor: 9.71% (9)					0.9547	0.8702
34. Present Value Debt Free Net Cash Flow					$352,441	$820,018
					1	2
35. Present Value Factor: 7.75% (8)					0.9634	0.8941
36. Present Value Debt Free Net Cash Flow					$355,653	$842,540
					1	2
37. Present Value Factor: 9.61% (9)					0.9552	0.8714
38. Present Value Debt Free Net Cash Flow					$352,626	$821,149

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Elizabeth Borough MA Wastewater System Assets
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DCF With Capitalization of Terminal Value Model and
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	Estimated Year 3	Estimated Year 4	Estimated Year 5	Estimated Year 6	Estimated Year 7	Estimated Year 8
	2026	2027	2028	2029	2030	2031
1. **OPERATING REVENUES (1)**						
2. Charges for services	2,722,678	2,726,650	2,732,046	3,067,542	3,075,210	3,082,898
3. Other operating revenue	0	0	0	0	0	0
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	0	327,846	0	0	308,290
6. **Total Operating Revenues**	2,722,678	2,726,650	3,059,892	3,067,542	3,075,210	3,391,188
7. **Rate Increase**			**12%**			**10%**
8. **OPERATING EXPENSES (1)**						
9. Operating & Maintenance Expenses	1,174,179	1,203,533	1,233,621	1,264,462	1,296,073	1,328,475
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	(62,060)	(63,612)	(65,202)	(66,832)	(68,503)	(70,216)
12. LESS: EOS - Professional Services	(77,746)	(79,690)	(81,682)	(83,724)	(85,817)	(87,963)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	0	0	0	0	0	0
15. ADD: PURTA & Reg Assessment	39,246	39,257	39,267	41,151	41,181	41,212
16. **Operating Expenses Before Depreciation**	1,073,618	1,099,488	1,126,004	1,155,056	1,182,934	1,211,509
17. Depreciation (2)	335,964	340,694	345,491	350,354	355,286	360,287
18. **Total Operating Expenses**	1,409,582	1,440,182	1,471,494	1,505,411	1,538,220	1,571,796
19. **Operating Income**	1,313,096	1,286,468	1,588,398	1,562,131	1,536,990	1,819,392
20. Revenues (3)	2,722,678	2,726,650	3,059,892	3,067,542	3,075,210	3,391,188
21. EBITDA (4)	1,649,060	1,627,162	1,933,888	1,912,486	1,892,276	2,179,679
22. EBIT (5)	1,313,096	1,286,468	1,588,398	1,562,131	1,536,990	1,819,392
23. EBIT	1,313,096	1,286,468	1,588,398	1,562,131	1,536,990	1,819,392
24. (-) Income Taxes	379,353	371,661	458,888	451,300	444,036	525,622
25. Debt Free Net Income	933,743	914,807	1,129,510	1,110,831	1,092,954	1,293,770
26. (+) Depreciation & Amortization	335,964	340,694	345,491	350,354	355,286	360,287
27. (-) Capital Expenditures (6)	327,347	331,956	336,629	341,368	346,174	351,047
28. (-) Changes in Working Capital (7)	21,781	21,813	24,479	24,540	24,602	27,130
29. Debt Free Net Cash Flow	$920,579	$901,732	$1,113,892	$1,095,277	$1,077,464	$1,275,881
30. PV Time Period (mid-year)	2.5	3.5	4.5	5.5	6.5	7.5
31. Present Value Factor: 7.85% (8)	0.8278	0.7676	0.7117	0.6599	0.6119	0.5673
32. Present Value Debt Free Net Cash Flow	$762,055	$692,169	$792,757	$722,774	$659,300	$723,807
	3	4	5	6	7	8
33. Present Value Factor: 9.71% (9)	0.7932	0.7230	0.6590	0.6007	0.5475	0.4991
34. Present Value Debt Free Net Cash Flow	$730,203	$651,952	$734,055	$657,933	$589,912	$636,792
	3	4	5	6	7	8
35. Present Value Factor: 7.75% (8)	0.8298	0.7701	0.7147	0.6633	0.6156	0.5713
36. Present Value Debt Free Net Cash Flow	$763,896	$694,424	$796,099	$726,497	$663,287	$728,911
	3	4	5	6	7	8
37. Present Value Factor: 9.61% (9)	0.7950	0.7253	0.6617	0.6037	0.5508	0.5025
38. Present Value Debt Free Net Cash Flow	$731,860	$654,026	$737,062	$661,219	$593,467	$641,130

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	Estimated Year 9	Estimated Year 10	Estimated Year 11	Estimated Year 12	Estimated Year 13	Estimated Year 14
	2032	2033	2034	2035	2036	2037
1. **OPERATING REVENUES (1)**						
2. Charges for services	3,399,666	3,408,165	3,416,686	3,596,489	3,605,480	3,614,494
3. Other operating revenue	0	0	0	0	0	0
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	0	170,834	0	0	108,435
6. **Total Operating Revenues**	3,399,666	3,408,165	3,587,520	3,596,489	3,605,480	3,722,929
7. **Rate Increase**			5%			3%
8. **OPERATING EXPENSES (1)**						
9. Operating & Maintenance Expenses	1,361,687	1,395,729	1,430,622	1,466,388	1,503,048	1,540,624
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	(71,971)	(73,770)	(75,615)	(77,505)	(79,443)	(81,429)
12. LESS: EOS - Professional Services	(90,162)	(92,416)	(94,726)	(97,094)	(99,522)	(102,010)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	0	0	0	0	0	0
15. ADD: PURTA & Reg Assessment	42,996	43,031	43,065	44,073	44,110	44,146
16. **Operating Expenses Before Depreciation**	1,242,550	1,272,574	1,303,347	1,335,862	1,368,193	1,401,331
17. Depreciation (2)	365,359	370,503	375,718	381,008	386,372	391,811
18. **Total Operating Expenses**	1,607,910	1,643,077	1,679,065	1,716,870	1,754,565	1,793,143
19. **Operating Income**	1,791,756	1,765,088	1,908,455	1,879,619	1,850,915	1,929,786
20. Revenues (3)	3,399,666	3,408,165	3,587,520	3,596,489	3,605,480	3,722,929
21. EBITDA (4)	2,157,116	2,135,591	2,284,173	2,260,627	2,237,287	2,321,598
22. EBIT (5)	1,791,756	1,765,088	1,908,455	1,879,619	1,850,915	1,929,786
23. EBIT	1,791,756	1,765,088	1,908,455	1,879,619	1,850,915	1,929,786
24. (-) Income Taxes	517,638	509,934	551,353	543,022	534,729	557,515
25. Debt Free Net Income	1,274,118	1,255,154	1,357,102	1,336,597	1,316,186	1,372,271
26. (+) Depreciation & Amortization	365,359	370,503	375,718	381,008	386,372	391,811
27. (-) Capital Expenditures (6)	355,989	361,000	366,082	371,236	376,462	381,762
28. (-) Changes in Working Capital (7)	27,197	27,265	28,700	28,772	28,844	29,783
29. Debt Free Net Cash Flow	$1,256,291	$1,237,392	$1,338,038	$1,317,597	$1,297,252	$1,352,537
30. PV Time Period (mid-year)	8.5	9.5	10.5	11.5	12.5	13.5
31. Present Value Factor: 7.85% (8)	0.5261	0.4878	0.4523	0.4193	0.3888	0.3605
32. Present Value Debt Free Net Cash Flow	$660,935	$603,600	$605,195	$552,469	$504,371	$487,590
	9	10	11	12	13	14
33. Present Value Factor: 9.71% (9)	0.4549	0.4146	0.3779	0.3445	0.3140	0.2862
34. Present Value Debt Free Net Cash Flow	$571,487	$513,023	$505,645	$453,912	$407,337	$387,096
	9	10	11	12	13	14
35. Present Value Factor: 7.75% (8)	0.5302	0.4921	0.4567	0.4238	0.3934	0.3651
36. Present Value Debt Free Net Cash Flow	$666,086	$608,920	$611,082	$558,398	$510,339	$493,811
	9	10	11	12	13	14
37. Present Value Factor: 9.61% (9)	0.4584	0.4182	0.3816	0.3481	0.3176	0.2897
38. Present Value Debt Free Net Cash Flow	$575,884	$517,477	$510,595	$458,656	$412,007	$391,830

See last page of this EXHIBIT for notes and assumptions.

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	Estimated Year 15	Estimated Year 16	Estimated Year 17	Estimated Year 18	Estimated Year 19	Estimated Year 20
	2038	2039	2040	2041	2042	2043
1. **OPERATING REVENUES (1)**						
2. Charges for services	3,732,236	3,741,567	3,788,430	3,797,901	3,875,929	3,885,618
3. Other operating revenue	0	0	0	0	0	0
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	37,416	0	68,362	0	73,827
6. **Total Operating Revenues**	3,732,236	3,778,983	3,788,430	3,866,263	3,875,929	3,959,445
7. **Rate Increase**		1%		2%		2%
8. **OPERATING EXPENSES (1)**						
9. Operating & Maintenance Expenses	1,579,140	1,618,618	1,659,083	1,700,561	1,743,075	1,786,651
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	(83,464)	(85,551)	(87,690)	(89,882)	(92,129)	(94,432)
12. LESS: EOS - Professional Services	(104,560)	(107,174)	(109,853)	(112,600)	(115,415)	(118,300)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	0	0	0	0	0	0
15. ADD: PURTA & Reg Assessment	44,800	44,838	45,090	45,129	45,556	45,596
16. **Operating Expenses Before Depreciation**	1,435,915	1,470,731	1,506,630	1,543,208	1,581,087	1,619,515
17. Depreciation (2)	397,327	402,920	408,592	414,344	420,177	426,093
18. **Total Operating Expenses**	1,833,242	1,873,651	1,915,223	1,957,552	2,001,264	2,045,608
19. **Operating Income**	1,898,994	1,905,332	1,873,207	1,908,711	1,874,665	1,913,837
20. Revenues (3)	3,732,236	3,778,983	3,788,430	3,866,263	3,875,929	3,959,445
21. EBITDA (4)	2,296,321	2,308,252	2,281,800	2,323,055	2,294,842	2,339,930
22. EBIT (5)	1,898,994	1,905,332	1,873,207	1,908,711	1,874,665	1,913,837
23. EBIT	1,898,994	1,905,332	1,873,207	1,908,711	1,874,665	1,913,837
24. (-) Income Taxes	548,619	550,450	541,170	551,427	541,591	552,908
25. Debt Free Net Income	1,350,375	1,354,882	1,332,037	1,357,284	1,333,074	1,360,929
26. (+) Depreciation & Amortization	397,327	402,920	408,592	414,344	420,177	426,093
27. (-) Capital Expenditures (6)	387,136	392,586	398,113	403,717	409,401	415,164
28. (-) Changes in Working Capital (7)	29,858	30,232	30,307	30,930	31,007	31,676
29. Debt Free Net Cash Flow	$1,330,708	$1,334,984	$1,312,209	$1,336,981	$1,312,843	$1,340,182
30. PV Time Period (mid-year)	14.5	15.5	16.5	17.5	18.5	19.5
31. Present Value Factor: 7.85% (8)	0.3343	0.3099	0.2874	0.2665	0.2471	0.2291
32. Present Value Debt Free Net Cash Flow	$444,856	$413,712	$377,129	$356,305	$324,403	$307,036
	15	16	17	18	19	20
33. Present Value Factor: 9.71% (9)	0.2609	0.2378	0.2167	0.1976	0.1801	0.1641
34. Present Value Debt Free Net Cash Flow	$347,182	$317,459	$284,356	$264,187	$236,443	$219,924
	15	16	17	18	19	20
35. Present Value Factor: 7.75% (8)	0.3388	0.3144	0.2918	0.2708	0.2514	0.2333
36. Present Value Debt Free Net Cash Flow	$450,844	$419,719	$382,903	$362,054	$330,049	$312,665
	15	16	17	18	19	20
37. Present Value Factor: 9.61% (9)	0.2643	0.2412	0.2200	0.2007	0.1831	0.1671
38. Present Value Debt Free Net Cash Flow	$351,706	$321,998	$288,686	$268,332	$240,382	$223,944

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DCF With Capitalization of Terminal Value Model @ 7.85%

	Terminal Value
Projected Debt Free Net Cash Flow (10)	$1,340,182
Divided by Capitalization Factor (8)	7.85%
20th Year Terminal Value	17,072,387
20th Year Present Value Factor (11)	0.2291
Present Value of Terminal Value	3,911,284
Present Value Debt Free Net Cash Flow for 20 Years	11,187,245
Indicated Value	$15,098,529

DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 7.85%

		Multiples (13)	Terminal Value
Projected EBIT	$1,913,837	28.6	$54,735,750
Projected EBITDA	2,339,930	18.5	43,288,704
Weighted (1/3 EBIT 2/3 EBITDA) Terminal Value			47,066,229
20th Year Present Value Factor (11)			0.2291
Present Value of Terminal Value			10,782,873
Present Value Debt Free Net Cash Flow for 20 Years			11,187,245
Indicated Value			$21,970,118

DCF With Capitalization of Terminal Value Model @ 9.71%

	Terminal Value
Projected Debt Free Net Cash Flow (10)	$1,340,182
Divided by Capitalization Factor (9)	9.71%
20th Year Terminal Value	13,802,084
20th Year Present Value Factor (12)	0.1641
Present Value of Terminal Value	2,264,922
Present Value Debt Free Net Cash Flow for 20 Years	9,681,357
Indicated Value	$11,946,279

DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 9.71%

		Multiples (13)	Terminal Value
Projected EBIT	$1,913,837	28.6	$54,735,750
Projected EBITDA	2,339,930	18.5	43,288,704
Weighted (1/3 EBIT 2/3 EBITDA) Terminal Value			47,066,229
20th Year Present Value Factor (12)			0.1641
Present Value of Terminal Value			7,723,568
Present Value Debt Free Net Cash Flow for 20 Years			9,681,357
Indicated Value			$17,404,925

DCF With Capitalization of Terminal Value Model @ 7.75%

	Terminal Value
Projected Debt Free Net Cash Flow (10)	$1,340,182
Divided by Capitalization Factor (8)	7.75%
20th Year Terminal Value	17,292,676
20th Year Present Value Factor (11)	0.2291
Present Value of Terminal Value	3,961,752
Present Value Debt Free Net Cash Flow for 20 Years	11,187,245
Indicated Value	$15,148,997

DCF With Capitalization of Terminal Value Model @ 9.61%

	Terminal Value
Projected Debt Free Net Cash Flow (10)	$1,340,182
Divided by Capitalization Factor (9)	9.61%
20th Year Terminal Value	13,945,706
20th Year Present Value Factor (12)	0.1641
Present Value of Terminal Value	2,288,490
Present Value Debt Free Net Cash Flow for 20 Years	9,681,357
Indicated Value	$11,969,847

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Notes: (1) Assumptions:

Charges for services - Pre-2025 are actual or based on 2024 budget. Post-2024 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 in 2023 with shown rate increases.

OPERATING EXPENSES - increase at 2.5% annually after 2024 unless noted elsewhere. Assumed economies of scale are shown on lines below.
Wages & Benefits - Post-2024 assumed 15% savings due to economies of scale. Increase at 2.5% afterwards.

Professional Services - Post-2024 assumed 50% savings due to economies of scale. Increase at 2.5% afterwards.

No Additional O&M.

PURTA & Reg Assessment - 2024 assumed due to IOU purchase in 2023.

(2) Depreciation - Pre-2023 based on actual depreciation. Post-2023 based on depreciation rate plus same rate on half of CAPX.

(3) Line 6.

(4) Line 19 + line 17.

(5) Line 19.

(6) Capital Expenditures - Pre-2025 based on financials/budget. Post-2024 years are estimates based on 1.66% of prior year-end GROSS Property, plant and equipment.

(7) Changes in Working Capital - based on water industry 0.80% of revenues.

(8) Discount rate is the current lower end of the IOU discount rate. Capitalization rate (K) at 3/31/2023 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 3/31/2023 adjusted for stated growth (g) where capitalization rate = K - g.

(10) Final year shown, line 29.

(11) Final year shown, line 31.

(12) Final year shown, line 33.

(13) Developed on Market Multiples EXHIBIT 18.

Terms:

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

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	Actual			Budget Year 0	Budget Year 1	Estimated Year 2
	2020	2021	2022	2023	2024	2025
1. **OPERATING REVENUES (1)**						
2. Charges for services	1,640,811	1,809,152	1,820,534	1,780,000	1,873,600	1,874,970
3. Other operating revenue	1,466	3,786	1,356	0	0	0
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	0	0	0	0	749,988
6. **Total Operating Revenues**	1,642,277	1,812,938	1,821,890	1,780,000	1,873,600	2,624,958
7. **Rate Increase**						**40%**
8. **OPERATING EXPENSES (1)**						
9. Operating & Maintenance Expenses	914,645	897,207	933,099	1,057,000	1,117,600	1,145,540
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	0	0	0	(54,060)	(59,070)	(60,547)
12. LESS: EOS - Professional Services	0	0	0	(56,400)	(74,000)	(75,850)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	0	0	0	0	0	0
15. **Operating Expenses Before Depreciation**	914,645	897,207	933,099	946,540	984,530	1,009,143
16. Depreciation (2)	100,623	131,419	131,419	0	447,964	453,897
17. **Total Operating Expenses**	1,015,268	1,028,626	1,064,518	946,540	1,432,494	1,463,040
18. **Operating Income**	627,009	784,312	757,372	833,460	441,106	1,161,918
19. Revenues (3)	1,642,277	1,812,938	1,821,890	1,780,000	1,873,600	2,624,958
20. EBITDA (4)	727,632	915,731	888,791	833,460	889,070	1,615,815
21. EBIT (5)	627,009	784,312	757,372	833,460	441,106	1,161,918
22. EBIT	627,009	784,312	757,372	833,460	441,106	1,161,918
23. (-) Income Taxes	0	0	0	0	0	0
24. Debt Free Net Income	627,009	784,312	757,372	833,460	441,106	1,161,918
25. (+) Depreciation & Amortization	100,623	131,419	131,419	0	447,964	453,897
26. (-) Capital Expenditures (6)	5,227,098	1,461,065	224,850	323,951	436,623	442,406
27. (-) Changes in Working Capital (7)	13,138	14,504	14,575	14,240	14,989	21,000
28. Debt Free Net Cash Flow	($4,512,604)	($559,838)	$649,366	$495,269	$437,458	$1,152,409
29. PV Time Period (mid-year)				(0.5)	0.5	1.5
					1	2
30. Present Value Factor: 4.11% (8)					0.9801	0.9414
31. Present Value Debt Free Net Cash Flow					$428,753	$1,084,878
					1	2
32. Present Value Factor: 4.01% (9)					0.9805	0.9427
33. Present Value Debt Free Net Cash Flow					$428,928	$1,086,376

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	Estimated Year 3	Estimated Year 4	Estimated Year 5	Estimated Year 6	Estimated Year 7	Estimated Year 8
	2026	2027	2028	2029	2030	2031
1. **OPERATING REVENUES (1)**						
2. Charges for services	2,628,792	2,632,627	2,637,838	2,776,654	2,783,596	2,790,555
3. Other operating revenue	0	0	0	0	0	0
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	0	131,892	0	0	83,717
6. **Total Operating Revenues**	2,628,792	2,632,627	2,769,730	2,776,654	2,783,596	2,874,272
7. **Rate Increase**			5%			3%
8. **OPERATING EXPENSES (1)**						
9. Operating & Maintenance Expenses	1,174,179	1,203,533	1,233,621	1,264,462	1,296,073	1,328,475
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	(62,060)	(63,612)	(65,202)	(66,832)	(68,503)	(70,216)
12. LESS: EOS - Professional Services	(77,746)	(79,690)	(81,682)	(83,724)	(85,817)	(87,963)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	0	0	0	0	0	0
15. **Operating Expenses Before Depreciation**	1,034,372	1,060,231	1,086,737	1,113,905	1,141,753	1,170,297
16. Depreciation (2)	459,909	466,000	472,172	478,426	484,762	491,183
17. **Total Operating Expenses**	1,494,281	1,526,231	1,558,909	1,592,331	1,626,515	1,661,480
18. **Operating Income**	1,134,511	1,106,396	1,210,821	1,184,323	1,157,081	1,212,792
19. Revenues (3)	2,628,792	2,632,627	2,769,730	2,776,654	2,783,596	2,874,272
20. EBITDA (4)	1,594,420	1,572,396	1,682,993	1,662,749	1,641,843	1,703,975
21. EBIT (5)	1,134,511	1,106,396	1,210,821	1,184,323	1,157,081	1,212,792
22. EBIT	1,134,511	1,106,396	1,210,821	1,184,323	1,157,081	1,212,792
23. (-) Income Taxes	0	0	0	0	0	0
24. Debt Free Net Income	1,134,511	1,106,396	1,210,821	1,184,323	1,157,081	1,212,792
25. (+) Depreciation & Amortization	459,909	466,000	472,172	478,426	484,762	491,183
26. (-) Capital Expenditures (6)	448,266	454,203	460,219	466,314	472,490	478,748
27. (-) Changes in Working Capital (7)	21,030	21,061	22,158	22,213	22,269	22,994
28. Debt Free Net Cash Flow	$1,125,124	$1,097,132	$1,200,616	$1,174,221	$1,147,084	$1,202,233
29. PV Time Period (mid-year)	2.5	3.5	4.5	5.5	6.5	7.5
	3	4	5	6	7	8
30. Present Value Factor: 4.11% (8)	0.9042	0.8685	0.8342	0.8013	0.7697	0.7393
31. Present Value Debt Free Net Cash Flow	$1,017,337	$952,859	$1,001,554	$940,904	$882,911	$888,811
	3	4	5	6	7	8
32. Present Value Factor: 4.01% (9)	0.9064	0.8714	0.8378	0.8055	0.7745	0.7446
33. Present Value Debt Free Net Cash Flow	$1,019,812	$956,041	$1,005,876	$945,835	$888,417	$895,183

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	Estimated Year 9	Estimated Year 10	Estimated Year 11	Estimated Year 12	Estimated Year 13	Estimated Year 14
	2032	2033	2034	2035	2036	2037
1. **OPERATING REVENUES (1)**						
2. Charges for services	2,881,457	2,888,661	2,895,882	2,975,700	2,983,139	2,990,597
3. Other operating revenue	0	0	0	0	0	0
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	0	72,397	0	0	74,765
6. **Total Operating Revenues**	2,881,457	2,888,661	2,968,279	2,975,700	2,983,139	3,065,362
7. **Rate Increase**			**2%**			**3%**
8. **OPERATING EXPENSES (1)**						
9. Operating & Maintenance Expenses	1,361,687	1,395,729	1,430,622	1,466,388	1,503,048	1,540,624
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	(71,971)	(73,770)	(75,615)	(77,505)	(79,443)	(81,429)
12. LESS: EOS - Professional Services	(90,162)	(92,416)	(94,726)	(97,094)	(99,522)	(102,010)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	0	0	0	0	0	0
15. **Operating Expenses Before Depreciation**	1,199,554	1,229,543	1,260,282	1,291,789	1,324,083	1,357,185
16. Depreciation (2)	497,688	504,281	510,959	517,727	524,584	531,532
17. **Total Operating Expenses**	1,697,242	1,733,824	1,771,241	1,809,516	1,848,667	1,888,718
18. **Operating Income**	1,184,215	1,154,837	1,197,038	1,166,184	1,134,472	1,176,644
19. Revenues (3)	2,881,457	2,888,661	2,968,279	2,975,700	2,983,139	3,065,362
20. EBITDA (4)	1,681,903	1,659,118	1,707,997	1,683,911	1,659,056	1,708,177
21. EBIT (5)	1,184,215	1,154,837	1,197,038	1,166,184	1,134,472	1,176,644
22. EBIT	1,184,215	1,154,837	1,197,038	1,166,184	1,134,472	1,176,644
23. (-) Income Taxes	0	0	0	0	0	0
24. Debt Free Net Income	1,184,215	1,154,837	1,197,038	1,166,184	1,134,472	1,176,644
25. (+) Depreciation & Amortization	497,688	504,281	510,959	517,727	524,584	531,532
26. (-) Capital Expenditures (6)	485,089	491,514	498,024	504,620	511,304	518,076
27. (-) Changes in Working Capital (7)	23,052	23,109	23,746	23,806	23,865	24,523
28. Debt Free Net Cash Flow	$1,173,762	$1,144,495	$1,186,227	$1,155,486	$1,123,886	$1,165,578
29. PV Time Period (mid-year)	8.5	9.5	10.5	11.5	12.5	13.5
	9	10	11	12	13	14
30. Present Value Factor: 4.11% (8)	0.7101	0.6821	0.6551	0.6293	0.6044	0.5806
31. Present Value Debt Free Net Cash Flow	$833,488	$780,660	$777,097	$727,147	$679,277	$676,734
	9	10	11	12	13	14
32. Present Value Factor: 4.01% (9)	0.7159	0.6883	0.6618	0.6363	0.6117	0.5881
33. Present Value Debt Free Net Cash Flow	$840,296	$787,756	$785,045	$735,236	$687,481	$685,476

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	Estimated Year 15	Estimated Year 16	Estimated Year 17	Estimated Year 18	Estimated Year 19	Estimated Year 20
	2038	2039	2040	2041	2042	2043
1. **OPERATING REVENUES (1)**						
2. Charges for services	3,073,025	3,080,708	3,140,913	3,148,765	3,229,240	3,237,313
3. Other operating revenue	0	0	0	0	0	0
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	52,372	0	72,422	0	77,696
6. **Total Operating Revenues**	3,073,025	3,133,080	3,140,913	3,221,187	3,229,240	3,315,009
7. **Rate Increase**		**2%**		**2%**		**2%**
8. **OPERATING EXPENSES (1)**						
9. Operating & Maintenance Expenses	1,579,140	1,618,618	1,659,083	1,700,561	1,743,075	1,786,651
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	(83,464)	(85,551)	(87,690)	(89,882)	(92,129)	(94,432)
12. LESS: EOS - Professional Services	(104,560)	(107,174)	(109,853)	(112,600)	(115,415)	(118,300)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	0	0	0	0	0	0
15. **Operating Expenses Before Depreciation**	1,391,115	1,425,893	1,461,540	1,498,079	1,535,531	1,573,919
16. Depreciation (2)	538,572	545,705	552,933	560,256	567,677	575,195
17. **Total Operating Expenses**	1,929,687	1,971,598	2,014,474	2,058,335	2,103,208	2,149,114
18. **Operating Income**	1,143,338	1,161,482	1,126,439	1,162,852	1,126,032	1,165,895
19. Revenues (3)	3,073,025	3,133,080	3,140,913	3,221,187	3,229,240	3,315,009
20. EBITDA (4)	1,681,910	1,707,187	1,679,373	1,723,108	1,693,709	1,741,090
21. EBIT (5)	1,143,338	1,161,482	1,126,439	1,162,852	1,126,032	1,165,895
22. EBIT	1,143,338	1,161,482	1,126,439	1,162,852	1,126,032	1,165,895
23. (-) Income Taxes	0	0	0	0	0	0
24. Debt Free Net Income	1,143,338	1,161,482	1,126,439	1,162,852	1,126,032	1,165,895
25. (+) Depreciation & Amortization	538,572	545,705	552,933	560,256	567,677	575,195
26. (-) Capital Expenditures (6)	524,938	531,890	538,935	546,073	553,305	560,634
27. (-) Changes in Working Capital (7)	24,584	25,065	25,127	25,769	25,834	26,520
28. Debt Free Net Cash Flow	$1,132,388	$1,150,232	$1,115,310	$1,151,266	$1,114,570	$1,153,936
29. PV Time Period (mid-year)	14.5	15.5	16.5	17.5	18.5	19.5
	15	16	17	18	19	20
30. Present Value Factor: 4.11% (8)	0.5576	0.5356	0.5145	0.4942	0.4747	0.4559
31. Present Value Debt Free Net Cash Flow	$631,419	$616,064	$573,827	$568,955	$529,087	$526,079
	15	16	17	18	19	20
32. Present Value Factor: 4.01% (9)	0.5655	0.5437	0.5227	0.5026	0.4832	0.4646
33. Present Value Debt Free Net Cash Flow	$640,365	$625,381	$582,973	$578,626	$538,560	$536,119

See last page of this EXHIBIT for notes and assumptions.

Income Approach
Elizabeth Borough MA Wastewater System Assets
Pro Forma and Estimted Operations With MUNI Ownership
DCF With Capitalization of Terminal Value Model and
DCF With EBIT & EBITDA Terminal Value Model

DCF With Capitalization of Terminal Value Model @ 4.11%	Terminal Value
Projected Debt Free Net Cash Flow (10)	$1,153,936
Divided by Capitalization Factor (8)	4.11%
20th Year Terminal Value	28,076,298
20th Year Present Value Factor (11)	0.4559
Present Value of Terminal Value	12,799,984
Present Value Debt Free Net Cash Flow for 20 Years	15,117,843
Indicated Value	$27,917,827

DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 4.11%		Multiples (13)	Terminal Value
Projected EBIT	$1,165,895	28.6	$33,344,589
Projected EBITDA	1,741,090	18.5	32,210,164
Weighted (1/3 EBIT 2/3 EBITDA) Terminal Value			32,584,524
20th Year Present Value Factor (11)			0.4559
Present Value of Terminal Value			14,855,284
Present Value Debt Free Net Cash Flow for 20 Years			15,117,843
Indicated Value			$29,973,127

DCF With Capitalization of Terminal Value Model @ 4.01%	Terminal Value
Projected Debt Free Net Cash Flow (10)	$1,153,936
Divided by Capitalization Factor (9)	4.01%
20th Year Terminal Value	28,776,455
20th Year Present Value Factor (12)	0.4559
Present Value of Terminal Value	13,119,186
Present Value Debt Free Net Cash Flow for 20 Years	15,117,843
Indicated Value	$28,237,029

DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 4.01%		Multiples (13)	Terminal Value
Projected EBIT	$1,165,895	28.6	$33,344,589
Projected EBITDA	1,741,090	18.5	32,210,164
Weighted (1/3 EBIT 2/3 EBITDA) Terminal Value			32,584,524
20th Year Present Value Factor (12)			0.4559
Present Value of Terminal Value			14,855,284
Present Value Debt Free Net Cash Flow for 20 Years			15,117,843
Indicated Value			$29,973,127

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Income Approach
Elizabeth Borough MA Wastewater System Assets
Pro Forma and Estimted Operations With MUNI Ownership
DCF With Capitalization of Terminal Value Model and
DCF With EBIT & EBITDA Terminal Value Model

Notes: (1) Assumptions:

Charges for services - Pre-2025 are actual or based on 2024 budget. Post-2024 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 in 2023 with shown rate increases.

OPERATING EXPENSES - increase at 2.5% annually after 2024 unless noted elsewhere. Assumed economies of scale are shown on lines below.
Wages & Benefits - Post-2024 assumed 15% savings due to economies of scale. Increase at 2.5% afterwards.

Professional Services - Post-2024 assumed 50% savings due to economies of scale. Increase at 2.5% afterwards.

No Additional O&M.

(2) Depreciation - Pre-2023 based on actual depreciation. Post-2023 based on depreciation rate plus same rate on half of CAPX.
(3) Line 6.
(4) Line 18 + line 16.
(5) Line 18.
(6) Capital Expenditures - Pre-2025 based on financials/budget. Post-2024 years are estimates based on 1.56% of prior year-end GROSS Property, plant and equipment.
(7) Changes in Working Capital - based on water industry 0.80% of revenues.
(8) Discount rate is the the current MUNI discount rate. Capitalization rate (K) at 3/31/2023 equal to discount rate, where capitalization rate = K - g.
(9) Discount rate is the current MUNI discount rate. Capitalization rate (K) at 3/31/2023 adjusted for stated growth (g) where capitalization rate = K - g.
(10) Final year shown, line 28.
(11) Final year shown, line 30.
(12) Final year shown, line 30.
(13) Developed on Market Multiples EXHIBIT 18.

Terms:

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

Income Approach
Elizabeth Borough MA Wastewater System Assets
Pro Forma and Estimted Operations With IOU Ownership
DCF With Capitalization of Terminal Value Model and
DCF With EBIT & EBITDA Terminal Value Model

		Actual			Budget Year 0	Budget Year 1	Estimated Year 2
		2020	2021	2022	2023	2024	2025
1.	**OPERATING REVENUES (1)**						
2.	Charges for services	1,640,811	1,809,152	1,820,534	1,780,000	1,873,600	1,874,970
3.	Other operating revenue	1,466	3,786	1,356	0	0	0
4.	Tap Fees	0	0	0	0	0	0
5.	Other (Rate Increase)	0	0	0	0	0	1,499,976
6.	**Total Operating Revenues**	1,642,277	1,812,938	1,821,890	1,780,000	1,873,600	3,374,946
7.	**Rate Increase**						**80%**
8.	**OPERATING EXPENSES (1)**						
9.	Operating & Maintenance Expenses	914,645	897,207	933,099	1,057,000	1,117,600	1,145,540
10.	Remove Economies of Scale						
11.	LESS: EOS - Wages & Benefits	0	0	0	(54,060)	(59,070)	(60,547)
12.	LESS: EOS - Professional Services	0	0	0	(56,400)	(74,000)	(75,850)
13.	LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14.	ADD: Additional O&M	0	0	0	0	0	0
15.	ADD: PURTA & Reg Assessment	0	0	0	0	50,254	50,771
16.	**Operating Expenses Before Depreciation**	914,645	897,207	933,099	946,540	1,034,784	1,059,914
17.	Depreciation (2)	100,623	131,419	131,419	0	447,964	453,897
18.	**Total Operating Expenses**	1,015,268	1,028,626	1,064,518	946,540	1,482,748	1,513,811
19.	**Operating Income**	627,009	784,312	757,372	833,460	390,852	1,861,135
20.	Revenues (3)	1,642,277	1,812,938	1,821,890	1,780,000	1,873,600	3,374,946
21.	EBITDA (4)	727,632	915,731	888,791	833,460	838,816	2,315,032
22.	EBIT (5)	627,009	784,312	757,372	833,460	390,852	1,861,135
23.	EBIT	627,009	784,312	757,372	833,460	390,852	1,861,135
24.	(-) Income Taxes	0	0	0	240,787	112,917	537,682
25.	Debt Free Net Income	627,009	784,312	757,372	592,673	277,935	1,323,453
26.	(+) Depreciation & Amortization	100,623	131,419	131,419	0	447,964	453,897
27.	(-) Capital Expenditures (6)	5,227,098	1,461,065	224,850	323,951	436,623	442,406
28.	(-) Changes in Working Capital (7)	13,138	14,504	14,575	14,240	14,989	27,000
29.	Debt Free Net Cash Flow	($4,512,604)	($559,838)	$649,366	$254,482	$274,287	$1,307,944
30.	PV Time Period (mid-year)				(0.5)	0.5	1.5
31.	Present Value Factor: 7.85% (8)					0.9629	0.8928
32.	Present Value Debt Free Net Cash Flow					$264,111	$1,167,733
						1	2
33.	Present Value Factor: 9.71% (9)					0.9547	0.8702
34.	Present Value Debt Free Net Cash Flow					$261,862	$1,138,173
						1	2
35.	Present Value Factor: 7.75% (8)					0.9634	0.8941
36.	Present Value Debt Free Net Cash Flow					$264,248	$1,169,433
						1	2
37.	Present Value Factor: 9.61% (9)					0.9552	0.8714
38.	Present Value Debt Free Net Cash Flow					$261,999	$1,139,743

See last page of this EXHIBIT for notes and assumptions.

Income Approach
Elizabeth Borough MA Wastewater System Assets
Pro Forma and Estimted Operations With IOU Ownership
DCF With Capitalization of Terminal Value Model and
DCF With EBIT & EBITDA Terminal Value Model

	Estimated Year 3	Estimated Year 4	Estimated Year 5	Estimated Year 6	Estimated Year 7	Estimated Year 8
	2026	2027	2028	2029	2030	2031
1. **OPERATING REVENUES (1)**						
2. Charges for services	3,379,876	3,384,806	3,391,506	4,079,981	4,090,181	4,100,407
3. Other operating revenue	0	0	0	0	0	0
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	0	678,301	0	0	615,061
6. **Total Operating Revenues**	3,379,876	3,384,806	4,069,807	4,079,981	4,090,181	4,715,468
7. **Rate Increase**			**20%**			**15%**
8. **OPERATING EXPENSES (1)**						
9. Operating & Maintenance Expenses	1,174,179	1,203,533	1,233,621	1,264,462	1,296,073	1,328,475
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	(62,060)	(63,612)	(65,202)	(66,832)	(68,503)	(70,216)
12. LESS: EOS - Professional Services	(77,746)	(79,690)	(81,682)	(83,724)	(85,817)	(87,963)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	0	0	0	0	0	0
15. ADD: PURTA & Reg Assessment	59,296	59,308	59,320	63,200	63,240	63,281
16. **Operating Expenses Before Depreciation**	1,093,668	1,119,539	1,146,057	1,177,105	1,204,993	1,233,578
17. Depreciation (2)	459,909	466,000	472,172	478,426	484,762	491,183
18. **Total Operating Expenses**	1,553,577	1,585,539	1,618,229	1,655,531	1,689,755	1,724,761
19. **Operating Income**	1,826,299	1,799,267	2,451,578	2,424,450	2,400,426	2,990,707
20. Revenues (3)	3,379,876	3,384,806	4,069,807	4,079,981	4,090,181	4,715,468
21. EBITDA (4)	2,286,208	2,265,267	2,923,750	2,902,876	2,885,188	3,481,890
22. EBIT (5)	1,826,299	1,799,267	2,451,578	2,424,450	2,400,426	2,990,707
23. EBIT	1,826,299	1,799,267	2,451,578	2,424,450	2,400,426	2,990,707
24. (-) Income Taxes	527,618	519,808	708,261	700,424	693,483	864,015
25. Debt Free Net Income	1,298,681	1,279,459	1,743,317	1,724,026	1,706,943	2,126,692
26. (+) Depreciation & Amortization	459,909	466,000	472,172	478,426	484,762	491,183
27. (-) Capital Expenditures (6)	448,266	454,203	460,219	466,314	472,490	478,748
28. (-) Changes in Working Capital (7)	27,039	27,078	32,558	32,640	32,721	37,724
29. Debt Free Net Cash Flow	$1,283,285	$1,264,177	$1,722,712	$1,703,498	$1,686,494	$2,101,403
30. PV Time Period (mid-year)	2.5	3.5	4.5	5.5	6.5	7.5
31. Present Value Factor: 7.85% (8)	0.8278	0.7676	0.7117	0.6599	0.6119	0.5673
32. Present Value Debt Free Net Cash Flow	$1,062,303	$970,383	$1,226,054	$1,124,138	$1,031,965	$1,192,126
	3	4	5	6	7	8
33. Present Value Factor: 9.71% (9)	0.7932	0.7230	0.6590	0.6007	0.5475	0.4991
34. Present Value Debt Free Net Cash Flow	$1,017,902	$914,000	$1,135,267	$1,023,291	$923,355	$1,048,810
	3	4	5	6	7	8
35. Present Value Factor: 7.75% (8)	0.8298	0.7701	0.7147	0.6633	0.6156	0.5713
36. Present Value Debt Free Net Cash Flow	$1,064,870	$973,543	$1,231,222	$1,129,930	$1,038,205	$1,200,532
	3	4	5	6	7	8
37. Present Value Factor: 9.61% (9)	0.7950	0.7253	0.6617	0.6037	0.5508	0.5025
38. Present Value Debt Free Net Cash Flow	$1,020,212	$916,908	$1,139,918	$1,028,402	$928,921	$1,055,955

See last page of this EXHIBIT for notes and assumptions.

Income Approach
Elizabeth Borough MA Wastewater System Assets
Pro Forma and Estimted Operations With IOU Ownership
DCF With Capitalization of Terminal Value Model and
DCF With EBIT & EBITDA Terminal Value Model

	Estimated Year 9	Estimated Year 10	Estimated Year 11	Estimated Year 12	Estimated Year 13	Estimated Year 14
	2032	2033	2034	2035	2036	2037
1. **OPERATING REVENUES (1)**						
2. Charges for services	4,727,256	4,739,075	4,750,922	5,239,079	5,252,177	5,265,308
3. Other operating revenue	0	0	0	0	0	0
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	0	475,092	0	0	263,265
6. **Total Operating Revenues**	4,727,256	4,739,075	5,226,014	5,239,079	5,252,177	5,528,573
7. **Rate Increase**			**10%**			**5%**
8. **OPERATING EXPENSES (1)**						
9. Operating & Maintenance Expenses	1,361,687	1,395,729	1,430,622	1,466,388	1,503,048	1,540,624
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	(71,971)	(73,770)	(75,615)	(77,505)	(79,443)	(81,429)
12. LESS: EOS - Professional Services	(90,162)	(92,416)	(94,726)	(97,094)	(99,522)	(102,010)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	0	0	0	0	0	0
15. ADD: PURTA & Reg Assessment	66,821	66,870	66,919	69,671	69,726	69,782
16. **Operating Expenses Before Depreciation**	1,266,375	1,296,413	1,327,201	1,361,460	1,393,809	1,426,967
17. Depreciation (2)	497,688	504,281	510,959	517,727	524,584	531,532
18. **Total Operating Expenses**	1,764,063	1,800,694	1,838,160	1,879,187	1,918,393	1,958,500
19. **Operating Income**	2,963,193	2,938,381	3,387,854	3,359,892	3,333,784	3,570,073
20. Revenues (3)	4,727,256	4,739,075	5,226,014	5,239,079	5,252,177	5,528,573
21. EBITDA (4)	3,460,881	3,442,662	3,898,813	3,877,619	3,858,368	4,101,606
22. EBIT (5)	2,963,193	2,938,381	3,387,854	3,359,892	3,333,784	3,570,073
23. EBIT	2,963,193	2,938,381	3,387,854	3,359,892	3,333,784	3,570,073
24. (-) Income Taxes	856,066	848,898	978,751	970,673	963,130	1,031,394
25. Debt Free Net Income	2,107,127	2,089,483	2,409,103	2,389,219	2,370,654	2,538,679
26. (+) Depreciation & Amortization	497,688	504,281	510,959	517,727	524,584	531,532
27. (-) Capital Expenditures (6)	485,089	491,514	498,024	504,620	511,304	518,076
28. (-) Changes in Working Capital (7)	37,818	37,913	41,808	41,913	42,017	44,229
29. Debt Free Net Cash Flow	$2,081,908	$2,064,337	$2,380,230	$2,360,414	$2,341,916	$2,507,907
30. PV Time Period (mid-year)	8.5	9.5	10.5	11.5	12.5	13.5
31. Present Value Factor: 7.85% (8)	0.5261	0.4878	0.4523	0.4193	0.3888	0.3605
32. Present Value Debt Free Net Cash Flow	$1,095,292	$1,006,984	$1,076,578	$989,721	$910,537	$904,100
	9	10	11	12	13	14
33. Present Value Factor: 9.71% (9)	0.4549	0.4146	0.3779	0.3445	0.3140	0.2862
34. Present Value Debt Free Net Cash Flow	$947,060	$855,874	$899,489	$813,163	$735,362	$717,763
	9	10	11	12	13	14
35. Present Value Factor: 7.75% (8)	0.5302	0.4921	0.4567	0.4238	0.3934	0.3651
36. Present Value Debt Free Net Cash Flow	$1,103,827	$1,015,860	$1,087,051	$1,000,343	$921,310	$915,637
	9	10	11	12	13	14
37. Present Value Factor: 9.61% (9)	0.4584	0.4182	0.3816	0.3481	0.3176	0.2897
38. Present Value Debt Free Net Cash Flow	$954,347	$863,306	$908,296	$821,660	$743,793	$726,541

See last page of this EXHIBIT for notes and assumptions.

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Elizabeth Borough MA Wastewater System Assets
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DCF With Capitalization of Terminal Value Model and
DCF With EBIT & EBITDA Terminal Value Model

	Estimated Year 15	Estimated Year 16	Estimated Year 17	Estimated Year 18	Estimated Year 19	Estimated Year 20
	2038	2039	2040	2041	2042	2043
1. **OPERATING REVENUES (1)**						
2. Charges for services	5,542,394	5,556,250	5,625,842	5,639,907	5,721,855	5,736,160
3. Other operating revenue	0	0	0	0	0	0
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	55,563	0	67,679	0	68,834
6. **Total Operating Revenues**	5,542,394	5,611,813	5,625,842	5,707,586	5,721,855	5,804,994
7. **Rate Increase**		1%		1%		1%
8. **OPERATING EXPENSES (1)**						
9. Operating & Maintenance Expenses	1,579,140	1,618,618	1,659,083	1,700,561	1,743,075	1,786,651
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	(83,464)	(85,551)	(87,690)	(89,882)	(92,129)	(94,432)
12. LESS: EOS - Professional Services	(104,560)	(107,174)	(109,853)	(112,600)	(115,415)	(118,300)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	0	0	0	0	0	0
15. ADD: PURTA & Reg Assessment	71,336	71,395	71,770	71,830	72,274	72,335
16. **Operating Expenses Before Depreciation**	1,462,451	1,497,288	1,533,310	1,569,909	1,607,805	1,646,254
17. Depreciation (2)	538,572	545,705	552,933	560,256	567,677	575,195
18. **Total Operating Expenses**	2,001,023	2,042,993	2,086,244	2,130,165	2,175,482	2,221,449
19. **Operating Income**	3,541,371	3,568,820	3,539,598	3,577,421	3,546,373	3,583,545
20. Revenues (3)	5,542,394	5,611,813	5,625,842	5,707,586	5,721,855	5,804,994
21. EBITDA (4)	4,079,943	4,114,525	4,092,532	4,137,677	4,114,050	4,158,740
22. EBIT (5)	3,541,371	3,568,820	3,539,598	3,577,421	3,546,373	3,583,545
23. EBIT	3,541,371	3,568,820	3,539,598	3,577,421	3,546,373	3,583,545
24. (-) Income Taxes	1,023,102	1,031,032	1,022,590	1,033,517	1,024,547	1,035,286
25. Debt Free Net Income	2,518,269	2,537,788	2,517,008	2,543,904	2,521,826	2,548,259
26. (+) Depreciation & Amortization	538,572	545,705	552,933	560,256	567,677	575,195
27. (-) Capital Expenditures (6)	524,938	531,890	538,935	546,073	553,305	560,634
28. (-) Changes in Working Capital (7)	44,339	44,895	45,007	45,661	45,775	46,440
29. Debt Free Net Cash Flow	$2,487,564	$2,506,709	$2,486,000	$2,512,426	$2,490,423	$2,516,380
30. PV Time Period (mid-year)	14.5	15.5	16.5	17.5	18.5	19.5
31. Present Value Factor: 7.85% (8)	0.3343	0.3099	0.2874	0.2665	0.2471	0.2291
32. Present Value Debt Free Net Cash Flow	$831,593	$776,829	$714,476	$669,562	$615,384	$576,503
	15	16	17	18	19	20
33. Present Value Factor: 9.71% (9)	0.2609	0.2378	0.2167	0.1976	0.1801	0.1641
34. Present Value Debt Free Net Cash Flow	$649,005	$596,095	$538,716	$496,455	$448,525	$412,938
	15	16	17	18	19	20
35. Present Value Factor: 7.75% (8)	0.3388	0.3144	0.2918	0.2708	0.2514	0.2333
36. Present Value Debt Free Net Cash Flow	$842,787	$788,109	$725,415	$680,365	$626,092	$587,071
	15	16	17	18	19	20
37. Present Value Factor: 9.61% (9)	0.2643	0.2412	0.2200	0.2007	0.1831	0.1671
38. Present Value Debt Free Net Cash Flow	$657,463	$604,618	$546,920	$504,244	$455,997	$420,487

See last page of this EXHIBIT for notes and assumptions.

Income Approach
Elizabeth Borough MA Wastewater System Assets
Pro Forma and Estimted Operations With IOU Ownership
DCF With Capitalization of Terminal Value Model and
DCF With EBIT & EBITDA Terminal Value Model

DCF With Capitalization of Terminal Value Model @ 7.85%	Terminal Value
Projected Debt Free Net Cash Flow (10)	$2,516,380
Divided by Capitalization Factor (8)	7.85%
20th Year Terminal Value	32,055,796
20th Year Present Value Factor (11)	0.2291
Present Value of Terminal Value	7,343,983
Present Value Debt Free Net Cash Flow for 20 Years	18,206,372
Indicated Value	$25,550,355

DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 7.85%		Multiples (13)	Terminal Value
Projected EBIT	$3,583,545	28.6	$102,489,379
Projected EBITDA	4,158,740	18.5	76,936,689
Weighted (1/3 EBIT 2/3 EBITDA) Terminal Value			85,369,076
20th Year Present Value Factor (11)			0.2291
Present Value of Terminal Value			19,558,055
Present Value Debt Free Net Cash Flow for 20 Years			18,206,372
Indicated Value			$37,764,427

DCF With Capitalization of Terminal Value Model @ 9.71%	Terminal Value
Projected Debt Free Net Cash Flow (10)	$2,516,380
Divided by Capitalization Factor (9)	9.71%
20th Year Terminal Value	25,915,345
20th Year Present Value Factor (12)	0.1641
Present Value of Terminal Value	4,252,708
Present Value Debt Free Net Cash Flow for 20 Years	15,573,107
Indicated Value	$19,825,815

DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 9.71%		Multiples (13)	Terminal Value
Projected EBIT	$3,583,545	28.6	$102,489,379
Projected EBITDA	4,158,740	18.5	76,936,689
Weighted (1/3 EBIT 2/3 EBITDA) Terminal Value			85,369,076
20th Year Present Value Factor (12)			0.1641
Present Value of Terminal Value			14,009,065
Present Value Debt Free Net Cash Flow for 20 Years			15,573,107
Indicated Value			$29,582,172

DCF With Capitalization of Terminal Value Model @ 7.75%	Terminal Value
Projected Debt Free Net Cash Flow (10)	$2,516,380
Divided by Capitalization Factor (8)	7.75%
20th Year Terminal Value	32,469,419
20th Year Present Value Factor (11)	0.2291
Present Value of Terminal Value	7,438,744
Present Value Debt Free Net Cash Flow for 20 Years	18,206,372
Indicated Value	$25,645,116

DCF With Capitalization of Terminal Value Model @ 9.61%	Terminal Value
Projected Debt Free Net Cash Flow (10)	$2,516,380
Divided by Capitalization Factor (9)	9.61%
20th Year Terminal Value	26,185,015
20th Year Present Value Factor (12)	0.1641
Present Value of Terminal Value	4,296,961
Present Value Debt Free Net Cash Flow for 20 Years	15,573,107
Indicated Value	$19,870,068

See last page of this EXHIBIT for notes and assumptions.

Income Approach
Elizabeth Borough MA Wastewater System Assets
Pro Forma and Estimted Operations With IOU Ownership
DCF With Capitalization of Terminal Value Model and
DCF With EBIT & EBITDA Terminal Value Model

Notes: (1) Assumptions:

Charges for services - Pre-2025 are actual or based on 2024 budget. Post-2024 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 in 2023 with shown rate increases.

OPERATING EXPENSES - increase at 2.5% annually after 2024 unless noted elsewhere. Assumed economies of scale are shown on lines below.
Wages & Benefits - Post-2024 assumed 15% savings due to economies of scale. Increase at 2.5% afterwards.

Professional Services - Post-2024 assumed 50% savings due to economies of scale. Increase at 2.5% afterwards.

No Additional O&M.

PURTA & Reg Assessment - 2024 assumed due to IOU purchase in 2023.

(2) Depreciation - Pre-2023 based on actual depreciation. Post-2023 based on depreciation rate plus same rate on half of CAPX.

(3) Line 6.

(4) Line 19 + line 17.

(5) Line 19.

(6) Capital Expenditures - Pre-2025 based on financials/budget. Post-2024 years are estimates based on 1.56% of prior year-end GROSS Property, plant and equipment.

(7) Changes in Working Capital - based on water industry 0.80% of revenues.

(8) Discount rate is the current lower end of the IOU discount rate. Capitalization rate (K) at 3/31/2023 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 3/31/2023 adjusted for stated growth (g) where capitalization rate = K - g.

(10) Final year shown, line 29.

(11) Final year shown, line 31.

(12) Final year shown, line 33.

(13) Developed on Market Multiples EXHIBIT 18.

Terms:

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

EXHIBIT 17

Elizabeth Borough MA Wastewater System Assets
Summary of Income Approach Results and Conclusion

Methods	Results
Exhibit 15, page 5 (MUNI)	
DCF With Capitalization of Terminal Value Model @ 4.01%	$28,237,029
DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 4.01%	29,973,127
Indicated Value (Median)	$29,105,078
Exhibit 16, page 5 (IOU)	
DCF With Capitalization of Terminal Value Model @ 7.75%	$25,645,116
DCF With Capitalization of Terminal Value Model @ 9.61%	19,870,068
DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 7.85%	37,764,427
DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 9.71%	29,582,172
Indicated Value (Median)	$27,613,644
Conclusion	
MUNI DCF	$29,105,078
IOU DCF	27,613,644
Conclusion (Median)	$28,359,361

Market Multiples Method
Elizabeth Borough MA Wastewater System Assets
2023 Operations
Market Multiple Method

	A	B	C	D (Col B × Col C)	E (Col A × Col D)
	Subject Company Statistic (1)	Comparison Group's Valuation Multiples 3/31/2023	EBMA's Growth & Risk Adjustment	EBMA's Risk Adjusted Valuation Multiples 3/31/2023	EBMA's Market Multiples Valuation
Risk Adjusted Multiple					
1. Elizabeth Borough MA Wastewater System Assets					
2. Investor Provided Capital	$18,965,320	1.94	95.00%	1.84	$34,896,189
3. Gross PP&E	$19,220,013	1.35	108.00%	1.46	28,061,219
4. Net PP&E	$16,620,978	1.70	108.00%	1.84	30,582,600
5. Revenues	$1,780,000	8.11	95.00%	7.70	13,706,000
6. EBITDA	$833,460	19.52	95.00%	18.54	15,452,348
7. EBIT	$833,460	30.11	95.00%	28.60	23,836,956
8. Customers	683	$10,044	111.00%	$11,149	7,614,767
9. Population	5,384	$3,204	111.00%	$3,556	19,145,504
10.					
11. Average					$21,661,948

Conclusion of Market Multiple Method Valuation For Domestic Customers

		Low	High		Conclusion
12.	Capital Items	$28,061,219	$34,896,189		$31,478,704
13.	(Items 2-4)				
14.	Income Statement Items	13,706,000	23,836,956		-
15.	(Items 5 -7)				
16.	Demographics Items	7,614,767	19,145,504		13,380,136
17.	(Items 8-9)				
				Conclusion *	$26,954,062

* - Conclusion based on weighting of 75% Capital Items and 25% Demographics Items

Market Multiples Method
Elizabeth Borough MA Wastewater System Assets
Development of Market Multiples Method for the Market Multiples Method

	Latest Quarter End			Latest 12 Months			2022		3/31/2023
	Gross PP&E	Net PP&E	Invest. Total Capital	12 Mos. Rev.	12 Mos. EBITDA	12 Mos. EBIT	Customers	Population	Enterprise Value
	($ Mill)	($ Mill)	($ Mill)	($ Mill)	($ Mill)	($ Mill)			($ Mill)
American States Water Co	$2,378.337	$1,772.106	$1,443.977	$491.528	$175.850	$134.153	287,970	1,000,000	$4,014.661
American Water Works Company Inc	$29,818.000	$23,305.000	$20,148.000	$3,792.000	$1,999.000	$1,350.000	3,449,000	14,000,000	$40,888.375
Artesian Resources Corp	$846.182	$672.238	$386.237	$98.897	$42.404	$29.784	104,740	324,220	$715.839
California Water Service Group	$4,523.255	$3,470.882	$2,463.094	$846.431	$262.716	$145.352	553,000	2,000,000	$4,319.377
Essential Utilities, Inc.	$13,779.121	$11,172.680	$12,251.975	$2,288.032	$990.452	$669.275	1,851,586	5,000,000	$18,402.915
Middlesex Water Co	$1,153.975	$935.584	$769.360	$162.434	$74.123	$46.648	122,300	500,000	$1,744.109
SJW Corp.	$3,876.151	$2,654.825	$2,766.771	$620.698	$236.243	$129.804	402,900	1,536,000	$3,991.909
York Water Company (The)	$541.122	$431.901	$347.328	$60.061	$33.347	$23.208	76,731	208,000	$778.775
Average	$7,114.518	$5,551.902	$5,072.093	$1,045.010	$476.767	$316.028	856,028	3,071,028	$9,356.995
Max	$29,818.000	$23,305.000	$20,148.000	$3,792.000	$1,999.000	$1,350.000	3,449,000	14,000,000	$40,888.375
Min	$541.122	$431.901	$347.328	$60.061	$33.347	$23.208	76,731	208,000	$715.839
Median	$3,127.244	$2,213.466	$1,953.536	$556.113	$206.047	$131.979	345,435	1,268,000	$4,003.285

	Enterprise Value as a Multiple of								
	Invest. Capital	Gross PP&E	Net PP&E	Rev.	EBITDA	EBIT	Customers	Population	Population Per Customer
	(x)	(x)	(x)	(x)	(x)	(x)	($)	($)	
American States Water Co	2.78	1.69	2.27	8.17	22.83	29.93	$13,941	$4,015	3.47
American Water Works Company Inc	2.03	1.37	1.75	10.78	20.45	30.29	$11,855	$2,921	4.06
Artesian Resources Corp	1.85	0.85	1.06	7.24	16.88	24.03	$6,834	$2,208	3.10
California Water Service Group	1.75	0.95	1.24	5.10	16.44	29.72	$7,811	$2,160	3.62
Essential Utilities, Inc.	1.50	1.34	1.65	8.04	18.58	27.50	$9,939	$3,681	2.70
Middlesex Water Co	2.27	1.51	1.86	10.74	23.53	37.39	$14,261	$3,488	4.09
SJW Corp.	1.44	1.03	1.50	6.43	16.90	30.75	$9,908	$2,599	3.81
York Water Company (The)	2.24	1.44	1.80	12.97	23.35	33.56	$10,149	$3,744	2.71
Average	1.98	1.27	1.64	8.68	19.87	30.39	$10,587	$3,102	3.44
Max	2.78	1.69	2.27	12.97	23.53	37.39	$14,261	$4,015	4.09
Min	1.44	0.85	1.06	5.10	16.44	24.03	$6,834	$2,160	2.70
Median	1.94	1.35	1.70	8.11	19.52	30.11	$10,044	$3,204	3.54

Market Multiples Method
Elizabeth Borough MA Wastewater System Assets
Quantification of the Effective Risk/Growth Adjustments

		Net PP&E	Gross PP&E	Invest. Capital
Comparable Group Multiple		1.70	1.35	1.94
Ratio to Net PPE			79.41%	
Not Contributed Multiple (NPPE = ICAP mult.)		1.94	1.54	
Base Risk Factor	x	95%	95%	
Subject Company Adjusted Multiple		1.84	1.46	
Subject Company Adjusted Multiple		1.84	1.46	
Comparable Group Multiple	÷	1.70	1.35	
Effective Risk/Growth Adjustment		108%	108%	

		Net PP&E	Gross PP&E
Plant Assets		100%	100%
Ratio of Known "Cost Free" Capital		24%	24%
Plant Assets Less Known "Cost Free" Capital		76%	76%
Comparable Group Multiple		1.70	1.35
Plant Assets Less Known "Cost Free" Capital	÷	76%	76%
Mulitple Without "Cost Free" Capital		2.24	1.78
Base Risk Factor	x	95%	95%
Subject Company Adjusted Multiple		2.13	1.69
Subject Company Adjusted Multiple		2.13	1.69
Comparable Group Multiple	÷	1.70	1.35
Effective Risk/Growth Adjustment		125%	125%

		Net PP&E	Customers
Comparable Group Multiple		1.70	10,044.00
Implied Capitalization Rate (1÷Multiple)		58.82%	0.0100%
Ratio of Net PP&E Mult. to Invest. Capital Mult.		114.12%	
Less 1	-	1.00	
Difference in Capital Source due to Contributions		14.12%	
Assumed Investor Financed (1-Difference in Capital Source)		85.88%	85.88%
Implied Capitalization Rate (1÷Multiple)	x		0.0100%
Not Contributed Cap. Rate			0.0086%
Not Contributed Multiple (1÷Cap. Rate)			11,695.39
Base Risk Factor	x		95%
Subject Company Adjusted Multiple			11,110.62
Subject Company Adjusted Multiple			11,110.62
Comparable Group Multiple	÷		10,044.00
Effective Risk/Growth Adjustment			111%

Selected Transactions Method
For Elizabeth Borough MA Wastewater System Assets
Summary

		Median	Mid-Point	Domestic Customers Value
	All Selected Transactions Companies (N = 22)			
1.	Asset Items			$32,137,089
2.	Ex-Ante (page 2)	$32,791,556	$38,405,182	
3.	Ex-Post (page 3)	$24,456,786	$32,894,831	
4.	Demographics Items			$10,557,557
5.	Ex-Ante (page 2)	$8,122,937	$12,992,178	
6.	Ex-Post (page 3)	$8,122,937	$12,992,178	
7.			Indicated Value *	$26,742,206
	Fully Integrated Selected Transactions Companies (N = 10)			
8.	Asset Items			$31,189,473
9.	Ex-Ante (page 2)	$32,796,757	$38,405,182	
10.	Ex-Post (page 3)	$27,009,416	$26,546,538	
11.	Demographics Items			$12,365,672
12.	Ex-Ante (page 2)	$11,447,090	$13,284,255	
13.	Ex-Post (page 3)	$11,447,090	$13,284,255	
14.			Indicated Value *	$26,483,523
	Mostly Collection/Distribution Selected Transactions Companies (N = 12)			
15.	Asset Items			$30,460,664
16.	Ex-Ante (page 2)	$26,739,663	$38,395,103	
17.	Ex-Post (page 3)	$23,813,061	$32,894,831	
18.	Demographics Items			$8,615,099
19.	Ex-Ante (page 2)	$6,063,063	$11,167,136	
20.	Ex-Post (page 3)	$6,063,063	$11,167,136	
21.			Indicated Value *	$24,999,273
	Integrated, Excluding Wholesale Selected Transactions Companies (N = 8)			
22.	Asset Items			$30,204,748
23.	Ex-Ante (page 2)	$29,708,689	$38,405,182	
24.	Ex-Post (page 3)	$26,158,582	$26,546,538	
25.	Demographics Items			$12,135,968
26.	Ex-Ante (page 2)	$10,987,681	$13,284,255	
27.	Ex-Post (page 3)	$10,987,681	$13,284,255	
28.			Indicated Value *	$25,687,553

Conclusion of Selected Transactions Method Valuation For Domestic Customers

		Indicated Values	Weight	
29.	Mostly Collection/Distribution Transactions	$24,999,273	25%	$6,249,818
30.	Integrated, Excluding Wholesale Selected Transactions	25,687,553	75%	19,265,665
31.			Conclusion	$25,515,483

* - Indicated Value based on weighting of 75% Asset Items and 25% Demographics Items

Selected Transactions Method - Ex-Ante
For Elizabeth Borough MA Wastewater System Assets
Based on 2016 - 2021 Acquisitions of Assets of Water or Sewer System, Without Discount for Customer Contributions

Name	Service	System	Selected Transactions' Metrics: Announced Purchase Price was:	Investor Provided Capital	Gross PP&E	Net PP&E	Revenues	EBITDA	EBIT	Customers	Population
Municipal Authority of the City of Mckeesport	WW	INT	$156,000,000	$83,903,219	$91,435,797	$73,813,794	$13,047,844	$6,180,616	$3,811,679	12,780	46,468
New Garden Township/Authority's WW System's Assets	WW	INT	$29,500,000	$23,001,140	$25,988,330	$17,967,319	$2,261,294	$907,386	$499,638	1,796	12,085
Limerick Township Wastewater System's Assets	WW	INT	$75,100,000	$43,501,755	$60,847,250	$36,113,701	$4,418,775	$2,487,775	$893,600	5,416	18,798
Steelton Borough (Water) Authority	W	INT	$22,500,000	NA	NA	NA	NA	NA	NA	2,472	5,932
Exeter Township Wastewater System Assets	WW	INT	$96,000,000	NA	NA	NA	$7,735,788	$4,660,967	$4,660,967	8,984	27,609
Kane Borough Authority Wastewater System	WW	INT	$17,560,000	$10,809,115	$20,265,926	$8,897,773	$1,433,978	$684,830	$181,672	2,019	4,645
Borough of Royersford Wastewater System Assets	WW	INT	$13,000,000	$4,702,972	$6,883,116	$4,545,699	$863,000	$280,365	$280,365	1,596	5,154
Muni Auth Borough of Shenandoah Water System Assets	W	INT	$12,000,000	$13,119,705	$21,134,020	$11,252,247	$1,990,000	$245,000	($84,731)	2,899	6,166
Butler Area Sewer Authority	WW	INT	$231,500,000	$74,049,964	$138,491,270	$58,390,335	$12,258,500	$6,064,530	$2,330,186	14,699	52,499
York City Sewer Authority Wastewater System Assets	WW	INT	$235,000,000	$100,493,098	$120,654,506	$78,592,332	$24,641,181	$9,759,797	$6,150,926	13,747	80,929
Sadsbury Township Wastewater Utility	WW	C/D	$9,250,000	NA	NA	NA	NA	NA	NA	998	3,850
East Bradford Township Wastewater System Assets	WW	C/D	$5,000,000	$1,298,627	NA	NA	$1,130,372	$49,804	$49,804	1,248	9,942
Township of Mahoning Water System Assets	W	C/D	$4,734,800	NA	NA	NA	$753,857	$151,916	$91,468	1,186	4,218
Township of Mahoning Sewer System Assets	WW	C/D	$4,765,200	NA	NA	NA	$1,193,055	($173,564)	($244,337)	1,451	4,218
Cheltenham Township Wastewater System Assets	WW	C/D	$50,250,000	NA	NA	NA	$9,290,500	$4,506,168	$4,506,168	10,219	37,841
East Norriton Township Wastewater System Assets	WW	C/D	$21,000,000	$4,055,138	NA	NA	$3,320,000	$612,827	$612,827	4,966	14,296
Valley Township Water System Assets	W	C/D	$7,325,000	NA	NA	NA	$698,550	$78,704	$78,704	1,669	7,493
Valley Township Wastewater System Assets	WW	C/D	$13,950,000	NA	NA	NA	$2,743,957	($408,562)	($408,562)	3,125	7,493
Upper Pottsgrove Township Wastewater System Assets	WW	C/D	$13,750,000	NA	$15,295,347	$11,548,897	$1,380,242	$858,878	$858,878	1,428	5,530
Lower Makefield Township Wastewater System Assets	WW	C/D	$53,000,000	$16,525,411	NA	$17,592,071	$10,012,924	$4,053,817	$3,520,813	11,151	33,197
Willistown Township Wastewater Systems Assets	WW	C/D	$17,500,000	$9,866,721	$8,673,707	$4,887,532	$2,148,508	$297,618	($8,933)	2,294	11,214
East Whiteland Township Wastewater System Assets	WW	C/D	$54,930,000	$42,513,245	$48,672,940	$34,143,673	$4,328,000	$1,942,553	$1,209,102	3,895	14,720
						Subject Company's Metrics					
Elizabeth Borough MA Wastewater System Assets				$18,965,320	$19,220,013	$16,620,978	$1,780,000	$833,460	$833,460	683	5,384
						Subject Company's Selected Transactions Multiples Valuations					
Municipal Authority of the City of Mckeesport	WW	INT	$25,752,743	$35,261,936	$32,791,556	$35,127,209	$21,281,677	$21,036,699	$34,110,889	$8,337,089	$18,074,890
New Garden Township/Authority's WW System's Assets	WW	INT	$24,664,896	$24,323,879	$21,817,115	$27,289,483	$23,221,218	$27,096,594	$49,209,768	$11,218,541	$13,142,573
Limerick Township Wastewater System's Assets	WW	INT	$30,933,216	$32,741,105	$23,722,074	$34,564,041	$30,252,276	$25,160,172	$70,045,709	$9,470,698	$21,509,650
Steelton Borough (Water) Authority	W	INT	$13,319,035	NA	NA	NA	NA	NA	NA	$6,216,626	$20,421,443
Exeter Township Wastewater System Assets	WW	INT	$16,488,312	NA	NA	NA	$22,089,540	$17,166,429	$17,166,429	$7,298,308	$18,720,852
Kane Borough Authority Wastewater System	WW	INT	$28,786,077	$30,810,202	$16,653,738	$32,801,958	$21,797,266	$21,371,081	$80,560,337	$5,940,307	$20,353,722
Borough of Royersford Wastewater System Assets	WW	INT	$32,438,352	$52,424,118	$36,300,444	$47,533,441	$26,813,441	$38,645,979	$38,645,979	$5,563,283	$13,580,132
Muni Auth Borough of Shenandoah Water System Assets	W	INT	($899,027)	$17,346,719	$10,913,217	$17,725,503	$10,733,668	$40,822,531	($118,039,144)	$2,827,182	$10,478,106
Butler Area Sewer Authority	WW	INT	$42,505,900	$59,290,665	$32,127,895	$65,897,146	$33,615,043	$31,815,489	$82,802,816	$10,756,820	$23,741,328
York City Sewer Authority Wastewater System Assets	WW	INT	$28,459,987	$44,349,814	$37,435,013	$49,698,612	$16,975,647	$20,068,358	$31,842,864	$11,675,638	$15,633,951
Sadsbury Township Wastewater Utility	WW	C/D	$9,632,998	NA	NA	NA	NA	NA	NA	$6,330,411	$12,935,584
East Bradford Township Wastewater System Assets	WW	C/D	$42,281,043	$73,020,660	NA	NA	$7,873,514	$83,674,002	$83,674,002	$2,736,378	$2,707,705
Township of Mahoning Water System Assets	W	C/D	$17,814,062	NA	NA	NA	$11,179,765	$25,976,598	$43,143,582	$2,726,702	$6,043,661
Township of Mahoning Sewer System Assets	WW	C/D	($4,740,467)	NA	NA	NA	$7,109,527	($22,882,707)	($16,254,644)	$2,243,027	$6,082,465
Cheltenham Township Wastewater System Assets	WW	C/D	$7,744,822	NA	NA	NA	$9,627,577	$9,294,231	$9,294,231	$3,358,523	$7,149,547
East Norriton Township Wastewater System Assets	WW	C/D	$29,565,201	$98,214,098	NA	NA	$11,259,036	$28,560,524	$28,560,524	$2,888,240	$7,908,786
Valley Township Water System Assets	W	C/D	$36,413,321	NA	NA	NA	$18,665,092	$77,570,320	$77,570,320	$2,997,588	$5,263,286
Valley Township Wastewater System Assets	WW	C/D	($6,958,742)	NA	NA	NA	$9,049,340	($28,457,779)	($28,457,779)	$3,048,912	$10,023,595
Upper Pottsgrove Township Wastewater System Assets	WW	C/D	$14,492,707	NA	$17,278,142	$19,788,768	$17,732,398	$13,343,077	$13,343,077	$6,576,506	$13,386,980
Lower Makefield Township Wastewater System Assets	WW	C/D	$22,229,499	$60,825,232	NA	$50,074,368	$9,421,823	$10,896,738	$12,546,359	$3,246,256	$8,595,716
Willistown Township Wastewater Systems Assets	WW	C/D	($177,977,109)	$33,637,629	$38,778,140	$59,512,064	$14,498,433	$49,007,670	($1,632,863,140)	$5,210,331	$8,401,998
East Whiteland Township Wastewater System Assets	WW	C/D	$23,335,257	$24,504,482	$21,690,806	$26,739,663	$22,591,359	$23,567,938	$37,864,424	$9,632,141	$20,091,245

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

Selected Transactions Method - Ex-Post
For Elizabeth Borough MA Wastewater System Assets
Based on 2016 - 2021 Acquisitions of Assets of Water or Sewer System, Without Discount for Customer Contributions

			Ex-Post Selected Transactions' Metrics								
Name	Service	System	Announced Purchase Price was:	Investor Provided Capital	Ex-POST - OCN - Gross PP&E	Ex-Post - OCNLD - Net PP&E	Revenues	EBITDA	EBIT	Customers	Population
Municipal Authority of the City of Mckeesport	WW	INT	$156,000,000	$83,903,219	$108,231,570	$80,085,602	$13,047,844	$6,180,616	$3,811,679	12,780	46,468
New Garden Township/Authority's WW System's Assets	WW	INT	$29,500,000	$23,001,140	$27,146,852	$18,567,728	$2,261,294	$907,386	$499,638	1,796	12,085
Limerick Township Wastewater System's Assets	WW	INT	$75,100,000	$43,501,755	$63,480,402	$46,153,867	$4,418,775	$2,487,775	$893,600	5,416	18,798
Steelton Borough (Water) Authority	W	INT	$22,500,000	NA	$19,739,906	$14,433,435	NA	NA	NA	2,472	5,932
Exeter Township Wastewater System Assets	WW	INT	$96,000,000	NA	$68,404,345	$42,678,351	$7,735,788	$4,660,967	$4,660,967	8,984	27,609
Kane Borough Authority Wastewater System	WW	INT	$17,560,000	$10,809,115	$21,023,527	$13,503,901	$1,433,978	$684,830	$181,672	2,019	4,645
Borough of Royersford Wastewater System Assets	WW	INT	$13,000,000	$4,702,972	$7,666,493	$5,453,064	$863,000	$280,365	$280,365	1,596	5,154
Muni Auth Borough of Shenandoah Water System Assets	W	INT	$12,000,000	$13,119,705	$19,380,636	$10,784,743	$1,990,000	$245,000	($84,731)	2,899	6,166
Butler Area Sewer Authority	WW	INT	$231,500,000	$74,049,964	$143,771,330	$93,409,083	$12,258,500	$6,064,530	$2,330,186	14,699	52,499
York City Sewer Authority Wastewater System Assets	WW	INT	$235,000,000	$100,493,098	$155,875,776	$115,727,779	$24,641,181	$9,759,797	$6,150,926	13,747	80,929
Sadsbury Township Wastewater Utility	WW	C/D	$9,250,000	NA	$7,480,601	$6,128,876	NA	NA	NA	998	3,850
East Bradford Township Wastewater System Assets	WW	C/D	$5,000,000	$1,298,627	$8,294,931	$5,473,948	$1,130,372	$49,804	$49,804	1,248	9,942
Township of Mahoning Water System Assets	W	C/D	$4,734,800	NA	$5,294,272	$3,507,138	$753,857	$151,916	$91,468	1,186	4,218
Township of Mahoning Sewer System Assets	WW	C/D	$4,765,200	NA	$4,931,649	$3,234,859	$1,193,055	($173,564)	($244,337)	1,451	4,218
Cheltenham Township Wastewater System Assets	WW	C/D	$50,250,000	NA	$19,818,216	$15,408,458	$9,290,500	$4,506,168	$4,506,168	10,219	37,841
East Norriton Township Wastewater System Assets	WW	C/D	$21,000,000	$4,055,138	$16,916,212	$9,251,450	$3,320,000	$612,827	$612,827	4,966	14,296
Valley Township Water System Assets	W	C/D	$7,325,000	NA	$6,843,616	$4,983,659	$698,550	$78,704	$78,704	1,669	7,493
Valley Township Wastewater System Assets	WW	C/D	$13,950,000	NA	$13,389,108	$8,832,690	$2,743,957	($408,562)	($408,562)	3,125	7,493
Upper Pottsgrove Township Wastewater System Assets	WW	C/D	$13,750,000	NA	$15,295,347	$11,548,897	$1,380,242	$858,878	$858,878	1,428	5,530
Lower Makefield Township Wastewater System Assets	WW	C/D	$53,000,000	$16,525,411	$32,003,924	$19,808,274	$10,012,924	$4,053,817	$3,520,813	11,151	33,197
Willistown Township Wastewater Systems Assets	WW	C/D	$17,500,000	$9,866,721	$19,641,520	$13,367,274	$2,148,508	$297,618	($8,933)	2,294	11,214
East Whiteland Township Wastewater System Assets	WW	C/D	$54,930,000	$42,513,245	$43,447,309	$32,955,596	$4,328,000	$1,942,553	$1,209,102	3,895	14,720
				Subject Company's Metrics							
Elizabeth Borough MA Wastewater System Assets				$18,965,320	$19,220,013	$16,620,978	$1,780,000	$833,460	$833,460	683	5,384
				Ex-Post Subject Company's Selected Transactions Multiples Valuations							
Municipal Authority of the City of Mckeesport	WW	INT	$24,772,786	$35,261,936	$27,702,841	$32,376,264	$21,281,677	$21,036,699	$34,110,889	$8,337,089	$18,074,890
New Garden Township/Authority's WW System's Assets	WW	INT	$24,438,208	$24,323,879	$20,886,045	$26,407,046	$23,221,218	$27,096,594	$49,209,768	$11,218,541	$13,142,573
Limerick Township Wastewater System's Assets	WW	INT	$29,870,348	$32,741,105	$22,738,088	$27,045,089	$30,252,276	$25,160,172	$70,045,709	$9,470,698	$21,509,650
Steelton Borough (Water) Authority	W	INT	$18,613,900	NA	$21,907,414	$25,910,119	NA	NA	NA	$6,216,626	$20,421,443
Exeter Township Wastewater System Assets	WW	INT	$20,971,752	NA	$26,973,743	$37,386,962	$22,089,540	$17,166,429	$17,166,429	$7,298,308	$18,720,852
Kane Borough Authority Wastewater System	WW	INT	$27,312,483	$30,810,202	$16,053,606	$21,613,338	$21,797,266	$21,371,081	$80,560,337	$5,940,307	$20,353,722
Borough of Royersford Wastewater System Assets	WW	INT	$30,986,028	$52,424,118	$32,591,195	$39,624,093	$26,813,441	$38,645,979	$38,645,979	$5,563,283	$13,580,132
Muni Auth Borough of Shenandoah Water System Assets	W	INT	($679,564)	$17,346,719	$11,900,546	$18,493,879	$10,733,668	$40,822,531	($118,039,144)	$2,827,182	$10,478,106
Butler Area Sewer Authority	WW	INT	$39,270,335	$59,290,665	$30,947,985	$41,192,529	$33,615,043	$31,815,489	$82,802,816	$10,756,820	$23,741,328
York City Sewer Authority Wastewater System Assets	WW	INT	$25,409,198	$44,349,814	$28,976,299	$33,751,013	$16,975,647	$20,068,358	$31,842,864	$11,675,638	$15,633,951
Sadsbury Township Wastewater Utility	WW	C/D	$17,029,336	NA	$23,766,155	$25,085,194	NA	NA	NA	$6,330,411	$12,935,584
East Bradford Township Wastewater System Assets	WW	C/D	$35,056,694	$73,020,660	$11,585,396	$15,181,892	$7,873,514	$83,674,002	$83,674,002	$2,736,378	$2,707,705
Township of Mahoning Water System Assets	W	C/D	$18,385,478	NA	$17,188,939	$22,439,096	$11,179,765	$25,976,598	$43,143,582	$2,726,702	$6,043,661
Township of Mahoning Sewer System Assets	WW	C/D	$2,764,712	NA	$18,571,315	$24,483,999	$7,109,527	($22,882,707)	($16,254,644)	$2,243,027	$6,082,465
Cheltenham Township Wastewater System Assets	WW	C/D	$20,237,372	NA	$48,733,228	$54,204,265	$9,627,577	$9,294,231	$9,294,231	$3,358,523	$7,149,547
East Norriton Township Wastewater System Assets	WW	C/D	$29,872,422	$98,214,098	$23,859,968	$37,728,198	$11,259,036	$28,560,524	$28,560,524	$2,888,240	$7,908,786
Valley Township Water System Assets	W	C/D	$32,438,306	NA	$20,571,960	$24,429,574	$18,665,092	$77,570,320	$77,570,320	$2,997,588	$5,263,286
Valley Township Wastewater System Assets	WW	C/D	$1,640,282	NA	$20,025,171	$26,250,513	$9,049,340	($28,457,779)	($28,457,779)	$3,048,912	$10,023,595
Upper Pottsgrove Township Wastewater System Assets	WW	C/D	$14,492,707	NA	$17,278,142	$19,788,768	$17,732,398	$13,343,077	$13,343,077	$6,576,506	$13,386,980
Lower Makefield Township Wastewater System Assets	WW	C/D	$22,729,160	$60,825,232	$31,829,243	$44,471,913	$9,421,823	$10,896,738	$12,546,359	$3,246,256	$8,595,716
Willistown Township Wastewater Systems Assets	WW	C/D	($185,402,873)	$33,637,629	$17,124,450	$21,759,643	$14,498,433	$49,007,670	($1,632,863,140)	$5,210,331	$8,401,998
East Whiteland Township Wastewater System Assets	WW	C/D	$23,781,864	$24,504,482	$24,299,671	$27,703,651	$22,591,359	$23,567,938	$37,864,424	$9,632,141	$20,091,245

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

Summar of Selected Transactions Method - Wall Street Transactions
For Elizabeth Borough MA Wastewater System Assets
Based on Recent Walls Sreet Transactions Without Discount for Cost Free Capital

	Elizabeth Borough MA Wastewater System Assets's Domestic Customers Indicated Value
Based on Recent SJW Group's Purchase of Connecticut Water Service Inc.	$30,091,776
Based on Recent Aquarion Water Company's Purchase of New England Service Company, Inc.	$27,840,561
Based on Recent Aquarion Water Company's Purchase of Torrington Water Company, Inc.	$39,203,199

Summar of Selected Transactions Method - Wall Street Transactions
For Elizabeth Borough MA Wastewater System Assets
Based on Recent SJW Group's Bid and Purchase of Connecticut Water Service Inc., With and Without Discount for Cost Free Capital

Connecticut Water Service Inc. (*Financial information reported in 000 of $*)			Elizabeth Borough MA Wastewater System Assets			
Purchase Price was: $1,106,267			Elizabeth Borough MA Wastewater System Assets's Company Statistics	Selected Transactions Multiples Valuation		Domestic Customers Indicated Value *
	Subject Company Statistics	Transaction Multiple				
Investor Provided Capital	$573,223	1.93	$18,965,320	$36,601,303		
Gross PP&E	$939,050	1.18	$19,220,013	$22,642,529		
Net PP&E	$697,723	1.59	$16,620,978	$26,353,209	$29,621,916	
Revenues	$107,054	10.33	$1,780,000	$18,394,038		
EBITDA	$48,920	22.61	$833,460	$18,847,697		
EBIT	$32,236	34.32	$833,460	$28,602,473		$24,567,206
Customers	135,645	$8,156	683	$5,570,278		
Population	450,000	$2,458	5,384	$13,235,871	$9,403,074	
Average				$21,280,925		

	Subject Company Statistics	Transaction Multiple				
Investor Provided Capital	$573,223	1.93	$18,965,320	$36,601,303		
Gross PP&E (Less "Cost Free" Capital)	$646,723	1.71	$19,220,013	$32,877,259		
Net PP&E (Less "Cost Free" Capital)	$480,521	2.30	$16,620,978	$38,265,217	$35,571,238	
Revenues	$107,054	10.33	$1,780,000	$18,394,038		
EBITDA	$48,920	22.61	$833,460	$18,847,697		
EBIT	$32,236	34.32	$833,460	$28,602,473		$30,091,776
Customers (Adj. "Cost Free" Capital)	93,419	$11,842	683	$8,088,119		
Population (Adj. "Cost Free" Capital)	309,914	$3,570	5,384	$19,218,663	$13,653,391	
Average				$25,111,846		

* - Indicated Value based on weighting of 75% Capital Items and 25% Demographics Items

Summar of Selected Transactions Method - Wall Street Transactions
For Elizabeth Borough MA Wastewater System Assets
Based on Recent Aquarion Water Company's Purchase of New England Service Company, Inc., With and Without Discount for Cost Free Capital

New England Service Company, Inc.			Elizabeth Borough MA Wastewater System Assets			
Purchase Price was:	$49,290,414					
	Subject Company Statistics	Transaction Multiple	Elizabeth Borough MA Wastewater System Assets's Company Statistics	Selected Transactions Multiples Valuation		Domestic Customers Indicated Value *
Investor Provided Capital	$26,734,587	1.84	$18,965,320	$34,966,258		
Gross PP&E	$54,517,263	0.90	$19,220,013	$17,377,292		
Net PP&E	$36,566,790	1.35	$16,620,978	$22,404,342	$26,171,775	
Revenues	$7,994,088	6.17	$1,780,000	$10,975,228		
EBITDA	$2,729,953	18.06	$833,460	$15,048,460		
EBIT	$1,559,860	31.60	$833,460	$26,336,715		$21,325,872
Customers	9,515	$5,180	683	$3,538,135		
Population	26,437	$1,864	5,384	$10,038,188	$6,788,162	
Average				$17,585,577		

	Subject Company Statistics	Transaction Multiple				
Investor Provided Capital	$26,734,587	1.84	$18,965,320	$34,966,258		
Gross PP&E (Less "Cost Free" Capital)	$32,535,719	1.51	$19,220,013	$29,117,611		
Net PP&E (Less "Cost Free" Capital)	$21,822,937	2.26	$16,620,978	$37,541,000	$33,329,305	
Revenues	$7,994,088	6.17	$1,780,000	$10,975,228		
EBITDA	$2,729,953	18.06	$833,460	$15,048,460		
EBIT	$1,559,860	31.60	$833,460	$26,336,715		$27,840,561
Customers (Adj. "Cost Free" Capital)	5,679	$8,680	683	$5,928,544		
Population (Adj. "Cost Free" Capital)	15,778	$3,124	5,384	$16,820,116	$11,374,330	
Average				$22,091,741		

* - Indicated Value based on weighting of 75% Capital Items and 25% Demographics Items

Summar of Selected Transactions Method - Wall Street Transactions

For Elizabeth Borough MA Wastewater System Assets

Based on Recent Aquarion Water Company's Bid For Torrington Water Company, With and Without Discount for Cost Free Capital

Torrington Water Company			Elizabeth Borough MA Wastewater System Assets			
Purchase Price was: $91,880,072			Elizabeth Borough MA Wastewater System Assets's Company Statistics	Selected Transactions Multiples Valuation		Domestic Customers Indicated Value *
	Subject Company Statistics	Transaction Multiple				
Investor Provided Capital	$36,395,842	2.52	$18,965,320	$47,877,309		
Gross PP&E	$75,202,417	1.22	$19,220,013	$23,482,439		
Net PP&E	$48,743,673	1.88	$16,620,978	$31,329,946	$35,679,874	
Revenues	$7,835,144	11.73	$1,780,000	$20,873,455		
EBITDA	$3,264,018	28.15	$833,460	$23,461,379		
EBIT	$2,046,050	44.91	$833,460	$37,427,416		$29,595,480
Customers	10,125	$9,075	683	$6,197,935		
Population	30,005	$3,062	5,384	$16,486,662	$11,342,299	
Average				$25,892,068		

	Subject Company Statistics	Transaction Multiple				
Investor Provided Capital	$36,395,842	2.52	$18,965,320	$47,877,309		
Gross PP&E (Less "Cost Free" Capital)	$44,868,813	2.05	$19,220,013	$39,357,764		
Net PP&E (Less "Cost Free" Capital)	$29,082,453	3.16	$16,620,978	$52,510,586	$45,934,175	
Revenues	$7,835,144	11.73	$1,780,000	$20,873,455		
EBITDA	$3,264,018	28.15	$833,460	$23,461,379		
EBIT	$2,046,050	44.91	$833,460	$37,427,416		$39,203,199
Customers (Adj. "Cost Free" Capital)	6,041	$15,209	683	$10,388,054		
Population (Adj. "Cost Free" Capital)	17,902	$5,132	5,384	$27,632,486	$19,010,270	
Average				$32,441,056		

* - Indicated Value based on weighting of 75% Capital Items and 25% Demographics Items

EXHIBIT 21

Market Approach
Elizabeth Borough MA Wastewater System Assets
Determination of the Value of Ultimate Customers and the
Market Approach Conclusion

1.	Integrated, Excluding Wholesale Selected Transactions		$25,687,553
2.	Mostly Collection/Distribution Transactions	−	$24,999,273
3.	Market Value of Treatment Only		$688,280
4.	Number of Ultimate Customers		2,182
5.	Number of Domestic Customers	−	680
6.	Number of Ultimate Wholesale Customers		1,502
7.	Market Value of Treatment Only		$688,280
8.	Number of Domestic Customers	÷	680
9.	Treatment Value Per Domestic Customer		$1,012
10.	Ultimate Wholesale Customer Equivalency Factor *	×	95%
11.	Treatment Value Per Ultimate Wholesale Customer		$961
12.	Number of Ultimate Wholesale Customers	×	1,502
13.	Value of Ultimate Wholesale Customers		$1,443,422
14.	Selected Transactions Method - Domestic Customers		$25,515,483
15.	Market Multiples Method - Domestic Customers		$26,954,062
16.	Market Approach - Domestic Customers **		$26,234,773
17.	Market Value of Ultimate Wholesale Customers	+	$1,443,422
18.	Conclusion - Market Approach		$27,678,195

* Assumed discount for lack of control.
** Median of lines 14 and 15.

EXHIBIT 22

Elizabeth Borough MA Wastewater System Assets
Summary of Approach Results and
Fair Market Value Conclusion at Appraisal Date

Valuation Approach	Indicated Value	Conclusion	Consideration
Cost Approach	$28,371,029		33.33%
Income Approach	28,359,361		33.33%
Market Approach	27,678,195		33.34%
		Conclusion $28,136,000	

WORKPAPERS

Daily Bond Yields and Key Indicators

Updated by 11 am ET with data from the previous business day. Data as of 4-Apr-23

Moody's Daily Long-term Corporate Bond Yield Averages

	Utilities	Industrial	Corporate
Aaa	NA	4.41	4.41
Aa	4.95	4.60	4.78
A	5.06	4.81	4.94
Baa	5.40	5.50	5.45
Avg	5.14	4.83	4.99

Index Name: S&P Municipal Bond Revenue Index

As of: 29-Mar-24

3/27/2023	4.10%
3/28/2023	4.10%
3/29/2023	4.10%
3/30/2023	4.09%
3/31/2023	4.08%
4/3/2023	4.07%
4/4/2023	4.05%
4/5/2023	4.01%
4/6/2023	3.99%

FED H.15

DATE	DAAA	DBAA	DGS10	DGS20	DGS30
2023-03-27	4.54	5.72	3.53	3.90	3.77
2023-03-28	4.51	5.74	3.55	3.90	3.77
2023-03-29	4.52	5.72	3.57	3.91	3.78
2023-03-30	4.48	5.66	3.55	3.88	3.74
2023-03-31	4.38	5.59	3.48	3.81	3.67
2023-04-03	4.35	5.54	3.43	3.78	3.64
2023-04-04	4.41	5.45	3.35	3.72	3.60
2023-04-05	4.38	5.44	3.30	3.67	3.56
2023-04-06	4.36	5.41	3.30	3.66	3.54

FED H.15

		AAA Corp	BAA CORP	10-yr T-bond	20-yr T-bond	30-yr T-bond
Spot	3/31/23	4.38	5.59	3.48	3.81	3.67

FED H.15		AAA Corp	BAA CORP		A Rated Utility		
	3/31/23	4.38	5.59	Spread	-0.03	0.14	
Moody's Spot ===>		4.41	5.45	Moody's Spot ===>	5.06	5.06	
		-0.03	0.14	Implied	5.03	5.20	5.12

Moody's Daily Long-term Corporate Bond Yield Averages

	4/4/2023	Utilities	Industrial	Corporate
Spot	Aaa	NA	4.41	4.41
	Aa	4.95	4.60	4.78
	A	5.06	4.81	4.94
	Baa	5.40	5.50	5.45
	Avg	5.14	4.83	4.99

S&P Municipal Bond Revenue Index

3/31/23 4.08%

Utilities
Aa
A **5.12**
Baa

		Decade Spread	Annual Spread	
10-Year	3.48			
20-Year	3.81	0.330	0.033	
30-Year	3.67	-0.140		
REVENUE BOND INDEX				4.08
10-20 Yr				0.17
20-30 Yr				-0.14
				4.11

30-Yr Rev Bond Est. **4.11**

Lt Debt	5.12	5.12
Prf Stk	6.68	130%
Pref Stock Est.	130%	**6.68**

	3/31/23
A-Rated Rev Bonds	**4.11**
A-Rated PU Bonds	**5.12**
A-Rated PU Pref Stk	**6.68**
30-yr T-bond	**3.67**

	SBBI	SBBI
Equity Risk Premium	7.46	7.46
Beta (Value Line Med.)	0.75	0.75
Risk Adjusted Equity Premium	5.60	5.60
Yield (RF)	3.67	3.67
Size Premium	2.48	0.00
	11.75	9.27

High 11.75
Low 9.27

0.75

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

3.67 30-yr T-bond

	Recent Market Value (Mill $)	Market Quartile Name	Market Quartile	Quartile Size Premium	Value Line Beta
American States Water Co	3,286.23	Mid-Cap	2	2.48	0.65
American Water Works Co Inc	28,509.38	Large-Cap	1	0	0.90
Artesian Resources Corp	518.84	Low-Cap	3	3.95	0.70
California Water Service Gp	3,235.97	Mid-Cap	2	2.48	0.70
Essential Utilities, Inc.	11,539.72	Mid-Cap	2	2.48	0.95
Middlesex Water Co	1,378.20	Low-Cap	3	3.95	0.70
SJW Corp	2,348.35	Low-Cap	3	3.95	0.80
York Water Co	638.63	Low-Cap	3	3.95	0.80
Average	6,431.920	Mid-Cap	2	2.48	0.78
Median	2,792.161	Mid-Cap	2	2.48	0.75

3/29/2024

		12/31/22					3/31/23
Company Name	Ticker Symbol	LT Debt-Total Qtly	Preferred S	Minority In	Common Equity-Total-Qtly	Invested Capital-Total Qtly	Market Value-Mnthly
AMERICAN ST.	**AWR**	734.428	0.000	0.000	709.549	1,443.977	3,286.230
AMERICAN WA	**AWK**	11,280.000	0.000	0.000	7,693.000	18,973.000	28,509.375
ARTESIAN RES	**ARTN.A**	178.090	0.000	0.000	187.930	366.020	518.841
CALIFORNIA W	**CWT**	1,070.700	0.000	4.804	1,317.590	2,393.094	3,235.973
ESSENTIAL UT	**WTRG**	6,617.395	0.000	0.000	5,377.386	11,994.781	11,539.724
MIDDLESEX W	**MSEX**	311.448	2.084	0.000	400.328	713.860	1,378.205
SJW GROUP	**SJW**	1,496.325	0.000	0.000	1,110.868	2,607.193	2,348.350
THE YORK WA	**YORW**	140.145	0.000	0.000	207.183	347.328	638.631

	Book Ratios				Market Ratios			
	LTD	**Pref**	**Equity**		**LTD**	**Pref**	**Equity**	
AMERICA	0.509	0.000	0.491	1.000	0.183	0.000	0.817	1.000
AMERICA	0.595	0.000	0.405	1.000	0.283	0.000	0.717	1.000
ARTESIAN	0.487	0.000	0.513	1.000	0.256	0.000	0.744	1.000
CALIFORI	0.447	0.000	0.553	1.000	0.249	0.000	0.751	1.000
ESSENTIA	0.552	0.000	0.448	1.000	0.364	0.000	0.636	1.000
MIDDLES	0.436	0.003	0.561	1.000	0.184	0.001	0.815	1.000
SJW GRO	0.574	0.000	0.426	1.000	0.389	0.000	0.611	1.000
THE YORI	0.403	0.000	0.597	1.000	0.180	0.000	0.820	1.000
	0.500	0.000	0.499	Avg	0.261	0.000	0.739	
	0.498	0.000	0.502	Med	0.253	0.000	0.748	

Assumptions:	3/31/2023
Debt Cost	5.12
Pref. Stock Cost	6.68
Equity Cost	11.75
Equity Cost	9.27

Ratio	Cost	Wt	Shield	Overall	
25.30%	5.120	1.30	0.72	0.9326592	
0.00%	6.680	0.00	1	0	
74.70%	11.750	8.78	1	8.77725	
		10.07		**9.71**	**<<<<ANSWER**
25.30%	5.120	1.30	0.72	0.9326592	
0.00%	6.680	0.00	1	0	
74.70%	9.265	6.92	1	6.920955	
		8.22		**7.85**	**<<<<ANSWER**

	ROE
Public Meeting held February 9, 2023	9.75

DSIC Weighted Cost of Capital

Assumptions:	3/31/2023
Debt Cost	5.12
Pref. Stock Cost	6.68
DSIC Equity Cost	9.75

	Ratio	Cost	Wt	Shield	Overall	
Debt	49.80%	5.120	2.55	0.72	1.835827	
Pref	0.00%	6.680	0.00	1	0	
Equity	50.20%	9.750	4.89	1	4.8945	
			7.44		**6.73**	**<<<<ANSWER**

PENNSYLVANIA PUBLIC UTILITY COMMISSION

Public Meeting held February 9, 2023

Docket Number: M-2022-3037661

BUREAU OF TECHNICAL UTILITY SERVICES

REPORT ON THE QUARTERLY EARNINGS

OF JURISDICTIONAL UTILITIES

FOR THE YEAR ENDED

September 30, 2022

Gladys Brown Dutrieuille, Chairman
Stephen M. DeFrank, Vice Chairman
Ralph V. Yanora
Kathryn L. Zerfuss
John F. Coleman, Jr.

The market indicated common equity cost rate range consists of data used from the barometer groups and is based on a series of calculations to average the DCF methods.

Market Based Returns on Common Equity [1]	
January 13, 2023	
Water Company Barometer Group	
	Cost Rates %
(1) Current DCF	8.73
(2) 52-Week Average DCF	8.79
(3) Average DCF	8.76
(4) Market Indicated Common Equity Cost Rate Range @ 1 standard deviation around the mean.[2]	6.31-11.20
(5) CAPM Check of DCF Reasonableness	10.39
(6) Recent Commission Approved ROEs[3]:	10.00*
*Aqua Pennsylvania, Inc., R-2021-3027385, includes a 0.25% management effectiveness adjustment	
(7) Distribution System Improvement Charge (DSIC) Return[4]:	**9.75%**
[1] As calculated by the Bureau of Technical Utility Services	
[2] Standard Deviation of 12 DCF observations	
[3] ROEs from base rate cases within last two years, fully litigated or stipulated for DSIC purposes	
[4] Commission authorized Return on Equity (ROE) for DSIC purposes	
Any questions concerning DSIC should be directed to Marc Hoffer of the Bureau of Technical Utility Services at (717) 787-1869.	

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

July 02, 2018 07:00 AM Eastern Daylight Time

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

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

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

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

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

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

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

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

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

Forward-Looking Statements

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

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

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

1. Customers include all Active and Inactive Accounts

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

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

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

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

Competition

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

Employees

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

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

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

3 MIN READ

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

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

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

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

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

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

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

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

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

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

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

RBS sounds alarm over Brexit

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

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

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MORE FROM REUTERS

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

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

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

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

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

IV. ASSET PURCHASE AGREEMENT

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

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

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

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

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

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

East Bradford Township

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

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

420,000
153,300,000

35
399
814
1,248

Q. How many customers will the acquisition add?

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

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

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

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

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

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

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

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

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

Q. Describe the scope and organization of your testimony.

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

II. EXECUTIVE SUMMARY

A. Overview

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

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

Customer List

Report by Class

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

Total Class: R: 8,708

Class: TRAILER PARK

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

Total Class: T: 7

Total: 8,984

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

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

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

Written by Mike Urban

Exeter Township, PA —

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

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

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

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

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

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

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

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

"It should be seamless," he said.

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

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

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

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

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

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

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

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

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

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

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

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

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

Q. Please describe the Kane wastewater utility.

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

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

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

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

ASSET PURCHASE AGREEMENT

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

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

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

ASSETS BEING TRANSFERRED

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

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

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

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

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

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

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

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

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

MAHONING TOWNSHIP CUSTOMER LIST

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

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

5/30/18

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

Commercial Water Meters
70

Residential Water Meters
1116

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

Total Meters
=
1186

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

(a) Incorrect Use of Projected Customers

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

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

(b) Inconsistent Purchase Price Values

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

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McKeesport sewer system to be sold for $156 million

September 16, 2016 12:00 AM

By Deana Carpenter

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

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

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

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

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

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

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

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

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

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

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

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

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

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

EAST END SEWER ACCOUNTS

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

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

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

Type	2015 Total	2014 Total
CO1	8,245,000	8,412,000
CO2	3,467,000	3,835,000
IND		
MIX	38,000	61,000
RES	53,351,000	53,952,000
Grand Total	**65,101,000**	**66,260,000**

Service Area	Total Units	Total Active Units	Total Accounts
BP	290	282	107
BR	52	51	52
BW	99	90	56
CR	5	4	5
CW	110	109	110
EE	1		1
GL	132	110	70
HD	127	110	112
PD	31	31	31
PM	48	47	48
PS	66	66	66
SC	65	37	40
SH	132	132	132
SRO	2	2	2
WB	76	73	72
Grand Total	**1,236**	**1,144**	**904**

SOUTH END SEWER ACCOUNTS

Type	2015-4	2015-3	2015-2	2015-1	2014-4	2014-3	2014-2	2014-1
CO1	163,000	68,000	33,000	27,000	277,000	265,000	28,000	25,000
RES	7,444,000	7,494,000	7,172,000	7,565,000	7,109,000	7,576,000	7,233,000	7,750,000
Grand Total	**7,607,000**	**7,562,000**	**7,205,000**	**7,592,000**	**7,386,000**	**7,841,000**	**7,261,000**	**7,775,000**
# DAYS	94	90	89	91	87	94	93	91

Type	2015-4 GPD	2015-3 GPD	)15-2 GPD	2015-1 GPD	2014-4 GPD	2014-3 GPD	2014-2 GPD	2014-1 GPD
CO1	1,734	756	371	297	3,184	2,819	301	275
RES	79,191	83,267	80,584	83,132	81,713	80,596	77,774	85,165
Grand Total	**80,926**	**84,022**	**80,955**	**83,429**	**84,897**	**83,415**	**78,075**	**85,440**

Type	Total Units	Total Active Units	Total Accounts
CO1	6	2	2
RES	611	605	607
Grand Total	**617**	**607**	**609**

Type	2015 Total	2014 Total
CO1	291,000	595,000
RES	29,675,000	29,668,000
Grand Total	**29,966,000**	**30,263,000**

Service Area	Total Units	Total Active Units	Total Accounts
ES	178	174	174
HGN	129	125	125
HGS	30	29	30
MG	21	21	21
WS	259	258	259
Grand Total	**617**	**607**	**609**

AVONDALE SEWER ACCOUNTS SEWER ACCOUNTS

Type	2015-4	2015-3	2015-2	2015-1	2014-4	2014-3	2014-2	20144
CO1	2,833,000	3,044,000	2,895,000	3,014,000	2,844,000	2,681,000	2,598,000	2,992,000
CO2	191,000	208,000	235,000	228,000	224,000	195,000	192,000	179,000
MIX	301,000	312,000	255,000	273,000	227,000	258,000	276,000	332,000
RES	4,090,000	3,750,000	3,588,000	4,089,000	3,506,000	4,183,000	4,716,000	3,705,000
TWP	31,000	24,000	20,000	19,000	21,000	22,000	19,000	74,000
Grand Total	**7,446,000**	**7,338,000**	**6,993,000**	**7,623,000**	**6,822,000**	**7,339,000**	**7,801,000**	**7,282,000**
# DAYS	94	90	89	91	87	94	93	91

Type	2015-4 GPD	2015-3 GPD	)15-2 GPD	2015-1 GPD	2014-4 GPD	2014-3 GPD	2014-2 GPD	2014-1 GPD
CO1	30,138	33,822	32,528	33,121	32,690	28,521	27,935	32,879
CO2	2,032	2,311	2,640	2,505	2,575	2,074	2,065	1,967
MIX	3,202	3,467	2,865	3,000	2,609	2,745	2,968	3,648
RES	43,511	41,667	40,315	44,934	40,299	44,500	50,710	40,714
TWP	330	267	225	209	241	234	204	813
Grand Total	**79,213**	**81,533**	**78,573**	**83,769**	**78,414**	**78,074**	**83,882**	**80,022**

Type	Total Units	Total Active Units	Total Accounts
CO1	397	48	38
CO2	4	4	4
MIX	8	22	8
RES	306	282	230
TWP	3	3	3
Grand Total	**718**	**359**	**283**

Type	2015 Total	2014 Total
CO1	11,786,000	11,115,000
CO2	862,000	790,000
MIX	1,141,000	1,093,000
RES	15,517,000	16,110,000
TWP	94,000	136,000
Grand Total	**29,400,000**	**29,244,000**

Service Area	Total Units	Total Active Units	Total Accounts
41	308	76	46
BH	123	120	121
BH2	6	6	6
RR	130	119	79
TK	151	38	31
Grand Total	**718**	**359**	**283**

The PA PUC Approves First Wastewater Sale Under New Act 12

06/14/2017

June 14, 2017 (Philadelphia, PA) - On June 14, 2017, the Pennsylvania Public Utility Commission approved, in a four-to-one vote, Aqua Pennsylvania Wastewater, Inc.'s application to acquire the wastewater system of New Garden Township and its Sewer Authority, and to begin providing wastewater service to the residents of New Garden and Kennett Townships in Chester County. The transaction is the first to be approved using the fair market valuation approach established by the Pennsylvania State Legislature and Governor Tom Wolf with Act 12 of 2016 (Act of Apr. 14, 2016, P.L. 76, No. 12, 66 Pa. C.S. § 1329).

Act 12 is changing the landscape for municipal sales of water and wastewater systems to PUC-regulated public utility companies. The new law allows the parties to the transaction to opt in to a new method of valuation, which takes the value of the system for ratemaking purposes as either the lower of the average of two independent fair market value appraisals—one obtained by the utility buyer and one by the municipal seller—or by the negotiated purchase price. Prior to Act 12, system value for ratemaking was based on depreciated original cost, which would likely always result in a lower sale price than fair market value. In addition, the new law requires the PUC to act within six months of the acceptance of the application.

Act 12 became effective mid-June 2016, and the PUC issued its final implementation order in October 2016. The New Garden transaction was the first Act 12 application, submitted for approval in December 2016. Aqua, New Garden, and the Authority agreed to a negotiated purchase price of $29,500,000, which turned out to be less than the average of the two appraisals commissioned by Aqua and New Garden. The valuation for ratemaking purposes was therefore set at $29,500,000.

A protest to Aqua's application for PUC approval pursuant to Act 12 in the New Garden transaction was filed by the Bureau of Investigation and Enforcement, which sought a review of both of the fair market appraisals used, additional information about the proposed rate freeze agreed to by the parties, and a determination of whether the transaction was in the public interest under Section 1102 of the Public Utility Code.

An additional protest was filed by the Office of Consumer Advocates requesting further information to determine whether supplementary conditions should be imposed on the transaction to ensure that Aqua's existing customers are treated in a fair and just manner; how the transaction will substantially and affirmatively benefit Aqua's existing customers; and whether the agreement sufficiently provides for safe, adequate, and reasonable service at just and reasonable rates.

An evidentiary hearing was held before an administrative law judge on February 16, 2017. After the hearing, the judge recommended the denial of Aqua's application, concluding that Aqua had failed to demonstrate by a preponderance of the evidence that the acquisition was in the public interest because it failed to demonstrate that the transaction will result in affirmative public benefits to its existing customers. The judge also concluded that Aqua had failed to support its rate stabilization plan with evidence to show its basis and impact. The judge did

Related Lawyers

Skye C.A. Nickalls

Marc A. Feller

Related Practices

Corporate and Business

Related Offices

Philadelphia, PA

invest in necessary capital improvements and resources, and experienced managerial and operating personnel necessary to provide safe and reliable sewer services to the residents of the TOS and surrounding areas. PAWC is currently the water provider within TOS and is the operator of TOS's System pump station.

Q. PLEASE DESCRIBE PAWC'S HISTORICAL RELATIONSHIP WITH TOS.

A. Since PAWC's acquisition of the water and wastewater assets of the City of Coatesville Authority ("CCA") in March 2001, PAWC has been the regional wastewater (and water) provider in the City of Coatesville and surrounding communities. . PAWC's treats the wastewater from the communities of Sadsbury Township, City of Coatesville, East Fallowfield Township, Caln Township, West Caln Township, Valley Township, West Sadsbury Township, Highland Township, West Brandywine Township and Parksburg Borough. TOS has been a bulk wastewater customer of PAWC since PAWC's acquisition of CCA's water and wastewater system assets. We maintain a relationship with TOS and other local municipalities by participating in local events, providing environmental and firefighting grants, offering the "H2O Assistance Program," and supporting economic growth through infrastructure improvements in the communities we serve.

Q. HOW MANY CUSTOMERS DOES THE TOS SYSTEM CURRENTLY SERVE AND HOW MANY CUSTOMERS DOES PAWC CURRENTLY SERVE?

A. As of December 31, 2016, TOS furnished wastewater services to 998 customers. This number includes 950 residential and 48 commercial customer connections. Of these

interest in discussing the potential acquisition of the System and the use of Section 1329, the fair market value approach. TOS's representatives executed the Letter of Interest on December 6 and 7, 2016 and returned it to PAWC. This "Letter of Interest" was extended through amendments on March 9, 2017, May 2, 2017, June 6, 2017, and July 5, 2017 to allow the parties to enter into a definitive agreement. Through these extensions, PAWC and TOS jointly retained the services of Herbert E. MacCombie, Jr., P.E., of Media Pennsylvania to complete the Engineer's Assessment of Tangible Assets pursuant to Section 1329. The Engineer's Assessment of Tangible Assets is included as **Schedule 1.1** of the APA and included with the UVE fair market valuation reports at **Appendix A-5**. PAWC, pursuant to Section 1329, retained the services of AUS Consultants of Greenfield Wisconsin to complete an appraisal of the System. TOS retained the services of Herbert, Rowland & Grubic, Inc. of Harrisburg, Pennsylvania to also complete an appraisal of the System. These appraisals accompany the Application at **Appendix A-5** (together with electronic working documents at **Appendix A-4**) and are included as **Schedule 2.2** of the APA. After receipt of the two appraisals and subsequent arms-length negotiations, on May 1, 2018 TOS's Board of Supervisors approved the APA, which was subsequently executed by PAWC and TOS that day too. This APA includes a negotiated purchase price of $9,250,000.

Q. CAN YOU PLEASE PROVIDE AN OVERVIEW OF THE APA?

A. Yes. The APA is attached as **Appendix A-24-a** to the Application **(PAWC Exhibit KEG-1)**. The APA sets forth the terms and conditions pursuant to which the TOS will sell, and PAWC will purchase, the System, as well as substantially all assets, properties and rights

Elizabeth Rose Triscari, Esquire
Pennsylvania-American Water Company
800 West Hersheypark Drive
Hershey, PA 17033
(717) 520-4606
elizabeth.triscari@amwater.com

The Applicant's attorneys are authorized to receive all notices and communications regarding this Application.

6. PAWC is a regulated public utility corporation duly organized and existing under the laws of the Commonwealth of Pennsylvania, and is engaged in the business of collecting, treating, storing, supplying, distributing and selling water to the public, and collecting, treating, transporting and disposing of wastewater for the public. Water and wastewater services are furnished by PAWC to the public in a service territory encompassing more than 400 communities across the Commonwealth with a combined population of over 2,400,000. A description of PAWC's existing certificated water and wastewater service territory is found in **Appendix B**, along with a detailed corporate history, outlining all of the mergers, acquisitions and consolidations, which have created PAWC as it exists on the date of this Application.

7. Steelton is a municipal water authority, organized by the Borough of Steelton in accordance with the Municipality Authorities Act, 53 Pa. C.S. §5601, et seq., with its offices located at 123 North Front Street, Steelton, Pennsylvania. Steelton owns and operates the Steelton System, providing water service to the public in the Borough of Steelton and a portion of Swatara Township (the "Service Area"), in Dauphin County, Pennsylvania.

8. As of November 30, 2018, Steelton furnishes water service to 2,472 customers including 2,289 residential, 124 commercial, 13 industrial, 34 institutional, 11 municipal, and one bulk sales customer connection.

PENNSYLVANIA REAL-TIME NEWS

Steelton water sale closer to completion as Pa. American Water signs $22.5 million agreement

Updated Nov 15, 2018;
Posted Nov 15, 2018

Pennsylvania American Water announced today it signed an agreement to acquire the water assets of the Steelton Borough Authority. Pending regulatory approvals, the sale should be complete by the third quarter of 2019.

1

8
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By Steve Marroni | smarroni@pennlive.com

The sale of Steelton's water system is one step closer to completion.

Pennsylvania American Water announced today it has signed an agreement to acquire the water assets of the Steelton Borough Authority for $22.5 million.

The two will next seek approval of the acquisition from the Pennsylvania Public Utility Commission and other necessary approvals from the Pennsylvania Department of Environmental Protection, according to the company.

Subscribe

Cust No	Name	Customer Type	Group Code	Service No	Description	Unit/Share
)33438358	Morath, Christina	Commercial	None	1	SEWER	1
)33453937	Baeder, William	Commercial	None	1	SEWER	1
)33521786	Sanders, Debra	Commercial	None	1	SEWER	1
)33757653	Advanced Auto Parts	Commercial	None	1	SEWER	1
)34016546	Nelson's Ice Cream	Commercial	None	1	SEWER	1
)34030702	Pitcher, Paul	Commercial	None	1	SEWER	1
)34083232	Beck, Katharine G	Commercial	None	1	SEWER	1
)34862572	LK Miller Properties LLC	Commercial	None	1	SEWER	1
)02939458	Fuhrman, Steve	Commercial	None	1	SEWER	1
)03198199	Sarangpur Realty LLC	Commercial	None	1	SEWER	1
)03373167	Wilhelm, Rosemarie	Commercial	None	1	SEWER	1
)04397982	Pragi Enterprises LLC	Commercial	None	1	SEWER	1
)06085025	Plank Jr, Robert E	Commercial	None	1	SEWER	1
)06197065	LD Hedge Associates LLC	Commercial	None	1	SEWER	1
)06197096	LD Hedge Associates LLC	Commercial	None	1	SEWER	1
)07394708	Fissinger, Matthew	Commercial	None	1	SEWER	1
)07425268	Snyder, Joseph	Commercial	None	1	SEWER	1
)07461417	Varlotta, Michael	Commercial	None	1	SEWER	1
)07487679	CG Complex LLC	Commercial	None	1	SEWER	1
)07519040	Bristol Road Partners Inc.	Commercial	None	1	SEWER	1
)08908308	Superior Credit Union	Commercial	None	1	SEWER	1
)09217890	Hoff Properties LLC	Commercial	None	1	SEWER	1
)10722804	AMA Realty Properties LLC	Commercial	None	1	SEWER	1
)11184863	Attilio, Thomas	Commercial	None	1	SEWER	1
)12032330	310 Chestnut Street LLC	Commercial	None	1	SEWER	1
)13068080	Branch Banking & Trust Company	Commercial	None	1	SEWER	1
)13286185	White, Elaine & Bruce	Commercial	None	1	SEWER	1
)15089717	C&R Property Management LLC	Commercial	None	1	SEWER	1
)15089748	C&R Property Management LLC	Commercial	None	1	SEWER	1
)15292810	Preston, Aaron	Commercial	None	1	SEWER	1
)16240812	Shalom, Jan	Commercial	None	1	SEWER	1
)16276750	Copenhafer, Fay	Commercial	None	1	SEWER	1
)16612479	Donohue, Patrick R	Commercial	None	1	SEWER	1
)17470098	Lewis Group Ltd Partnership	Commercial	None	1	SEWER	1
)17961983	Qawasmy, John	Commercial	None	1	SEWER	1
)18085592	Christman, Lewis	Commercial	None	1	SEWER	1
)18305104	Tarquini Herrera, Rachel	Commercial	None	1	SEWER	1
)18888302	Florence Attilio Rental Acct.	Commercial	None	1	SEWER	1
)18888319	Attilio, Thomas	Commercial	None	1	SEWER	1
)19364687	Conigliaro, Vito	Commercial	None	1	SEWER	1
)21630875	Chesterview Apartments	Commercial	None	1	SEWER	1
)22621041	Main Street Royersford LLC	Commercial	None	1	SEWER	1
)22621096	Spring Mountain Brewing Co	Commercial	None	1	SEWER	1
)23796115	Kassam, Tashir	Commercial	None	1	SEWER	1
)26295581	JD Arnold LLC	Commercial	None	1	SEWER	1
)26393133	Ostebo, Kurt	Commercial	None	1	SEWER	1
		158				

Report Criteria:
Billing.Service No = 1
Customer.Customer Type = Commercial, Industrial, Residential

Report Criteria:
Billing.Service No = 1
Customer.Customer Type = Industrial, Residential

Cust No	Name	Customer Type	Group Code	Service No	Description	Unit/Share
)28611137	Lewis Group Ltd. Partnership	Industrial	None	1	SEWER	1
)28619292	Giftwares Co Inc	Industrial	None	1	SEWER	1
)28619407	Specialty Chemical Systems Inc	Industrial	None	1	SEWER	1
)28619759	Accumetrics Limited	Industrial	None	1	SEWER	1
)28619773	Accumetrics Limited	Industrial	None	1	SEWER	1
)28620339	Nelson's Ice Cream Inc.	Industrial	None	1	SEWER	1
)28620858	American Machine & Tool Co.	Industrial	None	1	SEWER	1
)29486532	A.C. Miller Concrete Company	Industrial	None	1	SEWER	1
)29651213	Borough of Royersford	Industrial	None	1	SEWER	1
)29709754	Royersford Spring Company	Industrial	None	1	SEWER	1
)29784885	Advanced Fluid Systems Inc	Industrial	None	1	SEWER	1
		11				

Cust No	Name	Customer Type	Group Code	Service No	Description	Unit/Share
)25581487	Sakal, Brian J	Residential	None	1	SEWER	1
)25581852	Barbara Berman Ricci	Residential	None	1	SEWER	1
)25590276	Tallman, William	Residential	None	1	SEWER	1
)25596441	Tarantino, Joseph	Residential	None	1	SEWER	1
)25635087	Benson, Merrill G	Residential	None	1	SEWER	1
)25760044	Blamey, Chad & Katrin	Residential	None	1	SEWER	1
)25762972	Whitmore, Andrew	Residential	None	1	SEWER	1
)25807684	Mecca, Jessica	Residential	None	1	SEWER	1
)25824139	Gerber, Jenna	Residential	None	1	SEWER	1
)25859012	Creciun, Peter	Residential	None	1	SEWER	1
)25869156	Seiders, Lester & Monica	Residential	None	1	SEWER	1
)25879108	Chesterview Apartments	Residential	None	1	SEWER	1
)25930898	US Bank NA	Residential	None	1	SEWER	1
)25948684	Findley, Nicole M	Residential	None	1	SEWER	1
)25987108	Craft, Elena	Residential	None	1	SEWER	1
)26021179	John McDonald & Karlyn Eyre	Residential	None	1	SEWER	1
)26043841	Blanche, Camile	Residential	None	1	SEWER	1
)26160869	Hirst, Sharon A	Residential	None	1	SEWER	1
)26161459	John Marlatt & Rebecca Gardner	Residential	None	1	SEWER	1
)26204967	Niemczuk, Joseph W	Residential	None	1	SEWER	1
)26223333	Weiss, Joseph	Residential	None	1	SEWER	1
)26239376	C&R Property Management LLC	Residential	None	1	SEWER	1
)26300278	Millard, Barry & Sheryl	Residential	None	1	SEWER	1
)26310954	Nevin, Sean	Residential	None	1	SEWER	1
)26326843	Davis, Jeff	Residential	None	1	SEWER	1
)26340238	Jacobs, Jamie	Residential	None	1	SEWER	1
)26352002	Slifer, Richard	Residential	None	1	SEWER	1
)26353432	Lynch, Heather	Residential	None	1	SEWER	1
)26380250	Tallman, William	Residential	None	1	SEWER	1
)26381130	Stem, Matt & Heather	Residential	None	1	SEWER	1
)26403078	Petaccio, Andrea	Residential	None	1	SEWER	1
)26630702	O'Donnell, Kaitlyn	Residential	None	1	SEWER	1
)26660253	Ilyas, Asif	Residential	None	1	SEWER	1
)26713911	Hernandez, S & Murphy, M	Residential	None	1	SEWER	1
)26746591	Gieske and Niemann LLC	Residential	None	1	SEWER	1
)26875659	Speck, Erin	Residential	None	1	SEWER	1
)26880804	Raser, Randy	Residential	None	1	SEWER	1
)26909682	Perez, Waldemar & Aracelis	Residential	None	1	SEWER	1
)26969219	Macelwee-Todd, Lisa	Residential	None	1	SEWER	1
		1427				

Report Criteria:
Billing.Service No = 1
Customer.Customer Type = Residential

permitted under Law and the terms of any applicable contract that is a Nonassignable Asset, as agent or subcontractor for Seller, pay, perform and discharge the liabilities and obligations of Seller thereunder from and after the Closing Date, but only to the extent that such liabilities and obligations would be Assumed Liabilities if the applicable consent or approval had been obtained on or before the Closing Date and such Nonassignable Asset had been assigned to Buyer at Closing. To the extent permitted under Law, Seller shall hold in trust for and pay to Buyer promptly upon receipt thereof, such Nonassignable Asset and all income, proceeds and other monies received by Seller with respect to such Nonassignable Asset in connection with the arrangements under this Article II.

(c) If, following the Effective Date and before the Closing, Buyer identifies any contract to which Seller is a party which is not set forth on Schedule 4.15, and Buyer reasonably determines such contract is necessary or useful to the operation of the System, Buyer shall notify Seller of such determination and Seller shall, promptly following receipt of such notice, deliver to Buyer an updated Schedule 4.15 reflecting the addition of such contract, and such contract will be an "Assigned Contract" for all purposes hereunder.

(d) If during the twelve (12) month period following the Closing, Buyer identifies any contract to which Seller was a party as of the Closing and which (i) was not set forth on Schedule 4.15 (as may be updated pursuant to (c)) and (ii) Buyer reasonably believes is necessary or useful to the operation of the System, Seller shall, promptly following Buyer's written request therefor, execute, acknowledge and deliver, or cause to be executed, acknowledged and delivered, such other instruments of conveyance and transfer and other documents, and perform or cause to be performed such further acts, as may be reasonably required to evidence or effectuate, or more fully evidence or effectuate the assignment of such contract to Buyer for no additional consideration, and upon such assignment, such contract is deemed an Assigned Contract for all purposes hereunder.

ARTICLE III.

PURCHASE PRICE

Section 3.01. Purchase Price. The purchase price for the Acquired Assets is Thirteen Million Dollars ($13,000,000) (the "Purchase Price") which Buyer shall pay as follows at Closing:

(a) Buyer shall provide for payment in full of the total amount of Outstanding Indebtedness directly to Seller's obligees on account of the Purchase Price;

(b) Buyer shall pay, subject to any adjustment pursuant to Section 3.01(c), to Seller by wire transfer of immediately available funds the balance of the Purchase Price (remaining after the debt repayment pursuant to Section 3.01(a)) to one or more accounts that Seller designates and provides to Buyer at least three (3) Business Days before the Closing Date; and

(c) Final Billing: The Buyer is entitled to all customer billings with respect to sanitary wastewater customers services for the period on or after the Closing Effective Time, and Seller is entitled to all such billings for the period before the Closing Effective Time. The Parties

Report Criteria:
Service.Service number = 10,16
Group Code.Group code = "A","B","C"
Customer.Final bill date = {IS NULL}
Billing.Temporary disconnect date = {IS NULL}
Billing.Final disconnect date = {IS NULL}

Customer Number	Customer Name	Service Address	Customer Type	Units
10				
UP Commercial				
18011257.01	POTTSTOWN 1257 INC	1257 N CHARLOTTE ST	UP Commercial	2
18011277.01	CONIGLIARO, VITO	1277 N CHARLOTTE ST	UP Commercial	1
18011293.01	BURGER KING #4651	1293 N CHARLOTTE ST	UP Commercial	8
24010861.02	DCM PROPERTY INVESTMENTS LLC	861 WILLOW ST	UP Commercial	1
24010929.01	CREATIVE HEALTH SERVICES	929 WILLOW ST	UP Commercial	4
25100799.01	FULTON FINANCIAL CORP	799 STATE ST - FULTON BANK	UP Commercial	1
41020175.02	POTTSTOWN PLAZA ASSOC C/O COTSWOLD GRO	RENT-A-CENTER #50	UP Commercial	2
41020177.02	POTTSTOWN PLAZA ASSOC C/O COTSWOLD GRO	DOLLAR ADVANTAGE	UP Commercial	2
41020178.02	POTTSTOWN PLAZA ASSOC C/O COTSWOLD GRO	RADIO SHACK #60	UP Commercial	2
41021066.01	GEORGE EVANS	1066 FARMINGTON AVE	UP Commercial	1
41021173.01	SHUKOWITSH, STEVEN & JESSICA	1173 FARMINGTON AVE	UP Commercial	1
41021189.01	ARTIM, ROBERT	1189 FARMINGTON AVE	UP Commercial	1
41021320.01	STROGUS, BARRY	1320 FARMINGTON AVE	UP Commercial	1
41021346.01	AMERICAN METAL FINISHERS	1346 FARMINGTON AVE	UP Commercial	1
41021359.02	BOWERS, TODD	1359 FARMINGTON AVE	UP Commercial	1
41021391.01	MCGINNIS, DENNIS	1361 FARMINGTON AVE	UP Commercial	1
41021393.01	SDM INVESTMENTS LLC	1393 FARMINGTON AVE	UP Commercial	1
41021403.01	ARTIMS AUTOMOTIVE INC	1403 FARMINGTON AVE	UP Commercial	2
41021446.02	1446 FARMINGTON AVE LLC	1446 FARMINGTON AVE	UP Commercial	4
41021507.01	RICHARDSON, GLORIA MAUGER & THOMAS	1507 FARMINGTON AVE	UP Commercial	1
41021525.01	YOUNG, SHANE & KATHY	1525 FARMINGTON AVE	UP Commercial	1
41021587.01	BURGYONE, BARRY	1587 FARMINGTON AVE	UP Commercial	1
Total UP Commercial:				
22				40
UP Mixed Use				
20010875.01	SJW PROPERTIES LLC	875 N HANOVER ST -salon & apts	UP Mixed Use	2
20010933.02	MCGONIGLE, MICHAEL	933 N HANOVER ST	UP Mixed Use	2
20010943.01	STRAUSS, PAUL	943 N HANOVER ST	UP Mixed Use	3
20010955.01	BRODI, GERALD & ELAINE	955 N HANOVER ST	UP Mixed Use	11
21070842.01	DAVIDHEISER, ALLEN & BEVERLY	842 FARMINGTON AVE	UP Mixed Use	1
24010940.01	TOLENTINO, ROBERT & ASUNCION	940 WILLOW ST	UP Mixed Use	3
41050013.01	OLOCK, ANDREW	941 N HANOVER ST	UP Mixed Use	4
Total UP Mixed Use:				
7				26
UP Public				
16030233.01	HOLY TRINITY ORTHODOX CHURCH	1256 JUNIPER ST	UP Public	1
20011351.01	POTTSGROVE SCHOOL DISTRICT - ADMIN BLDG	1351 N HANOVER ST - MULTI	UP Public	30
41230093.01	CHURCH OF LATTER - DAY SAINTS	93 MAUGERS MILL RD	UP Public	1
Total UP Public:				
3				32
UP Residential				
10140863.02	MILLS, LUCAS	863 FARMINGTON AVE	UP Residential	1
10140871.01	POLLOCK, ANTHONY FILLMAN & BRENDA	871 FARMINGTON AVE	UP Residential	1

Customer Number	Customer Name	Service Address	Customer Type	Units
42061525.02	HUTELMYER, JULIA & GREG	1525 CLOVERHILL RD	UP Residential	1
42071000.01	HEATH, TERENCE M & CATHERINE	1000 FALLBROOK LN	UP Residential	1
42071002.02	DAVIS, STEPHEN & KATHRYN	1002 FALLBROOK LN	UP Residential	1
42071004.02	GALLINA, GAETANO	1004 FALLBROOK LN	UP Residential	1
42071006.02	LIANG, JIE LIN & XIUYAN	1006 FALLBROOK LN	UP Residential	1
42071007.01	STEELE, CORTNEY & DANIEL	1007 FALLBROOK LN	UP Residential	1
42071008.02	FENOGLIO, CASEY & RICHARD	1008 FALLBROOK LN	UP Residential	1
42071009.02	SHAW, SCOTT & THERESA	1009 FALLBROOK LN	UP Residential	1
42071010.02	JOHNSON, FRANKLIN & KIMBERLY	1010 FALLBROOK LN	UP Residential	1
42071011.01	HUBBARD, ANNA	1011 FALLBROOK LN	UP Residential	1
42071012.02	DIXON, JULIAN & ERICA	1012 FALLBROOK LN	UP Residential	1
42071013.01	HARISH, BIDADI & LAKSHMI	1013 FALLBROOK LN	UP Residential	1
42071014.02	RICHARDSON, KATRINA	1014 FALLBROOK LN	UP Residential	1
42071015.02	DZIUNYCZ, MATTHEW & EMILY	1015 FALLBROOK LN	UP Residential	1
42071016.02	ISHLER, KARI KLAUS & MICHAEL	1016 FALLBROOK LN	UP Residential	1
42071017.03	CONNER IV, SAMUEL	1017 FALLBROOK LN	UP Residential	1
42071018.01	SHORT, CHRISTOPHER & RONNA	1018 FALLBROOK LN	UP Residential	1
42071019.01	MCPHILLIMEY, MARK & ANN KOREEN	1019 FALLBROOK LN	UP Residential	1
42071020.01	MCWILLIAMS, DAVID & LAURI	1020 FALLBROOK LN	UP Residential	1
42071021.01	RIZZETTO, NINA	1021 FALLBROOK LN	UP Residential	1
42071022.02	PASQUAL, MICHAEL & MARIA	1022 FALLBROOK LN	UP Residential	1
42071024.01	COLLINGS, MARK	1024 FALLBROOK LN	UP Residential	1
42071026.01	GAINES, NICOLE	1026 FALLBROOK LN	UP Residential	1
42071028.02	SPRING HILL REALTY	1028 FALLBROOK LN	UP Residential	1
42071030.03	HOUSEAL JR, JOSEPH & CARA	1030 FALLBROOK LN	UP Residential	1
42071032.03	DAILY, ALBERT & REGINA	1032 FALLBROOK LN	UP Residential	1
42071034.01	FELTENBERGER, CHAD & HEATHER	1034 FALLBROOK LN	UP Residential	1
42071036.02	SOLIVAN, GINA & ADRIAN	1036 FALLBROOK LN	UP Residential	1
42071038.03	THAO, DAVID	1038 FALLBROOK LN	UP Residential	1
42071040.01	JORGENSON, TRISHA & ERICK	1040 FALLBROOK LN	UP Residential	1
42071042.01	KROENING, TERRY	1042 FALLBROOK LN	UP Residential	1
42071044.01	SCHURR, JEFFREY KENT	1044 FALLBROOK LN	UP Residential	1
42071045.01	PURKAYASTHA, DEBASHISH & SUDDATTA	1045 FALLBROOK LN	UP Residential	1
42071046.03	WILLIS, FRANK & FAITH	1046 FALLBROOK LN	UP Residential	1
42071047.02	CONG, MY	1047 FALLBROOK LN	UP Residential	1
42071048.01	HAINES, LARRY & DONNA	1048 FALLBROOK LN	UP Residential	1
42071050.02	MIDDLETON, JAMES	1050 FALLBROOK LN	UP Residential	1
42071052.01	SEMETER, DANIEL	1052 FALLBROOK LN	UP Residential	1
42071513.04	ROMANO, DANIEL & SARA	1513 CLOVER HILL RD	UP Residential	1
42081600.02	GOMEZ, ODETTE	1600 APPLEGATE LN	UP Residential	1
42081601.01	RODRIGUEZ, RUTH & JUAN	1601 APPLEGATE LN	UP Residential	1
42081602.02	EGARIAN, CHRISTOPHER	1602 APPLEGATE LN	UP Residential	1
42081604.01	LAWLOR, CARL & LORETTA	1604 APPLEGATE LN	UP Residential	1
42081606.01	COHEN, SIDNEY & RUTH	1606 APPLEGATE LN	UP Residential	1
42081608.01	ROCHA, WILL & CARMEN	1608 APPLEGATE LN	UP Residential	1
42081609.01	EVANS, GARETH	1609 APPLEGATE LN	UP Residential	1
42081610.01	DUNKEL, CAROL	1610 APPLEGATE LN	UP Residential	1
42081611.02	SORG, GREGORY & TRICIA	1611 APPLEGATE LN	UP Residential	1
42081612.01	MANCINI, MICHAEL & AMIE	1612 APPLEGATE LN	UP Residential	1
42091501.02	HULL, KEVIN & AMY	1501 MAYWOOD LN	UP Residential	1
42091503.02	EPSTEIN, CARL & LINDA	1503 MAYWOOD LN	UP Residential	1
410512005.01	CUTLER, ROBERT & ELIZABETH	2005 PROUT FARM RD	UP Residential	
4102152012.01	SCHAEFFER, JACK & AUDREY	1520 FARMINGTON AVE	UP Residential	1
4152006901.01	BUCK, WILLIAM	69 MICKLITZ DR	UP Residential	1
Total UP Residential: 1,390				1429

Customer Number	Customer Name	Service Address	Customer Type	Units
Total 10:				
1,422				1527
16				
UP Commercial				
10140882.01	DICKENSON, CHARLES	882 FARMINGTON AVE	UP Commercial	2
10140902.01	CMD SERVICES INC	902 FARMINGTON AVE	UP Commercial	3
18011263.02	H & E PALERMO REAL ESTATE	1263 N CHARLOTTE ST	UP Commercial	2
20010863.01	SJW PROPERTIES LLC	871 N HANOVER ST -comm.bldg	UP Commercial	6
41020179.01	APPLEBEES RESTAURANT - ROSE CAS DIN LP	815 STATE ST	UP Commercial	30
41021495.01	KIM, JONG Y & YUN K	1495 FARMINGTON AVE	UP Commercial	3
Total UP Commercial:				
6				46
Total 16:				
6				46
Grand Totals:				
1,428				1573

Report Criteria:
Service.Service number = 10,16
Group Code.Group code = "A","B","C"
Customer.Final bill date = {IS NULL}
Billing.Temporary disconnect date = {IS NULL}
Billing.Final disconnect date = {IS NULL}

https://www.pottsmerc.com/news/upper-pottsgrove-votes-4-1-to-sell-sewer-system-for-13-7m/article_f8f493d8-8408-11ea-8425-07388a90f968.html

FEATURED

Upper Pottsgrove votes 4-1 to sell sewer system for $13.7M

Evan Brandt ebrandt@21st-centurymedia.com @PottstownNews on Twitter
Apr 22, 2020

Upper Pottsgrove Township Commissioner Martin Schreiber, framed in yellow, outlines his objections to the sale of the township's sewer collection system during Monday's online meeting.

Photo from Screenshot

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UPPER POTTSGROVE — Township Commissioners voted 4-1 Monday night to sell the township's sewer collection system for $13.75 million to Pennsylvania American Water.

Commissioners Martin Schreiber cast the lone vote against the sale.

As The Mercury reported on April 8, the presentation provided at four online informational sessions earlier in the month forecast that sewer rates would drop by about 9.6 percent under Pennsylvania American Water ownership.

However, the decrease — from the current $71.87 per month to $65 per month — would be short-lived, according to Bernie Grundusky, senior director for business development for the water company.

A chart he shared as part of the online meetings showed rates would return to the current rate in three or four years after the sale, and then increase annually by an average of 4.5 to 5.2 percent.

By comparison, the township's sewer rates, which have increased in a more haphazard fashion, average out to between 4.6 to 6 percent a year, according to the presentation.

Now that the sale has been approved, the average homeowner will save $1,260 between the time rates were dropped to when they return to their current level, according to the presentation.

The deal must still be approved by the Pennsylvania Public Utility Commission, a process that could take longer than a year to be finalized.

As a result of the vote, PFM Financial Advisors LLC will be paid more than $250,000.

As noted by Commissioners' Chairman Trace Slinkerd, who, prior to the vote, praised the consultants for taking a risk, if the commissioners had voted against the sale, PFM would have been paid only its $7,500 fee for preliminary work.

Scott Shearer, managing director of PFM, insisted during Monday's meeting that the firm "did not make a recommendation. We're not trying to sell this system."

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During the four public information sessions the township staged online, not one negative aspect of the sale was identified. Township Manager Michelle Reddick said the presentations were put together by PFM and the staff.

During those meetings, Slinkerd restricted all interaction to questions from residents, which were mostly answered by the consultants or township staff. He said public comments would be accepted at the April 20 meeting.

When that happened Monday night, the online meeting was attended by more than 50 people.

Eight residents spoke. All but one asked the commissioners to vote against the sale or, even more frequently, delay the vote until next month or later.

Many cited the fact that the Pennsylvania American Water's bid does not expire until June 30, and there is still time to answer residents' questions.

Don Read, a former member of the Pottstown Borough Authority and a current member of the township's sewer committee, was the only person to speak fully in favor of the sale.

As he did at the April 16 meeting, Read said the best reason to sell the system is the risk inherent in running it.

He said the potential capital costs of problems with sewer lines and pump stations, as well as capital costs imposed by the Pottstown Borough Authority, which runs the plant that receives and treats Upper Pottsgrove's sewage, are too big a financial risk for a four-person staff.

"The price is on the high side of what we projected," he said of the winning bid. The other bidder was Aqua America.

"What's another month going to do? It's frustrating to watch people come in at the last hour and ask for a delay," said Read.

He was referring, presumably, to other speakers who said they were unaware of the potential sale of the system until they received a township letter in the mail, a letter which arrived after the first two public information sessions had already occurred.

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"I am imploring you all to take an opportunity to table the vote until the May 20 meeting," said Turnberry Farms resident Stephanie Rowe.

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"This is beneficial in several ways, the first being it allows all residents to be able to digest and question this decision that seems to be on a fast track for a reason that has not been satisfied by any of the presentations that you allowed to happen with little or no response from the board — almost every question was deferred to either PFM or PA American Water," Rowe said.

Darryle Tillman, who appeared in scrubs while caring "for 104 patients, one third to one half of which have COVID-19," also urged a delay.

"This plan has its good points and its bad points, but it is ridiculous to do this in a Zoom meeting in the middle of a pandemic," he said in reference to the on-line platform used for the meeting.

Al Leach, who is also the vice president of the Pottsgrove School Board, also urged a pause.

"I'm sure you've all done your due diligence, but a lot of residents are just finding out about this and would like to see if they can get more involved," Leach said.

"There are a lot of questions that need to get answered, like how the board intends to spend the proceeds, and the open space question," he said.

Although the presentation has identified the proceeds as paying down the sewer system debt; making the pension system whole and paying off general fund and road fund debt, two other proposed uses have raised questions.

One is paying off debt undertaken by the open space fund, which is paid off with a voter-approved earned income tax; and infrastructure improvements to the police station and township offices in the firehouse.

No specific plan for those improvements has been presented as part of the sewer system sale proposal, said resident Doug Kern.

"We have no access to the paperwork, no ability to examine this ourselves," said Kern, who said he did not find out about the proposal until two of the public information sessions had already passed.

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"All I have is a bunch of slides, which changed after almost every meeting, and a lot of 'take-my-word-for-it-answers. It sounds like you have a 90-day window to make a decision," said Kern, urging a delay or a no vote.

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Dustin Schreiber said his research indicates American Water, the parent company of the high bidder, "is owned by a German conglomerate called RFWAG. I'd prefer we support an American company if we sell, and I'm not convinced we should sell."

Hanover Drive resident Keith Plumadore said he sees the sale as a short-term fix for the township's finances. "It's a temporary reprieve from amateur fiscal management. The township did a good job with the (request for proposals) but I see no evidence the township will execute and bring better fiscal governance with the proceeds."

"When I moved here in 2000, the commissioners and the people all worked together," said Leach. "I implore you to at least consider the idea of tabling this motion, It would be so easy to delay this vote so we can get all our ducks in a row and demonstrate transparency we always used to have in this community."

Slinkerd closed public comment and then called on Schreiber to outline the objections he has been posting on his Facebook page and the Turnberry Farms Facebook page.

However, as Schreiber spoke, Slinkerd repeatedly interrupted him, talked over him and told him his points were not relevant to the subject at hand.

"The sewer customers paid for the sewer, if they were stockholders, they should be getting a bonus check, they're getting the short end of the stick," said Schreiber.

"What about people who pay school taxes but don't have any children in the system," Slinkerd interjected. "Should they not be taxed?"

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The areas in green on this map of Upper Pottsgrove show the areas served by the township sewer system.

Official township sewer map

"Everyone has a chance to send to send students to school," Schreiber replied. "What about open space, Martin?" Slinkerd interrupted again. "That's paid with earned income tax, but seniors don't pay that. Should we put signs up telling them they can't use the open space?" Slinkerd asked.

"We taxed ourselves for that," Schreiber started to reply and Slinkerd pressed on. "We don't separate our residents into septic or sewer residents. Are you saying that's the way we should go?"

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As Schreiber tried to raise further points, Slinkerd continued to interrupt him. "That's what you've been doing, going down this rabbit hole trying to dislodge what we're talking about," Slinkerd said.

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"You keep trying to throw things at the wall at the 11th hour to see what sticks to make it seem like you did research," he continued. "You've had a year to think about this stuff."

"Are you going to let me finish?" Schreiber finally asked. "I never stopped you," Slinkerd replied, finally allowing Schreiber to speak uninterrupted.

The other commissioners, Dave Waldt, Cathy Paretti and Renee Spaide all were permitted to speak uninterrupted, except when Schrieber spoke, thinking Paretti was finished with her point.

He apologized for interrupting her and urged her to go on.

The other commissioners joined in disputing Schreiber's points.

Spaide, who has served on the board for many years with Schreiber, read from a prepared statement that noted, in part, "all the commissioners have been involved."

She said she agrees with Read that running the sewer system is a risk. "We have a road crew, not a sewer crew and Pennsylvania American Water does this for a living," said Spaide.

Waldt said he and Paretti "ran on concern about the township's finances. People were very unhappy." He disputed Schreiber's characterization that he was left out of discussions. "We've spent hours on the budget and I never see you. You never participate," said Waldt.

"Dave and I started to get to get acquainted with this while we were running," said Paretti. "We don't have any business running a sewer business. If we keep it, our taxes would rise and the rates would be higher than if we didn't own it."

She added, "I don't wait to be invited into things, I ask for the information I need."

When Schreiber tried to point out he had asked Reddick for information and it took two days to get an answer, the other commissioners leaped to her defense. "Michelle has a lot on her plate," said Paretti.

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"Michelle has done an outstanding job," said Slinkerd.

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Paretti pointec out that while people last night were complaining about having the meeting over Zoom, it had more participants than most in-person township meetings.

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"It's great to see so many people participate. This is not as many as we get at regular meetings. I've had people tell me they like this better," said Paretti. "You're never going to make everyone happy."

But even in a pandemic, "the one thing that can't stop is your government," Paretti said.

After the vote, Slinkerd said the next steps would be discussed at a future meeting.

This article first appeared as a post in The Digital Notebook blog.

> "All I have is a bunch of slides, which changed after almost every meeting, and a lot of 'take-my-word-for-it-answers."
>
> — Doug Kern, Upper Pottsgrove resident

> "This plan has its good points and its bad points, but it is ridiculous to do this in a Zoom meeting in the middle of a pandemic."
>
> — Darryle Tillman, Upper Pottsgrove resident

> "What's another month going to do? It's frustrating to watch people come in at the last hour and ask for a delay."
>
> — Don Read, Upper Pottsgrove Sewer Committee

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> "I am imploring you all to take an opportunity to table the vote until the May 20 meeting."
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> — Stephanie Rowe, Upper Pottsgrove resident

> "You keep trying to throw things at the wall at the 11th hour to see what sticks to make it seem like you did research."
>
> — Trace Slinkerd, Upper Pottsgrove Commissioners chairman

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Evan Brandt
@PottstownNews on Twitter

Evan Brandt has been a staff reporter for The Mercury for more than 20 years. He covers municipal, school district, political, state government, federal government and environmental news.

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Va Township

Bill ID: 20-3-30 Bill Date: 03/30/2020 Due Date: 04/30/2020

Service	Charge	Rate	Current Charge	Prior Due	Total Billed	w\Penalty

Billing Summary By Class

Class	# of Units	# of Accounts	Consumption charges	Fixed charges	Special charges	Unit charges	Taxes	Prior Due	Total	Consumption
CH	0.00	6	$1,903.57	$0.00	$0.00	$0.00	$0.00	$588.17	$2,491.74	0.00
COM	0.00	119	$57,834.48	$0.00	$0.00	$0.00	$0.00	$4,543.43	$62,377.91	1,636.00
DAY	0.00	2	$2,006.87	$0.00	$0.00	$0.00	$0.00	$0.00	$2,006.87	0.00
IND	0.00	13	$11,785.09	$0.00	$0.00	$0.00	$0.00	-$967.10	$10,817.99	27.00
MH	0.00	4	$1,087.76	$0.00	$0.00	$0.00	$0.00	$1,003.61	$2,091.37	0.00
RES	1.00	3,022	$943,941.94	$0.00	$0.00	$0.00	$0.00	$224,214.75	$1,168,156.69	31,458.00
SCH	0.00	3	$4,074.10	$0.00	$0.00	$0.00	$0.00	$0.00	$4,074.10	338.00
Grand Totals	1.00		$1,022,633.81	$0.00	$0.00	$0.00	$0.00	$229,382.86	$1,252,016.67	33,459.00

	Metered Sewer	Sewer	Trash	Water	Total
CH	0.00 0 $0.00 0.00	0.00 6 $1463.00 0.00	0.00 6 $440.57 0.00	0.00 0 $0.00 0.00	0.00 6 $1903.57 0.00
COM	0.00 26 $9447.60 555.00	0.00 90 $41339.82 526.00	0.00 17 $1258.76 0.00	0.00 27 $5788.30 555.00	0.00 119 $57834.48 1,636.00
DAY	0.00 0 $0.00 0.00	0.00 2 $1881.00 0.00	0.00 1 $125.87 0.00	0.00 0 $0.00 0.00	0.00 2 $2006.87 0.00
IND	0.00 0 $0.00 0.00	0.00 12 $11495.00 0.00	0.00 1 $62.94 0.00	0.00 1 $227.15 27.00	0.00 13 $11785.09 27.00
MH	0.00 0 $0.00 0.00	0.00 4 $836.00 0.00	0.00 4 $251.76 0.00	0.00 0 $0.00 0.00	0.00 4 $1087.76 0.00

Appendix A-5.2
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EXHIBIT 23
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Valley Township

Bill ID: 20-3-30 Bill Date: 03/30/2020 Due Date: 04/30/2020

Service	Charge	Rate	Current Charge	Prior Due	Total Billed	w\Penalty

	Metered Sewer	Sewer	Trash	Water	Total
RES	0.00 1,638 $326585.47 15,718.00	0.00 1,344 $274835.00 0.00	1.00 2,741 $178743.69 0.00	0.00 1,641 $163777.78 15,740.00	1.00 3,022 $943941.94 31,458.00
SCH	0.00 2 $2026.80 169.00	0.00 1 $627.00 0.00	0.00 0 $0.00 0.00	0.00 2 $1420.30 169.00	0.00 3 $4074.10 338.00
Total	0.00 1,666 $338059.87 16,442.00	0.00 1,459 $332476.82 526.00	1.00 2,770 $180883.59 0.00	0.00 1,671 $171213.53 16,491.00	1.00 3,169 $1022633.81 33,459.00

Billing Summary By District

District	Accounts	Consumption charges	Fixed charges	Special charges	Unit charges	Total Taxes	Prior Due	Total	Consumption
	98	$31,793.07	$0.00	$0.00	$0.00	$0.00	$7,493.77	$39,286.84	1,308.00
01	227	$89,098.00	$0.00	$0.00	$0.00	$0.00	$11,780.00	$100,878.00	5,375.00
02	180	$66,337.00	$0.00	$0.00	$0.00	$0.00	$7,045.26	$73,382.26	3,734.00
03	373	$140,804.30	$0.00	$0.00	$0.00	$0.00	$12,388.59	$153,192.89	8,152.00
04	128	$45,371.52	$0.00	$0.00	$0.00	$0.00	$3,462.92	$48,834.44	2,402.00
05	79	$29,618.51	$0.00	$0.00	$0.00	$0.00	$1,527.02	$31,145.53	1,676.00
06	507	$168,878.38	$0.00	$0.00	$0.00	$0.00	-$1,009.62	$167,868.76	7,332.00
A	522	$156,120.45	$0.00	$0.00	$0.00	$0.00	$53,216.98	$209,337.43	1,346.00
B	662	$191,212.44	$0.00	$0.00	$0.00	$0.00	$96,144.83	$287,357.27	1,172.00
C	364	$92,570.36	$0.00	$0.00	$0.00	$0.00	$36,930.04	$129,500.40	436.00
EF	9	$3,446.52	$0.00	$0.00	$0.00	$0.00	$91.36	$3,537.88	218.00
WC	20	$7,383.26	$0.00	$0.00	$0.00	$0.00	$311.71	$7,694.97	308.00
Grand Totals		$1,022,633.81	$0.00	$0.00	$0.00	$0.00	$229,382.86	$1,252,016.67	33,459.00

Appendix A-5.2
Page 239 of 503

EXHIBIT 23
Page 58 of 322

(b) Until such time as a Nonassignable Asset is transferred to Buyer pursuant to this Article II, Buyer and Seller shall cooperate in any commercially reasonable and economically feasible arrangements (such as subleasing, sublicensing or subcontracting) to provide to the Parties the economic and, to the extent permitted under Law, operational equivalent of the transfer of such Nonassignable Asset to Buyer at the Closing and the performance by Buyer of its obligations with respect thereto, and so long as Seller transfers and turns over all economic and beneficial rights with respect to each such Nonassignable Asset, Buyer shall, to the extent permitted under Law and the terms of any applicable contract that is a Nonassignable Asset, as agent or subcontractor for Seller, pay, perform and discharge the liabilities and obligations of Seller thereunder from and after the Closing Date, but only to the extent that such liabilities and obligations would be Assumed Liabilities if the applicable consent or approval had been obtained on or before the Closing Date and such Nonassignable Asset had been assigned to Buyer at Closing. To the extent permitted under Law, Seller shall hold in trust for and pay to Buyer promptly upon receipt thereof, such Nonassignable Asset and all income, proceeds and other monies received by Seller with respect to such Nonassignable Asset in connection with the arrangements under this Article II.

(c) If, following the Effective Date and before the Closing, Buyer identifies any contract to which Seller is a party which is not set forth on Schedule 4.13, and Buyer reasonably determines such contract is necessary or useful to the operation of the System, Buyer shall notify Seller of such determination and Seller shall, promptly following receipt of such notice, deliver to Buyer an updated Schedule 4.13 reflecting the addition of such contract, and such contract will be an "Assigned Contract" for all purposes hereunder.

(d) If during the twelve (12) month period following the Closing, Buyer identifies any contract to which Seller was a party as of the Closing and which (i) was not set forth on Schedule 4.13 (as may be updated pursuant to (c)) and (ii) Buyer reasonably believes is necessary or useful to the operation of the System, Seller shall, promptly following Buyer's written request therefor, execute, acknowledge and deliver, or cause to be executed, acknowledged and delivered, such other instruments of conveyance and transfer and other documents, and perform or cause to be performed such further acts, as may be reasonably required to evidence or effectuate, or more fully evidence or effectuate the assignment of such contract to Buyer for no additional consideration, and upon such assignment, such contract is deemed an Assigned Contract for all purposes hereunder.

ARTICLE III.

PURCHASE PRICE AND ADDITIONAL PURCHASE PRICE

Section 3.01. Purchase Price.
The purchase price for the Acquired Assets is Thirteen Million Nine Hundred Fifty Thousand Dollars ($13,950,000) (the "Purchase Price") which Buyer shall pay as follows at Closing:

(a) Buyer shall pay, subject to any adjustment pursuant to Section 3.01(b), to Seller by wire transfer of immediately available funds the Purchase Price (remaining after the payments required in Section 3.01(a)) to one or more accounts that Seller designates and provides to Buyer at least three (3) Business Days before the Closing Date; and

Va Township

Bill ID: 20-3-30 Bill Date: 03/30/2020 Due Date: 04/30/2020

Service	Charge	Rate	Current Charge	Prior Due	Total Billed	w\Penalty

Billing Summary By Class

Class	# of Units	# of Accounts	Consumption charges	Fixed charges	Special charges	Unit charges	Taxes	Prior Due	Total	Consumption
CH	0.00	6	$1,903.57	$0.00	$0.00	$0.00	$0.00	$588.17	$2,491.74	0.00
COM	0.00	119	$57,834.48	$0.00	$0.00	$0.00	$0.00	$4,543.43	$62,377.91	1,636.00
DAY	0.00	2	$2,006.87	$0.00	$0.00	$0.00	$0.00	$0.00	$2,006.87	0.00
IND	0.00	13	$11,785.09	$0.00	$0.00	$0.00	$0.00	-$967.10	$10,817.99	27.00
MH	0.00	4	$1,087.76	$0.00	$0.00	$0.00	$0.00	$1,003.61	$2,091.37	0.00
RES	1.00	3,022	$943,941.94	$0.00	$0.00	$0.00	$0.00	$224,214.75	$1,168,156.69	31,458.00
SCH	0.00	3	$4,074.10	$0.00	$0.00	$0.00	$0.00	$0.00	$4,074.10	338.00
Grand Totals	1.00		$1,022,633.81	$0.00	$0.00	$0.00	$0.00	$229,382.86	$1,252,016.67	33,459.00

	Metered Sewer	Sewer	Trash	Water	Total
CH	0.00 0 $0.00 0.00	0.00 6 $1463.00 0.00	0.00 6 $440.57 0.00	0.00 0 $0.00 0.00	0.00 6 $1903.57 0.00
COM	0.00 26 $9447.60 555.00	0.00 90 $41339.82 526.00	0.00 17 $1258.76 0.00	0.00 27 $5788.30 555.00	0.00 119 $57834.48 1,636.00
DAY	0.00 0 $0.00 0.00	0.00 2 $1881.00 0.00	0.00 1 $125.87 0.00	0.00 0 $0.00 0.00	0.00 2 $2006.87 0.00
IND	0.00 0 $0.00 0.00	0.00 12 $11495.00 0.00	0.00 1 $62.94 0.00	0.00 1 $227.15 27.00	0.00 13 $11785.09 27.00
MH	0.00 0 $0.00 0.00	0.00 4 $836.00 0.00	0.00 4 $251.76 0.00	0.00 0 $0.00 0.00	0.00 4 $1087.76 0.00

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Valley Township

Bill ID: 20-3-30 Bill Date: 03/30/2020 Due Date: 04/30/2020

Service	Charge	Rate	Current Charge	Prior Due	Total Billed	w\Penalty

	Metered Sewer	Sewer	Trash	Water	Total
RES	0.00 1,638 $326585.47 15,718.00	0.00 1,344 $274835.00 0.00	1.00 2,741 $178743.69 0.00	0.00 1,641 $163777.78 15,740.00	1.00 3,022 $943941.94 31,458.00
SCH	0.00 2 $2026.80 169.00	0.00 1 $627.00 0.00	0.00 0 $0.00 0.00	0.00 2 $1420.30 169.00	0.00 3 $4074.10 338.00
Total	0.00 1,666 $338059.87 16,442.00	0.00 1,459 $332476.82 526.00	1.00 2,770 $180883.59 0.00	0.00 1,671 $171213.53 16,491.00	1.00 3,169 $1022633.81 33,459.00

Billing Summary By District

District	Accounts	Consumption charges	Fixed charges	Special charges	Unit charges	Total Taxes	Prior Due	Total	Consumption
	98	$31,793.07	$0.00	$0.00	$0.00	$0.00	$7,493.77	$39,286.84	1,308.00
01	227	$89,098.00	$0.00	$0.00	$0.00	$0.00	$11,780.00	$100,878.00	5,375.00
02	180	$66,337.00	$0.00	$0.00	$0.00	$0.00	$7,045.26	$73,382.26	3,734.00
03	373	$140,804.30	$0.00	$0.00	$0.00	$0.00	$12,388.59	$153,192.89	8,152.00
04	128	$45,371.52	$0.00	$0.00	$0.00	$0.00	$3,462.92	$48,834.44	2,402.00
05	79	$29,618.51	$0.00	$0.00	$0.00	$0.00	$1,527.02	$31,145.53	1,676.00
06	507	$168,878.38	$0.00	$0.00	$0.00	$0.00	-$1,009.62	$167,868.76	7,332.00
A	522	$156,120.45	$0.00	$0.00	$0.00	$0.00	$53,216.98	$209,337.43	1,346.00
B	662	$191,212.44	$0.00	$0.00	$0.00	$0.00	$96,144.83	$287,357.27	1,172.00
C	364	$92,570.36	$0.00	$0.00	$0.00	$0.00	$36,930.04	$129,500.40	436.00
EF	9	$3,446.52	$0.00	$0.00	$0.00	$0.00	$91.36	$3,537.88	218.00
WC	20	$7,383.26	$0.00	$0.00	$0.00	$0.00	$311.71	$7,694.97	308.00
	Grand Totals	$1,022,633.81	$0.00	$0.00	$0.00	$0.00	$229,382.86	$1,252,016.67	33,459.00

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and beneficial rights with respect to each such Nonassignable Asset, Buyer shall, to the extent permitted under Law and the terms of any applicable contract that is a Nonassignable Asset, as agent or subcontractor for Seller, pay, perform and discharge the liabilities and obligations of Seller thereunder from and after the Closing Date, but only to the extent that such liabilities and obligations would be Assumed Liabilities if the applicable consent or approval had been obtained on or before the Closing Date and such Nonassignable Asset had been assigned to Buyer at Closing. To the extent permitted under Law, Seller shall hold in trust for and pay to Buyer promptly upon receipt thereof, such Nonassignable Asset and all income, proceeds and other monies received by Seller with respect to such Nonassignable Asset in connection with the arrangements under this Article II.

(c) If, following the Effective Date and before the Closing, Buyer identifies any contract to which Seller is a party which is not set forth on Schedule 4.13, and Buyer reasonably determines such contract is necessary or useful to the operation of the System, Buyer shall notify Seller of such determination and Seller shall, promptly following receipt of such notice, deliver to Buyer an updated Schedule 4.13 reflecting the addition of such contract, and such contract will be an "Assigned Contract" for all purposes hereunder.

(d) If during the twelve (12) month period following the Closing, Buyer identifies any contract to which Seller was a party as of the Closing and which (i) was not set forth on Schedule 4.13 (as may be updated pursuant to (c)) and (ii) Buyer reasonably believes is necessary or useful to the operation of the System, Seller shall, promptly following Buyer's written request therefor, execute, acknowledge and deliver, or cause to be executed, acknowledged and delivered, such other instruments of conveyance and transfer and other documents, and perform or cause to be performed such further acts, as may be reasonably required to evidence or effectuate, or more fully evidence or effectuate the assignment of such contract to Buyer for no additional consideration, and upon such assignment, such contract is deemed an Assigned Contract for all purposes hereunder.

ARTICLE III.

PURCHASE PRICE AND ADDITIONAL PURCHASE PRICE

Section 3.01. Purchase Price.

The purchase price for the Acquired Assets is Seven Million Three Hundred Twenty-Five Thousand Dollars ($7,325,000) (the "Purchase Price") which Buyer shall pay as follows at Closing:

(a) Buyer shall pay, subject to any adjustment pursuant to Section 3.01(b) and to release Liens, to Seller by wire transfer of immediately available funds the Purchase Price to one or more accounts that Seller designates and provides to Buyer at least three (3) Business Days before the Closing Date; and

(b) Final Billing: The Buyer is entitled to all customer billings with respect to drinking water customers services for the period on or after the Closing Effective Time, and Seller is entitled to all such billings for the period before the Closing Effective Time. The Parties

respect thereto, and so long as Seller or the City transfers and turns over all economic and beneficial rights with respect to each such Nonassignable Asset, Buyer shall, to the extent permitted under applicable Law and the terms of any applicable contract that constitutes a Nonassignable Asset, as agent or subcontractor for Seller or the City, pay, perform and discharge the Liabilities and obligations of Seller thereunder from and after the Closing Date, but only to the extent that such liabilities and obligations would constitute Assumed Liabilities if the applicable consent or approval had been obtained on or prior to the Closing Date and such Nonassignable Asset had been assigned to Buyer at Closing. To the extent permitted under applicable Law, Seller or the City shall, at Seller's or the City's expense, hold in trust for and pay to Buyer promptly upon receipt thereof, such Nonassignable Asset and all income, proceeds and other monies received by Seller with respect to such Nonassignable Asset in connection with the arrangements under this Article II.

(c) If, following the Effective Date and prior to the Closing, Buyer identifies any contract to which Seller or the City is a party which is not identified on Schedule 4.15 as an Assigned Contract as of the Effective Date, and Buyer reasonably determines such contract is necessary to the operation of the System, Buyer shall give notice of such determination to Seller or the City and Seller or the City shall, promptly following receipt of such notice, deliver to Buyer an updated Schedule 4.15 identifying such contract, and such contract shall thereafter constitute and be deemed an Assigned Contract for all purposes hereunder.

(d) In the event that, during the twelve (12) month period following the Closing, Buyer identifies any contract to which Seller or the City was a party as of the Closing and which (i) was not set forth on or properly identified on Schedule 4.15 (as may be updated pursuant to (c)) and (ii) Buyer reasonably believes is necessary to the operation of the System, Seller or the City shall, promptly following Buyer's written request therefor, execute, acknowledge and deliver, or cause to be executed, acknowledged and delivered, such other instruments of conveyance and transfer and other documents, and perform or cause to be performed such further acts, as may be reasonably required to evidence or effectuate, or more fully evidence or effectuate the assignment of such contract to Buyer for no additional consideration, and upon such assignment, such contract shall be deemed an Assigned Contract for all purposes hereunder.

ARTICLE III.

PURCHASE PRICE

Section 3.01 Purchase Price; Agreement Proposal Security.

(a) **Purchase Price for the Assets; Adjustment for City Deposit.** Subject to the terms and conditions of this Agreement, the purchase price ("**Purchase Price**") for the Acquired Assets shall be (i) $235,000,000, *plus* (ii) the Average Daily AR Payment. The Purchase Price shall be delivered as follows:

(i) Within 60 days of the Effective Date, Buyer shall deposit Twenty Million Dollars ($20,000,000) of the Purchase Price, payable to the City in immediately available funds ("**City Deposit**"), subject to Sections 4.03, 6.06, 9.05 and 13.02 and secured by the City with a tax and revenue anticipation note (the "**Deposit Note**") substantially in the form attached hereto as Exhibit A; and

Application of Pennsylvania-American Water Company for the Acquisition of the Wastewater Collection and Treatment System Owned by the York City Sewer Authority (the "Authority") and Operated by the City of York (the "City") (collectively "York")

66 Pa. C.S. § 1329
Application Filing Checklist – Water/Wastewater
Docket No. A-2021-3024681

17. Customers.

a. State the seller's actual number of customers by class and quantify the related consumption or gallons treated in the current calendar year and future number of connections anticipated for the next 10 years.

RESPONSE:

a. As of April 2021, York provided direct wastewater service to approximately 13,747 customers and seven bulk customers:

1. Manchester Township
2. West Manchester Township
3. York Township
4. North York Borough
5. The York Water Company (owner of the West York Borough Collection System)
6. Spring Garden Township
7. Springettsbury Township

The York does not differentiate by customer class.

Consumption (annual):

Based on 2020 monthly average flow data from the 2020 Chapter 94 Report, the annual gallon treated is 3,341,575,000 gallons, inclusive of the seven bulk customers' sewage.

Please refer to **Appendix A-20-c,** Chapter 94 Report for future EDU projections.

Appendix A-17-a

	York, PA Data & Demographics (As of July 1, 2020)	Township Of Manchester Data & Demographics (As of July 1, 2020)	North York, PA Data & Demographics (As of July 1, 2020)	Township Of Spring Garden Data & Demographics (As of July 1, 2020)	Township Of West Manchester Data & Demographics (As of July 1, 2020)	West York, PA Data & Demographics (As of July 1, 2020)	Township Of York Data & Demographics (As of July 1, 2020)
POPULATION							
Total Population	45,431 (100%)	19,023	2,123 (100%)	13,128	19,211	4,888 (100%)	29,228
Population in Households	44,277 (97.5%)	18,887	2,105 (99.2%)	11,033	18,869	4,888 (100.0%)	28,964
Population in Families	32,103 (70.7%)	16,281	1,537 (72.4%)	9,141	15,010	3,513 (71.9%)	23,148
Population in Group Quarters[1]	1,154 (2.5%)	136	18 (0.8%)	2,095	342	0	264
Population Density	8,583	1,198	6,961	1,941	963	9,307	1,158
Diversity Index[2]	85	39	61	30	31	57	31
INCOME							
Median Household Income	$31,354	$81,734	$43,955	$82,974	$61,253	$44,169	$68,134
Average Household Income	$43,670	$106,345	$55,262	$121,726	$76,342	$55,513	$92,430
% of Income for Mortgage[4]	11%	11%	9%	9%	12%	10%	13%
Per Capita Income	$16,097	$39,859	$21,861	$42,029	$32,321	$22,952	$39,265
Wealth Index[5]	31	139	40	190	80	40	119
HOUSING							
Total HU (Housing Units)	19,268 (100%)	7,413 (100%)	918 (100%)	4,777 (100%)	8,555 (100%)	2,143 (100%)	12,937 (100%)
Owner Occupied HU	6,444 (33.4%)	6,219 (83.9%)	438 (47.7%)	3,903 (81.7%)	6,214 (72.6%)	1,084 (50.6%)	8,495 (65.7%)
Renter Occupied HU	10,244 (53.2%)	909 (12.3%)	402 (43.8%)	605 (12.7%)	1,908 (22.3%)	937 (43.7%)	3,917 (30.3%)
Vacant Housing Units	2,580 (13.4%)	285 (3.8%)	78 (8.5%)	269 (5.6%)	433 (5.1%)	122 (5.7%)	525 (4.1%)
Median Home Value	$80,655	$208,273	$90,676	$186,383	$172,881	$108,753	$206,026
Average Home Value	$98,157	$236,145	$105,638	$251,006	$199,513	$119,373	$260,636
Housing Affordability Index[3]	159	188	227	204	162	186	147
HOUSEHOLDS							
Total Households	16,688	7,128	840	4,508	8,122	2,021	12,412
Average Household Size	2.65	2.65	2.51	2.45	2.32	2.42	2.33
Family Households	9,494	5,306	490	3,168	5,271	1,134	8,049
Average Family Size	3	3	3	3	3	3	3

system at an agreed-upon price of $53,000,000.[9] Thereafter, Aqua and the Township agreed to use the process presented in Section 1329 of the Code to determine the FMV of the wastewater system assets and the ratemaking rate base. As required by Section 1329, Aqua and LMT jointly retained the services of Ebert Engineering, Inc., Consulting Engineers (Ebert) to complete the engineering assessment and original cost estimate of the wastewater system (Assessment of Tangible Property). Aqua St. 1 at 20; Application at ¶ 11. Aqua selected Gannett Fleming, and the Township selected AUS, as their respective UVEs to prepare FMV appraisals of the wastewater system. Application at ¶ 53. Gannett Fleming's FMV report concluded that the value of the wastewater system was $55,505,000; AUS' FMV was $54,430,591. Application Exhs. Q and R. Both appraisals were prepared in compliance with the USPAP standards. Application at ¶ 61; Application Exhs. T1 and T2.

In its Application, Aqua proposed a ratemaking rate base of $53,000,000 based on the agreed-to purchase price of $53,000,000. This amount is less than the average of the two UVE appraisals for the wastewater system (($55,505,000 + $54,430,591)/2 = $54,967,796). OCA M.B. at 6; *See* 66 Pa. C.S. § 1329(c)(2).

In addition, Aqua is seeking approval of the APA with LMT. Application Exh. B. The APA requires Aqua to implement rates that are no higher than the Township's rates in effect at closing. Application Exh. B at Section 7.04. The APA also provides that Aqua intends to bill customers on a monthly basis instead of an annual basis. *Id*. Moreover, in accordance with Section 1102 of the Code, Aqua is requesting a Certificate in order to provide wastewater services to the Township customers. Application at ¶ 5. Separate customer notices were sent to the Township customers and

[9] All assets are located in the Township except for a portion of a main that collects wastewater from a small segment of residents in Yardley Borough. The main is located on University Blvd. and is owned by LMT which loops into, then out of, Yardley Borough. The residents in Yardley Borough that are connected to this main are billed by Yardley Borough. Application at 3.

adopted without comment unless they are either expressly or by necessary implication rejected or modified by this Opinion and Order.

As we proceed in our review of the various positions of the Parties in this proceeding, we are reminded that the Commission is not required to consider expressly or at length each contention or argument raised by the parties. *Consolidated Rail Corp. v. Pa. PUC*, 625 A.2d 741 (Pa. Cmwlth. 1993); *also see*, *generally, University of Pennsylvania v. Pa. PUC*, 485 A.2d 1217 (Pa. Cmwlth. 1984). Exceptions that we do not specifically address shall be deemed to have been duly considered and denied without further discussion.

III. Transaction Overview

Aqua is a certificated provider of wastewater service, duly organized and existing under the laws of the Commonwealth of Pennsylvania. Aqua provides wastewater service to approximately 45,000 customer accounts in various counties throughout Pennsylvania including parts of Bucks County. Application at ¶ 7.

LMT owns a sanitary wastewater collection system operated by the Municipal Sewer Authority of the Township of Lower Makefield, which provides direct wastewater service to 11,151 customers in the Township. Application at ¶ 8; Aqua St. 2 at 10. LMT does not own a wastewater treatment plant. Wastewater treatment is mainly provided by the Municipal Authority of the Borough of Morrisville and also by Yardley Borough Sewer Authority. Application at ¶ 15.

On September 17, 2020, Aqua and LMT entered into an APA for the sale of substantially all of the assets, properties, and rights related to the Township's wastewater

Township Of Lower Makefield Data & Demographics (As of July 1, 2020)

POPULATION

Total Population	33,219 (100%)
Population in Households	33,004 (99.4%)
Population in Families	29,270 (88.1%)
Population in Group Quarters[1]	215 (0.6%)
Population Density	1,859
Diversity Index[2]	31

INCOME

Median Household Income	$150,466
Average Household Income	$195,168
% of Income for Mortgage[4]	13%
Per Capita Income	$72,302
Wealth Index[5]	302

HOUSING

Total HU (Housing Units)	12,638 (100%)
Owner Occupied HU	10,628 (84.1%)
Renter Occupied HU	1,677 (13.3%)
Vacant Housing Units	333 (2.6%)
Median Home Value	$464,690
Average Home Value	$496,307
Housing Affordability Index[3]	153

HOUSEHOLDS

Total Households	12,305
Average Household Size	2.68
Family Households	9,462
Average Family Size	3

On the Effective Date, Buyer shall provide a Letter of Credit in the amount of Three Million Dollars ($3,000,000) issued by PNC Bank in favor of Seller (the "Letter of Credit"), substantially in the form attached hereto as **Exhibit C**.

Section 3.02 **Escrow Amounts.**

At Closing, two escrows will be established:

(a) First, Nine Million Two Hundred Thousand Dollars ($9,200,000) of the Purchase Price shall be deposited in escrow (the "Indemnity Escrow Fund") with the Escrow Agent pursuant to an escrow agreement in the form of **Exhibit B-1**, by and among the Seller, the Buyer, and the Escrow Agent (the "Indemnity Escrow Agreement") to provide for Seller's post-Closing obligations pursuant to Article VIII. The Indemnity Escrow Fund shall be released in accordance with the Indemnity Escrow Agreement. After the Closing Date and notwithstanding any other provision of this Agreement, the Indemnity Escrow Fund is Buyer's sole recourse with respect to providing for Seller's post-Closing obligations pursuant to Article VIII.

(b) Second, an amount to be determined according to Section 6.05(d) to be credited at Closing against the Purchase Price shall be deposited in escrow (the "Easement Escrow Fund") with the Escrow Agent pursuant to an escrow agreement in the form of **Exhibit B-2**, by and among the Seller, the Buyer, and the Escrow Agent (the "Easement Escrow Agreement") to provide for any amounts determined in accordance with Section 6.05(d). The Easement Escrow Fund shall be released in accordance with the Easement Escrow Agreement. After the Closing Date and notwithstanding any other provision of this Agreement, the Easement Escrow Fund is Buyer's sole recourse with respect to Seller's obligations pursuant to Section 6.05(d). The Easement Escrow Agreement together with the Indemnity Escrow Agreement shall hereinafter sometimes be collectively referred to as the "Escrow Agreements".

Section 3.03. **Purchase Price and Adjustments to Purchase Price**

The purchase price for the Acquired Assets shall be Two Hundred Thirty-One Million Five Hundred Thousand Dollars ($231,500,000) (the "Purchase Price"). The Purchase Price shall be adjusted as follows:

(a) Final Billing: The Buyer is entitled to all customer billings with respect to sanitary wastewater customers services for the period on or after the Closing Effective Time, and the Seller is entitled to all such billings prior to the Closing Effective Time. The Parties shall cooperate to calculate an agreed upon proration of billing amounts and to credit the Purchase Price for the appropriate Party on the Closing Date. To the extent that either Party collects billings that are attributable to service provided by the other Party, the Party holding the other Party's billing collections shall pay such amount to the other Party.

Section 3.04. **Payment of Purchase Price**

The Purchase Price shall be paid by wire transfer of immediately available funds as follows at Closing:

Walker, Harold, III

From: Duane McKee <dmckee@basapa.org>
Sent: Friday, January 27, 2023 10:54 AM
To: Walker, Harold, III; Melillo, Sydney; Wyatt, Thomas
Cc: Olesh, Matthew; Norcross, Nicole
Subject: RE: BASA

[EXTERNAL EMAIL]: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

I received this information from PAWC on Monday. The revised Act 537 plan being prepared by PAWC lists 23,211 EDU's.

Thanks for your patience while I confirmed. If you need anything else, please let me know.

Customer count:
Total active customers = 14,699
Residential = 13,617
Commercial = 915
Industrial = 31
Public = 136
(The total customer list including inactive is 15,497 but we will not be using that number in testimony or the application.)

EDUs: no mention in testimony

System flows: From Dan Hufton's testimony "The plant has a design and permitted average daily flow capacity of 10.0 million gallons per day ("MGD"), a rated maximum flow capacity of 28.0 MGD."

Duane

Duane E. McKee
Executive Director
Butler Area Sewer Authority (BASA)
100 Litman Road
Butler, PA 16001
(p) 724-282-1978 ext. 111, (f) 724-282-7656
dmckee@basapa.org

such notice, deliver to Buyer an updated Schedule 4.15 identifying such contract, and such contract shall thereafter constitute and be deemed an Assigned Contract for all purposes hereunder.

(d) In the event that, during the twelve (12) month period following the Closing Date, Buyer identifies any contract to which the Seller and/or Municipality was a party as of the Closing and which (i) was not set forth on or properly identified on Schedule 4.15 (as may be updated pursuant to (c)) and (ii) Buyer reasonably believes is necessary to the operation of the System, the Seller and/or Municipality shall, promptly following Buyer's written request therefor, execute, acknowledge and deliver, or cause to be executed, acknowledged and delivered, such other instruments of conveyance and transfer and other documents, and perform or cause to be performed such further acts, as may be reasonably required to evidence or effectuate, or more fully evidence or effectuate the assignment of such contract to Buyer for no additional consideration, and upon such assignment, such contract shall be deemed an Assigned Contract for all purposes hereunder.

Section 2.07. **Seller Approval of Agreement**.

(a) The execution of this Agreement by Municipality and Buyer shall constitute a binding agreement between those two Parties, notwithstanding the absence of Seller's execution of this Agreement.

(b) Upon Seller's approval of this Agreement, Seller shall deliver an executed counterpart signature page and shall, within thirty (30) days following such approval by Seller, provide updated Disclosure Schedules with all information required to make such Disclosure Schedules accurate and complete.

(c) Unless and until Seller approves this Agreement, Municipality shall enjoy all of the rights of Seller and Municipality shall be responsible for and discharge all of the obligations of Seller under this Agreement and shall be liable for any breaches of Seller's representations, warranties and covenants hereunder.

ARTICLE III.

PURCHASE PRICE AND ADDITIONAL CONSIDERATION

Section 3.01. **Purchase Price and Additional Consideration**

. The purchase price for the Acquired Assets shall be Twelve Million Dollars ($12,000,000) (the "Purchase Price") which shall be paid as follows at Closing:

(a) Buyer shall provide for the payment in full the total amount of Outstanding Indebtedness on account of the Purchase Price; and

(b) Subject to any adjustment in Purchase Price resulting from the proration procedures set forth in Section 3.01(c), Buyer shall pay to the Seller at Closing by wire transfer of immediately available funds the balance of the Purchase Price to one or more accounts that Seller designates and provides to Buyer at least three (3) Business Days prior to the Closing Date.

Address Type	Customers	Unique EDU's	Usage	Avg. Usage	Billed EDU's	Dollars	Avg. Dollars	Non-Meter Dollars
Commercial	200	322	14,554,000	6,974	3369	197,758.01	94.76	17,118.50
Industrial	5	5	19,125,000	318,750	60	63,051.78	1,050.86	60
Public	39	41	22,861,000	53,917	448	92,992.60	219.32	1,688.48
Residential	2652	2917	95,855,419	8,949	13208	1,506,066.39	140.61	57,287.55
Unknown	3	3	1,242,000	44,357	28	6,054.92	216.25	12
Water Totals	2899	3288	153,637,419		17113	1,865,923.70		76,166.53

Water Usage Detail

Address Type	Account Status	Account #	Account Name	Service House Number	Service Street Name	Service City	Service State	Service Zip
Commercial	Active	20701200-0	CONSTANCE ANCZARSKI	312	S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	20702000-7	FRANCISCO SANTANA TRONCOSO & ROBIN PEREZ	401	-401 1/2 S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	20706900-0	PAUL G JORDAN	343	-341 S WEST,109 W LR	SHENANDOAH	PA	17976
Commercial	Active	20712500-0	JOSEPH ANCZARSKI	313	S FERGUSON ST	SHENANDOAH	PA	17976
Commercial	Active	20712550-0	JOSEPH ANCZARSKI	315	S FERGUSON ST	SHENANDOAH	PA	17976
Commercial	Active	20800100-0	MARITZA PERALTA	22	W CENTRE ST	SHENANDOAH	PA	17976
Commercial	Active	20800300-0	ADOLFO LUNA	30	W CENTRE ST	SHENANDOAH	PA	17976
Commercial	Active	20800500-0	DENISE BRATHWAITE	5	S JARDIN ST, APT 3	SHENANDOAH	PA	17976
Commercial	Active	20800900-0	JENNIFER WAITHE	9	S JARDIN ST	SHENANDOAH	PA	17976
Commercial	Active	20803900-0	VERIZON	221	S JARDIN ST	SHENANDOAH	PA	17976
Commercial	Active	20806600-0	WALUKIEWICZ ORAVITZ	132	S JARDIN ST	SHENANDOAH	PA	17976
Commercial	Active	20807000-1	JESSE GOMEZ	122	S JARDIN ST	SHENANDOAH	PA	17976
Commercial	Active	20807100-0	LEROY KNAPP, JR	120	S JARDIN ST	SHENANDOAH	PA	17976
Commercial	Active	20807300-0	FALGUNI PATEL	114	S JARDIN ST	SHENANDOAH	PA	17976
Commercial	Active	20808500-0	VALERIE REINMILLER	30	S JARDIN ST	SHENANDOAH	PA	17976
Commercial	Active	20809800-0	JAMES VEGHTE	101	-103 W CENTRE ST	SHENANDOAH	PA	17976
Commercial	Active	20810400-0	BEVERLY BLACKWOOD	14	N JARDIN ST	SHENANDOAH	PA	17976
Commercial	Active	20810900-0	STEPHEN TOTH	28	N JARDIN ST	SHENANDOAH	PA	17976
Commercial	Active	20811300-0	ORAVITZ FUNERAL HOME	40	N JARDIN ST	SHENANDOAH	PA	17976
Commercial	Active	20813400-0	JOSE LUIZ PEREZ	108	W COAL ST 1ST FL	SHENANDOAH	PA	17976
Commercial	Active	20821400-0	KATHY BOYLE	208	N MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	20824100-0	HALINA LITTLE	33	N JARDIN ST	SHENANDOAH	PA	17976
Commercial	Active	20900700-0	ANTONIO ZAMUDIO	231	N WEST ST	SHENANDOAH	PA	17976
Commercial	Active	20920300-0	ERIDANIA PEREZ	227	W COAL ST	SHENANDOAH	PA	17976
Commercial	Active	20921500-0	ROGER BETZ	226	W COAL ST	SHENANDOAH	PA	17976
Commercial	Active	21008300-0	GRISELDA M VELEON	218	W OAK ST	SHENANDOAH	PA	17976
Commercial	Active	41104600-0	FRANK MALOCU	609	W WASHINGTON ST	SHENANDOAH	PA	17976
Commercial	Active	41123400-0	FRANK HAIGLER	413	W COAL ST-GARAGE	SHENANDOAH	PA	17976
Commercial	Active	41130550-0	ROBERT SCHLACK	630	W COAL ST	SHENANDOAH	PA	17976
Commercial	Active	41131200-0	JOSE ULLOA	645	W COAL ST	SHENANDOAH	PA	17976
Commercial	Active	41131200-0	JOSE ULLOA	645	W COAL ST	SHENANDOAH	PA	17976
Commercial	Active	41144800-0	GLOVERS HILL ATH CLU	938	W PENN ST	SHENANDOAH	PA	17976
Commercial	Active	41204800-0	HAROLL MEREGILDO	509	W CENTRE ST	SHENANDOAH	PA	17976
Commercial	Active	90100100-0	BRIAN GROSE	23	N FERGUSON ST	SHENANDOAH	PA	17976
Commercial	Active	90100120-0	JAMESTOWN TRUST	34	N FERGUSON ST	SHENANDOAH	PA	17976
Commercial	Active	90100150-0	GROSE CHIROPRACTIC P.C.	24	N MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90100200-0	OMAR VERAS	22	N MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90100500-3	FROILAN & EDELENI FABIAN	21	W OAK ST	SHENANDOAH	PA	17976
Commercial	Active	90100900-2	EDUC ZAMUDIO & FLOR ESTELA GOMEZ	116	S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90101000-0	TURKEY HILL #123	128	-130 S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90101200-0	TOM GWINN	10	-16 W CHERRY ST	SHENANDOAH	PA	17976
Commercial	Active	90101400-0	MICHELE PRYZBILIK	210	S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90101600-0	JOSEPH ANCZARSKI	216	-218 S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90101650-0	JOSEPH ANCZARSKI	226	S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90101700-0	JOSEPH ANCZARSKI	226	S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90102000-0	HANS DEIBEL	316	S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90102100-0	DAVID KARPOVICH	324	S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90102200-0	HAIR DESIGNS BY ROSE	330	S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90102300-0	KOWALONEK'S KIELBASY	332	S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90102800-4	PREETI CORPORATION	415	S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90103000-0	CARROLS LLC #1047	331	S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90103300-0	EDWARD BOKANAVAGE	225	S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90103600-0	GR SHEN HIST SOC	201	S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90104210-0	JOSEPHINE RAINIS	129	S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90104500-0	MICHAEL BRESLOSKY	123	S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90104600-0	THE PIZZA SHOP	121	S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90104700-0	TINA LEWANDOWSKI	119	S MAIN ST, 3 APTS	SHENANDOAH	PA	17976
Commercial	Active	90104800-0	RANDALL J MISKE	117	S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90104900-8	GBU IMPROVEMENTS, LLC	113	S MAIN ST	SHENANDOAH	PA	17976
Commercial	Active	90105800-1	STEPHEN KOVAL	119	E OAK ST	SHENANDOAH	PA	17976

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PART I

Item 1. Business

This annual report on Form 10-K is a combined report being filed by two separate Registrants, American States Water Company ("AWR") and Golden State Water Company ("GSWC"). References in this report to "Registrant" are to AWR and GSWC, collectively, unless otherwise specified. GSWC makes no representations as to the information contained in this report relating to AWR and its subsidiaries, other than GSWC.

AWR makes its periodic reports, Form 10-Q and Form 10-K, and current reports, Form 8-K, available free of charge through its website, www.aswater.com, as soon as material is electronically filed with or furnished to the Securities and Exchange Commission ("SEC"). Such reports are also available on the SEC's website at www.sec.gov. AWR also makes available free of charge its code of business conduct and ethics, its corporate governance guidelines and the charters of its Nominating and Governance Committee, Compensation Committee and Audit and Finance Committee through its website or by calling (877) 463-6297. AWR and GSWC have filed the certification of officers required by Section 302 of the Sarbanes-Oxley Act as Exhibits 31.1 and 31.2 to this Form 10-K for fiscal 2022.

Overview

AWR is the parent company of GSWC, Bear Valley Electric Service, Inc. ("BVESI") and American States Utility Services, Inc. ("ASUS") (and its wholly owned subsidiaries: Fort Bliss Water Services Company ("FBWS"), Terrapin Utility Services, Inc. ("TUS"), Old Dominion Utility Services, Inc. ("ODUS"), Palmetto State Utility Services, Inc. ("PSUS"), Old North Utility Services, Inc. ("ONUS"), Emerald Coast Utility Services, Inc. ("ECUS") and Fort Riley Utility Services, Inc. ("FRUS")). On July 1, 2020, GSWC completed the transfer of the electric utility assets and liabilities from its electric division to BVESI, in exchange for common shares of BVESI. GSWC then immediately distributed all of BVESI's common shares to AWR, whereupon BVESI became wholly owned directly by AWR. This reorganization did not result in any substantive changes to AWR's operations and business segments.

AWR has three reportable segments: water, electric and contracted services. Within the segments, AWR has three principal business units, water and electric service utility operations conducted through its regulated utilities GSWC and BVESI, respectively, and contracted services conducted through ASUS and its subsidiaries. FBWS, TUS, ODUS, PSUS, ONUS, ECUS and FRUS may be referred to herein collectively as the "Military Utility Privatization Subsidiaries."

GSWC is a public water utility engaged in the purchase, production, distribution and sale of water in 10 counties in the state of California. GSWC is regulated by the California Public Utilities Commission ("CPUC"). BVESI is a public electric utility that distributes electricity in several San Bernardino County mountain communities in California, and is also regulated by the CPUC. Additional information regarding public utility regulation is discussed in Item 7. *"Management's Discussion and Analysis of Financial Condition" and Results of Operations"* under the section titled *"Regulatory Matters."*

AWR's regulated utilities served 263,265 water customers and 24,705 electric customers at December 31, 2022, or a total of 287,970 customers, compared with 262,770 water customers and 24,656 electric customers at December 31, 2021, or a total of 287,426 customers. Both GSWC's and BVESI's operations exhibit seasonal trends. Although both have diversified customer bases, residential and commercial customers account for the majority of water and electric sales and revenues. Revenues derived from commercial and residential customers accounted for approximately 90% of total water and electric revenues for the years ended December 31, 2022, 2021 and 2020.

ASUS, through the Military Utility Privatization Subsidiaries, has contracted with the U.S. government to provide water and/or wastewater services at various military installations. ASUS operates, maintains and performs construction activities (including renewal and replacement capital work) on water and/or wastewater systems at various U.S. military bases pursuant to an initial 50-year firm, fixed price contract and additional firm, fixed-price contracts. Each of the contracts with the U.S. government is subject to termination, in whole or in part, prior to the end of its 50-year term for convenience of the U.S. government or as a result of default or nonperformance by the ASUS subsidiary performing the contract. The price for each of these contracts is subject to annual economic price adjustments. Contracts are also subject to modifications for changes in circumstances, changes in laws and regulations, and additions to the contract value for new construction of facilities at the military bases. AWR guarantees performance of ASUS's military privatization contracts.

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Pursuant to the terms of the 50-year contract with the U.S. government, the Military Utility Privatization Subsidiaries operate the following water and wastewater systems:

Subsidiary	Military Base	Type of System	Location
FBWS	Fort Bliss	Water and Wastewater	Texas and New Mexico
TUS	Joint Base Andrews	Water and Wastewater	Maryland
ODUS	Fort Lee	Wastewater	Virginia
ODUS	Joint-Base Langley Eustis and Joint Expeditionary Base Little Creek-Fort Story	Water and Wastewater	Virginia
PSUS	Fort Jackson	Water and Wastewater	South Carolina
ONUS	Fort Bragg, Pope Army Airfield and Camp Mackall	Water and Wastewater	North Carolina
ECUS	Eglin Air Force Base	Water and Wastewater	Florida
FRUS	Fort Riley	Water and Wastewater Collection and Treatment	Kansas

Certain financial information for each of AWR's business segments - water distribution, electric distribution, and contracted services - is set forth in Note 17 to the Note Consolidated Financial Statements of American States Water Company and its subsidiaries. While AWR's water and electric utility segments are not dependent upon a single or only a few

(a) Includes water revenues from public authorities and other utilities and community water systems under bulk contracts.

(b) Includes other operating revenues consisting primarily of miscellaneous utility charges, fees and rents.

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Presented in the table below is the number of water and wastewater customers the Company served by class as of December 31, 2022, 2021 and 2020, which represents approximately 14 million people served as of December 31, 2022:

	2022		2021		2020	
(In thousands)	Water	Wastewater	Water	Wastewater	Water	Wastewater
Residential	2,870	270	2,972	245	2,948	236
Commercial	219	17	225	15	225	15
Fire service	51	—	52	—	50	—
Industrial	4	—	4	—	4	—
Public and other (a)	17	1	16	1	17	1
Total (b)	3,161	288	3,269	261	3,244	252

(a) Includes public authorities and other utilities and community water and wastewater systems under bulk contracts. Bulk contracts, which are accounted for as a single customer in the table above, generally result in service to multiple customers.

(b) The Company completed the sale of its New York subsidiary on January 1, 2022 and the sale of its Michigan subsidiary on February 4, 2022.

Customer growth in the Company's Regulated Businesses is primarily from (i) adding new customers to its customer base through acquisitions of water and/or wastewater utility systems, (ii) population growth in its authorized service areas, and (iii) sale of water to other water utilities and community water systems.

Capital Investment

The Company plans to invest between $30 billion and $34 billion over the next 10 years for capital improvements, including acquisitions, to its Regulated Businesses' water and wastewater infrastructure, largely for pipe replacement and upgrading aging water and wastewater treatment facilities. The Company has proactively improved its pipe renewal rate from a 250-year replacement cycle in 2009 to an expected 110-year replacement cycle by 2027, which it anticipates will enable the Company to replace nearly 2,100 miles of mains and collection pipes between 2023 and 2027. In addition, from 2023 to 2027, the Company's capital investment in treatment plants, storage tanks and other key, above-ground facilities is expected to increase, further seeking to address infrastructure renewal, resiliency, water quality, operational efficiency, technology and innovation, and emerging regulatory compliance needs. Additionally, the Company continues to invest significantly in resiliency projects to address the impacts of climate and weather variability by hardening its assets.

Regulation and Rate Making

The operations of the Company's Regulated Businesses are generally subject to regulation by PUCs in the states in which they operate, with the primary responsibility of the PUCs being the promotion of the overall public interest by balancing the interest of customers and utility investors. Specific authority might differ from state to state, but in most states, PUCs review and approve rates charged to customers, accounting treatments, long-term financing programs and cost of capital, operation and maintenance ("O&M") expenses, capital expenditures, taxes, affiliated transactions and relationships, reorganizations, mergers and acquisitions, and dispositions, along with imposing certain penalties or granting certain incentives. Regulatory policies vary from state to state and can change over time. These policies will affect the timing, as well as the extent, of recovery of expenses and the realized return on invested capital.

Periodic changes in customer rates generally occur through the filing of a rate case by the utility with the PUC. The timing of rate case filings is typically determined by either periodic requirements in the regulatory jurisdiction or by the utility's need to increase its revenue requirement to recover capital investment costs, changes in operating revenues, operating costs or other market conditions. The Company attempts to minimize "regulatory lag," which is the time between the occurrence of an event that triggers a change in the utility's revenue requirement and the recognition in rates of that change.

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The Company's Regulated Businesses support regulatory practices at the PUCs and state legislatures that mitigate the adverse impact of regulatory lag. Presented in the table below are examples of approved regulatory practices:

Regulatory Practices	Description	States Allowed
Infrastructure replacement surcharge mechanisms	Allows rates to change periodically, outside a general rate case proceeding, to reflect recovery of capital investments made to replace infrastructure necessary to sustain safe and reliable services for the Company's customers. These mechanisms typically involve periodic filings and reviews to ensure transparency.	IA, IL, IN, KY, MO, NJ, PA, TN, VA, WV
Future test year	A "test year" is a period used for setting rates, and a future test year describes the first 12 months that new rates are proposed to be effective. The use of a future test year allows current or projected revenues, expenses and capital investments to be collected on a more timely basis.	CA, HI, IA, IL, IN, KY, PA, TN, VA
Hybrid test year	A historical test year sets rates using data from a 12-month period that ends prior to a general rate case filing. A hybrid test year allows an update to historical data for "known and measurable" changes that occur subsequent to the historical test year.	MD, MO, NJ, WV
Utility plant recovery mechanisms	Allows recovery of the full return on utility plant costs during the construction period, instead of capitalizing an allowance for funds used during construction ("AFUDC"). In addition, some states allow the utility to seek pre-approval of certain capital projects and associated costs. In this pre-approval process, the PUC may assess the prudency of such projects.	CA, IL, KY, PA, TN, VA
Expense mechanisms	Allows changes in certain operating expenses, which may fluctuate based on conditions beyond the utility's control, to be recovered outside of a general rate case proceeding or deferred until the next general rate case proceeding.	CA, HI, IL, IN, MD, MO, NJ, PA, TN, VA
Revenue stability mechanisms	Adjusts rates periodically to ensure that a utility recovers the revenues authorized in its general rate case, regardless of sales volume, including recognition of declining sales resulting from reduced consumption, while providing an incentive for customers to use water more efficiently.	CA, IL
Consolidated tariffs	Use of a unified rate structure for water systems owned and operated by a single utility, which may or may not be physically interconnected. The	CA, IA, IL, IN, KY, MD

Other Commitments

In 2020, Artesian Water entered into a short term agreement with Worldwide Industries Corporation to clean and paint a tank in 2020. Pursuant to the agreement, the expenditure in 2020 was $0.1 million. In April 2021, Artesian Water entered into a 3-year agreement with Worldwide Industries Corporation effective July 1, 2021 to paint elevated water storage tanks. Pursuant to the agreement, the total expenditure for the three years is $1.2 million. In September 2022, this agreement was amended to paint an additional elevated water storage tank and to extend the term of the agreement for an additional year. Pursuant to the amended agreement, the total expenditure for the four years is $2.2 million. Tank painting expense for 2022, 2021 and 2020 was $531,000, $222,000, and $155,000, respectively.

Budgeted mandatory utility plant expenditures, due to planned governmental highway projects, which require the relocation of Artesian Water's water service mains, expected to be incurred in 2023 through 2025 are as follows:

In thousands		
2023	$	2,218
2024		8,780
2025		5,170
	$	16,168

The exact timing and extent of these relocation projects is controlled primarily by the Delaware Department of Transportation.

NOTE 12

GEOGRAPHIC CONCENTRATION OF CUSTOMERS

Artesian Water, Artesian Water Maryland and Artesian Water Pennsylvania provide regulated water utility service to customers within their established service territory in all three counties of Delaware and in portions of Maryland and Pennsylvania, pursuant to rates filed with and approved by the DEPSC, the MDPSC and the PAPUC. As of December 31, 2022, Artesian Water was serving approximately 94,600 customers, Artesian Water Maryland was serving approximately 2,600 customers and Artesian Water Pennsylvania was serving approximately 40 customers.

Artesian Wastewater and TESI provide regulated wastewater utility service to customers within their established service territory in Sussex County, Delaware pursuant to rates filed with and approved by the DEPSC. The number of wastewater customers served more than doubled following the acquisition of TESI in January 2022. As of December 31, 2022, Artesian Wastewater and TESI were serving approximately 7,500 customers combined including one large industrial customer.

NOTE 13

REGULATORY PROCEEDINGS

Our water and wastewater utilities generate operating revenue from customers based on rates that are established by state public service commissions through a rate-setting process that may include public hearings, evidentiary hearings and the submission of evidence and testimony in support of the Company's requested level of rates.

We are subject to regulation by the following state regulatory commissions:

- The DEPSC, regulates Artesian Water, Artesian Wastewater, and TESI
- The MDPSC, regulates both Artesian Water Maryland and Artesian Wastewater Maryland.
- The PAPUC, regulates Artesian Water Pennsylvania.

Our water and wastewater utility operations are also subject to regulation under the federal Safe Drinking Water Act of 1974, or Safe Drinking Water Act, the Clean Water Act of 1972, or the Clean Water Act, and related state laws, and under federal and state regulations issued under these laws. These laws and regulations establish criteria and standards for drinking water and for wastewater discharges. Capital expenditures and operating costs required as a result of water quality standards and environmental requirements have been traditionally recognized by state regulatory commissions as appropriate for inclusion in establishing rates.

Water and Wastewater Rates

Our regulated subsidiaries periodically seek rate increases to cover the cost of increased operating expenses, increased financing expenses due to additional investments in utility plant and other costs of doing business. Artesian Water provided notice to the DEPSC of its intent to file a request in the second quarter of 2023 to implement new rates to support Artesian Water's ongoing capital improvement program and to cover increased costs of operations. In Delaware, utilities are permitted by law to place rates into effect, under bond, on a temporary basis pending completion of a rate increase proceeding. Any DSIC rate in effect will be reset to zero upon implementation of a temporary increase in base rates charged to customers. The first temporary increase may be up to the lesser of $2.5 million on an annual basis or 15% of gross water sales. Should the rate case not be completed within seven months, by law, the utility may put the entire requested rate relief, up to 15% of gross water sales, in effect under bond until a final resolution is ordered and placed into effect. If any such rates are found to be in excess of rates the DEPSC finds to be appropriate, the utility must refund customers the portion found to be in excess with interest. The timing of our rate increase requests is therefore dependent upon the estimated cost of the administrative process in relation to the investments and expenses that we hope to recover through the rate increase. We can provide no assurances that rate increase requests will be approved by applicable regulatory agencies and, if approved, we cannot guarantee that these rate increases will be granted in a timely or sufficient manner to cover the investments and expenses for which we initially sought the rate increase.

Other Proceedings

Delaware law permits water utilities to put into effect, on a semi-annual basis, increases related to specific types of distribution system improvements through a DSIC. This charge may be implemented by water utilities between general rate increase applications that normally recognize changes in a water utility's overall financial position. The DSIC approval process is less costly when compared to the approval process for general rate increase requests. The DSIC rate applied between base rate filings is capped at 7.50% of the amount billed to customers under otherwise applicable rates and charges, and the DSIC rate increase applied cannot exceed 5.0% within any 12-month period.

The following table summarizes (1) Artesian Water's applications with the DEPSC to collect DSIC rates and (2) the rates upon which eligible plant improvements are based:

Application Date	11/15/2019	5/29/2020	11/20/2020
DEPSC Approval Date	12/12/2019	6/17/2020	12/14/2020
Effective Date	01/01/2020	07/1/2020	01/1/2021
Cumulative DSIC Rate	7.50%	7.50%	7.50%
Net Eligible Plant Improvements – Cumulative Dollars (in millions)	43.1	43.1	43.1
Eligible Plant Improvements – Installed Beginning Date	10/01/2014	10/01/2014	10/01/2014
Eligible Plant Improvements – Installed Ending Date	04/30/2019	04/30/2019	04/30/2019

The rate reflects the eligible plant improvements installed through April 30, 2019. The January 1, 2021 rate currently remains in effect and is subject to periodic audit by the DEPSC. For the years ended December 31, 2022, December 31, 2021 and December 31, 2020, we earned approximately $5.1 million, $5.1 million and $5.0 million in DSIC revenue, respectively.

NOTE 14

NET INCOME PER COMMON SHARE AND EQUITY PER COMMON SHARE

Basic net income per share is based on the weighted average number of common shares outstanding. Diluted net income per share is based on the weighted average number of comm shares outstanding, the potentially dilutive effect of employee stock options and restricted stock awards. The following table summarizes the shares used in computing basic and dilu net income per share:

PAY MY BILL

SERVICE OUTAGE . READ MORE

ARTESIAN WILL BE CLOSED FOR THE LABOR DAY HOLIDAY ON SEPTEMBER 4, 2023. THE OFFICE WILL REOPEN ON TUESDAY, SEPTEMBER 5, 2023 AT 8:00 A.M.

ABOUT US

Artesian Water

Artesian Resources began to serve customers in small communities in northern Delaware more than 115 years ago.

Our mission then was the same as it is now: to provide the best quality water and the best customer service. Today, although we have expanded our capabilities and our service area, our water business remains our single largest business line, accounting for nearly 90% of our revenues. In fact, Artesian is the eighth largest investor-owned water utility in the United States by total capitalization.

We provide consistently high-quality, reliable water and we do so economically. Our customers pay about a penny for each gallon of water they receive from Artesian. We know this business very well, as our consistently excellent performance demonstrates.

As a total water resource management company, we are focusing on a wide spectrum of activities, which include identifying new and dependable sources of water supply; developing wells, treatment plants and delivery systems to get water to customers; educating customers on the wise use of water; and providing responsible wastewater management to assist with recharge of the aquifers.

Organization

Artesian Resources operates as the holding company of wholly owned subsidiaries offering water, wastewater services and related services.

- Artesian Water Company, the principal subsidiary, is the oldest and largest regulated water utility on the Delmarva Peninsula and has been providing water service since 1905.
- Other subsidiaries include Artesian Water Maryland, Inc.; Artesian Wastewater Maryland, Inc.; Artesian Water Pennsylvania, Inc.; Artesian Wastewater Management, Inc.; Artesian Utility Development, Inc.; and Artesian Development Company.

Water Service Facts

- Artesian serves over 301,000 people
- Artesian supplies over 8.4 billion gallons of water per year through more than 1,368 miles of water mains
- Treatment facilities – 75
- Storage capacity – 176.5 million gallons
- Water service territory – 305 square miles
- Wastewater service territory – 58 square miles
- Through public-private partnerships, Artesian is providing a variety of water- and wastewater-related services to several municipalities

Emergencies: (800) 332-5114

Delaware: (302) 453-6930

Toll-Free Call: (800) 332-5114

Pay My Bill

Emergencies & Shut-Off Valves

Start, Stop or Move Service

Our Service Areas

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Geographical Service Areas and Number of Customer Connections at Year-end

Our principal markets are users of water within our service areas. The approximate number of customer connections served in each regulated district, the City of Hawthorne and the City of Commerce, at December 31 is as follows:

(rounded to the nearest hundred)	2022	2021
SAN FRANCISCO BAY AREA/NORTH COAST		
Bay Area Region (serving South San Francisco, Colma, Broadmoor, San Mateo, San Carlos, Lucerne, Duncans Mills, Guerneville, Dillon Beach, Noel Heights and portions of Santa Rosa)	56,000	56,000
Bear Gulch (serving portions of Menlo Park, Atherton, Woodside and Portola Valley)	19,000	19,000
Los Altos (including portions of Cupertino, Los Altos Hills, Mountain View and Sunnyvale)	19,000	19,000
Livermore	19,000	19,000
	113,000	113,000
SACRAMENTO VALLEY		
Chico (including Hamilton City)	31,300	31,100
Oroville	3,700	3,700
Marysville	3,800	3,800
Dixon	3,100	3,100
Willows	2,400	2,400
	44,300	44,100
SALINAS VALLEY		
Salinas Valley Region (including Salinas and King City)	31,700	31,700
	31,700	31,700
SAN JOAQUIN VALLEY		
Bakersfield	74,100	73,700
Stockton	45,200	44,900
Visalia	48,100	47,400
Selma	6,600	6,600
Kern River Valley	4,100	4,000
	178,100	176,600
LOS ANGELES AREA		
East Los Angeles	27,000	27,000
Hermosa Redondo (serving Hermosa Beach, Redondo Beach and a portion of Torrance)	27,200	27,200
Dominguez (Carson and portions of Compton, Harbor City, Long Beach, Los Angeles and Torrance)	34,400	34,400
Los Angeles County Region (including Palos Verdes Estates, Rancho Palos Verdes, Rolling Hills Estates, Rolling Hills, Fremont Valley, Lake Hughes, Lancaster and Leona Valley)	25,900	25,800
Westlake (a portion of Thousand Oaks)	7,100	7,100
Hawthorne and Commerce (leased municipal systems)	7,700	7,600
	129,300	129,100
CALIFORNIA TOTAL	496,400	494,500
HAWAII	6,200	6,200
NEW MEXICO	10,700	8,600
WASHINGTON	37,500	36,400
TEXAS	2,200	1,900
COMPANY TOTAL	553,000	547,600

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Rates and Regulation

The Commissions have plenary powers setting both rates and operating standards. As such, the Commissions' decisions significantly impact the Company's revenues, earnings, and cash flows. The amounts discussed herein are generally annual amounts, unless otherwise stated, and the financial impact to recorded revenue is expected to occur over a 12-month period from the effective date of the decision. In California, water utilities are required to make several different types of filings. Certain filings, such as General Rate Case (GRC) filings, escalation rate increase filings, and offset filings, may result in rate changes that generally remain in place until the next GRC. As explained below, surcharges and surcredits to recover balancing and memorandum accounts as well as GRC interim rate relief are temporary rate changes, having specific time frames for recovery.

The CPUC follows a rate case plan which requires Cal Water to file a GRC for each of its regulated operating districts (except Grand Oaks) every three years. In a GRC proceeding the CPUC not only considers the utility's rate setting requests, but may also consider other issues that affect the utility's rates and operations. The CPUC is generally required to issue its GRC decision prior to the first day of the test year or authorize interim rates and an Interim Rates Memorandum Account (IRMA) or just an IRMA. In accordance with the rate case plan, Cal Water filed its most recent GRC filing in July of 2021 (2021 GRC Filing) requesting rate changes effective January 1, 2023. For additional information on our 2021 GRC Filing, see "Regulatory Activity - California".

Between GRC filings, Cal Water may file escalation rate increases, which allow Cal Water to recover cost increases, primarily from inflation and incremental investments, generally during the second and third years of the rate case cycle. However, escalation rate increases are district specific and subject to an earnings test. The CPUC may reduce a district's escalation rate increase if, in the most recent 13-month period, the earnings test reflects earnings in excess of what was authorized for that district.

In addition, California water utilities are entitled to make offset requests via advice letter. Offsets may be requested to adjust revenues for construction projects authorized in GRCs or recycled water projects when those capital projects go into service (these filings are referred to as "rate base offsets"), or for rate changes charged to Cal Water for purchased water, purchased power, and pump taxes (which are referred to as "expense offsets"). Rate changes approved in offset requests remain in effect until the next GRC is approved.

In pursuit of the State of California's water conservation goals, the CPUC decoupled Cal Water's revenue requirement from customer consumption levels in 2008 by authorizi Water Revenue Adjustment Mechanism (WRAM) and Modified Cost Balancing Account (MCBA) for each district. The WRAM and MCBA were designed to ensure that Cal W

- restrictive covenants in or changes to the credit ratings on our current or future debt that could increase our financing costs or affect our ability to borrow, make payments on debt or pay dividends;
- risks associated with expanding our business and operations geographically;
- the impact of stagnating or worsening business and economic conditions, including inflationary pressures, general economic slowdown or a recession, increasing interest rates, and changes in monetary policy;
- the impact of market conditions and volatility on unrealized gains or losses on our non-qualified benefit plan investments and our operating results;
- the impact of weather and timing of meter reads on our accrued unbilled revenue; and
- the risks set forth in "Risk Factors" included elsewhere in this annual report.

In light of these risks, uncertainties and assumptions, investors are cautioned not to place undue reliance on forward-looking statements, which speak only as of the date of this annual report or as of the date of any document incorporated by reference in this annual report, as applicable. When considering forward-looking statements, investors should keep in mind the cautionary statements in this annual report and the documents incorporated by reference. We are not under any obligation, and we expressly disclaim any obligation, to update or alter any forward-looking statements, whether as a result of new information, future events or otherwise.

Overview

California Water Service Group is a holding company with seven operating subsidiaries: California Water Service Company (Cal Water), New Mexico Water Service Company (New Mexico Water), Washington Water Service Company (Washington Water), Hawaii Water Service Company, Inc. (Hawaii Water), TWSC, Inc. (Texas Water), and CWS Utility Services and HWS Utility Services LLC (CWS Utility Services and HWS Utility Services LLC being referred to collectively in this annual report as Utility Services). Cal Water, New Mexico Water, Washington Water, and Hawaii Water are regulated public utilities. Texas Water holds regulated and contracted wastewater utilities.

The regulated utility entities also provide some non-regulated services. Utility Services holds non-utility property and provides non-regulated services to private companies and municipalities outside of California (see Non-Regulated Activities below for more details). Cal Water was the original operating company and began operations in 1926.

Our business is conducted through our operating subsidiaries and we provide utility services to approximately two million people. The bulk of the business consists of the production, purchase, storage, treatment, testing, distribution and sale of water for domestic, industrial, public and irrigation uses, and the provision of domestic and municipal fire protection services. In some areas, we provide wastewater collection and treatment services, including treatment which allows water recycling. We also provide non-regulated water-related services under agreements with municipalities and other private companies. The non-regulated services include full water system operation, billing and meter reading services. Non-regulated operations also include the lease of communication antenna sites, lab services and promotion of other non-regulated services.

During the year ended December 31, 2022, there were no significant changes in the kind of products produced or services rendered by our operating subsidiaries, or in the markets or methods of distribution.

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Our mailing address and contact information is:

California Water Service Group
1720 North First Street
San Jose, California 95112-4598
Telephone number: 408-367-8200
www.calwatergroup.com

Annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to these reports are available free of charge through our website at www.calwatergroup.com. The reports are available on our website as soon as reasonably practicable after such reports are filed with the SEC.

The content on any website referred to in this annual report is not incorporated by reference in this annual report unless expressly noted.

Regulated Business

California water operations are conducted by Cal Water, which provides service to approximately 496,400 customer connections in approximately 100 California communities through 21 separate districts, which are subject to regulation by the CPUC. California water operations accounted for approximately 89.8% of our total customer connections and 91.6% of our total consolidated operating revenue.

We operate the City of Hawthorne and the City of Commerce water systems under lease agreements. In accordance with the lease agreements, we receive all revenues from operating the systems and are responsible for paying the operating costs. The City of Hawthorne and the City of Commerce lease revenues are governed through their respective city councils and are considered non-regulated because they are outside of the CPUC's jurisdiction. We report revenue and expenses for the City of Hawthorne and City of Commerce leases in operating revenue and operating expenses because we are entitled to retain all customer billings and are responsible for all operating expenses. These leases are considered "nontariffed products and services" (NTPS) by the CPUC and require a 10% revenue sharing with regulated customers.

In October of 2011, an agreement was negotiated with the City of Hawthorne to lease and operate its water system. The system, which is located near the Hermosa Redondo district, serves about half of Hawthorne's population. The capital lease agreement required an up-front $8.1 million lease deposit to the city that is being amortized over the lease term. Additionally, annual lease payments are contracted to be adjusted based on changes in rates charged to customers. Under the lease, we are responsible for all aspects of system operation and capital improvements, although title to the system and system improvements reside with the city. Capital improvements are recorded as depreciable plant and equipment and depreciated per the asset lives set forth in the agreement. In exchange, we receive all revenue from the water system, which was $12.5 million, $11.4 million, and $10.5 million in 2022, 2021, and 2020, respectively. At the end of the lease, the city is required to reimburse us for the unamortized value of capital improvements made during the term of the lease. The City of Hawthorne capital lease is a 15-year lease and expires in 2026.

In April of 2018, a renewal agreement was negotiated with the City of Commerce for us to continue to lease and to operate its water system for 15 years. Under the agreement, the operating lease requires us to pay $0.8 million per year in monthly installments. We have operated the City of Commerce water system since 1985 and are responsible for all operations, maintenance, water quality assurance, customer service programs, and financing capital improvements to provide a reliable supply of water that meets federal and state standards to customers served by the City of Commerce system. The City of Commerce retains title to the system and system improvements and remains responsible for setting its customers' water rates. We bear the risks of operation and collection of amounts billed to customers. In exchange, we receive all revenue from the water system, which was $4.2 million, $3.4 million, and $2.9 million in 2022, 2021, and 2020, respectively. The agreement allows us to request a rate change annually in order to recover costs.

Hawaii Water provides service to approximately 6,200 water and wastewater customer connections on the islands of Maui, Oahu, and Hawaii, including several large resorts and condominium complexes. Hawaii Water's regulated customer connections are subject to the jurisdiction of the Hawaii Public Utilities Commission (HPUC). Hawaii Water accounts for 1.1% of our total customer connections and approximately 4.9% of our total consolidated operating revenue.

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Customers

Our water utility customer base is diversified among residential water, commercial water, fire protection, industrial water, other water, wastewater customers, and other utility customers (consisting of contracted services that are associated with the utility operations). Residential water and wastewater customers make up the largest component of our water utility customer base, with these customers representing approximately 68%, 69%, and 71%, of our water and wastewater revenues for 2022, 2021, and 2020, respectively. Substantially all of our water utility customers are metered, which allows us to measure and bill for our customers' water consumption. Water consumption per customer is affected by local weather conditions during the year, especially during late spring, summer, and early fall. In general, during these seasons, an extended period of dry weather increases consumption, while above-average rainfall decreases consumption. Also, an increase in the average temperature generally causes an increase in water consumption. On occasion, abnormally dry weather in our service areas can result in governmental authorities declaring drought warnings and imposing water use restrictions in the affected areas, which could reduce water consumption. See "Business – *Water Utility Supplies, and Facilities and Wastewater Utility Facilities*" for a discussion of water use restrictions that may impact water consumption during abnormally dry weather. The geographic diversity of our water utility customer base reduces the effect of our exposure to extreme or unusual weather conditions in any one area of our service territories. Water usage is also affected by changing consumption patterns by our customers, resulting from such causes as increased water conservation and the installation of water saving devices and appliances that can result in decreased water usage. It is estimated that, in the event we experience a 0.50% decrease in residential water consumption, it would result in a decrease in annual residential water revenue of approximately $3,000,000, which would likely be partially offset by a reduction in incremental water production expenses such as chemicals and power.

Our natural gas utility customer base is diversified among residential gas, commercial gas, industrial gas, gas transportation, and other utility. Substantially all of our natural gas utility customers are metered, which allows us to measure and bill for our customers' natural gas usage. Natural gas usage per customer is affected by local weather conditions during the year, especially during the fall, winter, and early spring. These patterns reflect the higher demand for natural gas for heating purposes during the colder months. Our regulated natural gas revenues and expenses are also affected by the cost of gas. We are generally able to pass the cost of gas through to our customers using a purchased gas adjustment clause; therefore, fluctuations in the cost of purchased gas impact revenues on a dollar-for-dollar basis. Since regulated natural gas revenues are affected by the cost of gas, higher gas costs, as well as general economic conditions, may cause customers to conserve usage, or seek alternative energy sources. In addition, higher gas costs result in an increase to our purchased gas inventory, which requires additional borrowings under credit facilities, resulting in higher interest expense.

The Company's growth in revenues over the past five years is primarily a result of the 2020 Peoples Gas Acquisition, increases in water and wastewater rates, increase in the cost of natural gas in 2021 and 2022, and customer growth. See *Economic Regulation* for a discussion of water, wastewater, and natural gas rates. The increase in our utility customer base has been due to customers added through acquisitions, partnerships with developers, and organic growth (excluding dispositions) as shown below:

Year	Utility Customer Growth Rate
2022	1.7%
2021	1.2%
2020	42.9%
2019	2.1%
2018	2.3%

In 2022, 2021, and 2020, our customer count increased by 31,537, 21,246, and 772,099 customers, respectively, primarily due to the water and wastewater utility systems that we acquired, organic growth, and in 2020, due to the Peoples Gas Acquisition that resulted to the addition of approximately 750,000 natural gas utility customers. Overall, for the five year period of 2018 through 2022, our utility customer base, adjusted to exclude customers associated with utility system dispositions, increased at an annual compound rate of 13.5%. During the five year period ended December 31, 2022, our utility customer base including customers associated with utility system acquisitions and dispositions increased from 982,849 at January 1, 2018 to 1,851,586 at December 31, 2022.

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Acquisitions and Other Growth Ventures

We believe that acquisitions will continue to be an important source of customer growth for us. We intend to continue to pursue acquisitions of government-owned and regulated water and wastewater systems that provide services in areas near our existing service territories or in new service areas. We engage in continuing activities with respect to potential acquisitions, including calling on prospective sellers, performing analyses of and due diligence on acquisition candidates, making preliminary acquisition proposals, and negotiating the terms of potential acquisitions. Further, we are also seeking other potential business opportunities, including but not limited to, partnering with public and regulated utilities to invest in infrastructure projects, growing our market-based activities by acquiring businesses that provide water and wastewater or other utility-related services, and investing in infrastructure projects.

Based on the 2021 U.S. Census American Housing Survey, approximately 89% of the U.S. population obtains its water from public or private water utility systems, and 11% of the U.S. population obtains its water from individual wells. With approximately 50,000 public or private water systems in the U.S. (81% of which serve less than 3,300 customers), the water industry is the most fragmented of the major utility industries (telephone, natural gas, electric, water and wastewater). The majority of these community water systems are government-owned. The nation's water systems range in size from large government-owned systems, such as the New York City water system, which serves approximately 8.8 million people, to small systems, where a few customers share a common well. In the states where we operate regulated water utilities, we believe there are approximately 14,000 public or private water utility systems of widely-varying size, with the majority of the population being served by government-owned water systems.

Although not as fragmented as the water industry, the wastewater industry in the U.S. also presents opportunities for consolidation. Based on the 2021 U.S. Census American Housing Survey, approximately 84% of the U.S. population relies on public or private sewer systems, and 16% of the U.S. population relies on septic tank, cesspool or other sewer options. A majority of wastewater facilities are government-owned rather than regulated utilities. In the states where we operate regulated water utilities, we believe there are approximately 4,000 wastewater facilities in operation, with the majority of the population being served by government-owned wastewater systems.

Because of the fragmented nature of the water and wastewater utility industries, we believe there are many potential water and wastewater system acquisition candidates throughout the U.S. We believe the factors driving consolidation of these systems are:

- the benefits of economies of scale;
- the increasing cost and complexity of environmental regulations;
- the need for substantial capital investment;
- the need for technical and managerial expertise;
- the desire to improve water quality and service;
- limited access to cost-effective financing;
- the monetizing of public assets to support, in some cases, the declining financial condition of municipalities; and
- the use of system sale proceeds by a municipality to accomplish other public purposes.

We are actively exploring opportunities to expand our utility operations through acquisitions or other growth ventures. During the five-year period ended December 31,

PART I

Item 1. ***Business***

The Company

Essential Utilities, Inc. (formerly known as Aqua America, Inc.) (referred to as Essential Utilities, Essential, the Company, we, us, or our), a Pennsylvania corporation, is the holding company for regulated utilities providing water, wastewater, or natural gas services to an estimated five million people in Pennsylvania, Ohio, Texas, Illinois, North Carolina, New Jersey, Indiana, Virginia, West Virginia, and Kentucky under the Aqua and Peoples brands. One of our largest operating subsidiaries, Aqua Pennsylvania, Inc., (Aqua Pennsylvania) accounted for approximately 56% of operating revenues and approximately 73% of income for our Regulated Water segment in 2022. As of December 31, 2022, Aqua Pennsylvania provided water or wastewater services to approximately one-half of the total number of water and wastewater customers we serve. Aqua Pennsylvania's service territory is located in the suburban areas in counties north and west of the City of Philadelphia and in 27 other counties in Pennsylvania. Our other regulated water or wastewater utility subsidiaries provide similar services in seven additional states. Additionally, commencing on March 16, 2020 with the completion of the Peoples Gas Acquisition, the Company began to provide natural gas distribution services to customers in western Pennsylvania, Kentucky, and West Virginia. Approximately 93% of the total number of natural gas utility customers we serve are in western Pennsylvania. The Company also operates non-regulated market-based activities that are supplementary and complementary to our regulated utility businesses. Aqua Resources offers, through a third-party, water and sewer line protection solutions and repair services to households. Other non-regulated subsidiaries of Peoples provide utility service line protection services to households and operate gas marketing and production businesses.

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For many years, starting in the early 1990s, our business strategy was primarily directed toward the regulated water and wastewater utility industry, where we have more than quadrupled the number of regulated customers we serve, and have extended our regulated operations from southeastern Pennsylvania to include our current regulated utility operations throughout Pennsylvania and in seven additional states. On March 16, 2020, we completed our acquisition of a natural gas distribution company consisting of Peoples Natural Gas Company LLC, Peoples Gas Company LLC, Peoples Gas WV LLC, Peoples Gas KY LLC, PNG Gathering LLC, and Delta Natural Gas Company Inc., expanding the Company's regulated utility business to include natural gas distribution. This acquisition is referred to as the "Peoples Gas Acquisition," and collectively these businesses are referred to as "Peoples." Peoples serves approximately 750,000 gas utility customers in western Pennsylvania, West Virginia, and Kentucky. During 2010 through 2013, we sold our utility operations in six states, pursuant to a portfolio rationalization strategy, to focus our operations in areas where we have critical mass and economic growth potential. During the fourth quarter of 2022, the Company signed an agreement to sell its regulated natural gas utility assets in West Virginia, which represent approximately two percent of the Company's regulated natural gas customers. Currently, the Company seeks to acquire businesses in the U.S. regulated sector, which includes water and wastewater utilities and other regulated utilities, and to pursue growth ventures in market-based activities, such as infrastructure opportunities that are supplementary and complementary to our regulated utility businesses.

The descriptions of our business and operations, financial results, and operational data included in this Annual Report do not include historical results for Peoples prior to the acquisition date of March 16, 2020.

The following table reports our operating revenues, by principal state, for our Regulated Water segment, which includes both water and wastewater utility services, Regulated Natural Gas segment, and Other and eliminations for the year ended December 31, 2022:

	Operating Revenues (000's)	Operating Revenues (%)
Pennsylvania	$ 610,964	26.7%
Ohio	118,245	5.2%
Texas	86,802	3.8%
Illinois	92,545	4.0%
North Carolina	71,713	3.1%
Other states (1)	102,703	4.5%
Regulated Water segment total	1,082,972	47.3%
Pennsylvania	1,071,119	46.8%
Other states (2)	72,243	3.2%
Regulated Natural Gas segment total	1,143,362	50.0%
Other and eliminations	61,698	2.7%
Consolidated	$ 2,288,032	100.0%

(1) Includes our water operating subsidiaries in the following states: New Jersey, Indiana, and Virginia.
(2) Includes our natural gas operating subsidiaries in West Virginia and Kentucky.

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The Company has identified twelve operating segments and has two reportable segments, the Regulated Water segment and the Regulated Natural Gas segment. The Regulated Water segment is comprised of eight operating segments for our water and wastewater regulated utility companies, aligned with the states where we provide these services. These operating segments are aggregated into one reportable segment since each of the Company's operating segments has the following similarities: economic characteristics, nature of services, production processes, customers, water distribution or wastewater collection methods, and the nature of the regulatory environment. The Regulated Natural Gas segment is comprised of one operating segment representing natural gas utility companies, acquired in the Peoples Gas Acquisition, for which the Company provides natural gas distribution services. In addition to the Company's two reportable segments, the Company includes three of its operating segments in "Other". These businesses represent our non-regulated water, wastewater, and natural gas operations, which are not quantitatively significant to be reportable and therefore are included as a component of "Other". In addition, "Other" and eliminations include corporate costs that have not been allocated to the Regulated Water and Regulated Natural Gas segments, because they would not be recoverable as a cost of utility service, and intersegment eliminations. Information concerning revenues, net income, identifiable assets and related financial information for the Regulated Water and Regulated Natural Gas segments and Other and eliminations for 2022, 2021, and 2020, is set forth in *Management's Discussion and Analysis of Financial Condition and Results of Operations* and in Note 18 – *Segme Information* in the Notes to Consolidated Financial Statements which is contained in Item 8 of this Annual Report.

The following table summarizes our operating revenues, by utility customer class, for the Regulated Water and Regulated Natural Gas segments and Other and

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PART I

Item 1. Business.

Overview

Middlesex Water Company (Middlesex) was incorporated as a water utility company in 1897 and owns and operates regulated water utility and wastewater systems primarily in New Jersey and Delaware. Middlesex also operates water and wastewater systems under contract on behalf of municipal and private clients primarily in New Jersey and Delaware.

The terms "the Company," "we," "our," and "us" refer to Middlesex Water Company and its subsidiaries, including Tidewater Utilities, Inc. (Tidewater) and Tidewater's wholly-owned subsidiaries, Southern Shores Water Company, LLC (Southern Shores) and White Marsh Environmental Systems, Inc. (White Marsh). The Company's other subsidiaries are Pinelands Water Company (Pinelands Water) and Pinelands Wastewater Company (Pinelands Wastewater) (collectively, Pinelands), Utility Service Affiliates, Inc. (USA) and Utility Service Affiliates (Perth Amboy) Inc., (USA-PA).

The Company's principal executive offices are located at 485C Route 1 South, Suite 400, Iselin, New Jersey 08830. Our telephone number is (732) 634-1500. Our website address is http://www.middlesexwater.com. Information contained on our website is not part of this Annual Report on Form 10-K. We make available, free of charge through our website, reports and amendments filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, after such material is electronically filed with or furnished to the United States Securities and Exchange Commission (the SEC).

Middlesex System

Located in New Jersey, the Middlesex System provides water services to approximately 61,000 retail customers, primarily in eastern Middlesex County and under wholesale contracts to the City of Rahway, Townships of Edison and Marlboro, the Borough of Highland Park and the Old Bridge Municipal Utilities Authority. The Middlesex System treats, stores and distributes water for residential, commercial, industrial and fire protection purposes. The Middlesex System also provides water treatment and pumping services to the Township of East Brunswick under contract. The amount of water supply allocated to the Township of East Brunswick is granted directly to the Township by the New Jersey Water Supply Authority. The Middlesex System produced approximately 65% of our 2022 consolidated operating revenues.

The Middlesex System's retail customers are located in an area of approximately 55 square miles in Woodbridge Township, the City of South Amboy, the Boroughs of Metuchen and Carteret, portions of the Township of Edison and the Borough of South Plainfield, all in Middlesex County, and a portion of the Township of Clark in Union County. Retail customers include a mix of residential customers, large industrial concerns and commercial and light industrial facilities. These customers are located in generally well-developed areas of central New Jersey.

The contract customers of the Middlesex System comprise an area of approximately 110 square miles with a population of over 200,000. Contract sales to the Townships of Edison and Marlboro, the City of Rahway and the Old Bridge Municipal Utilities Authority are supplemental to the water systems owned and operated by these customers. Middlesex is the sole source of water for the Borough of Highland Park and the Township of East Brunswick.

Middlesex provides water service to approximately 300 customers in Cumberland County, New Jersey. This system is referred to as the Bayview System, and is not physically interconnected with the Middlesex System. The Bayview System produced less than 0.1% of our 2022 consolidated operating revenues.

Tidewater System

Tidewater, together with its wholly-owned subsidiary, Southern Shores, provides water services to approximately 56,000 retail customers for residential, commercial and fire protection purposes in over 460 separate communities

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in New Castle, Kent and Sussex Counties, Delaware. The Tidewater System produced approximately 26% of our 2022 consolidated operating revenues.

USA-PA

USA-PA operates the City of Perth Amboy, New Jersey's (Perth Amboy) water and wastewater systems under a 10-year agreement, which expires in December 2028. In addition to performing day-to day operations, USA-PA is also responsible for emergency responses and management of capital projects funded by Perth Amboy. USA-PA produced approximately 4% of our 2022 consolidated operating revenues.

Pinelands Systems

Pinelands Water provides water services to approximately 2,500 residential customers in Burlington County, New Jersey. Pinelands Water is not physically interconnected with the Middlesex System. Pinelands Water produced approximately 1% of our 2022 consolidated operating revenues.

Pinelands Wastewater provides wastewater collection and treatment services to approximately 2,500 residential customers. Under contract, it also services one municipal wastewater system in Burlington County, New Jersey with approximately 200 residential customers. Pinelands Wastewater produced approximately 1% of our 2022 consolidated operating revenues.

USA

USA operates the Borough of Avalon, New Jersey's (Avalon) water utility, sewer utility and storm water system under a ten-year operations and maintenance contract expiring in 2032. In addition to performing day-to-day service operations, USA is responsible for emergency responses and management of capital projects funded by Avalon.

USA operates the Borough of Highland Park, New Jersey's (Highland Park) water utility and sewer utility under a ten-year operations and maintenance contract expiring in 2030.

USA also provides water and wastewater services to several other New Jersey municipalities under contracts that are not regulated by a public utility commission as to rates and service.

Under a marketing agreement with HomeServe USA Corp. (HomeServe) expiring in 2031, USA offers residential customers in New Jersey and Delaware various water and wastewater related home maintenance programs. USA receives a service fee for the billing, cash collection and other administrative matters associated with HomeServe's service contracts.

USA produced approximately 2% of our 2022 consolidated operating revenues.

White Marsh

White Marsh operates or maintains water and/or wastewater systems that serve approximately 4,500 service connections under 30 separate contracts. White Marsh also owns two commercial properties that are leased to Tidewater for its administrative office campus and its field operations center. White Marsh produced approximately 1% of our 2022 consolidated operating revenues.

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Financial Information

Consolidated operating revenues, operating income and net income are as follows:

EX-99.1 2 ex99-1.htm EX-99.1

EXHIBIT 99.1

FOR IMMEDIATE RELEASE

Middlesex Water Company Declares Quarterly Cash Dividend

ISELIN, N.J., January 27, 2022 – Middlesex Water Company (NASDAQ:MSEX) announced today that its Board of Directors has declared a cash dividend of $0.29 per share on its common stock, payable March 1, 2022 to shareholders of record as of February 14, 2022. Middlesex Water Company has paid cash dividends in varying amounts continually since 1912.

Middlesex Water Company is an investor-owned water and wastewater utility, serving customers primarily in central and southern New Jersey and Delaware. The Company is currently offering a 3% discount on all Common Stock purchases made under its Investment Plan whether by optional cash payment or by dividend reinvestment. The discount will continue until 200,000 shares are purchased at the discounted price or August 1, 2022, whichever event occurs first. To learn more visit https://shareholder.broadridge.com/middlesexwater

ABOUT MIDDLESEX WATER COMPANY

Established in 1897, Middlesex Water Company serves as a trusted provider offering life-sustaining high quality water service for residential, commercial, industrial and fire protection purposes. The Company offers a full range of water, wastewater utility and related services. An investor-owned public utility, Middlesex Water is a professional services provider specializing in municipal and industrial contract operations and water and wastewater system technical operations and maintenance. The company and its subsidiaries form the Middlesex Water family of companies, which collectively serve a population of nearly half a million people in New Jersey and Delaware. Middlesex is focused on meeting the needs of our employees, customers, and shareholders. We invest in our people, our infrastructure and the communities we serve to support reliable and resilient utility services, economic growth and quality of life. To learn more about Middlesex Water, visit https://www.middlesexwater.com

the transmission, distribution or treatment of water.

MPUC is authorized to allow a WRA mechanism to regulated water utilities. Maine's rate-adjustment mechanism could provide revenue stabilization in divisions with declining water consumption and Maine Water expects to request usage of this mechanism in future rate filings when consumption trends support its use.

On February 28, 2022, Maine Water filed requests for general rate increases in the Camden-Rockland, Freeport, Millinocket and Oakland Divisions. The four filings collectively request $0.5 million in new revenue and seek to reset the WISC in all four divisions. The four cases, while docketed separately, are proceeding through the adjudication process together.

On February 2, 2023, Maine Water Company received final decisions from the MPUC on four general rate cases filed in 2022. The rate increases are retroactively effective for January 1, 2023, and authorize a $0.7 million increase in annual revenues.

Please also see Item 1A, "Risk Factors," Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations," and Note 3 of "Notes to Consolidated Financial Statements."

Description of Business

General

The principal business of Water Utility Services consists of the production, purchase, storage, purification, distribution, wholesale and retail sale of water and wastewater services. SJWC provides water services to approximately 232,000 connections that serve approximately one million people over 139 square miles residing in portions of the cities of San Jose and Cupertino and in the cities of Campbell, Monte Sereno, Saratoga and in the Town of Los Gatos, and adjacent unincorporated territories, all in the County of Santa Clara in the State of California. The CTWS companies provide water service to approximately 141,000 service connections that serve a population of approximately 459,000 people in 81 municipalities with a service area of approximately 270 square miles throughout Connecticut and Maine and 3,000 wastewater connections in Southbury, Connecticut. SJWTX provides water service to approximately 26,000 service connections that serve approximately 77,000 people in a service area comprising more than 268 square miles in the region between San Antonio and Austin, Texas and approximately 900 wastewater connections. Together, the Water Utility Services distribute water to customers in their respective service areas in accordance with accepted water utility methods.

SJWC, Connecticut Water and Maine Water provide non-tariffed services under agreements with municipalities and other utilities. These non-tariffed services include water system operations, maintenance agreements and antenna site leases. In addition, in October 1997, SJWC commenced operation of the City of Cupertino municipal water system under a 25-year lease which was due to expire in September of 2022 and was amended on January 8, 2020. The system is adjacent to the SJWC service area and has approximately 4,600 service connections. Under the terms of the lease, SJWC assumed responsibility for all maintenance and operating costs of the system, while receiving all payments for water service. SJWC paid an upfront $6.8 million concession fee and an additional $5.0 million in capital improvements to the City of Cupertino. On February 25, 2022, SJWC received a letter from the City of Cupertino exercising their option to extend the term of the lease an additional two years through October 1, 2024. SJWC paid an additional $1.6 million concession fee. The total concession fees paid for the agreement are being amortized over the contract term including the extension.

CTWS provides contracted services to water utilities, as well as offers *Linebacker*® protection plans for public drinking water customers in the States of Connecticut and Maine. *Linebacker* plans cover a limited amount of the cost of repairs to water and wastewater service lines and in-home plumbing. Services provided are dependent on the selected plan.

SJW Land Company owns undeveloped real estate property in California and Tennessee, as well as commercial and warehouse properties in Tennessee. Chester Realty, Inc. owns commercial properties and parcels of land in Connecticut.

Among other things, operating results from the water business fluctuate according to the demand for water, which is often influenced by seasonal conditions, such as impact of drought, summer temperatures or the amount and timing of precipitation in Water Utility Services' service areas. Revenue, production expenses and income are affected by changes in water sales and the

sources of water supply. Overhead costs, such as payroll and benefits, depreciation, interest on long-term debt, and property taxes are not significantly impacted by seasonality or water supply mix. As a result, earnings are highest in the higher demand, warm summer months and lowest in the lower demand, cool winter months.

Water Supply

California Water Supply

SJWC's water supply consists of groundwater from wells, surface water from watershed run-off and diversion, reclaimed water, and imported water purchased from Santa Clara Valley Water District ("Valley Water") under the terms of a master contract with Valley Water expiring in 2051. During normal rainfall years, purchased water provides approximately 40% to 50% of SJWC's annual production. An additional 40% to 50% of its water supply is pumped from the underground basin which is subject to a groundwater extraction charge paid to Valley Water. Surface supply, which during a normal rainfall year satisfies about 6% to 8% of SJWC's annual water supply needs, provides approximately 1% of its water supply in a dry year and approximately 14% in a wet year. In dry years, the decrease in water from surface run-off and diversion and the corresponding increase in purchased and pumped water increases production expenses substantially.

The pumps and motors at SJWC's groundwater production facilities are propelled by electric power. SJWC has installed standby power generators at 38 of its strategic water production sites and manages a fleet of 21 portable generators deployed throughout the distribution system for power outages at remaining pumping facilities. In addition, the commercial office and operations control centers are outfitted with standby power equipment that allow critical distribution and customer service operations to continue during a power outage. Valley Water has informed SJWC that its filter plants, which deliver purchased water to SJWC, are also equipped with standby generators. In the event of a power outage, SJWC believes it will be able to prevent an interruption of service to customers for a limited period by pumping water using generator power and by using purchased water from Valley Water.

In 2022, the level of water in the Santa Clara Valley groundwater basin, which is managed by the Valley Water, experienced an increase in most areas due to seasonal recovery, an increase in managed recharge operations, and a decrease in groundwater pumping by various water retailers in the region. As reported by Valley Water at the end of 2022, the groundwater level in the Santa Clara Plain was 14 feet higher compared to the same time in 2021. The total groundwater storage at the end of 2022 was within Stage 1 (Normal) of the Valley Water's Water Shortage Contingency Plan. On January 1, 2023, Valley Water's 10 reservoirs were 32% of capacity with 17,263 million gallons of water in storage. As of December 31, 2022, SJWC's Lake Elsman was 45.5% of capacity with 912 million gallons of water, approximately 113.9% of the five-year seasonal average. In addition, the rainfall at SJWC's Lake Elsman was measured at 29.45 inches for the period from July 1, 2022 through December 31, 2022, which is 207.4% of the five-year average. Subsequent to December 31, 2022, California has continued to experience wet weather patterns. SJWC's Montevina Water Treatment Plant treated 1,883 million gallons of water in 2022, which is 103.5% of the five-year average. SJWC's Saratoga Water Treatment Plant treated 42.7 million gallons of water in 2022, which is 17.1% of the five-year average. SJWC believes that its various sources of water supply will be sufficient to meet customer demand in 2023.

On June 9, 2021, Valley Water declared a water shortage emergency and asked its retailers to reduce consumption by 15% based on 2019 usage. In response to Valley Water's declaration of drought emergency and call for conservation, SJWC filed with the CPUC to activate Stage 3 of its Rule 14.1 Water Shortage Contingency Plan. The current restrictions center on outdoor water usage which typically accounts for half of a residential customer's consumption. The restrictions include limits on watering days and times, use of potable water for washing structures and other non-porous surfaces except to protect public health and safety, and no outdoor watering during and up to 48 hours after measurable rainfall. In addition, SJWC implemented a plan with CPUC that established budgets for each residential customer and places a surcharge on water usage that exceeds the allotted budget that was set based on a 15% reduction to 2019 usage. There is no such surcharge for commercial customers except for landscaping water usage.

California also faces long-term water supply challenges. SJWC actively works with Valley Water to meet the challenges by continuing to educate customers on responsible water use practices and conducting long-range water supply planning.

Connecticut Water Supply

Connecticut Water's water sources vary among the individual systems, but overall approximately 80% of the total dependable yield comes from surface water supplies and 20% from

dams. The DEP most recently inspected some of the Company's dams in 2022.

Since 1980, the DEP has required any new dam to have a spillway that is capable of passing the design flood without overtopping the dam. The design flood is either the Probable Maximum Flood, or PMF, or some fraction of it, depending on the size and location of the dam. PMF is very conservative and is calculated using the most severe combination of meteorological and hydrologic conditions reasonably possible in the watershed area of a dam.

The Company engaged a professional engineer to analyze the spillway capacities at the Lake Williams and Lake Redman dams and validate the DEP's recommended flood design for the dams. Management presented the results of the study to the DEP in December 2004, and DEP then requested that the Company submit a proposed schedule for the actions to address the spillway capacities. Thereafter, the Company retained an engineering firm to prepare preliminary designs for increasing the spillway capacities to pass the PMF through armoring the dams with roller compacted concrete. Management met with the DEP on a regular basis to review the preliminary design and discuss scheduling, permitting, and construction requirements including their concern regarding the stability of the Lake Williams spillway in light of current design standards. The Company completed the final design and the permitting process to armor and replace the spillway of the Lake Williams dam and began construction in 2022 at a total cost of approximately $39 million. The Lake Redman dam will be reviewed following the completion of the work on the Lake Williams dam.

Capital expenditures and operating costs required as a result of water quality standards and environmental requirements have been traditionally recognized by state public utility commissions as appropriate for inclusion in establishing rates. The capital expenditures currently required as a result of water quality standards and environmental requirements have been budgeted in the Company's capital program and represent less than 15% of its expected total capital expenditures over the next five years. The Company is currently in compliance with wastewater environmental standards and does not anticipate any major capital expenditures for its current wastewater business.

Growth

(All dollar amounts are stated in thousands of dollars)

The Company continues to grow its number of customers and distribution facilities.

The growth in the number of customers is due primarily to the acquisition of water and wastewater systems and organic growth. During the year ended December 31, 2022, the Company increased its number of customers from 73,144 to 76,731. See "Management's Discussion and Analysis – Acquisitions and Growth" for a discussion of the Company's recent acquisitions.

The Company continues to grow its water distribution and wastewater collection systems to provide reliable service to its expanding franchised service territory and the increasing population within that territory. During the year ended December 31, 2022, the Company installed an additional 97,800 feet of water distribution mains and acquired an additional 235,200 feet of water distribution mains resulting in 1,065 miles of water mains as of December 31, 2022. During the year ended December 31, 2022, the Company acquired an additional 114,100 feet of wastewater collection mains resulting in 94 miles of wastewater mains as of December 31, 2022.

The Company's growth in revenues is primarily a result of customer growth and increases in water and wastewater rates. During the year ended December 31, 2022, the Company recognized revenue of $60,061, an increase of $4,942, or 9.0%, as compared to $55,119 during the year ended December 31, 2021. In 2022, operating revenue was derived from the following sources and in the following percentages: residential, 65%; commercial and industrial, 27%; and other, 8%, which is primarily from the provision for fire service but includes other water and wastewater service-related income. See "Management's Discussion and Analysis – Rate Matters" for a discussion of the Company's rate case management.

Information about Our Executive Officers

The Company presently has 116 employees, all of which are full time employees including the officers detailed in the information set forth under the caption "Executive Officers of the Company" of the 2023 Proxy Statement incorporated herein by reference.

Available Information

The Company makes available free of charge, on or through its website (www.yorkwater.com), its annual report on Form 10-K, its quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act as soon as reasonably practicable after the Company electronically files such material with, or furnishes it to, the SEC. The SEC also maintains a website at www.sec.gov that contains reports, proxy statements, and other information about SEC registrants, including the Company.

Shareholders may request, without charge, copies of the Company's financial reports. Such requests, as well as other investor relations inquiries, should be addressed to:

Molly E. Houck
Investor Relations &
Communications Administrator

The York Water Company
130 East Market Street
York, PA 17401

(717) 718-2942
(800) 750-5561
mollyh@yorkwater.com

Item 1A. Risk Factors.

Not applicable.

Item 1B. Unresolved Staff Comments.

None.

Item 2. Properties.

Source of Water Supply

The Company obtains the bulk of its water supply for its primary system for York and Adams Counties from both the South Branch and East Branch of the Codorus Creek, which together have an average daily flow of approximately 73.0 million gallons from a combined watershed area of approximately 117 square miles. The Company owns two impounding dams on this primary system located in York and Springfield Townships adjoining the Borough of Jacobus to the south. The lower dam, the Lake Williams Impounding Dam, creates a reservoir covering approximately 165 acres containing about 870 million gallons of water. The upper dam, the Lake Redman Impounding Dam, creates a reservoir covering approximately 290 acres containing about 1.3 billion gallons of water. The Company supplements these reservoirs with a 15-mile pipeline from the Susquehanna River to Lake Redman which provides access to an additional supply of 12.0 million gallons per day, or MGD.

The Company obtains its water supply for its system for Franklin County from the Roxbury Dam on the Conodoguinet Creek, which has an average daily flow of approximately 26.0 million gallons from a watershed area of approximately 33 square miles. The Company has a reservoir on this system which holds up to approximately 330 million gallons of water.

The Company also owns satellite groundwater systems in York and Adams Counties. The systems consist of eleven wells capable of providing a combined safe yield of approximately 637,000 gallons per day.

As of December 31, 2022, the Company's present average daily availability was 40.8 million gallons, and daily consumption was approximately 21.1 million gallons.

Pumping Stations

The Company's main pumping station is located in Spring Garden Township, York County, on the south branch of the Codorus Creek about four miles downstream from the Company's lower impounding dam. The pumping station houses pumping equipment with a combined permitted capacity of 42.0 MGD. A large diesel backup generator is installed to provide power to the pumps in the event of an emergency. The untreated water is pumped approximately two miles to the filtration plant through pipes owned by the Company.

The Susquehanna River Pumping Station is located on the western shore of the Susquehanna River in York County, several miles south of Wrightsville. The pumping station houses pumping equipment with a combined permitted capacity of 12.0 MGD. The pumping station pumps water from the Susquehanna River approximately 15 miles through a combination of 30 inch and 36 inch ductile iron main to the Company's upper impounding dam, located at Lake Redman.

The Lake Redman Pumping Station is located in York Township, York County, adjacent to Lake Redman. The pumping station is designed to provide a redundant source with permi capacity to pump 20.0 MGD of untreated water through a company-owned 36 inch force main approximately 3.5 miles to the filtration plant, meeting the Company's daily consump needs.

Item 1. Business.

The York Water Company (the "Company") is the oldest investor-owned water utility in the United States and is duly organized under the laws of the Commonwealth of Pennsylvania. The Company has operated continuously since 1816. The primary business of the Company is to impound, purify to meet or exceed safe drinking water standards and distribute water. The Company also owns and operates three wastewater collection systems and eight wastewater collection and treatment systems. The Company operates within its franchised water and wastewater territory, which covers portions of 54 municipalities within three counties in south-central Pennsylvania. The Company is regulated by the Pennsylvania Public Utility Commission, or PPUC, for both water and wastewater in the areas of billing, payment procedures, dispute processing, terminations, service territory, debt and equity financing and rate setting. The Company must obtain PPUC approval before changing any practices associated with the aforementioned areas.

Water service is supplied through the Company's own distribution system. The Company obtains the bulk of its water supply for its primary system for York and Adams Counties from both the South Branch and East Branch of the Codorus Creek, which together have an average daily flow of 73.0 million gallons from a combined watershed area of approximately 117 square miles. The Company has two reservoirs on this primary system, Lake Williams and Lake Redman, which together hold up to approximately 2.2 billion gallons of water. The Company supplements these reservoirs with a 15-mile pipeline from the Susquehanna River to Lake Redman which provides access to an additional supply of 12.0 million gallons of untreated water per day. The Company obtains its water supply for its system for Franklin County from the Roxbury Dam on the Conodoguinet Creek, which has an average daily flow of approximately 26.0 million gallons from a watershed area of approximately 33 square miles. The Company has a reservoir on this system which holds up to approximately 330 million gallons of water. The Company also owns eleven wells which are capable of providing a safe yield of approximately 637,000 gallons per day to supply water to the customers of its groundwater satellite systems in York and Adams Counties. As of December 31, 2022, the Company's average daily availability was 40.8 million gallons, and average daily consumption was approximately 21.1 million gallons. The Company's service territory had an estimated population of 208,000 as of December 31, 2022. Industry within the Company's service territory is diversified, manufacturing such items as fixtures and furniture, electrical machinery, food products, paper, ordnance units, textile products, air conditioning systems, laundry detergent, barbells, and motorcycles.

The Company's water business is somewhat dependent on weather conditions, particularly the amount and timing of precipitation. Revenues are particularly vulnerable to weather conditions in the summer months. Prolonged periods of hot and dry weather generally cause increased water usage for watering lawns, washing cars, and keeping golf courses and sports fields irrigated. Conversely, prolonged periods of dry weather could lead to drought restrictions from governmental authorities. Despite the Company's adequate water supply, customers may be required to cut back water usage under such drought restrictions which would negatively impact revenues. The Company has addressed some of this vulnerability by instituting minimum customer charges which are intended to cover fixed costs of operations under all likely weather conditions.

The Company's business does not require large amounts of working capital and is not dependent on any single customer or a very few customers for a material portion of its business. Increases in revenues are generally dependent on the Company's ability to obtain rate increases from the PPUC in a timely manner and in adequate amounts and to increase volumes of water sold through increased consumption and increases in the number of customers served. The Company continuously looks for water and wastewater acquisition and expansion opportunities both within and outside its current service territory as well as additional opportunities to enter into bulk water contracts with municipalities and other entities to supply water.

The Company has agreements with several municipalities to provide billing and collection services. The Company also has a service line protection program on a targeted basis in order to further diversify its business. Under this optional program, customers pay a fixed monthly fee, and the Company will repair or replace damaged customer service lines, as needed, subject to an annual maximum dollar amount. The Company continues to review and consider opportunities to expand both initiatives.

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Competition

As a regulated utility, the Company operates within an exclusive franchised territory that is substantially free from direct competition with other public utilities, municipalities, and other entities. Although the Company has been granted an exclusive franchise for each of its existing community water and wastewater systems, the ability of the Company to expand or acquire new service territories may be affected by currently unknown competitors obtaining franchises to surrounding systems by application or acquisition. These competitors may include other investor-owned utilities, nearby municipally-owned utilities and sometimes competition from strategic or financial purchasers seeking to enter or expand in the water and wastewater industry. The addition of new service territory and the acquisition of other utilities are generally subject to review and approval by the PPUC.

Water and Wastewater Quality and Environmental Regulations

Provisions of water and wastewater service are subject to regulation under the federal Safe Drinking Water Act, the Clean Water Act and related state laws, and under federal and state regulations issued under these laws. In addition, the Company is subject to federal and state laws and other regulations relating to solid waste disposal, dam safety and other aspects of its operations.

The federal Safe Drinking Water Act establishes criteria and procedures for the U.S. Environmental Protection Agency, or EPA, to develop national quality standards. Regulations issued under the Act, and its amendments, set standards on the amount of certain contaminants allowable in drinking water. Current requirements are not expected to have a material impact on the Company's operations or financial condition as it already meets or exceeds standards. In the future, the Company may be required to change its method of treating drinking water and may incur additional capital investments if new regulations become effective.

Under the requirements of the Pennsylvania Safe Drinking Water Act, or SDWA, the Pennsylvania Department of Environmental Protection, or DEP, regulates the quality of the finished water supplied to customers. The DEP requires the Company to submit monthly reports showing the results of daily bacteriological and other chemical and physical analyses. As part of this requirement, the Company conducts over 70,000 laboratory tests annually. Management believes that the Company complies with the standards established by the agency under the SDWA. The DEP assists the Company by regulating discharges into the Company's watershed area to prevent and eliminate pollution.

The federal Groundwater Rule establishes protections against microbial pathogens in community water supplies. This rule requires additional testing of water from well sources, and under certain circumstances requires demonstration and maintenance of effective disinfection. The Company holds public water supply permits issued by the DEP, which establishes the groundwater source operating conditions for its wells, including demonstrated 4-log treatment of viruses. All of the groundwater satellite systems operated by the Company are in compliance with the federal Groundwater Rule.

The Clean Water Act regulates discharges from water and wastewater treatment facilities into lakes, rivers, streams, and groundwater. The Company complies with this Act by obtaining and maintaining all required permits and approvals for discharges from its water and wastewater facilities and by satisfying all conditions and regulatory requirements associated with the permits.

The DEP monitors the quality of wastewater discharge effluent under the provisions of the National Pollutant Discharge Elimination System, or NPDES. The Company submits monthly reports to the DEP showing the results of its daily effluent monitoring and removal of sludge and biosolids. The Company is not aware of any significant environmental remediation costs necessary from the handling and disposal of waste material from its wastewater operations.

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Lead and copper may enter drinking water primarily through plumbing materials. The Company is required to comply with the Lead and Copper Rule established by the EPA and administered by the DEP. The Company must monitor drinking water at customer taps for compliance with this rule. If lead concentrations exceed an action level, the Company must undertake a number of additional actions to control corrosion, inform the public about steps they should take to protect their health and may be required to replace lead service lines under its control. The Company is currently in compliance with standards under the Lead and Copper Rule.

The DEP and the Susquehanna River Basin Commission, or SRBC, regulate the amount of water withdrawn from streams in the watershed to assure that sufficient quantities are available to meet the needs of the Company and other regulated users. Through its Division of Dam Safety, the DEP regulates the operation and maintenance of the Company's impounding dams. The Company routinely inspects its dams and prepares annual reports of their condition as required by DEP regulations. The DEP reviews these reports and inspects the Company's dams. The DEP most recently inspected some of the Company's dams in 2022.

Since 1980, the DEP has required any new dam to have a spillway that is capable of passing the design flood without overtopping the dam. The design flood is either the Probable Maximum Flood, or PMF, or some fraction of it, depending on the size and location of the dam. PMF is very conservative and is calculated using the most severe combination of meteorological and hydrologic conditions reasonably possible in the watershed area of a dam.

The Company engaged a professional engineer to analyze the spillway capacities at the Lake Williams and Lake Redman dams and validate the DEP's recommended flood design for the dams. Management presented the results of the study to the DEP in December 2004, and DEP then requested that the Company submit a proposed schedule for the actions to address the spillway capacities. Thereafter, the Company retained an engineering firm to prepare preliminary designs for increasing the spillway capacities to pass the PMF through armoring the dams with roller compacted concrete. Management met with the DEP on a regular basis to review the preliminary design and discuss scheduling, permitting, and construction requirements including their concern regarding the stability of the Lake Williams spillway in light of current design standards. The Company completed the final design and the permitting process to armor and replace the spillway of the Lake Williams dam and began construction in 2022 at a total cost of approximately $39 million. The Lake Redman dam will be reviewed following the completion of the work on the Lake Williams dam.

Capital expenditures and operating costs required as a result of water quality standards and environmental requirements have been traditionally recognized by state public utility commissions as appropriate for inclusion in establishing rates. The capital expenditures currently required as a result of water quality standards and environmental requirements h been budgeted in the Company's capital program and represent less than 15% of its expected total capital expenditures over the next five years. The Company is currently in compli with wastewater environmental standards and does not anticipate any major capital expenditures for its current wastewater business.

Growth

Elizabeth Borough Municipal Authority
Statement of Net Position
December 31, 2019

Current Assets		
Cash and cash equivalents	$	846,709
Accounts receivable		142,452
Prepaid expenses		30,097
Total Current Assets		1,019,258
Capital assets, net of accumulated depreciation		10,651,826
Non-Current Assets		
Prepaid bond insurance		27,953
Restricted cash and cash equivalents held by the Authority:		
Capacity replacement		512,474
Sewer system fund		28,349
Pump station project		14,187
Sludge removal		5,056
Restricted cash and cash equivalents held by the Trustee		1,151,499
Total Non-Current Assets		1,739,518
Total Assets		13,410,602
Deferred Outflows of Resources		
Pension related		23,458
Current Liabilities		
Current portion of long-term debt		235,000
Accounts payable		1,461,606
Accrued payroll liabilities		7,517
Total Current Liabilities		1,704,123
Non-Current Liabilities		
Long-term debt, net of current portion and unamortized discount		7,817,010
Net pension liability		17,569
Total Non-Current Liabilities		7,834,579
Total Liabilities		9,538,702
Deferred Inflows of Resources		
Pension related		29,959
Net Position		
Net investment in capital assets		3,765,501
Restricted for:		
Capacity replacement		540,823
Sludge removal		5,056
Unrestricted		(445,981)
Total Net Position	$	3,865,399

See accompanying notes to the financial statements.

Elizabeth Borough Municipal Authority
Statement of Revenues, Expenses, and
Changes in Net Position
Year Ended December 31, 2019

Operating Revenues		
Sewer revenues	$	1,581,441
Tap-in fees		3,400
Lien letter documentation		1,425
Total Operating Revenues		1,586,266
Operating Expenses		
Salaries and payroll taxes		195,300
Sludge removal		88,417
Professional services		269,150
Employee benefits		83,054
Depreciation		76,060
Insurance		52,487
Utilities		45,766
Sewer vacuuming		7,977
Repairs and maintenance		91,908
System supplies		30,612
Administrative		33,309
Office supplies		14,889
Licenses and permits		8,833
Lab and testing		10,938
Telephone		6,007
Vehicle and travel		4,203
Uniforms		5,001
Miscellaneous		356
Total Operating Expenses		1,024,267
Operating Income Before Non-Operating Expenses		561,999
Non-Operating Revenues (Expenses)		
Bond issuance costs		(161,892)
Interest income		9,429
Interest expense		(230,897)
Total Non-Operating Expenses		(383,360)
Increase in Net Position		178,639
Net Position, Beginning of Year		3,639,816
Prior Period Adjustment		46,944
Adjusted Net Position, Beginning of Year		3,686,760
Net Position, End of Year	$	3,865,399

See accompanying notes to the financial statements.

Elizabeth Borough Municipal Authority
Statement of Cash Flows
Year Ended December 31, 2019

Cash flows from operating activities		
Cash receipts from customers	$	1,586,092
Cash payments to other suppliers of goods or services		(776,249)
Cash payments to employees for services		(181,859)
Net cash provided by operating activities		627,984
Cash flows from capital and related financing activities		
Acquisition, construction, and improvement of capital assets		(1,819,509)
Bond issuance costs paid		(97,862)
Net proceeds from issuance of current refunding bond		6,634,595
Net proceeds from issuance of debt		1,353,385
Principal paid on long-term debt		(5,985,000)
Interest paid on long-term debt		(230,897)
Net cash used by capital and related financing activities		(145,288)
Cash flows from investing activities		
Interest		9,429
Net cash provided by investing activities		9,429
Net increase in cash and cash equivalents		492,125
Cash and cash equivalents at beginning of year		2,066,149
Cash and cash equivalents at end of year	$	2,558,274
Cash and cash equivalents	$	846,709
Restricted cash held by Trustee and Authority		1,711,565
	$	2,558,274
Reconciliation of operating income to net cash provided by operating activities		
Operating income	$	561,999
Adjustments to reconcile operating income to net cash provided by operating activities		
Depreciation expense		76,060
Change in:		
Accounts receivable		(174)
Prepaid expenses		11,277
Prepaid bond insurance		(27,953)
Net pension asset		25,737
Deferred outflows		10,513
Accounts payable		(2,080)
Accrued payroll liabilities		325
Net pension liability		17,569
Deferred inflows		(45,289)
Net cash provided by operating activities	$	627,984

Non-Cash Capital and Related Financing Activities:
As of December 31, 2019, $1,386,826 has been included in accounts payable for ongoing construction projects.

See accompanying notes to the financial statements.

NOTE D – CAPITAL ASSETS

Capital asset activity for the year ended December 31, 2019 was as follows:

	Beginning Balance	Acquisitions	Dispositions	Ending Balance
Capital assets not being depreciated:				
Plant and system (pre-2016)	$ 4,204,459	$ -	$ -	$ 4,204,459
Vehicles and equipment (pre-2016)	194,827	-	-	194,827
Office equipment (pre-2016)	7,198	-	-	7,198
Construction in progress	809,785	2,844,372	-	3,654,157
Land	170,000	91,000	-	261,000
Total capital assets not being depreciated	5,386,269	2,935,372	-	8,321,641
Capital assets being depreciated:				
Plant and system	$ 2,168,389	$ 203,629	$ -	$ 2,372,018
Vehicles and equipment	40,592	67,337	-	107,929
Office equipment	13,114	-	-	13,114
Total capital assets being depreciated	2,222,095	270,966	-	2,493,061
Capital assets at historical cost	7,608,364	3,206,338	-	10,814,702
Less accumulated depreciation for:				
Plant and system	(68,601)	(62,647)	-	(131,248)
Vehicles and equipment	(13,844)	(10,789)	-	(24,633)
Office equipment	(4,371)	(2,624)	-	(6,995)
Total accumulated depreciation	(86,816)	(76,060)	-	(162,876)
Capital assets, net of accumulated depreciation	$ 7,521,548	$ 3,130,278	$ -	$ 10,651,826

Total depreciation expense for the year ended December 31, 2019 was $76,060.

EXHIBIT A

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
STATEMENT OF NET POSITION
DECEMBER 31, 2020

ASSETS:		
CURRENT ASSETS:		
Cash and Cash Equivalents	$	805,197
Accounts Receivable		403,935
Prepaid Expenses		3,817
TOTAL CURRENT ASSETS	**$**	**1,212,949**
RESTRICTED ASSETS:		
Cash and Cash Equivalents	$	1,425,748
TOTAL RESTRICTED ASSETS	**$**	**1,425,748**
PROPERTY, PLANT AND EQUIPMENT:		
Land	$	261,000
Plant and System		7,551,132
Vehicles and Equipment		315,623
Office Equipment		28,716
Construction in Progress		7,436,649
	$	15,593,120
Less Accumulated Depreciation		(263,497)
NET PROPERTY, PLANT AND EQUIPMENT	**$**	**15,329,623**
OTHER ASSETS:		
Net Pension Asset	$	105,323
TOTAL OTHER ASSETS	**$**	**105,323**
TOTAL ASSETS	**$**	**18,073,643**
DEFERRED OUTFLOWS OF RESOURCES:		
Deferred Outflows of Resources - Bond Insurance	$	26,658
Deferred Outflows of Resources - Pensions		15,276
TOTAL DEFERRED OUTFLOWS OF RESOURCES	**$**	**41,934**
TOTAL ASSETS AND DEFERRED OUTFLOWS OF RESOURCES	**$**	**18,115,577**
LIABILITIES:		
CURRENT LIABILITIES:		
Accounts Payable	$	1,025,383
Accrued Payroll and Taxes		14,609
Bonds Payable - Current Portion		240,000
TOTAL CURRENT LIABILITIES	**$**	**1,279,992**
LONG-TERM LIABILITIES:		
Bonds Payable - Long-Term Portion (Net)	$	6,225,506
Note Payable - PENNVEST		6,022,333
TOTAL LONG-TERM LIABILITIES	**$**	**12,247,839**
TOTAL LIABILITIES	**$**	**13,527,831**
DEFERRED INFLOWS OF RESOURCES:		
Deferred Inflows of Resources - Pensions	$	115,080
TOTAL DEFERRED INFLOWS OF RESOURCES	**$**	**115,080**
NET POSITION:		
Net Investment in Capital Assets	$	3,058,880
Restricted		1,208,652
Unrestricted		205,134
TOTAL NET POSITION	**$**	**4,472,666**
TOTAL LIABILITIES, DEFERRED INFLOWS OF RESOURCES AND NET POSITION	**$**	**18,115,577**

The accompanying notes are an integral part of these financial statements

EXHIBIT B

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET POSITION
FOR THE YEAR ENDED DECEMBER 31, 2020

OPERATING REVENUES:	
Sewer Revenues	$ 1,640,811
Lien Letter Fees	1,466
TOTAL OPERATING REVENUES	**$ 1,642,277**
OPERATING EXPENSES:	
Salaries and Wages	$ 189,434
Payroll Taxes	14,399
Employee Benefits	26,782
Professional Services	251,196
Insurance	56,792
Utilities	44,642
Sludge Removal	119,919
Sewer Vacuuming	2,508
Repairs and Maintenance	98,842
System Supples	27,428
Administrative	28,336
Office Expenses	20,949
Licenses and Permits	6,700
Lab and Testing	11,808
Chemicals	775
Telephone	6,659
Vehicle and Travel	3,150
Uniforms	4,326
Depreciation	100,623
TOTAL OPERATING EXPENSES	**$ 1,015,268**
NET OPERATING INCOME	**$ 627,009**
NON-OPERATING REVENUES AND (EXPENSES)	
Interest Income	$ 2,784
Interest Expense	(221,757)
TOTAL NONOPERATING REVENUES (EXPENSES)	**$ (218,973)**
CHANGE IN NET POSITION	**$ 408,036**
NET POSITION - JANUARY 1, 2020	3,865,399
Prior Period Adjustment	199,231
NET POSITION - DECEMBER 31, 2020	**$ 4,472,666**

The accompanying notes are an integral part of these financial statements

EXHIBIT C

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
STATEMENT OF CASH FLOWS
FOR THE YEAR ENDED DECEMBER 31, 2020

CASH FLOWS FROM OPERATING ACTIVITIES	
Cash Received from Customers	$ 1,574,025
Cash Paid for Employee Salaries and Benefits	(223,523)
Cash Paid for Vendor Supplies and Services	(667,589)
Net Cash Provided by (Used In) Operating Activities	**$ 682,913**
CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES	
Acquisition of Property and Equipment	$ (5,227,098)
Proceeds from PENNVEST Note	4,668,948
Principal Payments on Bonds/Notes	(235,000)
Interest Paid on Debt	(219,876)
Net Cash (Used In) Capital and Related Financing Activities	**$ (1,013,026)**
CASH FLOWS FROM INVESTING ACTIVITIES	
Interest Income	$ 2,784
Net Cash Provided by Investing Activities	**$ 2,784**
Net Increase <Decrease> in Cash and Cash Equivalents	**$ (327,329)**
CASH AND CASH EQUIVALENTS - JANUARY 1, 2020	2,558,274
CASH AND CASH EQUIVALENTS - DECEMBER 31, 2020	**$ 2,230,945**

RECONCILIATION OF OPERATING INCOME TO NET CASH PROVIDED BY (USED IN) OPERATING ACTIVITIES:

Net Operating Income (Loss)	$ 627,009
Adjustments to Reconcile Net Operating Income to Net Cash Provided by (Used In) Operating Activities:	
Depreciation	100,623
Amortization of Bond Premium Expense	1,295
Change in Current Assets and Liabilities:	
(Increase) Decrease in Accounts Receivable	(62,252)
(Increase) Decrease in Deferred Outflows of Resources	9,477
Increase (Decrease) in Accounts Payable	37,440
Increase (Decrease) in Accrued Payroll and Taxes	7,092
Increase (Decrease) in Deferred Inflows of Resources - Pension	85,121
Increase (Decrease) in Net Pension Liability	(122,892)
Net Cash Provided by (Used In) Operating Activities	**$ 682,913**

The accompanying notes are an integral part of these financial statements.

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
NOTES TO FINANCIAL STATEMENTS
DECEMBER 31, 2020

NOTE 4 - PROPERTY, PLANT, AND EQUIPMENT

The following comprises the changes to the Authority's property, plant, and equipment account during 2020:

	Balance 1/1/2020	Additions	Dispositions	Balance 12/31/2020
Capital Assets not being Depreciated:				
Land	$ 261,000	$ -	$ -	$ 261,000
Construction in Progress	3,654,157	3,782,492	-	7,436,649
Plant and System (Pre-2016)	4,204,459	-	-	4,204,459
Vehicles and Equipment (Pre-2016)	194,827	-	-	194,827
Office Equipment (Pre-2016)	7,198	-	-	7,198
	$ 8,321,641	**$ 3,782,492**	**$ -**	**$ 12,104,133**
Capital Assets being Depreciated:				
Plant and System	$ 2,372,018	$ 974,655	$ -	$ 3,346,673
Vehicles and Equipment	107,929	12,867	-	120,796
Office Equipment	13,114	8,404	-	21,518
	$ 2,493,061	**$ 995,926**	**$ -**	**$ 3,488,987**
TOTAL	**$ 10,814,702**	**$ 4,778,418**	**$ -**	**$ 15,593,120**
Less Accumulated Depreciation:				
Plant and System	$ (131,248)	$ (80,441)	$ -	$ (211,689)
Vehicles and Equipment	(24,633)	(15,877)	-	(40,510)
Office Equipment	(6,995)	(4,303)	-	(11,298)
	$ (162,876)	**$ (100,621)**	**$ -**	**$ (263,497)**
TOTAL	**$ (162,876)**	**$ (100,621)**	**$ -**	**$ (263,497)**
NET PROPERTY, PLANT AND EQUIPMENT	**$ 10,651,826**	**$ 4,677,797**	**$ -**	**$ 15,329,623**

NOTE 5 - SEWER REVENUE BONDS

SERIES OF 2019

The Elizabeth Borough Municipal Authority issued Sewer Revenue Bonds - Series of 2019 totaling $6,740,000 dated August 20, 2019. The bonds were issued under the terms of the First Supplemental Trust Indenture Agreement by and between the Authority and The Bank of New York Mellon (Trustee). The proceeds from the bonds were used to 1) currently refund the outstanding principal balance due on the Authority's Series of 2012A bond issue, 2) currently refund the outstanding principal balance due on the Authority's Series of 2012B bond issue, 3) finance certain improvements to the sewer system, and 4) to pay for costs related to the issuance of the bonds. The bonds were issued in denominations of $5,000 with interest payable on May 15 and November 15 of each year through maturity. Interest rates on the bonds range between 2.0% and 3.0%. These bonds are scheduled to mature on November 15, 2041. The bonds are subject to optional redemption prior to maturity. The bonds are limited obligations of the Authority payable solely from the pledged revenues as provided in the Trust Indenture.

EXHIBIT A

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
STATEMENT OF NET POSITION
DECEMBER 31, 2021

ASSETS:		
CURRENT ASSETS:		
Cash and Cash Equivalents	$	500,917
Accounts Receivable		534,330
Prepaid Expenses		18,389
TOTAL CURRENT ASSETS	**$**	**1,053,636**
RESTRICTED ASSETS:		
Cash and Cash Equivalents	$	1,257,337
TOTAL RESTRICTED ASSETS	**$**	**1,257,337**
PROPERTY, PLANT AND EQUIPMENT:		
Land	$	261,000
Plant and System		7,654,323
Vehicles and Equipment		364,238
Office Equipment		26,067
Construction in Progress		8,729,450
	$	17,035,078
Less Accumulated Depreciation		(375,809)
NET PROPERTY, PLANT AND EQUIPMENT	**$**	**16,659,269**
OTHER ASSETS:		
Net Pension Asset	$	181,637
TOTAL OTHER ASSETS	**$**	**181,637**
TOTAL ASSETS	**$**	**19,151,879**
DEFERRED OUTFLOWS OF RESOURCES:		
Deferred Outflows of Resources - Bond Insurance	$	25,363
Deferred Outflows of Resources - Pensions		30,774
TOTAL DEFERRED OUTFLOWS OF RESOURCES	**$**	**56,137**
TOTAL ASSETS AND DEFERRED OUTFLOWS OF RESOURCES	**$**	**19,208,016**
LIABILITIES:		
CURRENT LIABILITIES:		
Accounts Payable	$	370,749
Accrued Payroll and Taxes		9,884
Bonds Payable - Current Portion		245,000
TOTAL CURRENT LIABILITIES	**$**	**625,633**
LONG-TERM LIABILITIES:		
Bonds Payable - Long-Term Portion (Net)	$	5,982,386
Note Payable - PENNVEST		7,407,701
TOTAL LONG-TERM LIABILITIES	**$**	**13,390,087**
TOTAL LIABILITIES	**$**	**14,015,720**
DEFERRED INFLOWS OF RESOURCES:		
Deferred Inflows of Resources - Pensions	$	164,674
TOTAL DEFERRED INFLOWS OF RESOURCES	**$**	**164,674**
NET POSITION:		
Net Investment in Capital Assets	$	3,024,182
Restricted		1,257,337
Unrestricted		746,103
TOTAL NET POSITION	**$**	**5,027,622**
TOTAL LIABILITIES, DEFERRED INFLOWS OF RESOURCES AND NET POSITION	**$**	**19,208,016**

The accompanying notes are an integral part of these financial statements

EXHIBIT B

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET POSITION
FOR THE YEAR ENDED DECEMBER 31, 2021

OPERATING REVENUES:	
Sewer Revenues	$ 1,809,152
Lien Letter Fees	3,786
TOTAL OPERATING REVENUES	**$ 1,812,938**
OPERATING EXPENSES:	
Salaries and Wages	$ 212,633
Payroll Taxes	16,145
Employee Benefits	5,416
Professional Services	222,562
Insurance	48,972
Utilities	85,172
Sludge Removal	119,645
Sewer Vacuuming	11,900
Repairs and Maintenance	15,944
System Supples	52,385
Administrative	51,233
Office Expenses	14,963
Licenses and Permits	6,700
Lab and Testing	15,683
Telephone	7,479
Vehicle and Travel	5,346
Uniforms	5,029
Depreciation	131,419
TOTAL OPERATING EXPENSES	**$ 1,028,626**
NET OPERATING INCOME	**$ 784,312**
NON-OPERATING REVENUES AND (EXPENSES)	
Interest Income	$ 189
Refund of Prior Year Expense	23,400
Interest Expense	(252,945)
TOTAL NONOPERATING REVENUES (EXPENSES)	**$ (229,356)**
CHANGE IN NET POSITION	**$ 554,956**
NET POSITION - JANUARY 1, 2021	4,472,666
NET POSITION - DECEMBER 31, 2021	**$ 5,027,622**

The accompanying notes are an integral part of these financial statements

EXHIBIT C

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
STATEMENT OF CASH FLOWS
FOR THE YEAR ENDED DECEMBER 31, 2021

CASH FLOWS FROM OPERATING ACTIVITIES	
Cash Received from Customers	$ 1,682,543
Cash Paid for Employee Salaries and Benefits	(281,137)
Cash Paid for Vendor Supplies and Services	(1,330,926)
Net Cash Provided by (Used In) Operating Activities	**$ 70,480**
CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES	
Acquisition of Property and Equipment	$ (1,461,065)
Proceeds from PENNVEST Note	1,521,645
Principal Payments on Bonds/Notes	(376,276)
Interest Paid on Debt	(251,064)
Net Cash (Used In) Capital and Related Financing Activities	**$ (566,760)**
CASH FLOWS FROM NON CAPITAL FINANCING ACTIVITIES	
Refund of Prior Year Expense	$ 23,400
Net Cash Provided by (Used In) Non Capital Financing Activities	**$ 23,400**
CASH FLOWS FROM INVESTING ACTIVITIES	
Interest Income	$ 189
Net Cash Provided by Investing Activities	**$ 189**
Net Increase <Decrease> in Cash and Cash Equivalents	**$ (472,691)**
CASH AND CASH EQUIVALENTS - JANUARY 1, 2021	2,230,945
CASH AND CASH EQUIVALENTS - DECEMBER 31, 2021	**$ 1,758,254**
RECONCILIATION OF OPERATING INCOME TO NET CASH PROVIDED BY (USED IN) OPERATING ACTIVITIES:	
Net Operating Income (Loss)	$ 784,312
Adjustments to Reconcile Net Operating Income to Net Cash Provided by (Used In) Operating Activities:	
Depreciation	131,419
Amortization of Bond Premium Expense	1,295
Change in Current Assets and Liabilities:	
(Increase) Decrease in Accounts Receivable	(130,395)
(Increase) Decrease in Deferred Outflows of Resources	(15,498)
(Increase) Decrease in Prepaid Expenses	(14,572)
Increase (Decrease) in Accounts Payable	(654,636)
Increase (Decrease) in Accrued Payroll and Taxes	(4,725)
Increase (Decrease) in Deferred Inflows of Resources - Pension	49,594
Increase (Decrease) in Net Pension Liability	(76,314)
Net Cash Provided by (Used In) Operating Activities	**$ 70,480**

The accompanying notes are an integral part of these financial statements.

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
NOTES TO FINANCIAL STATEMENTS
DECEMBER 31, 2021

NOTE 4 - PROPERTY, PLANT, AND EQUIPMENT

The following comprises the changes to the Authority's property, plant, and equipment account during 2021:

	Balance 1/1/2021	Additions	Dispositions	Balance 12/31/2021
Capital Assets not being Depreciated:				
Land	$ 261,000	$ -	$ -	$ 261,000
Construction in Progress	7,436,649	1,433,089	(140,288)	8,729,450
Plant and System (Pre-2016)	4,204,459	-	-	4,204,459
Vehicles and Equipment (Pre-2016)	194,827	-	-	194,827
Office Equipment (Pre-2016)	7,198	-	-	7,198
	$ 12,104,133	**$ 1,433,089**	**$ (140,288)**	**$ 13,396,934**
Capital Assets being Depreciated:				
Plant and System	$ 3,346,673	$ 103,191	$ -	$ 3,449,864
Vehicles and Equipment	120,796	65,073	(16,458)	169,411
Office Equipment	21,518	-	(2,649)	18,869
	$ 3,488,987	**$ 168,264**	**$ (19,107)**	**$ 3,638,144**
TOTAL	**$ 15,593,120**	**$ 1,601,353**	**$ (159,395)**	**$ 17,035,078**
Less Accumulated Depreciation:				
Plant and System	$ (211,689)	$ (109,859)	$ -	$ (321,548)
Vehicles and Equipment	(40,510)	(17,256)	16,458	(41,308)
Office Equipment	(11,298)	(4,304)	2,649	(12,953)
	$ (263,497)	**$ (131,419)**	**$ 19,107**	**$ (375,809)**
TOTAL	**$ (263,497)**	**$ (131,419)**	**$ 19,107**	**$ (375,809)**
NET PROPERTY, PLANT AND EQUIPMENT	**$ 15,329,623**	**$ 1,469,934**	**$ (140,288)**	**$ 16,659,269**

NOTE 5 - SEWER REVENUE BONDS

SERIES OF 2019

The Elizabeth Borough Municipal Authority issued Sewer Revenue Bonds - Series of 2019 totaling $6,740,000 dated August 20, 2019. The bonds were issued under the terms of the First Supplemental Trust Indenture Agreement by and between the Authority and The Bank of New York Mellon (Trustee). The proceeds from the bonds were used to 1) currently refund the outstanding principal balance due on the Authority's Series of 2012A bond issue, 2) currently refund the outstanding principal balance due on the Authority's Series of 2012B bond issue, 3) finance certain improvements to the sewer system, and 4) to pay for costs related to the issuance of the bonds. The bonds were issued in denominations of $5,000 with interest payable on May 15 and November 15 of each year through maturity. Interest rates on the bonds range between 2.0% and 3.0%. These bonds are scheduled to mature on November 15, 2041. The bonds are subject to optional redemption prior to maturity. The bonds are limited obligations of the Authority payable solely from the pledged revenues as provided in the Trust Indenture.

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
STATEMENT OF NET POSITION
DECEMBER 31, 2022

ASSETS:		
CURRENT ASSETS:		
Cash and Cash Equivalents	$	271,534
Accounts Receivable		656,190
Prepaid Expenses		3,972
TOTAL CURRENT ASSETS	**$**	**931,696**
RESTRICTED ASSETS:		
Cash and Cash Equivalents	$	1,217,706
TOTAL RESTRICTED ASSETS	**$**	**1,217,706**
PROPERTY, PLANT AND EQUIPMENT:		
Land	$	261,000
Plant and System		7,654,323
Vehicles and Equipment		374,812
Office Equipment		26,067
Construction in Progress		8,943,726
	$	17,259,928
Less Accumulated Depreciation		(519,504)
NET PROPERTY, PLANT AND EQUIPMENT	**$**	**16,740,424**
OTHER ASSETS:		
Net Pension Asset	$	259,736
TOTAL OTHER ASSETS	**$**	**259,736**
TOTAL ASSETS	**$**	**19,149,562**
DEFERRED OUTFLOWS OF RESOURCES:		
Deferred Outflows of Resources - Bond Insurance	$	24,068
Deferred Outflows of Resources - Pensions		23,106
TOTAL DEFERRED OUTFLOWS OF RESOURCES	**$**	**47,174**
TOTAL ASSETS AND DEFERRED OUTFLOWS OF RESOURCES	**$**	**19,196,736**
LIABILITIES:		
CURRENT LIABILITIES:		
Accounts Payable	$	47,345
Accrued Payroll and Taxes		8,077
Bonds Payable - Current Portion		250,000
TOTAL CURRENT LIABILITIES	**$**	**305,422**
LONG-TERM LIABILITIES:		
Bonds Payable - Long-Term Portion (Net)	$	5,734,267
Note Payable - PENNVEST		7,461,845
TOTAL LONG-TERM LIABILITIES	**$**	**13,196,112**
TOTAL LIABILITIES	**$**	**13,501,534**
DEFERRED INFLOWS OF RESOURCES:		
Deferred Inflows of Resources - Pensions	$	175,994
TOTAL DEFERRED INFLOWS OF RESOURCES	**$**	**175,994**
NET POSITION:		
Net Investment in Capital Assets	$	3,294,312
Restricted		1,217,706
Unrestricted		1,007,190
TOTAL NET POSITION	**$**	**5,519,208**
TOTAL LIABILITIES, DEFERRED INFLOWS OF RESOURCES AND NET POSITION	**$**	**19,196,736**

The accompanying notes are an integral part of these financial statements

EXHIBIT B

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET POSITION
FOR THE YEAR ENDED DECEMBER 31, 2022

OPERATING REVENUES:	
Sewer Revenues	$ 1,820,534
Lien Letter Fees	1,050
Miscellaneous Income	306
TOTAL OPERATING REVENUES	**$ 1,821,890**
OPERATING EXPENSES:	
Salaries and Wages	$ 215,411
Payroll Taxes	16,433
Employee Benefits	(29,265)
Professional Services	281,954
Insurance	48,164
Utilities	84,303
Sludge Removal	103,360
Sewer Vacuuming	11,183
Repairs and Maintenance	65,739
System Supples	50,157
Administrative	28,084
Office Expenses	19,144
Licenses and Permits	7,650
Lab and Testing	11,478
Telephone	7,361
Vehicle and Travel	5,210
Uniforms	6,733
Depreciation	143,695
TOTAL OPERATING EXPENSES	**$ 1,076,794**
NET OPERATING INCOME	**$ 745,096**
NON-OPERATING REVENUES AND (EXPENSES)	
Interest Income	$ 98
Interest Expense	(253,608)
TOTAL NONOPERATING REVENUES (EXPENSES)	**$ (253,510)**
CHANGE IN NET POSITION	**$ 491,586**
NET POSITION - JANUARY 1, 2022	5,027,622
NET POSITION - DECEMBER 31, 2022	**$ 5,519,208**

The accompanying notes are an integral part of these financial statements

EXHIBIT C

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
STATEMENT OF CASH FLOWS
FOR THE YEAR ENDED DECEMBER 31, 2022

CASH FLOWS FROM OPERATING ACTIVITIES	
Cash Received from Customers	$ 1,700,030
Cash Paid for Employee Salaries and Benefits	(204,387)
Cash Paid for Vendor Supplies and Services	(1,096,027)
Net Cash Provided by Operating Activities	**$ 399,616**
CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES	
Acquisition of Property and Equipment	$ (224,850)
Proceeds from PENNVEST Note	462,348
Principal Payments on Bonds/Notes	(653,203)
Interest Paid on Debt	(253,023)
Net Cash (Used In) Capital and Related Financing Activities	**$ (668,728)**
CASH FLOWS FROM INVESTING ACTIVITIES	
Interest Income	$ 98
Net Cash Provided by Investing Activities	**$ 98**
Net Increase <Decrease> in Cash and Cash Equivalents	**$ (269,014)**
CASH AND CASH EQUIVALENTS - JANUARY 1, 2022	1,758,254
CASH AND CASH EQUIVALENTS - DECEMBER 31, 2022	**$ 1,489,240**
RECONCILIATION OF OPERATING INCOME TO NET CASH PROVIDED BY (USED IN) OPERATING ACTIVITIES:	
Net Operating Income (Loss)	$ 745,096
Adjustments to Reconcile Net Operating Income to Net Cash Provided by (Used In) Operating Activities:	
Depreciation	143,695
Amortization of Bond Insurance Expense	1,295
Change in Current Assets and Liabilities:	
(Increase) Decrease in Accounts Receivable	(121,859)
(Increase) Decrease in Deferred Outflows of Resources	8,963
(Increase) Decrease in Prepaid Expenses	14,417
(Increase) Decrease in Net Pension Asset	(78,099)
Increase (Decrease) in Accounts Payable	(323,404)
Increase (Decrease) in Accrued Payroll and Taxes	(1,808)
Increase (Decrease) in Deferred Inflows of Resources - Pension	11,320
Net Cash Provided by (Used In) Operating Activities	**$ 399,616**

The accompanying notes are an integral part of these financial statements.

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
NOTES TO FINANCIAL STATEMENTS
DECEMBER 31, 2022

NOTE 3 – ACCOUNTS RECEIVABLE

Accounts receivable for sewer charges, as reflected in Exhibit A, is comprised of the following:

Borough of Elizabeth	$ 412,693
Elizabeth Township	143,363
Elizabeth Manor (Forward Township)	34,406
Fallen Timber (Forward Township)	4,243
Kelly Run Sanitation (Forward Township)	36,302
Lincoln Borough	1,783
PWSA Reimbursement Pipe Cleaning	23,400
	$ 656,190

NOTE 4 - PROPERTY, PLANT, AND EQUIPMENT

The following comprises the changes to the Authority's property, plant, and equipment account during 2022:

	Balance 1/1/2022	Additions	Dispositions	Balance 12/31/2022
Capital Assets not being Depreciated:				
Land	$ 261,000	$ -	$ -	$ 261,000
Construction in Progress	8,729,450	214,276	-	8,943,726
Plant and System (Pre-2016)	4,204,459	-	-	4,204,459
Vehicles and Equipment (Pre-2016)	194,827	-	-	194,827
Office Equipment (Pre-2016)	7,198	-	-	7,198
	$ 13,396,934	**$ 214,276**	**$ -**	**$ 13,611,210**
Capital Assets being Depreciated:				
Plant and System	$ 3,449,864	$ -	$ -	$ 3,449,864
Vehicles and Equipment	169,411	10,574	-	179,985
Office Equipment	18,869	-	-	18,869
	$ 3,638,144	**$ 10,574**	**$ -**	**$ 3,648,718**
TOTAL	**$ 17,035,078**	**$ 224,850**	**$ -**	**$ 17,259,928**
Less Accumulated Depreciation:				
Plant and System	$ (321,548)	$ (113,265)	$ -	$ (434,813)
Vehicles and Equipment	(41,308)	(27,874)	-	(69,182)
Office Equipment	(12,953)	(2,556)	-	(15,509)
	$ (375,809)	**$ (143,695)**	**$ -**	**$ (519,504)**
TOTAL	**$ (375,809)**	**$ (143,695)**	**$ -**	**$ (519,504)**
NET PROPERTY, PLANT AND EQUIPMENT	**$ 16,659,269**	**$ 81,155**	**$ -**	**$ 16,740,424**

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
2023 BUDGET

CATEGORY	DESCRIPTION	1ST QTR 2023	2ND QTR 2023	3RD QTR 2023	4TH QTR 2023	TOTAL
ORDINARY INCOME/EXPENSE						
INCOME						
4000	Operating Revenues on 2022 Rates					
4010	Elizabeth Borough	$165,000	$165,000	$165,000	$165,000	**$660,000**
4020	Elizabeth Township	$186,000	$186,000	$186,000	$186,000	**$744,000**
4030	Forward Township					
4031	Elizabeth Manor	$32,300	$32,300	$32,300	$32,300	**$129,200**
4032	Fallen Timber	$23,200	$23,200	$23,200	$23,200	**$92,800**
4033	Kelly Run Sanitation	$36,900	$36,900	$36,900	$36,900	**$147,600**
Total 4030	*Forward Township*	*$92,400.00*	*$92,400.00*	*$92,400.00*	*$92,400.00*	***$369,600***
4040	Lincoln Borough	$1,300	$1,300	$1,300	$1,300	**$5,200**
4050	Delinquent Collections	$0	$0	$0	$0	**$0**
4100	Lien Letter Documentation	$300	$300	$300	$300	**$1,200**
4150	Tap Fees	$0	$0	$0	$0	**$0**
4200	Miscellaneous Income	$0	$0	$0	$0	**$0**
Total 4000	*Operating Revenues on 2022 Rates*	*$445,000*	*$445,000*	*$445,000*	*$445,000*	***$1,780,000***
4400	CDBG Grant	$0	$0.00	$0.00	$0.00	**$0**
4500	Interest Income	$25	$25.00	$25.00	$25.00	**$100**
6105	Discounts/credits	$0	$0	$0	$0	**$0**
Additional Revenue/Transfer Needed to Balance Budget		$33,088	$33,088	$33,088	$33,088	**$132,350**
TOTAL OPERATING INCOME		***$478,113***	***$478,113***	***$478,113***	***$478,113***	***$1,912,450***
EXPENSE						
5000	Operating Expenses					
5105	Sludge Removal	$29,500	$29,500	$29,500	$29,500	**$118,000**
5115	Lab and Testing	$3,200	$3,200	$3,200	$3,200	**$12,800**
5120	Chemicals	$0	$0	$0	$0	**$0**
5121	Plant Supplies & Maintenance	$7,300	$7,300	$7,300	$7,300	**$29,200**
5125	Repairs and Maintenance	$12,000	$12,000	$12,000	$12,000	**$48,000**
5126	Street Sweeping	$3,100	$3,100	$3,100	$3,100	**$12,400**
5130	Sewer System Supplies and Maint	$6,000	$6,000	$6,000	$6,000	**$24,000**
5135	Debris Disposal	$650	$650	$650	$650	**$2,600**
5140	Licenses and Permits	$2,100	$2,100	$2,100	$2,100	**$8,400**
5200	Staff Expenses					
5210	Salaries & Wages	$45,000	$45,000	$45,000	$45,000	**$180,000**
5215	Employee Bonuses	$200	$200	$200	$200	**$800**
5217	Employee Gifts	$0	$0	$0	$0	**$0**
5220	Payroll Tax Expense	$3,900	$3,900	$3,900	$3,900	**$15,600**
5225	Health Insurance	$3,000	$3,000	$3,000	$3,000	**$12,000**
5226	Life Insurance	$200	$200	$200	$200	**$800**
5230	Employee Benefits	$0	$0	$0	$0	**$0**
5231	Pension Expense	$1,200	$1,200	$1,200	$1,200	**$4,800**
5235	Worker's Comp Insurance	$3,000	$3,000	$3,000	$3,000	**$12,000**
5240	Training	$100	$100	$100	$100	**$400**
5245	Outside Services	$33,500	$33,500	$33,500	$33,500	**$134,000**
5200	Staff Expense - Other	$0	$0	$0	$0	**$0**
Total 5200	*Staff Expenses*	*$90,100*	*$90,100*	*$90,100*	*$90,100*	***$360,400***
5300	Office Expenses					
5310	Utilities	$25,000	$25,000	$25,000	$25,000	**$100,000**
5320	Telephone	$2,100	$2,100	$2,100	$2,100	**$8,400**
5340	Office Supplies	$100	$100	$100	$100	**$400**
5345	Postage	$600	$600	$600	$600	**$2,400**
5350	Software and Computer	$3,000	$3,000	$3,000	$3,000	**$12,000**
5360	Uniforms	$1,700	$1,700	$1,700	$1,700	**$6,800**
5200	Office Expenses Other	$0	$0	$0	$0	**$0**
Total 5300	*Office Expenses*	*$32,500*	*$32,500*	*$32,500*	*$32,500*	***$130,000***
5400	Professional Fees					
5410	Engineering	$15,000	$15,000	$15,000	$15,000	**$60,000**
5415	Legal	$6,200	$6,200	$6,200	$6,200	**$24,800**
5420	Accounting	$7,000	$7,000	$7,000	$7,000	**$28,000**
5430	Financial Services	$0	$0	$0	$0	**$0**
5450	Payroll Service Fees	$4,500	$4,500	$4,500	$4,500	**$18,000**
Total 5400	*Professional Fees*	*$32,700*	*$32,700*	*$32,700*	*$32,700*	***$130,800***
5500	Administrative Expenses	$5,800	$5,800	$5,800	$5,800	**$23,200**
5600	Insurance	$8,800	$8,800	$8,800	$8,800	**$35,200**
5700	Vehicle and Travel	$1,500	$1,500	$1,500	$1,500	**$6,000**
5800	Miscellaneous Expenses					
5805	Bank Fees	$500	$500	$500	$500	**$2,000**
5810	Advertising	$100	$100	$100	$100	**$400**
5815	Dues and Subscriptions	$600	$600	$600	$600	**$2,400**
5820	Miscellaneous Expenses	$100	$100	$100	$100	**$400**
Total 5800	*Miscellaneous Expenses*	*$1,300*	*$1,300*	*$1,300*	*$1,300*	***$5,200***
Total 5000	Operating Expenses	$236,550	$236,550	$236,550	$236,550	**$946,200**
6021	Bond Administration Fee	$700	$700	$700	$700	**$2,800**
8000	Non-Operating Expenses	$0	$0	$0	$0	**$0**
8010	P&I Expense - 2019 Bond	$0	$81,459	$0	$331,459	**$412,918**
8010	P&I Expense - Pennvest	$122,416	$122,416	$122,416	$122,416	**$489,663**
8010	Interest Expense	$4,605	$4,605	$4,605	$4,605	**$18,418**
Total 8000	*Non-Operating Expenses*	*$127,720*	*$209,179*	*$127,720*	*$459,179*	***$923,799***
TOTAL EXPENSE		*$364,270*	*$445,729*	*$364,270*	*$695,729*	***$1,869,999***
NET ORDINARY INCOME		***$113,842***	***$32,383***	***$113,842***	***-$217,617***	***$42,451***
Other Income/Expense						
	Bond 10% Coverage Expense	$10,320	$10,320	$10,320	$10,320	**$41,280**
NET INCOME		***$103,522***	***$22,063***	***$103,522***	***-$227,937***	**$1,171**

ELIZABETH BOROUGH MUNICIPAL AUTHORITY
2024 BUDGET

CATEGORY	DESCRIPTION	1ST QTR 2024	2ND QTR 2024	3RD QTR 2024	4TH QTR 2024	TOTAL
ORDINARY INCOME/EXPENSE						
INCOME						
4000	Operating Revenues on 2022 Rates					
4010	Elizabeth Borough	$151,700	$151,700	$151,700	$151,700	**$606,800**
4020	Elizabeth Township	$220,000	$220,000	$220,000	$220,000	**$880,000**
4030	Forward Township					
4031	Elizabeth Manor	$36,000	$36,000	$36,000	$36,000	**$144,000**
4032	Fallen Timber	$21,500	$21,500	$21,500	$21,500	**$86,000**
4033	Kelly Run Sanitation	$37,100	$37,100	$37,100	$37,100	**$148,400**
Total 4030	*Forward Township*	*$94,600.00*	*$94,600.00*	*$94,600.00*	*$94,600.00*	***$378,400***
4040	Lincoln Borough	$1,800	$1,800	$1,800	$1,800	**$7,200**
4050	Delinquent Collections	$0	$0	$0	$0	**$0**
4100	Lien Letter Documentation	$300	$300	$300	$300	**$1,200**
4150	Tap Fees	$0	$0	$0	$0	**$0**
4200	Miscellaneous Income	$0	$0	$0	$0	**$0**
Total 4000	*Operating Revenues on 2023 Rates*	*$468,400*	*$468,400*	*$468,400*	*$468,400*	***$1,873,600***
4400	CDBG Grant	$0	$0.00	$0.00	$0.00	**$0**
4500	Interest Income	$25	$25.00	$25.00	$25.00	**$100**
6105	Discounts/credits	$0	$0	$0	$0	**$0**
Additional Income/Transfer Needed to Balance Budget		$47,000	$47,000	$47,000	$47,000	**$188,000**
TOTAL OPERATING INCOME		***$515,425***	***$515,425***	***$515,425***	***$515,425***	***$2,061,700***
EXPENSE						
5000	Operating Expenses					
5105	Sludge Removal	$29,000	$29,000	$29,000	$29,000	**$116,000**
5115	Lab and Testing	$3,000	$3,000	$3,000	$3,000	**$12,000**
5120	Chemicals	$2,500	$2,500	$2,500	$2,500	**$10,000**
5121	Plant Supplies & Maintenance	$6,500	$6,500	$6,500	$6,500	**$26,000**
5125	Repairs and Maintenance	$8,000	$8,000	$8,000	$8,000	**$32,000**
5126	Street Sweeping	$2,000	$2,000	$2,000	$2,000	**$8,000**
5130	Sewer System Supplies and Maint	$6,000	$6,000	$6,000	$6,000	**$24,000**
5135	Debris Disposal	$650	$650	$650	$650	**$2,600**
5140	Licenses and Permits	$2,000	$2,000	$2,000	$2,000	**$8,000**
5200	Staff Expenses					
5210	Salaries & Wages	$51,600	$51,600	$51,600	$51,600	**$206,400**
5215	Employee Bonuses	$150	$150	$150	$150	**$600**
5217	Employee Gifts	$150	$150	$150	$150	**$600**
5220	Payroll Tax Expense	$3,700	$3,700	$3,700	$3,700	**$14,800**
5225	Health Insurance	$3,000	$3,000	$3,000	$3,000	**$12,000**
5226	Life Insurance	$300	$300	$300	$300	**$1,200**
5230	Employee Benefits	$0	$0	$0	$0	**$0**
5231	Pension Expense	$1,200	$1,200	$1,200	$1,200	**$4,800**
5235	Worker's Comp Insurance	$3,100	$3,100	$3,100	$3,100	**$12,400**
5240	Training	$250	$250	$250	$250	**$1,000**
5245	Outside Services	$35,000	$35,000	$35,000	$35,000	**$140,000**
5200	Staff Expense - Other	$0	$0	$0	$0	**$0**
Total 5200	*Staff Expenses*	*$98,450*	*$98,450*	*$98,450*	*$98,450*	***$393,800***
5300	Office Expenses					
5310	Utilities	$17,000	$17,000	$17,000	$17,000	**$68,000**
5320	Telephone	$2,000	$2,000	$2,000	$2,000	**$8,000**
5340	Office Supplies	$100	$100	$100	$100	**$400**
5345	Postage	$500	$500	$500	$500	**$2,000**
5350	Software and Computer	$4,100	$4,100	$4,100	$4,100	**$16,400**
5360	Uniforms	$1,800	$1,800	$1,800	$1,800	**$7,200**
5200	Office Expenses Other	$0	$0	$0	$0	**$0**
Total 5300	*Office Expenses*	*$25,500*	*$25,500*	*$25,500*	*$25,500*	***$102,000***
5400	Professional Fees					
5410	Engineering	$15,000	$15,000	$15,000	$15,000	**$60,000**
5415	Legal	$15,000	$15,000	$15,000	$15,000	**$60,000**
5420	Accounting	$7,000	$7,000	$7,000	$7,000	**$28,000**
5430	Financial Services	$0	$0	$0	$0	**$0**
5450	Payroll Service Fees	$4,800	$4,800	$4,800	$4,800	**$19,200**
Total 5400	*Professional Fees*	*$41,800*	*$41,800*	*$41,800*	*$41,800*	***$167,200***
5500	Administrative Expenses	$6,000	$6,000	$6,000	$6,000	**$24,000**
5600	Insurance	$8,500	$8,500	$8,500	$8,500	**$34,000**
5700	Vehicle and Travel	$1,500	$1,500	$1,500	$1,500	**$6,000**
5800	Miscellaneous Expenses					
5805	Bank Fees	$500	$500	$500	$500	**$2,000**
5810	Advertising	$200	$200	$200	$200	**$800**
5815	Dues and Subscriptions	$500	$500	$500	$500	**$2,000**
5820	Miscellaneous Expenses	$300	$300	$300	$300	**$1,200**
Total 5800	*Miscellaneous Expenses*	*$1,500*	*$1,500*	*$1,500*	*$1,500*	***$6,000***
Total 5000	Operating Expenses	$242,900	$242,900	$242,900	$242,900	**$971,600**
6021	Bond Administration Fee	$400	$400	$400	$400	**$1,600**
8000	Non-Operating Expenses					
8010	P&I Expense - Pennvest	$122,420	$122,420	$122,420	$122,420	**$489,680**
8010	P&I Expense - 2019 Bond	$0	$77,709	$0	$337,709	**$415,418**
8010	Interest Expense	$0	$0	$0	$0	**$0**
Total 8000	*Non-Operating Expenses*	*$122,820*	*$200,529*	*$122,820*	*$460,529*	***$1,046,698***
	Capital Replacement	*$35,000*	*$35,000*	*$35,000*	*$35,000*	***$140,000***
TOTAL EXPENSE		***$400,720***	***$478,429***	***$400,720***	***$738,429***	***$2,018,298***
NET ORDINARY INCOME		***$114,705***	***$36,996***	***$114,705***	***-$223,004***	***$43,402***
Other Income/Expense						
	Bond 10% Coverage Expense	$10,385	$10,385	$10,385	$10,385	**$41,542**
NET INCOME		***$104,320***	***$26,611***	***$104,320***	***-$233,389***	**$1,860**

Schedule 6.10 – Rates

1. Effective date: January 1, 2022
   Base Rate: $35.00 per month
   Usage included in Base Rate: 0 gallons per month
   Overage Rate: $8.00 per 1,000 gallons.

	Elizabeth, PA Data & Demographics (As of July 1, 2023)	*Township Of Elizabeth Data & Demographics (As of July 1, 2023)*	*Township Of Forward Data & Demographics (As of July 1, 2023)*	*Lincoln, PA Data & Demographics (As of July 1, 2023)*
POPULATION				
Total Population	1,390 (100%)	12,762 (100%)	3,031 (100%)	909 (100%)
Population in Households	1,390 (100.0%)	12,668 (99.3%)	3,023 (99.7%)	908 (99.9%)
Population in Families	1,071 (77.1%)	10,474 (82.1%)	2,424 (80.0%)	762 (83.8%)
Population in Group Quarters1	0	94 (0.7%)	8 (0.3%)	1 (0.1%)
Population Density	4,054	560	160	189
Diversity Index2	27	16	13	10
INCOME				
Median Household Income	$47,275	$79,032	$61,841	$70,495
Average Household Income	$70,085	$107,622	$89,797	$97,055
% of Income for Mortgage4	11%	17%	26%	17%
Per Capita Income	$31,513	$46,189	$39,585	$44,632
Wealth Index5	48	114	88	96
HOUSING				
Total HU (Housing Units)	701 (100%)	5,882 (100%)	1,455 (100%)	454 (100%)
Owner Occupied HU	369 (52.6%)	4,504 (76.6%)	1,152 (79.2%)	383 (84.4%)
Renter Occupied HU	256 (36.5%)	972 (16.5%)	184 (12.6%)	35 (7.7%)
Vacant Housing Units	76 (10.8%)	406 (6.9%)	119 (8.2%)	36 (7.9%)
Median Home Value	$82,589	$220,552	$262,774	$200,568
Average Home Value	$121,680	$252,242	$296,897	$208,877
Housing Affordability Index3	189	120	88	127
HOUSEHOLDS				
Total Households	625	5,476	1,336	418
Average Household Size	2.22	2.31	2.26	2.17
Family Households	365	3,722	875	287
Average Family Size	3	3	3	3

7.0 CUSTOMERS

According to Authority records there were approximately 2,190 customers in 2022. The trends in customers, flows and revenues are shown in the following tables.

Trends in Customers

	2018	2019	2020	2021	2022
Elizabeth Borough	688	652	674	621	688
Elizabeth Township	1,168	1,166	1,172	1,175	1,172
Forward Township	310	316	313	315	320
Lincoln Borough	10	10	10	10	10
Total	2,176	2,144	2,169	2,121	2,190

Source: Elizabeth Borough Municipal Authority

Trends in Customer Flows (Thousand Gallons)

	2018	2019	2020	2021 [A]	2022
Elizabeth Borough	25,462	25,557	25,283	18,366	24,725
Elizabeth Township	51,080	54,690	50,878	41,872	45,524
Forward Township	47,264	60,154	38,769	14,186	42,249
Lincoln Borough	396	364	270	148	323
Total	124,202	138,765	115,200	74,572	112,821

[A] Data through September 2021

Source: Elizabeth Borough Municipal Authority

The above flows are based on water meter records and represent flow figures used for billing purposes and do not represent the total sewage flow received at the WWTP. These metered flow records have been relatively stable over the last 5 years. In 2021 the metered flow through September accounted for approximately 25% of the total flow through the plant of 295,500,000 gallons. The additional flow is due to inflow and infiltration (I/I) and other sources of unmetered flow in the Borough's combined sewer system and in the Elizabeth Township and Forward Township sanitary sewer collection systems.

Customer revenues in 2021 were reported as $1,887,102 and in 2022 were $1,655,377. This is an apparent decrease of approximately 14% based on data from the Authority. It is possible that additional income was outstanding from unpaid bills to Elizabeth Township, Forward Township or Lincoln Borough at that time. This issue may be clarified in the 2022 audit or 2021 year-end financial statements.

Customer #	Name/ Address	City/St/Zip/ Service Address	Phone #
EBM10009296	PRIME PROPERTIES USA 5000 ELDORADO PKWY 150	FRISCO TX, 75033- 9 MAPLE AVE SSL	
EBM10011196	WE BUY POSS LLC 301 SOUTH HILLS VILLAGE SUITE LL 200 BOX 103	PITTSBURG PA, 15241- 716 5TH AVE	
EBM10012009	PAMELA WROBLESKI 265 SCOTT HAVEN RD	SUTERSVILLE PA, 15083-1349 206 CENTER AVE	
EBM10002248	D & R HAULING 2440 RIDGE RD	ELIZABETH PA, 15037-2039 160 CENTER AVE	
EBM10008871	KEVIN ABELS 1819 ROY AVE	SUTERSVILLE PA, 15083-1405 1819 ROY AVE	(724)-872-4373
EBM10010300	CAROLYN ADAMS 612 BRINKMAN LN	MCKEESPORT PA, 15135-2318 612 BRINKMAN LN	(412)-751-2236
EBM10003993	RITE AIDE CORP #2482 C/O PO BOX 2440	SPOKANE WA, 99210-2440 300 MARKET ST	
EBM10005568	AJL PROPERT SOLUTIONS LLC 4145 MATHILDA ST	PITTSBURGH PA, 15234-1903 817 7TH AVE	
EBM10010843	AJL PROPERT SOLUTIONS LLC 4145 MATHILDA ST	PITTSBURGH PA PA, 15234-1903 238 HICKORY ST	
EBM10011842	KAITLYN ANTON 601 S 2ND AVE	ELIZABETH PA, 15037- 601 S 2ND AVE	
EBM10010166	MX 3 ENTERPRISE PO BOX 395	ELIZABETH PA, 15037-1410 208 WALNUT ST	
EBM10001995	MAYHUGH ALLEN R 401 S 2ND AVE	ELIZABETH PA, 15037-1415 401 S 2ND AVE	(412)-680-8357
EBM10005881	ERIN AMENDOLA 933 3RD AVE	ELIZABETH PA, 15037-1133 933 3RD AVE	
EBM10003890	ABBOTT ANGELA M 606 CHURCH ST	ELIZABETH PA, 15037-1612 606 CHURCH ST	
EBM10007779	GONDA MEADE 537 REED ST	CLAIRTON PA, 15025- 617 CHURCH ST	
EBM10004332	ROCKWELL APARTMENTS 201 S 2ND AVE	ELIZABETH PA, 15037-1521 311 S 2ND AVE	(412)-980-9269
EBM10006914	ROCKWELL APARTMENTS 201 S 2ND AVE	ELIZABETH PA, 15037-1521 108 N 2ND AVE	
EBM10007999	ROCKWELL APARTMENTS 201 S 2ND AVE	ELIZABETH PA, 15037-1521 223 2ND ST APT B	(412)-384-3909
EBM10010386	ROCKWELL APARTMENTS 201 S 2ND AVE	ELIZABETH PA, 15037-1521 212 S 3RD ST	(412)-980-9269
EBM10010393	ROCKWELL APARTMENTS 201 S 2ND AVE	ELIZABETH PA, 15037-1521 214 S 3RD AVE	(412)-980-9269
EBM10002303	WILLIAM APFELTHALER 283 CENTER AVE	ELIZABETH PA, 15037-1120 283 CENTER AVE	
EBM10002073	MITCHELL ARTHUR PO BOX 395	ELIZABETH PA, 15037-0395 120 S 2ND AVE	
EBM10002956	JOANN ASHTON 612 6TH AVE	ELIZABETH PA, 15037-1315 612 6TH AVE	(412)-384-7719

Appendix A-5.2
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E.B.M.A.
Customer Summary Report by Name

Customer #	Name/ Address	City/St/Zip/ Service Address	Phone #
EBM10003759	STEPHANIE ZIACAN 137 PINEVIEW DR	ELIZABETH PA, 15037- 108 ELLSWORTH AVE	(412)-384-7333
EBM10009636	KATE ZUZAK 707 6TH AVE	ELIZABETH PA, 15037-1230 707 6TH AVE	(724)-518-2327

680 Total Customers

EBMA System Map 2023

1 inch equals 175 ft

Legend

- Sanitary Sewer Features
  - Structure Type
    - Inlet
    - Lamphole Surface
    - Lamphole Buried
    - Manhole Surface Combined
    - Manhole Surface Sanitary
    - Manhole Buried Combined
    - Removed Manhole
    - 15" Outfall Sewer
  - Pipes
    - PIPE DIA
      - 0
      - 4
      - 6
      - 8
      - 10
      - 12
      - 15
      - 18
      - 24
      - 27
    - CSO Chamber
    - Endwall
- CSO Sewer Sheds
  - CSO # 3
  - CSO # 4
  - CSO # 5
  - CSO # 6
  - CSO # 7
  - CSO # 8
  - Municipal Boundary
  - Building Footprint
  - Edge of Pavement
  - Force Main & Fallen Timber
  - 48
  - 40
  - 36
  - 30

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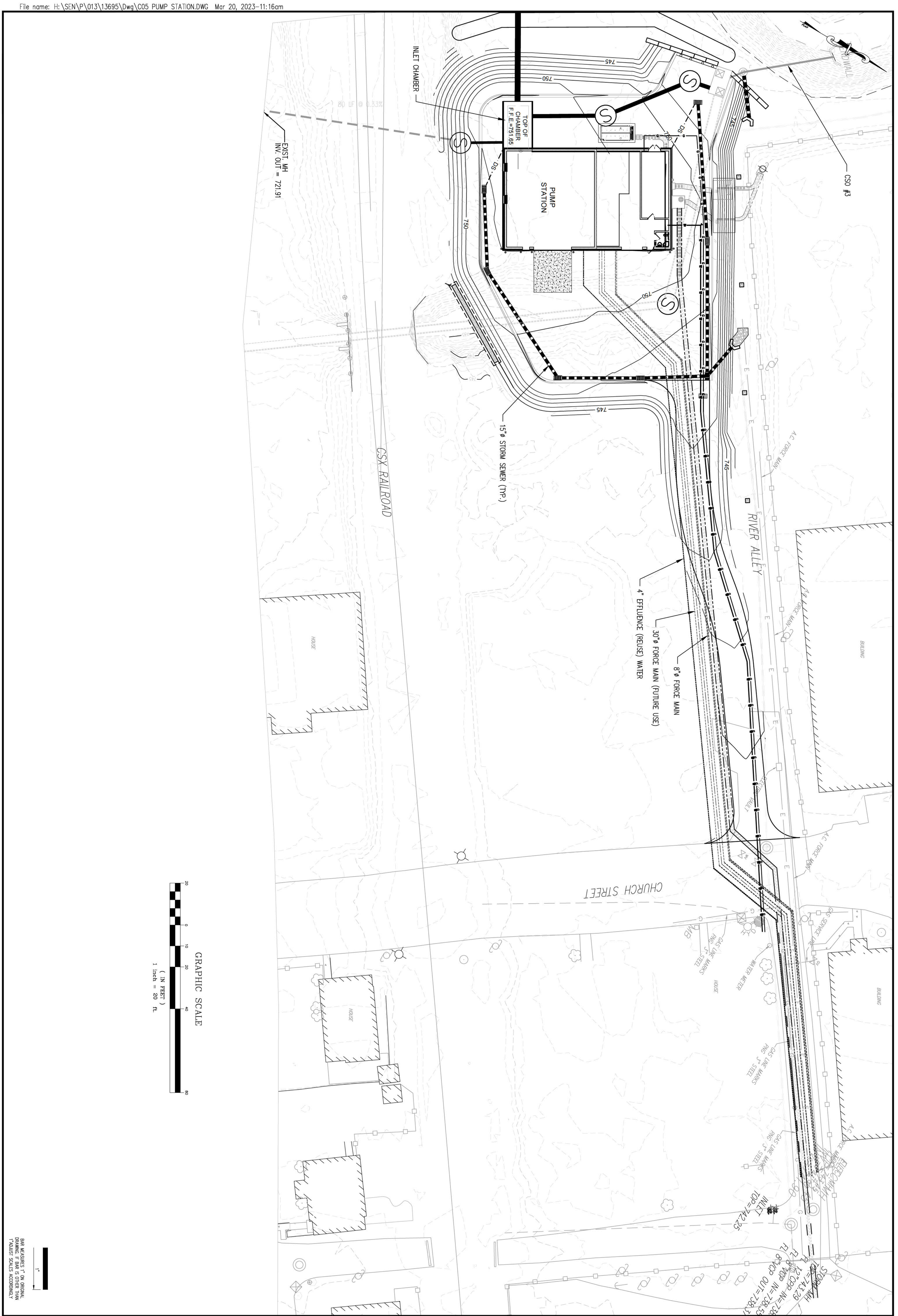

GRAPHIC SCALE

(IN FEET)
1 inch = 20 ft.

BAR MEASURES 1" ON ORIGINAL DRAWING. IF BAR IS OTHER THAN 1" ADJUST SCALES ACCORDINGLY

DRAWING No.: C05
SHEET No.: OF 000
SHEET NUMBER

PUMP STATION PLAN

ELIZABETH BOROUGH MUNICIPAL AUTHORITY

No. 1 LOCUST STREET
ELIZABETH, PA 15037
P: 412-384-3686
F: 412-384-3144

SENATE ENGINEERING
ENGINEERS-PLANNERS-SURVEYORS
U-PARC
420 WILLIAM PITT WAY
PITTSBURGH, PA 15238
P: 412-826-5454
F: 412-826-5458
www.senateengineering.com

DESIGN BY:	K HILLMAN
DRAWN BY:	J MARCUM
CHECKED BY:	R BARNETT
SCALE:	AS NOTED
JOB No.	13695
DATE	03/20/2023

REVISIONS	BY	DATE

File name: H:\SEN\P\013\13695\Dwg\EBMA WWTP STRUCTURES.DWG Mar 20, 2023–11:10am

PLAN

BLOWER MECHANICAL ROOM
AERATION TANK
AERATION TANK
AERATION TANK
AERATION TANK
CLARIFERS
CHLORINE ROOM
CHLORINE CONTACT TANK
EFFLUENT CHAMBER
DIGESTER
OFFICE/CONTROL BUILDING
GARAGE
BOROUGH GARAGE
36" TRIPLE PEAR
X 74574
X 74562
X 75105

GRAPHIC SCALE
(IN FEET)
1 inch = 20 ft.
20 0 10 20 40 80

BAR MEASURES 1" ON ORIGINAL DRAWING. IF BAR IS OTHER THAN 1" ADJUST SCALES ACCORDINGLY
1"

SHT.No. 000 OF
SHEET NUMBER

SEWAGE TREATMENT PLANT
PLAN

ELIZABETH BOROUGH
MUNICIPAL AUTHORITY
No. 1 LOCUST STREET
ELIZABETH, PA 15037
P: 412-384-3686
F: 412-384-3144

SENATE ENGINEERING
ENGINEERS-PLANNERS-SURVEYORS
U-PARC
420 WILLIAM PITT WAY
PITTSBURGH, PA 15238
www.senateengineering.com
P: 412-826-5454
F: 412-826-5458

DRAWN BY:	DATE:
MBE / SJM	03/17/2023
DESIGN BY:	SCALE:
–	AS SHOWN
CHECKED BY:	JOB No.
–	13695

REVISIONS	BY	DATE

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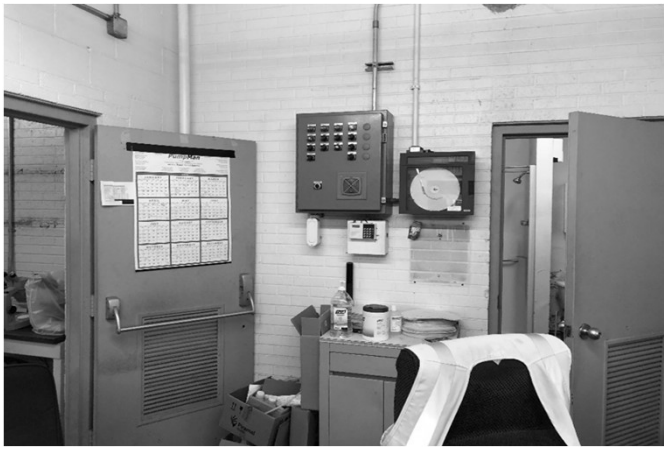
WWTP Office

WWTP Office



WWTP Office

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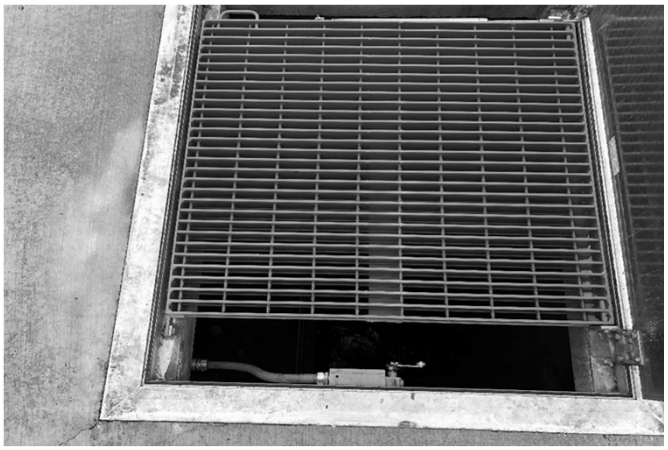

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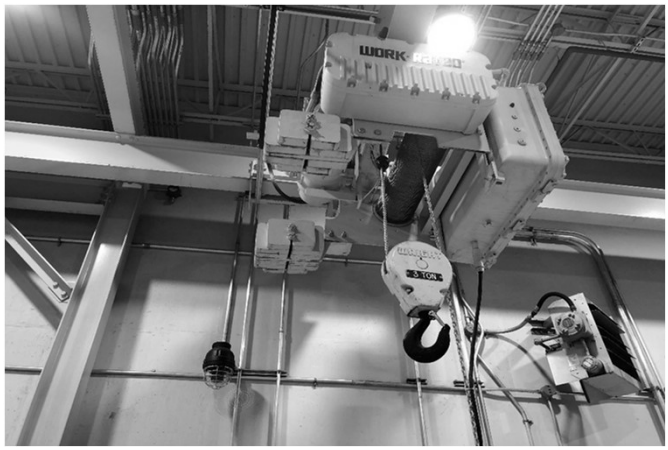

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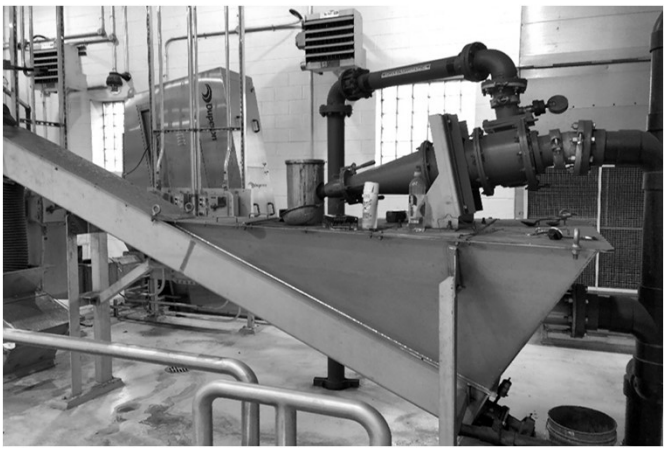

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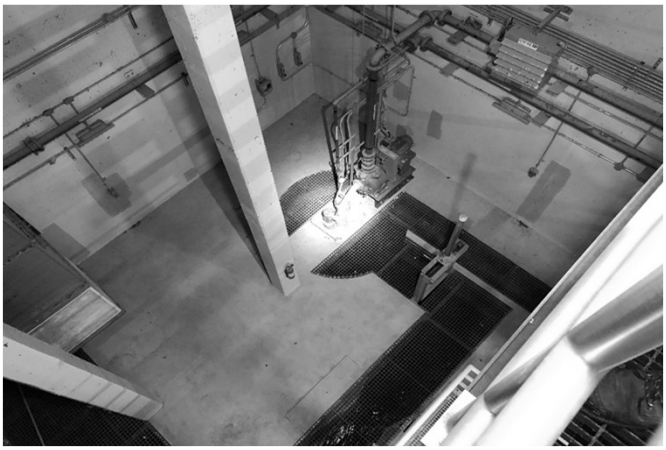

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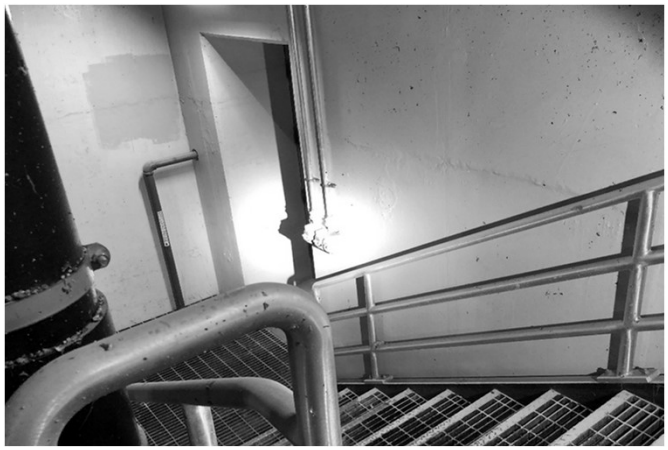

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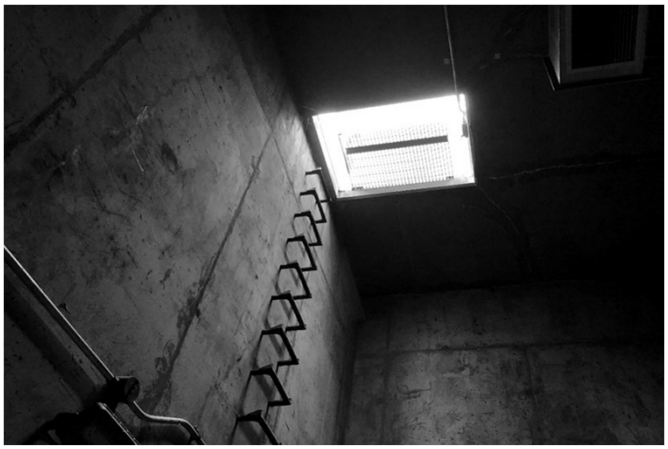

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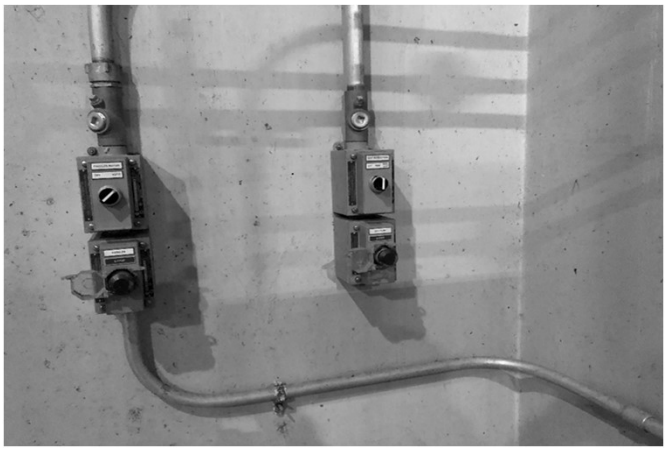

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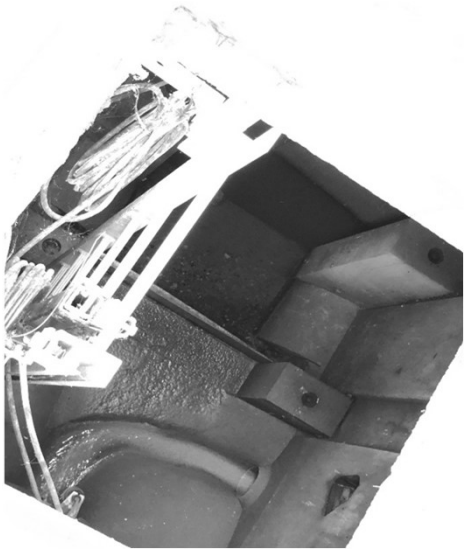

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Consensus Forecast of U.S. Interest Rates and Key Assumptions

	History								Consensus Forecasts-Quarterly Avg.					
	Average For Week Ending				Average For Month			Latest Qtr	1Q	2Q	3Q	4Q	1Q	2Q
Interest Rates	Feb 17	Feb 10	Feb 3	Jan 27	Jan	Dec	Nov	4Q 2022	2023	2023	2023	2023	2024	2024
Federal Funds Rate	4.58	4.58	4.33	4.33	4.33	4.10	3.78	3.65	4.7	5.1	5.1	5.0	4.7	4.2
Prime Rate	7.75	7.75	7.50	7.50	7.50	7.27	6.95	6.82	7.8	8.2	8.2	8.1	7.8	7.3
SOFR	4.55	4.55	4.41	4.30	4.30	4.08	3.73	3.62	4.6	5.0	5.0	4.9	4.6	4.2
Commercial Paper, 1-mo.	4.56	4.53	4.46	4.39	4.33	4.20	3.88	3.79	4.7	5.1	5.1	4.9	4.6	4.2
Treasury bill, 3-mo.	4.82	4.74	4.69	4.72	4.69	4.36	4.32	4.18	4.8	5.1	5.1	4.9	4.6	4.2
Treasury bill, 6-mo.	4.98	4.89	4.80	4.81	4.80	4.71	4.61	4.54	4.9	5.1	5.1	4.8	4.5	4.1
Treasury bill, 1 yr.	4.97	4.87	4.70	4.69	4.69	4.68	4.73	4.61	4.9	5.0	4.9	4.6	4.4	4.1
Treasury note, 2 yr.	4.59	4.47	4.19	4.16	4.21	4.29	4.50	4.39	4.5	4.6	4.4	4.1	3.9	3.6
Treasury note, 5 yr.	4.01	3.86	3.59	3.59	3.64	3.76	4.06	4.00	3.9	4.0	3.9	3.8	3.7	3.5
Treasury note, 10 yr.	3.80	3.67	3.48	3.49	3.53	3.62	3.89	3.83	3.8	3.8	3.8	3.7	3.6	3.5
Treasury bond, 30 yr.	3.85	3.73	3.61	3.64	3.66	3.66	4.00	3.90	3.9	4.0	3.9	3.9	3.8	3.8
Corporate Aaa bond	4.90	4.78	4.63	4.67	4.73	4.80	5.23	5.15	4.8	5.1	5.1	5.0	4.9	4.8
Corporate Baa bond	5.54	5.39	5.24	5.28	5.37	5.49	5.95	5.89	5.8	6.0	6.1	6.0	5.8	5.7
State & Local bonds	4.16	4.04	3.98	3.97	4.05	4.23	4.50	4.45	4.1	4.3	4.3	4.2	4.1	4.0
Home mortgage rate	6.32	6.12	6.09	6.13	6.27	6.36	6.81	6.69	6.3	6.4	6.4	6.2	6.0	5.8
	History								Consensus Forecasts-Quarterly					
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q
Key Assumptions	2021	2021	2021	2021	2022	2022	2022	2022	2023	2023	2023	2023	2024	2024
Fed's AFE Index	103.4	102.8	104.9	106.9	108.3	113.5	118.8	119.8	116.7	116.1	115.4	115.0	114.5	114.4
Real GDP	6.3	7.0	2.7	7.0	-1.6	-0.6	3.2	2.7	0.5	-0.3	0.0	0.7	1.2	1.7
GDP Price Index	5.2	6.3	6.2	6.8	8.3	9.0	4.4	3.9	3.2	2.8	2.6	2.5	2.5	2.3
Consumer Price Index	4.2	7.5	6.6	8.8	9.2	9.7	5.5	4.2	3.7	3.1	2.8	2.6	2.4	2.2
PCE Price Index	4.5	6.4	5.6	6.2	7.5	7.3	4.3	3.7	3.6	2.8	2.7	2.5	2.3	2.1

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		NetPlant	Advances	CIAC	DefTax	ITC		
		2022 Net Property, Plant & Equipment	Advances for construction	Contributions in aid of construction	Deferred income taxes, net	Deferred investment tax credits	2022 Known "Cost Free" Capital	2022 Percentage of Known "Cost Free" Capital
		(Millions of $)						
	Comparable Group							
1	American States Water Co	$1,753.766	$64.351	$147.918	$149.677	$1.082	$363.028	21%
2	American Water Works Co Inc	$23,223.000	$316.000	$1,504.000	$2,437.000	$0.000	$4,257.000	18%
3	Artesian Resources -CL A	$668.031	$3.686	$224.308	$54.552	$0.439	$282.985	42%
4	California Water Service Gp	$3,058.870	$199.832	$285.401	$330.251	$0.000	$815.484	27%
5	Essential Utilities, Inc.	$11,130.946	$114.732	$610.254	$1,345.766	$0.000	$2,070.752	19%
6	Middlesex Water Co	$920.551	$21.382	$113.375	$77.783	$0.000	$212.540	23%
7	SJW Corp	$2,671.192	$137.696	$323.668	$218.155	$0.000	$679.519	25%
8	York Water Co	$431.901	$14.911	$42.301	$47.901	$0.000	$105.113	24%
	Median							24%

CONSOLIDATED BALANCE SHEETS - USD ($) $ in Thousands	Dec. 31, 2022	Dec. 31, 2021
Regulated utility plant, at cost		
Water	$2,006,468	$1,898,817
Electric	133,815	116,472
Total	2,140,283	2,015,289
Non-regulated utility property, at cost	38,066	37,064
Total utility plant, at cost	2,178,349	2,052,353
Less — accumulated depreciation	-606,231	-594,264
Utility plant before construction work in progress	1,572,118	1,458,089
Construction work in progress	181,648	167,915
Net utility plant	1,753,766	1,626,004
Other Property and Investments		
Goodwill	1,116	1,116
Other property and investments	36,907	40,806
Total other property and investments	38,023	41,922
Current Assets		
Cash and cash equivalents	5,997	4,963
Accounts receivable — customers, less allowance for doubtful accounts	26,206	34,416
Unbilled revenue — receivable (Note 2)	20,663	27,147
Receivable from U.S. government, less allowance for doubtful accounts (Note 2)	34,974	27,827
Other accounts receivable, less allowance for doubtful accounts	4,215	6,510
Income taxes receivable	3,901	236
Materials and supplies	14,623	12,163
Regulatory assets — current	14,028	8,897
Prepayments and other current assets	5,450	5,317
Contract assets (Note 2)	9,390	6,135
Purchase power contract derivatives at fair value	11,847	4,441
Total current assets	151,294	138,052
Regulatory and Other Assets		
Unbilled revenue, receivable from U.S government	6,456	9,671
Receivable from U.S. government (Note 2)	50,482	51,991
Contract assets (Note 2)	5,592	3,452
Operating lease right-of-use assets	9,535	10,479
Regulatory assets	5,694	3,182
Other	13,532	16,230
Total other assets	91,291	95,005
Total Assets	2,034,374	1,900,983
Capitalization		
Common shareholder's equity	709,549	685,947
Long-term debt	446,547	412,176
Total capitalization	1,156,096	1,098,123
Current Liabilities		
Notes payable to banks	255,500	31,000
Long-term debt — current	399	377
Accounts payable	84,849	65,902
Income taxes payable	1,848	4,662
Accrued other taxes	16,257	17,137
Accrued employee expenses	13,996	16,256
Accrued interest	5,308	4,545
Regulatory liabilities	4,574	1,896
Contract liabilities (Note 2)	903	257
Operating lease liabilities	1,892	2,044
Other	10,996	11,498
Total current liabilities	396,522	155,574
Other Credits		
Notes payable to banks	22,000	174,500
Advances for construction	64,351	66,727
Contributions in aid of construction — net	147,918	147,482
Deferred income taxes	149,677	140,290
Regulatory liabilities	40,602	32,979
Unamortized investment tax credits	1,082	1,153
Accrued pension and other post-retirement benefits	33,636	61,365
Operating lease liabilities	8,090	8,920
Other	14,400	13,870
Total other credits	481,756	647,286
Commitments and Contingencies		
Liabilities and Equity, Total	$2,034,374	$1,900,983

NetPlant	1,753,766	1,626,004
Advances	64,351	66,727
CIAC	147,918	147,482
DefTax	149,677	140,290
ITC	1,082	1,153

Consolidated Balance Sheets - USD ($) $ in Millions	Dec. 31, 2022	Dec. 31, 2021
ASSETS		
Property, plant and equipment	####### ###	####### ###
Accumulated depreciation	-6,513	-6,329
Property, plant and equipment, net	23,223	21,084
Current assets:		
Cash and cash equivalents	85	116
Restricted funds	32	20
Accounts receivable, net of allowance for uncollectible accounts of $60 and $75, respectively	334	271
Income tax receivable	114	4
Unbilled revenues	275	248
Materials and supplies	98	57
Assets held for sale	0	683
Other	312	155
Total current assets	1,250	1,554
Regulatory and other long-term assets:		
Regulatory assets	990	1,051
Seller promissory note from the sale of the Homeowner Services Group	720	720
Operating lease right-of-use assets	82	92
Goodwill	1,143	1,139
Postretirement benefit assets	0	193
Other	379	242
Total regulatory and other long-term assets	3,314	3,437
Total assets	27,787	26,075
Capitalization:		
Common stock ($0.01 par value; 500,000,000 shares authorized; 187,200,539 and 186,880,413 shares issued, respectively)	2	2
Paid-in-capital	6,824	6,781
Retained earnings	1,267	925
Accumulated other comprehensive loss	-23	-45
Treasury stock, at cost (5,342,477 and 5,269,324 shares, respectively)	-377	-365
Total common shareholders' equity	7,693	7,298
Long-term debt	10,926	10,341
Redeemable preferred stock at redemption value	3	3
Total long-term debt	10,929	10,344
Total capitalization	18,622	17,642
Current liabilities:		
Short-term debt	1,175	584
Current portion of long-term debt	281	57
Accounts payable	254	235
Accrued liabilities	706	701
Accrued taxes	49	176
Accrued interest	91	88
Liabilities related to assets held for sale	0	83
Other	255	217
Total current liabilities	2,811	2,141
Regulatory and other long-term liabilities:		
Advances for construction	316	284
Deferred income taxes and investment tax credits	2,437	2,421
Regulatory liabilities	1,590	1,600
Operating lease liabilities	70	80
Accrued pension expense	235	285
Other	202	180
Total regulatory and other long-term liabilities	4,850	4,850
Contributions in aid of construction	1,504	1,442
Commitments and contingencies		
Total capitalization and liabilities	####### ###	####### ###

NetPlant	**23,223**	**21,084**
Advances	**316**	**284**
CIAC	**1,504**	**1,442**
DefTax	**2,437**	**2,421**
ITC	**0**	**0**

CONSOLIDATED BALANCE SHEETS - USD ($) $ in Thousands	Dec. 31, 2022	Dec. 31, 2021
ASSETS		
Utility plant, at original cost less accumulated depreciation	$668,031	$590,431
Current assets		
Cash and cash equivalents	1,309	92
Accounts receivable (less allowance for doubtful accounts 2022 - $416; 2021-$429)	13,511	8,367
Income tax receivable	1,632	2,234
Unbilled operating revenues	1,586	1,080
Materials and supplies	4,702	1,933
Prepaid property taxes	2,186	2,306
Prepaid expenses and other	2,878	2,652
Total current assets	27,804	18,664
Other assets		
Non-utility property (less accumulated depreciation - 2022- $990; 2021 - $919)	3,740	3,751
Other deferred assets	10,536	5,097
Goodwill	1,939	0
Operating lease right of use assets	467	451
Total other assets	16,682	9,299
Regulatory assets, net	7,274	6,321
Total assets	719,791	624,715
Stockholders' equity		
Common stock	9,503	9,414
Preferred stock	0	0
Additional paid-in capital	107,142	104,989
Retained earnings	71,286	63,607
Total stockholders' equity	187,931	178,010
Long-term debt, net of current portion	175,619	143,259
Total stockholders' equity and long-term debt	363,550	321,269
Current liabilities		
Lines of credit	20,174	26,703
Current portion of long-term debt	2,003	1,591
Accounts payable	10,929	10,206
Accrued expenses	4,246	4,038
Overdraft payable	43	30
Accrued interest	989	917
Income taxes payable	6	0
Customer and other deposits	2,489	2,273
Other	3,190	1,448
Total current liabilities	44,069	47,206
Commitments and contingencies (Note 11)		
Deferred credits and other liabilities		
Net advances for construction	3,686	4,295
Operating lease liabilities	466	440
Regulatory liabilities	28,721	21,260
Deferred investment tax credits	439	456
Deferred income taxes	54,552	53,133
Total deferred credits and other liabilities	87,864	79,584
Net contributions in aid of construction	224,308	176,656
Total Liabilities and Stockholders' Equity	$719,791	$624,715

NetPlant	668,031	590,431
Advances	3,686	4,295
CIAC	224,308	176,656
DefTax	54,552	53,133
ITC	439	456

Consolidated Balance Sheets - USD ($) $ in Thousands	Dec. 31, 2022	Dec. 31, 2021
Utility plant:		
Land	$45,861	$45,047
Depreciable plant and equipment	4,215,619	3,899,629
Construction work in progress	247,013	222,713
Intangible assets	27,779	29,955
Total utility plant	4,536,272	4,197,344
Less accumulated depreciation and amortization	-1,477,402	-1,350,482
Net utility plant	3,058,870	2,846,862
Current assets:		
Cash and cash equivalents	62,100	78,380
Restricted cash	22,925	2,273
Receivables:		
Customers, net	55,079	60,785
Regulatory balancing accounts	66,826	78,597
Other, net	20,932	18,452
Unbilled revenue, net	33,140	32,760
Materials and supplies at weighted average cost	12,564	9,511
Taxes, prepaid expenses, and other assets	21,969	19,700
Total current assets	295,535	300,458
Other assets:		
Regulatory assets	283,620	285,692
Goodwill	36,814	36,814
Other	175,913	153,445
Total other assets	496,347	475,951
TOTAL ASSETS	3,850,752	3,623,271
Capitalization:		
Common stock, $0.01 par value; 136,000 shares authorized, 55,598 and 53,716 outstanding in 2022 and 2021, respectively	556	537
Additional paid-in capital	760,336	651,121
Retained earnings	556,698	514,873
Noncontrolling interests	4,804	5,386
Total equity	1,322,394	1,171,917
Long-term debt, net	1,052,487	1,055,794
Total capitalization	2,374,881	2,227,711
Current liabilities:		
Current maturities of long-term debt, net	3,310	5,192
Short-term borrowings	70,000	35,000
Accounts payable	140,986	144,369
Regulatory balancing accounts	12,240	32,908
Accrued other taxes	8,607	5,379
Accrued interest	6,490	6,542
Other accrued liabilities	53,017	42,547
Total current liabilities	294,650	271,937
Deferred income taxes	330,251	294,647
Regulatory Liabilities	213,679	180,428
Pension	78,443	92,287
Advances for construction	199,832	198,086
Contributions in aid of construction	285,401	285,665
Other long-term liabilities	73,615	72,510
Commitments and contingencies (Note 14)		
TOTAL CAPITALIZATION AND LIABILITIES	########## ###	########## ###

NetPlant	3,058,870	2,846,862
Advances	199,832	198,086
CIAC	285,401	285,665
DefTax	330,251	294,647
ITC	0	0

Consolidated Balance Sheets - USD ($) $ in Thousands	Dec. 31, 2022	Dec. 31, 2021
Assets		
Property, plant and equipment, at cost	########## ###	########## ###
Less: accumulated depreciation	2,606,441	2,358,510
Net property, plant and equipment	11,130,946	10,251,866
Current assets:		
Cash and cash equivalents	11,398	10,567
Accounts receivable, net	206,324	141,025
Unbilled revenues	170,504	119,896
Inventory - materials and supplies	46,592	33,756
Inventory - gas stored	153,143	75,804
Current assets held for sale	11,167	
Prepayments and other current assets	39,759	36,597
Regulatory assets	19,272	20,150
Total current assets	658,159	437,795
Regulatory assets	1,342,753	1,429,840
Deferred charges and other assets, net	166,653	141,955
Funds restricted for construction activity	1,342	1,313
Goodwill	2,340,792	2,340,815
Non-current assets held for sale	32,124	
Operating lease right-of-use assets	41,734	48,930
Intangible assets	4,604	5,764
Total assets	15,719,107	14,658,278
Essential Utilities stockholders' equity:		
Common stock at $0.50 par value, authorized 600,000,000 shares, issued 266,973,321 and 256,102,388 as of December 31, 2022 and December 31, 2021	133,486	128,050
Capital in excess of par value	3,793,262	3,705,814
Retained earnings	1,534,331	1,434,201
Treasury stock, at cost, 3,236,237 and 3,234,765 shares as of December 31, 2022 and December 31, 2021	-83,693	-83,615
Total stockholders' equity	5,377,386	5,184,450
Long-term debt, excluding current portion	6,418,039	5,815,211
Less: debt issuance costs	46,982	35,707
Long-term debt, excluding current portion, net of debt issuance costs	6,371,057	5,779,504
Commitments and contingencies (See Note 9)		
Current liabilities:		
Current portion of long-term debt	199,356	132,146
Loans payable	228,500	65,000
Accounts payable	238,843	192,932
Book overdraft	28,694	81,722
Accrued interest	47,063	40,815
Accrued taxes	34,393	37,924
Liabilities related to assets held for sale	3,263	
Regulatory liabilities	35,276	384
Dividends payable	75,808	
Other accrued liabilities	130,673	124,140
Total current liabilities	1,021,869	675,063
Deferred credits and other liabilities:		
Deferred income taxes and investment tax credits	1,345,766	1,406,537
Customers' advances for construction	114,732	103,619
Regulatory liabilities	778,754	769,617
Asset retirement obligations	843	1,256
Operating lease liabilities	37,666	48,230
Non-current liabilities related to assets held for sale	974	
Pension and other postretirement benefit liabilities	31,244	50,226
Other	28,562	43,666
Total deferred credits and other liabilities	2,338,541	2,423,151
Contributions in aid of construction	610,254	596,110
Total liabilities and equity	########## ###	########## ###

NetPlant	11,130,946	10,251,866
Advances	114,732	103,619
CIAC	610,254	596,110
DefTax	1,345,766	1,406,537
ITC	0	0

CONSOLIDATED BALANCE SHEETS - USD ($) $ in Thousands	Dec. 31, 2022	Dec. 31, 2021
Statement of Financial Position [Abstract]		
Water Production	$249,153	$247,286
Transmission and Distribution	735,138	697,200
General	97,581	95,658
Construction Work in Progress	53,570	24,947
TOTAL	1,135,442	1,065,091
Less Accumulated Depreciation	214,891	199,723
UTILITY PLANT - NET	920,551	865,368
Cash and Cash Equivalents	3,828	3,533
Accounts Receivable, net of allowance for uncollectible accounts of $2,326 and $2,574 , respectively	16,018	15,311
Unbilled Revenues	8,659	7,273
Materials and Supplies (at average cost)	6,177	5,358
Prepayments	2,624	2,880
TOTAL CURRENT ASSETS	37,306	34,355
Operating Lease Right of Use Asset	3,826	4,503
Preliminary Survey and Investigation Charges	2,806	3,540
Regulatory Assets	90,046	100,738
Non-utility Assets - Net	11,207	11,428
Employee Benefit Plans	8,689	
Other	19	83
TOTAL OTHER ASSETS	116,593	120,292
TOTAL ASSETS	1,074,450	1,020,015
CAPITALIZATION AND LIABILITIES		
Common Stock, No Par Value	233,054	221,919
Retained Earnings	167,274	145,807
TOTAL COMMON EQUITY	400,328	367,726
Preferred Stock	2,084	2,084
Long-term Debt	290,280	306,520
TOTAL CAPITALIZATION	692,692	676,330
Current Portion of Long-term Debt	17,462	6,731
Notes Payable	55,500	13,000
Accounts Payable	24,847	21,125
Accrued Taxes	12,162	8,621
Accrued Interest	2,535	1,986
Unearned Revenues and Advanced Service Fees	1,365	1,330
Other	3,988	3,826
TOTAL CURRENT LIABILITIES	117,859	56,619
COMMITMENTS AND CONTINGENT LIABILITIES (Note 4)		
Customer Advances for Construction	21,382	23,529
Lease Obligations	3,706	4,367
Accumulated Deferred Income Taxes	77,783	69,500
Employee Benefit Plans		11,290
Regulatory Liabilities	46,734	49,431
Other	919	1,086
TOTAL OTHER LIABILITIES	150,524	159,203
CONTRIBUTIONS IN AID OF CONSTRUCTION	113,375	127,863
TOTAL CAPITALIZATION AND LIABILITIES	$1,074,450	$1,020,015

NetPlant	920,551	865,368
Advances	21,382	23,529
CIAC	113,375	127,863
DefTax	77,783	69,500
ITC	0	0

Consolidated Balance Sheets - USD ($) $ in Thousands	Dec. 31, 2022	Dec. 31, 2021
Utility plant:		
Land	$39,982	$39,004
Depreciable plant and equipment	3,661,285	3,381,908
Construction in progress	116,851	176,427
Intangible assets	35,959	36,276
Property, plant, and equipment, gross	3,854,077	3,633,615
Less accumulated depreciation and amortization	1,223,760	1,136,116
Public utilities, property, plant and equipment, net	2,630,317	2,497,499
Real estate investments and nonutility properties	58,033	57,632
Less accumulated depreciation and amortization	17,158	15,951
Real estate investments, net	40,875	41,681
Cash and cash equivalents:		
Cash	12,344	10,908
Restricted cash	0	1,211
Accounts receivable:		
Customers, net of allowances for uncollectible accounts of $5,753 and $4,600 in 2022 and 2021, respectively	59,172	53,699
Income tax	0	2,308
Other	5,560	4,735
Accrued unbilled utility revenue	45,722	44,026
Current regulatory assets, net	16,068	2,629
Prepaid expenses	9,753	9,667
Other current assets	6,095	4,902
Total current assets	154,714	134,085
Other assets:		
Net regulatory assets, less current portion	127,275	151,992
Investments	14,819	15,784
Goodwill	640,311	640,471
Other	24,313	10,883
Total other assets	806,718	819,130
Total assets	3,632,624	3,492,395
Stockholders' equity:		
Common stock, $0.001 par value; authorized 70,000,000 shares in 2022 and 2021; issued and outstanding 30,801,912 shares in 2022 and 30,181,348 shares in 2021	31	30
Additional paid-in capital	651,004	606,392
Retained earnings	458,356	428,260
Accumulated other comprehensive income (loss)	1,477	-163
Total stockholders' equity	1,110,868	1,034,519
Long-term debt, less current portion	1,491,965	1,492,935
Capitalization, long-term debt and equity	2,602,833	2,527,454
Current liabilities:		
Lines of credit	159,578	62,996
Current portion of long-term debt	4,360	39,106
Accrued groundwater extraction charges, purchased water and power	19,707	17,200
Accounts payable	29,581	30,391
Accrued interest	13,907	14,174
Accrued payroll	11,908	11,583
Income tax payable	2,696	0
Other current liabilities	22,913	27,821
Total current liabilities	264,650	203,271
Deferred income taxes	218,155	200,451
Advances for construction	137,696	130,693
Contributions in aid of construction	323,668	316,479
Postretirement benefit plans	59,738	89,998
Other noncurrent liabilities	25,884	24,049
Commitments and contingencies		
Total equity and liabilities	########## ###	########## ###

NetPlant	2,671,192	2,539,180
Advances	137,696	130,693
CIAC	323,668	316,479
DefTax	218,155	200,451
ITC	0	0

Balance Sheets - USD ($) $ in Thousands	Dec. 31, 2022	Dec. 31, 2021
ASSETS		
UTILITY PLANT, at original cost	######## ###	######## ###
Plant acquisition adjustments	-9,178	-3,637
Accumulated depreciation	-108,758	-99,204
Net utility plant	431,205	382,909
OTHER PHYSICAL PROPERTY, net of accumulated depreciation of $463 in 2022 and $483 in 2021	696	717
CURRENT ASSETS:		
Cash and cash equivalents	1	1
Accounts receivable, net of reserves of $855 in 2022 and $855 in 2021	6,701	4,634
Unbilled revenues	3,290	2,784
Recoverable income taxes	882	894
Materials and supplies inventories, at cost	2,335	1,917
Prepaid expenses	1,025	1,032
Total current assets	14,234	11,262
OTHER LONG-TERM ASSETS:		
Prepaid pension cost	17,090	14,054
Note receivable	255	255
Deferred regulatory assets	42,545	45,280
Other assets	4,570	4,376
Total other long-term assets	64,460	63,965
Total Assets	510,595	458,853
COMMON STOCKHOLDERS' EQUITY:		
Common stock, no par value, authorized 46,500,000 shares, issued and outstanding 14,285,584 shares in 2022 and 13,112,948 shares in 2021	134,220	88,230
Retained earnings	72,963	64,392
Total common stockholders' equity	207,183	152,622
PREFERRED STOCK, authorized 500,000 shares, no shares issued	0	0
LONG-TERM DEBT, excluding current portion	139,465	138,869
COMMITMENTS		
CURRENT LIABILITIES:		
Current portion of long-term debt	0	7,500
Accounts payable	10,766	6,712
Dividends payable	2,628	2,293
Accrued compensation and benefits	1,541	1,575
Accrued interest	965	959
Deferred regulatory liabilities	593	607
Other accrued expenses	488	440
Total current liabilities	16,981	20,086
DEFERRED CREDITS:		
Customers' advances for construction	14,911	12,820
Deferred income taxes	47,901	49,590
Deferred employee benefits	3,725	4,530
Deferred regulatory liabilities	37,448	36,374
Other deferred credits	680	2,086
Total deferred credits	104,665	105,400
Contributions in aid of construction	42,301	41,876
Total Stockholders' Equity and Liabilities	######## ###	######## ###

NetPlant	431,901	383,626
Advances	14,911	12,820
CIAC	42,301	41,876
DefTax	47,901	49,590
ITC	0	0

	WORKING NOTES										WORKING NOTES	
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
GROSS Property, plant and equipment	-	-	-		19,220,013	19,220,013	19,490,587	19,764,970	20,043,215	20,325,378	20,611,513	20,901,676
Accumulated Depreciation	-	-	-		2,599,035	2,599,035	2,877,988	3,160,869	3,447,731	3,738,632	4,033,628	4,332,778
NET PPE	-	-	-		16,620,978	16,620,978	16,612,599	16,604,101	16,595,484	16,586,746	16,577,885	16,568,898
Total Debt	-	-	-	-	-	13,446,112						
Net Equity	-	-	-	-	-	5,519,208						
Investor Provided Capital	-	-	-	-	-	18,965,320	-					
Depreciation / GROSS PPE	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	0.00%	1.69%				0	0	
				Muni CAPX	0	323,951	0	0	0	0	0	0
			IOU savings	0%			100%	100%	100%	100%	100%	100%
				CAPX/Prior Yr. GROSS PPE			1.66%	1.66%	1.66%	1.66%	1.66%	1.66%
				CAPX	224,850	323,951	318,322	322,803	327,347	331,956	336,629	341,368
				Dep rate	0.00%	1.69%	1.69%	1.69%	1.69%	1.69%	1.69%	1.69%
				Half yr. Dep	0.00%	0.85%	0.85%	0.85%	0.85%	0.85%	0.85%	0.85%
				Dep on CAPX	-	2,737	2,690	2,728	2,766	2,805	2,845	2,885
				Rate of retirement	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%
				Retired property	33,728	48,593	47,748	48,420	49,102	49,793	50,494	51,205
				Dep on Retired property	-	821	807	818	830	842	853	865
				Dep on Prior yr. GROSS	131,419	143,695	324,818	329,391	334,028	338,730	343,499	348,335
				Total Dep	131,419	-	326,701	331,301	335,964	340,694	345,491	350,354
EBMA												
Depreciation Expense	-	76,060	100,623	131,419	143,695							
				part of OCN								
				NET PPE			PURTA	0.001527765				
				Rev			Reg Assessment Fee	0.005652534				

					2022	2023	1 2024	2 2025	3 2026	4 2027	5 2028	6 2029
EBMA												
	FIX CIP			CIP	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
					part of OCN	= to DepX						
					224,850	323,951						
									191	71	72	56
					2022	2023						
					-		23,750.00	23,750.00	23,750.00	23,750.00	38,000.00	38,000.00
Sewer Rental Charges	0	1,581,441	1,640,811	1,809,152	1,820,534	1,780,000	1,873,600	1,415,650	1,417,950	1,420,250		
EDUs	0	0	0	0	3,070	3,070	3075	3080	3085	3090	3098	3106
					0	0	5	5	5	5	8	8
		0	0	0	1535	3070	3072.5	3077.5	3082.5	3087.5		
	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	593.0078176							
						$ 460.00	$ 460.00	$ 460.00	$ 460.00	$ 460.00		
	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	1186.015635	579.8045603						
EBMA					C	683	2					
					E	3,070	8					
						0.22						
				1742000								
	Customer Growth					0	1	1	1	1	0.25%	0.25%
	Delivered to Customer	-	87.85		88	88	88	88	88	88	89	89
EBMA	Customers	683	683		683	683	684	685	686	687	689	690
	Total Revenue (Less TAP)	1,640,811	1,809,152		1,820,534	1,780,000	1,873,600	1,874,970	2,178,142	2,181,320	2,185,637	2,256,834
										100.00%		
	avg CUST rev	2,402.36	2,648.83		2,665.50	2,606.15	2,739.18	2,737.18	3,175.13	3,175.14	3,173.49	3,268.69
	avg CUST flow	-	0		0	0	0	0	0	0	0	0

WORKING NOTES											WORKING NOTES	
2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	
	avg EDU rev	#DIV/0!	#DIV/0!	593.01	579.80	609.30	608.76	706.04	705.93	705.50	726.60	
	avg EDU flow	#DIV/0!	#DIV/0!	0	0	0	0	0	0	0	0	
	Rev Calculated				1,820,534	1,781,303	1,874,970	1,876,339	2,179,730	2,184,047	2,188,369	

				2023	2024	2025	2026	2027	2028	2029
				Change		16.0%			3.0%	
			$ 2,665.50	$ 2,606.15	$ 2,739.18	$ 3,177.45	$ 3,177.45	$ 3,177.45	$ 3,272.77	$ 3,272.77
						$ 438.27	$ -	$ -	$ 95.32	$ -
				-	1,303	1,370	2,178,142	1,588	2,727	2,732
				1,820,534	1,781,303	1,874,970	2,178,142	2,181,320	2,185,637	2,256,834
				-	-	299,995	-	-	65,569	-

Prior yr										
NET PURTA		0.1432%			23,801	23,789	23,777	23,765	23,752	23,740
REV Reg Assessment		0.5690%			10,128	10,661	12,376	12,394	12,412	12,809
					33,929	34,450	36,153	36,159	36,164	36,549

Elizabeth Borough MA Wastewater System Assets	
Investor Provide	18,965,320
Gross PP&E	19,220,013
Net PP&E	16,620,978
Revenues	1,780,000
EBITDA	723,000
EBIT	723,000
Customers	683
Population	5,384

	2018	2019	2020	2021	2022	2023	2024		
EBMA									
LESS: EOS - Wages & Benefits	0	-	-	-	-	360,400	393,800	0.15	LESS: EOS - Wages Wages & Benefits
LESS: EOS - Professional Services	0	0	0	0	-	112,800	148,000	0.5	LESS: EOS - Profes Net Professional Servi
LESS: EOS - Eliminated Expenses	0	0	0	0	-	-	-		LESS: EOS - E Line Rentals
EBMA									
Wages			0	0	0	360,400	393,800		
Professional Services					0	112,800	148,000		
Eliminated Exp			0	0	0	0			

	WORKING NOTES							WORKING NOTES				
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
EBMA					included in OCN	= to DepX						
Reported CAPX - from the financials	0	1,819,509	5,227,098	1,461,065	224,850	323,951						

	2018	2019	2020	2021	2022		Assets	Per Books	Difference
GROSS Property, plant and equipment	-	-	-	-	19,220,013		19,220,013	-	
Accumulated Depreciation	-	-	-	-	2,599,035		2,599,035	-	
NET PPE	-	-	-	-	16,620,978		16,620,978	-	16,620,978
Total Debt	-	-	-	-	13,446,112		324,247		
Net Equity	-	-	-	-	5,519,208				
Investor Provided Capital	-	-	-	-	18,965,320				
Depreciation Rate	0.00%	0.00%	0.00%	0.00%	1.69%				
Depreciation Expense	-	76,060	100,623	131,419	143,695	324,247.00	OCNLD Study		

	2023	2024	2025	2026	2027	
CAPX	0	140,000	0	0	0	35,000

	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
GROSS Property, plant and equipment	21,195,924	21,494,314	21,796,905	22,103,755	22,414,925	22,730,476	23,050,469	23,374,967	23,704,033	24,037,731	24,376,127	24,719,286	25,067,277	25,420,166
Accumulated Depreciation	4,636,137	4,943,768	5,255,729	5,572,082	5,892,888	6,218,211	6,548,114	6,882,661	7,221,918	7,565,950	7,914,825	8,268,611	8,627,378	8,991,196
NET PPE	16,559,787	16,550,546	16,541,176	16,531,673	16,522,037	16,512,265	16,502,355	16,492,306	16,482,115	16,471,781	16,461,302	16,450,675	16,439,899	16,428,970
Total Debt														
Net Equity														
Investor Provided Capital														
Depreciation / GROSS PPE														
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	1.66%	1.66%	1.66%	1.66%	1.66%	1.66%	1.66%	1.66%	1.66%	1.66%	1.66%	1.66%	1.66%	1.66%
	346,174	351,047	355,989	361,000	366,082	371,236	376,462	381,762	387,136	392,586	398,113	403,717	409,401	415,164
	1.69%	1.69%	1.69%	1.69%	1.69%	1.69%	1.69%	1.69%	1.69%	1.69%	1.69%	1.69%	1.69%	1.69%
	0.85%	0.85%	0.85%	0.85%	0.85%	0.85%	0.85%	0.85%	0.85%	0.85%	0.85%	0.85%	0.85%	0.85%
	2,925	2,966	3,008	3,050	3,093	3,137	3,181	3,226	3,271	3,317	3,364	3,411	3,459	3,508
	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%
	51,926	52,657	53,398	54,150	54,912	55,685	56,469	57,264	58,070	58,888	59,717	60,558	61,410	62,275
	878	890	902	915	928	941	954	968	981	995	1,009	1,023	1,038	1,052
	353,238	358,211	363,254	368,368	373,553	378,812	384,145	389,553	395,037	400,598	406,238	411,957	417,756	423,637
	355,286	360,287	365,359	370,503	375,718	381,008	386,372	391,811	397,327	402,920	408,592	414,344	420,177	426,093
EBMA														
Depreciation Expense														

	7 2030	8 2031	9 2032	10 2033	11 2034	12 2035	13 2036	14 2037	15 2038	16 2039	17 2040	18 2041	19 2042	20 2043
	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00
Sewer Rental Charges														
EDUs	3114 8	3122 8	3130 8	3138 8	3146 8	3154 8	3162 8	3170 8	3178 8	3186 8	3194 8	3202 8	3210 8	3218 8
EBMA														
	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%
	89	89	89	90	90	90	90	91	91	91	91	92	92	92
EBMA	692	694	696	697	699	701	703	704	706	708	710	711	713	715
	2,262,476	2,268,132	2,296,541	2,302,282	2,308,038	2,336,946	2,342,788	2,348,645	2,378,062	2,384,007	2,413,867	2,419,902	2,501,156	2,507,409
	100.00%													
	3,268.690	3,268.690	3,301.380	3,301.380	3,301.380	3,334.390	3,334.390	3,334.390	3,367.740	3,367.740	3,401.420	3,401.420	3,506.860	3,506.860

	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
	726.55	726.50	733.72	733.68	733.64	740.95	740.92	740.90	748.29	748.28	755.75	755.75	779.18	779.18
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2,259,655	2,265,304	2,270,967	2,299,412	2,305,160	2,310,923	2,339,867	2,345,716	2,351,581	2,381,035	2,386,987	2,416,884	2,422,927	2,504,282

	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
		1.0%			1.0%			1.0%		1.0%		3.1%		3.1%
	$ 3,272.77	$ 3,305.50	$ 3,305.50	$ 3,305.50	$ 3,338.56	$ 3,338.56	$ 3,338.56	$ 3,371.94	$ 3,371.94	$ 3,405.66	$ 3,405.66	$ 3,511.24	$ 3,511.24	$ 3,618.33
	$ -	$ 32.73	$ -	$ -	$ 33.06	$ -	$ -	$ 33.39	$ -	$ 33.72	$ -	$ 105.58	$ -	$ 107.09
	2,821	2,828	2,835	2,871	2,878	2,885	2,921	2,928	2,936	2,973	2,980	3,017	3,025	3,126
	2,262,476	2,268,132	2,296,541	2,302,282	2,308,038	2,336,946	2,342,788	2,348,645	2,378,062	2,384,007	2,413,867	2,419,902	2,501,156	2,507,409
	-	22,681	-	-	23,080	-	-	23,486	-	23,840	-	75,017	-	76,476
												3.80%		3.84%
	23,727	23,714	23,700	23,687	23,673	23,660	23,646	23,631	23,617	23,602	23,588	23,573	23,557	23,542
	12,841	12,873	13,035	13,067	13,100	13,264	13,297	13,330	13,497	13,531	13,701	13,735	14,196	14,232
	36,568	36,587	36,735	36,754	36,773	36,924	36,943	36,961	37,114	37,133	37,289	37,308	37,753	37,774

EBMA

LESS: EOS - Wages & Benefits		15% savings	15%	0.15
LESS: EOS - Professional Services	ces	50% savings	50%	0.5
LESS: EOS - Eliminated Expenses		10% savings	100%	1

EBMA

Wages

Professional Services

Eliminated Exp

	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
EBMA														
Reported CAPX - from the financials														
GROSS Property, plant and equipment														
Accumulated Depreciation														
NET PPE														
Total Debt														
Net Equity														
Investor Provided Capital														
Depreciation Rate														
Depreciation Expense														
CAPX														

	WORKING NOTES							WORKING NOTES				
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
GROSS Property, plant and equipment	-	-	-		19,220,013	19,220,013	19,490,587	19,764,970	20,043,215	20,325,378	20,611,513	20,901,676
Accumulated Depreciation	-	-	-		2,599,035	2,599,035	2,877,988	3,160,869	3,447,731	3,738,632	4,033,628	4,332,778
NET PPE	-	-	-		16,620,978	16,620,978	16,612,599	16,604,101	16,595,484	16,586,746	16,577,885	16,568,898
Total Debt	-	-	-	-	-	13,446,112						
Net Equity	-	-	-	-	-	5,519,208						
Investor Provided Capital	-	-	-	-	-	18,965,320	-					
Depreciation / GROSS PPE	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	0.00%	1.69%				0	0	
				Muni CAPX	0	323,951	0	0	0	0	0	0
			IOU savings	0%			100%	100%	100%	100%	100%	100%
				CAPX/Prior Yr. GROSS PPE			1.66%	1.66%	1.66%	1.66%	1.66%	1.66%
				CAPX	224,850	323,951	318,322	322,803	327,347	331,956	336,629	341,368
				Dep rate	0.00%	1.69%	1.69%	1.69%	1.69%	1.69%	1.69%	1.69%
				Half yr. Dep	0.00%	0.85%	0.85%	0.85%	0.85%	0.85%	0.85%	0.85%
				Dep on CAPX	-	2,737	2,690	2,728	2,766	2,805	2,845	2,885
				Rate of retirement	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%
				Retired property	33,728	48,593	47,748	48,420	49,102	49,793	50,494	51,205
				Dep on Retired property	-	821	807	818	830	842	853	865
				Dep on Prior yr. GROSS	131,419	143,695	324,818	329,391	334,028	338,730	343,499	348,335
				Total Dep	131,419	-	326,701	331,301	335,964	340,694	345,491	350,354
EBMA												
Depreciation Expense	-	76,060	100,623	131,419 part of OCN	143,695							
				NET PPE			PURTA	0.001527765				
				Rev			Reg Assessment Fee	0.005652534				
					2022	2023	1 2024	2 2025	3 2026	4 2027	5 2028	6 2029
EBMA												
		FIX CIP		CIP	$ - part of OCN	$ - = to DepX	$ -	$ -	$ -	$ -	$ -	$ -
					224,850	323,951						
									191	71	72	56
					2022	2023						
						-	23,750.00	23,750.00	23,750.00	23,750.00	38,000.00	38,000.00
Sewer Rental Charges	0	1,581,441	1,640,811	1,809,152	1,820,534	1,780,000	1,873,600	1,415,650	1,417,950	1,420,250		
EDUs	0	0	0	0	3,070	3,070	3075	3080	3085	3090	3098	3106
					0	0	5	5	5	5	8	8
		0	0	0	1535	3070	3072.5	3077.5	3082.5	3087.5		
	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	593.0078176							
						$ 460.00	$ 460.00	$ 460.00	$ 460.00	$ 460.00		
		#DIV/0!	#DIV/0!	#DIV/0!	1186.015635	579.8045603						
EBMA					C	683	2					
					E	3,070	8					
						0.22						
				1742000								
		Customer Growth				0	1	1	1	1	0.25%	0.25%
		Delivered to Customer	-	87.85	88	88	88	88	88	88	89	89
EBMA		Customers	683	683	683	683	684	685	686	687	689	690
		Total Revenue (Less TAP)	1,640,811	1,809,152	1,820,534	1,780,000	1,873,600	1,874,970	2,178,142	2,181,320	2,185,637	2,256,834
										100.00%		
		avg CUST rev	2,402.36	2,648.83	2,665.50	2,606.15	2,739.18	2,737.18	3,175.13	3,175.14	3,173.49	3,268.69
		avg CUST flow	-	0	0	0	0	0	0	0	0	0

WORKING NOTES											WORKING NOTES	
2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	
	avg EDU rev	#DIV/0!	#DIV/0!	593.01	579.80	609.30	608.76	706.04	705.93	705.50	726.60	
	avg EDU flow	#DIV/0!	#DIV/0!	0	0	0	0	0	0	0	0	
	Rev Calculated				1,820,534	1,781,303	1,874,970	1,876,339	2,179,730	2,184,047	2,188,369	

				2023	2024	2025	2026	2027	2028	2029
				Change		16.0%			3.0%	
			$ 2,665.50	$ 2,606.15	$ 2,739.18	$ 3,177.45	$ 3,177.45	$ 3,177.45	$ 3,272.77	$ 3,272.77
						$ 438.27	$ -	$ -	$ 95.32	$ -
				-	1,303	1,370	2,178,142	1,588	2,727	2,732
				1,820,534	1,781,303	1,874,970	2,178,142	2,181,320	2,185,637	2,256,834
				-	-	299,995	-	-	65,569	-

Prior yr										
NET PURTA		0.1432%			23,801	23,789	23,777	23,765	23,752	23,740
REV Reg Assessment		0.5690%			10,128	10,661	12,376	12,394	12,412	12,809
					33,929	34,450	36,153	36,159	36,164	36,549

Elizabeth Borough MA Wastewater System Assets	
Investor Provide	18,965,320
Gross PP&E	19,220,013
Net PP&E	16,620,978
Revenues	1,780,000
EBITDA	833,460
EBIT	833,460
Customers	683
Population	5,384

	2018	2019	2020	2021	2022	2023	2024		
EBMA									
LESS: EOS - Wages & Benefits	0	-	-	-	-	360,400	393,800	0.15	LESS: EOS - Wages Wages & Benefits
LESS: EOS - Professional Services	0	0	0	0	-	112,800	148,000	0.5	LESS: EOS - Profes Net Professional Servi
LESS: EOS - Eliminated Expenses	0	0	0	0	-	-	-		LESS: EOS - E Line Rentals
EBMA									
Wages			0	0	0	360,400	393,800		
Professional Services					0	112,800	148,000		
Eliminated Exp			0	0	0	0			

	WORKING NOTES							WORKING NOTES				
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
EBMA					included in OCN	= to DepX						
Reported CAPX - from the financials	0	1,819,509	5,227,098	1,461,065	224,850	323,951						

	2018	2019	2020	2021	2022		Assets	Per Books	Difference
GROSS Property, plant and equipment	-	-	-	-	19,220,013		19,220,013	-	
Accumulated Depreciation	-	-	-	-	2,599,035		2,599,035	-	
NET PPE	-	-	-	-	16,620,978		16,620,978	-	16,620,978
Total Debt	-	-	-	-	13,446,112		324,247		
Net Equity	-	-	-	-	5,519,208				
Investor Provided Capital	-	-	-	-	18,965,320				
Depreciation Rate	0.00%	0.00%	0.00%	0.00%	1.69%				
Depreciation Expense	-	76,060	100,623	131,419	143,695	324,247.00	OCNLD Study		

	2023	2024	2025	2026	2027	
CAPX	0	140,000	0	0	0	35,000

	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
GROSS Property, plant and equipment	21,195,924	21,494,314	21,796,905	22,103,755	22,414,925	22,730,476	23,050,469	23,374,967	23,704,033	24,037,731	24,376,127	24,719,286	25,067,277	25,420,166
Accumulated Depreciation	4,636,137	4,943,768	5,255,729	5,572,082	5,892,888	6,218,211	6,548,114	6,882,661	7,221,918	7,565,950	7,914,825	8,268,611	8,627,378	8,991,196
NET PPE	16,559,787	16,550,546	16,541,176	16,531,673	16,522,037	16,512,265	16,502,355	16,492,306	16,482,115	16,471,781	16,461,302	16,450,675	16,439,899	16,428,970
Total Debt														
Net Equity														
Investor Provided Capital														
Depreciation / GROSS PPE														
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	1.66%	1.66%	1.66%	1.66%	1.66%	1.66%	1.66%	1.66%	1.66%	1.66%	1.66%	1.66%	1.66%	1.66%
	346,174	351,047	355,989	361,000	366,082	371,236	376,462	381,762	387,136	392,586	398,113	403,717	409,401	415,164
	1.69%	1.69%	1.69%	1.69%	1.69%	1.69%	1.69%	1.69%	1.69%	1.69%	1.69%	1.69%	1.69%	1.69%
	0.85%	0.85%	0.85%	0.85%	0.85%	0.85%	0.85%	0.85%	0.85%	0.85%	0.85%	0.85%	0.85%	0.85%
	2,925	2,966	3,008	3,050	3,093	3,137	3,181	3,226	3,271	3,317	3,364	3,411	3,459	3,508
	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%
	51,926	52,657	53,398	54,150	54,912	55,685	56,469	57,264	58,070	58,888	59,717	60,558	61,410	62,275
	878	890	902	915	928	941	954	968	981	995	1,009	1,023	1,038	1,052
	353,238	358,211	363,254	368,368	373,553	378,812	384,145	389,553	395,037	400,598	406,238	411,957	417,756	423,637
	355,286	360,287	365,359	370,503	375,718	381,008	386,372	391,811	397,327	402,920	408,592	414,344	420,177	426,093
EBMA														
Depreciation Expense														

	7 2030	8 2031	9 2032	10 2033	11 2034	12 2035	13 2036	14 2037	15 2038	16 2039	17 2040	18 2041	19 2042	20 2043
	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00
Sewer Rental Charges														
EDUs	3114 8	3122 8	3130 8	3138 8	3146 8	3154 8	3162 8	3170 8	3178 8	3186 8	3194 8	3202 8	3210 8	3218 8
EBMA														
	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%
	89	89	89	90	90	90	90	91	91	91	91	92	92	92
EBMA	692	694	696	697	699	701	703	704	706	708	710	711	713	715
	2,262,476	2,268,132	2,296,541	2,302,282	2,308,038	2,336,946	2,342,788	2,348,645	2,378,062	2,384,007	2,413,867	2,419,902	2,501,156	2,507,409
	100.00%													
	3,268.690	3,268.690	3,301.380	3,301.380	3,301.380	3,334.390	3,334.390	3,334.390	3,367.740	3,367.740	3,401.420	3,401.420	3,506.860	3,506.860

	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
	726.55	726.50	733.72	733.68	733.64	740.95	740.92	740.90	748.29	748.28	755.75	755.75	779.18	779.18
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2,259,655	2,265,304	2,270,967	2,299,412	2,305,160	2,310,923	2,339,867	2,345,716	2,351,581	2,381,035	2,386,987	2,416,884	2,422,927	2,504,282

	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
		1.0%			1.0%			1.0%		1.0%		3.1%		3.1%
	$ 3,272.77	$ 3,305.50	$ 3,305.50	$ 3,305.50	$ 3,338.56	$ 3,338.56	$ 3,338.56	$ 3,371.94	$ 3,371.94	$ 3,405.66	$ 3,405.66	$ 3,511.24	$ 3,511.24	$ 3,618.33
	$ -	$ 32.73	$ -	$ -	$ 33.06	$ -	$ -	$ 33.39	$ -	$ 33.72	$ -	$ 105.58	$ -	$ 107.09
	2,821	2,828	2,835	2,871	2,878	2,885	2,921	2,928	2,936	2,973	2,980	3,017	3,025	3,126
	2,262,476	2,268,132	2,296,541	2,302,282	2,308,038	2,336,946	2,342,788	2,348,645	2,378,062	2,384,007	2,413,867	2,419,902	2,501,156	2,507,409
	-	22,681	-	-	23,080	-	-	23,486	-	23,840	-	75,017	-	76,476
												3.40%		3.43%
	23,727	23,714	23,700	23,687	23,673	23,660	23,646	23,631	23,617	23,602	23,588	23,573	23,557	23,542
	12,841	12,873	13,035	13,067	13,100	13,264	13,297	13,330	13,497	13,531	13,701	13,735	14,196	14,232
	36,568	36,587	36,735	36,754	36,773	36,924	36,943	36,961	37,114	37,133	37,289	37,308	37,753	37,774

EBMA

LESS: EOS - Wages & Benefits		15% savings	15%	0.15
LESS: EOS - Professional Services	ces	50% savings	50%	0.5
LESS: EOS - Eliminated Expenses		10% savings	100%	1

EBMA

Wages

Professional Services

Eliminated Exp

	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
EBMA														
Reported CAPX - from the financials														
GROSS Property, plant and equipment														
Accumulated Depreciation														
NET PPE														
Total Debt														
Net Equity														
Investor Provided Capital														
Depreciation Rate														
Depreciation Expense														
CAPX														

	WORKING NOTES							WORKING NOTES				
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
GROSS Property, plant and equipment	-	-	-		19,220,013	19,220,013	19,490,587	19,764,970	20,043,215	20,325,378	20,611,513	20,901,676
Accumulated Depreciation	-	-	-		2,599,035	2,599,035	2,877,988	3,160,869	3,447,731	3,738,632	4,033,628	4,332,778
NET PPE	-	-	-		16,620,978	16,620,978	16,612,599	16,604,101	16,595,484	16,586,746	16,577,885	16,568,898
Total Debt	-	-	-	-	-	13,446,112						
Net Equity	-	-	-	-	-	5,519,208						
Investor Provided Capital	-	-	-	-	-	18,965,320	-					
Depreciation / GROSS PPE	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	0.00%	1.69%				0	0	
				Muni CAPX	0	323,951	0	0	0	0	0	0
			IOU savings	0%			100%	100%	100%	100%	100%	100%
				CAPX/Prior Yr. GROSS PPE			1.66%	1.66%	1.66%	1.66%	1.66%	1.66%
				CAPX	224,850	323,951	318,322	322,803	327,347	331,956	336,629	341,368
				Dep rate	0.00%	1.69%	1.69%	1.69%	1.69%	1.69%	1.69%	1.69%
				Half yr. Dep	0.00%	0.85%	0.85%	0.85%	0.85%	0.85%	0.85%	0.85%
				Dep on CAPX	-	2,737	2,690	2,728	2,766	2,805	2,845	2,885
				Rate of retirement	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%
				Retired property	33,728	48,593	47,748	48,420	49,102	49,793	50,494	51,205
				Dep on Retired property	-	821	807	818	830	842	853	865
				Dep on Prior yr. GROSS	131,419	143,695	324,818	329,391	334,028	338,730	343,499	348,335
				Total Dep	131,419	-	326,701	331,301	335,964	340,694	345,491	350,354
EBMA												
Depreciation Expense	-	76,060	100,623	131,419	143,695							
				part of OCN								
				NET PPE			PURTA	0.001527765				
				Rev			Reg Assessment Fee	0.005652534				
					2022	2023	1 2024	2 2025	3 2026	4 2027	5 2028	6 2029
EBMA												
	FIX CIP			CIP	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
					part of OCN	= to DepX						
					224,850	323,951						
									191	71	72	56
					2022	2023						
					-		23,750.00	23,750.00	23,750.00	23,750.00	38,000.00	38,000.00
Sewer Rental Charges	0	1,581,441	1,640,811	1,809,152	1,820,534	1,780,000	1,873,600	1,415,650	1,417,950	1,420,250		
EDUs	0	0	0	0	3,070	3,070	3075	3080	3085	3090	3098	3106
					0	0	5	5	5	5	8	8
		0	0	0	1535	3070	3072.5	3077.5	3082.5	3087.5		
	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	593.0078176							
						$ 460.00	$ 460.00	$ 460.00	$ 460.00	$ 460.00		
	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	1186.015635	579.8045603						
EBMA					C	683	2					
					E	3,070	8					
						0.22						
				1742000								
	Customer Growth					0	1	1	1	1	0.25%	0.25%
	Delivered to Customer	-	87.85		88	88	88	88	88	88	89	89
EBMA	Customers	683	683		683	683	684	685	686	687	689	690
	Total Revenue (Less TAP)	1,640,811	1,809,152		1,820,534	1,780,000	1,873,600	1,874,970	2,722,678	2,726,650	2,732,046	3,067,542
										100.00%		
	avg CUST rev	2,402.36	2,648.83		2,665.50	2,606.15	2,739.18	2,737.18	3,968.92	3,968.92	3,966.86	4,442.88
	avg CUST flow	-	0		0	0	0	0	0	0	0	0

WORKING NOTES							WORKING NOTES				
2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
	avg EDU rev	#DIV/0!	#DIV/0!	593.01	579.80	609.30	608.76	882.55	882.41	881.87	987.62
	avg EDU flow	#DIV/0!	#DIV/0!	0	0	0	0	0	0	0	0
	Rev Calculated				1,820,534	1,781,303	1,874,970	1,876,339	2,724,662	2,730,058	2,735,461

			2023	2024	2025	2026	2027	2028	2029
			Change		45.0%			12.0%	
		$ 2,665.50	$ 2,606.15	$ 2,739.18	$ 3,971.81	$ 3,971.81	$ 3,971.81	$ 4,448.43	$ 4,448.43
					$ 1,232.63	$ -	$ -	$ 476.62	$ -
			-	1,303	1,370	2,722,678	1,984	3,408	3,415
			1,820,534	1,781,303	1,874,970	2,722,678	2,726,650	2,732,046	3,067,542
			-	-	843,736	-	-	327,846	-
Prior yr									
NET	PURTA	0.1432%		23,801	23,789	23,777	23,765	23,752	23,740
REV	Reg Assessment	0.5690%		10,128	10,661	15,469	15,492	15,515	17,411
				33,929	34,450	39,246	39,257	39,267	41,151

Elizabeth Borough MA Wastewater System Assets	
Investor Provide	18,965,320
Gross PP&E	19,220,013
Net PP&E	16,620,978
Revenues	1,780,000
EBITDA	833,460
EBIT	833,460
Customers	683
Population	5,384

	2018	2019	2020	2021	2022	2023	2024		
EBMA									
LESS: EOS - Wages & Benefits	0	-	-	-	-	360,400	393,800	0.15	LESS: EOS - Wages Wages & Benefits
LESS: EOS - Professional Services	0	0	0	0	-	112,800	148,000	0.5	LESS: EOS - Profes Net Professional Servi
LESS: EOS - Eliminated Expenses	0	0	0	0	-	-	-		LESS: EOS - E Line Rentals
EBMA									
Wages			0	0	0	360,400	393,800		
Professional Services					0	112,800	148,000		
Eliminated Exp			0	0	0	0			

	WORKING NOTES							WORKING NOTES				
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
EBMA					included in OCN	= to DepX						
Reported CAPX - from the financials	0	1,819,509	5,227,098	1,461,065	224,850	323,951						

	2018	2019	2020	2021	2022		Assets	Per Books	Difference
GROSS Property, plant and equipment	-	-	-	-	19,220,013		19,220,013	-	
Accumulated Depreciation	-	-	-	-	2,599,035		2,599,035	-	
NET PPE	-	-	-	-	16,620,978		16,620,978	-	16,620,978
Total Debt	-	-	-	-	13,446,112		324,247		
Net Equity	-	-	-	-	5,519,208				
Investor Provided Capital	-	-	-	-	18,965,320				
Depreciation Rate	0.00%	0.00%	0.00%	0.00%	1.69%				
Depreciation Expense	-	76,060	100,623	131,419	143,695	324,247.00	OCNLD Study		

	2023	2024	2025	2026	2027	
CAPX	0	140,000	0	0	0	35,000

	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
GROSS Property, plant and equipment	21,195,924	21,494,314	21,796,905	22,103,755	22,414,925	22,730,476	23,050,469	23,374,967	23,704,033	24,037,731	24,376,127	24,719,286	25,067,277	25,420,166
Accumulated Depreciation	4,636,137	4,943,768	5,255,729	5,572,082	5,892,888	6,218,211	6,548,114	6,882,661	7,221,918	7,565,950	7,914,825	8,268,611	8,627,378	8,991,196
NET PPE	16,559,787	16,550,546	16,541,176	16,531,673	16,522,037	16,512,265	16,502,355	16,492,306	16,482,115	16,471,781	16,461,302	16,450,675	16,439,899	16,428,970
Total Debt														
Net Equity														
Investor Provided Capital														

Depreciation / GROSS PPE

	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	1.66%	1.66%	1.66%	1.66%	1.66%	1.66%	1.66%	1.66%	1.66%	1.66%	1.66%	1.66%	1.66%	1.66%
	346,174	351,047	355,989	361,000	366,082	371,236	376,462	381,762	387,136	392,586	398,113	403,717	409,401	415,164
	1.69%	1.69%	1.69%	1.69%	1.69%	1.69%	1.69%	1.69%	1.69%	1.69%	1.69%	1.69%	1.69%	1.69%
	0.85%	0.85%	0.85%	0.85%	0.85%	0.85%	0.85%	0.85%	0.85%	0.85%	0.85%	0.85%	0.85%	0.85%
	2,925	2,966	3,008	3,050	3,093	3,137	3,181	3,226	3,271	3,317	3,364	3,411	3,459	3,508
	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%
	51,926	52,657	53,398	54,150	54,912	55,685	56,469	57,264	58,070	58,888	59,717	60,558	61,410	62,275
	878	890	902	915	928	941	954	968	981	995	1,009	1,023	1,038	1,052
	353,238	358,211	363,254	368,368	373,553	378,812	384,145	389,553	395,037	400,598	406,238	411,957	417,756	423,637
	355,286	360,287	365,359	370,503	375,718	381,008	386,372	391,811	397,327	402,920	408,592	414,344	420,177	426,093

EBMA

Depreciation Expense

	7 2030	8 2031	9 2032	10 2033	11 2034	12 2035	13 2036	14 2037	15 2038	16 2039	17 2040	18 2041	19 2042	20 2043
	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00
Sewer Rental Charges														
EDUs	3114 8	3122 8	3130 8	3138 8	3146 8	3154 8	3162 8	3170 8	3178 8	3186 8	3194 8	3202 8	3210 8	3218 8

EBMA

	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%
	89	89	89	90	90	90	90	91	91	91	91	92	92	92
EBMA	692	694	696	697	699	701	703	704	706	708	710	711	713	715
	3,075,210	3,082,898	3,399,666	3,408,165	3,416,686	3,596,489	3,605,480	3,614,494	3,732,236	3,741,567	3,788,430	3,797,901	3,875,929	3,885,618
	100.00%													
	4,442.88 0	4,442.88 0	4,887.17 0	4,887.17 0	4,887.17 0	5,131.53 0	5,131.53 0	5,131.53 0	5,285.48 0	5,285.48 0	5,338.33 0	5,338.33 0	5,434.42 0	5,434.42 0

	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
	987.54	987.48	1,086.16	1,086.09	1,086.04	1,140.29	1,140.25	1,140.22	1,174.40	1,174.38	1,186.11	1,186.10	1,207.45	1,207.46
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3,071,376	3,079,054	3,086,752	3,403,916	3,412,425	3,420,957	3,600,985	3,609,987	3,619,012	3,736,901	3,746,244	3,793,166	3,802,648	3,880,774

	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
		10.0%			5.0%			3.0%		1.0%		1.8%		1.9%
	$ 4,448.43	$ 4,893.27	$ 4,893.27	$ 4,893.27	$ 5,137.94	$ 5,137.94	$ 5,137.94	$ 5,292.08	$ 5,292.08	$ 5,345.00	$ 5,345.00	$ 5,441.21	$ 5,441.21	$ 5,544.59
	$ -	$ 444.84	$ -	$ -	$ 244.66	$ -	$ -	$ 154.14	$ -	$ 52.92	$ -	$ 96.21	$ -	$ 103.38
	3,834	3,844	3,854	4,250	4,260	4,271	4,496	4,507	4,518	4,665	4,677	4,736	4,747	4,845
	3,075,210	3,082,898	3,399,666	3,408,165	3,416,686	3,596,489	3,605,480	3,614,494	3,732,236	3,741,567	3,788,430	3,797,901	3,875,929	3,885,618
	-	308,290	-	-	170,834	-	-	108,435	-	37,416	-	68,362	-	73,827
												1.99%		2.05%
	23,727	23,714	23,700	23,687	23,673	23,660	23,646	23,631	23,617	23,602	23,588	23,573	23,557	23,542
	17,454	17,498	19,296	19,344	19,392	20,413	20,464	20,515	21,183	21,236	21,502	21,556	21,999	22,054
	41,181	41,212	42,996	43,031	43,065	44,073	44,110	44,146	44,800	44,838	45,090	45,129	45,556	45,596

EBMA

LESS: EOS - Wages & Benefits		15% savings	15%	0.15
LESS: EOS - Professional Services	ces	50% savings	50%	0.5
LESS: EOS - Eliminated Expenses		10% savings	100%	1

EBMA

Wages

Professional Services

Eliminated Exp

	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
EBMA														
Reported CAPX - from the financials														
GROSS Property, plant and equipment														
Accumulated Depreciation														
NET PPE														
Total Debt														
Net Equity														
Investor Provided Capital														
Depreciation Rate														
Depreciation Expense														
CAPX														

	WORKING NOTES							WORKING NOTES				
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
GROSS Property, plant and equipment	-	-	-		28,021,000	28,021,000	28,392,130	28,768,175	29,149,201	29,535,274	29,926,460	30,322,827
Accumulated Depreciation	-	-	-		-	-	382,471	770,006	1,162,675	1,560,545	1,963,684	2,372,163
NET PPE	-	-	-		28,021,000	28,021,000	28,009,659	27,998,169	27,986,526	27,974,729	27,962,776	27,950,664
Total Debt	-	-	-	-	-	13,446,112						
Net Equity	-	-	-	-	-	5,519,208						
Investor Provided Capital	-	-	-	-	-	18,965,320	-					
Depreciation / GROSS PPE	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	0.00%	1.59%				0	0	
				Muni CAPX	0	323,951	0	0	0	0	0	0
			IOU savings	0%			100%	100%	100%	100%	100%	100%
				CAPX/Prior Yr. GROSS PPE			1.56%	1.56%	1.56%	1.56%	1.56%	1.56%
				CAPX	224,850	323,951	436,623	442,406	448,266	454,203	460,219	466,314
				Dep rate	0.00%	1.59%	1.59%	1.59%	1.59%	1.59%	1.59%	1.59%
				Half yr. Dep	0.00%	0.80%	0.80%	0.80%	0.80%	0.80%	0.80%	0.80%
				Dep on CAPX	-	2,575	3,471	3,517	3,564	3,611	3,659	3,707
				Rate of retirement	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%
				Retired property	33,728	48,593	65,493	66,361	67,240	68,130	69,033	69,947
				Dep on Retired property	-	773	1,041	1,055	1,069	1,083	1,098	1,112
				Dep on Prior yr. GROSS	131,419	143,695	445,534	451,435	457,414	463,472	469,611	475,831
				Total Dep	131,419	-	447,964	453,897	459,909	466,000	472,172	478,426
EBMA												
Depreciation Expense	-	76,060	100,623	131,419 part of OCN	143,695							
				NET PPE			PURTA	0.001527765				
				Rev			Reg Assessment Fee	0.005652534				
					2022	2023	1 2024	2 2025	3 2026	4 2027	5 2028	6 2029
EBMA												
		FIX CIP		CIP	$ - part of OCN	$ - = to DepX	$ -	$ -	$ -	$ -	$ -	$ -
					224,850	323,951						
									191	71	72	56
					2022	2023						
					-		23,750.00	23,750.00	23,750.00	23,750.00	38,000.00	38,000.00
Sewer Rental Charges	0	1,581,441	1,640,811	1,809,152	1,820,534	1,780,000	1,873,600	1,415,650	1,417,950	1,420,250		
EDUs	0	0	0	0	3,070	3,070	3075	3080	3085	3090	3098	3106
					0	0	5	5	5	5	8	8
		0	0	0	1535	3070	3072.5	3077.5	3082.5	3087.5		
	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	593.0078176							
						$ 460.00	$ 460.00	$ 460.00	$ 460.00	$ 460.00		
		#DIV/0!	#DIV/0!	#DIV/0!	1186.015635	579.8045603						
EBMA					C	683	2					
					E	3,070	8					
						0.22						
				1742000								
		Customer Growth				0	1	1	1	1	0.25%	0.25%
		Delivered to Customer	-	87.85	88	88	88	88	88	88	89	89
EBMA		Customers	683	683	683	683	684	685	686	687	689	690
		Total Revenue (Less TAP)	1,640,811	1,809,152	1,820,534	1,780,000	1,873,600	1,874,970	2,628,792	2,632,627	2,637,838	2,776,654
										100.00%		
		avg CUST rev	2,402.36	2,648.83	2,665.50	2,606.15	2,739.18	2,737.18	3,832.06	3,832.06	3,830.07	4,021.58
		avg CUST flow	-	0	0	0	0	0	0	0	0	0

WORKING NOTES											WORKING NOTES	
2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
	avg EDU rev	#DIV/0!	#DIV/0!	593.01	579.80	609.30	608.76	852.12	851.98	851.46	893.96
	avg EDU flow	#DIV/0!	#DIV/0!	0	0	0	0	0	0	0	0
	Rev Calculated				1,820,534	1,781,303	1,874,970	1,876,339	2,630,708	2,635,918	2,641,135

				2023	2024	2025	2026	2027	2028	2029
				Change		40.0%			5.0%	
			$ 2,665.50	$ 2,606.15	$ 2,739.18	$ 3,834.85	$ 3,834.85	$ 3,834.85	$ 4,026.60	$ 4,026.60
						$ 1,095.67	$ -	$ -	$ 191.74	$ -
				-	1,303	1,370	2,628,792	1,916	3,291	3,297
				1,820,534	1,781,303	1,874,970	2,628,792	2,632,627	2,637,838	2,776,654
				-	-	749,988	-	-	131,892	-
Prior yr										
NET	PURTA	0.1432%			40,126	40,110	40,093	40,077	40,060	40,043
REV	Reg Assessment	0.5690%			10,128	10,661	14,936	14,958	14,980	15,760
					50,254	50,771	55,029	55,035	55,040	55,803

Elizabeth Borough MA Wastewater System Assets	
Investor Provide	18,965,320
Gross PP&E	28,021,000
Net PP&E	28,021,000
Revenues	1,780,000
EBITDA	833,460
EBIT	833,460
Customers	683
Population	5,384

	2018	2019	2020	2021	2022	2023	2024		
EBMA									
LESS: EOS - Wages & Benefits	0	-	-	-	-	360,400	393,800	0.15	LESS: EOS - Wages Wages & Benefits
LESS: EOS - Professional Services	0	0	0	0	-	112,800	148,000	0.5	LESS: EOS - Profes Net Professional Servi
LESS: EOS - Eliminated Expenses	0	0	0	0	-	-	-		LESS: EOS - E Line Rentals
EBMA									
Wages			0	0	0	360,400	393,800		
Professional Services					0	112,800	148,000		
Eliminated Exp			0	0	0	0			

	WORKING NOTES							WORKING NOTES				
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
EBMA					included in OCN	= to DepX						
Reported CAPX - from the financials	0	1,819,509	5,227,098	1,461,065	224,850	323,951						

	2018	2019	2020	2021	2022		Assets	Per Books	Difference
GROSS Property, plant and equipment	-	-	-	-	28,021,000		28,021,000	-	
Accumulated Depreciation	-	-	-	-	-		-	-	
NET PPE	-	-	-	-	28,021,000		28,021,000	-	28,021,000
Total Debt	-	-	-	-	13,446,112		445,534		
Net Equity	-	-	-	-	5,519,208				
Investor Provided Capital	-	-	-	-	18,965,320				
Depreciation Rate	0.00%	0.00%	0.00%	0.00%	1.59%				
Depreciation Expense	-	76,060	100,623	131,419	143,695	445,534.00	OCNLD Study		

	2023	2024	2025	2026	2027	
CAPX	0	140,000	0	0	0	35,000

	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
GROSS Property, plant and equipment	30,724,443	31,131,379	31,543,705	31,961,492	32,384,812	32,813,739	33,248,347	33,688,712	34,134,909	34,587,015	35,045,110	35,509,272	35,979,581	36,456,120
Accumulated Depreciation	2,786,051	3,205,422	3,630,347	4,060,901	4,497,155	4,939,189	5,387,077	5,840,899	6,300,729	6,766,651	7,238,744	7,717,089	8,201,769	8,692,870
NET PPE	27,938,392	27,925,957	27,913,358	27,900,591	27,887,657	27,874,550	27,861,270	27,847,813	27,834,180	27,820,364	27,806,366	27,792,183	27,777,812	27,763,250
Total Debt														
Net Equity														
Investor Provided Capital														

Depreciation / GROSS PPE

	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	1.56%	1.56%	1.56%	1.56%	1.56%	1.56%	1.56%	1.56%	1.56%	1.56%	1.56%	1.56%	1.56%	1.56%
	472,490	478,748	485,089	491,514	498,024	504,620	511,304	518,076	524,938	531,890	538,935	546,073	553,305	560,634
	1.59%	1.59%	1.59%	1.59%	1.59%	1.59%	1.59%	1.59%	1.59%	1.59%	1.59%	1.59%	1.59%	1.59%
	0.80%	0.80%	0.80%	0.80%	0.80%	0.80%	0.80%	0.80%	0.80%	0.80%	0.80%	0.80%	0.80%	0.80%
	3,756	3,806	3,856	3,908	3,959	4,012	4,065	4,119	4,173	4,229	4,285	4,341	4,399	4,457
	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%
	70,874	71,812	72,763	73,727	74,704	75,693	76,696	77,711	78,741	79,784	80,840	81,911	82,996	84,095
	1,127	1,142	1,157	1,172	1,188	1,204	1,219	1,236	1,252	1,269	1,285	1,302	1,320	1,337
	482,133	488,519	494,989	501,545	508,188	514,919	521,738	528,649	535,651	542,745	549,934	557,217	564,597	572,075
	484,762	491,183	497,688	504,281	510,959	517,727	524,584	531,532	538,572	545,705	552,933	560,256	567,677	575,195

EBMA

Depreciation Expense

	7 2030	8 2031	9 2032	10 2033	11 2034	12 2035	13 2036	14 2037	15 2038	16 2039	17 2040	18 2041	19 2042	20 2043
	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00
Sewer Rental Charges														
EDUs	3114 8	3122 8	3130 8	3138 8	3146 8	3154 8	3162 8	3170 8	3178 8	3186 8	3194 8	3202 8	3210 8	3218 8

EBMA

	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%
	89	89	89	90	90	90	90	91	91	91	91	92	92	92
EBMA	692	694	696	697	699	701	703	704	706	708	710	711	713	715
	2,783,596	2,790,555	2,881,457	2,888,661	2,895,882	2,975,700	2,983,139	2,990,597	3,073,025	3,080,708	3,140,913	3,148,765	3,229,240	3,237,313
	100.00%													
	4,021.580	4,021.580	4,142.220	4,142.220	4,142.220	4,245.780	4,245.780	4,245.780	4,351.920	4,351.920	4,425.910	4,425.910	4,527.700	4,527.700

	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
	893.90	893.84	920.59	920.54	920.50	943.47	943.43	943.41	966.97	966.95	983.38	983.37	1,005.99	1,006.00
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2,780,125	2,787,075	2,794,043	2,885,059	2,892,272	2,899,502	2,979,420	2,986,868	2,994,335	3,076,866	3,084,559	3,144,839	3,152,701	3,233,277

	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
		3.0%			2.5%			2.5%		1.7%		2.3%		2.4%
	$ 4,026.60	$ 4,147.39	$ 4,147.39	$ 4,147.39	$ 4,251.08	$ 4,251.08	$ 4,251.08	$ 4,357.36	$ 4,357.36	$ 4,431.43	$ 4,431.43	$ 4,533.35	$ 4,533.35	$ 4,642.15
	$ -	$ 120.80	$ -	$ -	$ 103.68	$ -	$ -	$ 106.28	$ -	$ 74.08	$ -	$ 101.92	$ -	$ 108.80
	3,471	3,479	3,488	3,602	3,611	3,620	3,720	3,729	3,738	3,841	3,851	3,926	3,936	4,037
	2,783,596	2,790,555	2,881,457	2,888,661	2,895,882	2,975,700	2,983,139	2,990,597	3,073,025	3,080,708	3,140,913	3,148,765	3,229,240	3,237,313
	-	83,717	-	-	72,397	-	-	74,765	-	52,372	-	72,422	-	77,696
												2.70%		2.74%
	40,025	40,008	39,990	39,972	39,954	39,935	39,916	39,897	39,878	39,859	39,839	39,819	39,798	39,778
	15,799	15,839	16,355	16,395	16,436	16,890	16,932	16,974	17,442	17,486	17,827	17,872	18,329	18,374
	55,824	55,847	56,345	56,367	56,390	56,825	56,848	56,871	57,320	57,345	57,666	57,691	58,127	58,152

EBMA

LESS: EOS - Wages & Benefits		15% savings	15%	0.15
LESS: EOS - Professional Services	ces	50% savings	50%	0.5
LESS: EOS - Eliminated Expenses		10% savings	100%	1

EBMA

Wages

Professional Services

Eliminated Exp

	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
EBMA														
Reported CAPX - from the financials														
GROSS Property, plant and equipment														
Accumulated Depreciation														
NET PPE														
Total Debt														
Net Equity														
Investor Provided Capital														
Depreciation Rate														
Depreciation Expense														
CAPX														

	WORKING NOTES										WORKING NOTES	
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
GROSS Property, plant and equipment	-	-	-		28,021,000	28,021,000	28,392,130	28,768,175	29,149,201	29,535,274	29,926,460	30,322,827
Accumulated Depreciation	-	-	-		-	-	382,471	770,006	1,162,675	1,560,545	1,963,684	2,372,163
NET PPE	-	-	-		28,021,000	28,021,000	28,009,659	27,998,169	27,986,526	27,974,729	27,962,776	27,950,664
Total Debt	-	-	-	-	-	13,446,112						
Net Equity	-	-	-	-	-	5,519,208						
Investor Provided Capital	-	-	-	-	-	18,965,320	-					
Depreciation / GROSS PPE	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	0.00%	1.59%				0	0	
				Muni CAPX	0	323,951	0	0	0	0	0	0
			IOU savings	0%			100%	100%	100%	100%	100%	100%
				CAPX/Prior Yr. GROSS PPE			1.56%	1.56%	1.56%	1.56%	1.56%	1.56%
				CAPX	224,850	323,951	436,623	442,406	448,266	454,203	460,219	466,314
				Dep rate	0.00%	1.59%	1.59%	1.59%	1.59%	1.59%	1.59%	1.59%
				Half yr. Dep	0.00%	0.80%	0.80%	0.80%	0.80%	0.80%	0.80%	0.80%
				Dep on CAPX	-	2,575	3,471	3,517	3,564	3,611	3,659	3,707
				Rate of retirement	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%
				Retired property	33,728	48,593	65,493	66,361	67,240	68,130	69,033	69,947
				Dep on Retired property	-	773	1,041	1,055	1,069	1,083	1,098	1,112
				Dep on Prior yr. GROSS	131,419	143,695	445,534	451,435	457,414	463,472	469,611	475,831
				Total Dep	131,419	-	447,964	453,897	459,909	466,000	472,172	478,426
EBMA												
Depreciation Expense	-	76,060	100,623	131,419	143,695							
				part of OCN								
				NET PPE			PURTA	0.001527765				
				Rev			Reg Assessment Fee	0.005652534				
					2022	2023	1 2024	2 2025	3 2026	4 2027	5 2028	6 2029
EBMA												
	FIX CIP			CIP	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
					part of OCN	= to DepX						
					224,850	323,951						
									191	71	72	56
					2022	2023						
					-		23,750.00	23,750.00	23,750.00	23,750.00	38,000.00	38,000.00
Sewer Rental Charges	0	1,581,441	1,640,811	1,809,152	1,820,534	1,780,000	1,873,600	1,415,650	1,417,950	1,420,250		
EDUs	0	0	0	0	3,070	3,070	3075	3080	3085	3090	3098	3106
					0	0	5	5	5	5	8	8
		0	0	0	1535	3070	3072.5	3077.5	3082.5	3087.5		
	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	593.0078176							
						$ 460.00	$ 460.00	$ 460.00	$ 460.00	$ 460.00		
	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	1186.015635	579.8045603						
EBMA					C	683	2					
					E	3,070	8					
						0.22						
				1742000								
	Customer Growth					0	1	1	1	1	0.25%	0.25%
	Delivered to Customer	-	87.85		88	88	88	88	88	88	89	89
EBMA	Customers	683	683		683	683	684	685	686	687	689	690
	Total Revenue (Less TAP)	1,640,811	1,809,152		1,820,534	1,780,000	1,873,600	1,874,970	3,379,876	3,384,806	3,391,506	4,079,981
										100.00%		
	avg CUST rev	2,402.36	2,648.83		2,665.50	2,606.15	2,739.18	2,737.18	4,926.93	4,926.94	4,924.38	5,909.25
	avg CUST flow	-	0		0	0	0	0	0	0	0	0

WORKING NOTES							WORKING NOTES				
2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
	avg EDU rev	#DIV/0!	#DIV/0!	593.01	579.80	609.30	608.76	1,095.58	1,095.41	1,094.74	1,313.58
	avg EDU flow	#DIV/0!	#DIV/0!	0	0	0	0	0	0	0	0
	Rev Calculated				1,820,534	1,781,303	1,874,970	1,876,339	3,382,339	3,389,037	3,395,745

				2023	2024	2025	2026	2027	2028	2029
				Change		80.0%			20.0%	
			$ 2,665.50	$ 2,606.15	$ 2,739.18	$ 4,930.53	$ 4,930.53	$ 4,930.53	$ 5,916.63	$ 5,916.63
						$ 2,191.35	$ -	$ -	$ 986.11	$ -
				-	1,303	1,370	3,379,876	2,463	4,231	4,239
				1,820,534	1,781,303	1,874,970	3,379,876	3,384,806	3,391,506	4,079,981
				-	-	1,499,976	-	-	678,301	-
Prior yr										
NET	PURTA	0.1432%			40,126	40,110	40,093	40,077	40,060	40,043
REV	Reg Assessment	0.5690%			10,128	10,661	19,203	19,231	19,260	23,157
					50,254	50,771	59,296	59,308	59,320	63,200

Elizabeth Borough MA Wastewater System Assets	
Investor Provide	18,965,320
Gross PP&E	28,021,000
Net PP&E	28,021,000
Revenues	1,780,000
EBITDA	833,460
EBIT	833,460
Customers	683
Population	5,384

	2018	2019	2020	2021	2022	2023	2024		
EBMA									
LESS: EOS - Wages & Benefits	0	-	-	-	-	360,400	393,800	0.15	LESS: EOS - Wages Wages & Benefits
LESS: EOS - Professional Services	0	0	0	0	-	112,800	148,000	0.5	LESS: EOS - Profes Net Professional Servi
LESS: EOS - Eliminated Expenses	0	0	0	0	-	-	-		LESS: EOS - I Line Rentals
EBMA									
Wages			0	0	0	360,400	393,800		
Professional Services					0	112,800	148,000		
Eliminated Exp			0	0	0	0			

	WORKING NOTES							WORKING NOTES				
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
EBMA					included in OCN	= to DepX						
Reported CAPX - from the financials	0	1,819,509	5,227,098	1,461,065	224,850	323,951						

	2018	2019	2020	2021	2022		Assets	Per Books	Difference
GROSS Property, plant and equipment	-	-	-	-	28,021,000		28,021,000	-	
Accumulated Depreciation	-	-	-	-	-		-	-	
NET PPE	-	-	-	-	28,021,000		28,021,000	-	28,021,000
Total Debt	-	-	-	-	13,446,112		445,534		
Net Equity	-	-	-	-	5,519,208				
Investor Provided Capital	-	-	-	-	18,965,320				
Depreciation Rate	0.00%	0.00%	0.00%	0.00%	1.59%				
Depreciation Expense	-	76,060	100,623	131,419	143,695	445,534.00	OCNLD Study		

	2023	2024	2025	2026	2027	
CAPX	0	140,000	0	0	0	35,000

	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
GROSS Property, plant and equipment	30,724,443	31,131,379	31,543,705	31,961,492	32,384,812	32,813,739	33,248,347	33,688,712	34,134,909	34,587,015	35,045,110	35,509,272	35,979,581	36,456,120
Accumulated Depreciation	2,786,051	3,205,422	3,630,347	4,060,901	4,497,155	4,939,189	5,387,077	5,840,899	6,300,729	6,766,651	7,238,744	7,717,089	8,201,769	8,692,870
NET PPE	27,938,392	27,925,957	27,913,358	27,900,591	27,887,657	27,874,550	27,861,270	27,847,813	27,834,180	27,820,364	27,806,366	27,792,183	27,777,812	27,763,250
Total Debt														
Net Equity														
Investor Provided Capital														

Depreciation / GROSS PPE

	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	1.56%	1.56%	1.56%	1.56%	1.56%	1.56%	1.56%	1.56%	1.56%	1.56%	1.56%	1.56%	1.56%	1.56%
	472,490	478,748	485,089	491,514	498,024	504,620	511,304	518,076	524,938	531,890	538,935	546,073	553,305	560,634
	1.59%	1.59%	1.59%	1.59%	1.59%	1.59%	1.59%	1.59%	1.59%	1.59%	1.59%	1.59%	1.59%	1.59%
	0.80%	0.80%	0.80%	0.80%	0.80%	0.80%	0.80%	0.80%	0.80%	0.80%	0.80%	0.80%	0.80%	0.80%
	3,756	3,806	3,856	3,908	3,959	4,012	4,065	4,119	4,173	4,229	4,285	4,341	4,399	4,457
	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%
	70,874	71,812	72,763	73,727	74,704	75,693	76,696	77,711	78,741	79,784	80,840	81,911	82,996	84,095
	1,127	1,142	1,157	1,172	1,188	1,204	1,219	1,236	1,252	1,269	1,285	1,302	1,320	1,337
	482,133	488,519	494,989	501,545	508,188	514,919	521,738	528,649	535,651	542,745	549,934	557,217	564,597	572,075
	484,762	491,183	497,688	504,281	510,959	517,727	524,584	531,532	538,572	545,705	552,933	560,256	567,677	575,195

EBMA

Depreciation Expense

	7 2030	8 2031	9 2032	10 2033	11 2034	12 2035	13 2036	14 2037	15 2038	16 2039	17 2040	18 2041	19 2042	20 2043
	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00	38,000.00
Sewer Rental Charges														
EDUs	3114 8	3122 8	3130 8	3138 8	3146 8	3154 8	3162 8	3170 8	3178 8	3186 8	3194 8	3202 8	3210 8	3218 8

EBMA

	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%	0.25%
	89	89	89	90	90	90	90	91	91	91	91	92	92	92
EBMA	692	694	696	697	699	701	703	704	706	708	710	711	713	715
	4,090,181	4,100,407	4,727,256	4,739,075	4,750,922	5,239,079	5,252,177	5,265,308	5,542,394	5,556,250	5,625,842	5,639,907	5,721,855	5,736,160
	100.00%													
	5,909.250	5,909.250	6,795.640	6,795.640	6,795.640	7,475.210	7,475.210	7,475.210	7,848.970	7,848.970	7,927.460	7,927.460	8,022.590	8,022.590

	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
	1,313.48	1,313.39	1,510.31	1,510.22	1,510.15	1,661.09	1,661.03	1,660.98	1,743.99	1,743.96	1,761.38	1,761.37	1,782.51	1,782.52
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4,085,081	4,095,294	4,105,533	4,733,165	4,744,999	4,756,861	5,245,628	5,258,742	5,271,890	5,549,322	5,563,195	5,632,874	5,646,957	5,729,007

	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
		15.0%			10.0%			5.0%		1.0%		1.2%		1.2%
	$ 5,916.63	$ 6,804.13	$ 6,804.13	$ 6,804.13	$ 7,484.54	$ 7,484.54	$ 7,484.54	$ 7,858.77	$ 7,858.77	$ 7,937.35	$ 7,937.35	$ 8,032.60	$ 8,032.60	$ 8,128.99
	$ -	$ 887.49	$ -	$ -	$ 680.41	$ -	$ -	$ 374.23	$ -	$ 78.59	$ -	$ 95.25	$ -	$ 96.39
	5,100	5,113	5,126	5,909	5,924	5,939	6,549	6,565	6,582	6,928	6,945	7,032	7,050	7,152
	4,090,181	4,100,407	4,727,256	4,739,075	4,750,922	5,239,079	5,252,177	5,265,308	5,542,394	5,556,250	5,625,842	5,639,907	5,721,855	5,736,160
	-	615,061	-	-	475,092	-	-	263,265	-	55,563	-	67,679	-	68,834
												1.29%		1.34%
	40,025	40,008	39,990	39,972	39,954	39,935	39,916	39,897	39,878	39,859	39,839	39,819	39,798	39,778
	23,215	23,273	26,831	26,898	26,965	29,736	29,810	29,885	31,458	31,536	31,931	32,011	32,476	32,557
	63,240	63,281	66,821	66,870	66,919	69,671	69,726	69,782	71,336	71,395	71,770	71,830	72,274	72,335

EBMA

LESS: EOS - Wages & Benefits		15% savings	15%	0.15
LESS: EOS - Professional Services	ces	50% savings	50%	0.5
LESS: EOS - Eliminated Expenses		10% savings	100%	1

EBMA

Wages

Professional Services

Eliminated Exp

	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
EBMA														
Reported CAPX - from the financials														
GROSS Property, plant and equipment														
Accumulated Depreciation														
NET PPE														
Total Debt														
Net Equity														
Investor Provided Capital														
Depreciation Rate														
Depreciation Expense														
CAPX														

Geocode	County	Municipality	2010	2020	Change		Munic. Rank
					Numeric	Percent	
003	Allegheny County	Allegheny County	1,223,348	1,250,578	27,230	2.2%	
00322992	Allegheny County	Elizabeth borough	1493	1398	-95	-6.4%	1,856
00323000	Allegheny County	Elizabeth township	13271	12982	-289	-2.2%	1,274
00326896	Allegheny County	Forward township	3376	3070	-306	-9.1%	2,120
00343408	Allegheny County	Lincoln borough	1072	932	-140	-13.1%	2,349

Cycle 11 forecast (adopted by the Commission on June 24, 2019) by City of Pittsburgh Neighborhood Cluster and Municipality Outside Pittsburgh 2015-2045

City of Pittsburgh and county totals are at bottom of worksheet

Sorted County, Municipality

NOTE: column names in yellow cells are for mapping

		AREA IN SQUARE MILES			2015									2020				
									WORKPLACE EMPLOYMENT									
County(or Pittsburgh City	Municipality (or Pittsburgh neighborhood cluster)	Total	Land	Water	Households	Average household size	Group-quarter population	Total population	Retail	Manufac-turing	Services	Other	Total	Households	Average household size	Group-quarter population	Total population	Retail
							gqpop_15	totpop_15	retemp_15	mfgemp_15	servemp_15	othemp_15	totemp_15	hholds_20	avgsize_20	gqpop_20	totpop_20	retemp_20
Allegheny	Elizabeth Borough	0.3951	0.3042	0.0909	643	2.16	0	1,391	69	6	459	84	618	629	2.14	0	1,345	69
Allegheny	Elizabeth Township	23.0395	22.6651	0.3744	5,488	2.42	18	13,297	583	97	2,309	507	3,496	5,480	2.41	18	13,222	600
Allegheny	Forward Township	19.8546	18.8037	1.0509	1,503	2.23	4	3,356	73	108	347	201	729	1,501	2.19	4	3,291	72
Allegheny	Lincoln Borough	5.1451	4.8844	0.2607	436	2.30	17	1,021	41	22	166	85	314	424	2.27	17	980	40

	AREA IN SQUARE MILES			2015									2020				
								WORKPLACE EMPLOYMENT									
County/region totals	Total	Land	Water	Households	Average household size	Group-quarter population	Total population	Retail	Manufac-turing	Services	Other	Total	Households	Average household size	Group-quarter population	Total population	Retail
Pittsburgh, City of	58.2860	55.4805	2.8055	132,468	2.13	23,939	305,928	30,694	7,656	299,568	16,778	354,696	132,450	2.12	23,939	304,900	32,014
Allegheny (Excludes City of Pittsburgh)	685.6730	674.1324	11.5406	397,066	2.30	11,413	925,217	106,279	30,489	339,885	58,000	534,653	397,623	2.30	11,413	924,120	110,038
Armstrong	664.2882	653.6256	10.6626	28,524	2.36	757	67,979	4,071	2,210	13,611	5,052	24,944	27,332	2.34	757	64,822	4,160
Beaver	443.6825	433.9979	9.6846	70,079	2.38	2,951	169,785	13,374	6,957	44,256	7,058	71,645	68,468	2.37	2,951	165,356	13,247
Butler	794.6921	788.4355	6.2562	74,476	2.42	5,584	185,689	20,488	12,830	66,232	15,922	115,472	76,551	2.40	5,584	189,577	21,551
Fayette	797.8329	789.7719	8.0610	53,997	2.41	4,697	134,851	10,817	3,995	33,348	7,177	55,337	51,731	2.41	4,697	129,158	10,604
Greene	577.6056	575.7618	1.8438	14,394	2.33	4,375	37,938	2,650	396	8,802	7,692	19,540	14,192	2.31	4,375	37,184	2,568
Indiana	834.2155	828.9756	5.2399	34,061	2.41	5,923	87,895	7,921	2,416	25,331	10,145	45,813	33,989	2.39	5,923	87,307	7,947
Lawrence	362.6886	360.3848	2.3038	36,435	2.38	2,361	89,162	6,814	3,921	25,248	5,239	41,222	35,262	2.37	2,361	85,935	6,751
Washington	860.3761	856.8240	3.5521	83,739	2.42	5,255	208,226	19,051	9,478	69,515	23,173	121,217	84,406	2.42	5,255	209,558	19,660
Westmoreland	1,036.7786	1,025.9157	10.8629	151,173	2.33	8,562	361,251	36,817	18,488	102,926	23,936	182,167	149,268	2.32	8,562	355,285	37,420
SPC Region	7,116.1191	7,043.3057	72.8130	1,076,412	2.32	75,817	2,573,921	258,976	98,836	1,028,722	180,172	1,566,706	1,071,272	2.31	75,817	2,553,202	265,960

Cycle 11 forecast (adopted by th
City of Pittsburgh and county totals are
Sorted County, Municipality

NOTE: column names in yellow cells are for ma

		WORKPLACE EMPLOYMENT					
ounty(or Pittsburgh City	Municipality (or Pittsburgh neighborhood cluster)	Manufac-turing	Services	Other	Total	Households	Average household size
		mfgemp_20	servemp_20	othemp_20	totemp_20	hholds_25	avgsize_25
Allegheny	Elizabeth Borough	12	466	108	655	629	2.11
Allegheny	Elizabeth Township	99	2,420	509	3,628	5,560	2.40
Allegheny	Forward Township	112	349	209	742	1,523	2.15
Allegheny	Lincoln Borough	24	165	92	321	422	2.25

		WORKPLACE EMPLOYMENT					
County/region totals		Manufac-turing	Services	Other	Total	Households	Average household size
Pittsburgh, City of		7,641	317,187	17,493	374,335	136,051	2.11
Allegheny	(Excludes City of Pittsburgh)	30,447	359,256	60,434	560,175	405,189	2.29
Armstrong		2,034	13,755	4,819	24,768	26,707	2.33
Beaver		6,462	45,184	7,615	72,508	68,875	2.36
Butler		12,461	69,657	16,426	120,095	78,859	2.39
Fayette		3,886	34,138	6,950	55,578	50,787	2.40
Greene		386	8,569	6,987	18,510	14,141	2.29
Indiana		2,384	25,671	9,423	45,425	34,596	2.38
Lawrence		3,947	25,295	5,217	41,210	34,811	2.36
Washington		9,250	73,396	23,891	126,197	86,246	2.42
Westmoreland		17,889	108,194	25,352	188,855	150,737	2.31
SPC Region		96,787	1,080,302	184,607	1,627,656	1,086,999	2.30

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NOTE: column names in yellow cells are for ma

		2025							2030								
				WORKPLACE EMPLOYMENT									WORKPLACE EMPLOYMENT				
bunty(or Pittsburgh City	Municipality (or Pittsburgh neighborhood cluster)	Group-quarter population	Total population	Retail	Manufac-turing	Services	Other	Total	Households	Average household size	Group-quarter population	Total population	Retail	Manufac-turing	Services	Other	Total
		ggpop_25	totpop_25	retemp_25	mfgemp_25	servemp_25	othemp_25	totemp_25	hholds_30	avgsize_30	ggpop_30	totpop_30	retemp_30	mfgemp_30	servemp_30	othemp_30	totemp_30
Allegheny	Elizabeth Borough	0	1,330	66	9	453	102	630	637	2.09	0	1,331	64	7	448	94	613
Allegheny	Elizabeth Township	18	13,354	592	90	2,414	489	3,585	5,703	2.39	18	13,637	588	83	2,457	464	3,592
Allegheny	Forward Township	4	3,279	69	102	339	199	709	1,561	2.11	4	3,300	67	94	342	185	688
Allegheny	Lincoln Borough	17	966	38	20	158	87	303	428	2.22	17	966	37	18	156	82	293

	2025							2030								
			WORKPLACE EMPLOYMENT									WORKPLACE EMPLOYMENT				
County/region totals	Group-quarter population	Total population	Retail	Manufac-turing	Services	Other	Total	Households	Average household size	Group-quarter population	Total population	Retail	Manufac-turing	Services	Other	Total
Pittsburgh, City of	23,939	311,659	31,555	6,974	316,613	17,096	372,238	141,330	2.11	23,939	321,969	31,463	6,456	320,875	16,694	375,488
Allegheny (Excludes City of Pittsburgh)	11,413	938,526	107,804	27,741	358,847	58,814	553,206	417,727	2.28	11,413	963,797	106,063	25,548	363,733	56,898	552,242
Armstrong	757	63,052	4,016	1,840	13,625	4,553	24,034	26,625	2.32	757	62,573	3,916	1,692	13,751	4,408	23,767
Beaver	2,951	165,660	12,932	5,893	44,795	7,359	70,979	70,860	2.35	2,951	169,639	12,750	5,429	45,190	7,175	70,544
Butler	5,584	193,864	21,255	11,224	69,246	15,854	117,579	82,415	2.37	5,584	201,009	21,043	10,245	70,135	15,274	116,697
Fayette	4,697	126,620	10,262	3,550	33,774	6,648	54,234	50,898	2.40	4,697	126,610	10,026	3,265	34,094	6,491	53,876
Greene	4,375	36,790	2,475	352	8,482	6,601	17,910	14,344	2.27	4,375	36,981	2,411	327	8,552	6,405	17,695
Indiana	5,923	88,299	7,810	2,172	25,548	9,334	44,864	35,815	2.37	5,923	90,698	7,726	2,005	25,899	9,423	45,053
Lawrence	2,361	84,432	6,556	3,622	25,228	4,985	40,391	35,418	2.35	2,361	85,425	6,446	3,367	25,644	4,831	40,288
Washington	5,255	213,562	19,321	8,429	73,404	23,428	124,582	89,310	2.41	5,255	220,429	19,089	7,789	74,543	23,174	124,595
Westmoreland	8,562	357,066	36,547	16,215	107,927	24,440	185,129	155,475	2.30	8,562	366,299	36,028	14,930	109,373	23,578	183,909
SPC Region	75,817	2,579,530	260,533	88,012	1,077,489	179,112	1,605,146	1,120,217	2.29	75,817	2,645,429	256,961	81,053	1,091,789	174,351	1,604,154

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		2035									2040								
						WORKPLACE EMPLOYMENT									WORKPLACE EMPLOYMENT				
bunty(or Pittsburgh City	Municipality (or Pittsburgh neighborhood cluster)	Households	Average household size	Group-quarter population	Total population	Retail	Manufac-turing	Services	Other	Total	Households	Average household size	Group-quarter population	Total population	Retail	Manufac-turing	Services	Other	
		hholds_35	avgsize_35	gqpop_35	totpop_35	retemp_35	mfgemp_35	servemp_35	othemp_35	totemp_35	hholds_40	avgsize_40	gqpop_40	totpop_40	retemp_40	mfgemp_40	servemp_40	othemp_40	
Allegheny	Elizabeth Borough	649	2.06	0	1,337	64	7	457	99	627	665	2.04	0	1,355	66	7	478	112	
Allegheny	Elizabeth Township	5,851	2.38	18	13,932	603	80	2,584	462	3,729	5,990	2.37	18	14,195	629	80	2,730	470	
Allegheny	Forward Township	1,603	2.07	4	3,322	68	90	354	186	698	1,640	2.03	4	3,334	70	89	368	193	
Allegheny	Lincoln Borough	435	2.19	17	969	37	17	160	83	297	443	2.16	17	976	38	18	166	86	

	2035									2040								
					WORKPLACE EMPLOYMENT									WORKPLACE EMPLOYMENT				
County/region totals	Households	Average household size	Group-quarter population	Total population	Retail	Manufac-turing	Services	Other	Total	Households	Average household size	Group-quarter population	Total population	Retail	Manufac-turing	Services	Other	
Pittsburgh, City of	146,977	2.10	23,939	333,067	32,272	6,217	332,566	16,985	388,040	152,774	2.10	23,939	344,473	33,601	6,111	347,332	17,759	
Allegheny (Excludes City of Pittsburgh)	430,866	2.27	11,413	989,969	107,535	24,553	377,146	57,268	566,502	443,757	2.26	11,413	1,015,104	110,874	24,079	394,297	59,272	
Armstrong	26,934	2.31	757	63,017	3,920	1,618	14,169	4,392	24,099	27,335	2.30	757	63,683	3,963	1,578	14,681	4,443	
Beaver	73,039	2.34	2,951	174,012	12,821	5,169	46,364	7,021	71,375	74,901	2.33	2,951	177,584	12,989	4,991	47,747	6,954	
Butler	86,517	2.35	5,584	209,286	21,405	9,760	72,638	15,237	119,040	90,241	2.34	5,584	216,520	21,957	9,485	75,624	15,462	
Fayette	51,424	2.39	4,697	127,595	10,042	3,136	35,096	6,496	54,770	51,815	2.38	4,697	128,255	10,138	3,060	36,267	6,578	
Greene	14,671	2.25	4,375	37,450	2,420	311	8,786	6,420	17,937	15,000	2.24	4,375	37,912	2,460	300	9,083	6,551	
Indiana	37,127	2.35	5,923	93,276	7,848	1,916	26,760	9,737	46,261	38,100	2.34	5,923	95,010	8,009	1,858	27,696	10,187	
Lawrence	36,507	2.33	2,361	87,531	6,496	3,240	26,539	4,759	41,034	37,490	2.32	2,361	89,361	6,599	3,161	27,558	4,732	
Washington	92,809	2.40	5,255	228,261	19,440	7,486	77,373	23,696	127,995	96,068	2.40	5,255	235,444	20,066	7,330	80,825	24,756	
Westmoreland	161,336	2.29	8,562	377,950	36,450	14,312	113,058	23,403	187,223	166,525	2.28	8,562	387,880	37,175	13,962	117,387	23,596	
SPC Region	1,158,207	2.28	75,817	2,721,414	260,649	77,718	1,130,495	175,414	1,644,276	1,194,006	2.27	75,817	2,791,226	267,831	75,915	1,178,497	180,290	

Cycle 11 forecast (adopted by th
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County(or Pittsburgh City)	Municipality (or Pittsburgh neighborhood cluster)	Total
		totemp_40
Allegheny	Elizabeth Borough	663
Allegheny	Elizabeth Township	3,909
Allegheny	Forward Township	720
Allegheny	Lincoln Borough	308

County/region totals		Total
Pittsburgh, City of		404,803
Allegheny	(Excludes City of Pittsburgh)	588,522
Armstrong		24,665
Beaver		72,681
Butler		122,528
Fayette		56,043
Greene		18,394
Indiana		47,750
Lawrence		42,050
Washington		132,977
Westmoreland		192,120
SPC Region		1,702,533

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		2045								
						WORKPLACE EMPLOYMENT				
bunty(or Pittsburgh City	Municipality (or Pittsburgh neighborhood cluster)	Households	Average household size	Group-quarter population	Total population	Retail	Manufac-turing	Services	Other	Total
		hholds_45	avgsize_45	gqpop_45	totpop_45	retemp_45	mfgemp_45	servemp_45	othemp_45	totemp_45
Allegheny	Elizabeth Borough	683	2.01	0	1,375	68	7	499	130	704
Allegheny	Elizabeth Township	6,150	2.36	18	14,511	660	79	2,902	478	4,119
Allegheny	Forward Township	1,683	1.99	4	3,357	74	87	386	203	750
Allegheny	Lincoln Borough	457	2.13	17	992	40	18	177	91	326

	2045								
					WORKPLACE EMPLOYMENT				
County/region totals	Households	Average household size	Group-quarter population	Total population	Retail	Manufac-turing	Services	Other	Total
Pittsburgh, City of	159,173	2.09	23,939	357,154	35,092	6,020	363,751	18,746	423,609
Allegheny (Excludes City of Pittsburgh)	458,330	2.25	11,413	1,043,734	114,757	23,650	413,193	62,025	613,625
Armstrong	27,651	2.29	757	64,156	3,993	1,537	15,215	4,538	25,283
Beaver	76,453	2.32	2,951	180,383	13,147	4,830	49,164	6,949	74,090
Butler	93,322	2.32	5,584	222,117	22,436	9,219	78,674	15,765	126,094
Fayette	52,019	2.38	4,697	128,468	10,177	2,973	37,415	6,682	57,247
Greene	15,318	2.22	4,375	38,341	2,491	290	9,405	6,750	18,936
Indiana	38,684	2.32	5,923	95,804	8,125	1,801	28,598	10,715	49,239
Lawrence	38,221	2.31	2,361	90,583	6,669	3,088	28,582	4,722	43,061
Washington	98,910	2.39	5,255	241,574	20,650	7,177	84,430	26,085	138,342
Westmoreland	170,375	2.27	8,562	394,643	37,705	13,608	121,626	23,891	196,830
SPC Region	1,228,456	2.26	75,817	2,856,957	275,242	74,193	1,230,053	186,868	1,766,356

State-Level Census Counts, 1900 to 2020

State	1900	1910	1920	1980	1990	2000	2010	2020
United States	76,212,168	92,228,496	106,021,537	226,545,805	248,709,873	281,421,906	308,745,538	331,449,281
Alabama	1,828,697	2,138,093	2,348,174	3,893,888	4,040,587	4,447,100	4,779,736	5,024,279
Alaska	63,592	64,356	55,036	401,851	550,043	626,932	710,231	733,391
Arizona	122,931	204,354	334,162	2,718,215	3,665,228	5,130,632	6,392,017	7,151,502
Arkansas	1,311,564	1,574,449	1,752,204	2,286,435	2,350,725	2,673,400	2,915,918	3,011,524
California	1,485,053	2,377,549	3,426,861	23,667,902	29,760,021	33,871,648	37,253,956	39,538,223
Colorado	539,700	799,024	939,629	2,889,964	3,294,394	4,301,261	5,029,196	5,773,714
Connecticut	908,420	1,114,756	1,380,631	3,107,576	3,287,116	3,405,565	3,574,097	3,605,944
Delaware	184,735	202,322	223,003	594,338	666,168	783,600	897,934	989,948
District of Columbia	278,718	331,069	437,571	638,333	606,900	572,059	601,723	689,545
Florida	528,542	752,619	968,470	9,746,324	12,937,926	15,982,378	18,801,310	21,538,187
Georgia	2,216,331	2,609,121	2,895,832	5,463,105	6,478,216	8,186,453	9,687,653	10,711,908
Hawaii	154,001	191,874	255,881	964,691	1,108,229	1,211,537	1,360,301	1,455,271
Idaho	161,772	325,594	431,866	943,935	1,006,749	1,293,953	1,567,582	1,839,106
Illinois	4,821,550	5,638,591	6,485,280	11,426,518	11,430,602	12,419,293	12,830,632	12,812,508
Indiana	2,516,462	2,700,876	2,930,390	5,490,224	5,544,159	6,080,485	6,483,802	6,785,528
Iowa	2,231,853	2,224,771	2,404,021	2,913,808	2,776,755	2,926,324	3,046,355	3,190,369
Kansas	1,470,495	1,690,949	1,769,257	2,363,679	2,477,574	2,688,418	2,853,118	2,937,880
Kentucky	2,147,174	2,289,905	2,416,630	3,660,777	3,685,296	4,041,769	4,339,367	4,505,836
Louisiana	1,381,625	1,656,388	1,798,509	4,205,900	4,219,973	4,468,976	4,533,372	4,657,757
Maine	694,466	742,371	768,014	1,124,660	1,227,928	1,274,923	1,328,361	1,362,359
Maryland	1,188,044	1,295,346	1,449,661	4,216,975	4,781,468	5,296,486	5,773,552	6,177,224
Massachusetts	2,805,346	3,366,416	3,852,356	5,737,037	6,016,425	6,349,097	6,547,629	7,029,917
Michigan	2,420,982	2,810,173	3,668,412	9,262,078	9,295,297	9,938,444	9,883,640	10,077,331
Minnesota	1,751,394	2,075,708	2,387,125	4,075,970	4,375,099	4,919,479	5,303,925	5,706,494
Mississippi	1,551,270	1,797,114	1,790,618	2,520,638	2,573,216	2,844,658	2,967,297	2,961,279
Missouri	3,106,665	3,293,335	3,404,055	4,916,686	5,117,073	5,595,211	5,988,927	6,154,913
Montana	243,329	376,053	548,889	786,690	799,065	902,195	989,415	1,084,225
Nebraska	1,066,300	1,192,214	1,296,372	1,569,825	1,578,385	1,711,263	1,826,341	1,961,504
Nevada	42,335	81,875	77,407	800,493	1,201,833	1,998,257	2,700,551	3,104,614
New Hampshire	411,588	430,572	443,083	920,610	1,109,252	1,235,786	1,316,470	1,377,529
New Jersey	1,883,669	2,537,167	3,155,900	7,364,823	7,730,188	8,414,350	8,791,894	9,288,994
New Mexico	195,310	327,301	360,350	1,302,894	1,515,069	1,819,046	2,059,179	2,117,522
New York	7,268,894	9,113,614	10,385,227	17,558,072	17,990,455	18,976,457	19,378,102	20,201,249
North Carolina	1,893,810	2,206,287	2,559,123	5,881,766	6,628,637	8,049,313	9,535,483	10,439,388
North Dakota	319,146	577,056	646,872	652,717	638,800	642,200	672,591	779,094
Ohio	4,157,545	4,767,121	5,759,394	10,797,630	10,847,115	11,353,140	11,536,504	11,799,448
Oklahoma	790,391	1,657,155	2,028,283	3,025,290	3,145,585	3,450,654	3,751,351	3,959,353
Oregon	413,536	672,765	783,389	2,633,105	2,842,321	3,421,399	3,831,074	4,237,256
Pennsylvania	6,302,115	7,665,111	8,720,017	11,863,895	11,881,643	12,281,054	12,702,379	13,002,700
Rhode Island	428,556	542,610	604,397	947,154	1,003,464	1,048,319	1,052,567	1,097,379
South Carolina	1,340,316	1,515,400	1,683,724	3,121,820	3,486,703	4,012,012	4,625,364	5,118,425
South Dakota	401,570	583,888	636,547	690,768	696,004	754,844	814,180	886,667
Tennessee	2,020,616	2,184,789	2,337,885	4,591,120	4,877,185	5,689,283	6,346,105	6,910,840
Texas	3,048,710	3,896,542	4,663,228	14,229,191	16,986,510	20,851,820	25,145,561	29,145,505
Utah	276,749	373,351	449,396	1,461,037	1,722,850	2,233,169	2,763,885	3,271,616
Vermont	343,641	355,956	352,428	511,456	562,758	608,827	625,741	643,077
Virginia	1,854,184	2,061,612	2,309,187	5,346,818	6,187,358	7,078,515	8,001,024	8,631,393
Washington	518,103	1,141,990	1,356,621	4,132,156	4,866,692	5,894,121	6,724,540	7,705,281
West Virginia	958,800	1,221,119	1,463,701	1,949,644	1,793,477	1,808,344	1,852,994	1,793,716
Wisconsin	2,069,042	2,333,860	2,632,067	4,705,767	4,891,769	5,363,675	5,686,986	5,893,718
Wyoming	92,531	145,965	194,402	469,557	453,588	493,782	563,626	576,851

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

Elizabeth Borough MA Wastewater System Assets

Total Debt	13,446,112	13,635,087	12,487,839
Purchase of Capital Assets	224,850	1,461,065	5,227,098

	2022	2021	2020
Income (Loss) Before Transfers	91,893	408,036	392,009
Interest paid	653,203	376,276	235,000
Depreciation	143,695	131,419	100,623
Total Source	$888,791	$915,731	$727,632
Income tax	0	0	0
Principal	253,023	251,064	219,876
Interest paid	653,203	376,276	235,000
Total Use	$906,226	$627,340	$454,876

W/Out Trans

Debt Service Coverage	0.98	1.46	1.60
Pre-Tax Interest Coverage - Including AFC(3)(x)	1.14	2.08	2.67
Post-Tax Interest Coverage - Including AFC(3)(x)	1.14	2.08	2.67
GCF / Interest Coverage(4)(x)	1.36	2.43	3.10
GCF / Tot. Debt(7)(%)	1.75	3.96	3.94
GCF / Construction(6)(%)	104.78	36.92	9.42

Comparable Group

Debt Service Coverage - As Reported

Comparable Group	2022	2021	2020
AMERICAN STATES WATER COMPANY	5.4	3.1	1.6
AMERICAN WATER WORKS COMPANY, INC.	4.2	3.0	2.3
ARTESIAN RESOURCES CORPORATION	3.9	3.9	3.8
CALIFORNIA WATER SERVICE GROUP	5.0	5.1	3.6
ESSENTIAL UTILITIES, INC.	0.8	1.0	0.4
MIDDLESEX WATER COMPANY	4.7	1.2	4.5
SJW GROUP	1.6	1.6	2.5
THE YORK WATER COMPANY	0.5	0.7	0.7
Median	4.1	2.3	2.4

Company Name	2022 DEPRECIATION	2021 DEPRECIATION	2020 DEPRECIATION	2022 TOTAL INTERST EXPENSE	2021 TOTAL INTERST EXPENSE	2020 TOTAL INTERST EXPENSE
AMERICAN STATES WATER COMPANY	41.697	39.974	37.204	27.027	22.834	22.531
AMERICAN WATER WORKS COMPANY, INC.	649.000	636.000	604.000	433.000	403.000	397.000
ARTESIAN RESOURCES CORPORATION	12.620	11.885	11.143	8.502	7.592	7.619
CALIFORNIA WATER SERVICE GROUP	117.364	111.581	100.935	46.686	44.980	45.047
ESSENTIAL UTILITIES, INC.	321.177	297.952	257.059	238.116	207.709	188.435
MIDDLESEX WATER COMPANY	27.475	26.799	20.838	9.367	8.114	7.493
SJW GROUP	106.439	96.474	91.622	58.062	54.339	54.255
THE YORK WATER COMPANY	10.139	8.859	8.177	5.114	4.926	4.707

	2022 INCOME TO PREF+COMM	2021 INCOME TO PREF+COMM	2020 INCOME TO PREF+COMM	2022 REPAY LT DEBT	2021 REPAY LT DEBT	2020 REPAY LT DEBT
AMERICAN STATES WATER COMPANY	27.027	22.834	22.531	0.377	28.356	71.136
AMERICAN WATER WORKS COMPANY, INC.	433.000	403.000	397.000	15.000	372.000	342.000
ARTESIAN RESOURCES CORPORATION	8.502	7.592	7.619	1.643	1.825	1.772
CALIFORNIA WATER SERVICE GROUP	46.686	44.980	45.047	5.423	5.353	22.141
ESSENTIAL UTILITIES, INC.	238.116	207.709	188.435	977.175	769.546	1,820.571
MIDDLESEX WATER COMPANY	9.367	8.114	7.493	7.423	52.691	7.472
SJW GROUP	58.062	54.339	54.255	89.177	76.113	28.931
THE YORK WATER COMPANY	5.114	4.926	4.707	61.458	37.649	39.628

Company Name	Pretax Operating Income			Interest expense			Net Income		
	2022	2021	2020	2022	2021	2020	2022	2021	2020
AMERICAN STATES WATER CO	129.087	147.604	137.153	27.027	22.834	22.531	78.396	94.347	86.425
AMERICAN WATER WORKS CO INC	1,441.000	2,043.000	1,321.000	433.000	403.000	397.000	820.000	1,263.000	709.000
ARTESIAN RESOURCES -CL A	32.378	30.156	30.120	8.502	7.592	7.619	17.998	16.827	16.817
CALIFORNIA WATER SERVICE GP	149.072	150.197	153.896	46.686	44.980	45.047	96.011	101.125	96.831
ESSENTIAL UTILITIES, INC.	689.024	629.709	453.406	238.116	207.709	188.435	465.237	431.612	284.849
MIDDLESEX WATER CO	55.036	39.169	41.799	9.367	8.114	7.493	42.429	36.543	38.425
SJW GROUP	140.386	123.186	124.150	58.062	54.339	54.255	73.828	60.478	61.515
YORK WATER CO	24.709	23.030	23.323	5.114	4.926	4.707	19.580	16.984	16.598

Company Name	Gross Cash Flow			Total debt			CAPX		
	2022	2021	2020	2022	2021	2020	2022	2021	2020
AMERICAN STATES WATER CO	122.896	137.882	125.872	734.428	629.017	586.555	166.240	144.515	130.423
AMERICAN WATER WORKS CO INC	1,535.000	2,119.000	1,507.000	12,464.000	11,065.000	11,025.000	2,297.000	1,764.000	1,822.000
ARTESIAN RESOURCES -CL A	30.882	30.266	24.401	198.307	172.029	171.460	48.483	40.814	34.277
CALIFORNIA WATER SERVICE GP	215.546	211.586	206.596	1,140.700	1,111.389	1,171.852	335.523	293.194	298.651
ESSENTIAL UTILITIES, INC.	739.704	700.258	511.439	6,874.589	6,114.443	5,777.606	1,062.763	1,020.519	835.642
MIDDLESEX WATER CO	69.024	61.981	52.811	367.648	330.618	287.541	91.335	79.378	105.619
SJW GROUP	172.320	149.679	143.507	1,655.903	1,595.037	1,538.915	218.784	233.933	195.323
YORK WATER CO	28.222	24.786	24.333	140.145	148.455	126.304	53.920	46.400	33.299

Company Name	Pretax Interest Coverage			Posttax Interest Coverage			GCF Interest Coverage		
	2022	2021	2020	2022	2021	2020	2022	2021	2020
AMERICAN STATES WATER CO	4.8	6.5	6.1	3.9	5.1	4.8	5.5	7.0	6.6
AMERICAN WATER WORKS CO INC	3.3	5.1	3.3	2.9	4.1	2.8	4.5	6.3	4.8
ARTESIAN RESOURCES -CL A	3.8	4.0	4.0	3.1	3.2	3.2	4.6	5.0	4.2
CALIFORNIA WATER SERVICE GP	3.2	3.3	3.4	3.1	3.2	3.1	5.6	5.7	5.6
ESSENTIAL UTILITIES, INC.	2.9	3.0	2.4	3.0	3.1	2.5	4.1	4.4	3.7
MIDDLESEX WATER CO	5.9	4.8	5.6	5.5	5.5	6.1	8.4	8.6	8.0
SJW GROUP	2.4	2.3	2.3	2.3	2.1	2.1	4.0	3.8	3.6
YORK WATER CO	4.8	4.7	5.0	4.8	4.4	4.5	6.5	6.0	6.2
Median	3.6	4.4	3.7	3.1	3.7	3.2	5.1	5.9	5.2

Company Name	GCF To Debt			GCF To CAPX		
	2022	2021	2020	2022	2021	2020
AMERICAN STATES WATER CO	16.7	21.9	21.5	73.9	95.4	96.5
AMERICAN WATER WORKS CO INC	12.3	19.2	13.7	66.8	120.1	82.7
ARTESIAN RESOURCES -CL A	15.6	17.6	14.2	63.7	74.2	71.2
CALIFORNIA WATER SERVICE GP	18.9	19.0	17.6	64.2	72.2	69.2
ESSENTIAL UTILITIES, INC.	10.8	11.5	8.9	69.6	68.6	61.2
MIDDLESEX WATER CO	18.8	18.7	18.4	75.6	78.1	50.0
SJW GROUP	10.4	9.4	9.3	78.8	64.0	73.5
YORK WATER CO	20.1	16.7	19.3	52.3	53.4	73.1
Median	16.2	18.2	15.9	68.2	73.2	72.2

	2022	2021	2020
Pre-Tax Interest Coverage - Including AFC(3)(x)	3.6	4.4	3.7
Post-Tax Interest Coverage - Including AFC(3)(x)	3.1	3.7	3.2
GCF / Interest Coverage(4)(x)	5.1	5.9	5.2
GCF / Tot. Debt(7)(%)	16.2	18.2	15.9
GCF / Construction(6)(%)	68.2	73.2	72.2

Bulletin No. 197

1912 to January 1, 2023

The Handy-Whitman Index® of Public Utility Construction Costs™

Trends of Construction Costs

COMPILED & PUBLISHED BY
Whitman, Requardt & Associates, LLP
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TRENDS OF PUBLIC UTILITY CONSTRUCTION COSTS

GEOGRAPHIC REGIONS

Tradition of Quality

The Handy-Whitman Index of Public Utility Construction Costs has been published continuously since 1924. Formerly the Handy Index, Bulletin Nos. 1 through 15 were developed by William W. Handy of Baltimore who had wide valuation experience in public utilities. *He believed that valuation studies should not be confined to rate cases but should be kept alive to the benefit of the utility industry.* He began publishing index numbers for electric and gas construction cost trends. Carrying on with the *tradition of quality*, after Mr. Handy's death, we continued publication for his estate beginning with Bulletin 16. Then, January 1, 1950, Whitman, Requardt and Associates, LLP purchased rights to the publication and have since been the sole publishers.

The name Handy-Whitman Index was adopted for Bulletin No. 53 and succeeding issues to combine the names of Mr. Handy and Ezra B. Whitman, a well-known valuation engineer. In 1957 an index of water utility construction costs was added. Mr. Whitman was a consultant on the publication of the Index until his death in 1963.

Whitman, Requardt and Associates, LLP

Ezra B. Whitman, a well-known valuation engineer was one of the founders of our firm. Major Whitman, as he was known from his World War I service, had already made a name for himself. Prior to the founding of the firm in 1915, Major Whitman had been President and Chief Engineer of the Water Board of the City of Baltimore. He designed the first rapid sand filtration plant serving a major city while he was the Baltimore Water Engineer. He was also president of the American Society of Civil Engineers and of the American Institute of Consulting Engineers and a chairman of the Public Service Commission of Maryland.

The Handy-Whitman Index is prepared especially for electric, gas and water utilities and is the only known publication of its kind available to the public. The list of subscribers is international and includes operating utilities, regulatory bodies, valuation engineers, equipment industries, insurance companies and reference libraries.

Tradition of Quality Continued

Since 1915, Whitman, Requardt and Associates, LLP, has been an independent consulting engineering firm organized to serve government, industry and private enterprise.

The firm has steadily expanded its engineering capabilities, providing complete services for civil, sanitary, structural, mechanical and electrical engineering and architectural projects from job inception through construction management. Construction cost data from utility projects of all types are available from design and valuation assignments. The staff is composed of specialists in these and related disciplines who bring a diverse professional and academic expertise to each assignment. A full-time staff is maintained specifically for preparing the Handy-Whitman Index.

Methods of Preparation of Indexes

An index number is a percentage ratio between the cost of an item at any stated time and its cost at a base period, or:

$$\text{Index Number} = \frac{\text{cost at stated time}}{\text{cost at base period}} \times 100$$

Index numbers have been prepared for many items, including wage rates, cost-of-living, material and equipment costs, and financial transactions. In the Handy-Whitman Index, index numbers have been developed for Building Construction, Electric Utility Construction, Gas Utility Construction and Water Utility Construction. Prices of basic materials such as cement, sand, gravel, cast iron pipe, wire, etc., are obtained from publications such as Engineering News-Record and checked against prices actually being paid for such materials. Labor cost trends are computed from labor rates obtained from sources such as the Construction Labor Research Council. Prices and cost trends of equipment are obtained from nationally recognized manufacturers, and operating utilities.

Handy-Whitman Index numbers are developed from wage rates and prices prevailing on January 1 and July 1 each year. The index numbers are generally based on 1973 = 100, although those items of recent origin are based on a later year.

The proportions of basic materials, labor, equipment and other cost components used in the Handy-Whitman Index are based on analyses developed during valuation and design assignments and on data furnished by utilities and industrial sources willing to assist with the Index. These data are reviewed continuously, and weightings and components are revised as required. This review assures that the indexes published reflect current construction practice.

Geographic Regions

To reflect differing cost trends throughout the 48 contiguous states, the index has been divided into six geographical regions of similar characteristics. They are shown on the accompanying map.

Use of Index Numbers

Handy-Whitman Index numbers have been widely used to trend earlier valuations and original cost records to estimate reproduction cost at prices prevailing at a certain date. The use of indexes for an appropriate property item or group will provide a reliable guide to changes in cost. Cost trends are given for all the important items of property. The electric and gas groups are arranged by the Federal Energy Regulatory Commission Uniform System of Accounts. The water property accounts are arranged to follow the classification of the National Association of Regulatory Utility Commissioners and the American Water Works Association.

The Handy-Whitman Index will furnish a yardstick for the fluctuations in value of property which will be satisfactory for many purposes. In rate cases, when a more exact determination of value is desired, however, the Index must be used carefully. Average prices and cost trends are used to develop the Index, and any direct application of cost trends without checking with actual local experience may not be accepted without controversy. When local experience is compared with the index and the correlation between the two trends is determined, the result is satisfactory. Costs trended by such a method are used to assist in establishing a rate base.

Indexes in these bulletins are used to trend earlier valuations or original cost records for insurance purposes.

The Handy-Whitman Index has a general application in valuations of all types of property. The building construction cost trends may be used wherever similar items of property are to be compared. Many of the other trends may be used for related items in other industries because of their similarity.

State-of-the-art changes often affect costs independently of inflation. New regulatory and environmental requirements, changes in work rules and improved design standards, for instance, increase construction costs even though the price of wages, materials and equipment may be static. Trended construction costs will not reflect such changes. However, trended costs are a reasonably accurate measure of the cost of reproducing actual plant.

Although every effort is made to maintain accuracy, Whitman, Requardt and Associates, LLP disclaim any responsibility for the use of these indexes, because local conditions may vary.

No guarantee or warranty of any kind is made in the sale of the Handy-Whitman Index. Published numbers are occasionally subject to change based upon receipt of new or different information. These numbers will be bolded.

Further inquiries on electric, gas and water indexes should be addressed to Whitman, Requardt and Associates, LLP.

Total Electric Plant and Function

Three indexes are provided for total plant. The first is for all steam generation and the other two for weighted combinations of steam and nuclear, and steam and hydro generation. Indexes are also provided for each function.

Indexes are not maintained for plant accounts 323,324,325,341,345 and 346. We believe that indexes for comparable accounts in other functions are sufficiently accurate for these accounts.

The indexes for total nuclear production and total other production incorporate comparable indexes from the steam production function for the accounts not listed.

Value of Index Numbers

We believe that present-day reproduction cost of any property can be calculated more accurately using index numbers than by repricing a complete inventory.

Trending the controlling items of property in any utility by the index method saves time and effort in arriving at a valuation. Analyzing and determining cost trends for all of the great numbers of articles of plant that represent only a very small proportion of the value of the utility is not necessary. They may be assumed to follow in general the trend of the controlling items, and the fluctuations in value above or below the trends of the controlling items will tend to offset each other and have a very slight effect on the total value.

Comments on Bulletin No. 197

During the twelve-month period ending Jan 1, 2023, the average index of all geographical regions for Total Gas Plant increased 25.3%, and the comparable index for Electric Plant-All Steam Generation increased 14.3%.

May 2023
Whitman, Requardt and Associates, LLP

	BCWSA			ACSA			ALTOONA WATER AUTHORITY			CRWA		
	2020	**2019**	**2018**	**2020**	**2019**	**2018**	**2020**	**2019**	**2018**	**2020**	**2019**	**2018**
NET Property, plant and equipment	457,544,068	453,174,193	444,814,214	643,502,136	629,097,945	622,343,318	94,458,106	100,528,196	106,598,286	224,285,248	203,420,262	178,131,377
Operating Income	17,944,985	19,821,564	15,116,318	80,147,473	75,382,370	68,023,690	4,082,275	6,157,037	14,022,174	19,083,482	21,336,089	20,313,529
ROR/N PPE	3.92%	4.37%	3.40%	12.45%	11.98%	10.93%	4.32%	6.12%	13.15%	8.51%	10.49%	11.40%
3-Year Average	3.90%			11.79%			7.87%			10.13%		
Median of Each Year		5.08%										
Median of Each Entity		5.42%										
Conclusion			5.25%									

	CHESTER WATER AUTHORITY			ERIE CITY WATER AUTHORITY			LASA*			RAWA		
	2020	**2019**	**2018**	**2020**	**2019**	**2018**	**2020**	**2019**	**2018**	**2020**	**2019**	**2018**
NET Property, plant and equipment	280,862,318	282,920,765	277,881,505	200,008,941	194,099,358	191,070,499	147,014,498	140,405,221	142,318,075	63,336,954	66,455,706	64,973,550
Operating Income	4,928,913	4,705,194	1,487,430	13,461,619	9,549,652	10,005,109	6,069,056	6,901,580	6,054,460	3,653,656	3,556,133	2,945,874
ROR/N PPE	1.75%	1.66%	0.54%	6.73%	4.92%	5.24%	4.13%	4.92%	4.25%	5.77%	5.35%	4.53%
3-Year Average	1.32%			5.63%			4.43%			5.22%		
Median of Each Year												
Median of Each Entity												
Conclusion												

* Fiscal year 3/31

	WCMA*			PITTSBURGH WATER & SEWER		
	2020	**2019**	**2018**	**2020**	**2019**	**2018**
NET Property, plant and equipment	617,498,278	590,631,677	554,245,152	921,650,000	830,578,000	757,480,000
Operating Income	26,537,557	23,281,341	27,079,696	50,831,000	65,808,000	61,660,000
ROR/N PPE	4.30%	3.94%	4.89%	5.52%	7.92%	8.14%
3-Year Average	4.38%			7.19%		

*Fiscal Year 3/31

Median of Each Year

Median of Each Entity

Conclusion

BUCKS COUNTY WATER AND SEWER AUTHORITY
STATEMENTS OF NET POSITION
YEARS ENDED DECEMBER 31, 2020 AND 2019

	2020	2019
ASSETS		
Current Assets		
Cash and Cash Equivalents	$ 5,872,075	$ 5,870,876
Investments	17,122,426	23,051,730
Accounts Receivable, Net of Allowance for Doubtful Accounts	8,310,705	6,175,101
Unbilled Revenue Receivable	9,768,802	9,020,572
Prepaid Expenses	729,044	692,186
Total Current Assets	41,803,052	44,810,465
Non-Current Assets		
Restricted Assets		
Cash and Cash Equivalents	3,617,503	3,922,837
Investments	63,732,897	60,095,138
Interest Receivable	920,477	748,766
Total Restricted Assets	68,270,877	64,766,741
Capital Assets		
Land, Rights-of-Way and Construction in Progress	81,292,208	77,851,553
Other Capital Assets, Net of Accumulated Depreciation	376,251,860	375,322,640
Total Capital Assets, Net	457,544,068	453,174,193
Total Non-Current Assets	525,814,945	517,940,934
Total Assets	567,617,997	562,751,399
Deferred Outflows of Resources		
Deferred Amount from Debt Refundings	7,790,319	8,818,011
Pension: Changes in Assumptions	591,106	591,106
Pension: Difference Between Expected and Actual Experience	805,127	805,127
Pension: Difference Between Projected and Actual Earnings on Investments	1,691,386	1,691,386
Pension: Contributions Made Subsequent to Measurement Date	4,326,752	4,326,752
OPEB: Difference Between Expected and Actual Experience	26,180	34,877
OPEB: Difference Between Projected and Actual Earnings on Plan Investments	-	1,972
Total Deferred Outflows of Resources	15,230,870	16,269,231
LIABILITIES AND NET POSITION		
Current Liabilities		
Accounts Payable and Accrued Expenses	12,749,312	11,887,091
Current Portion of Bonds Payable	22,375,000	21,345,000
Interest Payable	745,039	803,887
Total Current Liabilities	35,869,351	34,035,978
Non-Current Liabilities		
Customer and Developer Deposits	3,613,254	3,715,610
Bonds Payable, Net of Unamortized Bond Discount and Premium	223,030,306	233,209,683
Net Pension Liability	1,880,256	1,880,256
Net OPEB Liability	4,026,011	3,953,798
Total Non-Current Liabilities	232,549,827	242,759,347
Total Liabilities	268,419,178	276,795,325
Deferred Inflows of Resources		
Pension: Changes in Assumptions	32,118	32,118
OPEB: Changes in Assumptions	241,345	321,526
OPEB: Difference Between Projected and Actual Earnings on Investments	86,429	-
Proceeds from Sale of Future Revenues	3,795,454	3,967,975
Total Deferred Inflows of Resources	4,155,346	4,321,619
Net Position		
Net Investment in Capital Assets	229,523,791	216,079,031
Restricted for Capital Activity	15,719,591	12,077,609
Restricted for Debt Service	31,553,004	31,514,000
Unrestricted	33,477,957	38,233,046
Total Net Position	$ 310,274,343	$ 297,903,686

See accompanying notes to the financial statements.

BUCKS COUNTY WATER AND SEWER AUTHORITY
STATEMENTS OF REVENUES, EXPENSES,
AND CHANGES IN NET POSITION
YEARS ENDED DECEMBER 31, 2020 AND 2019

	2020	2019
Operating Revenues		
Retail Sewer Service	$ 54,861,161	$ 49,612,675
Wholesale Sewer Service	14,337,247	20,728,839
Retail Water Service	11,747,314	11,481,175
Wholesale Water Service	4,663,441	4,315,851
Improvement and Tapping Fees	263,705	580,375
Other Revenues	3,557,822	5,875,885
Total Operating Revenues	89,430,690	92,594,800
Expenses		
Operating Expenses		
Sewage Treatment and Water Procurement		
Sewage Treatment	19,678,584	20,534,850
Water Procurement	5,736,644	5,352,970
Total Sewage Treatment and Water Procurement	25,415,228	25,887,820
Plant Operations		
Payroll and Related Costs	2,732,227	1,927,213
Repairs and Maintenance	1,945,504	1,292,778
Electricity	521,131	405,213
Water and Sewage Testing	249,680	256,279
Total Plant Operations	5,448,542	3,881,483
Collection, Transmission and Distribution Service		
Payroll and Related Costs	8,845,809	9,070,825
Repairs and Maintenance	3,084,311	2,347,631
Electricity	885,701	807,210
Other Related Costs	216,408	274,544
Total Collection, Transmission and Distribution Service	13,032,229	12,500,210
Total Operating Expenses	43,895,999	42,269,513
General and Administrative Expenses		
Payroll and Related Costs	4,412,980	4,536,162
Professional Fees	2,329,876	2,732,816
Insurance	497,923	522,165
Other	2,382,465	3,199,536
Total General and Administrative Expense	9,623,244	10,990,679
Total Expenses	53,519,243	53,260,192
Income From Operations Before Depreciation	35,911,447	39,334,608
Depreciation	(17,966,462)	(19,513,044)
Operating Income	17,944,985	19,821,564
Nonoperating Revenue (Expense)		
Interest Expense, Net of Amounts Capitalized	(7,770,635)	(8,517,857)
Investment Income	628,113	2,078,449
Improvement and Tapping Fees	1,821,485	1,262,884
Amortization	(253,291)	(218,126)
Total Nonoperating Expense	(5,574,328)	(5,394,650)
Increase In Net Position	12,370,657	14,426,914
Net Position - Beginning of Year	297,903,686	283,476,772
Net Position - End of Year	$ 310,274,343	$ 297,903,686

See accompanying notes to the financial statements.

BUCKS COUNTY WATER AND SEWER AUTHORITY
NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)
DECEMBER 31, 2019 AND 2018

NOTE 6: SEGMENT INFORMATION

As of and for the years ended December 31, 2019 and 2018 segment information is as follows:

	2019			
Assets	Sewer System	Water System	Administrative Account	Totals
Current Assets				
Cash and Investments	$ 14,429,267	$ 11,367,223	$ 3,126,116	$ 28,922,606
Accounts Receivable, Unbilled Revenue and Net Intercompany Transfers	6,989,222	17,310,475	(9,104,024)	15,195,673
Other	608,655	83,531	-	692,186
Non-Current Assets				
Restricted Assets	48,050,977	12,345,721	4,370,043	64,766,741
Capital Assets	304,158,678	142,902,978	6,112,537	453,174,193
Total Assets	374,236,799	184,009,928	4,504,672	562,751,399
Deferred Outflows of Resources				
Deferred Amount from Debt Refundings	2,839,649	5,978,362	-	8,818,011
Pension: Changes in Assumptions	465,033	126,073	-	591,106
Pension: Difference Between Expected and Actual Experience	674,207	130,920	-	805,127
Pension: Difference Between Projected and Actual Earnings on Investments	1,437,679	253,707	-	1,691,386
Pension: Contributions Made Subsequent to Measurement Date	3,275,976	1,050,776	-	4,326,752
OPEB: Difference Between Expected and Actual Experience	29,645	5,232	-	34,877
OPEB: Difference Between Projected and Actual Earnings on Plan Investments	1,676	296	-	1,972
Total Deferred Outflows of Resources	8,723,865	7,545,366	-	16,269,231
Liabilities and Net Position				
Liabilities				
Current Liabilities	29,501,359	3,745,556	789,063	34,035,978
Non-Current Liabilities	150,796,046	88,247,692	3,715,609	242,759,347
Total Liabilities	180,297,405	91,993,248	4,504,672	276,795,325
Deferred Inflows of Resources				
Pension: Changes in Assumptions	27,086	5,032	-	32,118
Pension: Difference Between Projected and Actual Earnings on Investments	(165,256)	165,256	-	-
OPEB: Changes in Assumptions	273,297	48,229	-	321,526
Proceeds from Sale of Future Revenues	-	3,967,975	-	3,967,975
Total Deferred Inflows of Resources	135,127	4,186,492	-	4,321,619
Net Position				
Net Investment in Capital Assets	156,941,099	53,025,395	6,112,537	216,079,031
Restricted for Capital Activity	5,071,173	6,352,002	654,434	12,077,609
Restricted for Debt Service	25,520,284	5,993,716	-	31,514,000
Unrestricted	14,995,576	30,004,441	(6,766,971)	38,233,046
Total Net Position	$ 202,528,132	$ 95,375,554	$ -	$ 297,903,686

BUCKS COUNTY WATER AND SEWER AUTHORITY
NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)
DECEMBER 31, 2019 AND 2018

NOTE 6: SEGMENT INFORMATION (CONTINUED)

Assets	2018 Sewer System	2018 Water System	2018 Administrative Account	2018 Totals
Current Assets				
Cash and Investments	$ 13,996,611	$ 9,258,718	$ 1,343,631	$ 24,598,960
Accounts Receivable, Unbilled Revenue and Net Intercompany Transfers	6,114,899	18,137,594	(6,574,182)	17,678,311
Other	610,549	85,000	-	695,549
Non-Current Assets				
Restricted Assets	47,524,162	12,202,731	3,988,462	63,715,355
Capital Assets	293,945,954	145,484,365	5,383,895	444,814,214
Total Assets	362,192,175	185,168,408	4,141,806	551,502,389
Deferred Outflows of Resources				
Deferred Amount from Debt Refundings	3,503,369	6,462,562	-	9,965,931
Pension: Changes in Assumptions	632,513	155,628	-	788,141
Pension: Difference Between Expected and Actual Experience	162,431	40,607	-	203,038
Pension: Contributions Made Subsequent to Measurement Date	6,428,229	1,607,056	-	8,035,285
Total Deferred Outflows of Resources	10,726,542	8,265,853	-	18,992,395
Liabilities and Net Position				
Liabilities				
Current Liabilities	24,140,550	3,373,492	645,278	28,159,320
Non-Current Liabilities	156,519,961	91,561,281	3,496,528	251,577,770
Total Liabilities	180,660,511	94,934,773	4,141,806	279,737,090
Deferred Inflows of Resources				
Pension: Changes in Assumptions	36,187	6,638	-	42,825
Pension: Difference Between Projected and Actual Earnings on Investments	2,478,081	619,520	-	3,097,601
Proceeds from the Sale of Future Revenues	-	4,140,496	-	4,140,496
Total Deferred Inflows of Resources	2,514,268	4,766,654	-	7,280,922
Net Position				
Net Investment in Capital Assets	129,539,966	61,197,479	5,383,898	196,121,343
Restricted for Capital Activity	18,722,168	-	491,930	19,214,098
Restricted for Debt Service	28,801,994	6,333,246	-	35,135,240
Unrestricted	12,679,810	26,202,109	(5,875,828)	33,006,091
Total Net Position	$ 189,743,938	$ 93,732,834	$ -	$ 283,476,772

BUCKS COUNTY WATER AND SEWER AUTHORITY
STATEMENTS OF NET POSITION
DECEMBER 31, 2019 AND 2018

ASSETS	2019	2018
Current Assets		
Cash and Cash Equivalents	$ 5,870,876	$ 3,803,232
Investments	23,051,730	20,795,728
Accounts Receivable, Net of Allowance for Doubtful Accounts	6,175,101	7,707,994
Unbilled Revenue Receivable	9,020,572	9,970,317
Prepaid Expenses	692,186	695,549
Total Current Assets	44,810,465	42,972,820
Non-Current Assets		
Restricted Assets		
Cash and Cash Equivalents	3,922,837	3,541,256
Investments	60,095,138	59,883,991
Interest Receivable	748,766	290,108
Total Restricted Assets	64,766,741	63,715,355
Capital Assets		
Land, Rights-of-Way and CIP	77,851,553	79,376,857
Other Capital Assets, Net of Accumulated Depreciation	375,322,640	365,437,357
Total Capital Assets, Net	453,174,193	444,814,214
Total Non-Current Assets	517,940,934	508,529,569
Total Assets	562,751,399	551,502,389
Deferred Outflows of Resources		
Deferred Amount from Debt Refundings	8,818,011	9,965,931
Pension: Changes in Assumptions	591,106	788,141
Pension: Difference Between Expected and Actual Experience	805,127	203,038
Pension: Difference Between Projected and Actual Earnings on Investments	1,691,386	-
Pension: Contributions Made Subsequent to Measurement Date	4,326,752	8,035,285
OPEB: Difference Between Expected and Actual Experience	34,877	-
OPEB: Difference Between Projected and Actual Earnings on Plan Investments	1,972	-
Total Deferred Outflows of Resources	16,269,231	18,992,395
LIABILITIES AND NET POSITION		
Current Liabilities		
Accounts Payable and Accrued Expenses	11,887,091	6,872,214
Current Portion of Bonds Payable	21,345,000	20,460,000
Interest Payable	803,887	827,106
Total Current Liabilities	34,035,978	28,159,320
Non-Current Liabilities		
Customer and Developer Deposits	3,715,610	3,496,528
Bonds Payable, Net of Unamortized Bond Discount and Premium	233,209,683	239,927,805
Net Pension Liability	1,880,256	2,296,351
Net OPEB Liability	3,953,798	5,857,086
Total Non-Current Liabilities	242,759,347	251,577,770
Total Liabilities	276,795,325	279,737,090
Deferred Inflows of Resources		
Pension: Changes in Assumptions	32,118	42,825
Pension: Difference Between Projected and Actual Earnings on Investments	-	3,097,601
OPEB: Changes in Assumptions	321,526	-
Proceeds from Sale of Future Revenues	3,967,975	4,140,496
Total Deferred Inflows of Resources	4,321,619	7,280,922
Net Position		
Net Investment in Capital Assets	216,079,031	196,121,343
Restricted for Capital Activity	12,077,609	19,214,098
Restricted for Debt Service	31,514,000	35,135,240
Unrestricted	38,233,046	33,006,091
Total Net Position	$ 297,903,686	$ 283,476,772

See accompanying notes to the financial statements.

BUCKS COUNTY WATER AND SEWER AUTHORITY
STATEMENTS OF REVENUES, EXPENSES,
AND CHANGES IN NET POSITION
YEARS ENDED DECEMBER 31, 2019 AND 2018

	2019	2018
Operating Revenues		
Retail Sewer Service	$ 49,612,675	$ 48,634,267
Wholesale Sewer Service	20,728,839	19,105,200
Retail Water Service	11,481,175	11,755,194
Wholesale Water Service	4,315,851	4,357,235
Improvement and Tapping Fees	580,375	279,425
Other Revenues	5,875,885	4,697,553
Total Operating Revenues	92,594,800	88,828,874
Expenses		
Operating Expenses		
Sewage Treatment and Water Procurement		
Sewage Treatment	20,534,850	20,862,709
Water Procurement	5,352,970	5,611,587
Total Sewage Treatment and Water Procurement	25,887,820	26,474,296
Plant Operations		
Payroll and Related Costs	1,927,213	1,592,995
Repairs and Maintenance	1,292,778	1,251,844
Electricity	405,213	461,808
Water and Sewage Testing	256,279	218,091
Total Plant Operations	3,881,483	3,524,738
Collection, Transmission and Distribution Service		
Payroll and Related Costs	9,070,825	8,191,888
Repairs and Maintenance	2,347,631	1,992,003
Electricity	807,210	995,191
Other Related Costs	274,544	298,459
Total Collection, Transmission and Distribution Service	12,500,210	11,477,541
Total Operating Expenses	42,269,513	41,476,575
General and Administrative Expenses		
Payroll and Related Costs	4,536,162	6,780,772
Professional Fees	2,732,816	1,981,255
Insurance	522,165	476,597
Other	3,199,536	4,933,790
Total General and Administrative Expense	10,990,679	14,172,414
Total Expenses	53,260,192	55,648,989
Income From Operations Before Depreciation	39,334,608	33,179,885
Depreciation	(19,513,044)	(18,063,567)
Operating Income	19,821,564	15,116,318
Nonoperating Revenue (Expense)		
Interest Expense,		
Net of Amounts Capitalized	(8,517,857)	(9,017,615)
Investment Income	2,078,449	2,015,753
Other	-	4,824
Improvement and Tapping Fees	1,262,884	2,750,737
Amortization	(218,126)	(51,377)
Total Nonoperating Expense	(5,394,650)	(4,297,678)
Increase In Net Position, Before Contributed Capital	14,426,914	10,818,640
Contributed Capital	-	779,914
Net Position - Beginning of Year, as Previously Reported	283,476,772	275,130,457
Adjustment for GASB No. 75	-	(3,252,239)
Net Position - Beginning of Year, Restated	283,476,772	271,878,218
Net Position - End of Year	$ 297,903,686	$ 283,476,772

See accompanying notes to the financial statements.

BUCKS COUNTY WATER AND SEWER AUTHORITY
NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)
DECEMBER 31, 2018 AND 2017

NOTE 6: SEGMENT INFORMATION

As of and for the years ended December 31, 2018 and 2017 segment information is as follows:

	2018			
Assets	Sewer System	Water System	Administrative Account	Totals
Current Assets				
Cash and Investments	$ 13,996,611	$ 9,258,718	$ 1,343,631	$ 24,598,960
Accounts Receivable and Unbilled Revenue	6,114,899	18,137,594	(6,574,182)	17,678,311
Other	610,549	85,000	-	695,549
Non-Current Assets				
Restricted Assets	47,524,162	12,202,731	3,988,462	63,715,355
Capital Assets	293,945,954	145,484,365	5,383,895	444,814,214
Total Assets	362,192,175	185,168,408	4,141,806	551,502,389
Deferred Outflows of Resources				
Deferred Amount from Debt Refundings	3,503,369	6,462,562	-	9,965,931
Changes in Assumptions	632,513	155,628	-	788,141
Difference Between Expected and Actual Experience	162,431	40,607	-	203,038
Contributions Made Subsequent to Measurement Date	6,428,229	1,607,056	-	8,035,285
Total Deferred Outflows of Resources	10,726,542	8,265,853	-	18,992,395
Liabilities and Net Position				
Liabilities				
Current Liabilities	24,140,550	3,373,492	645,278	28,159,320
Non-Current Liabilities	156,519,961	91,561,281	3,496,528	251,577,770
Total Liabilities	180,660,511	94,934,773	4,141,806	279,737,090
Deferred Inflows of Resources				
Changes in Assumptions	36,187	6,638	-	42,825
Difference Between Projected and Actual Earnings on Investments	2,478,081	619,520	-	3,097,601
Proceeds from the Sale of Future Revenues	-	4,140,496	-	4,140,496
Total Deferred Inflows of Resources	2,514,268	4,766,654	-	7,280,922
Net Position				
Net Investment in Capital Assets	129,539,966	61,197,479	5,383,898	196,121,343
Restricted for Capital Activity	18,722,168	-	491,930	19,214,098
Restricted for Debt Service	28,801,994	6,333,246	-	35,135,240
Unrestricted	12,679,810	26,202,109	(5,875,828)	33,006,091
Total Net Position	$ 189,743,938	$ 93,732,834	$ -	$ 283,476,772

BUCKS COUNTY WATER AND SEWER AUTHORITY
NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)
DECEMBER 31, 2018 AND 2017

NOTE 6: SEGMENT INFORMATION (CONTINUED)

	2018		
	Sewer System	Water System	Totals
Operating Revenues			
Retail Sewer Service	$ 48,634,267	$ -	$ 48,634,267
Wholesale Sewer Service	19,105,200	-	19,105,200
Retail Water Service	-	11,755,194	11,755,194
Wholesale Water Service	-	4,357,235	4,357,235
Improvement and Tapping Fees	-	279,425	279,425
Other Revenues	3,130,165	1,567,388	4,697,553
Total Operating Revenues	70,869,632	17,959,242	88,828,874
Expenses			
Operating Expenses			
Sewage Treatment and Water Procurement			
Sewage Treatment	20,862,709	-	20,862,709
Water Procurement	-	5,611,587	5,611,587
Total Sewage and Water Procurement	20,862,709	5,611,587	26,474,296
Plant Operations			
Payroll and Related Costs	1,592,995	-	1,592,995
Repairs and Maintenance	1,251,844	-	1,251,844
Electricity	461,808	-	461,808
Water and Sewage Testing	218,091	-	218,091
Total Plant Operations	3,524,738	-	3,524,738
Collection, Transmission and Distribution Service			
Payroll and related costs	6,404,591	1,787,297	8,191,888
Repairs and maintenance	1,660,514	331,489	1,992,003
Electricity	822,812	172,379	995,191
Other related costs	209,224	89,235	298,459
Total Collection, Transmission and Distribution Service Expense	9,097,141	2,380,400	11,477,541
Total Operating Expense	33,484,588	7,991,987	41,476,575
General and Administrative Expenses			
Payroll and related costs	5,714,319	1,066,453	6,780,772
Professional fees	1,747,815	233,440	1,981,255
Insurance	395,522	81,075	476,597
Other	4,821,938	111,852	4,933,790
Total General and Administrative Expenses	12,679,594	1,492,820	14,172,414
Income from Operations before depreciation	24,705,450	8,474,435	33,179,885
Depreciation	(14,696,296)	(3,367,271)	(18,063,567)
Operating Income	10,009,154	5,107,164	15,116,318
Nonoperating Revenue (Expense)			
Interest Expense, net of Amounts Capitalized	(5,405,915)	(3,611,700)	(9,017,615)
Investment Income	1,623,182	392,571	2,015,753
Other	4,824	-	4,824
Improvement and Tapping Fees	2,750,737	-	2,750,737
Amortization	(51,377)	-	(51,377)
Total Nonoperating Expense	(1,078,549)	(3,219,129)	(4,297,678)
Increase in Net Position, Before Contributed Capital	8,930,605	1,888,035	10,818,640
Contributed Capital	710,204	69,710	779,914
Net Position - Beginning of Year, as Previously Reported	182,867,532	92,262,925	275,130,457
Adjustment for GASB No. 75	(2,764,403)	(487,836)	(3,252,239)
Net Position - Beginning of Year, Restated	180,103,129	91,775,089	271,878,218
Net Position, End of Year	$ 189,743,938	$ 93,732,834	$ 283,476,772

BUCKS COUNTY WATER AND SEWER AUTHORITY
NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)
DECEMBER 31, 2018 AND 2017

NOTE 6: SEGMENT INFORMATION (CONTINUED)

	2018			
	Sewer System	Water System	Administrative Account	Totals
Cash Flows from Operating Activities				
Cash Received from Customers	$ 72,660,789	$ 17,539,631	$ -	$ 90,200,420
Payments to Suppliers	(31,373,585)	(6,551,971)	-	(37,925,556)
Payroll and Related Payments	(13,711,973)	(3,095,494)	-	(16,807,467)
Other Operating (Payments) / Transactions	12,644,098	(13,022,354)	222,511	(155,745)
Net Cash Provided from Operations	40,219,329	(5,130,188)	222,511	35,311,652
Cash Flows from Capital and Related Financing Activities				
Acquisition and Construction of Capital Assets	(12,799,197)	(860,416)	(191,958)	(13,851,571)
Improvement and Tapping Fees	2,750,737	-	-	2,750,737
Bond Principal Repayments	(17,784,999)	(2,475,000)	-	(20,259,999)
Interest Paid	(6,364,234)	(3,537,201)	-	(9,901,435)
Net Cash Used in Capital and Related Financing Activities	(34,197,693)	(6,872,617)	(191,958)	(41,262,268)
Cash Flows from Investing Activities				
Sale of Investments, Net	(5,599,131)	12,069,155	-	6,470,024
Interest Received	14,790	392,571	-	407,361
Net Cash Used in Investing Activities	(5,584,341)	12,461,726	-	6,877,385
Net Increase (Decrease) in Cash and Cash Equivalents	437,295	458,921	30,553	926,769
Cash and Cash Equivalents - Beginning of Year	1,529,900	33,485	4,854,334	6,417,719
Cash and Cash Equivalents - End of Year	$ 1,967,195	$ 492,406	$ 4,884,887	$ 7,344,488
Displayed as:				
Cash and Cash Equivalents	$ 1,967,195	$ 492,406	$ 1,343,631	$ 3,803,232
Restricted Cash and Cash Equivalents	-	-	3,541,256	3,541,256
	$ 1,967,195	$ 492,406	$ 4,884,887	$ 7,344,488
Reconciliation of Operating Income to Net Cash Provided from Operations:				
Operating Income	$ 10,009,154	$ 5,107,164	$ -	$ 15,116,318
Adjustments to Reconcile Operating Income to Net Cash Provided from Operating Activities				
Depreciation	14,696,296	3,367,271	-	18,063,567
Changes in Assets and Liabilities:				
Receivables and Unbilled Revenue, Net	3,276,483	(247,091)	-	3,029,392
Prepaid Expenses	(34,155)	(5,410)	-	(39,565)
Intercompany Receivables (Payables)	12,685,022	(13,036,180)	351,158	-
Accounts Payable and Accrued Expenses	531,336	(121,266)	(164,592)	245,478
Interest Payable	(37,555)	16,262	-	(21,293)
Customer and Developer Deposits	-	-	35,945	35,945
Net Pension and OPEB Liabilities and Related Pension Deferrals	(907,252)	(210,938)	-	(1,118,190)
Net Cash Provided from Operations	$ 40,219,329	$ (5,130,188)	$ 222,511	$ 35,311,652

ALLEGHENY COUNTY SANITARY AUTHORITY

STATEMENTS OF NET POSITION

DECEMBER 31, 2020 AND 2019

Assets and Deferred Outflows of Resources

	2020	2019
Assets:		
Current assets:		
Cash and cash equivalents	$ 209,431,473	$ 175,476,686
Accounts receivable:		
Billed sewer revenue	20,446,710	16,702,983
Unbilled sewer revenue	44,044,901	43,666,409
Other	4,734	30,225
Other current assets	6,634,434	6,604,244
Total current assets	280,562,252	242,480,547
Restricted/designated assets:		
Cash and cash equivalents	272,815,362	150,150,904
Investments	-	84,963,478
Accrued interest receivable	-	375,444
Total restricted/designated assets	272,815,362	235,489,826
Prepaid bond costs	5,815,062	6,591,319
Nondepreciable capital assets:		
Land	5,344,896	5,344,896
Construction in progress	94,302,298	81,287,241
Total nondepreciable capital assets	99,647,194	86,632,137
Depreciable capital assets - at cost, net of accumulated depreciation	543,854,942	542,465,808
Total	643,502,136	629,097,945
Total Assets	1,202,694,812	1,113,659,637
Deferred Outflows of Resources:		
Related to pensions	27,581,534	35,676,281
Other post-retirement benefits	1,758,333	853,236
Refunding adjustment	5,247,763	6,278,101
Total Deferred Outflows of Resources	34,587,630	42,807,618
Total Assets and Deferred Outflows of Resources	$ 1,237,282,442	$ 1,156,467,255

Liabilities, Deferred Inflows of Resources, and Net Position

	2020	2019
Liabilities:		
Current liabilities:		
Accounts payable	$ 6,092,972	$ 7,349,003
Accrued liabilities:		
Compensated absences	5,950,167	4,994,678
Salaries and wages	1,985,019	1,751,181
Accrued interest on bonds	2,592,551	2,638,762
Reserve for litigation	2,371,900	2,371,900
Pretreatment advance payments	2,600	1,850
Current maturities of sewer revenue bonds	28,785,000	27,635,000
Total current liabilities	47,780,209	46,742,374
Long-term liabilities:		
Other post-employment benefits	13,901,968	12,087,137
Net pension liability	7,266,922	28,684,748
Sewer revenue bonds - less current maturities	670,495,000	650,300,000
Unamortized bond premium	67,960,993	50,763,732
Net long-term debt	738,455,993	701,063,732
Total long-term liabilities	759,624,883	741,835,617
Total Liabilities	807,405,092	788,577,991
Deferred Inflows of Resources:		
Related to pensions	25,133,372	9,341,236
Other post-retirement benefits	3,169,749	1,904,424
Total Deferred Inflows of Resources	28,303,121	11,245,660
Net Position:		
Net investment in capital assets	154,324,268	142,167,140
Unrestricted	247,249,961	214,476,464
Total Net Position	401,574,229	356,643,604
Total Liabilities, Deferred Inflows of Resources, and Net Position	$ 1,237,282,442	$ 1,156,467,255

The notes to financial statements are an integral part of this statement.

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ALLEGHENY COUNTY SANITARY AUTHORITY

STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

YEARS ENDED DECEMBER 31, 2020 AND 2019

	2020	2019
Operating Revenues	$ 186,799,875	$ 180,238,305
Operating Expenses:		
Treatment	50,981,608	49,805,868
Intercepting sewer systems	8,771,952	8,753,813
Upper Allegheny system	307,944	298,412
Administrative and engineering	15,682,596	15,962,845
Billing and collecting	4,461,391	3,572,073
Management information systems	4,071,959	3,690,385
Total operating expenses before depreciation	84,277,450	82,083,396
Operating Income Before Depreciation	102,522,425	98,154,909
Depreciation	22,374,952	22,772,539
Operating Income	80,147,473	75,382,370
Non-operating Revenues (Expenses):		
Interest income	2,002,687	8,966,272
Interest expense on bonds	(27,485,399)	(28,261,390)
Amortization of prepaid bond costs	(516,597)	(596,640)
Loss on capital assets retired	(4,573,423)	-
Change in value of pension related items	(2,469,057)	(4,177,854)
Change in value of OPEB related items	(2,175,059)	(774,061)
Total non-operating revenues (expenses)	(35,216,848)	(24,843,673)
Change in Net Position	44,930,625	50,538,697
Net Position:		
Beginning of year	356,643,604	306,104,907
End of year	$ 401,574,229	$ 356,643,604

The notes to financial statements are an integral part of this statement.

ALLEGHENY COUNTY SANITARY AUTHORITY

STATEMENTS OF NET POSITION

DECEMBER 31, 2019 AND 2018

Assets and Deferred Outflows of Resources

	2019	2018
Assets:		
Current assets:		
Cash and cash equivalents	$ 175,476,686	$ 142,482,220
Accounts receivable:		
Billed sewer revenue	16,702,983	16,544,587
Unbilled sewer revenue	43,666,409	41,408,016
Other	30,225	4,469
Other current assets	6,604,244	6,556,274
Total current assets	242,480,547	206,995,566
Restricted/designated assets:		
Cash and cash equivalents	150,150,904	83,445,720
Investments	84,963,478	167,782,528
Accrued interest receivable	375,444	622,842
Total restricted/designated assets	235,489,826	251,851,090
Prepaid bond costs	6,591,319	7,187,959
Nondepreciable capital assets:		
Land	5,344,896	5,344,896
Construction in progress	81,287,241	59,836,813
Total nondepreciable capital assets	86,632,137	65,181,709
Depreciable capital assets - at cost, net of accumulated depreciation	542,465,808	557,161,609
Total	629,097,945	622,343,318
Net pension asset	-	2,705,577
Total Assets	1,113,659,637	1,091,083,510
Deferred Outflows of Resources:		
Related to pensions	35,676,281	17,633,917
Other post-retirement benefits	853,236	932,894
Refunding adjustment	6,278,101	7,077,328
Total Deferred Outflows of Resources	42,807,618	25,644,139
Total Assets and Deferred Outflows of Resources	$ 1,156,467,255	$ 1,116,727,649

Liabilities, Deferred Inflows of Resources, and Net Position

	2019	2018
Liabilities:		
Current liabilities:		
Accounts payable	$ 7,349,003	$ 7,180,579
Accrued liabilities:		
Compensated absences	4,994,678	4,539,483
Salaries and wages	1,751,181	1,529,529
Accrued interest on bonds	2,638,762	2,745,875
Reserve for litigation	2,371,900	2,371,900
Pretreatment advance payments	1,850	24,375
Current maturities of sewer revenue bonds	27,635,000	26,630,000
Total current liabilities	46,742,374	45,021,741
Long-term liabilities:		
Other post-employment benefits	12,087,137	13,297,158
Net pension liability	28,684,748	6,121,872
Sewer revenue bonds - less current maturities	650,300,000	677,935,000
Unamortized bond premium	50,763,732	55,857,500
Net long-term debt	701,063,732	733,792,500
Total long-term liabilities	741,835,617	753,211,530
Total Liabilities	788,577,991	798,233,271
Deferred Inflows of Resources:		
Related to pensions	9,341,236	12,389,471
Other post-retirement benefits	1,904,424	-
Total Deferred Inflows of Resources	11,245,660	12,389,471
Net Position:		
Net investment in capital assets	142,167,140	120,849,236
Unrestricted	214,476,464	185,255,671
Total Net Position	356,643,604	306,104,907
Total Liabilities, Deferred Inflows of Resources, and Net Position	$ 1,156,467,255	$ 1,116,727,649

The notes to financial statements are an integral part of this statement.

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ALLEGHENY COUNTY SANITARY AUTHORITY

STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

YEARS ENDED DECEMBER 31, 2019 AND 2018

	2019	2018
Operating Revenues	$ 180,238,305	$ 169,724,327
Operating Expenses:		
Treatment	49,805,868	47,633,280
Intercepting sewer systems	8,753,813	8,490,808
Upper Allegheny system	298,412	563,244
Administrative and engineering	15,962,845	14,736,160
Billing and collecting	3,572,073	3,482,212
Management information systems	3,690,385	3,723,344
Total operating expenses before depreciation	82,083,396	78,629,048
Operating Income Before Depreciation	98,154,909	91,095,279
Depreciation	22,772,539	23,071,589
Operating Income	75,382,370	68,023,690
Non-operating Revenues (Expenses):		
Interest income, net of amounts capitalized	8,966,272	3,127,451
Interest expense on bonds	(28,261,390)	(20,735,872)
Amortization of prepaid bond costs	(596,640)	(629,995)
Change in value of pension related items	(4,177,854)	(61,702)
Change in value of OPEB related items	(774,061)	(789,172)
Total non-operating revenues (expenses)	(24,843,673)	(19,089,290)
Change in Net Position	50,538,697	48,934,400
Net Position:		
Beginning of year	306,104,907	257,170,507
End of year	$ 356,643,604	$ 306,104,907

The notes to financial statements are an integral part of this statement.

ALLEGHENY COUNTY SANITARY AUTHORITY

STATEMENTS OF NET POSITION

DECEMBER 31, 2018 AND 2017

Assets and Deferred Outflows of Resources

	2018	2017
Assets:		
Current assets:		
Cash and cash equivalents	$ 142,482,220	$ 119,248,255
Accounts receivable:		
Billed sewer revenue	16,544,587	17,185,654
Unbilled sewer revenue	41,408,016	40,232,780
Other	4,469	4,635
Other current assets	6,556,274	6,432,263
Total current assets	206,995,566	183,103,587
Restricted/designated assets:		
Cash and cash equivalents	83,445,720	100,289,509
Investments	167,782,528	-
Accrued interest receivable	622,842	-
Total restricted/designated assets	251,851,090	100,289,509
Prepaid bond costs	7,187,959	6,472,479
Nondepreciable capital assets:		
Land	5,344,896	5,344,896
Construction in progress	59,836,813	38,371,565
Total nondepreciable capital assets	65,181,709	43,716,461
Depreciable capital assets - at cost, net of accumulated depreciation	557,161,609	564,883,734
Total	622,343,318	608,600,195
Net pension asset	2,705,577	-
Total Assets	1,091,083,510	898,465,770
Deferred Outflows of Resources:		
Related to pensions	17,633,917	21,247,515
Other post-retirement benefits	932,894	-
Refunding adjustment	7,077,328	8,074,203
Total Deferred Outflows of Resources	25,644,139	29,321,718
Total Assets and Deferred Outflows of Resources	$ 1,116,727,649	$ 927,787,488

Liabilities, Deferred Inflows of Resources, and Net Position

	2018	2017
Liabilities:		
Current liabilities:		
Accounts payable	$ 7,180,579	$ 7,167,120
Accrued liabilities:		
Compensated absences	4,539,483	4,689,828
Salaries and wages	1,529,529	1,441,024
Accrued interest on bonds	2,745,875	2,260,535
Reserve for litigation	2,371,900	2,371,900
Pretreatment advance payments	24,375	71,600
Current maturities of sewer revenue bonds	26,630,000	25,395,000
Total current liabilities	45,021,741	43,397,007
Long-term liabilities:		
Other post-employment benefits	13,297,158	6,199,726
Net pension liability	6,121,872	16,421,705
Sewer revenue bonds - less current maturities	677,935,000	547,335,000
Unamortized bond premium	55,857,500	48,952,220
Net long-term debt	733,792,500	596,287,220
Total long-term liabilities	753,211,530	618,908,651
Total Liabilities	798,233,271	662,305,658
Deferred Inflows of Resources:		
Related to pensions	12,389,471	2,935,957
Net Position:		
Net investment in capital assets	120,849,236	95,281,689
Unrestricted	185,255,671	167,264,184
Total Net Position	306,104,907	262,545,873
Total Liabilities, Deferred Inflows of Resources, and Net Position	$ 1,116,727,649	$ 927,787,488

The notes to financial statements are an integral part of this statement.

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ALLEGHENY COUNTY SANITARY AUTHORITY

STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

YEARS ENDED DECEMBER 31, 2018 AND 2017

	2018	2017
Operating Revenues	$ 169,724,327	$ 170,182,173
Operating Expenses:		
Treatment	47,633,280	44,821,531
Intercepting sewer systems	8,490,808	7,100,846
Upper Allegheny system	563,244	487,512
Administrative and engineering	14,736,160	13,772,696
Billing and collecting	3,482,212	4,439,250
Management information systems	3,723,344	3,778,272
Total operating expenses before depreciation	78,629,048	74,400,107
Operating Income Before Depreciation	91,095,279	95,782,066
Depreciation	23,071,589	22,426,718
Operating Income	68,023,690	73,355,348
Non-operating Revenues (Expenses):		
Interest income, net of amounts capitalized	3,127,451	1,096,517
Interest expense on bonds, net of amounts capitalized	(20,735,872)	(21,544,440)
Amortization of prepaid bond costs	(629,995)	(693,501)
Change in value of pension related items	(61,702)	(3,196,667)
Change in value of OPEB related items	(789,172)	-
Total non-operating revenues (expenses)	(19,089,290)	(24,338,091)
Change in Net Position	48,934,400	49,017,257
Net Position:		
Beginning of year, as restated for 2018	257,170,507	213,528,616
End of year	$ 306,104,907	$ 262,545,873

The notes to financial statements are an integral part of this statement.

CAPITAL REGION WATER

BALANCE SHEETS

DECEMBER 31, 2020 AND 2019

	2020	2019
Assets and Deferred Outflows of Resources		
Assets:		
Current assets:		
Cash and cash equivalents	$ 33,125,086	$ 37,818,930
Accounts receivable, net of allowance for uncollectible accounts of $6,812,663 and $6,179,939	12,990,450	11,392,879
Grants receivable	207,125	481,413
Due from the City of Harrisburg	3,247,428	3,030,340
Prepaid expenses	631,891	407,379
Inventory	226,727	219,675
Total current assets	50,428,707	53,350,616
Restricted assets:		
Cash and cash equivalents - restricted under trust indentures and guarantee agreement	10,339,323	10,728,097
Investments - restricted under trust indentures	19,133,382	23,792,020
Total restricted assets	29,472,705	34,520,117
Noncurrent assets:		
Capital assets, not being depreciated	41,304,196	25,938,916
Capital assets, net of accumulated depreciation of $138,312,983 and $132,254,413	182,981,052	177,481,346
Net pension asset	793,994	-
Total noncurrent assets	225,079,242	203,420,262
Total Assets	304,980,654	291,290,995
Deferred Outflows of Resources:		
Deferred loss on refunding	6,138,866	6,849,812
Deferred outflows of resources for other postemployment benefits	154,587	78,714
Deferred outflows of resources for pension	1,018,573	1,518,157
Total Deferred Outflows of Resources	7,312,026	8,446,683
Total Assets and Deferred Outflows of Resources	$ 312,292,680	$ 299,737,678

CAPITAL REGION WATER

STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

YEARS ENDED DECEMBER 31, 2020 AND 2019

	2020	2019
Operating Revenues:		
User charges	$ 46,053,281	$ 47,556,016
Total operating revenues	46,053,281	47,556,016
Operating Expenses:		
Operating	15,078,242	14,776,480
Administrative	5,832,986	5,788,495
Depreciation	6,058,571	5,654,952
Total operating expenses	26,969,799	26,219,927
Operating Income	19,083,482	21,336,089
Non-Operating Revenues (Expenses):		
Investment income	426,489	1,193,936
Grant revenue	177,024	1,184,617
Gain on sale of easements	191,516	40,000
Miscellaneous income (expense)	921,942	606,499
Gain (loss) on disposal of capital assets	2,000	(74,363)
Interest expense	(5,725,558)	(5,836,796)
Total non-operating revenues (expenses)	(4,006,587)	(2,886,107)
Change in Net Position	15,076,895	18,449,982
Net Position:		
Beginning of year	94,622,873	76,172,891
End of year	$109,699,768	$ 94,622,873

The accompanying notes are an integral part of these financial statements.

CAPITAL REGION WATER

BALANCE SHEET

DECEMBER 31, 2019

(with comparative totals as of December 31, 2018)

	2019	2018
Assets and Deferred Outflows of Resources		
Assets:		
Current assets:		
Cash and cash equivalents	$ 37,818,930	$ 48,169,716
Accounts receivable, net of allowance for uncollectible accounts of $6,179,939 and $5,914,774	11,392,879	10,001,747
Grants receivable	481,413	905,431
Due from the City of Harrisburg	3,030,340	3,686,285
Prepaid expenses	407,379	403,089
Inventory	219,675	347,960
Total current assets	53,350,616	63,514,228
Restricted assets:		
Cash and cash equivalents - restricted under trust indentures and guarantee agreement	10,728,097	19,430,292
Investments - restricted under trust indentures	23,792,020	19,433,058
Total restricted assets	34,520,117	38,863,350
Noncurrent assets:		
Capital assets, not being depreciated	25,938,916	16,946,141
Capital assets, net of accumulated depreciation of $132,254,413 and $128,988,007	177,481,346	160,175,578
Net pension asset	-	1,009,658
Total noncurrent assets	203,420,262	178,131,377
Total Assets	291,290,995	280,508,955
Deferred Outflows of Resources:		
Deferred loss on refunding	6,849,812	7,877,263
Deferred outflows of resources for other postemployment benefits	78,714	77,533
Deferred outflows of resources for pension	1,518,157	651,522
Total Deferred Outflows of Resources	8,446,683	8,606,318
Total Assets and Deferred Outflows of Resources	$ 299,737,678	$ 289,115,273

CAPITAL REGION WATER

STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

YEAR ENDED DECEMBER 31, 2019

(with comparative totals for the year ended December 31, 2018)

	2019	2018
Operating Revenues:		
User charges	$ 47,556,016	$ 44,895,271
Total operating revenues	47,556,016	44,895,271
Operating Expenses:		
Operating	14,776,480	13,894,496
Administrative	5,788,495	5,293,225
Depreciation	5,654,952	5,394,021
Total operating expenses	26,219,927	24,581,742
Operating Income	21,336,089	20,313,529
Non-Operating Revenues (Expenses):		
Investment income	1,193,936	568,004
Grant revenue	1,184,617	1,502,468
Gain on sale of easements	40,000	4,838,927
Miscellaneous income (expense)	606,499	(180,383)
Loss on disposal of capital assets	(74,363)	-
Interest expense	(5,836,796)	(6,812,458)
Total non-operating revenues (expenses)	(2,886,107)	(83,442)
Change in Net Position	18,449,982	20,230,087
Net Position:		
Beginning of year	76,172,891	55,942,804
End of year	$ 94,622,873	$ 76,172,891

The accompanying notes are an integral part of these financial statements.

CAPITAL REGION WATER

BALANCE SHEET

DECEMBER 31, 2018

Assets and Deferred Outflows of Resources	
Assets:	
Current assets:	
Cash and cash equivalents	$ 48,169,716
Accounts receivable, net of allowance for uncollectible accounts of $5,914,774	10,001,747
Grants receivable	905,431
Due from the City of Harrisburg	3,686,285
Prepaid expenses	403,089
Inventory	347,960
Total current assets	63,514,228
Restricted assets:	
Cash and cash equivalents - restricted under trust indentures and guarantee agreement	19,430,292
Investments - restricted under trust indentures	19,433,058
Total restricted assets	38,863,350
Noncurrent assets:	
Capital assets, not being depreciated	16,946,141
Capital assets, net of accumulated depreciation of $128,988,007	160,175,578
Net pension asset	1,009,658
Total noncurrent assets	178,131,377
Total Assets	280,508,955
Deferred Outflows of Resources:	
Deferred loss on refunding	7,877,263
Deferred outflows of resources for other postemployment benefits	77,533
Deferred outflows of resources for pension	651,522
Total Deferred Outflows of Resources	8,606,318
Total Assets and Deferred Outflows of Resources	$ 289,115,273

CAPITAL REGION WATER

STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

YEAR ENDED DECEMBER 31, 2018

Operating Revenues:	
User charges	$ 44,895,271
Total operating revenues	44,895,271
Operating Expenses:	
Operating	13,894,496
Administrative	5,293,225
Depreciation	5,394,021
Total operating expenses	24,581,742
Operating Income	20,313,529
Non-Operating Revenues (Expenses):	
Investment income	568,004
Grant revenue	1,502,468
Gain on sale of easements	4,838,927
Miscellaneous expense	(180,383)
Interest expense	(6,812,458)
Total non-operating revenues (expenses)	(83,442)
Change in Net Position	20,230,087
Net Position:	
Beginning of year - restated	55,942,804
End of year	$ 76,172,891

The accompanying notes are an integral part of these financial statements.

CITY OF ALTOONA
BLAIR COUNTY, PENNSYLVANIA
STATEMENT OF NET POSITION
DECEMBER 31, 2020
(AMOUNTS EXPRESSED IN WHOLE DOLLARS)

	PRIMARY GOVERNMENT	COMPONENT UNITS		
	Governmental Activities	Altoona Water Authority	Redevelopment Authority of Altoona	The Parking Authority of the City of Altoona
ASSETS				
Cash and Cash Equivalents	$ 31,413,012	$ 5,350,729	$ 246,634	$ 128,655
Investments	237,289	10,115,673	0	0
Taxes Receivable	4,127,451	0	0	0
Accounts Receivable	0	3,890,554	0	692
Intergovernmental Receivables	200,975	0	0	0
Loans Receivable - Current	687,316	0	9,826	0
Other Receivables	537,728	8,295	0	0
Prepaid Expenses	302,750	228,189	0	1,017
Inventory	406,484	0	0	0
Loans Receivable - Long-Term	5,731,660	0	94,387	0
Right to Use Asset, Net	0	94,458,106	0	0
Capital Assets, Net of Accumulated Depreciation	404,818,897	0	248,717	2,489,094
TOTAL ASSETS	$448,463,562	$114,051,546	$ 599,564	$2,619,458
Deferred Outflows of Resources				
Deferred Charges:				
Bond Discounts	$ 43,943	$ 0	$ 0	$ 0
Defined Benefit Pensions	9,503,418	1,160,795	0	0
OPEB Plans	410,933	0	0	0
Total Deferred Outflows of Resources	$ 9,958,294	$ 1,160,795	$ 0	$ 0
LIABILITIES				
Accounts Payable	$ 1,940,050	$ 1,137,391	$ 580	$ 17,229
Accrued Payroll	478,552	0	0	4,136
Payroll Taxes and Benefits Payable	321,792	0	0	3,263
Accrued Expenses	0	302,112	0	0
Accrued Payroll, Taxes, and Withholding	0	247,835	0	0
Accumulated Compensated Absences	0	0	0	1,093
Accrued Interest	484,310	0	0	291
Deposits Held	136,987	83,805	0	0
Unearned Revenues - Grants	6,720,952	0	0	0
Unearned Revenues - Rent Received in Advance	0	0	200	32,749
Noncurrent Liabilities:				
Due Within One Year	4,813,139	4,243,433	0	23,132
Due in More Than One Year	129,441,566	139,374,630	0	141,860
TOTAL LIABILITIES	$144,337,348	$145,389,206	$ 780	$ 223,753
Deferred Inflows of Resources				
Defined Benefit Pensions	$ 13,641,984	$ 1,975,668	$ 0	$ 0
NET POSITION				
Net Investment in Capital Assets	$335,150,152	$ 0	$ 248,717	$2,324,102
Restricted for:				
Highway Aid	966,475	0	0	0
Capital Expenditures	6,100,506	0	0	0
Recreation	243,369	0	0	0
Other Projects	4,410,401	0	344,636	0
Water Authority	0	0	0	0
Unrestricted (Deficit)	(46,428,379)	(32,152,533)	5,431	71,603
TOTAL NET POSITION	$300,442,524	($ 32,152,533)	$ 598,784	$2,395,705

See Accompanying Notes and Independent Auditor's Report

ALTOONA WATER AUTHORITY
WATER DIVISION
WATER OPERATING FUND

	2020 BUDGET 0%
REVENUE	
WATER SALES	17,900,000
SALES TO OTHER UTILITIES	500,000
BULK SALES	-
CAPITAL SURCHARGE	500,000
PENALTIES	90,000
INSTALL/RENEW-SERVICE LINES	95,000
METER INCOME	30,000
SHUT OFFS	60,000
FIRE LINES	330,000
FINAL READINGS	45,000
CAPACITY FEES	30,000
REIMBURSEMENTS-BELLWOOD BORO	96,589
REIMBURSEMENTS-HOLLIDAYSBURG BORO	342,652
INTEREST INCOME	50,000
SERVICE-WASTEWATER DIVISION	1,161,358
TIMBER SALES	50,000
OTHER RENTALS	172,000
MISCELLANEOUS INCOME	96,000
BAD DEBT RECOVERY	4,000
TOTAL REVENUES	**21,552,599**
EXPENDITURES-ADMINSITRATIVE	
WAGES	794,997
OFFICER'S COMPENSATION	1,200
CONSULTING ENGINEERS	50,000
AUDITING	15,000
LEGAL FEES	25,000
TRUSTEES EXPENSE	-
OTHER PROFESSIONAL FEES	75,000
ADVERTISING	6,000
PUBLIC RELATIONS AND MARKETING	1,000
TRAVEL/CONFERENCES/EDUCATION	3,000
DUES & SUPSCRIPTIONS	7,500
MAINTENANCE BUILDING	20,000
MAINTENANCE-EQUIPMENT	12,000
OFFICE SUPPLIES	6,000
POSTAGE	2,000
LEASE PAYMENT	3,799,870
HUMAN RESOURCE EXPENSE	2,500
SAFETY COMMITTEE EXPENSE	12,000
TELEPHONE EXPENSE	15,000
BAD DEBT EXPENSE	20,000
UTILITIES	22,000
SMALL TOOLS, EQUIPMENT, FURNITURE	4,500
TOTAL ADMINISTRATIVE EXPENDITURES	**4,894,567**

ALTOONA WATER AUTHORITY
WATER DIVISION
WATER OPERATING FUND

	2020 BUDGET
EXPENDITURES-EMPLOYEE BENEFITS & INSURANCE	
SOCIAL SECURITY	423,599
WORKERS COMPENSATION	84,000
PA UNEMPLOYMENT COMPENSATION	5,000
PENSION	488,366
GROUP LIFE, AD&D, LTD , STD	90,000
HOSPITALIZATION & MAJOR MEDICAL	1,515,415
HEALTH & WELFARE(AFSCME)	28,000
MEDICAL EXAMINATIONS	8,000
INSURANCE-FLEET	17,773
INSURANCE-ALL RISK PROPERTY	142,219
INSURANCE-PUBLIC OFFICIAL LIABILITY	5,954
CONTINGENCIES	250,000
TOTAL EMPLOYEE FRINGE BENEFITS & INSURANCE	**3,058,326**
TOTAL OPERATING EXPENDITURES	**15,711,419**
CAPITAL EXPENDITURES	
CONSTRUCTION & RENEWAL	438,500
VEHICLES	310,143
OFFICE FURNITURE & EQUIPMENT	-
METERS	10,000
COMPUTER EQUIPMENT	7,500
FIRE HYDRANTS	40,000
PLANT EQUIPMENT/RENEWAL	480,264
OTHER EQUIPMENT	24,650
TOTAL CAPITAL EXPENDITURES	**1,311,057**
DEBT SERVICE & INTEREST	
DEBT SERVICE PAYMENT	4,408,904
TOTAL DEBT SERVICE PAYMENT	**4,408,904**
TOTAL EXPENDITURES	**21,431,380**
NET REVENUE/(DEFICIT)	**121,219**

ALTOONA WATER AUTHORITY
WASTEWATER DIVISION
SEWER OPERATING FUND

	2020 BUDGET
REVENUE	**0%**
WASTEWATER RENTALS	11,600,000
CAPITAL SURCHARGE	500,000
PENALTIES	65,000
CAPACITY FEES	10,000
SEWER INSTALL/TAP FEES	20,000
SEWER-SURCHARGE/PRETREATMENT	150,000
SEPTIC HAULER FEES	500,000
INTERMUNICIPAL SERVICE REIMBURSEMENT	668,680
INTEREST INCOME	75,000
MISCELLANEOUS INCOME	90,000
RECOVERY - CHARGED OFF ACCOUNTS	2,000
TOTAL REVENUES	**13,680,680**
EXPENDITURES-ADMINISTRATIVE	
OFFICER'S COMPENSATION	1,200
CONSULTING ENGINEERS	85,000
AUDITING	12,000
LEGAL FEES	40,000
TRUSTEE EXPENSE	5,200
OTHER PROFESSIONAL FEES	35,000
ADVERTISING	3,000
PUBLIC RELATIONS EXPENSE	1,000
TRAVEL/CONFERENCES/EDUCATION	5,000
DUES & SUPSCRIPTIONS	7,700
MAINTENANCE-EQUIPMENT	12,000
OFFICE SUPPLIES	5,000
POSTAGE	3,000
LEASE PAYMENT	2,137,427
PAYMENT FOR WATER DIVISION SERVICES	1,161,358
HUMAN RESOURCE EXPENSE	2,500
SAFETY COMMITTEE EXPENSE	10,000
BAD DEBT EXPENSE	15,000
TELEPHONE EXPENSE	7,000
SMALL TOOLS, EQUIPMENT, FURNITURE	2,000
TOTAL ADMINISTRATIVE EXPENDITURES	**3,550,385**

ALTOONA WATER AUTHORITY
WASTEWATER DIVISION
SEWER OPERATING FUND

	2020 BUDGET
EXPENDITURES-SANITARY SEWERS	
WAGES	690,528
MAINTENANCE-BUILDING	5,000
GIS SYSTEM EXPENSE	17,033
TELEPHONE EXPENSE	2,400
SAFETY EQUIPMENT/CLOTHING	4,000
MATERIALS & SUPPLIES	200,000
MAINTENANCE-VEHICLE	50,000
GASOLINE & OIL	25,000
DIESEL FUEL	30,000
STREET CUTS	150,000
ONE CALL SYSTEM EXPENSE	4,000
SMALL TOOLS, EQUIPMENT, FURNITURE	7,100
TOTAL SANITARY SEWERS EXPENDITURES	**1,185,061**
EXPENDITURES-EMPLOYEE BENEFITS & INSURANCE	
SOCIAL SECURITY	164,435
WORKERS COMPENSATION	42,000
PA UNEMPLOYMENT COMPENSATION	2,500
PENSION	230,800
GROUP LIFE, AD&D, LTD	30,000
HOSPITALIZATION & MAJR MEDICAL	653,800
HEALTH & WELFARE(AFSCME)	11,000
MEDICAL EXAMINATIONS	5,000
INSURANCE-FLEET	11,972
INSURANCE-ALL RISK PROPERTY	113,442
INSURANCE-BOILER MACHINERY	-
INSURANCE-PUBLIC OFFICIAL LIAB	5,658
CONTINGENCIES	100,000
TOTAL EMPLOYEE FRINGE BENEFITS & INSURANCE	**1,370,607**
TOTAL OPERATING EXPENDITURES	**9,369,495**

CITY OF ALTOONA
BLAIR COUNTY, PENNSYLVANIA
STATEMENT OF NET POSITION
DECEMBER 31, 2019
(AMOUNTS EXPRESSED IN WHOLE DOLLARS)

	PRIMARY GOVERNMENT	COMPONENT UNITS		
	Governmental Activities	Altoona Water Authority	Redevelopment Authority of Altoona	The Parking Authority of the City of Altoona
ASSETS				
Cash and Cash Equivalents	$ 24,556,757	$ 2,142,068	$ 217,510	$ 157,819
Investments	366,982	12,127,836	0	0
Taxes Receivable	4,174,803	0	0	0
Accounts Receivable	0	3,750,328	2,816	3,568
Intergovernmental Receivables	321,540	0	0	0
Loans Receivable – Current	795,935	0	8,972	0
Other Receivables	193,952	14,619	0	0
Prepaid Expenses	314,090	25,755	0	1,667
Inventory	512,219	0	0	0
Loans Receivable – Long-Term	5,374,360	0	103,723	0
Right to Use Asset, Net	0	100,528,196	0	0
Capital Assets, Net of Accumulated Depreciation	405,378,818	0	254,542	2,527,780
TOTAL ASSETS	$441,989,456	$118,588,802	$ 587,563	$2,690,834
Deferred Outflows of Resources				
Deferred Charges:				
Bond Discounts	$ 780,363	$ 0	$ 0	$ 0
Defined Benefit Pensions	10,878,514	1,651,319		
OPEB Plans	1,130,677	0	0	0
Total Deferred Outflows of Resources	$ 12,789,554	$ 1,651,319	$ 0	$ 0
LIABILITIES				
Accounts Payable	$ 2,790,042	$ 1,732,865	$ 4,978	$ 14,842
Accrued Payroll	362,296	0	0	0
Payroll Taxes and Benefits Payable	134,704	0	0	3,459
Accrued Expenses	0	0	0	2,958
Accrued Payroll, Taxes, and Withholding	0	427,226	0	0
Accumulated Compensated Absences	0	279,288	0	2,119
Accrued Interest	295,444	0	0	321
Deposits Held	112,334	83,805	0	0
Unearned Revenues – Grants	6,271,037	0	0	0
Unearned Revenues - Rent Received in Advance	0	0	200	39,412
Noncurrent Liabilities:				
Due Within One Year	3,835,073	7,205,690	0	22,257
Due in More Than One Year	118,568,396	150,406,922	0	164,998
TOTAL LIABILITIES	$132,369,326	$160,135,796	$ 5,178	$ 250,366
Deferred Inflows of Resources				
Defined Benefit Pensions	$ 12,696,000	$ 1,965,233	$ 0	$ 0
NET POSITION				
Net Investment in Capital Assets	$345,530,381	$ 0	$ 254,542	$2,340,525
Restricted for:			0	0
Highway Aid	894,316	0	0	0
Capital Expenditures	8,184,878	0	0	0
Recreation	231,511	0	0	0
Other Projects	5,470,093	0	339,715	0
Water Authority	0	0	0	0
Unrestricted (Deficit)	(50,597,495)	(41,860,908)	(11,872)	99,943
TOTAL NET POSITION	$309,713,684	($ 41,860,908)	$ 582,385	$2,440,468

See Accompanying Notes and Independent Auditor's Report

ALTOONA WATER AUTHORITY
STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

	Year Ended December 31, 2017	2016
Operating Revenues, Securing Revenue Bonds		
Water/Sewer Rentals	$ 28,033,026	$ 27,234,701
Installations and Renewals Service Lines	119,509	116,080
Meter Sales, Shut-Offs, and Remotes	224,910	224,676
Timber Sales	40,197	142,007
Septic Hauler Fees	75,649	81,269
Fire Hydrant and Line Rentals	343,767	331,999
Service to Wastewater Division	1,057,455	1,097,406
Miscellaneous	322,114	414,937
Intermunicipal Service Reimbursements	1,409,183	1,346,227
Total Operating Revenues	31,625,810	30,989,302
Operating Expenses - Functional and Departmental		
Administration	2,117,738	5,106,472
Billing and Collection	709,035	750,662
Purification and Distribution/Disposal	5,001,575	5,078,445
Meter Division	482,163	476,819
Maintenance	3,823,793	3,918,953
Fringe Benefits and Insurance	3,706,216	3,838,891
Depreciation and Amortization	6,796,548	7,861,126
Total Operating Expenses-Functional and Departmental	22,637,068	27,031,368
Operating Income	8,988,742	3,957,934
Nonoperating Revenues and (Expenses)		
Capital Contribution to City of Altoona	(223,701,014)	---
Investment Income	80,223	50,052
Interest Expense	(2,813,892)	(2,983,688)
Fees and Miscellaneous	(379)	(839)
Gain on Disposition of Fixed Assets	45,961	34,612
Contributed Capital	16,825	---
Amortization Bond Issue Costs	(125,478)	(126,251)
Total Nonoperating Revenues and (Expenses)	(226,497,754)	(3,026,114)
Net Income	(217,509,012)	931,820
Net Position - January 1	146,894,669	145,962,849
Net Position - December 31	**$(70,614,343)**	**$ 146,894,669**

See Accompanying Notes to Financial Statements

ALTOONA WATER AUTHORITY
STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

	Year Ended December 31, 2018	2017
Operating Revenues, Securing Revenue Bonds		
Water/Sewer Rentals	$ 30,794,341	$ 28,033,026
Installations and Renewals Service Lines	139,503	119,509
Meter Sales, Shut-Offs, and Remotes	250,565	224,910
Timber Sales	116,337	40,197
Septic Hauler Fees	2,269,905	75,649
Fire Hydrant and Line Rentals	341,023	343,767
Service to Wastewater Division	1,047,022	1,057,455
Miscellaneous	421,392	322,114
Intermunicipal Service Reimbursements	1,231,099	1,409,183
Total Operating Revenues	36,611,187	31,625,810
Operating Expenses - Functional and Departmental		
Administration	2,180,781	2,117,738
Billing and Collection	681,880	709,035
Purification and Distribution/Disposal	5,060,425	5,001,575
Meter Division	505,784	482,163
Maintenance	3,956,167	3,823,793
Fringe Benefits and Insurance	4,133,886	3,706,216
Depreciation and Amortization	6,070,090	6,796,548
Total Operating Expenses-Functional and Departmental	22,589,013	22,637,068
Operating Income	14,022,174	8,988,742
Nonoperating Revenues and (Expenses)		
Capital Contribution to City of Altoona	(4,277,135)	(223,701,014)
Investment Income	170,111	80,223
Interest Expense	(6,783,092)	(2,813,892)
Fees and Miscellaneous	--	(379)
Gain on Disposition of Fixed Assets	105,075	45,961
Contributed Capital	201,042	16,825
Amortization Bond Issue Costs	(154,988)	(125,478)
Total Nonoperating Revenues and (Expenses)	(10,738,987)	(226,497,754)
Net Income/(Loss)	3,283,187	(217,509,012)
Net Position - January 1	(70,614,343)	146,894,669
Net Position - December 31	**$(67,331,156)**	**$(70,614,343)**

See Accompanying Notes to Financial Statements

ALTOONA WATER AUTHORITY
WATER DIVISION
WATER REVENUE FUND

	2019 BUDGET
REVENUE	
WATER SALES	17,474,179
SALES TO OTHER UTILITIES	450,000
BULK SALES	-
CAPITAL SURCHARGE	500,000
PENALTIES	90,000
INSTALL/RENEW-SERVICE LINES	95,000
METER INCOME	30,000
SHUT OFFS	60,000
FIRE LINES	330,000
FINAL READINGS	45,000
CAPACITY FEES	30,000
REIMBURSEMENTS-BELLWOOD BORO	261,257
REIMBURSEMENTS-HOLLIDAYSBURG BORO	743,153
INTEREST INCOME	70,000
SERVICE-WASTEWATER DIVISION	1,112,400
TIMBER SALES	50,000
OTHER RENTALS	172,000
MISCELLANEOUS INCOME	96,000
BAD DEBT RECOVERY	4,000
TOTAL REVENUES	**21,612,989**
EXPENDITURES-ADMINSITRATIVE	
WAGES	770,879
OFFICER'S COMPENSATION	1,200
CONSULTING ENGINEERS	45,000
AUDITING	15,000
LEGAL FEES	25,000
TRUSTEES EXPENSE	4,200
OTHER PROFESSIONAL FEES	100,000
ADVERTISING	6,000
PUBLIC RELATIONS AND MARKETING	1,000
TRAVEL/CONFERENCES/EDUCATION	2,500
DUES & SUPSCRIPTIONS	6,500
MAINTENANCE BUILDING	15,000
MAINTENANCE-EQUIPMENT	12,000
OFFICE SUPPLIES	6,000
POSTAGE	2,000
LEASE PAYMENT	2,730,010
HUMAN RESOURCE EXPENSE	2,500
SAFETY COMMITTEE EXPENSE	12,000
TELEPHONE EXPENSE	15,000
BAD DEBT EXPENSE	20,000
UTILITIES	22,000
SMALL TOOLS, EQUIPMENT, FURNITURE	2,500
TOTAL ADMINISTRATIVE EXPENDITURES	**3,816,289**

ALTOONA WATER AUTHORITY
WATER DIVISION
WATER REVENUE FUND

	2019 BUDGET
EXPENDITURES-BILLING & COLLECTION	
WAGES	467,320
TRAVEL/CONFERENCES/EDUCATION	500
MAINTENANCE-EQUIPMENT	10,000
OFFICE SUPPLIES	20,000
UTILITY BILLING SOFTWARE HOSTING	85,000
POSTAGE	145,000
COLLECTION EXPENSE	7,000
TELEPHONE EXPENSE	3,000
SMALL TOOLS, EQUIPMENT, FURNITURE	4,000
TOTAL BILLING & COLLECTION EXPENDITRURES	**741,820**
EXPENDITURES-PURIFICATION & DISTRIBUTION	
WAGES	1,247,592
TRAVEL/CONFERENCES/EDUCATION	7,000
DAM INSPECTIONS	27,000
TELEPHONE EXPENSE	2,700
MAINTENANCE-WATER PUMP STATION	-
MAINTENANCE-TANKS	-
MAINTENANCE-WATERSHED	15,000
SOURCE WATER PROTECTION	6,000
UTILITIES	105,000
SMALL TOOLS, EQUIPMENT, FURNITURE	8,000
TOTAL PURIFICATION & DISTRIBUTION EXPENDITURES	**1,418,292**
EXPENDITURES-HORSESHOE CURVE WTP	
LAB COSTS/SUPPLIES	32,500
TELEPHONE EXPENSE	4,200
ELECTRICITY	130,000
CHEMICALS	89,250
MAINTENANCE	86,250
SLUDGE DISPOSAL	10,000
UTILITIES - PROPANE HEATING	65,000
TOTAL HORSESHOE CURVE EXPENDITURES	**417,200**
EXPENDITURES-MILL RUN WTP	
LAB COSTS/SUPPLIES	17,300
TELEPHONE EXPENSE	1,300
ELECTRICITY	40,000
CHEMICALS	18,900
MAINTENANCE	25,000
SLUDGE DISPOSAL	3,000
UTILITIES - PROPANE HEATING	15,000
TOTAL MILL RUN EXPENDITURES	**120,500**

ALTOONA WATER AUTHORITY
WATER DIVISION
WATER REVENUE FUND

	2019 BUDGET
EXPENDITURES-TIPTON WTP	
LAB COSTS/SUPPLIES	25,800
TELEPHONE EXPENSE	1,500
ELECTRICITY	54,000
CHEMICALS	31,500
MAINTENANCE	23,000
SLUDGE DISPOSAL	3,000
UTILITIES - PROPANE HEATING	10,000
TOTAL TIPTON EXPENDITURES	**148,800**
EXPENDITURES-KETTLE WTP	
LAB COSTS/SUPPLIES	3,000
TELEPHONE EXPENSE	1,000
ELECTRICITY	7,000
CHEMICALS	2,000
MAINTENANCE	5,000
SLUDGE DISPOSAL	
UTILITIES - PROPANE HEATING	4,500
TOTAL KETTLE EXPENDITURES	**22,500**
EXPENDITURES-HOMER GAP WTP	
LAB COSTS/SUPPLIES	2,000
TELEPHONE EXPENSE	400
ELECTRICITY	7,000
CHEMICALS	2,000
MAINTENANCE	4,000
SLUDGE DISPOSAL	-
UTILITIES - PROPANE HEATING	5,000
TOTAL HOMER GAP EXPENDITURES	**20,400**
EXPENDITURES-PLANE NINE WTP	
LAB COSTS/SUPPLIES	32,500
TELEPHONE EXPENSE	1,500
ELECTRICITY	75,000
CHEMICALS	31,500
MAINTENANCE	23,000
SLUDGE DISPOSAL	3,000
UTILITIES - PROPANE HEATING	15,000
INSURANCE	11,000
TOTAL PLANE NINE EXPENDITURES	**192,500**

ALTOONA WATER AUTHORITY
WATER DIVISION
WATER REVENUE FUND

	2019 BUDGET
EXPENDITURES-BELLWOOD WTP	
LAB COSTS/SUPPLIES	32,500
TELEPHONE EXPENSE	1,400
ELECTRICITY	75,000
CHEMICALS	54,600
MAINTENANCE	28,750
SLUDGE DISPOSAL	4,000
UTILITIES - PROPANE HEATING	20,000
INSURANCE	10,000
TOTAL BELLWOOD EXPENDITURES	**226,250**
EXPENDITURES-METER DIVISION	
WAGES	450,182
MAINTENANCE-EQUIPMENT	30,000
TELEPHONE EXPENSE	5,000
OFFICE SUPPLIES/UNIFORMS/MAINT.	2,000
MATERIALS & SUPPLIES	20,000
GASOLINE & OIL	18,000
SMALL TOOLS, EQUIPMENT, FURNITURE	3,500
	-
TOTAL METER DIVISION EXPENDITURES	**528,682**
EXPENDITURES-MAINTENANCE	
WAGES	2,446,757
TRAVEL/CONFERENCES/EDUCATION	14,000
MAINTENANCE-BUILDING	10,000
MAINTENANCE-EQUIPMENT	8,000
MAINTENANCE-COMMUNICATION EQUIPMENT	500
OFFICE SUPPLIES	3,000
GIS SYSTEM EXPENSE	11,200
TELEPHONE EXPENSE	16,000
SAFETY EQUIPMENT/CLOTHING	10,000
MAINTENANCE - WATER PUMP STATIONS	12,000
MAINTENANCE - TANKS	30,000
UTILITIES	18,000
MECHANICS UNIFORMS	2,000
MATERIALS & SUPPLIES	400,000
LEASE EXPENSE	14,051
MAINTENANCE-VEHICLE	75,000
GASOLINE & OIL	55,000
DIESEL FUEL	65,000
STREET CUTS	325,000
ONE CALL SYSTEM EXPENSE	7,000
SMALL TOOLS, EQUIPMENT, FURNITURE	15,000
TOTAL MAINTENANCE EXPENDITURES	**3,537,508**

ALTOONA WATER AUTHORITY
WATER DIVISION
WATER REVENUE FUND

	2019 BUDGET
EXPENDITURES-EMPLOYEE BENEFITS & INSURANCE	
SOCIAL SECURITY	411,779
WORKMENS COMPENSATION	140,000
PA UNEMPLOYMENT COMPENSATION	5,000
PENSION	486,300
GROUP LIFE, AD&D, LTD , STD	90,000
HOSPITALIZATION & MAJOR MEDICAL	1,480,000
HEALTH & WELFARE(AFSCME)	28,329
MEDICAL EXAMINATIONS	8,000
INSURANCE-FLEET	24,601
INSURANCE-ALL RISK PROPERTY	147,898
INSURANCE-PUBLIC OFFICIAL LIABILITY	3,685
CONTINGENCIES	-
TOTAL EMPLOYEE FRINGE BENEFITS & INSURANCE	**2,825,592**
TOTAL OPERATING EXPENDITURES	**14,016,333**
CAPITAL EXPENDITURES	
CONSTRUCTION & RENEWAL	612,912
VEHICLES	-
OFFICE FURNITURE & EQUIPMENT	-
METERS	-
COMPUTER EQUIPMENT	-
FIRE HYDRANTS	-
PLANT EQUIPMENT/RENEWAL	-
OTHER EQUIPMENT	-
TOTAL CAPITAL EXPENDITURES	**612,912**
DEBT SERVICE & INTEREST	
DEBT SERVICE PAYMENT	6,435,936
TOTAL DEBT SERVICE PAYMENT	**6,435,936**
TOTAL EXPENDITURES	**21,065,181**
NET REVENUE/(DEFICIT)	**547,808**

ALTOONA WATER AUTHORITY
WASTEWATER DIVISION
SEWER REVENUE FUND

	2019 BUDGET
REVENUE	**0%**
WASTEWATER RENTALS	11,343,481
CAPITAL SURCHARGE	500,000
PENALTIES	65,000
CAPACITY FEES	10,000
SEWER INSTALL/TAP FEES	20,000
SEWER-SURCHARGE/PRETREATMENT	150,000
SEPTIC HAULER FEES	190,000
INTERMUNICIPAL SERVICE REIMBURSEMENT	592,855
INTEREST INCOME	25,000
MISCELLANEOUS INCOME	90,000
RECOVERY - CHARGED OFF ACCOUNTS	2,000
TOTAL REVENUES	**12,988,336**
EXPENDITURES-ADMINISTRATIVE	
OFFICER'S COMPENSATION	1,200
CONSULTING ENGINEERS	113,000
AUDITING	12,000
LEGAL FEES	40,000
TRUSTEE EXPENSE	5,200
OTHER PROFESSIONAL FEES	35,000
ADVERTISING	3,000
PUBLIC RELATIONS EXPENSE	1,000
TRAVEL/CONFERENCES/EDUCATION	5,000
DUES & SUPSCRIPTIONS	6,700
MAINTENANCE-EQUIPMENT	12,000
OFFICE SUPPLIES	5,000
POSTAGE	3,000
PAYMENT FOR CITY SERVICES	1,535,630
PAYMENT FOR WATER DIVISION SERVICES	1,112,400
HUMAN RESOURCE EXPENSE	2,500
SAFETY COMMITTEE EXPENSE	10,000
BAD DEBT EXPENSE	15,000
TELEPHONE EXPENSE	7,000
SMALL TOOLS, EQUIPMENT, FURNITURE	2,000
TOTAL ADMINISTRATIVE EXPENDITURES	**2,926,630**

ALTOONA WATER AUTHORITY
WASTEWATER DIVISION
SEWER REVENUE FUND

	2019 BUDGET
EXPENDITURES-DISPOSAL PLANTS	
WAGES	1,338,792
TRAVEL/CONFERENCE/EDUCATION	16,000
PRETREATMENT MONITORING	60,000
TELEPHONE EXPENSE	4,500
SAFETY EQUIPMENT/CLOTHING	1,500
MAINTENANCE - PUMP STATIONS	4,000
SMALL TOOLS, EQUIPMENT, FURNITURE	10,000
TOTAL DISPOSAL PLANTS EXPENDITURES	**1,434,792**
EXPENDITURES - EASTERLY PLANT	
LAB COSTS & SUPPLIES	55,000
TELEPHONE EXPENSE	2,000
ELECTRICITY-PLANTS	350,000
CHEMICALS	70,000
MAINTENANCE-PLANTS	103,000
MAINTENANCE-CSO'S	15,000
SLUDGE DISPOSAL	20,000
NATURAL GAS & OIL	35,000
TOTAL EASTERLY PLANT EXPENDITURES	**650,000**
EXPENDITURES - WESTERLY PLANT	
LAB COSTS & SUPPLIES	55,000
TELEPHONE EXPENSE	10,000
ELECTRICITY-PLANTS	500,000
CHEMICALS	95,000
MAINTENANCE-PLANTS	204,000
MAINTENANCE-CSO'S	15,000
SLUDGE DISPOSAL	20,000
NATURAL GAS & OIL	55,000
TOTAL WESTERLY PLANT EXPENDITURES	**954,000**

ALTOONA WATER AUTHORITY
WASTEWATER DIVISION
SEWER REVENUE FUND

	2019 BUDGET
EXPENDITURES-SANITARY SEWERS	
WAGES	682,400
MAINTENANCE-BUILDING	4,000
GIS SYSTEM EXPENSE	11,200
TELEPHONE EXPENSE	2,400
SAFETY EQUIPMENT/CLOTHING	4,000
MATERIALS & SUPPLIES	180,000
MAINTENANCE-VEHICLE	40,000
GASOLINE & OIL	20,000
DIESEL FUEL	30,000
STREET CUTS	150,000
ONE CALL SYSTEM EXPENSE	4,000
SMALL TOOLS, EQUIPMENT, FURNITURE	3,000
TOTAL SANITARY SEWERS EXPENDITURES	**1,131,000**
EXPENDITURES-EMPLOYEE BENEFITS & INSURANCE	
SOCIAL SECURITY	154,621
WORKMENS COMPENSATION	68,000
PA UNEMPLOYMENT COMPENSATION	2,500
PENSION	230,000
GROUP LIFE, AD&D, LTD	30,000
HOSPITALIZATION & MAJR MEDICAL	636,354
HEALTH & WELFARE(AFSCME)	11,600
MEDICAL EXAMINATIONS	5,000
INSURANCE-FLEET	16,436
INSURANCE-ALL RISK PROPERTY	103,458
INSURANCE-BOILER MACHINERY	-
INSURANCE-PUBLIC OFFICIAL LIAB	3,474
CONTINGENCIES	-
TOTAL EMPLOYEE FRINGE BENEFITS & INSURANCE	**1,261,443**
TOTAL OPERATING EXPENDITURES	**8,357,865**

ALTOONA WATER AUTHORITY
WASTEWATER DIVISION
SEWER REVENUE FUND

	2019 BUDGET
CAPITAL EXPENTITURES	
CONSTRUCTION & RENEWAL	-
VEHICLES	431,000
OFFICE FURNITURE & EQUIPMENT	8,000
COMPUTER EQUIPMENT	15,500
PLANT EQUIPMENT/RENEWAL	-
OTHER EQUIPMENT	9,000
TOTAL CAPITAL EXPENDITURES	**463,500**
DEBT SERVICE & INTEREST	
DEBT SERVICE PAYMENT	4,154,608
TOTAL DEBT SERVICE PAYMENT	**4,154,608**
TOTAL EXPENDITURES	**12,975,973**
NET REVENUE/(DEFICIT)	**12,363**

CITY OF READING

COMBINING STATEMENT OF NET POSITION - WATER FUNDS

December 31, 2019

	City Water Fund	Reading Area Water Authority	Eliminations	Total Water Fund
ASSETS				
Current assets:				
Cash	$ 1,858,893	$ 13,894,351	$ -	$ 15,753,244
Investments	119,120	-	-	119,120
Accounts receivable, net	1,687	5,230,760	-	5,232,447
Interfund receivables	293,208	-	(224,755)	68,453
Inventory	-	160,309	-	160,309
Prepaid expenses	-	54,600	-	54,600
Total current assets	2,272,908	19,340,020	(224,755)	21,388,173
Restricted assets - cash and investments	-	9,570,456	-	9,570,456
Noncurrent assets:				
Capital assets not being depreciated	2,059,359	270,252	-	2,329,611
Capital assets, net of accumulated depreciation	9,380,774	66,185,454	-	75,566,228
Total capital assets, net	11,440,133	66,455,706	-	77,895,839
Rights to leased land	-	917,715	-	917,715
Total noncurrent assets	11,440,133	67,373,421	-	78,813,554
TOTAL ASSETS	13,713,041	96,283,897	(224,755)	109,772,183
DEFERRED OUTFLOWS				
Deferred charge on bond refunding	123,536	917,612	-	1,041,148
Deferred outflows of resources for pension	599,238	-	-	599,238
Deferred outflows of resources for other postemployment benefits	20,939	-	-	20,939
TOTAL DEFERRED OUTFLOWS	743,713	917,612	-	1,661,325
LIABILITIES				
Current liabilities:				
Accounts payable	14,606	378,233	-	392,839
Interfund payables	4,214,064	224,755	(224,755)	4,214,064
Accrued interest	-	297,398	-	297,398
Accrued payroll and compensated absences	-	790,915	-	790,915
Escrow deposits	-	107,245	-	107,245
Current portion notes and bonds payable	99,498	3,379,254	-	3,478,752
Total current liabilities	4,328,168	5,177,800	(224,755)	9,281,213
Noncurrent liabilities:				
Notes and Bonds payable, net	3,065,323	77,462,829	-	80,528,152
Net pension liability	1,178,813	-	-	1,178,813
Other postemployment benefits	144,972	-	-	144,972
Total noncurrent liabilities	4,389,108	77,462,829	-	81,851,937
TOTAL LIABILITIES	8,717,276	82,640,629	(224,755)	91,133,150
DEFERRED INFLOWS				
Deferred inflows of resources for pension	576,698	-	-	576,698
Deferred inflows of resources for other postemployment benefits	1,900	-	-	1,900
TOTAL DEFERRED INFLOWS	578,598	-	-	578,598
NET POSITION				
Net investment in capital assets	8,398,848	(13,468,765)	-	(5,069,917)
Restricted for debt service	-	7,592,650	-	7,592,650
Restricted for capital assets	-	1,879,990	-	1,879,990
Unrestricted	(3,237,968)	18,557,005	-	15,319,037
TOTAL NET POSITION	$ 5,160,880	$ 14,560,880	$ -	$ 19,721,760

See note to supplementary information.

CITY OF READING

COMBINING STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION - WATER FUNDS

Year Ended December 31, 2019

	City Water Fund	Reading Area Water Authority	Eliminations	Total Water Fund
OPERATING REVENUES				
Charges for services	$ 12,151,531	$ 32,093,301	$ (12,151,531)	$ 32,093,301
Other	487,110	41,836	-	528,946
TOTAL OPERATING REVENUES	12,638,641	32,135,137	(12,151,531)	32,622,247
OPERATING EXPENSES				
Lease payments	-	12,142,535	(12,142,535)	-
Personnel	441,051	6,372,046	-	6,813,097
Depreciation and amortization	596,856	4,311,994	-	4,908,850
Risk management	65,800	-	-	65,800
Contracted Services	-	907,019	-	907,019
Chemicals and supplies	-	1,173,058	-	1,173,058
Utilities	-	655,444	-	655,444
Other	1,869,230	3,016,908	(8,996)	4,877,142
TOTAL OPERATING EXPENSES	2,972,937	28,579,004	(12,151,531)	19,400,410
OPERATING INCOME	9,665,704	3,556,133	-	13,221,837
NONOPERATING REVENUES (EXPENSES)				
Intergovernmental revenue	-	125,000	-	125,000
Interest income	2,445	597,173	-	599,618
Interest expense	(154,896)	(3,768,727)	-	(3,923,623)
Gain (loss) on sale of solid waste accounts receivable	-	68,728	-	68,728
Other	-	19,797	-	19,797
NET NONOPERATING REVENUES (EXPENSES)	(152,451)	(2,958,029)	-	(3,110,480)
INCOME BEFORE TRANSFERS	9,513,253	598,104	-	10,111,357
Transfers out - lease payments	(9,774,710)	-	-	(9,774,710)
CHANGE IN NET POSITION	(261,457)	598,104	-	336,647
NET POSITION - BEGINNING OF YEAR - RESTATED	5,422,337	13,962,776	-	19,385,113
NET POSITION - END OF YEAR	$ 5,160,880	$ 14,560,880	$ -	$ 19,721,760

Financial Information

Net Position - The following schedule presents a summary of net position comparison at December 31, 2018, 2017, and 2016:

	2018	2017 (As Restated)	2016 (As Restated)
Assets			
Unrestricted current assets	$ 25,886,197	$ 24,371,571	$ 20,614,911
Restricted current assets	3,389,010	11,067,725	19,177,064
Capital assets, net	64,973,550	59,036,648	55,262,527
Other asset	351,810	1,020,000	1,020,000
Deferred Outflow of Resources	1,054,979	1,197,798	1,346,286
Total Assets and Deferred Outflow of Resources	$ 102,255,546	$ 96,693,742	$ 97,420,788
Liabilities			
Current liabilities	$ 7,496,258	$ 5,387,837	$ 5,985,559
Long-term debt	80,796,512	84,017,089	87,200,895
Total Liabilities	$ 88,292,770	$ 89,404,926	$ 93,186,454
Net Position			
Net investment in capital assets	$ (18,130,096)	$ (27,177,795)	$ (22,222,481)
Restricted for debt service	7,513,275	7,426,839	7,409,503
Unrestricted	24,579,597	27,039,772	19,047,312
Total Net Position	$ 13,962,776	$ 7,288,816	$ 4,234,334

Current liabilities increased by 39.1% in 2018 compared to a decrease by 10.0% in 2017 and an increase by 20.7% in 2016. The 2018 increase is attributable to increases in capital accounts payable.

Revenues - The following schedule presents a summary of revenues for the years ended December 31, 2018, 2017, and 2016:

	2018	2017	2016
Operating Revenues			
Water billings	$ 29,663,185	$ 29,736,140	$ 29,622,297
Interest and penalty charges	541,209	472,340	586,502
Tampered meter and other charges	310,720	449,933	591,344
Tapping and connection fees	50,610	177,175	86,244
Abandonment fees	20,107	60,907	32,001
Total Operating Revenues	$ 30,585,831	$ 30,896,495	$ 30,918,388

The 2018 fiscal year's total operating revenue decreased by 1.0% compared to 2017, and decreased by 0.1% and increased by 11.7% in 2017 and 2016, respectively.

Financial Information (continued)

Expenses - The following schedule presents a summary of expenses for the years ended December 31, 2018, 2017, and 2016:

	2018	2017 (As Restated)	2016 (As Restated)
Operating Expenses			
Lease payments, City of Reading	**$ 11,640,032**	$ 11,426,339	$ 11,441,419
Chemical supplies	**1,051,101**	746,486	1,197,002
Meter reading	**-**	-	539,483
Salaries, payroll taxes, and employee benefits	**6,213,345**	5,877,245	5,529,809
Contracted services	**967,302**	849,520	1,089,676
Other	**3,895,738**	3,176,042	2,881,120
Total Operating Expenses	**$ 23,767,518**	$ 22,075,632	$ 22,678,509

The $1,691,886 increase in expenses is primarily the result of the increase in chemical supplies, salaries, payroll taxes and employee benefits, and bad debt expense.

Changes in Net Position - The following schedule presents a summary of changes in net position for the years ended December 31, 2018, 2017, and 2016:

	2018	2017 (As Restated)	2016 (As Restated)
Operating revenues	**$ 30,585,831**	$ 30,896,495	$ 30,918,388
Operating expenses	**23,767,518**	22,075,632	22,678,509
Operating Income before Depreciation	**6,818,313**	8,820,863	8,239,879
Depreciation and amortization	**3,872,439**	3,304,835	2,946,682
Operating Income	**2,945,874**	5,516,028	5,293,197
Nonoperating revenues (expenses), net	**3,728,086**	(2,461,546)	(3,468,433)
Increase in Net Position	**$ 6,673,960**	$ 3,054,482	$ 1,824,764

Lancaster Area Sewer Authority
Statements of Net Position
March 31, 2021 and 2020

	2021	2020
Assets and Deferred Outflows of Resources		
Current Assets		
Cash and cash equivalents	$ 4,644,074	$ 2,445,432
Funds in custody of trustee, restricted cash	4,210,000	6,209,890
Investments	-	1,500,000
Accounts receivable	3,593,825	2,752,178
Prepaid expenses	71,764	69,116
Total Current Assets	12,519,663	12,976,616
Capital Assets		
Capital assets not being depreciated		
Land	875,181	95,181
Construction in progress	4,742,245	5,206,076
Capital assets being depreciated		
Sewer system - lines	122,165,152	112,758,402
Sewer system - pump stations	41,931,866	41,163,499
Sewer system - treatment plant	72,170,735	70,517,190
Buildings and improvements	4,090,201	3,669,937
Technology	1,424,091	1,424,091
Vehicles	2,529,916	2,346,319
Equipment	1,077,480	996,387
Accumulated depreciation	(103,992,369)	(97,771,861)
Capital Assets, Net	147,014,498	140,405,221
Accounts receivable, net of current portion	161,167	188,278
Funds in custody of trustee, restricted cash, net of current portion	21,447,170	19,013,907
Funds in custody of trustee, restricted investments	4,337,053	6,978,398
Total Assets	185,479,551	179,562,420
Deferred Outflows of Resources		
Pension	496,415	957,717
Total Assets and Deferred Outflows of Resources	$ 185,975,966	$ 180,520,137

The Notes to Financial Statements are an integral part of these statements. | 14

LANCASTER AREA SEWER AUTHORITY
Statements of Revenues, Expenses, and Changes in Net Position
Years Ended March 31, 2021 and 2020

	2021	2020
Operating Revenue		
Sewer rental	$ 22,534,309	$ 21,682,126
Industrial waste surcharges	357,471	416,698
Bulk treatment fees	406,091	118,171
Trucked waste program	503,123	465,481
Interest and penalties	254,311	317,239
Miscellaneous income	321,335	304,333
Total operating revenue	24,376,640	23,304,048
Operating Expenses		
Administrative	3,841,748	4,069,985
Collection department	7,913,564	6,702,101
Treatment plant	5,168,757	4,508,047
Pretreatment program and laboratory department	306,245	346,310
Columbia Borough	741,975	776,025
West Earl	335,295	-
Total operating expenses	18,307,584	16,402,468
Operating income	6,069,056	6,901,580
Nonoperating Revenues (Expenses)		
Interest income	99,485	793,490
Tapping fees	1,322,458	1,123,675
Capacity reservation fees	287,960	215,181
Proceeds from sale of assets	66,100	40,911
Interest expense	(2,519,082)	(2,603,702)
Bond issue costs	(109,314)	-
Amortization	555,179	286,257
Total nonoperating revenues (expenses)	(297,214)	(144,188)
Income before capital contributions	5,771,842	6,757,392
Capital contributions	1,075,815	851,741
Increase in net position	6,847,657	7,609,133
Net position at beginning of year	104,086,085	96,476,952
Net position at end of year	$ 110,933,742	$ 104,086,085

The Notes to Financial Statements are an integral part of these statements. | 16

Table 2 below shows a Condensed Statement of Revenue, Expenses, and Changes in Net Position for the years ended March 31, 2018, 2017, and 2016. The change in net position increased from $ 4.6 million in fiscal year 2017 to $ 9.0 million in fiscal year 2018. Operating income increased $ 381,000 over last year while non-operating revenue (expense) increased $ 3.2 million over fiscal year 2017.

	2018	2017	2016
Operating revenue	$ 21,499,186	$ 20,849,832	$ 19,713,716
Operating expenses	15,978,558	15,710,138	14,557,000
Operating income	5,520,628	5,139,694	5,156,716
Non-operating revenue (expenses)	2,251,417	(908,165)	(1,983,244)
Income before capital contribution	7,772,045	4,231,529	3,173,472
Capital contribution	1,224,093	324,142	551,477
Change in net position	8,996,138	4,555,671	3,724,949
Net position, beginning of year	81,380,843	76,825,172	73,100,223
Net position, end of year	$ 90,376,981	$ 81,380,843	$ 76,825,172

Table 2 - Condensed Statement of Revenues, Expenses, and Changes in Net Position

Table 3 and Table 4 below show a breakdown of fiscal year 2018 Operating Revenue and Operating Expenses, respectively.

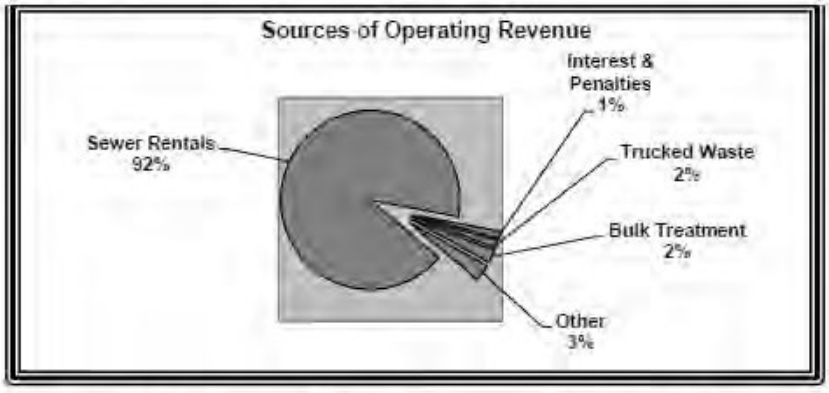


Table 3 - Sources of Operating Revenue - Fiscal Year 2018

Financial Analysis (Continued)

Table 2 below shows a Condensed Statement of Revenue, Expenses, and Changes in Net Position for the years ended March 31, 2019, 2018, and 2017. The change in net position decreased from $ 9.0 million in fiscal year 2018 to $ 6.1 million in fiscal year 2019. Operating income increased $ 564,000 over last year while non-operating revenue (expense) decreased $ 3.1 million over fiscal year 2018.

	2019	2018	2017
Operating revenue	$ 22,974,614	$ 21,499,186	$ 20,849,832
Operating expenses	16,889,502	15,978,558	15,710,138
Operating income	6,085,112	5,520,628	5,139,694
Non-operating revenue (expenses)	(825,158)	2,251,417	(908,165)
Income before capital contribution	5,259,954	7,772,045	4,231,529
Capital contribution	840,017	1,224,093	324,142
Change in net position	6,099,971	8,996,138	4,555,671
Net position, beginning of year	90,376,981	81,380,843	76,825,172
Net position, end of year	$ 96,476,952	$ 90,376,981	$ 81,380,843

Table 2 - Condensed Statement of Revenues, Expenses, and Changes in Net Position

Table 3 and Table 4 below show a breakdown of fiscal year 2019 Operating Revenue and Operating Expenses, respectively.

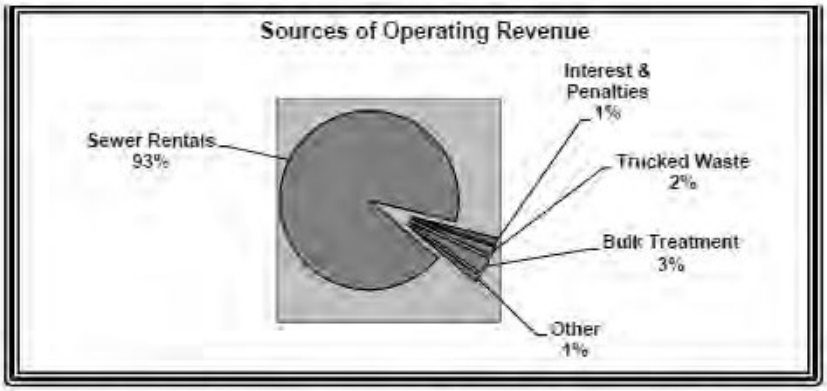


Table 3 - Sources of Operating Revenue - Fiscal Year 2019

Table 2 below shows a Condensed Statement of Revenue, Expenses, and Changes in Net Position for the years ended March 31, 2020, 2019, and 2018. The change in net position increased from $ 6.1 million in fiscal year 2019 to $ 7.6 million in fiscal year 2020. Operating income increased $ 847,000 over last year while non-operating expenses decreased $ 650,000 over fiscal year 2019.

	2020	2019	2018
Operating revenue	$ 23,304,048	$ 22,943,962	$ 21,499,186
Operating expenses	16,402,468	16,889,502	15,978,558
Operating income	6,901,580	6,054,460	5,520,628
Non-operating revenue (expenses)	(144,188)	(794,506)	2,251,417
Income before capital contribution	6,757,392	5,259,954	7,772,045
Capital contribution	851,741	840,017	1,224,093
Change in net position	7,609,133	6,099,971	8,996,138
Net position, beginning of year	96,476,952	90,376,981	81,380,843
Net position, end of year	$ 104,086,085	$ 96,476,952	$ 90,376,981

Table 2 - Condensed Statement of Revenues, Expenses, and Changes in Net Position

Table 3 and Table 4 below show a breakdown of fiscal year 2020 Operating Revenue and Operating Expenses, respectively.

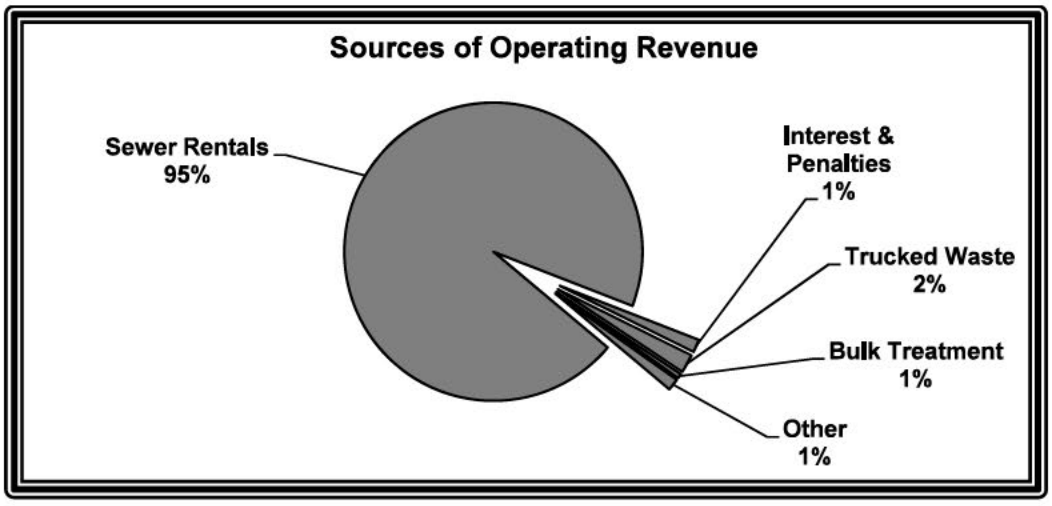


Table 3 - Sources of Operating Revenue - Fiscal Year 2020

Revenue

In fiscal year 2018, revenue exceeded budgeted revenue by 7.2% resulting from capacity reservation and tapping fee income exceeding budget, which offset below-budget investment and other income.

Expenses

Expenses, excluding depreciation, were 5.3% over budget. Interest expense was below budget as 52% of paid interest expense was capitalized as project costs. This was offset by above-budget expenditures in Administrative and Treatment Plant expenses. Higher than budgeted legal expenses of $ 31,000 and amortization of pension liability of $ 58,000 generated above-budget Administrative expenses. Treatment plant expenses for nutrient credit purchases to remain in compliance with the Authority's discharge permit were over-budget by $ 62,000 and expenses for sludge disposal were over-budget by $ 91,000. Above-budget expense for depreciation of $ 573,000 accounts for 71.2% of the negative budget variance in operating expenses.

CAPITAL ASSETS AND DEBT ADMINISTRATION

Capital Assets

The Authority's capital assets, net of accumulated depreciation, as of March 31, 2018 were $ 141.2 million. The Authority capitalizes all assets costing more than $ 20,000 whose expected life exceeds 12 months. A condensed statement of capital assets for fiscal years 2018, 2017, and 2016 is presented in Table 6 below. Additional information on the Authority's capital assets can be found in Note 5 of the financial statements.

	2018	2017	2016
Construction in progress	$ 41,124,606	$ 24,247,571	$ 8,328,405
Land	95,181	95,181	95,181
Sewer System			
Lines	102,594,800	99,909,426	99,088,012
Pump stations	38,845,592	33,042,528	32,887,101
Treatment plant	38,193,779	38,039,056	37,266,392
Buildings and improvements	3,640,150	3,640,150	3,199,420
Technology	1,424,091	1,353,402	1,295,369
Vehicles	2,291,170	1,760,826	1,706,256
Equipment	830,745	830,745	830,745
	229,040,114	202,918,885	184,696,881
Total accumulated depreciation	(87,820,739)	(83,211,180)	(78,843,305)
Total Capital Assets	$ 141,219,375	$ 119,707,705	$ 105,853,576

Table 6 - Condensed Statement of Capital Assets - Fiscal Years 2018, 2017, and 2016

Budgetary Highlights (Continued)

Revenue

In fiscal year 2019, actual revenue exceeded budgeted revenue by $ 820,000 resulting from sewer rental, investment, and other income exceeding budget. These were partially offset by below-budget revenue in capacity reservation and tapping fee income.

Expenses

Expenses, excluding depreciation, were $ 1.5 million over budget. Above average rainfall generated a 40% increase in flow through the collection system and treatment plant for the year. Consequently, electricity and chemical costs, sewer treatment costs from the City of Lancaster and the Borough of Columbia, and nutrient credit purchase costs were $ 1.4 million over budget. When combined with extensive rehabilitation of the centrifuge at the treatment plant, the operating expenses, excluding depreciation, exceeded budget by $ 1.5 million. Above-budget expense for depreciation of $ 308,000 accounts for the balance of the negative budget variance in operating expenses.

CAPITAL ASSETS AND DEBT ADMINISTRATION

Capital Assets

The Authority's capital assets, net of accumulated depreciation, as of March 31, 2019 were $ 142.3 million. The Authority capitalizes all assets costing more than $ 20,000 whose expected life exceeds 12 months. A condensed statement of capital assets for fiscal years 2019, 2018, and 2017 is presented in Table 6 below. Additional information on the Authority's capital assets can be found in Note 5 of the financial statements.

	2019	2018	2017
Construction in progress	$ 37,011,554	$ 41,124,606	$ 24,247,571
Land	95,181	95,181	95,181
Sewer System			
Lines	110,392,727	102,594,800	99,909,426
Pump stations	40,897,235	38,845,592	33,042,528
Treatment plant	38,262,279	38,193,779	38,039,056
Buildings and improvements	3,640,150	3,640,150	3,640,150
Technology	1,424,091	1,424,091	1,353,402
Vehicles	2,295,745	2,291,170	1,760,826
Equipment	977,181	830,745	830,745
	234,996,143	229,040,114	202,918,885
Total accumulated depreciation	(92,678,068)	(87,820,739)	(83,211,180)
Total Capital Assets	$ 142,318,075	$ 141,219,375	$ 119,707,705

Table 6 - Condensed Statement of Capital Assets - Fiscal Years 2019, 2018, and 2017

In fiscal year 2020, actual revenue was below budgeted revenue by $ 7,000 resulting from below-budget revenue in sewer rental and surcharges. These were offset by above-budget revenue in capacity reservation and tapping fee income and investment income.

Expenses

Expenses were $ 127,000 under budget. Above-budget expenses for required equipment maintenance in our collection system were offset by below-budget depreciation costs as well as below-budget expenditures at the treatment plant and laboratory.

CAPITAL ASSETS AND DEBT ADMINISTRATION

Capital Assets

The Authority's total capital assets, net of accumulated depreciation, as of March 31, 2020 were $ 140.4 million. The Authority capitalizes all assets costing more than $ 20,000 whose expected life exceeds 12 months. A condensed statement of capital assets for fiscal years 2020, 2019, and 2018 is presented in Table 6 below. Additional information on the Authority's capital assets can be found in Note 5 of the financial statements.

	2020	2019	2018
Construction in progress	$ 5,206,076	$ 37,011,554	$ 41,124,606
Land	95,181	95,181	95,181
Sewer System			
Lines	112,758,402	110,392,727	102,594,800
Pump stations	41,163,499	40,897,235	38,845,592
Treatment plant	70,517,190	38,262,279	38,193,779
Buildings and improvements	3,669,937	3,640,150	3,640,150
Technology	1,424,091	1,424,091	1,424,091
Vehicles	2,346,319	2,295,745	2,291,170
Equipment	996,387	977,181	830,745
	238,177,082	234,996,143	229,040,114
Total accumulated depreciation	(97,771,861)	(92,678,068)	(87,820,739)
Total Capital Assets	$ 140,405,221	$ 142,318,075	$ 141,219,375

Table 6 - Condensed Statement of Capital Assets - Fiscal Years 2020, 2019, and 2018

Debt Administration

As of March 31, 2020, the Authority had $ 66.4 million of bonds outstanding including $ 56.5 million in Sewer Revenue Bonds and $ 9.9 million of bonds through a subsidy agreement with the Borough of Columbia. Unamortized bond premiums of $ 2.8 million bring the total bonds payable liability to $ 69.3 million. Bond principal payments of $ 5.8 million and amortization of bond premiums of $ 0.3 million reduced the total bonds payable liability by $ 6.1 million from the March 31, 2019 balance of $ 75.4 million.

MUNICIPAL AUTHORITY OF WESTMORELAND COUNTY
Statements of Net Position
March 31, 2021 and 2020

	2021	2020
Current Assets		
Cash and cash equivalents, unrestricted (Note 3)	$ 32,955,491	$ 29,663,969
Accounts receivable, customers (net of allowance for doubtful accounts of $474,033 in 2021 and 2020)	6,110,790	7,014,694
Unbilled water and sewer service	10,669,704	10,722,797
Surcharges receivable, current portion	350,000	350,000
Other receivables	235,285	216,612
Material and supplies	3,914,453	3,630,945
Prepaid expenses	1,023,104	1,121,573
Total Current Assets	55,258,827	52,720,590
Property, Plant and Equipment		
Property, plant and equipment (Note 2)	857,061,066	813,804,411
Less: accumulated depreciation	(239,562,788)	(225,388,158)
Property, Plant and Equipment, Net	617,498,278	588,416,253
Non-Current Assets		
Surcharges receivable, net of current portion and allowance for doubtful accounts of $200,000 in 2021 and 2020	1,166,543	1,465,670
Prepaid bond insurance	920,538	867,810
Restricted assets:		
Special funds held by trustee (Note 4 & 5)	140,795,056	176,264,906
Restricted cash held by the Authority (Note 6)	3,613,385	6,663,291
Total Non-Current Assets	146,495,522	185,261,677
Total Assets	819,252,627	826,398,520
Deferred Outflows of Resources		
Net difference between projected and actual earnings on pension plan investments	-	7,199,443
Changes in assumptions related to pensions	29,403	-
Difference between expected and actual experience related to pensions	549,765	835,078
Contribution to pension plan subsequent to measurement date	51,812	-
Difference between expected and actual experience related to OPEB	16,345	20,431
Changes in assumptions related to OPEB	7,818,150	7,138,277
Deferred losses on bond refundings, net of amortization (Note 8)	3,104,156	3,413,275
Total Deferred Outflows of Resources	11,569,631	18,606,504

(continued)
See accompanying notes to the financial statements.

MUNICIPAL AUTHORITY OF WESTMORELAND COUNTY
Statements of Revenues, Expenses and Changes in Net Position
Fiscal Years Ended March 31, 2021 and 2020

	2021	2020
Operating Revenues		
Water	$ 88,548,010	$ 86,373,308
Wastewater	17,024,421	16,156,229
Other operating revenues	1,945,458	2,930,304
Total Operating Revenues	107,517,889	105,459,841
Operating Expenses		
Source of supply	1,075,085	1,072,453
Treatment system	8,688,752	8,651,822
Distribution	21,126,537	20,592,367
Engineering	1,674,676	1,599,655
Wastewater system	9,424,097	8,871,707
Landfill	4,842	4,790
Depreciation and amortization	15,777,383	14,151,165
Commercial and general	21,858,960	25,934,541
Management fee	1,350,000	1,300,000
Total Operating Expenses	80,980,332	82,178,500
Operating Income Before Non-Operating Expenses	26,537,557	23,281,341
Non-Operating Revenues (Expenses)		
Investment income	2,891,362	4,775,646
Net increase in the fair value of investments	40,103	43,786
Interest expense	(19,831,042)	(21,188,625)
Loss on disposals of property, plant and equipment	(199,495)	(775,797)
Total Non-Operating Expenses	(17,099,072)	(17,144,990)
Income Before Capital Contributions	9,438,485	6,136,351
Capital Contributions	6,497,060	5,193,678
Increase in Net Position	15,935,545	11,330,029
Total Net Position, Beginning of Fiscal Year	156,507,789	145,177,760
Total Net Position, End of Fiscal Year	$ 172,443,334	$ 156,507,789

See accompanying notes to the financial statements.

MUNICIPAL AUTHORITY OF WESTMORELAND COUNTY
Statements of Net Position
March 31, 2020 and 2019

	2020	2019
Current Assets		
Cash and cash equivalents, unrestricted (Note 3)	$ 29,663,969	$ 27,812,712
Accounts receivable, customers (net of allowance for doubtful accounts of $474,033 in 2020 and $473,827 in 2019)	7,014,694	6,547,940
Unbilled water and sewer service	10,722,797	9,852,958
Surcharges receivable, current portion	350,000	350,000
Other receivables	216,612	498,933
Material and supplies	3,630,945	2,868,304
Prepaid expenses	1,121,573	352,547
Total Current Assets	52,720,590	48,283,394
Property, Plant and Equipment		
Property, plant and equipment (Note 2)	816,019,835	767,648,700
Less: accumulated depreciation	(225,388,158)	(213,403,548)
Property, Plant and Equipment, Net	590,631,677	554,245,152
Non-Current Assets		
Surcharges receivable, net of current portion and allowance for doubtful accounts of $200,000 in 2020 and 2019	1,465,670	1,509,942
Prepaid bond insurance	867,810	913,328
Restricted assets:		
Special funds held by trustee (Note 4 & 5)	176,264,906	207,837,151
Restricted cash held by the Authority (Note 6)	6,663,291	16,415,126
Total Non-Current Assets	185,261,677	226,675,547
Total Assets	828,613,944	829,204,093
Deferred Outflows of Resources		
Net difference between projected and actual earnings on pension plan investments	7,199,443	30,552
Changes in assumptions related to pensions	-	57,541
Difference between expected and actual experience related to pensions	835,078	602,541
Contribution to pension plan subsequent to measurement date	-	150,548
Difference between expected and actual experience related to OPEB	20,431	24,517
Changes in assumptions related to OPEB	7,138,277	1,501,026
Deferred losses on bond refundings, net of amortization (Note 8)	3,413,275	4,283,283
Total Deferred Outflows of Resources	18,606,504	6,650,008

(continued)

See accompanying notes to the financial statements.

MUNICIPAL AUTHORITY OF WESTMORELAND COUNTY
Statements of Net Position
March 31, 2019 and 2018

	2019	Restated 2018
Current Assets		
Cash and cash equivalents, unrestricted (Note 3)	$ 27,812,712	$ 19,209,356
Accounts receivable, customers (net of allowance for doubtful accounts of $473,827 in 2019 and $470,533 in 2018)	6,547,940	6,298,373
Unbilled water and sewer service	9,852,958	9,851,714
Surcharges receivable, current portion	350,000	350,000
Other receivables	498,933	1,070,190
Inventory - material and supplies	2,868,304	2,515,551
Prepaid expenses	352,547	200,121
Total Current Assets	48,283,394	39,495,305
Property, Plant and Equipment		
Property, plant and equipment (Note 2)	767,648,700	711,563,565
Less: accumulated depreciation	(213,403,548)	(201,495,896)
Property, Plant and Equipment, Net	554,245,152	510,067,669
Non-Current Assets		
Surcharges receivable, net of current portion and allowance for doubtful accounts of $200,000 in 2019 and 2018	1,509,942	1,653,673
Prepaid bond insurance	913,328	958,845
Restricted assets:		
Special funds held by trustee (Note 4 & 5)	207,837,151	234,717,525
Restricted cash held by the Authority (Note 6)	16,415,126	19,597,310
Total Non-Current Assets	226,675,547	256,927,353
Total Assets	829,204,093	806,490,327
Deferred Outflows of Resources		
Net difference between projected and actual earnings on pension plan investments	30,552	-
Changes in assumptions related to pensions	57,541	77,283
Difference between expected and actual experience related to pensions	602,541	825,024
Contribution to pension plan subsequent to measurement date	150,548	56,041
Difference between expected and actual experience related to OPEB	24,517	-
Changes in assumptions related to OPEB	1,501,026	-
Deferred losses on bond refundings, net of amortization (Note 8)	4,283,283	4,612,214
Total Deferred Outflows of Resources	6,650,008	5,570,562

(continued)

See accompanying notes to the financial statements.

MUNICIPAL AUTHORITY OF WESTMORELAND COUNTY
Statements of Net Position
March 31, 2018 and 2017

	2018	2017
Current Assets		
Cash and cash equivalents, unrestricted (Note 3)	$ 19,209,356	$ 15,067,865
Accounts receivable, customers (net of allowance for doubtful accounts of $470,533 in 2018 and $458,506 in 2017)	6,298,373	5,597,012
Unbilled water and sewer service	9,851,714	9,777,602
Surcharges receivable, current portion	350,000	350,000
Other receivables	1,070,190	5,178,590
Inventory - material and supplies	2,515,551	2,289,998
Prepaid expenses	200,121	129,312
Total Current Assets	39,495,305	38,390,379
Property, Plant and Equipment		
Property, plant and equipment (Note 2)	711,563,565	662,320,792
Less: accumulated depreciation	(201,495,896)	(189,824,163)
Property, Plant and Equipment, net	510,067,669	472,496,629
Non-Current Assets		
Surcharges receivable, net of current portion and allowance for doubtful accounts of $200,000 in 2018 and 2017	1,653,673	1,959,138
Prepaid bond insurance	958,845	596,655
Restricted assets:		
Special funds held by trustee (Note 4 & 5)	234,717,525	254,963,842
Restricted cash held by authority (Note 6)	19,597,310	19,003,328
Total Non-Current Assets	256,927,353	276,522,963
Total Assets	806,490,327	787,409,971
Deferred Outflows of Resources		
Net difference between projected and actual earnings on pension plan investments	-	170,728
Changes in assumptions related to pensions	77,283	-
Difference between expected and actual experience related to pensions	825,024	104,074
Contribution to pension plan subsequent to measurement date	56,041	-
Deferred losses on bond refundings, net of amortization (Note 8)	4,612,214	1,205,212
Total Deferred Outflows of Resources	5,570,562	1,480,014

(continued)

See accompanying notes to the financial statements.

MUNICIPAL AUTHORITY OF WESTMORELAND COUNTY
Statements of Revenues, Expenses and Changes in Net Position
Fiscal Years Ended March 31, 2020 and 2019

	2020	2019
Operating Revenues		
Water	$ 86,373,308	$ 86,597,707
Wastewater	16,156,229	15,286,438
Other operating revenues	2,930,304	5,450,849
Total Operating Revenues	105,459,841	107,334,994
Operating Expenses		
Source of supply	1,072,453	935,776
Treatment system	8,651,822	8,810,618
Distribution	20,592,367	18,735,370
Engineering	1,599,655	1,530,906
Wastewater system	8,871,707	8,444,588
Landfill	4,790	4,765
Depreciation and amortization	14,151,165	13,433,385
Commercial and general	25,934,541	27,059,890
Management fee	1,300,000	1,300,000
Total Operating Expenses	82,178,500	80,255,298
Operating Income Before Non-Operating Expenses	23,281,341	27,079,696
Non-Operating Revenues (Expenses)		
Investment income	4,775,646	4,943,913
Net increase in the fair value of investments	43,786	20,450
Interest expense	(21,188,625)	(20,975,541)
Loss on disposals of property, plant and equipment	(775,797)	(403,367)
Total Non-Operating Expenses	(17,144,990)	(16,414,545)
Income Before Capital Contributions	6,136,351	10,665,151
Capital Contributions	5,193,678	6,523,749
Increase in Net Position	11,330,029	17,188,900
Total Net Position, Beginning of Fiscal Year	145,177,760	127,988,860
Total Net Position, End of Fiscal Year	$ 156,507,789	$ 145,177,760

See accompanying notes to the financial statements.

MUNICIPAL AUTHORITY OF WESTMORELAND COUNTY
Statements of Revenues, Expenses and Changes in Net Position
Fiscal Years Ended March 31, 2019 and 2018

	2019	Restated 2018
Operating Revenues		
Water	$ 86,597,707	$ 81,638,410
Wastewater	15,286,438	14,901,786
Other operating revenues	5,450,849	3,527,303
Total Operating Revenues	107,334,994	100,067,499
Operating Expenses		
Source of supply	935,776	865,364
Treatment system	8,810,618	8,002,831
Distribution	18,735,370	17,775,014
Engineering	1,530,906	1,307,465
Wastewater system	8,444,588	8,509,813
Landfill	4,765	43,367
Depreciation and amortization	13,433,385	12,577,264
Commercial and general	27,059,890	28,228,521
Management fee	1,300,000	1,225,000
Total Operating Expenses	80,255,298	78,534,639
Operating Income Before Non-Operating Revenues	27,079,696	21,532,860
Non-Operating Revenues (Expenses)		
Investment income	4,943,913	3,535,070
Net increase (decrease) in the fair value of investments	20,450	(407,750)
Interest expense	(20,975,541)	(15,262,836)
Loss on disposals of property	(403,367)	(336,175)
Total Non-Operating Expenses	(16,414,545)	(12,471,691)
Income Before Capital Contributions	10,665,151	9,061,169
Capital Contributions	6,523,749	13,400,327
Increase in Net Position	17,188,900	22,461,496
Total Net Position, Beginning of Fiscal Year	127,988,860	135,957,658
Prior Period Adjustment, see Note 19	-	(30,430,294)
Total Net Position, End of Fiscal Year	$ 145,177,760	$ 127,988,860

See accompanying notes to the financial statements.

MUNICIPAL AUTHORITY OF WESTMORELAND COUNTY
Statements of Revenues, Expenses and Changes in Net Position
Fiscal Years Ended March 31, 2018 and 2017

	2018	2017
Operating Revenues		
Water	$ 81,638,410	$ 77,440,502
Wastewater	14,901,786	14,121,562
Other operating revenues	3,527,303	2,858,021
Total Operating Revenues	100,067,499	94,420,085
Operating Expenses		
Source of supply	865,364	861,886
Treatment system	8,002,831	8,006,826
Distribution	17,775,014	17,459,687
Engineering	1,307,465	1,271,392
Wastewater system	8,509,813	7,632,386
Landfill	43,367	12,005
Depreciation and amortization	12,577,264	11,562,121
Commercial and general	28,228,521	25,817,145
Management fee	1,225,000	1,200,000
Total Operating Expenses	78,534,639	73,823,448
Operating Income Before Non-Operating Revenues	21,532,860	20,596,637
Non-Operating Revenues (Expenses)		
Investment income	3,535,070	3,225,914
Net increase (decrease) in the fair value of investments	(407,750)	431,964
Interest expense	(15,262,836)	(15,032,096)
Loss on disposals of property	(336,175)	(1,732,987)
Total Non-Operating Expenses	(12,471,691)	(13,107,205)
Income Before Capital Contributions	9,061,169	7,489,432
Capital Contributions	13,400,327	13,432,729
Increase in Net Position	22,461,496	20,922,161
Total Net Position, Beginning of Year	135,957,658	115,035,497
Total Net Position, End of Year	$ 158,419,154	$ 135,957,658

See accompanying notes to the financial statements.

ERIE CITY WATER AUTHORITY
(AKA ERIE WATER WORKS)
Statement of Net Position
December 31, 2020 and 2019

	2020	2019
ASSETS AND DEFERRED OUTFLOWS OF RESOURCES		
Current Assets		
Cash and cash equivalents	$ 15,840,370	$ 12,385,206
Restricted cash - workers' compensation fund	279,455	338,915
Investments - cash and certificates of deposit (at par)	795,109	846,875
Receivables - customers, net	5,791,611	3,974,224
Current portion of customer receivables	19,600	19,600
Inventories, at cost	1,549,331	1,627,035
Prepaid expenses	1,340,963	865,774
Total current assets	25,616,439	20,057,629
Non-Current Assets		
Restricted investments		
Amount provided for retirement of long-term debt	7,686,000	8,864,436
Amount provided for future system improvements	11,941,433	19,881,874
Board designated reserve for capital expenditures	5,000,000	5,000,000
Investment in self-liquidity bonds	5,225,000	5,325,000
Long-term customer receivables	117,932	137,221
Capital assets, net of accumulated depreciation		
Contributed capital assets	2,508,257	2,829,653
Purchased capital assets	197,500,684	191,269,705
Total non-current assets	229,979,306	233,307,889
Total assets	255,595,745	253,365,518
Deferred Outflows of Resources		
Deferred City of Erie lease payments	103,067,058	5,033,530
Changes in pension experience	1,753,594	1,254,876
Changes in pension investment returns	-	-
Changes in pension assumptions	1,969,111	2,724,471
Deferred loss on advanced bond refunding, net	23,376,680	11,836,635
Deferred bond swap fee, net	11,179,830	11,912,546
Total deferred outflow of resources	141,346,273	32,762,058
Total assets and deferred outflow of resources	$ 396,942,018	$ 286,127,576

The notes to the financial statements are an integral part of these statements.

ERIE CITY WATER AUTHORITY
(AKA ERIE WATER WORKS)
Statement of Revenues, Expenses and Changes in Net Position
December 31, 2020 and 2019

	2020	2019
Operating revenues	**$ 40,725,085**	$ 40,086,711
Operating expenses		
Personnel	**6,112,365**	6,345,483
Personnel benefits	**3,504,971**	4,689,942
Supplies and materials	**2,012,909**	2,010,029
Other services and charges	**5,037,083**	5,498,375
City of Erie lease	**2,850,000**	3,600,000
Total operating expenses	**19,517,328**	22,143,829
Operating income before depreciation	**21,207,757**	17,942,882
Depreciation	**7,746,138**	8,393,230
Operating income	**13,461,619**	9,549,652
Non-operating revenue (expense)		
Interest expense	**(13,588,313)**	(12,123,859)
Other revenue (expense), net	**(153,290)**	1,651,260
Net loss before contributed capital	**(279,984)**	(922,947)
Capital asset contributions	**-**	-
CHANGE IN NET POSITION	**(279,984)**	(922,947)
Net Position		
Beginning of year	**(55,786,094)**	(54,863,147)
End of year	**$ (56,066,078)**	$ (55,786,094)

The notes to the financial statements are an integral part of these statements.

Erie City Water Authority
Statements of Financial Position

	As of December 31,			
	2019	2018	Change	% Change
ASSETS				
Current assets	$ 20,057,629	$ 17,026,267	$ 3,031,362	17.80%
Restricted investments	28,746,310	32,386,195	(3,639,885)	-11.24%
Capital assets, net of accumulated depreciation	194,099,358	191,070,499	3,028,859	1.59%
Other non-current assets	10,462,221	10,481,961	(19,740)	-0.19%
Deferred outflows of resources	32,762,058	34,530,203	(1,768,145)	-5.12%
Total Assets and Deferred Outflows	$ 286,127,576	$ 285,495,125	$ 632,451	0.22%
LIABILITIES AND NET POSITION				
Current liabilities	$ 7,175,123	$ 8,766,073	$ (1,590,950)	-18.15%
Long-term debt, net of unaccreted discounts	306,968,863	310,547,787	(3,578,924)	-1.15%
Other non-current liabilities	25,881,649	21,044,412	4,837,237	22.99%
Deferred inflow of resources	1,888,035	-	1,888,035	0.00%
Total liabilities and deferred inflow of resources	341,913,670	340,358,272	1,555,398	0.46%
Net position -				
Net investment in capital assets	15,948,959	11,468,894	4,480,065	39.06%
Restricted for capital projects, debt service	8,864,436	9,849,537	(985,101)	-10.00%
Unrestricted	(80,599,489)	(76,181,578)	(4,417,911)	5.80%
Total net position	(55,786,094)	(54,863,147)	(922,947)	1.68%
Total liabilities and net position	$ 286,127,576	$ 285,495,125	$ 632,451	0.22%

Changes in Net Position –

The Authority's net position decreased by $922,947 in 2019. The 2019 decrease in the net position resulted from several factors related to materials and supplies costs and personnel related costs that was offset by savings on interest expense.

Total operating revenues for the year ended December 31, 2019 of $40,086,711 increased $316,562 (0.80%) compared to December 31, 2018.

Total operating expenses of $22,143,829 increased $756,012 (3.53%).

Total 2019 expenses of $42,660,918 compared to $44,001,398 in 2018 decreased $1,340,480 (11.11%).

to $285.50 million. Total liabilities and inflows increased $36.14 million [11.88%] to $340.36 million. The primary reasons for the increase are discussed in the following *Changes in Net Position* section.

Restricted investments of $32.39 million increased $21.03 million [285.19%], primarily from $27 million of new capital project funds from the 2018 bond issue.

Capital assets (net of depreciation) increased $3.09 million. Gross capital assets (before depreciation) increased $11.47 million representing capital additions in accordance with the Authority's adopted capital project program.

ERIE CITY WATER AUTHORITY
STATEMENTS OF FINANCIAL POSITION

	As of December 31,			
	2018	2017	$ Change	% Change
ASSETS				
Current assets	$ 17,026,267	$ 13,116,705	$ 3,909,562	29.8%
Restricted investments	32,386,195	11,356,255	21,029,940	185.2%
Capital assets, net of accumulated depreciation	191,070,499	187,981,855	3,088,644	1.6%
Other non-current assets	10,481,961	10,665,706	(183,745)	(1.7%)
Deferred outflows of resources	34,530,203	30,999,314	3,530,889	11.4%
Total Assets and Deferred Outflows	$ 285,495,125	$ 254,119,835	$ 31,375,290	12.3%

	As of December 31,			
	2018	2017	$ Change	% Change
LIABILITIES AND NET ASSETS				
Current liabilities	$ 8,766,073	$ 7,893,978	$ 872,095	29.8%
Long-term debt, net of unaccreted discounts	310,547,787	284,395,079	26,152,708	9.2%
Other non-current liabilities	21,044,412	11,930,218	(9,114,194)	76.4%
Deferred inflow of resources	-	1,113,991	(1,113,991)	-
Total liabilities and deferred outflow of resources	340,358,272	305,333,266	35,025,006	11.5%
Net position –				
Invested in capital assets, net of related debt	11,468,894	7,320,870	4,148,024	56.7%
Restricted for capital projects, debt service	9,849,537	7,691,083	2,158,454	28.1%
Unrestricted	(76,181,578)	(66,225,384)	(9,956,194)	(15.0%)
Total net position	(54,863,147)	(51,213,431)	(3,649,716)	(7.1%)
Total liabilities and net position	$ 285,495,125	$ 254,119,835	($ 31,375,290)	(12.3%)

Changes in Net Position –

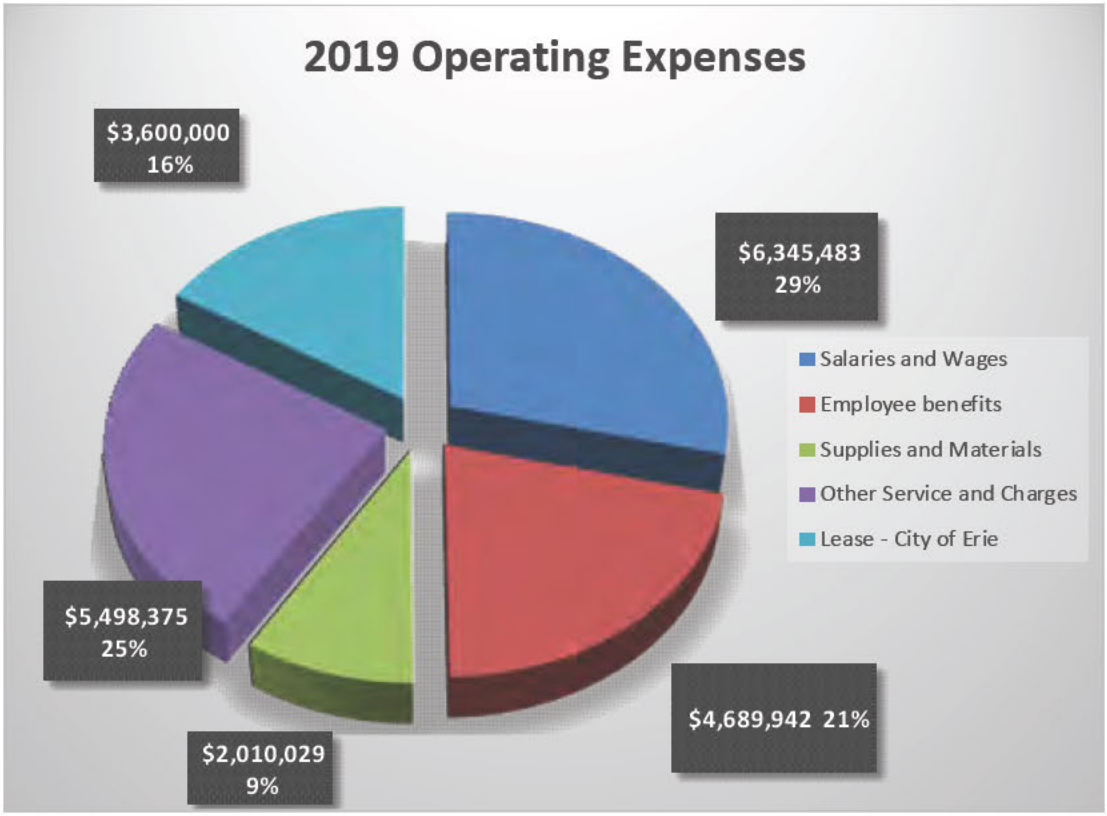
The Authority's net position decreased by <$3.65> million in 2018, compared to a <$.84> million decrease in 2017. The 2018 decrease in the net position resulted from several factors – $1.84 million increase in pension costs, $1.1 million increase in interest expense and $1.03 million of bond issue costs.

Total operating revenues for the year ended December 31, 2018 of $39.8 million increased $1.3 million [3.3%] compared to December 31, 2017.

Total operating expenses of $21.4 million increased $2.48 million [13.1%]. The majority of the

ERIE CITY WATER AUTHORITY
STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION

	For the year ended December 31,			
	2019	2018	Change	% Change
Operations				
Operating revenues	$ 40,086,711	$ 39,770,149	$ 316,562	0.80%
Operating expenses	(22,143,829)	(21,387,817)	(756,012)	3.53%
Depreciation	(8,393,230)	(8,377,223)	(16,007)	0.19%
Operating income	$ 9,549,652	$ 10,005,109	$ (455,457)	-4.55%
Non-operating revenue (expense)				
Interest expense	$ (12,123,859)	$ (14,236,358)	$ 2,112,499	-14.84%
Other revenues	2,302,321	1,948,092	354,229	18.18%
Other expenses	(651,061)	(1,446,534)	795,473	-54.99%
	(10,472,599)	(13,734,800)	3,262,201	-23.75%
Net loss before capital contributions	(922,947)	(3,729,691)	2,806,744	-75.25%
Capital assets contributions	-	79,975	(79,975)	-100.00%
Change in net position	$ (922,947)	$ (3,649,716)	$ 2,726,769	-74.71%



Erie City Water Authority
(aka Erie Water Works)

***MANAGEMENT DISCUSSION AND ANALYSIS** (Unaudited)*

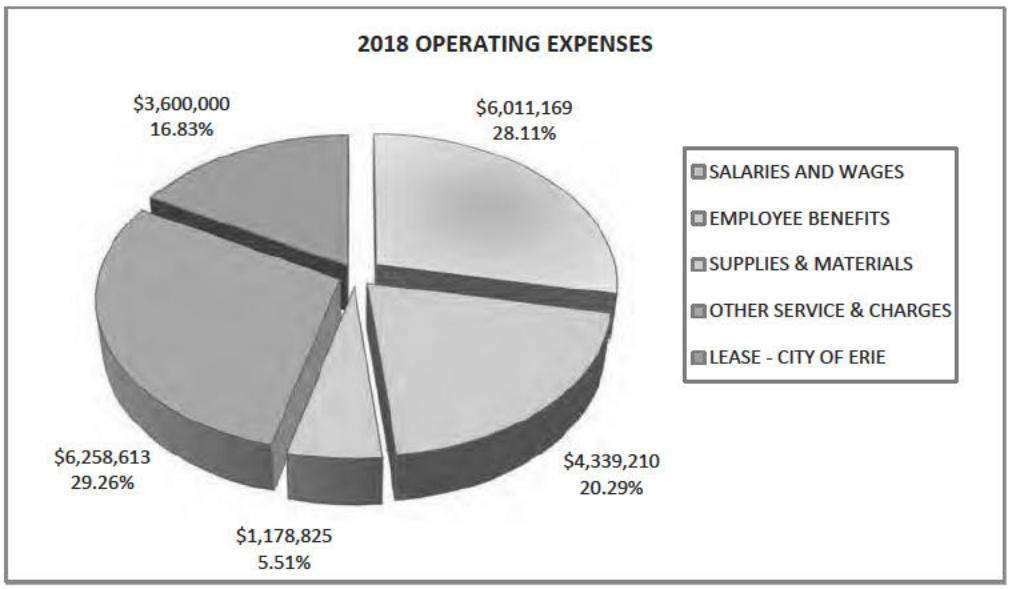
December 31, 2018 and 2017

2018 decrease in operating expenses was attributable to higher pension costs and contracted services.

Total 2018 expenses of $44.0 million $40.3 million increased $3.7 million [9.18%] compared to 2017.

ERIE CITY WATER AUTHORITY
STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION

	For the year ended December 31,			
	2018	2017	$ Change	% Change
Operations -				
Operating revenues	$ 39,770,149	$ 38,483,311	$ 1,286,838	3.3%
Operating expenses	(21,387,817)	(18,912,253)	2,475,564	13.1%
Depreciation	(8,377,223)	(8,214,879)	162,344	(2.0%)
Operating income	10,005,109	11,356,179	1,351,070	(11.9%)
Non-operating revenue (expense)				
Interest expense	(14,236,358)	(13,165,069)	1,071,289	8.1%
Other revenues	1,948,092	1,326,328	621,764	46.9%
Other expenses	(1,446,534)	(354,727)	1,091,807	307.8%
	(13,734,800)	(12,193,468)	1,541,332	12.6%
Net loss before capital contributions	(3,729,691)	(837,289)	(2,892,402)	(345.4%)
Capital asset contributions	79,975		79,975	-
Change in net position	($ 3,649,716)	($ 837,289)	($ 2,812,427)	(335.9%)



Chester Water Authority
Statements of Net Position
December 31, 2019 and 2018

Assets and Deferred Outflows of Resources

	December 31, 2019	December 31, 2018
Current Assets		
Cash and cash equivalents	$ 12,498,028	$ 9,680,971
Investments	1,224,596	1,207,385
Accounts receivable, net of allowance for doubtful accounts of $300,000 in both 2019 and 2018	4,715,593	4,215,519
Unbilled revenue	4,184,067	4,143,347
Materials and supplies	2,392,807	2,894,794
Other current assets	225,137	44,735
Total Current Assets	25,240,228	22,186,751
Non-Current Assets		
Property, plant, and equipment—net of accumulated depreciation	282,114,520	277,881,505
Net pension asset	806,245	-
Total Non-Current Assets	282,920,765	277,881,505
Restricted Assets		
Cash and cash equivalents	28,304,535	7,629,992
Total Restricted Assets	28,304,535	7,629,992
Total Assets	336,465,528	307,698,248
Deferred Outflows of Resources		
Changes in pension investment returns and actuarial assumptions	1,134,806	4,646,383
Changes in OPEB investment returns and actuarial assumptions	1,912,766	420,158
Total Deferred Outflows of Resources	3,047,572	5,066,541
Total Assets and Deferred Outflows of Resources	$ 339,513,100	$ 312,764,789

See accompanying notes to financial statements.

Chester Water Authority
Statements of Revenues, Expenses, and Changes In Net Position
For The Years Ended December 31, 2019 and 2018

	December 31, 2019	December 31, 2018
Operating Revenues		
Residential	$ 16,511,126	$ 16,270,379
Commercial	7,179,069	7,006,726
Industrial	9,832,034	8,262,780
Fire protection	4,063,901	3,902,103
Capacity charges, flat and late fee revenues	1,374,484	1,134,612
Sales to other water utilities	6,802,562	6,749,553
Total Operating Revenues	45,763,176	43,326,153
Operating Expenses		
Purification and Pumping	7,409,809	7,479,180
Distribution	6,687,166	7,989,652
Administrative	13,672,346	12,605,483
Finance/customer service, billing and collections	3,834,971	4,189,300
Depreciation	9,453,690	9,575,108
Total Operating Expenses	41,057,982	41,838,723
Operating Income	4,705,194	1,487,430
Non-Operating Revenues/(Expenses)		
Net investment income	155,689	131,632
Interest expense	(2,810,444)	(2,776,729)
Other nonoperating revenues	311,563	514,232
Amortization of bond discounts and debt issuance costs	479,795	401,140
Gain (loss) on disposal of property and equipment	302,194	17,882
Total Non-Operating Revenues/(Expenses)	(1,561,203)	(1,711,843)
Income (Loss) Before Contributions	3,143,991	(224,413)
Capital Contributions	894,723	5,652,845
Change In Net Position	4,038,714	5,428,432
Net Position - Beginning of year, as previously reported	234,034,302	233,538,507
Cumulative effect of prior period adjustment for adoption of GASB 75 - Net OPEB Liability	-	(4,932,637)
Net Position - Beginning of year, restated	234,034,302	228,605,870
Net Position - End of year	$ 238,073,016	$ 234,034,302

See accompanying notes to financial statements.

Chester Water Authority
Statements of Net Position
December 31, 2018 and 2017

Assets and Deferred Outflows of Resources

	December 31, 2018	December 31, 2017
Current Assets		
Cash and cash equivalents	$ 9,680,971	$ 12,277,333
Investments	1,207,385	1,185,056
Accounts receivable, net of allowance for doubtful accounts of $300,000 in both 2018 and 2017	4,215,519	4,018,123
Unbilled revenue	4,143,347	4,100,936
Materials and supplies	2,894,794	2,438,785
Other current assets	44,734	72,551
Total Current Assets	22,186,750	24,092,784
Non-Current Assets		
Property, plant, and equipment—net of accumulated depreciation	277,881,505	271,133,389
Net pension asset	-	1,501,182
Total Non-Current Assets	277,881,505	272,634,571
Restricted Assets		
Cash and cash equivalents	7,629,992	7,549,260
Total Restricted Assets	7,629,992	7,549,260
Total Assets	307,698,247	304,276,615
Deferred Outflows of Resources		
Changes in pension investment returns and actuarial assumptions	4,646,383	1,479,458
Changes in OPEB investment returns and actuarial assumptions	420,158	-
Total Deferred Outflows of Resources	5,066,541	1,479,458
Total Assets and Deferred Outflows of Resources	$ 312,764,788	$ 305,756,073

See accompanying notes to financial statements.

Chester Water Authority
Statements of Revenues, Expenses, and Changes In Net Position
For The Years Ended December 31, 2018 and 2017

	December 31,	
	2018	2017
Operating Revenues		
Residential	$ 16,270,379	$ 16,471,074
Commercial	7,006,726	5,885,341
Industrial	8,262,780	7,414,215
Fire protection	3,902,103	4,001,045
Capacity charges, flat and late fee revenues	1,134,612	1,360,899
Sales to other water utilities	6,749,553	7,158,892
Total Operating Revenues	43,326,153	42,291,466
Operating Expenses		
Purification and Pumping	7,479,180	7,326,031
Distribution	7,989,652	7,159,659
Administrative	12,605,483	11,664,820
Finance/customer service, billing and collections	4,189,300	3,824,583
Depreciation	9,575,108	9,521,150
Total Operating Expenses	41,838,723	39,496,243
Operating Income	1,487,430	2,795,223
Non-Operating Revenues (Expenses)		
Net investment income	131,632	146,144
Interest expense	(2,776,729)	(2,681,713)
Other nonoperating revenues	514,231	982,798
Amortization of bond discounts and debt issuance costs	401,140	250,136
Gain (loss) on disposal of property and equipment	17,882	(481,900)
Total Non-Operating Revenues/(Expenses)	(1,711,844)	(1,784,535)
(Loss) Income Before Contributions	(224,414)	1,010,688
Capital Contributions	5,652,845	2,699,498
Change In Net Position	5,428,431	3,710,186
Net Position—Beginning of year, as previously reported	233,538,507	229,828,321
Cumulative effect of prior period adjustment for adoption of GASB 75 - Net OPEB Liability	(4,932,637)	-
Net Position - Beginning of year, restated	228,605,870	229,828,321
Net Position—End of year	$ 234,034,301	$ 233,538,507

See accompanying notes to financial statements.

PITTSBURGH WATER AND SEWER AUTHORITY

STATEMENTS OF NET POSITION

(Dollars expressed in thousands)

DECEMBER 31, 2020 AND 2019

	2020	2019
Assets		
Current assets:		
Cash and cash equivalents	$ 60,210	$ 64,680
Accounts receivable, net:		
Water:		
Billed	7,400	7,138
Unbilled	7,955	8,965
Total water	15,355	16,103
Wastewater treatment:		
Billed	3,676	2,130
Unbilled	3,457	3,725
Total wastewater treatment	7,133	5,855
Other receivables	1,924	2,450
Total accounts receivable, net	24,412	24,408
Prepaid expenses	1,737	707
Inventory	2,075	1,597
Total current assets	88,434	91,392
Noncurrent assets:		
Restricted assets:		
Cash and cash equivalents	16,201	16,360
Investments	9,705	9,604
Total restricted assets	25,906	25,964
Capital assets, not being depreciated	155,050	135,287
Capital assets, net of accumulated depreciation	766,600	695,291
Total noncurrent assets	947,556	856,542
Total Assets	1,035,990	947,934
Deferred Outflows of Resources		
Deferred charge on refunding	91,827	99,012
Accumulated decrease in fair value of hedging derivatives	33,863	13,351
Total Deferred Outflows of Resources	125,690	112,363

(Continued)

The notes to financial statements are an integral part of this statement.

PITTSBURGH WATER AND SEWER AUTHORITY

STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

(Dollars expressed in thousands)

YEARS ENDED DECEMBER 31, 2020 AND 2019

	2020	2019
Operating Revenues:		
Residential, commercial, and industrial water sales	$ 162,676	$ 171,681
Wastewater treatment	71,899	70,970
Other	7,422	6,398
Total operating revenues	241,997	249,049
Operating Expenses:		
Direct operating expenses	92,134	89,512
Wastewater treatment	72,698	72,389
Reimbursement for City of Pittsburgh indirect services	4,289	1,991
Expense of water provided by other entities	386	1,338
Depreciation	21,659	18,011
Total operating expenses	191,166	183,241
Operating Income	50,831	65,808
Non-operating Revenues (Expenses):		
Federal and private grants	7,001	6,922
Interest revenue	201	719
Investment income (loss) - change in fair value of swap	-	(4,180)
Interest and amortization	(37,463)	(38,740)
Bond issuance costs	(2,075)	(2,462)
Total non-operating revenues (expenses)	(32,336)	(37,741)
Net Income before Capital Contribution and Special Item	18,495	28,067
Capital Contribution:		
Donated property	76	110
Special Item:		
Private lead line replacement	(18,832)	(22,283)
Net Income (Loss)	(261)	5,894
Net Position:		
Beginning of year	1,535	(4,359)
End of year	$ 1,274	$ 1,535

The notes to financial statements are an integral part of this statement.

PITTSBURGH WATER AND SEWER AUTHORITY

STATEMENTS OF NET POSITION

(Dollars expressed in thousands)

DECEMBER 31, 2019 AND 2018

	2019	2018
Assets		
Current assets:		
Cash and cash equivalents	$ 64,680	$ 46,920
Accounts receivable, net:		
Water:		
Billed	7,138	8,537
Unbilled	8,965	8,583
Total water	16,103	17,120
Wastewater treatment:		
Billed	2,130	7,014
Unbilled	3,725	3,719
Total wastewater treatment	5,855	10,733
Other receivables	2,450	1,510
Total accounts receivable, net	24,408	29,363
Prepaid expenses	707	520
Inventory	1,597	1,984
Total current assets	91,392	78,787
Noncurrent assets:		
Restricted assets:		
Cash and cash equivalents	16,360	13,970
Investments	9,604	9,356
Total restricted assets	25,964	23,326
Hedging derivative - interest rate swap	-	4,750
Capital assets, not being depreciated	135,287	139,303
Capital assets, net of accumulated depreciation	695,291	618,177
Total noncurrent assets	856,542	785,556
Total Assets	947,934	864,343
Deferred Outflows of Resources		
Deferred charge on refunding	99,012	102,534
Accumulated decrease in fair value of hedging derivatives	13,351	757
Total Deferred Outflows of Resources	112,363	103,291

(Continued)

The notes to financial statements are an integral part of this statement.

PITTSBURGH WATER AND SEWER AUTHORITY

STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

(Dollars expressed in thousands)

YEARS ENDED DECEMBER 31, 2019 AND 2018

	2019	2018
Operating Revenues:		
Residential, commercial, and industrial water sales	$ 171,681	$ 159,506
Wastewater treatment	70,970	67,261
Other	6,398	4,967
Total operating revenues	249,049	231,734
Operating Expenses:		
Direct operating expenses	89,512	72,633
Wastewater treatment	72,389	71,822
Reimbursement for City of Pittsburgh services	1,991	4,911
Expense of water provided by other entities:		
Subsidy of customers located in the City	1,338	3,814
Depreciation	18,011	16,894
Total operating expenses	183,241	170,074
Operating Income	65,808	61,660
Non-operating Revenues (Expenses):		
Federal and private grants	6,922	-
Donated property	110	13,649
Interest revenue	719	469
Investment income (loss) - change in fair value of swap	(4,180)	2,542
Interest and amortization	(38,740)	(34,365)
Bond issuance costs	(2,462)	-
Total non-operating revenues (expenses)	(37,631)	(17,705)
Net Income before Special Item	28,177	43,955
Special Item:		
Private lead line replacement	(22,283)	(4,478)
Net Income	5,894	39,477
Net Position:		
Beginning of year	(4,359)	(43,836)
End of year	$ 1,535	$ (4,359)

The notes to financial statements are an integral part of this statement.

PITTSBURGH WATER AND SEWER AUTHORITY

STATEMENTS OF NET POSITION

(Dollars expressed in thousands)

DECEMBER 31, 2018 AND 2017

	2018	2017
Assets		
Current assets:		
Cash and cash equivalents	$ 46,920	$ 11,076
Accounts receivable, net:		
Water:		
Billed	8,537	9,335
Unbilled	8,583	6,760
Total water	17,120	16,095
Wastewater treatment:		
Billed	7,014	9,975
Unbilled	3,719	3,746
Total wastewater treatment	10,733	13,721
Other receivables	1,510	1,074
Total accounts receivable, net	29,363	30,890
Prepaid expenses	520	674
Inventory	1,984	3,777
Total current assets	78,787	46,417
Noncurrent assets:		
Restricted assets:		
Cash and cash equivalents	13,970	18,264
Investments	9,356	11,684
Total restricted assets	23,326	29,948
Hedging derivative - interest rate swap	4,750	-
Capital assets, not being depreciated	139,303	100,240
Capital assets, net of accumulated depreciation	618,177	589,567
Total noncurrent assets	785,556	719,755
Total Assets	864,343	766,172
Deferred Outflows of Resources		
Deferred charge on refunding	102,534	110,326
Accumulated decrease in fair value of hedging derivatives	757	3,279
Total Deferred Outflows of Resources	103,291	113,605

(Continued)

The notes to financial statements are an integral part of this statement.

PITTSBURGH WATER AND SEWER AUTHORITY

STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

(Dollars expressed in thousands)

YEARS ENDED DECEMBER 31, 2018 AND 2017

	2018	2017
Operating Revenues:		
Residential, commercial, and industrial water sales	$ 159,506	$ 128,488
Wastewater treatment	67,261	68,935
Other	4,967	5,573
Total operating revenues	231,734	202,996
Operating Expenses:		
Direct operating expenses	72,633	71,156
Wastewater treatment	71,822	75,107
Reimbursement for City of Pittsburgh services	4,911	5,363
Expense of water provided by other entities:		
Subsidy of customers located in the City	3,814	5,594
Depreciation	16,894	16,172
Total operating expenses	170,074	173,392
Operating Income	61,660	29,604
Non-operating Revenues (Expenses):		
Donated property	13,649	1,595
Interest revenue	469	460
Investment income (loss) - change in fair value of swap	2,542	835
Interest and amortization	(34,365)	(34,913)
Bond issuance costs	-	(3,894)
Total non-operating revenues (expenses)	(17,705)	(35,917)
Special Item:		
Private lead line replacement	(4,478)	-
Net Income (Loss)	39,477	(6,313)
Net Position:		
Beginning of year	(43,836)	(37,523)
End of year	$ (4,359)	$ (43,836)

The notes to financial statements are an integral part of this statement.

Series Id: CUUR0000SA0,CUUS0000SA0
Not Seasonally Adjusted
Series Title: All items in U.S. city average, all urban consumers, not seasonally adjusted
Area: U.S. city average
Item: All items
Base Period: 1982-84=100

Download:

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	HALF1	HALF2
2000	168.8	169.8	171.2	171.3	171.5	172.4	172.8	172.8	173.7	174	174.1	174	170.8	173.6
2001	175.1	175.8	176.2	176.9	177.7	178	177.5	177.5	178.3	177.7	177.4	176.7	176.6	177.5
2002	177.1	177.8	178.8	179.8	179.8	179.9	180.1	180.7	181	181.3	181.3	180.9	178.9	180.9
2003	181.7	183.1	184.2	183.8	183.5	183.7	183.9	184.6	185.2	185	184.5	184.3	183.3	184.6
2004	185.2	186.2	187.4	188	189.1	189.7	189.4	189.5	189.9	190.9	191	190.3	187.6	190.2
2005	190.7	191.8	193.3	194.6	194.4	194.5	195.4	196.4	198.8	199.2	197.6	196.8	193.2	197.4
2006	198.3	198.7	199.8	201.5	202.5	202.9	203.5	203.9	202.9	201.8	201.5	201.8	200.6	202.6
2007	202.416	203.499	205.352	206.686	207.949	208.352	208.299	207.917	208.49	208.936	210.177	210.036	205.709	208.976
2008	211.08	211.693	213.528	214.823	216.632	218.815	219.964	219.086	218.783	216.573	212.425	210.228	214.429	216.177
2009	211.143	212.193	212.709	213.24	213.856	215.693	215.351	215.834	215.969	216.177	216.33	215.949	213.139	215.935
2010	216.687	216.741	217.631	218.009	218.178	217.965	218.011	218.312	218.439	218.711	218.803	219.179	217.535	218.576
2011	220.223	221.309	223.467	224.906	225.964	225.722	225.922	226.545	226.889	226.421	226.23	225.672	223.598	226.28
2012	226.665	227.663	229.392	230.085	229.815	229.478	229.104	230.379	231.407	231.317	230.221	229.601	228.85	230.338
2013	230.28	232.166	232.773	232.531	232.945	233.504	233.596	233.877	234.149	233.546	233.069	233.049	232.366	233.548
2014	233.916	234.781	236.293	237.072	237.9	238.343	238.25	237.852	238.031	237.433	236.151	234.812	236.384	237.088
2015	233.707	234.722	236.119	236.599	237.805	238.638	238.654	238.316	237.945	237.838	237.336	236.525	236.265	237.769
2016	236.916	237.111	238.132	239.261	240.229	241.018	240.628	240.849	241.428	241.729	241.353	241.432	238.778	241.237
2017	242.839	243.603	243.801	244.524	244.733	244.955	244.786	245.519	246.819	246.663	246.669	246.524	244.076	246.163
2018	247.867	248.991	249.554	250.546	251.588	251.989	252.006	252.146	252.439	252.885	252.038	251.233	250.089	252.125
2019	251.712	252.776	254.202	255.548	256.092	256.143	256.571	256.558	256.759	257.346	257.208	256.974	254.412	256.903
2020	257.971	258.678	258.115	256.389	256.394	257.797	259.101	259.918	260.28	260.388	260.229	260.474	257.557	260.065
2021	261.582	263.014	264.877	267.054	269.195	271.696	273.003	273.567	274.31	276.589	277.948	278.802	266.236	275.703
2022	281.148	283.716	287.504	289.109	292.296	296.311	296.276	296.171	296.808	298.012	297.711	296.797	288.347	296.963
2023	299.17	300.84	301.836	303.363	304.127	305.109	305.691	307.026					302.408	

Handy-Whitman	Handy-Whitman	Handy-Whitman	Handy-Whitman
Line #	Line #	Line #	Line #
8	**9**	**16**	**34**

Series Id: PCU3372--3372--

Series Title: PPI industry group data for Office furniture (including fixtures) mfg, not seasonally adjusted

Industry: Office furniture (including fixtures) mfg

Product: Office furniture (including fixtures) mfg

Base Date: 200312

				7
1912	**0**	**0**	**0**	**9**
1913	**0**	**0**	**0**	**10**
1914	**0**	**0**	**0**	**8**
1915	**0**	**0**	**0**	**9**
1916	**0**	**0**	**0**	**11**
1917	**0**	**0**	**0**	**16**
1918	**0**	**0**	**0**	**19**
1919	**0**	**0**	**0**	**20**
1920	**0**	**0**	**0**	**22**
1921	**0**	**0**	**0**	**22**
1922	**0**	**0**	**0**	**20**
1923	**0**	**0**	**0**	**21**
1924	**0**	**0**	**0**	**22**
1925	**18**	**0**	**20**	**21**
1926	**19**	**0**	**0**	**21**
1927	**18**	**0**	**0**	**21**
1928	**18**	**0**	**0**	**20**
1929	**18**	**0**	**0**	**20**
1930	**17**	**0**	**0**	**20**
1931	**16**	**0**	**0**	**20**
1932	**15**	**0**	**0**	**18**
1933	**15**	**0**	**0**	**18**
1934	**16**	**0**	**0**	**19**
1935	**16**	**0**	**0**	**19**
1936	**16**	**0**	**0**	**20**
1937	**18**	**0**	**0**	**21**

Handy-Whitman	Handy-Whitman	Handy-Whitman	Handy-Whitman
Line #	Line #	Line #	Line #
8	**9**	**16**	**34**
1938	**18**	**0**	**0**	**22**
1939	**18**	**0**	**20**	**22**
1940	**20**	**0**	**0**	**24**
1941	**0**	**0**	**0**	**0**
1942	**0**	**0**	**0**	**0**
1943	**0**	**0**	**0**	**0**
1944	**21**	**0**	**0**	**25**
1945	**22**	**0**	**0**	**26**
1946	**24**	**0**	**0**	**29**
1947	**28**	**0**	**32**	**35**
1948	**32**	**0**	**35**	**41**
1949	**35**	**0**	**36**	**42**
1950	**36**	**0**	**38**	**43**
1951	**38**	**0**	**40**	**45**
1952	**38**	**0**	**41**	**47**
1953	**39**	**0**	**42**	**48**
1954	**41**	**55**	**0**	**48**
1955	**43**	**56**	**0**	**53**
1956	**46**	**63**	**0**	**57**
1957	**49**	**69**	**50**	**60**
1958	**50**	**73**	**0**	**63**
1959	**52**	**74**	**54**	**65**
1960	**53**	**74**	**55**	**68**
1961	**53**	**71**	**56**	**69**
1962	**54**	**71**	**58**	**71**
1963	**55**	**71**	**59**	**72**
1964	**56**	**73**	**60**	**73**
1965	**57**	**74**	**62**	**74**
1966	**56**	**78**	**64**	**75**
1967	**61**	**81**	**67**	**76**

Series Id: PCU3372--3372--

Series Title: PPI industry group data for Office furniture (including fixtures) mfg, not seasonally adjusted

Industry: Office furniture (including fixtures) mfg

Product: Office furniture (including fixtures) mfg

Base Date: 200312

Handy-Whitman	Handy-Whitman	Handy-Whitman	Handy-Whitman
Line #	Line #	Line #	Line #
8	**9**	**16**	**34**
1968	**64**	**81**	**69**	**77**	
1969	**69**	**84**	**73**	**80**	
1970	**75**	**89**	**79**	**84**	
1971	**84**	**93**	**89**	**94**	
1972	**92**	**96**	**96**	**98**	
1973	**100**	**100**	**100**	**100**	
1974	**117**	**122**	**118**	**110**	
1975	**127**	**155**	**134**	**146**	
1976	**130**	**174**	**144**	**154**	
1977	**137**	**184**	**152**	**162**	
1978	**148**	**192**	**162**	**173**	
1979	**163**	**205**	**175**	**185**	
1980	**181**	**222**	**191**	**202**	
1981	**191**	**245**	**208**	**219**	
1982	**198**	**260**	**227**	**231**	
1983	**206**	**271**	**242**	**239**	
1984	**218**	**277**	**251**	**244**	
1985	**225**	**282**	**262**	**254**	*100.000*
1986	**233**	**284**	**269**	**255**	*100.000*
1987	**239**	**299**	**276**	**263**	*100.000*
1988	**251**	**311**	**286**	**280**	*100.000*
1989	**265**	**330**	**301**	**295**	*100.000*
1990	**271**	**349**	**313**	**301**	*100.000*
1991	**274**	**355**	**322**	**307**	*100.000*
1992	**281**	**368**	**332**	**311**	*100.000*
1993	**294**	**386**	**342**	**321**	*100.000*
1994	**308**	**428**	**348**	**327**	*100.000*
1995	**316**	**442**	**357**	**332**	*100.000*
1996	**321**	**450**	**367**	**339**	*100.000*

Series Id: PCU3372--3372--

Series Title: PPI industry group data for Office furniture (including fixtures) mfg, not seasonally adjusted

Industry: Office furniture (including fixtures) mfg

Product: Office furniture (including fixtures) mfg

Base Date: 200312

Handy-Whitman	Handy-Whitman	Handy-Whitman	Handy-Whitman
Line #	Line #	Line #	Line #
8	**9**	**16**	**34**
1997	**331**	**473**	**380**	**347**
1998	**337**	**489**	**391**	**355**
1999	**343**	**505**	**401**	**361**
2000	**362**	**530**	**413**	**377**
2001	**378**	**527**	**428**	**391**
2002	**389**	**529**	**443**	**404**
2003	**394**	**543**	**452**	**407**
2004	**421**	**572**	**466**	**432**
2005	**448**	**612**	**486**	**469**
2006	**466**	**624**	**504**	**499**
2007	**496**	**634**	**537**	**530**
2008	**538**	**663**	**586**	**588**
2009	**544**	**691**	**619**	**614**
2010	**560**	**704**	**637**	**624**
2011	**584**	**752**	**654**	**648**
2012	**604**	**788**	**680**	**687**
2013	**614**	**836**	**699**	**701**
2014	**631**	**896**	**725**	**731**
2015	**647**	**945**	**741**	**740**
2016	**661**	**1017**	**761**	**755**
2017	**675**	**1117**	**785**	**777**
2018	**704**	**1210**	**813**	**803**
2019	**716**	**1332**	**847**	**830**
2020	**735**	**1430**	**893**	**858**
2021	**818**	**1490**	**957**	**922**
2022	**901**	**1742**	**1066**	**1027**
2023	**912**	**1801**	**1122**	**1080**
SPOT	**912**	**1801**	**1122**	**1080**

Series Id: PCU3372--3372--

Series Title: PPI industry group data for Office furniture (including fixtures) mfg, not seasonally adjusted

Industry: Office furniture (including fixtures) mfg

Product: Office furniture (including fixtures) mfg

Base Date: 200312

100.000
100.000
100.000
100.000
100.000
100.000

Year	
2003	100.000
2004	105.142
2005	111.458
2006	113.817
2007	116.675
2008	121.225
2009	124.625
2010	125.642
2011	128.900
2012	131.367
2013	132.208
2014	135.617
2015	136.658
2016	137.150
2017	139.367
2018	145.058
2019	151.150
2020	155.075
2021	166.692
2022	188.363
2023	197.509
SPOT	198.580

Series Id: PCU334118334118
Series Title: PPI industry data for Computer terminal and other computer peripheral equipment mfg, not seasonally
Industry: Computer terminal and other computer peripheral equipment mfg
Product: Computer terminal and other computer peripheral equipment mfg
Base Date: 199312

Series Id: PCU336110336110
Series Title: PPI industry data for Automobile, light truck and utility vehicle mfg, not seasonally adjusted
Industry: Automobile, light truck and utility vehicle mfg
Product: Automobile, light truck and utility vehicle mfg
Base Date: 198206

Series Id: PCU333991333991
Series Title: PPI industry data for Power-driven handtool mfg, not seasonally adjusted
Industry: Power-driven handtool mfg
Product: Power-driven handtool mfg
Base Date: 198012

Series Id: PCU3343--3343--
Series Title: PPI industry group data for Audio & video equipment mfg, not seasonally adjusted
Industry: Audio & video equipment mfg
Product: Audio & video equipment mfg
Base Date: 200312

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Series Id: PCU334118334118
Series Title: PPI industry data for Computer terminal and other computer peripheral equipment mfg, not seasonally
Industry: Computer terminal and other computer peripheral equipment mfg
Product: Computer terminal and other computer peripheral equipment mfg
Base Date: 199312

Series Id: PCU336110336110
Series Title: PPI industry data for Automobile, light truck and utility vehicle mfg, not seasonally adjusted
Industry: Automobile, light truck and utility vehicle mfg
Product: Automobile, light truck and utility vehicle mfg
Base Date: 198206

Series Id: PCU333991333991
Series Title: PPI industry data for Power-driven handtool mfg, not seasonally adjusted
Industry: Power-driven handtool mfg
Product: Power-driven handtool mfg
Base Date: 198012

Series Id: PCU3343--3343--
Series Title: PPI industry group data for Audio & video equipment mfg, not seasonally adjusted
Industry: Audio & video equipment mfg
Product: Audio & video equipment mfg
Base Date: 200312

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Series Id: PCU334118334118

Series Title: PPI industry data for Computer terminal and other computer peripheral equipment mfg, not seasonally

Industry: Computer terminal and other computer peripheral equipment mfg

Product: Computer terminal and other computer peripheral equipment mfg

Base Date: 199312

Year	
1993	100.000
1994	97.742
1995	95.708
1996	93.142

Series Id: PCU336110336110

Series Title: PPI industry data for Automobile, light truck and utility vehicle mfg, not seasonally adjusted

Industry: Automobile, light truck and utility vehicle mfg

Product: Automobile, light truck and utility vehicle mfg

Base Date: 198206

1975	62.900
1976	64.025
1977	68.192
1978	72.892
1979	78.667
1980	85.983
1981	94.533
1982	99.567
1983	102.108
1984	104.625
1985	107.208
1986	111.008
1987	112.967
1988	114.117
1989	117.358
1990	119.850
1991	125.292
1992	129.108
1993	133.167
1994	137.950
1995	139.100
1996	140.433

Series Id: PCU333991333991

Series Title: PPI industry data for Power-driven handtool mfg, not seasonally adjusted

Industry: Power-driven handtool mfg

Product: Power-driven handtool mfg

Base Date: 198012

Year	
1976	72.500
1977	75.533
1978	80.558
1979	86.517
1980	95.842
1981	106.792
1982	113.492
1983	116.775
1984	118.892
1985	122.583
1986	124.592
1987	126.308
1988	129.633
1989	134.892
1990	139.150
1991	143.083
1992	144.642
1993	147.475
1994	154.725
1995	161.958
1996	165.767

Series Id: PCU3343--3343--

Series Title: PPI industry group data for Audio & video equipment mfg, not seasonally adjusted

Industry: Audio & video equipment mfg

Product: Audio & video equipment mfg

Base Date: 200312

Series Id: PCU334118334118

Series Title: PPI industry data for Computer terminal and other computer peripheral equipment mfg, not seasonally
Industry: Computer terminal and other computer peripheral equipment mfg
Product: Computer terminal and other computer peripheral equipment mfg
Base Date: 199312

1997	1997	90.533
1998	1998	84.650
1999	1999	80.083
2000	2000	78.842
2001	2001	78.325
2002	2002	78.625
2003	2003	78.083
2004	2004	76.983
2005	2005	76.600
2006	2006	76.125
2007	2007	75.417
2008	2008	74.192
2009	2009	74.375
2010	2010	72.725
2011	2011	72.733
2012	2012	73.333
2013	2013	74.575
2014	2014	76.217
2015	2015	71.108
2016	2016	64.842
2017	2017	65.917
2018	2018	66.775
2019	2019	64.075
2020	2020	62.083
2021	2021	62.106
2022	2022	63.895
2023	2023	64.697
SPOT	SPOT	64.690

Series Id: PCU336110336110

Series Title: PPI industry data for Automobile, light truck and utility vehicle mfg, not seasonally adjusted

Industry: Automobile, light truck and utility vehicle mfg

Product: Automobile, light truck and utility vehicle mfg

Base Date: 198206

1997	138.700
1998	136.842
1999	137.642
2000	138.767
2001	137.542
2002	134.892
2003	135.083
2004	136.475
2005	135.067
2006	130.817
2007	131.117
2008	132.892
2009	136.742
2010	136.783
2011	137.683
2012	141.250
2013	142.733
2014	145.333
2015	148.883
2016	150.108
2017	152.067
2018	153.250
2019	153.592
2020	153.108
2021	157.532
2022	164.066
2023	168.169
SPOT	167.938

Series Id: PCU333991333991

Series Title: PPI industry data for Power-driven handtool mfg, not seasonally adjusted

Industry: Power-driven handtool mfg

Product: Power-driven handtool mfg

Base Date: 198012

1997	168.367
1998	168.308
1999	168.008
2000	169.142
2001	171.975
2002	172.800
2003	173.217
2004	174.525
2005	176.133
2006	175.217
2007	176.267
2008	178.975
2009	180.058
2010	178.700
2011	179.783
2012	184.442
2013	185.700
2014	188.375
2015	192.383
2016	196.683
2017	199.592
2018	203.517
2019	206.617
2020	209.150
2021	221.816
2022	245.123
2023	256.134
SPOT	256.193

Series Id: PCU3343--3343--

Series Title: PPI industry group data for Audio & video equipment mfg, not seasonally adjusted

Industry: Audio & video equipment mfg

Product: Audio & video equipment mfg

Base Date: 200312

Year	
2003	100.000
2004	98.092
2005	95.608
2006	93.683
2007	90.850
2008	89.350
2009	85.467
2010	84.367
2011	84.158
2012	84.308
2013	82.583
2014	82.717
2015	82.892
2016	83.067
2017	83.083
2018	82.733
2019	83.767
2020	85.883
2021	89.366
2022	97.884
2023	100.312
SPOT	100.568

Series Id: PCU334516334516

Series Title: PPI industry data for Analytical laboratory instrument mfg, not seasonally adjusted

Industry: Analytical laboratory instrument mfg

Product: Analytical laboratory instrument mfg

Base Date: 198512

Series Id: PCU333112333112

Series Title: PPI industry data for Lawn and garden equipment mfg, not seasonally adjusted

Industry: Lawn and garden equipment mfg

Product: Lawn and garden equipment mfg

Base Date: 198212

Series Id: PCU3342--3342--

Series Title: PPI industry group data for Communications equipment mfg, not seasonally adjusted

Industry: Communications equipment mfg

Product: Communications equipment mfg

Base Date: 198512

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Series Id: PCU334516334516

Series Title: PPI industry data for Analytical laboratory instrument mfg, not seasonally adjusted

Industry: Analytical laboratory instrument mfg

Product: Analytical laboratory instrument mfg

Base Date: 198512

Series Id: PCU333112333112

Series Title: PPI industry data for Lawn and garden equipment mfg, not seasonally adjusted

Industry: Lawn and garden equipment mfg

Product: Lawn and garden equipment mfg

Base Date: 198212

Series Id: PCU3342--3342--

Series Title: PPI industry group data for Communications equipment mfg, not seasonally adjusted

Industry: Communications equipment mfg

Product: Communications equipment mfg

Base Date: 198512

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Series Id: PCU334516334516

Series Title: PPI industry data for Analytical laboratory instrument mfg, not seasonally adjusted

Industry: Analytical laboratory instrument mfg

Product: Analytical laboratory instrument mfg

Base Date: 198512

Year	
1968	
1969	
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1976	
1977	
1978	
1979	*100.000*
1980	*100.000*
1981	*100.000*
1982	*100.000*
1983	*100.000*
1984	*100.000*
1985	100.000
1986	99.967
1987	100.800
1988	103.242
1989	105.742
1990	107.650
1991	108.867
1992	110.867
1993	112.192
1994	113.075
1995	114.608
1996	115.867

Series Id: PCU333112333112

Series Title: PPI industry data for Lawn and garden equipment mfg, not seasonally adjusted

Industry: Lawn and garden equipment mfg

Product: Lawn and garden equipment mfg

Base Date: 198212

Year	
1982	100.000
1983	102.067
1984	102.408
1985	103.458
1986	104.708
1987	105.625
1988	108.192
1989	113.275
1990	116.592
1991	118.800
1992	119.675
1993	120.600
1994	122.608
1995	124.158
1996	125.867

Series Id: PCU3342--3342--

Series Title: PPI industry group data for Communications equipment mfg, not seasonally adjusted

Industry: Communications equipment mfg

Product: Communications equipment mfg

Base Date: 198512

Year	
1985	100.000
1986	101.867
1987	103.492
1988	103.875
1989	105.775
1990	107.475
1991	108.500
1992	109.742
1993	111.683
1994	113.325
1995	113.908
1996	114.983

Series Id: PCU334516334516

Series Title: PPI industry data for Analytical laboratory instrument mfg, not seasonally adjusted

Industry: Analytical laboratory instrument mfg

Product: Analytical laboratory instrument mfg

Base Date: 198512

1997	1997	117.508
1998	1998	118.325
1999	1999	116.933
2000	2000	119.217
2001	2001	121.583
2002	2002	124.017
2003	2003	126.208
2004	2004	128.217
2005	2005	129.683
2006	2006	132.208
2007	2007	133.142
2008	2008	136.225
2009	2009	137.945
2010	2010	138.708
2011	2011	139.625
2012	2012	140.383
2013	2013	142.258
2014	2014	144.417
2015	2015	147.000
2016	2016	149.358
2017	2017	153.350
2018	2018	155.183
2019	2019	159.258
2020	2020	161.408
2021	2021	164.466
2022	2022	175.369
2023	2023	183.733
SPOT	SPOT	184.916

Series Id: PCU333112333112

Series Title: PPI industry data for Lawn and garden equipment mfg, not seasonally adjusted

Industry: Lawn and garden equipment mfg

Product: Lawn and garden equipment mfg

Base Date: 198212

1997	1997	125.983
1998	1998	124.892
1999	1999	124.517
2000	2000	124.642
2001	2001	125.167
2002	2002	125.925
2003	2003	125.883
2004	2004	126.575
2005	2005	126.617
2006	2006	127.625
2007	2007	129.558
2008	2008	132.750
2009	2009	134.583
2010	2010	134.158
2011	2011	133.217
2012	2012	135.425
2013	2013	135.525
2014	2014	136.225
2015	2015	136.342
2016	2016	136.267
2017	2017	136.742
2018	2018	138.500
2019	2019	140.458
2020	2020	141.825
2021	2021	145.765
2022	2022	159.899
2023	2023	167.001
SPOT	SPOT	166.862

Series Id: PCU3342--3342--

Series Title: PPI industry group data for Communications equipment mfg, not seasonally adjusted

Industry: Communications equipment mfg

Product: Communications equipment mfg

Base Date: 198512

1997	1997	115.708
1998	1998	114.983
1999	1999	112.975
2000	2000	110.408
2001	2001	108.625
2002	2002	105.033
2003	2003	101.717
2004	2004	98.358
2005	2005	97.042
2006	2006	95.883
2007	2007	95.783
2008	2008	97.083
2009	2009	97.200
2010	2010	96.925
2011	2011	96.342
2012	2012	95.625
2013	2013	95.367
2014	2014	95.625
2015	2015	95.825
2016	2016	95.208
2017	2017	93.725
2018	2018	93.075
2019	2019	93.167
2020	2020	93.658
2021	2021	94.333
2022	2022	98.592
2023	2023	101.235
SPOT	SPOT	101.168

OFFICE EQUIP **OFFICE FURNITURE AND EQUIPMENT**

Series Id: PCU3372--3372--
Series Tit PPI industry group data for Office furniture (including fixtures) mfg, not seasonally adjusted
Industry: Office furniture (including fixtures) mfg
Product: Office furniture (including fixtures) mfg
Base Dat 200312

Download:

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2003												100
2004	99.7	101.3	101.6	102.9	105.2	105.6	105.8	107.1	107	108	108.4	109.1
2005	109.6	110.1	109.8	110.5	111.6	111.8	112.2	111.8	112.4	113	112.2	112.5
2006	112.6	112.6	112.8	112.5	113.6	113.7	114.3	114.3	114.6	114.8	115.1	114.9
2007	116.1	116.7	116.4	116.8	116.9	116.7	116.4	116.5	116.4	116.6	117.4	117.2
2008	117.5	117.7	117.6	119.3	119.3	120.6	121.8	123	123.7	124.9	124.5	124.8
2009	125	125	124.9	124.5	124.1	124.1	124.1	124.2	124.9	125	125	124.7
2010	124.6	124.2	124.7	126	125.5	126	126.4	126.1	126.1	126	126.2	125.9
2011	126.9	127.8	128.5	128.7	128.7	128.8	129.6	129.1	129.2	129.4	129.8	130.3
2012	131	131.6	130.9	131.2	131.2	130.9	131.3	131.6	131.7	132.3	131.8	130.9
2013	131.7	130.8	130.6	131.6	132.4	132.3	132.4	132.5	133.2	133.1	133.3	132.6
2014	133.6	133.6	133.9	133.9	135.6	136.3	137	137.2	137.2	137.1	135.8	136.2
2015	136.7	136.5	136.4	136.4	136.2	136.7	136.7	136.8	137.1	136.9	136.8	136.7
2016	137.3	137.1	137	136.8	136.7	136.8	137	138	137.6	136.8	137.2	137.5
2017	137.5	139	138.5	138.9	139.4	138.9	139.9	140.1	140.3	139.6	139.9	140.4
2018	141	141.3	141.4	142.6	143.5	146	145.1	146.1	147.5	148	148.5	149.7
2019	150.1	149.6	149.8	149.1	151.1	150.9	152.1	151.8	151.9	152.2	152.4	152.8
2020	152.5	153.6	155.3	155.1	155.6	154.8	156	154.7	155.9	156	155.4	156
2021	156.5	158.9	159.7	161.7	164.4	168.6	169.426	168.977	171.921	172.699	173.241	174.243
2022	177.734	180.764	184.071	183.87	185.553	189.763	188.687	190.543	192.447	193.169	195.886	197.865
2023	196.379	197.567	198.58	197.898	199.108	198.587	200.17	199.482	199.69	199.817	00.718(P)	98.919(P)
2024	00.545(P)	02.200(P)										
P : Preliminary. All indexes are subject to monthly revisions up to four months after original publication.												

COMPUTER **COMPUTERS AND PRINTERS**

Series Id: PCU334118334118
Series Tit PPI industry data for Computer terminal and other computer peripheral equipment mfg, not seasonally adjusted
Industry: Computer terminal and other computer peripheral equipment mfg
Product: Computer terminal and other computer peripheral equipment mfg
Base Dat 199312

Download:

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1993												100
1994	98.5	98	99	97.6	97.5	97.7	97.4	97.5	97.3	97.2	97.5	97.7
1995	97.1	96.2	95.8	96.1	95.8	96	95.6	95.2	95.2	95.4	95.1	95
1996	93.7	94	94.1	94	93.6	93.9	93	93	92.7	91.9	91.9	91.9
1997	91.4	91.3	91.4	91.1	91.1	90.5	90.2	90.3	89.8	89.8	89.8	89.7
1998	89.1	89	86.5	84.2	84.2	84	83.9	83.8	83.7	82.9	83	81.5
1999	80.7	80.7	80.2	80.1	80.1	80.1	80	79.8	79.9	79.9	79.9	79.6
2000	79.4	79.5	79.1	79	78.9	78.6	78.7	78.5	78.5	78.7	78.6	78.6
2001	78.7	78.4	78.4	78.3	78.3	78.3	78.1	77.8	78.5	78.4	78.4	78.3
2002	78.3	78.2	78.2	78.8	78.8	78.8	78.9	78.9	78.7	78.7	78.6	78.6
2003	78.5	78.6	78.6	78.5	78.5	78.5	78.5	78.1	77.9	77.1	77.1	77.1
2004	77.1	77.1	77.3	77.4	77.4	76.9	76.9	76.7	76.8	76.6	76.6	77
2005	76.7	76.6	76.6	76.6	76.6	76.6	76.6	76.6	76.6	76.6	76.6	76.5
2006	76.6	76.6	76.6	76.1	76.1	76	76	75.9	75.9	75.9	75.9	75.9
2007	75.6	75.6	75.6	76	75.8	75.8	75.8	75.2	75.2	75	74.7	74.7
2008	74.8	74.8	74.4	74.2	74.2	74.2	74	73.9	73.9	73.9	73.9	74.1

2009	74.3	74.6	74.6	74.7	74.6	74.6	74.6	74.6	74.6	74.8	73.3	73.2
2010	73.2	73.1	73.9	73.2	73	73	72.6	72.2	72.2	72.1	72.1	72.1
2011	72.1	72.1	72.1	72.8	72.8	72.9	72.9	72.9	72.9	72.9	73.1	73.3
2012	73.5	73.5	73.5	73.5	73.3	73.1	73.2	73.2	73.1	73.4	73.3	73.4
2013	73.6	74.2	74.3	74.5	74.6	74.6	74.6	74.6	74.5	74.5	75.3	75.6
2014	75.6	75.6	75.6	76.1	76.1	76.1	76.3	76.7	76.7	76.6	76.6	76.6
2015	77.1	71.2	71.2	70.7	70.6	70.7	70.7	70.3	70.2	70.2	70.2	70.2
2016	70.6	70.7	63.4	64	63.9	63.9	63.5	63.5	63.5	63.7	63.7	63.7
2017	63.7	64	64	66.5	66.5	66.5	66.5	66.5	66.5	66.8	66.8	66.7
2018	66.7	66.7	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.7	66.8
2019	65.7	65.7	65.7	65.7	63.5	63.5	63.5	63.1	63.1	63.1	63.1	63.2
2020	62	62	62.1	62.1	62.1	62.1	62.1	62.1	62.1	62.1	62.1	62.1
2021	62.1	62.1	62.1	62.1	62.1	62.7	62.303	61.888	61.857	61.857	62.095	62.075
2022	65.058	65.171	65.171	65.198	65.212	65.241	62.608	62.575	62.622	62.662	62.563	62.663
2023	64.702	64.698	64.69	62.904	62.907	62.909	62.997	63.243	63.243	63.246	63.247(P)	63.246(P)
2024	63.257(P)	63.241(P)										
P : Preliminary. All indexes are subject to monthly revisions up to four months after original publication.												

TRANSPORTATION EQUIPMENT **TRANSPORTATION EQUIPMENT**

Series Id: PCU336110336110
Series Tit PPI industry data for Automobile, light truck and utility vehicle mfg, not seasonally adjusted
Industry: Automobile, light truck and utility vehicle mfg
Product: Automobile, light truck and utility vehicle mfg
Base Dat 198206

Download:

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1975												62.9
1976	63	62.9	63	63.1	62.9	63	63	63.3	63.4	66.9	66.9	66.9
1977	66.8	66.8	66.9	67.1	67.2	67.3	67.3	67.4	67.4	71.4	71.3	71.4
1978	71.4	71.4	71.4	71.4	72.5	72.7	72.5	72.5	72.5	75.4	75.4	75.6
1979	76.7	76.9	77	78.3	78.4	78.5	78.7	76.8	77	81.9	81.8	82
1980	83.5	82.8	82.9	85.2	84.6	84.6	86.3	86.7	82.7	90.9	91	90.6
1981	91.4	91.6	90.7	93.3	94.1	94.5	94.6	94.4	90.2	99.7	99.8	100.1
1982	100.5	97.5	97.5	97.4	98.8	100	100.1	100.4	94.9	102.5	102.5	102.7
1983	102.2	101.8	101.4	101.6	101.7	101.8	102	102.3	97.8	104.2	104.2	104.3
1984	104.5	104.5	104.6	104.9	104.6	104.4	104.7	104.4	101	106.1	106.3	105.5
1985	106.7	106.8	106.5	106.5	107	107.3	107.3	107.2	100.2	110.4	110.4	110.2
1986	109	109.3	108.7	110.3	110	110.2	110.3	109.7	105.6	116.9	116.7	115.4
1987	115.3	112.6	111.9	113.7	112.9	112.5	112.4	111.4	108.4	116.5	115.2	112.8
1988	113	113	112.5	112.6	113	113.1	113.2	113.3	110.2	119.5	118.1	117.9
1989	117.8	118.1	116.4	115.4	116.6	116.9	114.7	114.6	113.3	122.5	121.2	120.8
1990	118.4	118.5	118	117.8	117.3	119	119.2	118.2	117.2	125	124.8	124.8
1991	125.1	125.9	125.5	124.4	123.2	122.9	122.8	122.6	120.3	131	130.3	129.5
1992	129.2	129	129.3	129.2	128.9	128.3	128.4	127.5	123.5	132.1	132.1	131.8
1993	132.1	132.9	133	132.9	132.6	132.8	132.9	132.6	128	135.7	136.2	136.3
1994	137.3	137.5	137.4	137.4	138.3	138.1	138.2	138.2	133.9	140	139.3	139.8
1995	140.1	139.9	139.3	139.1	138.7	137.8	137.7	137.2	132.9	141.7	142.4	142.4
1996	141.2	141.1	141.1	140.5	140.6	140.7	139.5	139.2	135.6	142.2	141.9	141.6
1997	141.7	141.5	141.2	140.3	138.4	138	135.9	135.9	133.7	140.6	139.4	137.8
1998	137.8	138	137.8	137.2	135.4	134.3	134.8	133.9	132.7	140.6	140.4	139.2
1999	138.2	138.7	137.7	138	137.2	136	134.7	134.4	133.4	142.1	140.8	140.5
2000	139.9	139.4	139	138.9	138.9	137.4	136.8	135.8	135.5	141.2	141.3	141.1
2001	140.3	137.7	138.1	138.9	136.9	135.9	136.5	136	135.8	138.3	137.8	138.3
2002	136.8	137.7	136.4	136	134.9	134.4	131.3	130.3	130.4	139	136.5	135
2003	135.7	135.8	138.5	134	133.6	132	131.6	132	130.5	140.7	139	137.6
2004	137.4	136.8	137.1	135.9	136.2	136.2	132.8	132.4	131.5	142	139.9	139.5
2005	139.8	137.4	136.8	136.5	135.8	132.6	132.8	131.7	131.9	137.8	134.8	132.9
2006	133.7	133.7	133.4	132.3	132	130.6	123.7	125.7	126.5	129.4	135	133.8
2007	132.8	132.5	131.9	130.5	130.1	129.8	129.2	128.2	126.6	134.1	134.8	132.9
2008	133.6	133.5	132.1	133.1	132.2	129.5	128.2	129.1	128.7	139.4	137.7	137.6
2009	137	136.8	136	136.7	136.1	137.9	134.6	136.1	133.8	138.3	139.5	138.1

2010	139.3	139	137.8	137.2	137.3	135.4	134.8	135	134.5	137.7	137	136.4
2011	137	137	136.7	137.4	136.7	136.9	136.7	136.5	135.7	140.6	140.7	140.3
2012	141	140.4	140.3	140.6	139.7	140.1	140.9	140.8	139.6	143.9	144.1	143.6
2013	143.4	143.3	142.6	142.4	141.7	141.3	140.7	140.4	140.2	144.8	145.6	146.4
2014	146.8	146.6	145.5	145.2	144.4	143.8	143.6	143.4	142.6	148	147.8	146.3
2015	147.8	149.4	149.2	148.7	148.5	148.1	148.5	147.4	147.2	150.7	150.6	150.5
2016	149.9	150.2	149.8	149.6	149.7	149.8	148.5	147.7	147.6	152.7	152.4	153.4
2017	152.6	152.3	152.9	152.8	151.2	151.2	150.1	149.8	149.8	153.5	154.3	154.3
2018	153.3	152.9	152.9	152.5	152.5	152.7	152.2	152.1	152.4	155.3	155.2	155
2019	154.8	154.5	153.7	153.4	153.2	153	152.6	152	151.7	154.6	155.1	154.5
2020	152.9	153.6	152	153	152.4	152	152.1	152.3	152.3	154.3	154.9	155.5
2021	156	155.8	155.4	155.7	156.7	157.5	157.86	158.19	158.147	159.507	159.73	159.847
2022	160.201	161.186	161.19	162.807	163.481	164.007	164.545	164.812	164.878	166.89	167.079	167.712
2023	168.284	168.284	167.938	167.559	167.456							
P : Preliminary. All indexes are subject to monthly revisions up to four months after original publication.												
			167.938	167.559	167.456(P)	167.098(P)	67.343(P)	67.280(P)				

TOOLS **handtools** **TOOLS, SHOP AND GARAGE EQUIPMENT**

Series Id: PCU333991333991
Series Tit PPI industry data for Power-driven handtool mfg, not seasonally adjusted
Industry: Power-driven handtool mfg
Product: Power-driven handtool mfg
Base Dat 198012

Download:

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1976												72.5
1977	73.6	74.4	74.5	74.9	75.1	75.4	75.9	76.1	76.2	76.4	76.9	77
1978	78.8	79.1	79.4	79.7	79.9	80.1	80.2	80.7	81	82.2	82.7	82.9
1979	83.7	84.3	84.8	85.3	85.4	86.1	86.4	87.2	87.3	88.5	89	90.2
1980	91.6	91.8	92.3	93.6	95.2	95.1	96.8	97.5	98.1	99	99.1	100
1981	103.4	105.1	105.3	106.1	106.6	106.6	107.4	107.6	107.8	108.4	108.4	108.8
1982	111.2	111.1	111.6	112.2	113.3	113.3	114.9	115	114.7	115	114.8	114.8
1983	115.6	115.7	115.7	116.7	116.7	116.7	117.4	116.7	116.8	117.1	117	119.2
1984	118	118.9	118	118.3	118	117	119.1	119.2	119.7	120.3	120	120.2
1985	121.2	122.3	122.4	122.4	122.3	122.4	123.2	123.2	122.6	122.8	123	123.2
1986	123.1	123.1	124.2	124.2	124.2	124.7	124.4	124.9	125.1	125.7	125.7	125.8
1987	126.7	126.7	126.7	126.2	126	126	125.7	125.9	126	126.4	126.6	126.8
1988	128.3	128.5	128.6	129.2	129.3	129.3	129.4	129.6	129.6	129.7	130.9	133.2
1989	134.2	134.3	134.3	134	134	134	135.2	135.4	135.4	135.4	135.7	136.8
1990	138	138.3	138.3	138.7	138.9	139.2	139.6	139.6	139.6	139.7	139.8	140.1
1991	142.8	142.8	142.8	143.5	143.2	142.8	143.2	143.1	143.1	143.2	143.2	143.3
1992	143.7	144.4	144.4	144.7	144.8	144.8	144.8	144.8	144.8	144.8	144.8	144.9
1993	147.1	147.4	147.4	147.5	147.5	147.5	147.6	147.6	147.7	147.6	147.7	147.1
1994	150.1	150.6	153	153	153.5	156.2	156.4	157.1	156.7	156.7	156.6	156.8
1995	158.2	162.5	163.4	162.7	162.6	162	161.9	162.3	162.1	162.1	161.9	161.8
1996	164.5	165	164.5	164.6	164.2	164.3	168.6	168.7	166.9	166.7	166.7	164.5
1997	170.1	168.5	167.9	169	169.3	168.9	168.9	169.5	168.4	169.3	164.1	166.5
1998	168.2	168	169	168.4	167.3	166.9	167.9	168.3	169.1	169.2	168.3	169.1
1999	168.2	167.8	168.2	168	168.1	166.6	166.9	167.6	167.6	169.6	168.6	168.9
2000	168.4	169	167.5	168.4	169.8	170.2	169.9	169.2	169.2	169.2	169.3	169.6
2001	170.4	170.3	170.3	172	173	173	172.9	173	172.2	172.2	172.2	172.2
2002	173.3	173.2	173.2	173.1	173.1	173.1	173.1	172.3	172.3	172.3	172.3	172.3
2003	172.9	173.4	173.4	173.4	173.3	173.3	172.9	172.9	172.9	173.4	173.4	173.4
2004	173.7	173.8	173.8	173.6	173.8	174.8	174.8	175.2	175.2	175.2	175.2	175.2
2005	176.6	176.5	176.2	175.8	176	176.1	176	176.1	176.1	176.1	176.1	176
2006	175.8	175.8	175.3	175.4	174.5	174.5	174.6	174.6	174.3	175.8	176	176
2007	176	176.4	176.4	176.4	176.5	176.5	175	175.9	175.9	175.9	177.1	177.2
2008	176.1	176.3	178.2	178.4	178.9	179	180.8	180.5	179.6	179.7	179.7	180.5
2009	179.6	180.4	180.4	180.5	180.5	179.9	179.9	179.9	179.9	179.9	179.9	179.9
2010	180	180	178.1	178.6	178.7	178.4	178.4	178.3	178.7	178.4	178.4	178.4
2011	178.6	178.9	179.2	179.3	179.8	179.8	179.8	179.7	179.8	179.9	180	182.6

2012	183.4	183.4	184.7	184.7	184.3	184.3	184.3	184.7	184.8	184.8	184.8	185.1
2013	186.2	185.2	185.2	185.2	185.2	185.2	185.2	185.2	185.3	186.7	186.7	187.1
2014	187.2	188	188	188.5	188.5	188.5	188.5	188.5	188.5	188.5	188.5	189.3
2015	190.1	190.7	190.9	192.7	192.7	192.7	192.7	192.7	192.7	192.7	192.7	195.3
2016	196.1	196.1	196.8	196.8	196.8	196.8	196.8	196.8	196.8	196.8	196.8	196.8
2017	197.7	200.5	200.5	199.4	199.4	199.4	199.4	199.4	199.4	199.4	199.4	201.2
2018	203.9	203.6	203.6	203.3	203.3	203.3	203.3	203.3	203.3	203.3	203.3	204.7
2019	206.3	206.4	206.4	206.5	206.5	206.5	206.8	206.8	206.8	206.8	206.8	206.8
2020	209	209	209	209.2	209.2	209.2	209.2	209.2	209.2	209.2	209.2	209.2
2021	217.8	217.9	217.9	218.1	218.1	218.6	220.244	218.914	218.914	231.458	231.572	232.29
2022	237.595	237.595	234.393	244.929	245.022	245.024	245.06	245.06	245.06	253.912	253.914	253.914
2023	256.104	256.104	256.193	256.262	272.183	272.183	272.183	272.183	272.183	272.214	72.214(P)	72.214(P)
2024	70.432(P)	70.447(P)										

SECURITY **CAMERA AND RELATED EQUIPMENT**

Series Id: PCU3343--3343--
Series Tit PPI industry group data for Audio & video equipment mfg, not seasonally adjusted
Industry: Audio & video equipment mfg
Product: Audio & video equipment mfg
Base Dat 200312

Download:

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2003												100
2004	99.9	100.6	99.8	98.7	98.7	98.3	97.3	97.1	96.8	96.6	96.6	96.7
2005	96.8	96.8	96.4	96	96.2	96.2	96.1	96.2	94.1	94.1	94.2	94.2
2006	95.5	95.5	95.4	95.4	93.4	93.1	92.5	92.5	92.5	92.8	92.8	92.8
2007	92.8	92.6	92.6	92.6	92.6	92.6	91.6	88.5	88.5	88.6	88.6	88.6
2008	88.6	88.6	88.9	88.8	88.8	88.9	90.6	90.6	90.9	89.7	89.3	88.5
2009	88.7	88	87.4	86.3	85.3	84.3	84.2	84.2	84.3	84.3	84.3	84.3
2010	84.4	84.4	84.4	84.4	84.4	84.3	84.3	84.3	84.3	84.5	84.5	84.2
2011	83.2	83.7	84.1	83.5	83.5	83.5	83.9	84.7	84.7	85	85.1	85
2012	84.4	84.9	84.9	84.3	84.2	84.2	84.3	84.1	84.1	84.1	84.1	84.1
2013	84.7	82.3	82.4	82.4	82.2	82.4	82.5	82.5	82.4	82.4	82.4	82.4
2014	82.5	82.6	82.6	82.7	82.7	82.7	82.7	82.8	82.8	82.8	82.8	82.9
2015	82.9	83	83	82.9	82.9	82.9	82.9	83	82.8	82.8	82.8	82.8
2016	82.8	82.9	82.9	83	83	83.1	83.1	83.2	83.2	83.2	83.2	83.2
2017	83.2	83.2	83.1	83.2	83.3	83.2	83.1	82.9	83	83	82.9	82.9
2018	82.9	82.9	83.2	82.8	82.7	82.7	82.8	82.7	82.5	82.4	82.6	82.6
2019	82.9	83	83	82.9	83.4	83.2	83.2	83.4	84.5	85.2	85.3	85.2
2020	85.8	85.8	85.9	85.7	85.7	85.7	86	86	86	86	86	86
2021	86	86	86	86	86.5	87.4	89.774	91.945	91.945	92.885	93.917	94.023
2022	95.075	95.811	97.101	97.117	97.635	97.98	98.134	98.134	99.308	99.461	99.428	99.428
2023	99.799	100.568	100.568	100.568	100.624	100.624	100.624	100.624	100.624	100.624	00.791(P)	00.791(P)
2024	00.797(P)	00.797(P)										
P : Preliminary. All indexes are subject to monthly revisions up to four months after original publication.												

LABORATORY EQUIPMENT

Series Id: PCU334516334516
Series Tit PPI industry data for Analytical laboratory instrument mfg, not seasonally adjusted
Industry: Analytical laboratory instrument mfg
Product: Analytical laboratory instrument mfg
Base Dat 198512

Download:

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1985												100
1986	100.1	99.8	99.5	99.4	99.5	99.7	99.9	100	100.3	100.3	100.5	100.6

1987	101.2	101.3	101.3	101.3	101.4	99.7	99.9	99.9	100.7	100.8	100.7	101.4
1988	102	103.1	104.6	102.9	103	103	103.2	103.4	103.5	103.2	103.4	103.6
1989	104.8	105.1	105.1	105.5	105.3	105.6	106	106.1	105.9	106	106	107.5
1990	108.6	107.9	108.6	108.8	109.1	107.6	107.5	106.6	106.5	106.5	106.9	107.2
1991	108.9	108.9	108.9	109	109	109.1	108.8	108.9	108.7	108.5	108.7	109
1992	109.9	109.1	110	109.7	110.1	110.7	111.6	111.5	111.9	111.9	112.2	111.8
1993	112.2	112.5	112.1	112.2	112.1	112	112.1	112.1	112	112.3	112.4	112.3
1994	112.8	112.6	112.7	112.8	113	113.2	112.8	113.1	113.3	113.5	113.5	113.6
1995	113.5	113.8	114.1	114.3	114.3	114.6	115.2	115	115	115.4	115.4	114.7
1996	115.4	115.9	115.5	115.3	115.4	115.8	115.9	116	115.8	116.4	116.5	116.5
1997	116.5	117.1	117.3	117.1	117.6	117.4	117.4	118.1	118.2	117.8	117.8	117.8
1998	118.6	118.5	118.5	118.5	118.5	118.3	118.3	118.4	118.3	118.2	117.9	117.9
1999	118.7	118.6	117	116.5	116.4	116.3	116.3	116.3	116.3	116.8	116.8	117.2
2000	118.4	118.5	118.6	118.8	118.7	118.6	118.7	118.7	120.4	120.4	120.4	120.4
2001	120.5	121.1	121.3	121.3	121.3	121.7	121.7	121.7	121.7	121.8	122.4	122.5
2002	123.6	123.6	123.6	123.8	124.1	124.2	124.1	124.1	124.1	123.8	124.6	124.6
2003	125.7	125.8	125.8	126.2	126.2	126.3	126.4	126.4	126.4	126.4	126.4	126.5
2004	127.7	127.9	127.9	127.9	128	128.2	128.2	128.3	128.6	128.6	128.6	128.7
2005	129.3	129.5	129.4	129.5	129.3	129.3	129.6	129.6	129.6	130.3	130.4	130.4
2006	131.4	132.1	132.1	132	132.1	132.3	132.3	132.3	132.4	132.5	132.5	132.5
2007	133.2	132.5	132.4	132.4	132.9	132.9	133	133	133.4	134	134	134
2008	135.2	135.3	135.5	135.7	135.6	135.8	135.8	136.1	137.3	137.4	137.5	137.5
2009	137.5	137.6	137.9	138.2	138.2	138	138	138	137.7	138	138.3	
2010	138.6	138.6	138.6	138.6	138.7	138.7	138.6	138.6	138.7	138.8	139	139
2011	139.2	139.4	139.3	139.4	139.4	139.8	139.8	139.8	139.8	139.9	139.8	139.9
2012	140.2	140.3	140.3	140.3	140.3	140.3	140.3	140.4	140.4	140.4	140.4	141
2013	141.8	142.1	142.1	142.1	142.1	142.2	142.3	142.5	142.5	142.5	142.4	142.5
2014	143.3	143.4	144	144.2	144.2	144.3	144.5	144.7	144.7	145.2	145.2	145.3
2015	146.7	146.7	146.7	146.7	147	147	147	147	146.7	147.5	147.5	147.5
2016	148.6	149.2	149.1	149.4	149.4	149.4	149.5	149.5	149.5	149.5	149.5	149.7
2017	152.4	153	153.5	153.5	153.5	153.5	153.1	153.3	153.3	153.7	153.7	153.7
2018	155.1	155.1	155	155.2	155.2	155.4	155.2	155.2	155.2	155.2	155.2	155.2
2019	158.8	158.8	159.3	159.3	159.3	159.3	159.3	159.4	159.4	159.4	159.4	159.4
2020	161.3	161.3	161.3	161.3	161.4	161.4	161.4	161.5	161.5	161.5	161.5	161.5
2021	163.9	163.9	163.9	163.8	163.8	163.8	164.504	164.504	164.504	165.572	165.766	165.64
2022	168.224	172.306	172.102	175.349	176.226	176.601	176.47	176.624	177.247	177.504	177.688	178.086
2023	181.774	184.508	184.916	185.264	186.813							
P : Preliminary. All indexes are subject to monthly revisions up to four months after original publication.												
			184.916	185.264	186.813(P)	186.984(P)	86.300(P)	86.238(P)				

POWER OPERATED EQUIPMENT

Series Id: PCU333112333112
Series Tit PPI industry data for Lawn and garden equipment mfg, not seasonally adjusted
Industry: Lawn and garden equipment mfg
Product: Lawn and garden equipment mfg
Base Dat 198212

Download:

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1982												100
1983	101.4	101.5	102.2	102.5	102.6	102.7	101.9	101	102.3	102.6	103	101.1
1984	101.3	101.6	101.7	102.1	102.6	102.4	102.5	103.3	102.6	102.8	103	103
1985	103.2	103	103.1	103.4	103.5	103.7	103.8	103.7	103.3	103.5	103.7	103.6
1986	104.1	104.2	104.2	104.8	104.9	105.1	105.5	105.5	104.5	104.6	104.6	104.5
1987	104.5	104.6	104.8	105.4	105.5	105.8	106.1	106.2	105.9	105.7	106.5	106.5
1988	106.8	106.6	106.8	106.8	106.9	107	106.9	108.7	109.6	110.4	110.6	111.2
1989	111.4	111.4	111.8	111.8	112.1	112.6	112.6	114.3	115	115.3	115.5	115.5
1990	115.7	115.7	115.9	116	116	116	116.2	117.1	117.4	117.8	117.6	117.7
1991	118.2	118.2	118.4	118.6	119.1	118.7	118.8	119	119	119.2	119.2	119.2
1992	119.3	119.3	119.7	119.7	119.7	119.5	119.3	119.8	120.5	119.7	119.8	119.8
1993	120.1	120.1	120.1	120.2	120.2	120.1	120	120.8	121.3	121.2	121.4	121.7
1994	121.6	122	122.1	122.1	122.5	122.5	122.5	122.8	123.1	123.3	123.3	123.5

1995	123.6	123.6	123.6	123.8	123.8	123.8	124	124	124.3	124.6	125.4	125.4
1996	125.7	125.8	126	125.5	125.7	125.7	125.8	125.8	125.9	125.9	125.9	126.7
1997	127.5	127.3	126.3	126.3	126.3	126.3	125.8	126.1	124.9	124.9	125	125.1
1998	125.1	125.2	125.4	125.5	125.5	125.5	124	124.2	124.5	124.6	124.6	124.6
1999	124.7	124.7	124.7	124.7	124.6	124.3	124.3	124.4	124.5	124.4	124.4	124.5
2000	124.7	124.7	124.7	124.5	124.2	124.2	124.3	124.3	125	125.1	125	125
2001	125.3	125.3	125.2	125	125.1	125.1	125	125.2	125.1	125.1	125.2	125.4
2002	126	125.6	125.9	126	126	126	125.9	125.9	125.9	125.9	126	126
2003	126	125.9	125.9	125.9	125.9	126	126.3	125.2	125.2	125.7	126.3	126.3
2004	126.2	126.1	126.4	126.3	126.3	126.6	126.7	126.9	127	126.6	127.1	126.7
2005	126.7	126.9	126.9	126.7	127	126.3	126.3	126.4	126.5	126.7	126.5	126.5
2006	126.8	126.9	127.1	127.2	127.2	127.2	127.9	128	127.9	128.4	128.4	128.5
2007	129.5	129.1	129.1	129.1	129.1	128.8	128.8	128.8	129.2	130	131.6	131.6
2008	132.2	132.2	132.2	132	132	132.1	132.8	132.6	132.8	132.9	134.5	134.7
2009	134.6	134.7	135.2	135.2	134.5	134.4	134.5	134.4	134.4	134.5	134.3	134.3
2010	134.6	134.5	134.5	134.4	134.4	134.3	134.4	134.4	133.8	134.2	134.2	132.2
2011	132.2	132.3	132.3	132.4	132.9	133.4	133.4	133.4	133.5	134.2	134.3	134.3
2012	136.3	136.3	136.3	134.6	134.9	135	135.1	135.2	135.2	135.4	135.4	135.4
2013	135.3	135.3	135.3	135.3	135.2	135.2	135	135.1	136.2	136.2	136.2	136
2014	135.9	136	136.5	136.3	136.3	136.3	136.2	136.2	136.2	136.3	136.3	136.2
2015	136.4	136.4	136.4	136.3	136.3	136.3	136.3	136.3	136.3	136.3	136.4	136.4
2016	136.3	135.5	135.5	135.7	135.8	136.6	136.6	136.6	136.6	136.6	136.7	136.7
2017	136.7	136.7	136.7	136.7	136.7	136.7	136.7	136.7	136.7	136.8	136.9	136.9
2018	137.8	137.8	137.8	137.8	137.9	137.9	138.1	138.4	138.6	139.4	140.2	140.3
2019	140.2	140.1	140.1	140.1	140.6	140.5	140.2	140.2	140.2	140.8	141	141.5
2020	141.5	141.5	141.4	141.5	141.5	141.6	141.6	141.9	142	142.2	142.6	142.6
2021	142.7	142.9	143.1	143.4	144.3	144.8	146.118	146.802	147.146	148.367	149.056	150.494
2022	151.29	153.818	153.863	157.34	159.044	161.116	161.42	162.095	162.961	164.685	164.463	166.687
2023	167.074	167.068	166.862	167.212	166.733							
P : Preliminary. All indexes are subject to monthly revisions up to four months after original publication.												
			166.862	167.212	166.733(P)	166.702(P)	66.693(P)	66.732(P)				

COMMUNICATION EQUIPMENT

Series Id: PCU3342--3342--
Series Tit PPI industry group data for Communications equipment mfg, not seasonally adjusted
Industry: Communications equipment mfg
Product: Communications equipment mfg
Base Dat 198512

Download:

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1985												100
1986	100.7	100.7	101.1	101.1	101.3	101.3	102.5	102.2	102.8	102.9	102.9	102.9
1987	103.6	103.4	103.4	103.4	103.4	103	103.6	103.6	103.4	103.6	103.7	103.8
1988	104.3	104.3	103.3	103.5	103.7	103.2	103.8	103.8	103.9	104.1	104.3	104.3
1989	105	105	104.9	105.2	105.3	105.5	106.5	106.3	106.3	106.4	106.4	106.5
1990	107.6	107.2	107.1	107.2	107.2	107.3	107.6	107.5	107.6	107.7	107.8	107.9
1991	108	108	108.2	108.4	108.4	108.4	108.7	108.7	108.7	108.7	108.9	108.9
1992	109.4	109.5	109.7	109.7	109.7	109.8	109.6	109.8	109.8	109.9	109.9	110.1
1993	111	111.3	111.4	111.1	111.1	111.2	111.6	112	112	112.6	112.3	112.6
1994	113.3	113.5	113.8	113.7	113.7	113.4	113.4	113.2	113.2	113	112.9	112.8
1995	114	114	114.1	114.3	114.3	113.8	113.7	113.8	113.8	113.8	113.7	113.6
1996	114.6	114.7	114.7	114.8	114.7	114.7	114.9	115.1	115.1	115.3	115.6	115.6
1997	115.7	115.8	115.4	115.5	115.7	115.7	116	115.7	115.8	115.8	115.7	115.7
1998	115.9	115.8	115.5	115.1	114.7	114.7	114.9	114.8	114.8	114.8	114.7	114.1
1999	114.5	113.8	113.8	113.5	113.4	113.1	113.2	113.2	111.9	112.1	111.9	111.3
2000	111.4	110.9	110.7	110.4	110.1	110.1	110.2	110.2	110.3	110.2	110.2	110.2
2001	110.4	110.4	110.4	108.5	108.6	108.5	108.1	107.6	107.8	107.8	107.7	107.7
2002	107.5	106.6	106.5	105.7	105.6	105.3	104.3	104.5	104.5	103.6	103.5	102.8
2003	102.7	101.9	102.8	102.7	102.6	102.1	101	101.1	101.4	100.5	100.9	100.9
2004	100.7	98.6	98.6	98.5	98.6	98.2	97.9	98.3	97.9	97.3	97.9	97.8

2005	97.5	97.3	97.4	97.5	97.4	97.2	97.1	97	96.6	96.6	96.5	96.4
2006	95.7	96.1	95.9	96	96	96.1	95.8	96	96.1	95.8	95.8	95.3
2007	95.5	95.7	95.9	95.8	95.8	95.8	95.8	95.8	95.8	95.9	95.8	95.8
2008	96.2	96.9	96.8	96.9	97.2	97.1	97.3	97.3	97.3	97.2	97.4	97.4
2009	97.5	97.2	97.2	97.2	97.1	97.1	97.2	97.1	97.2	97.2	97.2	97.2
2010	97.2	97.1	97.1	96.9	96.8	96.7	97	96.9	96.8	96.8	96.9	96.9
2011	96.8	96.7	96.8	96.4	96.4	96.2	96.3	96.4	96.4	95.9	95.9	95.9
2012	96	96	96	96	96.1	96.1	96	95.9	95	94.8	94.8	94.8
2013	95	95.1	95.1	95.3	95.2	95.5	95.5	95.6	95.8	95.4	95.4	95.5
2014	95.5	95.7	95.7	95.7	95.6	95.7	95.7	95.4	95.6	95.7	95.5	95.7
2015	95.8	95.8	95.9	95.9	96.1	96.1	96	95.9	95.4	95.7	95.7	95.6
2016	95.5	95.7	95.6	95.7	95.6	95.4	95.3	95.4	95.2	94.5	94.7	93.9
2017	94.1	93.9	94.1	94	93.8	93.9	93.9	93.6	93.3	93.2	93.5	93.4
2018	93.3	93.4	93.2	93.1	93.1	93.1	93	93.1	92.9	92.9	92.9	92.9
2019	93.3	93	93	93	93	93	93.1	93.1	93.1	93.3	93.5	93.6
2020	93.7	93.6	93.8	93.6	93.7	93.6	93.8	93.7	93.8	93.4	93.6	93.6
2021	93.5	93.8	93.8	93.9	93.7	93.6	94.108	94.197	94.65	95.308	95.645	95.791
2022	96.311	97.127	97.247	97.75	98.173	98.138	98.988	99.116	99.322	99.519	100.694	100.713
2023	101.378	101.16	101.168	101.98	101.913	102.569	102.287	102.321	102.345	102.459	02.710(P)	02.701(P)
2024	03.504(P)	04.478(P)										

P : Preliminary. All indexes are subject to monthly revisions up to four months after original publication.

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Valuation Date
12/31/2020

Returns Reference – Start Year
EARLIEST YEAR

Returns Reference – End Year
2020

Returns Calculation - Mean
Arithmetic
Geometric

ERP Size Premium IRP CoE WACC Summary

	Firms			Portfolio		Size Premium	
Decile	Count	Min size ('000)	Max Size ('000)	Annual Return	Beta	S&P 500	Beta Adjusted
1 - Largest	199	$29,075,803	$1,966,078,882	11.06%	0.92	(0.75%)	

2	186	$13,178,743	$28,808,073	12.82%	1.04	1.01%
3	210	$6,743,361	$13,177,828	13.66%	1.11	1.85%
4	218	$3,861,858	$6,710,676	13.67%	1.13	1.86%
5	255	$2,445,693	$3,836,536	14.49%	1.17	2.68%
6	246	$1,591,865	$2,444,745	14.82%	1.18	3.01%
7	306	$911,586	$1,591,765	15.63%	1.26	3.82%
8	365	$451,955	$911,103	15.91%	1.31	4.10%
9	412	$190,019	$451,800	16.69%	1.34	4.88%
10 - Smallest	569	$2,194	$189,831	19.64%	1.40	7.83%
1 through 2	385	$13,178,743	$1,966,078,882	11.32%	0.94	(0.48%)
3 through 5	683	$2,445,693	$13,177,828	13.80%	1.13	1.99%
6 through 8	917	$451,955	$2,444,745	15.27%	1.23	3.46%
9 through 10	981	$2,194	$451,800	17.53%	1.35	5.72%
1 through 5	1,068	$2,445,693	$1,966,078,882	11.64%	0.96	(0.17%)
6 through 10	1,898	$2,194	$2,444,745	15.49%	1.24	3.68%

S&P 500 Annual Return for Period 1928 - 2020 : 11.81%

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KROLL

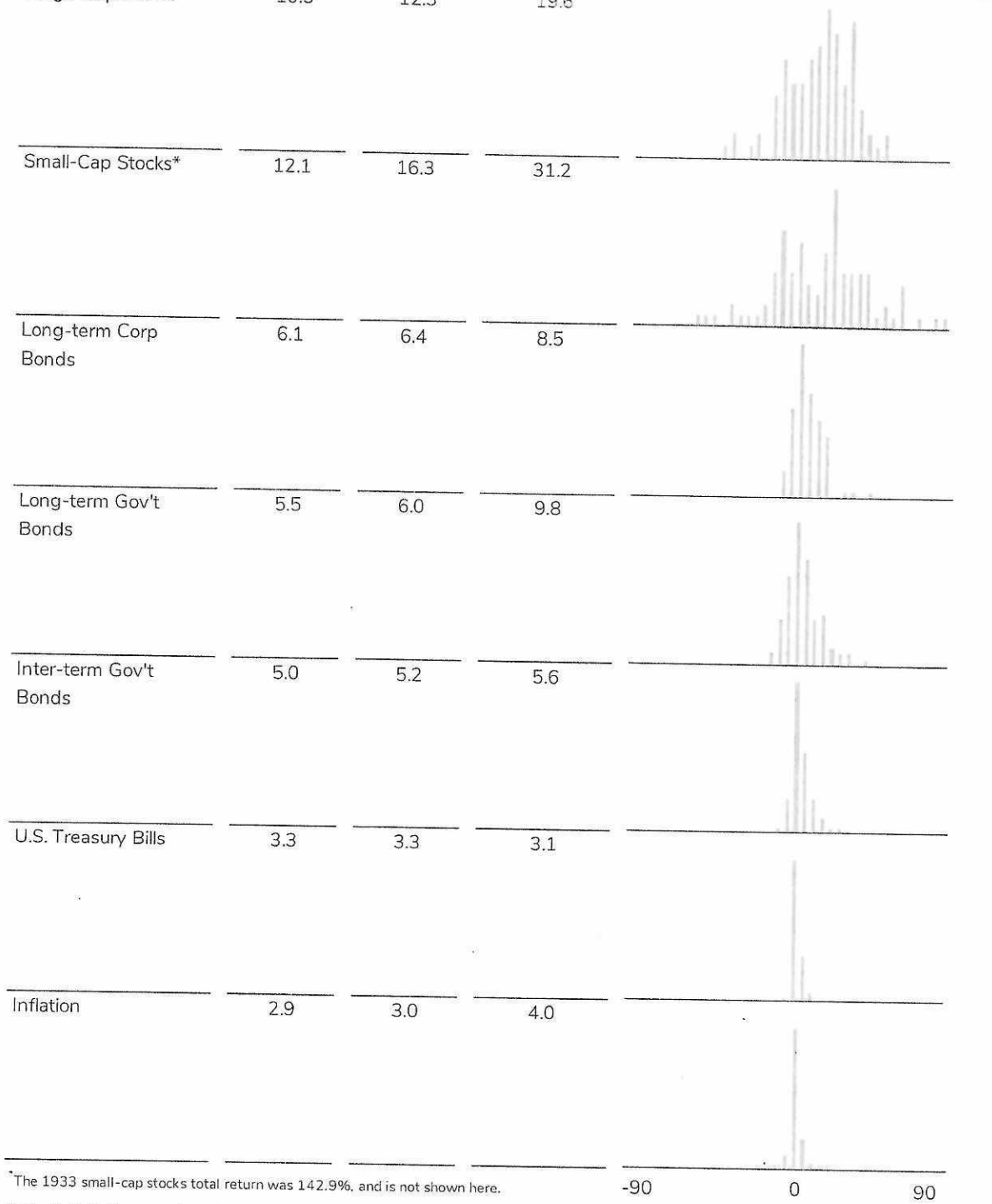
2022 SBBI® Yearbook

Stocks, Bonds, Bills, and Inflation®

U.S. Capital Markets Performance by
Asset Class 1926–2021

Exhibit 2.3: Basic Series, Summary Statistics of Annual Total Returns (%)
1926–2021

Series	Geometric Mean (%)	Arithmetic Mean (%)	Standard Deviation (%)	Distribution (%)
Large-Cap Stocks	10.5	12.3	19.6	
Small-Cap Stocks*	12.1	16.3	31.2	
Long-term Corp Bonds	6.1	6.4	8.5	
Long-term Gov't Bonds	5.5	6.0	9.8	
Inter-term Gov't Bonds	5.0	5.2	5.6	
U.S. Treasury Bills	3.3	3.3	3.1	
Inflation	2.9	3.0	4.0	



*The 1933 small-cap stocks total return was 142.9%, and is not shown here.

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Exhibit 6.8: Total Returns, Income Returns, and Capital Appreciation Returns of the SBBI® Asset Classes; Summary Statistics of Annual Returns (%)
1926–2021

	Geometric Mean (%)	Arithmetic Mean (%)	Standard Deviation (%)	Serial Correlation
Large-Cap Stocks				
Total Return	10.5	12.3	19.6	0.01
Income	3.9	3.9	1.6	0.92
Capital Appreciation	6.4	8.2	19.0	0.01
Small-Cap Stocks (TR)	12.1	16.3	31.2	0.05
Long-term Corp Bonds (TR)	6.1	6.4	8.5	0.01
Long-term Gov't Bonds				
Total Return	5.5	6.0	9.8	-0.16
Income	4.8	4.9	2.6	0.96
Capital Appreciation	0.5	0.9	8.9	-0.25
Inter-term Gov't Bonds				
Total Return	5.0	5.2	5.6	0.14
Income	4.3	4.3	2.9	0.96
Capital Appreciation	0.6	0.7	4.4	-0.17
U.S. Treasury Bills (TR)	3.3	3.3	3.1	0.92
Inflation	2.9	3.0	4.0	0.62

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In general, risk is rewarded by a higher return over the long term. For example, Exhibit 6.8 shows that over the 1926–2021 time horizon small-cap stocks were the riskiest asset class with a standard deviation of 31.2%, but also provided the greatest rewards to long-term investors, with an arithmetic mean annual return of 16.3%. Comparably, the risk (as measured by standard deviation) of large-cap stocks was significantly lower at 19.6%, and the reward (as measured by arithmetic average annual return) of large-cap stocks was correspondently lower at 12.3%.

U.S. Treasury bills, with a standard deviation of 3.1%, were nearly riskless and had the lowest arithmetic mean annual return at 3.3%.

Inflation-Adjusted Series Summary Statistics

Inflation-adjusted basic series summary statistics are presented in Exhibit 6.9. Note that the real rate of interest is close to zero (0.4%) on average. For the 96-year period, the geometric and arithmetic means are lower by the amount of inflation than those of the nominal series.

Note that this increased return comes at a price: risk (as measured by standard deviation) increased from 19.6% for large-cap stocks to 31.2% for small-cap stocks. The relationship between risk and return is a fundamental principle of finance. History tells us that small companies are riskier than large companies. Investors are compensated for taking on this additional risk by the higher returns provided by small companies.

Exhibit 7.1: Summary Statistics of Large-Cap Stocks and Small-Cap Stocks (%) 1926–2021

	Geometric Mean (%)	Arithmetic Mean (%)	Standard Deviation (%)
Large-Cap Stocks	10.5	12.3	19.6
Small-Cap Stocks	12.1	16.3	31.2

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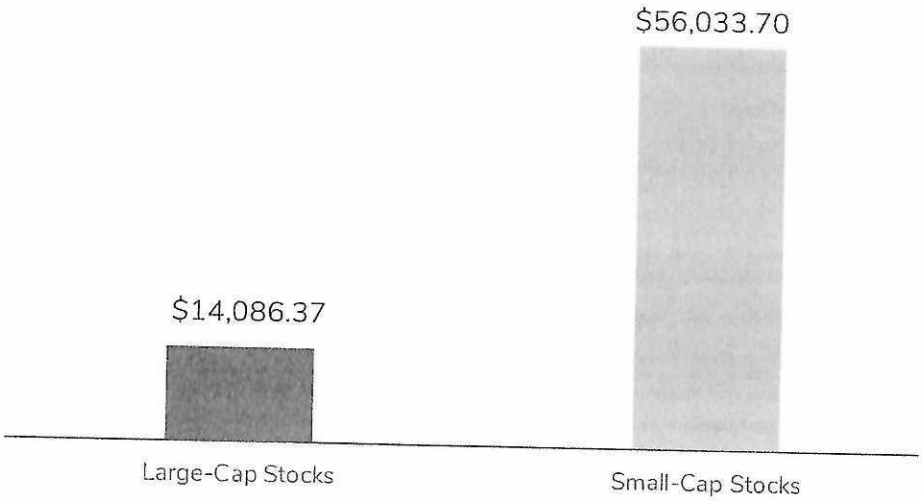
The differences in the performance of large-cap stocks and small-cap stocks can have important implications for investors. Exhibit 7.2 is a graphical depiction of the value of $1 invested at the end of 1925 in large-cap and small-cap stocks and held through December 31, 2021 (a total of 96 years).

Exhibit 7.2: The Value of $1 Invested in Large-Cap and Small-Cap Stocks, 1926–2021
Index (Year-end 1925 = $1.00)



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120 months (10-years), to 240 months (20-years) and finally to 360 months (30-years), small stocks increasingly outperform large stocks (55%, 66%, 88%, and 96% of the time, respectively).

This same pattern of increasing outperformance of small stocks as the holding period is increased can also be seen in the three "Post Banz" periods.

Long-term Returns in Excess of Systematic Risk

The capital asset pricing model, or CAPM, does not fully account for the higher returns of small-cap stocks. The textbook CAPM can be expressed as follows:

$$k_e = R_f + \beta \times (RP_m)$$

Where:

k_e	=	Cost of equity capital
R_f	=	Risk-free rate
β	=	Beta
RP_m	=	Equity risk premium (also referred as ERP)

According to the CAPM, the expected return on a security should consist of the riskless rate plus an additional return to compensate for the systematic risk of the security. The return in excess of the riskless rate is estimated in the context of the CAPM by multiplying the equity risk premium by beta. The equity risk premium is the return that compensates investors for taking on risk equal to the risk of the market as a whole (systematic risk). Beta measures the extent to which a security or portfolio is exposed to systematic risk.

The beta of each decile indicates the degree to which the decile's return moves with that of the overall market. A beta greater than one indicates that the security or portfolio has greater systematic risk than the market; according to the CAPM equation, investors are compensated for taking on this additional risk.

CAPM is an attempt to predict *future* returns. CAPM can be used to see how well it would have done predicting returns that we *already know* (i.e., historical returns; returns that have already occurred). This is called "back-testing". If what "actually happened" is greater than "what CAPM would have predicted", then CAPM fell short of explaining what actually happened.

Smaller companies tend to have returns that are not fully explained by their higher betas, so return in excess of that predicted by CAPM tends to *increase* as one moves from the largest companies to the smallest companies. This size related phenomenon prompted a revision to the CAPM to include a size premium. A size premium (as used in the CAPM equation) is thus a measure of "what actually happened" minus "what textbook CAPM predicted":

Size Premium = Actual Excess Return – Excess Return Predicted by CAPM

A size premium is a common adjustment that analysts make to the textbook CAPM when developing cost of equity capital estimates.[189] [190] This is sometimes referred to as the "modified" CAPM:

$$k_e = R_f + \beta \times (RP_m) + RPs$$

Where:

k_e	=	Cost of equity capital
R_f	=	Risk-free rate
β	=	Beta
RP_m	=	Equity risk premium (also referred as ERP)
RPs	=	Size Premium

The size effect is not without controversy, nor is this controversy something new. Traditionally, small companies are believed to have greater required rates of return than large companies because small companies are inherently riskier. It is not clear, however, whether this is due to size itself, or to other factors closely related to or correlated with size (e.g., liquidity).[191]

189 The CRSP Deciles Size Study and Risk Premium Report Study, both of which provide size premia and other risk premia based upon data licensed from the Center for Research in Security Prices (CRSP) at the University of Chicago Booth School of Business, are fully available in the Kroll Cost of Capital Navigator platform at kroll.com/costofcapitalnavigator (subscription required). CRSP® is a registered trademark and service mark of Center for Research in Security Prices, LLC and has been licensed for use by Kroll, LLC. The Kroll publications and services are not sponsored, sold or promoted by CRSP®, its affiliates or its parent company. To learn more about CRSP, visit www.crsp.org.

190 A detailed discussion of company size and return (and size premia) based upon CRSP deciles 1-10 and the 10th decile split (10a, 10b, 10w, 10x, 10y, and 10z) is available in the Resources Library of the Cost of Capital Navigator at kroll.com/costofcapitalnavigator. (subscription required).

191 For more information, see the Resources section of the Cost of Capital Navigator at kroll.com/costofcapitalnavigator. A comprehensive discussion of the size effect is in the Cost of Capital Navigator "U.S. Cost of Capital Module's" Resources Library.

Exhibit 10.8: Equity Risk Premium Calculated Using the S&P 500 and the Income Return on Three Government Bonds of Different Horizons (%)
1926–2021

	Long-horizon	Intermediate-horizon	Short-horizon
S&P 500	7.46	8.04	9.03

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The equity risk premium is calculated by subtracting the arithmetic mean of the government bond income return from the arithmetic mean of the stock market total return. Exhibit 10.9 demonstrates this calculation for the long-horizon equity risk premium, the intermediate-horizon equity risk premium, and the short-horizon equity risk premium.

Exhibit 10.9: Calculation of the Long-Horizon Equity Risk Premium, the Intermediate-Horizon Equity Risk Premium, and the Short-Horizon Equity Risk Premium (%)
1926–2021

	Arithmetic Annual Mean			
	S&P 500 (the "Market")	Risk-free Rate		Equity Risk Premium
S&P 500	12.33	4.87	=	7.46
Intermediate-horizon	12.33	4.29	=	8.04
Short-horizon	12.33	3.30	=	9.03

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The Market Benchmark and Firm Size

Although not restricted to the 500 largest companies, the S&P 500 is considered a large-cap index. The returns of the S&P 500 are market-cap-weighted. The larger companies in the index therefore receive the majority of the weight. If using a large-cap index to calculate the equity risk premium, an adjustment is usually needed to account for the different risk and return characteristics of small stocks. This was discussed in Chapter 7 on the size premium.

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EARLIEST YEAR (Y

Returns Reference – End Year
2020

Returns Calculation - Mean
Arithmetic
Geometric

ERP Size Premium IRP CoE WACC Summary

	Firms			Portfolio		Size Premium	
Decile	Count	Min size ('000)	Max Size ('000)	Annual Return	Beta	S&P 500	Beta Adjusted
1 - Largest	199	$29,075,803	$1,966,078,882	11.06%	0.92	(0.75%)	

2	186	$13,178,743	$28,808,073	12.82%	1.04	1.01%
3	210	$6,743,361	$13,177,828	13.66%	1.11	1.85%
4	218	$3,861,858	$6,710,676	13.67%	1.13	1.86%
5	255	$2,445,693	$3,836,536	14.49%	1.17	2.68%
6	246	$1,591,865	$2,444,745	14.82%	1.18	3.01%
7	306	$911,586	$1,591,765	15.63%	1.26	3.82%
8	365	$451,955	$911,103	15.91%	1.31	4.10%
9	412	$190,019	$451,800	16.69%	1.34	4.88%
10 - Smallest	569	$2,194	$189,831	19.64%	1.40	7.83%
1 through 2	385	$13,178,743	$1,966,078,882	11.32%	0.94	(0.48%)
3 through 5	683	$2,445,693	$13,177,828	13.80%	1.13	1.99%
6 through 8	917	$451,955	$2,444,745	15.27%	1.23	3.46%
9 through 10	981	$2,194	$451,800	17.53%	1.35	5.72%
1 through 5	1,068	$2,445,693	$1,966,078,882	11.64%	0.96	(0.17%)
6 through 10	1,898	$2,194	$2,444,745	15.49%	1.24	3.68%

S&P 500 Annual Return for Period 1928 - 2020 : 11.81%

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

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

3 MIN READ

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

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

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

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

ADVERTISEMENT

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

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

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

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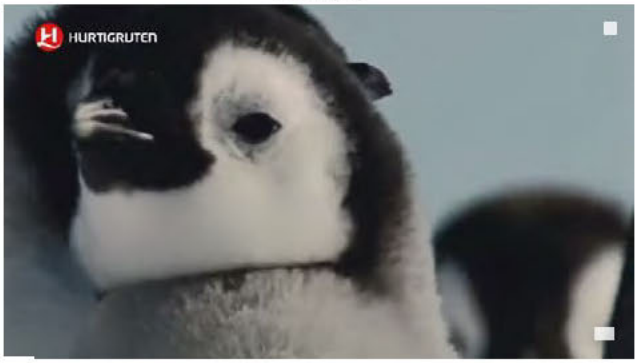

"We have converted from a stock-for-stock deal to a cash offer, which will resolve any further market distractions from the inferior proposals," SJW Chief Executive Eric Thornburg told Reuters, in reference to the actions by Eversource and CalWater.

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

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

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

RBS sounds alarm over Brexit

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

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

Our Standards: *The Thomson Reuters Trust Principles.*

MORE FROM REUTERS

Created by EDGAR Online, Inc.

CONNECTICUT WATER SERVICE INC / CT
BALANCE_SHEET2
Form Type: 10-K
Period End: Dec 31, 2017
Date Filed: Mar 15, 2018
Table Of Contents

CONNECTICUT WATER SERVICE, INC.

CONSOLIDATED BALANCE SHEETS

December 31, (in thousands, except share amounts)	2017	2016
ASSETS		
Utility Plant	$ 927,289	$ 777,860
Construction Work in Progress	11,761	33,748
	939,050	811,608
Accumulated Provision for Depreciation	(241,327)	(210,212)
Net Utility Plant	697,723	601,396
Other Property and Investments	10,662	9,071
Cash and Cash Equivalents	3,618	1,564
Accounts Receivable (Less Allowance, 2017 - $1,265; 2016 - $1,100)	14,965	13,024
Accrued Unbilled Revenues	8,481	8,171
Materials and Supplies, at Average Cost	1,593	1,536
Prepayments and Other Current Assets	7,021	5,069
Total Current Assets	35,678	29,364
Unrecovered Income Taxes - Regulatory Asset	66,631	93,264
Pension Benefits - Regulatory Asset	11,339	12,266
Post-Retirement Benefits Other Than Pension - Regulatory Asset	116	265
Goodwill	67,016	30,427
Deferred Charges and Other Costs	9,618	8,449
Total Regulatory and Other Long-Term Assets	154,720	144,671
Total Assets	$ 898,783	$ 784,502
CAPITALIZATION AND LIABILITIES		
Common Stockholders' Equity:		
Common Stock Without Par Value: Authorized - 25,000,000 Shares		
Issued and Outstanding:		
2017 - 12,065,016; 2016 - 11,248,458	$ 191,641	$ 145,739
Retained Earnings	102,417	91,213
Accumulated Other Comprehensive Loss	(428)	(924)
Common Stockholders' Equity	293,630	236,028
Preferred Stock	772	772
Long-Term Debt	253,367	197,047
Total Capitalization	547,769	433,847
Current Portion of Long-Term Debt	6,173	4,859
Interim Bank Loans Payable	19,281	32,953
Accounts Payable and Accrued Expenses	11,319	13,116
Accrued Interest	1,439	1,012
Current Portion of Refund to Customers - Regulatory Liability	64	855
Other Current Liabilities	3,262	2,330
Total Current Liabilities	41,538	55,125
Advances for Construction	20,024	19,127
Deferred Federal and State Income Taxes	33,579	50,558
Unfunded Future Income Taxes	58,384	90,977
Long-Term Compensation Arrangements	32,649	33,540
Unamortized Investment Tax Credits - Regulatory Liability	1,133	1,189
Excess Accumulated Deferred Income Tax - Regulatory Liability	30,937	4,373
Refund to Customers - Regulatory Liability	-	108
Other Long-Term Liabilities	1,241	701
Total Long-Term Liabilities	177,947	200,573
Contributions in Aid of Construction	131,529	94,957
Commitments and Contingencies	-	-
Total Capitalization and Liabilities	$ 898,783	$ 784,502

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CONNECTICUT WATER SERVICE INC / CT
INCOME_STATEMENT2
Form Type: 10-K
Period End: Dec 31, 2017
Date Filed: Mar 15, 2018

Table Of Contents

CONNECTICUT WATER SERVICE, INC.

CONSOLIDATED STATEMENTS OF INCOME

For the Years Ended December 31, (in thousands, except per share data)	2017	2016	2015
Operating Revenues	$ 107,054	$ 98,667	$ 96,041
Operating Expenses			
Operation and Maintenance	48,017	44,191	48,052
Depreciation	16,684	13,905	12,871
Income Taxes	(1,993)	2,570	(818)
Taxes Other Than Income Taxes	10,941	9,796	9,294
Total Operating Expenses	73,649	70,462	69,399
Net Operating Revenues	33,405	28,205	26,642
Other Utility Income, Net of Taxes	824	744	797
Total Utility Operating Income	34,229	28,949	27,439
Other Income (Deductions), Net of Taxes			
(Loss) Gain on Real Estate Transactions	33	(54)	349
Non-Water Sales Earnings	1,167	1,219	1,394
Allowance for Funds Used During Construction	774	1,198	530
Other	(2,308)	(1,009)	(214)
Total Other Income (Loss), Net of Taxes	(334)	1,354	2,059
Interest and Debt Expenses			
Interest on Long-Term Debt	9,054	7,714	7,087
Other Interest Income, Net	(359)	(922)	(458)
Amortization of Debt Expense and Premium, Net	146	124	108
Total Interest and Debt Expenses	8,841	6,916	6,737
Net Income	25,054	23,387	22,761
Preferred Stock Dividend Requirement	38	38	38
Total Net Income Applicable to Common Stock	$ 25,016	$ 23,349	$ 22,723
Weighted Average Common Shares Outstanding:			
Basic	11,540	11,009	10,958
Diluted	11,762	11,228	11,164
Earnings Per Common Share:			
Basic	$ 2.17	$ 2.12	$ 2.07
Diluted	$ 2.13	$ 2.08	$ 2.04

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

For the Years Ended December 31, (in thousands)	2017	2016	2015
Net Income	$ 25,054	$ 23,387	$ 22,761
Other Comprehensive Income (Loss), net of tax			
Adjustment to post-retirement benefit plans, net of tax benefit (expense) of $(419), $15, and $(505) in 2017, 2016, and 2015, respectively	289	(24)	765
Unrealized Investment gain (loss), net of tax (expense) benefit of $(13), $(22) and $62, in 2017, 2016, and 2015, respectively	207	35	(97)
Other Comprehensive Income, net of tax	$ 496	$ 11	$ 668
Comprehensive Income	$ 25,550	$ 23,398	$ 23,429

A-6 LIST OF TOWNS SERVED

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

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

A-7 PAYMENTS TO INDIVIDUALS

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

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

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CONSUMPTION INFORMATION (Dover Division)

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

13. CUSTOMERS

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

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

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

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CONSUMPTION INFORMATION (Plymouth Division)

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

13. CUSTOMERS

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

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

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CONSUMPTION INFORMATION (Springdale Division)

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

13. CUSTOMERS

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

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

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CONSUMPTION INFORMATION

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

13. CUSTOMERS

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

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

425 1 tm2112545d1_425.htm 425

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

Subject Company: New England Service Company

JOINT NEWS RELEASE

New England Service Company To be Acquired by Aquarion Water Company

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

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

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

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

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

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

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

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

Advisors and Counsel

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

About Aquarion Water Company:

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

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

About New England Service Company

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

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

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

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

Additional Information

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

Certain Information Regarding Participants

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

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NEW ENGLAND SERVICE COMPANY, INC. AND SUBSIDIARIES

Consolidated Balance Sheets

	December 31, 2020	December 31, 2019
ASSETS		
Utility plant, at cost	$ 52,176,919	$ 50,866,999
Less accumulated depreciation and amortization	(17,108,971)	(16,242,563)
Net Utility Plant	35,067,948	34,624,436
Non-utility property, plant and equipment	2,340,344	2,229,441
Less: accumulated depreciation	(841,502)	(736,994)
Net Non-Utility Property, Plant and Equipment	1,498,842	1,492,447
Current Assets		
Cash and cash equivalents	1,217,863	781,095
Marketable securities	387,294	456,385
Accounts receivable	682,735	728,725
Accrued unbilled revenues	391,450	369,136
Regulatory asset - revenue adjustment mechanism, current portion	83,303	218,322
Income taxes receivable	-	5,286
Materials and supplies inventory	105,343	99,032
Prepaid expenses	51,811	52,968
Total Current Assets	2,919,799	2,710,949
Other Assets		
Investment in cooperative capital plan	28,473	21,500
Deferred charges and other regulatory assets	2,243,524	1,750,628
Regulatory asset - revenue adjustment mechanism, net of current portion	10,426	48,847
Preliminary survey and investigation	5,111	4,883
Regulatory asset - income taxes recoverable	4,263,900	4,238,900
Total Other Assets	6,551,434	6,064,758
Total Assets	$ 46,038,023	$ 44,892,590

See Notes to Consolidated Financial Statements

NEW ENGLAND SERVICE COMPANY, INC. AND SUBSIDIARIES

Consolidated Balance Sheets *(continued)*

	December 31, 2020	December 31, 2019
STOCKHOLDERS' EQUITY AND LIABILITIES		
Stockholders' Equity		
Common stock, no par; 3,000,000 shares authorized; 906,418 shares issued, 903,325 and 900,850 shares outstanding at December 31, 2020 and 2019	$ 3,784,217	$ 3,784,217
Additional paid in capital	297,426	297,426
Treasury stock, at cost, 3,093 and 5,568 shares at December 31, 2020 and 2019	(72,974)	(128,758)
Retained earnings	12,776,934	12,511,864
Total Stockholders' Equity	16,785,603	16,464,749
Long-term debt, net of current portion	9,148,153	9,349,951
Current Liabilities		
Note payable, bank	122,000	70,500
Current portion of long-term debt	678,831	570,170
Accounts payable and accrued expenses	765,365	544,412
Accrued property and other taxes	234,396	215,792
Deferred revenues	117,927	76,874
Total Current Liabilities	1,918,519	1,477,748
Other Liabilities		
Deferred income taxes	5,739,210	5,443,590
Regulatory - excess deferred income taxes	762,275	763,669
Regulatory - excess income taxes	293,643	195,762
Security deposits and other deferred credits	105,525	109,249
Customer advances for construction	97,586	42,738
Contributions in aid of construction	9,519,329	9,431,954
Amortized contributions in aid of construction	1,668,180	1,614,180
Total Other Liabilities	18,185,748	17,601,142
Total Stockholder's Equity and Liabilities	$ 46,038,023	$ 44,893,590

See Notes to Consolidated Financial Statements

NEW ENGLAND SERVICE COMPANY, INC. AND SUBSIDIARIES

Consolidated Statements of Income

	Year Ended December 31, 2020	2019
OPERATING REVENUES		
Contracts with customers		
Utility revenues	$ 6,531,154	$ 6,047,244
Contracting and jobbing	1,519,110	1,497,323
Total Contracts with Customers	8,050,264	7,544,567
Alternative revenue programs	(56,176)	97,506
Total Operating Revenues	7,994,088	7,642,073
OPERATING EXPENSES		
Operation expenses	3,399,314	3,292,866
Maintenance expenses	369,749	322,583
Cost of contracting and jobbing	737,715	804,274
Depreciation and amortization	1,170,093	1,129,426
Taxes other than income taxes	757,357	743,266
Interest charges	347,298	350,372
Total Operating Expenses	6,781,526	6,642,787
Income from Operations	1,212,562	999,286
OTHER INCOME AND (DEDUCTIONS)		
Rental income and other	2,000	3,114
Investment income	21,350	70,550
Allowance for funds used during construction	10,771	5,275
Non-operating expense	(3,454)	(2,676)
Total Other Income	30,667	76,263
Income Before Income Taxes	1,243,229	1,075,549
Income tax expense	310,230	289,200
Net Income	$ 932,999	$ 786,349
PER SHARE AMOUNTS		
Weighted average shares outstanding	902,454	897,030
Net income	$ 1.03	$ 0.88
Dividends	$ 0.74	$ 0.70
Book value	$ 18.60	$ 18.35

See Notes to Consolidated Financial Statements

VALLEY WATER SYSTEMS, INC.

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

1. Description of the Company

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

2. Summary of Significant Accounting Policies

Basis of Presentation

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

Use of Estimates

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

Cash and Cash Equivalents

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

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

Accounts Receivable

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

subsidiary water companies, serving approximately 200,000 customers in 52 towns and cities with a population of approximately 674,000 throughout Connecticut's seven counties.[2] A map showing AWC-CT's current service area is attached to the Joint Application as Exhibit I. AWC-CT has provided water and water services to Connecticut residents and customers continuously since 1857. AWC-CT is well known to PURA and well respected by the water industry in Connecticut, and nationally. AWC-CT had over $1.68 billion of utility plant assets as of December 31, 2020 and operating revenues of $189.6 million in 2020.

Q. Please describe New England Service Company.

A. NESC is a Connecticut stock corporation. NESC was formed in 1996 as a holding company to operate in both regulated and unregulated water utility markets. NESC has one regulated water distribution operating subsidiary in Connecticut. VWS, a utility established in 1884 as the Plainville Water Company, delivers water to over 6,800 customers or a population of approximately 18,000 in Plainville, Southington, and Farmington, Connecticut. A map showing VWS' current service area is attached to the Joint Application as Exhibit I.

In addition to owning VWS, NESC is also the sole stockholder of Colonial Water Company, a utility that provides water to about 1,530 customers in Dover and Plymouth, Massachusetts; Mountain Water Systems, a utility that provides water to about 490 customers in Sheffield, Massachusetts; and Abenaki Water Company, a combination of

[2] AWC-CT has acquired and integrated 16 new water systems since its last general rate proceeding in September 2013 via the acquisitions of the assets of the Indian Fields, West Service Corp. (2 systems), Bedrock, East Derby, Litchfield Hills, Southeastern CT Water Authority Lantern Hill Division, Hickory Hills Corporation, Arlington Acres, Pleasure Valley, Hillside Water Corporation, Town of Marlborough, and Town of New Fairfield systems, in addition to the transfer of the Laurel Ridge, West Shore Owners Association and Interlaken Water System assets.

425 1 tm228722d1_425.htm 425

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

THE TORRINGTON WATER COMPANY LETTERHEAD

March 8, 2022

Dear Stockholder:

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

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

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

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

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

Sincerely yours,
Susan Suhanovsky
President

Forward-Looking Statements

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

This Communication Does Not Constitute a Solicitation of Proxies

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

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

About Aquarion Water Company:

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

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

MUNICIPALITIES SUPPLIED

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

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

THE TORRINGTON WATER COMPANY

Balance Sheets

	December 31,		
	2021	2020	2019
ASSETS			
Utility plant, at cost	$74,999,793	$71,847,851	$69,057,611
Less: accumulated depreciation	26,458,744	25,210,076	24,139,469
Net utility plant	48,541,049	46,637,775	44,918,142
Nonutility property, net of accumulated depreciation	202,624	372,935	372,935
Current Assets			
Cash and cash equivalents	1,577,648	2,781,302	1,064,441
Accounts receivable	554,416	757,705	518,129
Accrued unbilled revenues	876,500	858,000	821,000
Regulatory asset-water revenue adjustment, current portion	627,149	631,461	707,560
Materials and supplies inventory	196,635	369,507	300,436
Prepaid expenses	168,630	183,413	132,139
Total Current Assets	4,000,978	5,581,388	3,543,705
Other Assets			
Other assets	1,924,448	1,976,334	2,306,894
Preliminary survey and investigation charges	154,216	154,216	230,862
Regulatory asset-income taxes recoverable	7,375,800	6,855,660	6,476,000
Regulatory asset-water revenue adjustment, net of current portion	146,373	142,065	154,160
Regulatory asset-unfunded postretirement benefits	3,371,985	3,205,165	3,038,255
Total Other Assets	12,972,822	12,333,440	12,206,171
Total Assets	$65,717,473	$64,925,538	$61,040,953

See notes to financial statements

THE TORRINGTON WATER COMPANY

Balance Sheets *(continued)*

	December 31,		
	2021	2020	2019
STOCKHOLDERS' EQUITY AND LIABILITIES			
Stockholders' Equity			
Common stock, no par; 1,000,000 shares authorized; 864,000 issued and outstanding	$ 1,800,000	$ 1,800,000	$ 1,800,000
Retained earnings	21,930,762	21,326,808	20,524,284
Total Stockholders' Equity	23,730,762	23,126,808	22,324,284
Long-term debt, net	12,305,080	12,656,619	10,515,289
Current Liabilities			
Current portion of long-term debt	360,000	360,000	360,000
Accounts payable	191,921	586,707	329,619
Accrued taxes	501,964	695,550	611,538
Accrued interest	173,400	179,520	185,640
Other current liabilities	113,561	131,691	133,408
Total Current Liabilities	1,340,846	1,953,468	1,620,205
Other Liabilities			
Deferred income taxes	9,589,665	8,889,230	8,416,575
Regulatory liability-excess deferred income taxes	1,139,918	1,200,609	1,261,300
Unfunded postretirement benefits	3,371,985	3,205,165	3,038,255
Customer advances for construction	506,436	544,075	515,481
Contributions in aid of construction	11,078,991	10,772,973	10,850,172
Amortized contributions in aid of construction	2,653,790	2,576,591	2,499,392
Total Other Liabilities	28,340,785	27,188,643	26,581,175
Total Stockholders' Equity and Liabilities	$65,717,473	$64,925,538	$61,040,953

See notes to financial statements

THE TORRINGTON WATER COMPANY

Statements of Income and Retained Earnings

	Year Ended December 31,		
	2021	2020	2019
OPERATING REVENUES			
Contracts with customers	$ 6,934,525	$ 6,956,272	$ 6,268,405
Alternative revenue programs	900,619	762,420	1,211,817
Total Operating Revenues	7,835,144	7,718,692	7,480,222
OPERATING EXPENSES			
Operation expenses	2,485,521	2,570,359	2,381,493
Maintenance expenses	703,589	698,831	647,629
Depreciation expense	1,217,968	1,170,187	1,146,922
Taxes other than income taxes	1,382,016	1,333,810	1,319,487
Income taxes	133,200	135,900	74,200
Total Operating Expenses	5,922,294	5,909,087	5,569,731
Utility Operating Income	1,912,850	1,809,605	1,910,491
Other Income and Deductions			
Merchandising and jobbing, net	123,068	123,170	116,208
Interest income	2,411	2,212	4,025
Miscellaneous non-operating income	247,496	192,286	160,412
Gain on forgiveness of Paycheck Protection Program loan	-	276,057	-
Allowance for funds used during construction	42,306	26,707	10,905
Total Other Income and Deductions	415,281	620,432	291,550
Taxes applicable to other income	33,604	28,604	21,055
Net Other Income and Deductions	381,677	591,828	270,495
Income Before Interest Expense	2,294,527	2,401,433	2,180,986
Interest Expense			
Interest on long-term debt	489,624	466,235	446,760
Amortization of deferred financing costs	8,461	7,998	7,350
Other interest	168	1,476	1,538
Total Interest Expense	498,253	475,709	455,648
Net Income	1,796,274	1,925,724	1,725,338
RETAINED EARNINGS			
Dividends declared	(1,192,320)	(1,123,200)	(1,080,000)
Retained earnings, beginning	21,326,808	20,524,284	19,878,946
Retained earnings, ending	$21,930,762	$21,326,808	$20,524,284
PER SHARE AMOUNTS			
Net income, basic	$ 2.08	$ 2.23	$ 2.00
Dividends declared	$ 1.38	$ 1.30	$ 1.25
Book value	$ 27.47	$ 26.77	$ 25.84

See notes to financial statements

WATER UTILITY INDUSTRY

The Water Utility Industry consists of six investor-owned companies that provide water services to residential, commercial, and industrial customers. The group is extremely small because most of the water utilities in the United States are run by states and local municipalities. The fundamentals in this Industry do not change quickly. Change comes incrementally here, which can be both good and bad. Almost every water utility in the country is playing catch up. For years, the nation's pipelines and wastewater facilities had been falling into disrepair. Over the past decade,or so, the Industry has been investing heavily to replace these older assets.

All utilities are overseen by some state authority that decides on what rates water users will ultimately pay. Fortunately, the relations between the Industry and regulators has been very constructive in the recent past. These relationships may be tested in the coming years because of inflation.

Earnings in the Water Industry are well defined. The demand for water is mostly inelastic, except for when rates are raised meaningfully during a drought or water emergency to dampen demand. Almost all of these stocks score well for Price Stability, Price Growth Persistence, and Earnings Predictability.

In the past three months, the equities in this group have outperformed the market averages.

Fundamentals

Members of this group are all in the midst of large ongoing construction programs that ought to take decades to complete. For years, insufficient capital was allocated to upgrading and modernizing the country's water infrastructure. Indeed, the average age of many pipelines is now between 60 and 75 years. As a result, in an era in which water has become scarcer, a large volume of it was leaking and being wasted due to a shoddy transmission system. Both the utilities and regulators are to blame for the predicament because neither party wanted to receive backlash from raising customers' bills to make the required improvements. In any case, the industry has taken steps to correct this situation. Instead of one massive spending program, the outlays will be made gradually.

Mediocre Finances

To fund the building projects, most utilities have to depend, in part, on external financing. Over the past 15 years, we have been in a low interest rate environment and debt was the preferred source of financing. With interest rates for long-maturity corporate bonds spiking higher, there is a chance that this could change. Many water utilities have been reluctant to issue equity in the past. Since the industry's stocks are now trading with historically high P/E ratios (more below), we think now would be a good time to sell shares. For example, eleven years ago, *American Water Works* had 175.66 million shares outstanding. When 2022 ended, we estimated the figure rose to just 182 million, a meager annual growth rate of 0.3%. (The company hasn't had any kind of stock repurchase program.) Over that same time, *American Water's* long-term debt-to total capital ratio has increased. While this is not a weak balance sheet, it can't be classified as strong either. This also applies to most water utilities.

INDUSTRY TIMELINESS: 64 (of 93)

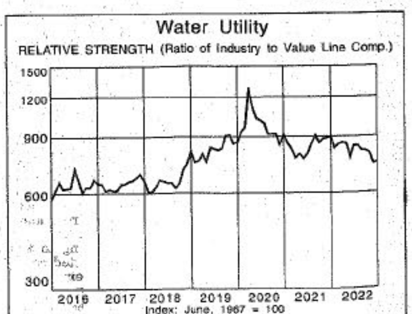
Scarcity Of Stocks

The total market capitalization of the Water Utility Industry is about $51 billion, or slightly below that of Dominion Energy, the nation's fourth largest electric utility. Moreover *American Water Works* accounts for over 54% of the total. Thus, in the group there are only two large cap stocks. (The other *Essential Utilities*.) That leaves 4 companies that have market caps ranging from $2.5 billion to $3.4 billion. The demand to own shares by the large institutional investors clearly outstrips the supply. This is one of the prime reasons for these stocks trading at such seemingly inflated P/E ratios. Of the six water stocks covered by *Value Line*, the P/E's range from a low of 24.8, to a high of 38.8, with the average being 32.4. *Essential Utilities* is the only equity with a P/E below 30, mostly because of its gas utility operations.

Conclusion

Should investors want to become involved in this sector, they must be willing to pay a huge premium. While this sector has several positive attributes, it also has a severe limitations. For one, the returns on equity are determined by an outside entity. Thus, there is a ceiling to each company's profit potential. Furthermore, regulators can be fickle. The water industry has enjoyed positive relations with regulators over the past decade or so, but that was during a time of very low inflation. Passing along the rate hikes needed to finance the replacement of old pipes will likely remain above the level of inflation, which is currently over 6%. State regulatory commissions are under political pressure to keep ratepayers' bills low. So, even though a utility may have spent funds prudently, that does not necessary mean that regulators will allow a fair return to be made on the investment. In the electric utility sector this has happened frequently, mainly due to a backlash from the public. Regulators are appointed by politicians. Elected officials do not gain popular support (i.e. votes) by raising utility bills. In our opinion, Wall Street has not taken this into account, as it certainly is not reflected in the price of the stocks. As always, we urge investors to read each individual report before investing.

James A. Flood



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To subscribe call 1-800-VALUELINE

AMER. STATES WATER NYSE-AWR

RECENT PRICE 93.72 | P/E RATIO 34.3 (Trailing: 43.4; Median: 27.0) | RELATIVE P/E RATIO 2.09 | DIV'D YLD 1.8% | VALUE LINE | 1779

TIMELINESS 3 Raised 12/16/22
SAFETY 2 Raised 7/20/12
TECHNICAL 1 Raised 12/30/22
BETA .65 (1.00 = Market)

18-Month Target Price Range
Low-High $78-$143; Midpoint (% to Mid) $111 (20%)

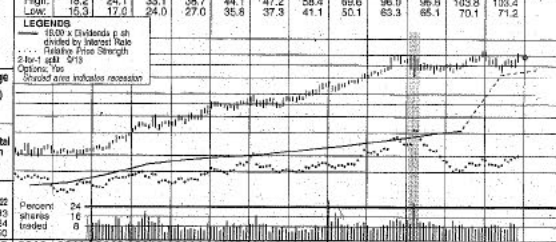
2025-27 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	95	(Nil)	2%
Low	70	(-25%)	-4%

Institutional Decisions

	1Q2022	2Q2022	3Q2022
to Buy	153	128	133
to Sell	121	150	124
Hld's(000)	27827	26629	27450

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
High:	18.2	24.1	33.1	38.7	44.1	47.2	58.4	69.6	96.0	96.6	103.8	103.4	
Low:	15.3	17.0	24.0	27.0	35.8	37.3	41.1	50.1	63.3	65.1	70.1	71.2	



% TOT. RETURN 11/22

	THIS STOCK	VL ARITH.* INDEX
1 yr.	5.9	-4.6
3 yr.	20.4	40.0
5 yr.	84.0	49.4

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	© VALUE LINE PUB. LLC	25-27
7.88	8.75	9.21	9.74	10.71	11.12	12.12	12.19	12.17	12.56	11.92	12.01	11.88	12.86	13.24	13.51	14.00	14.00	Revenues per sh	18.15
1.45	1.65	1.69	1.70	2.11	2.13	2.48	2.65	2.67	2.81	2.70	2.98	2.84	3.26	3.34	3.64	3.20	4.00	"Cash Flow" per sh	4.75
.67	.81	.78	.81	1.11	1.12	1.41	1.61	1.57	1.61	1.62	1.88	1.72	2.28	2.33	2.55	2.10	2.85	Earnings per sh A	3.25
.46	.48	.50	.51	.52	.55	.64	.76	.83	.87	.91	.99	1.06	1.16	1.28	1.40	1.53	1.62	Div'd Decl'd per sh B■	2.15
1.95	1.45	2.23	2.09	2.12	2.13	1.77	2.52	1.89	2.39	3.55	3.06	3.44	4.12	3.54	3.91	4.40	4.50	Cap'l Spending per sh	4.25
8.32	8.77	8.97	9.70	10.13	10.84	11.80	12.72	13.24	12.77	13.52	14.45	15.19	16.33	17.39	18.57	19.80	22.95	Book Value per sh D	23.75
34.10	34.46	34.60	37.06	37.26	37.70	38.53	38.72	38.29	38.50	36.57	36.68	36.76	36.85	36.89	36.94	36.40	37.50	Common Shs Outst'g C	37.50
27.7	24.0	22.6	21.2	15.7	15.4	14.3	17.2	20.1	24.6	25.6	25.7	34.0	34.4	34.3	33.2	41.2		Avg Ann'l P/E Ratio	25.0
1.50	1.27	1.36	1.41	1.00	.97	.91	.97	1.06	1.24	1.34	1.29	1.84	1.83	1.76	1.82	2.51		Relative P/E Ratio	1.40
2.5%	2.5%	2.9%	2.9%	3.0%	3.2%	3.1%	2.7%	2.8%	2.2%	2.2%	2.0%	1.8%	1.5%	1.6%	1.7%	1.7%		Avg Ann'l Div'd Yield	2.6%

CAPITAL STRUCTURE as of 9/30/22
Total Debt $565.7 mill. Due in 5 Yrs $33.5 mill.
LT Debt $446.8 mill. LT Interest $24.0 mill.
(40% of Cap'l)

Leases, Uncapitalized: Annual rentals $2.6 mill.
Pension Assets-12/21 $233.5 mill.
Oblig. $259.8 mill.

Pfd Stock None

Common Stock 36,390,897 shs.
as of 11/4/22

MARKET CAP: $3.4 billion (Mid Cap)

2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	© VALUE LINE PUB. LLC	25-27
466.9	472.1	465.8	458.6	436.1	440.6	436.8	473.9	488.2	498.9	510	525	Revenues ($mill)	680
54.1	62.7	61.1	60.5	59.7	69.4	63.9	84.3	86.4	94.3	76.0	105	Net Profit ($mill)	120
39.9%	36.3%	38.4%	38.4%	36.8%	36.0%	22.0%	22.6%	24.6%	24.4%	24.0%	24.0%	Income Tax Rate	24.0%
2.5%	--	--	--	--	--	--	--	2.5%	--	1.0%	1.5%	AFUDC % to Net Profit	1.5%
42.2%	39.8%	39.1%	41.1%	39.4%	38.0%	40.5%	44.4%	47.2%	46.1%	40.0%	40.5%	Long-Term Debt Ratio	52.0%
57.8%	60.2%	60.9%	58.9%	60.6%	62.0%	59.5%	55.6%	52.8%	53.9%	60.0%	59.5%	Common Equity Ratio	48.0%
787.0	818.4	832.6	791.5	815.3	854.9	938.4	1082.5	1216.2	1272.6	1200	1440	Total Capital ($mill)	1710
917.8	981.5	1003.5	1060.8	1150.9	1206.0	1296.3	1415.7	1512.0	1626.0	1740	1800	Net Plant ($mill)	2025
6.3%	6.9%	6.6%	9.0%	8.6%	9.3%	7.9%	8.9%	8.0%	8.3%	7.5%	8.5%	Return on Total Cap'l	8.0%
11.9%	12.7%	12.0%	13.0%	12.1%	13.1%	11.4%	14.0%	13.5%	13.8%	10.5%	12.0%	Return on Shr. Equity	13.5%
11.9%	12.7%	12.0%	13.0%	12.1%	13.1%	11.4%	14.0%	13.5%	13.8%	10.5%	12.0%	Return on Com Equity	13.5%
6.6%	6.8%	5.7%	6.0%	5.3%	6.2%	4.5%	6.9%	6.1%	6.2%	3.5%	4.5%	Retained to Com Eq	4.5%
45%	47%	53%	54%	56%	52%	61%	51%	55%	55%	73%	57%	All Div'ds to Net Prof	66%

CURRENT POSITION ($MILL.)	2020	2021	9/30/22
Cash Assets	36.7	5.0	2.3
Accts Receivable	29.2	34.4	31.8
Other	91.2	98.7	104.7
Current Assets	157.1	138.1	138.8
Accts Payable	63.8	65.9	70.0
Debt Due	.4	31.4	238.9
Other	54.4	58.3	64.3
Current Liab.	118.6	155.6	373.2

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '19-'21 to '25-'27
Revenues	2.5%	1.5%	5.5%
"Cash Flow"	5.5%	4.5%	5.5%
Earnings	9.0%	8.5%	5.5%
Dividends	9.5%	8.0%	9.0%
Book Value	5.5%	6.0%	5.5%

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2019	101.7	124.7	134.5	113.0	473.9
2020	109.1	121.3	133.6	124.2	488.2
2021	117.1	128.4	136.8	116.6	498.9
2022	108.6	122.6	135.0	143.8	510
2023	112	130	145	138	525

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2019	.35	.72	.76	.45	2.28
2020	.38	.69	.72	.54	2.33
2021	.52	.72	.76	.55	2.55
2022	.38	.54	.69	.49	2.10
2023	.67	.88	.75	.55	2.85

Cal-endar	QUARTERLY DIVIDENDS PAID B■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	.255	.255	.275	.275	1.06
2019	.275	.275	.305	.305	1.16
2020	.305	.305	.335	.335	1.28
2021	.335	.335	.365	.365	1.40
2022	.365	.365	.3975	.3975	

BUSINESS: American States Water Co. operates as a holding company. Through its principal subsidiary, Golden State Water Co., it supplies water to 262,770 customers in 10 California counties. Service areas include the metropolitan areas of Los Angeles and Orange Counties. The company also provides electricity to 24,656 customers in Big Bear Lake and San Bernardino Cnty. Provides water & wastewater services to U.S. military bases through its ASUS subsidiary. Sold Chaparral City Wtr. of AZ. (6/11). Employs 808. BlackRock, Inc. owns 17.7% of out. shares; State St., 13.7%; off. & dir., 0.9% (4/22 Proxy). Chairman: Lloyd Ross. Pres. & CEO: Robert Sprowls. Inc: CA. Address: 630 East Foothill Blvd., San Dimas, CA 91773. Tel.: 909-394-3600. Internet: www.aswater.com.

American States Water's bottom line continues to be hurt by a delay in a regulatory ruling. For the third-straight quarter, the water utility posted negative year-over-year earnings comparisons. This can be attributed to the California Public Utility Commission (CPUC) not having decided upon a request for higher rates. The company's subsidiary, Golden States Water, filed for the increase in tariffs in 2020. Indeed, the utility reached an agreement on what hikes water users would receive with the state's Public Advocates Office (POA). Typically, reaching a deal with the POA is the hardest part of the negotiations. In any case, without the new rates, we think American State's profits slumped again in the December interim, and its 2022 share net declined 18%, to $2.10.

In 2023, we think the company may achieve record profits. When the CPUC finally makes a ruling, Golden States will receive the hike retroactively to January 1, 2021. So, these revenues ought to be recognized this year. This should lead to share earnings climbing to $2.85, or 26% above last year's expected poor showing.

Nonutility operations could be a catalyst for earnings growth. ASUS is an unregulated business segment that provides water services to United States military installations. The army is in the process of privatizing its water and waste systems to outside entities. Requests for proposals for 50-year contracts are being made public for bidders. ASUS has been successful in winning a fare share of these and we expect that to continue. Because the business isn't under the jurisdiction of regulators, it offers the capability of earning much higher returns on investment. It also carries more risk. Through the first nine months of 2022, ASUS was responsible for 17% of the company's net income.

These shares offer very little appeal, at this juncture. The stock is ranked (3: Average) for relative year-ahead performance. Moreover, capital appreciation potential over the next 18-month period is unattractive. And, over the pull to 2025-2027, despite good dividend growth prospects, AWR's total return potential is well below the *Value Line* median. In fact, the equity is trading near the top of our Target Price Range.

James A. Flood *January 6, 2023*

(A) Primary earnings. Excludes nonrecurring gains/(losses): '06, 3¢; '08, (14¢); '10, (23¢); '11, 10¢. Next earnings report due mid-February.

(B) Dividends historically paid in early March, June, September, and December. ■ Div'd reinvestment plan available.
(C) In millions, adjusted for split.

(D) Includes intangibles. As of 12/31/21: $1.1 million/$0.03 a share.

Company's Financial Strength	A
Stock's Price Stability	100
Price Growth Persistence	80
Earnings Predictability	95

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Appendix A-5.2
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EXHIBIT 23

AMERICAN WATER NYSE-AWK

RECENT PRICE 153.02 | P/E RATIO 33.6 (Trailing: 24.5; Median: 25.0) | RELATIVE P/E RATIO 2.05 | DIV'D YLD 1.8% | VALUE LINE 1780

TIMELINESS 3 Lowered 11/11/22
SAFETY 3 New 7/25/08
TECHNICAL 4 Raised 1/6/23
BETA .90 (1.00 = Market)

18-Month Target Price Range
Low-High $124-$251 Midpoint (% to Mid) $188 (25%)

2025-27 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	185	(+20%)	7%
Low	125	(-20%)	-2%

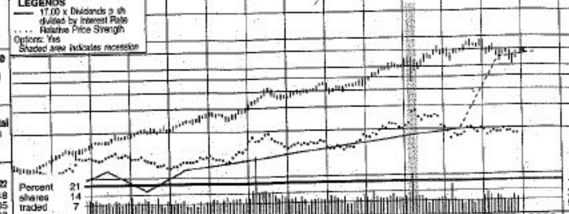
Institutional Decisions

	1Q2022	2Q2022	3Q2022
to Buy	450	469	448
to Sell	473	415	405
Hld's(000)	156704	151931	152383

High: 32.6 39.4 45.1 56.2 61.2 85.2 92.4 98.2 129.9 172.6 189.6 189.3
Low: 25.2 31.3 37.0 41.1 48.4 58.9 70.0 76.0 88.0 92.0 131.0 122.8

LEGENDS — 17.00 x Dividends p sh divided by Interest Rate; .... Relative Price Strength; Options: Yes; Shaded area indicates recession

Target Price Range 2025 2026 2027



Percent shares traded 21 14 7

% TOT. RETURN 11/22

	THIS STOCK	VL ARITH.* INDEX
1 yr.	-8.4	-4.0
3 yr.	30.9	40.0
5 yr.	79.9	49.4

2006[E]	2007[E]	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	© VALUE LINE PUB. LLC	25-27
13.08	13.84	14.61	13.98	15.49	15.18	16.25	16.28	16.78	17.72	18.54	18.81	19.04	19.97	20.83	21.58	20.90	22.35	Revenues per sh	27.10
.65	d.47	2.87	2.89	3.56	3.73	4.27	4.36	4.75	5.13	5.26	5.14	6.15	6.65	7.24	10.46	8.10	8.95	"Cash Flow" per sh	10.10
d.97	d2.14	1.10	1.25	1.53	1.72	2.11	2.06	2.39	2.64	2.82	2.38	3.15	3.43	3.91	6.95	4.45	4.75	Earnings per sh A	5.75
--	--	.40	.82	.86	.90	1.21	.84	1.21	1.33	1.47	1.62	1.78	1.96	2.15	2.36	2.57	2.89	Div'd Decl'd per sh B■	3.55
4.31	4.74	6.31	4.50	4.38	5.27	5.25	5.50	5.33	6.51	7.36	8.04	8.78	9.15	10.05	9.71	11.75	16.25	Cap'l Spending per sh	11.50
23.86	28.39	25.64	22.91	23.59	24.11	25.11	26.52	27.39	28.25	29.24	30.13	32.42	33.83	35.58	40.18	42.80	45.60	Book Value per sh D	57.80
160.00	160.00	160.00	174.63	175.00	175.66	176.99	178.25	179.46	178.28	178.10	178.44	180.68	180.81	181.30	181.61	182.00	182.50	Common Shs Outst'g C	190.00
--	--	18.9	15.6	14.6	16.8	16.7	19.9	20.0	20.5	27.7	33.8	27.3	32.8	35.3	23.6	34.1		Avg Ann'l P/E Ratio	27.0
--	--	1.14	1.04	.93	1.05	1.06	1.12	1.05	1.03	1.45	1.70	1.47	1.75	1.81	1.26	2.08		Relative P/E Ratio	1.50
--	--	1.9%	4.2%	3.8%	3.1%	3.4%	2.0%	2.5%	2.5%	2.0%	2.0%	2.1%	1.7%	1.6%	1.4%	1.7%		Avg Ann'l Div'd Yield	2.3%
						2876.9	2901.9	3011.3	3159.0	3302.0	3357.0	3440.0	3610.0	3777.0	3920.0	3800	4075	Revenues ($mill)	5150
						374.3	369.3	429.8	476.0	468.0	426.0	567.0	621.0	709.0	1263.0	810	865	Net Profit ($mill)	1095
						40.7%	39.1%	39.4%	39.1%	39.2%	53.3%	28.2%	25.5%	23.3%	23.0%	20.0%	22.0%	Income Tax Rate	24.0%
						6.2%	5.1%	--	--	--	--	--	--	5.1%	2.9%	4.0%	5.0%	AFUDC % to Net Profit	5.0%
						53.9%	52.4%	52.4%	53.7%	52.4%	54.7%	56.3%	58.5%	59.1%	58.6%	59.0%	61.0%	Long-Term Debt Ratio	60.0%
						46.1%	47.6%	47.4%	46.2%	47.5%	45.3%	43.6%	41.4%	40.9%	41.4%	41.0%	39.0%	Common Equity Ratio	40.0%
						9635.5	9940.7	10364	10811	10967	11875	13433	14760	15787	17639	19000	21325	Total Capital ($mill)	22000
						11739	12391	12900	13933	14992	16246	17409	18232	19710	21084	22950	24700	Net Plant ($mill)	26000
						5.4%	5.1%	5.5%	5.7%	5.6%	4.9%	5.4%	5.4%	5.7%	8.2%	5.5%	5.5%	Return on Total Cap'l	6.0%
						6.4%	7.8%	8.7%	9.4%	9.0%	7.9%	9.7%	10.1%	11.0%	17.3%	10.5%	10.5%	Return on Shr. Equity	10.5%
						6.4%	7.8%	8.7%	9.4%	9.0%	7.9%	9.7%	10.1%	11.0%	17.3%	10.5%	10.5%	Return on Com Equity	10.5%
						3.6%	4.7%	4.3%	4.7%	4.0%	2.5%	4.2%	4.4%	5.0%	11.4%	4.5%	4.5%	Retained to Com Eq	4.0%
						57%	40%	50%	50%	56%	68%	56%	57%	55%	34%	56%	56%	All Div'ds to Net Prof	62%

CAPITAL STRUCTURE as of 9/30/22
Total Debt $11839 mill. Due in 5 Yrs $1849 mil.
LT Debt $10940 mil. LT Interest $414 mil.
(58% of Cap'l)

Leases, Uncapitalized: Annual rentals $12.0 mill.
Pension Assets 12/21 $2294.0 mill Oblig. $1991.0 mill.
Pfd Stock $3.0 mill. Pfd Div'd $.2 mill

Common Stock 181,827,824 shares as of 10/25/22

MARKET CAP: $27.8 billion (Large Cap)

CURRENT POSITION ($MILL.)	2020	2021	9/30/22
Cash Assets	576	136	104
Accts Receivable	321	271	358
Other	1009	1147	555
Current Assets	1906	1554	1017
Accts Payable	189	235	220
Debt Due	1611	641	899
Other	1081	1265	1011
Current Liab.	2881	2141	2130

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '19-'21 to '25-'27
Revenues	3.5%	3.5%	4.5%
"Cash Flow"	9.0%	10.0%	3.5%
Earnings	12.0%	13.5%	3.0%
Dividends	9.5%	10.0%	8.5%
Book Value	4.5%	5.0%	8.0%

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2019	813	882	1013	902	3610
2020	844	931	1079	923	3777
2021	888	999	1082	951	3920
2022	842	937	1082	939	3800
2023	900	1000	1165	1010	4075

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2019	.62	.94	1.33	.54	3.43
2020	.68	.97	1.46	.80	3.91
2021	.73	1.14	1.53	3.55	6.95
2022	.87	1.20	1.63	.75	4.45
2023	.88	1.30	1.75	.82	4.75

Cal-endar	QUARTERLY DIVIDENDS PAID B■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	.415	.455	.455	.455	1.78
2019	.455	.50	.50	.50	1.96
2020	.50	.55	.55	.55	2.15
2021	.55	.6025	.6025	.6025	2.36
2022	.6025	.655	.655	.655	

BUSINESS: American Water Works Company, Inc. is the largest investor-owned water and wastewater utility in the U.S., providing services to approximately 14 million people in 24 states. Nonregulated business assists municipalities and military bases with the maintenance and upkeep as well. Regulated operations made up 86% of 2021 revenues. Pennsylvania is its largest market accounting for 21.5% of regulated revenues; New Jersey, 20.3%; Missouri, 13.9%. Has 6,400 employees. Vanguard owns 11.8% of outstanding shares; BlackRock, 8.9%; State St., 5.4%; officers & directors, less than 1.0% (4/22 Proxy). President & CEO: Susan N. Story. Chairman: George MacKenzie. Address: 1 Water Street, Camden, NJ 08102. Tel.: 856-346-8200. Internet: www.amwater.com.

American Water Works will likely increase its dividend by 8%-9% at its next board meeting. As expected, the water utility declared a share payout of $0.655 in December. (The ex and record dates are in February, with the payment due March 1st.) Leadership has emphasized that its goal is to raise the annual distribution 7%-10% through 2025-2027. This is among the highest projected growth rates in the industry.

Meanwhile, the company posted better-than-expected third-quarter earnings. However, we are maintaining our previous full-year share estimate of $4.45. Excluding an unusual $2.70-a-share gain recorded last year, American Water's share net would have increased 5%. Based on our assumption of good to fair treatment by regulators, the company's share earnings should rise 7% in 2023.

Capital expenditures ought to be enormous. Management expects to spend a total of $14 billion to $15 billion from 2023 to 2027 on upgrading, expanding, and replacing its aging pipelines and wastewater facilities.

The acquisition strategy will remain a key to the company's long-term growth. There are thousands of small municipally run water districts in the United States. American Water Works has been gradually buying some of these and integrating them into its existing operations. In the water utility industry, mergers do produce major improvements in margins. They also add to the company's net plant, on which it earns a return.

External financing will be required. To fund its ambitious building and takeover program, American Water will have to issue new debt. The long-term debt-to-total capital is nearing 60%, but the utility remains financially sound due to it solid and predictable cash flow.

We think all of the company's positive attributes are reflected in the recent stock quote. The equity has performed well since our last report. As a result, it has below-average return potential over the next three- to five-year period. Indeed, the shares are trading within our estimated Target Price Range. Moreover, AWK is only expected to track the market averages in the year ahead.

James A. Flood — *January 6, 2023*

(A) Diluted earnings. Excludes nonrecur. losses: '06, $4.62; '08, $2.63; '11, $0.07. Disc. oper.: '06, ($0.04); '11, $0.03; '12, ($0.10); '13, ($0.01). GAAP used as of 2014. Includes $2.70 sh. gain from sale of HOS sub. in Q4,'21. Next earnings report due mid-February. (B) Dividends paid in March, June, September, and December. ■ Div. reinvestment available. (C) In millions. (D) Includes intangibles. On 12/31/21: $1.231 billion, $6.67/share. (E) Pro forma numbers for '06 & '07.

Company's Financial Strength	B++
Stock's Price Stability	80
Price Growth Persistence	80
Earnings Predictability	75

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CALIFORNIA WATER NYSE-CWT

RECENT PRICE 61.78 | P/E RATIO 32.2 (Trailing: 41.7; Median: 27.0) | RELATIVE P/E RATIO 1.96 | DIV'D YLD 1.6% | VALUE LINE 1781

TIMELINESS 3 Raised 10/28/22
SAFETY 3 Lowered 7/7/07
TECHNICAL 2 Raised 12/30/22
BETA .70 (1.00 = Market)

18-Month Target Price Range
Low-High $51-$95 Midpoint (% to Mid) $73 (20%)

2025-27 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	75	(+20%)	7%
Low	50	(-20%)	-3%

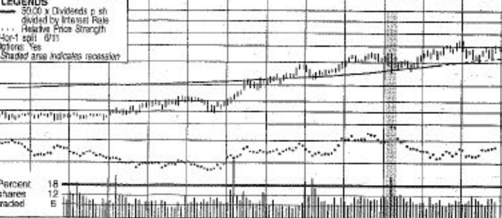
Institutional Decisions

	1Q2022	2Q2022	3Q2022
to Buy	152	121	140
to Sell	127	141	102
Hld's(000)	43279	43653	43549

High: 19.4 18.3 23.4 28.4 26.0 36.8 45.2 49.1 57.5 57.4 72.1 72.0
Low: 16.7 16.8 18.4 20.3 19.5 22.5 32.4 35.3 44.6 39.7 51.0 48.5

LEGENDS — 30.00 x Dividends p sh divided by Interest Rate; .... Relative Price Strength; 2-for-1 split 6/11; Options: Yes; Shaded area indicates recession

Target Price Range 2025 2026 2027



Percent shares traded 18 12 6

% TOT. RETURN 11/22

	THIS STOCK	VL ARITH.* INDEX
1 yr.	4.9	-4.6
3 yr.	32.3	40.0
5 yr.	54.2	49.4

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	© VALUE LINE PUB. LLC	25-27
8.10	8.88	9.90	10.82	11.06	12.00	13.34	12.23	12.50	12.29	12.70	13.89	14.53	14.72	15.78	14.72	15.45	16.70	Revenues per sh	18.70
1.36	1.56	1.86	1.93	1.93	2.07	2.32	2.21	2.47	2.22	2.34	3.00	3.11	3.14	3.88	3.91	3.10	3.65	"Cash Flow" per sh	4.15
.67	.75	.95	.96	.91	.86	1.02	1.02	1.19	.94	1.01	1.40	1.36	1.31	1.97	1.96	1.65	2.15	Earnings per sh A	2.55
.58	.58	.59	.59	.60	.62	.63	.64	.65	.67	.69	.72	.75	.79	.85	.92	1.00	1.08	Div'd Decl'd per sh B■	1.25
2.14	1.84	2.41	2.66	2.97	2.83	3.04	2.58	2.76	3.69	4.77	5.40	5.65	5.64	5.93	5.46	5.85	6.00	Cap'l Spending per sh	6.45
9.07	9.25	9.72	10.13	10.45	10.76	11.28	12.54	13.11	13.41	13.75	14.44	15.19	16.07	18.30	21.92	23.45	24.55	Book Value per sh C	27.30
41.31	41.33	41.45	41.53	41.67	41.82	41.98	47.74	47.81	47.88	47.97	48.01	48.07	48.53	50.33	53.72	54.75	53.00	Common Shs Outst'g D	50.00
29.2	26.1	19.5	19.7	20.3	21.3	17.9	20.1	19.7	24.8	29.6	26.9	30.3	39.3	24.9	30.5	35.4		Avg Ann'l P/E Ratio	24.0
1.58	1.39	1.19	1.31	1.29	1.34	1.14	1.13	1.04	1.25	1.55	1.35	1.64	2.09	1.28	1.67	2.02		Relative P/E Ratio	1.30
2.9%	3.0%	3.1%	3.1%	3.2%	3.4%	3.5%	3.1%	2.8%	2.9%	2.3%	1.9%	1.8%	1.5%	1.7%	1.5%	1.7%		Avg Ann'l Div'd Yield	2.0%
						560.0	584.1	597.5	588.4	609.4	666.9	698.2	714.6	794.3	790.9	845	885	Revenues ($mill) E	935
						42.6	47.3	56.7	45.0	48.7	67.2	65.6	63.1	96.8	101.1	90.5	114	Net Profit ($mill)	128
						37.5%	30.3%	33.0%	36.0%	35.5%	30.1%	24.5%	19.1%	11.1%	20.1%	21.0%	21.0%	Income Tax Rate	21.0%
						8.0%	4.3%	2.7%	4.3%	6.1%	3.5%	3.1%	5.8%	3.3%	1.7%	4.0%	5.0%	AFUDC % to Net Profit	5.0%
						47.8%	41.6%	40.1%	44.4%	44.6%	42.7%	49.3%	50.2%	45.9%	47.3%	42.5%	41.0%	Long-Term Debt Ratio	[illegible]
						52.2%	58.4%	59.9%	55.6%	55.4%	57.3%	50.7%	49.8%	54.1%	52.7%	57.5%	59.0%	Common Equity Ratio	[illegible]
						908.2	1024.9	1045.9	1154.4	1191.2	1209.3	1440.2	1566.7	1702.4	2233.4	2235	2200	Total Capital ($mill)	[illegible]
						1457.1	1515.8	1590.4	1701.8	1859.3	2048.0	2232.7	2406.4	2650.6	2846.9	3000	3025	Net Plant ($mill)	[illegible]
						6.3%	6.0%	6.3%	5.2%	5.5%	7.1%	5.9%	5.5%	7.0%	5.5%	4.5%	6.0%	Return on Total Cap'l	[illegible]
						9.0%	7.9%	9.1%	7.0%	7.4%	9.7%	9.0%	8.1%	10.5%	8.6%	7.0%	9.0%	Return on Shr. Equity	[illegible]
						9.0%	7.9%	9.1%	7.0%	7.4%	9.7%	9.0%	8.1%	10.5%	8.6%	7.0%	9.0%	Return on Com Equity	[illegible]
						3.4%	3.4%	4.1%	2.0%	2.4%	4.7%	4.0%	3.2%	6.0%	4.6%	3.0%	4.5%	Retained to Com Eq	[illegible]
						62%	56%	55%	71%	68%	51%	55%	60%	43%	47%	60%	50%	All Div'ds to Net Prof	[illegible]

CAPITAL STRUCTURE as of 9/30/22
Total Debt $1129.7 mill. Due in 5 Yrs $357.0 mill.
LT Debt $1053.9 mill. LT Interest $40.0 mill.
(Total interest coverage: 7.8x) (47% of Cap'l)

Pension Assets-12/21 $810.5 mill. Oblig. $887.5 mill.
Pfd Stock None

Common Stock 54,824,000 shs.

MARKET CAP: $3.4 billion (Mid Cap)

CURRENT POSITION ($MILL.)	2020	2021	9/30/22
Cash Assets	44.6	78.4	90.5
Other	221.4	222.1	248.7
Current Assets	266.0	300.5	339.2
Accts Payable	131.7	144.4	157.9
Debt Due	375.1	40.2	75.8
Other	81.9	72.0	88.8
Current Liab.	588.7	256.6	322.5

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '19-'21 to '25-'27
Revenues	3.0%	4.0%	3.5%
"Cash Flow"	6.5%	9.0%	2.0%
Earnings	6.5%	11.0%	6.5%
Dividends	3.5%	5.0%	6.5%
Book Value	6.0%	7.0%	5.5%

Cal-endar	QUARTERLY REVENUES ($ mill.)E Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2019	126.1	179.0	232.6	176.9	714.6
2020	125.6	175.5	304.1	189.1	794.3
2021	147.7	213.1	256.7	173.4	790.9
2022	173.0	206.2	266.3	199.5	845
2023	180	220	280	205	885

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2019	d.16	.35	.88	.24	1.31
2020	d.42	.11	1.94	.31	1.97
2021	d.06	.75	1.20	.07	1.96
2022	.02	.36	1.03	.24	1.65
2023	.10	.55	1.15	.35	2.15

Cal-endar	QUARTERLY DIVIDENDS PAID B■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	.1875	.1875	.1875	.1875	.75
2019	.1975	.1975	.1975	.1975	.79
2020	.2125	.2125	.2125	.2125	.85
2021	.230	.230	.230	.230	.92
2022	.250	.250	.250	.250	

BUSINESS: California Water Service Group provides regulated and nonregulated water service to 494,500 customers in 100 communities in the state of California. Accounts for about 94% of total customers. Also operates in Washington, New Mexico, and Hawaii. Main service areas: San Francisco Bay area, Sacramento Valley, Salinas Valley, San Joaquin Valley & parts of Los Angeles. Acquired Rio Grande Corp; West Hawaii Utilities (9/08). Revenue breakdown, '21: residential, 69%; business, 19%; industrial, [illegible]; public authorities, 5%; other 4%. Off. and dir. own 1% of common stock (4/22 proxy). Has 1,184 employees. Pres. and CEO: Martin A. Kropelnicki. Inc.: DE. Addr.: 1720 North First St., San Jose, CA 95112-4598. Tel.: 408-367-8200. Internet: www.calwatergroup.com.

California Water Service Group recently tabbed a few acquisitions. In November, the predominately West Coast water utility operator completed the purchase of Driftwood Valley Association's water system assets in Washington, which is expected to add up to 100 customers to its roster. In addition, California Water finalized its acquisition of Hawaii-based Keauhou Community Services' wastewater system assets subsequent to the deal being rubberstamped by regulators. Lastly, California regulators recently approved the company's application to acquire the King's Mountain water system, which services 23 residential water connections.

A number of headwinds are still pressuring the bottom line, but should start to subside from here. California Water posted earnings of $1.03 per share in the September period, down 14% from the previous-year figure, partly due to higher water production costs and administrative and general operating expenses. Unfavorable benefit plan investment valuations also weighed on the figure. Looking forward, management appears keen on controlling operating expenses, and cumulative rate hikes ought to support recovering operating margins. On balance, our model suggests that share earnings are slated to dip to $1.65 this year, before rebounding to $2.15 in 2023.

The long-term picture holds several bright spots. First, modest annual revenue expansion ought to be underpinned by periodic customer rate hikes, assuming limited hiccups on the approval front from the California Public Utilities Commission. These potential price increases are likely to be prompted by accelerating infrastructure-related spending by California Water in an effort to maintain and upgrade deteriorating water delivery systems, pipelines, and treatment plants. To note, the company is eligible to recoup qualifying costs associated with infrastructure upgrades via approved rate hikes. Finally, an improved economic backdrop augurs well for customer water usage.

But from an investment standpoint, the stock leaves much to be desired at the recent quotation. Neutrally ranked CWT shares offer limited price upside three to five years hence.

Nicholas Patrikis — *January 6, 2023*

(A) Basic EPS. Excl. nonrecurring gain (loss): '11, 4¢. Next earnings report due late Feb. (B) Dividends historically paid in late Feb., May, Aug., and Nov. ■ Div'd reinvestment plan available. (C) Incl. intangible assets. In '21: $36.8 mill, $0.69/sh. (D) In millions, adjusted for split. (E) Excludes non-regulated revenues.

Company's Financial Strength	B++
Stock's Price Stability	95
Price Growth Persistence	90
Earnings Predictability	50

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ESSENTIAL UTIL. NYSE-WTRG

RECENT PRICE 47.57 | P/E RATIO 24.8 (Trailing: 25.4; Median: 25.0) | RELATIVE P/E RATIO 1.51 | DIV'D YLD 2.5% | VALUE LINE 1782

TIMELINESS 4 Lowered 12/9/22
SAFETY 3 Lowered 1/8/21
TECHNICAL 4 Raised 12/16/22
BETA .95 (1.00 = Market)

18-Month Target Price Range
Low-High: $41-$76 | Midpoint (% to Mid): $59 (25%)

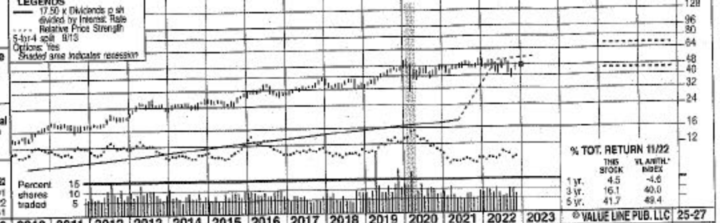
2025-27 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	70	(+45%)	12%
Low	45	(-5%)	2%

Institutional Decisions

	1Q2022	2Q2022	3Q2022
to Buy	292	277	301
to Sell	248	249	222
Hld's(000)	181504	183099	184881

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
High:	19.0	21.5	28.1	28.2	31.1	35.8	39.6	39.4	47.3	54.5	53.9	53.7
Low:	15.4	16.8	20.6	22.4	24.4	28.0	29.4	32.1	32.7	30.4	41.1	38.5



% TOT. RETURN 11/22

	THIS STOCK	VL ARITH.* INDEX
1 yr.	4.5	-4.6
3 yr.	16.1	40.0
5 yr.	41.7	49.4

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	© VALUE LINE PUB. LLC	25-27
3.23	3.61	3.71	3.93	4.21	4.10	4.32	4.32	4.37	4.61	4.62	4.56	4.71	4.03	5.96	7.43	8.20	8.20	Revenues per sh	8.95
1.01	1.10	1.14	1.29	1.42	1.45	1.51	1.82	1.89	1.87	2.07	2.12	1.90	1.73	2.21	2.89	3.05	3.20	"Cash Flow" per sh	4.00
.56	.57	.58	.62	.72	.83	.87	1.16	1.20	1.14	1.32	1.35	1.08	1.04	1.12	1.67	1.80	1.95	Earnings per sh	2.25
.35	.38	.41	.44	.47	.50	.54	.58	.63	.69	.74	.79	.85	.91	.97	1.04	1.11	1.20	Div'd Decl'd per sh	1.55
1.64	1.43	1.58	1.66	1.89	1.90	1.98	1.73	1.84	2.07	2.16	2.69	2.78	2.49	3.41	4.04	3.75	3.85	Cap'l Spending per sh	3.80
5.57	5.85	6.26	6.50	6.81	7.21	7.90	8.63	9.27	9.78	10.43	11.02	11.28	17.58	19.09	20.50	20.60	21.75	Book Value per sh	26.90
165.41	166.75	169.21	170.61	172.46	173.60	175.43	177.93	178.59	176.54	177.39	177.71	178.09	220.75	245.39	252.87	263.00	269.00	Common Shs Outst'g	280.00
34.7	32.0	24.9	23.1	21.1	21.3	21.9	21.2	20.8	23.5	23.9	24.7	32.6	39.1	39.6	28.3	26.2		Avg Ann'l P/E Ratio	26.0
1.87	1.70	1.50	1.54	1.34	1.34	1.39	1.19	1.09	1.18	1.25	1.24	1.76	2.08	2.03	1.55	1.60		Relative P/E Ratio	1.45
1.8%	2.1%	2.8%	3.1%	3.1%	2.8%	2.8%	2.4%	2.5%	2.6%	2.3%	2.4%	2.4%	2.2%	2.2%	2.2%	2.4%		Avg Ann'l Div'd Yield	2.7%
						757.8	768.6	779.9	814.2	819.9	809.5	838.1	889.7	1462.7	1878.1	2165	2200	Revenues ($mill)	2500
						153.1	205.0	213.9	201.8	234.2	239.7	192.0	224.5	284.8	431.6	475	523	Net Profit ($mill)	630
						39.0%	10.0%	10.5%	6.9%	8.2%	6.6%	--	--	--	--	1.0%	8.0%	Income Tax Rate	15.0%
						--	1.1%	2.4%	3.1%	3.8%	6.5%	6.6%	7.2%	4.5%	4.8%	5.0%	5.0%	AFUDC % to Net Profit	6.0%
						52.7%	48.9%	48.5%	50.3%	48.4%	50.6%	54.4%	43.1%	54.0%	52.7%	53.5%	53.5%	Long-Term Debt Ratio	53.0%
						47.3%	51.1%	51.5%	49.7%	51.6%	49.4%	45.6%	56.9%	46.0%	47.3%	46.5%	46.5%	Common Equity Ratio	47.0%
						2929.7	3003.6	3216.0	3469.5	3587.7	3965.4	4407.8	6824.2	10192	10964	11620	12150	Total Capital ($mill)	16000
						3936.2	4167.3	4402.0	4688.9	5001.6	5399.9	5930.3	6345.8	9512.9	10252	10900	11600	Net Plant ($mill)	13500
						6.6%	8.0%	7.8%	6.9%	7.6%	7.1%	5.5%	4.2%	3.7%	4.8%	5.0%	5.5%	Return on Total Cap'l	5.5%
						11.0%	13.4%	12.9%	11.7%	12.7%	12.2%	9.6%	5.8%	6.1%	8.3%	9.0%	8.5%	Return on Shr. Equity	8.5%
						11.0%	13.4%	12.9%	11.7%	12.7%	12.2%	9.6%	5.8%	6.1%	8.3%	9.0%	8.5%	Return on Com Equity	8.5%
						4.3%	6.7%	6.1%	4.7%	5.6%	5.1%	2.1%	.9%	1.1%	3.3%	3.5%	3.0%	Retained to Com Eq	2.5%
						61%	50%	52%	60%	56%	59%	79%	84%	82%	60%	62%	62%	All Div'ds to Net Prof	69%

CAPITAL STRUCTURE as of 9/30/22
Total Debt $6536.8 mill. Due in 5 Yrs $882.1 mill.
LT Debt $6173.6 mill. LT Interest $230.0 mill.
(54% of Cap'l)

Pension Assets-12/21 $433.1 mill. Oblig. $452.9 mill.

Pfd Stock None
Common Stock 262,290,857 shares as of 10/21/22

MARKET CAP: $12.5 billion (Large Cap)

CURRENT POSITION ($MILL.)	2020	2021	9/30/22
Cash Assets	4.8	10.6	23.4
Receivables	154.8	141.0	119.8
Inventory (AvgCst)	58.4	109.6	229.7
Other	162.2	176.6	168.5
Current Assets	380.2	437.8	541.4
Accts Payable	177.5	192.9	217.6
Debt Due	162.6	197.1	363.2
Other	263.8	285.1	267.3
Current Liab.	603.9	675.1	848.1

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '19-'21 to '25-'27
Revenues	3.5%	5.0%	7.5%
"Cash Flow"	5.0%	3.0%	10.0%
Earnings	6.0%	1.0%	10.0%
Dividends	7.5%	7.0%	8.0%
Book Value	11.0%	14.0%	6.0%

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2019	201.1	218.9	243.6	226.1	889.7
2020	255.6	384.5	348.6	474.0	1462.7
2021	583.5	397.0	361.9	535.7	1878.1
2022	699.3	448.8	434.6	572.3	2155
2023	690	475	440	595	2200

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2019	.09	.25	.38	.28	1.04
2020	.21	.29	.22	.40	1.12
2021	.72	.32	.19	.44	1.67
2022	.76	.31	.26	.47	1.80
2023	.81	.38	.28	.48	1.95

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	.2047	.2047	.219	.219	.85
2019	.219	.219	.2343	.2343	.91
2020	.2343	.2343	.2507	.2507	.97
2021	.2507	.2507	.2682	.2682	1.04
2022	.2682	.2682	.287	.287	

BUSINESS: Essential Utilities, Inc. became the new name for Aqua America on Feb. 3, 2020, to reflect the acquisition of Peoples, a natural gas utility, which occurred in 3/20. In 2021, Aqua Amer. provided water and wastewater services to about 5 million people in PA, OH, TX, IL, NC, NJ, IN, VA NS WS. Employs 3,211. Acquired AquaSource, 7/13; N. Maine Util., 7/15; and others. Water resp. for 52% of revenues in 2021; residential, 30%; commercial, 8.0%; industrial, wastewater & other, 14%. Gas 46%; other, 2.0%. Off. & dir. own less than 1% of the common stock; BlackRock, 10.6%; Vanguard, 9.7%; Can. Pen. Plan 8.6% (3/22 proxy). Pres. & CEO: Christopher Franklin. Inc.: PA Addr.: 762 W Lancaster Ave., Bryn Mawr, PA 19010. Tel.: 610-525-1400. Int.: www.essential.co.

Essential Utilities probably closed out 2022 on a positive note. In the third quarter, the water and natural gas utility posted share earnings of $0.26, much higher than the depressed year-earlier figure and our $0.22 estimate. Despite operating costs rising over 9%, rate increases granted by several state regulators allowed revenue growth to outpace expenses by a comfortable margin. In the December interim, we think the company's share net rose a solid 7%, to $0.47.

The positive profit momentum ought to continue into this year. When the previously granted rate relief is combined with some new higher tariffs that are scheduled to be implemented in 2023, we think that Essential's share earnings can increase 8%. The utility's acquisition policy (more below) will also contribute to the bottom line and help offset the impact of having more shares outstanding.

Essential is one of the main members in this group that is improving its profitability by merging with smaller entities. Just like industry giant, American Water Works, it has been purchasing independent water districts that operate in the same states as it does. Due to the inherent inefficiencies that face these water districts, they make good acquisition targets, as substantial cost savings can be achieved.

The construction budget is large. In addition to the takeovers, the company is spending heavily to modernize its pipelines, wastewater facilities, and other assets. Annual outlays will likely average about $1 billion.

New equity is being issued. The company announced that it has authorized a $500 million at-the-market (ATM) program to raise funds. The ATM method provides management with more discretion over when it sells shares. Instead of flooding the market all at once, it can wait until conditions are favorable and sell them in smaller portions.

All of our metrics suggest that investors can find better selections elsewhere. The equity is ranked to underperform in the year ahead. Moreover, the stock's prospects are below the *Value Line* median for both the next 18-month and 3- to 5-year periods.

James A. Flood *January 6, 2023*

(A) Diluted egs. Excl. nonrec. gains: '12, 16¢. Excl. gain from disc. operations: '12, 7¢; '13, 9¢; '14, 11¢. Quarterly EPS do not add in '19 due to a large change in the number of shares outstanding in the Dec. period. Next earnings report mid-February.
(B) Dividends historically paid in early March, June, Sept., & Dec. ■ Div'd. reinvestment plan available (5% discount).
(C) In millions, adjusted for stock split.
(D) Includes intangibles: 12/31/21, $1,231 bill./$4.87 a share.

Company's Financial Strength	B++
Stock's Price Stability	90
Price Growth Persistence	65
Earnings Predictability	60

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MIDDLESEX WATER NDQ-MSEX

RECENT PRICE 86.05 | P/E RATIO 34.8 (Trailing: 36.0; Median: 24.0) | RELATIVE P/E RATIO 2.12 | DIV'D YLD 1.5% | VALUE LINE 1783

TIMELINESS 3 Lowered 12/9/22
SAFETY 2 New 10/21/11
TECHNICAL 3 Raised 1/6/23
BETA .70 (1.00 = Market)

18-Month Target Price Range
Low-High: $75-$160 | Midpoint (% to Mid): $116 (35%)

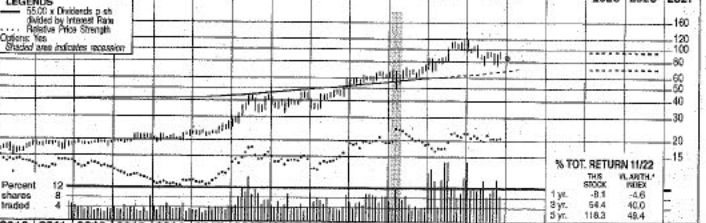
2025-27 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	95	(+10%)	4%
Low	70	(-20%)	-3%

Institutional Decisions

	1Q2022	2Q2022	3Q2022
to Buy	82	90	82
to Sell	90	93	85
Hld's(000)	13006	11842	11820

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
High:	19.4	19.6	22.5	23.7	28.0	44.5	46.7	60.3	67.7	76.1	121.4	121.1
Low:	16.5	17.5	18.6	19.1	21.2	25.0	32.2	34.0	51.0	48.8	67.1	74.2



% TOT. RETURN 11/22

	THIS STOCK	VL ARITH.* INDEX
1 yr.	-8.1	-4.6
3 yr.	54.4	40.0
5 yr.	118.3	49.4

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	© VALUE LINE PUB. LLC	25-27
6.16	6.50	6.79	6.75	6.60	6.50	6.98	7.19	7.26	7.77	8.16	8.00	8.42	7.72	8.10	8.17	9.30	9.90	Revenues per sh	10.85
1.33	1.49	1.53	1.40	1.55	1.46	1.56	1.72	1.84	1.97	2.17	2.24	2.89	2.90	3.25	3.28	3.45	3.70	"Cash Flow" per sh	4.10
.82	.87	.89	.72	.96	.84	.90	1.03	1.13	1.22	1.38	1.38	1.96	2.01	2.18	2.07	2.50	2.70	Earnings per sh A	3.00
.68	.69	.70	.71	.72	.73	.74	.75	.76	.78	.81	.86	.91	.98	1.04	1.11	1.18	1.28	Div'd Decl'd per sh B ■	1.50
2.31	1.66	2.12	1.49	1.90	1.50	1.36	1.26	1.40	1.59	2.91	3.08	4.40	5.11	6.04	4.53	5.00	5.25	Cap'l Spending per sh	6.00
9.52	10.05	10.03	10.33	11.13	11.27	11.48	11.82	12.24	12.74	13.40	14.02	15.17	18.57	19.81	20.99	22.55	22.70	Book Value per sh	22.80
13.17	13.25	13.40	13.52	15.57	15.70	15.82	15.96	16.12	16.23	16.30	16.35	16.40	17.43	17.47	17.52	17.75	17.85	Common Shs Outst'g C	18.00
22.7	21.6	19.8	21.0	17.8	21.7	20.8	19.7	18.5	19.1	25.6	28.4	22.2	29.7	30.1	44.3	36.9		Avg Ann'l P/E Ratio	28.0
1.23	1.15	1.19	1.40	1.13	1.36	1.32	1.11	.97	.95	1.34	1.43	1.20	1.58	1.55	2.43	2.11		Relative P/E Ratio	1.50
3.7%	3.7%	4.0%	4.7%	4.2%	4.0%	4.0%	3.7%	3.7%	3.3%	2.3%	2.2%	2.1%	1.6%	1.6%	1.2%	1.3%		Avg Ann'l Div'd Yield	1.8%
						110.4	114.8	117.1	126.0	132.9	130.8	138.1	134.6	141.6	143.1	165	177	Revenues ($mill)	195
						14.4	16.6	18.4	20.0	22.7	22.8	32.5	33.9	38.4	36.5	44.5	48.0	Net Profit ($mill)	54.0
						33.9%	34.1%	35.0%	34.5%	34.0%	32.7%	2.8%	--	2.8%	2.8%	21.0%	21.0%	Income Tax Rate	21.0%
						3.4%	1.9%	1.7%	1.9%	2.7%	3.1%	1.4%	3.4%	3.9%	3.9%	2.5%	2.5%	AFUDC % to Net Profit	2.5%
						41.5%	40.4%	40.5%	39.4%	37.9%	37.5%	37.8%	41.5%	44.0%	45.3%	43.0%	43.0%	Long-Term Debt Ratio	42.0%
						57.4%	58.7%	58.8%	59.8%	61.5%	61.8%	61.6%	58.2%	55.7%	54.4%	56.5%	56.5%	Common Equity Ratio	[illegible]
						316.5	321.4	336.8	345.4	355.4	370.7	404.1	566.7	621.5	676.3	765	715	Total Capital ($mill)	[illegible]
						435.2	446.5	465.4	481.9	517.8	557.2	618.5	705.7	796.6	865.4	900	915	Net Plant ($mill)	[illegible]
						5.4%	5.9%	6.3%	6.6%	7.1%	6.9%	8.9%	6.7%	6.8%	6.0%	6.5%	7.0%	Return on Total Cap'l	8.0%
						7.8%	8.7%	9.2%	9.6%	10.3%	9.8%	12.9%	10.4%	11.0%	9.9%	11.0%	12.0%	Return on Shr. Equity	13.0%
						7.8%	8.7%	9.3%	9.6%	10.3%	9.9%	13.0%	10.4%	11.1%	9.9%	11.0%	12.0%	Return on Com Equity	13.0%
						1.4%	2.4%	3.1%	3.5%	4.3%	3.8%	7.0%	5.4%	5.8%	4.5%	6.0%	6.5%	Retained to Com Eq	6.5%
						83%	73%	67%	63%	58%	62%	46%	48%	48%	53%	47%	47%	All Div'ds to Net Prof	50%

CAPITAL STRUCTURE as of 9/30/22
Total Debt $308.8 mill. Due in 5 Yrs $43.7 mil.
LT Debt $301.2 mill. LT Interest $7.5 mill.
(Total interest coverage: 9.3x)
(45% of Cap'l)

Pension Assets-12/21 $100.8 mill. Oblig. $113.7 mill.

Pfd Stock $2.4 mill. Pfd Div'd: $.1 mill.

Common Stock 17,639,000 shs. as of 10/28/22

MARKET CAP: $1.5 billion (Small Cap)

CURRENT POSITION ($MILL.)	2020	2021	9/30/22
Cash Assets	4.5	3.5	2.9
Other	29.6	30.9	38.6
Current Assets	34.1	34.4	41.5
Accts Payable	30.4	21.1	25.9
Debt Due	9.3	6.7	7.6
Other	17.1	28.8	59.5
Current Liab.	56.8	56.6	93.0

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '19-'21 to '25-'27
Revenues	2.0%	.5%	5.0%
"Cash Flow"	8.0%	9.5%	4.5%
Earnings	9.5%	11.0%	8.0%
Dividends	3.5%	6.0%	6.0%
Book Value	6.0%	9.0%	2.5%

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2019	30.7	33.4	37.8	32.7	134.6
2020	31.8	35.3	39.9	34.6	141.6
2021	32.5	36.7	39.9	34.0	143.1
2022	38.2	39.7	47.7	41.4	165
2023	42.0	43.0	50.0	42.0	177

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2019	.39	.49	.66	.46	2.01
2020	.44	.55	.72	.47	2.18
2021	.39	.62	.65	.41	2.07
2022	.68	.50	.80	.52	2.50
2023	.53	.62	.90	.65	2.70

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	.22375	.22375	.22375	.24	.91
2019	.24	.24	.24	.2562	.98
2020	.2562	.2562	.2562	.2725	1.04
2021	.2725	.2725	.2725	.29	1.11
2022	.29	.29	.29	.3125	

BUSINESS: Middlesex Water Company engages in the ownership and operation of regulated water utility systems in New Jersey, Delaware, and Pennsylvania. It also operates water and wastewater systems under contract on behalf of municipal and private clients in NJ and DE. Its Middlesex System provides water services to 61,000 retail customers, primarily in Middlesex County, New Jersey. In 2021, the Middlesex System accounted for 59% of operating revenues. At 12/31/21, the company had 347 employees. Incorporated: NJ. President, CEO, and Chairman: Dennis W. Doll. Officers & directors own 2.0% of the com. stock; BlackRock Inst. Trust Co., 7.8% (4/22 proxy). Add.: 485 C Route 1 South, Suite 400, Iselin, NJ 08830. Telephone: 732-634-1500. Int.: www.middlesexwater.com.

Middlesex Water's September-period financial results received a considerable boost from a recent regulatory rate hike approval. Notably, the New Jersey Board of Public Utilities signed off on a base rate increase earlier this year, specifically relating to its Middlesex operations. In combination with an uptick in customer water consumption, third-quarter revenues jumped nearly 20% year over year, despite a slight reduction in customer rates across its Delaware water system (effective September 1st). Meanwhile, earnings rose 23% from the previous-year tally, to $0.80 per share, reflecting strong revenue expansion that more than offset modestly higher operating expenses.

We are lifting our 2022 and 2023 top- and bottom-line estimates accordingly. For this year, we are adding $10 million and $0.05 to our revenue and earnings calls, to $165 million and $2.50 per share, respectively. We envision respectable high single-digit growth in 2023, as well. Revenues are likely to expand 7%, to $177 million (up from our previous estimate of $160 million), while net income is poised for an 8% annual advance, to $2.70 per share (up from $2.50).

The board of directors recently raised the quarterly dividend payout 8%, to just over $0.31 per share. That was brought about by the company's healthy capital position and solid financial growth prospects subsequent to the abovementioned rate approval. Furthermore, we expect steady annual increases in the distribution over the 3- to 5-year stretch, which ought to peg the payout ratio, on average, to around 50%, over that time frame.

Spending on upgrading aging infrastructure and outdated water systems ought to be a main headline over the pull to mid-decade. Indeed, in the years to come, capital is apt to be allocated to water main repairs, pipeline replacements, treatment facility upgrades, and operating technology enhancements.

Neutrally ranked Middlesex stock is currently trading firmly within our 3- to 5-year Target Price Range. Thus, we advise subscribers to remain on the sidelines until a more-attractive entry point is available.

Nicholas Patrikis *January 6, 2023*

(A) Diluted earnings. Next earnings report due early March.
(B) Dividends historically paid in mid-Feb., May, Aug., and November. ■ Div'd reinvestment plan available.
(C) In millions.

Company's Financial Strength	B++
Stock's Price Stability	90
Price Growth Persistence	95
Earnings Predictability	90

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SJW GROUP NYSE-SJW

RECENT PRICE 81.02 | P/E RATIO 34.5 (Trailing: 42.2, Median: 23.0) | RELATIVE P/E RATIO 2.10 | DIV'D YLD 1.8% | VALUE LINE 1784

TIMELINESS 3 Lowered 1/6/23
SAFETY 3 New 4/22/11
TECHNICAL 3 Raised 12/2/22
BETA .80 (1.00 = Market)

LEGENDS: —— 42.00 x Dividends p sh divided by Interest Rate; ···· Relative Price Strength; Options: Yes; Shaded area indicates recession

18-Month Target Price Range
Low-High $58-$100 · Midpoint (% to Mid) $79 (0%)

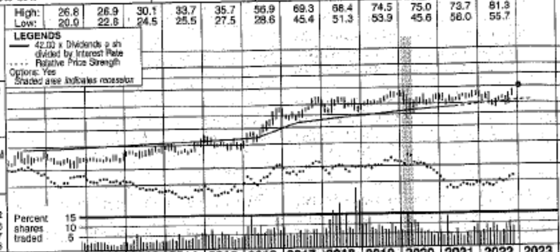
2025-27 PROJECTIONS	Price	Gain	Ann'l Total Return
High	90	(+10%)	5%
Low	60	(-25%)	-5%

Institutional Decisions	1Q2022	2Q2022	3Q2022
to Buy	93	78	96
to Sell	80	104	77
Hld's(000)	21360	21790	22026

Percent shares traded 15 / 10 / 5

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
High	26.8	26.9	30.1	33.7	35.7	56.9	69.3	68.4	74.5	75.0	73.7	81.3
Low	20.0	22.8	24.5	25.5	27.5	28.6	45.4	51.3	53.9	45.6	58.0	55.7

Target Price Range 2025 2026 2027: 160 · 120 · 100 · 80 · 60 · 50 · 40 · 30 · 20 · 15



% TOT. RETURN 11/22	THIS STOCK	VL ARITH.* INDEX
1 yr.	13.4	-4.6
3 yr.	11.7	40.0
5 yr.	20.5	49.4

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	© VALUE LINE PUB. LLC	25-27
10.35	11.25	12.12	11.68	11.62	12.85	14.01	13.73	15.76	14.97	16.61	16.97	14.00	14.78	19.77	19.01	20.00	20.85	Revenues per sh	22.15
2.38	2.30	2.44	2.21	2.38	2.80	2.97	2.90	4.42	3.86	4.76	5.24	3.29	3.13	5.28	5.13	3.70	4.20	"Cash Flow" per sh	4.90
1.19	1.04	1.06	.81	.84	1.11	1.18	1.12	2.54	1.85	2.57	2.86	1.82	.82	2.14	2.03	2.05	2.55	Earnings per sh A	3.25
.57	.61	.65	.66	.68	.69	.71	.73	.75	.78	.81	1.04	1.12	1.20	1.28	1.36	1.44	1.52	Div'd Decl'd per sh B■	1.76
3.57	6.62	3.79	3.17	5.65	3.75	5.67	4.68	5.02	5.24	6.95	7.26	5.08	6.25	7.44	8.32	7.50	8.00	Cap'l Spending per sh	8.75
12.46	12.90	13.99	13.66	13.75	14.20	14.71	15.92	17.75	18.83	20.61	22.57	31.31	31.27	32.12	34.28	36.65	39.15	Book Value per sh	40.85
18.28	18.36	18.18	18.50	18.55	18.59	18.67	20.17	20.29	20.38	20.46	20.52	28.40	28.46	28.56	30.18	30.00	30.00	Common Shs Outst'g C	30.00
23.5	33.4	26.2	28.7	29.1	21.2	20.4	24.3	11.2	16.6	15.7	18.8	32.7	NMF	30.0	32.9	32.3		Avg Ann'l P/E Ratio	23.0
1.27	1.77	1.58	1.91	1.85	1.33	1.30	1.37	.59	.84	.82	.95	1.77	NMF	1.54	1.80	1.85		Relative P/E Ratio	1.30
2.0%	1.7%	2.3%	2.8%	2.8%	2.9%	3.0%	2.7%	2.6%	2.5%	2.0%	1.9%	1.9%	1.9%	2.0%	2.0%	2.2%		Avg Ann'l Div'd Yield	2.3%

CAPITAL STRUCTURE as of 9/30/22
Total Debt $1458.0 mill. Due in 5 Yrs $39.0 mill.
LT Debt $1453.7 mill. LT Interest $50.0 mill.
(LT Interest Coverage: 5.8x) (59% of Cap'l)

Pension Assets-12/21 $310.2 mill. Oblig. $383.8 mill.

Pfd Stock None.
Common Stock 30,315,000 shs.

MARKET CAP: $2.5 billion (Mid-Cap)

2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	© VALUE LINE PUB. LLC	25-27
261.5	276.9	319.7	305.1	339.7	389.2	397.7	420.5	564.5	573.7	600	625	Revenues ($mill)	665
22.3	23.5	51.8	37.9	52.8	59.2	38.8	23.4	61.5	60.5	61.5	76.5	Net Profit ($mill)	98.0
41.1%	38.7%	32.5%	38.1%	38.6%	36.7%	20.6%	26.4%	12.0%	12.2%	21.5%	21.0%	Income Tax Rate	21.0%
--	--	--	--	--	--	--	--	2.0%	1.5%	1.5%	1.5%	AFUDC % to Net Profit	1.5%
55.0%	51.1%	51.6%	49.8%	50.7%	48.2%	32.7%	59.1%	58.4%	59.1%	57.5%	54.0%	Long-Term Debt Ratio	45.0%
45.0%	48.9%	48.4%	50.2%	49.3%	51.8%	67.3%	40.9%	41.6%	40.9%	42.5%	46.0%	Common Equity Ratio	55.0%
610.2	656.2	744.5	764.6	855.0	894.3	1320.7	2173.6	2204.7	2527.5	2575	2550	Total Capital ($mill)	2225
831.6	898.7	963.0	1036.8	1146.4	1239.3	1326.8	2206.5	2334.9	2497.5	2600	2685	Net Plant ($mill)	2825
5.0%	5.0%	8.3%	6.3%	7.4%	7.9%	3.9%	1.8%	4.0%	3.5%	3.0%	3.5%	Return on Total Cap'l	5.0%
8.1%	7.3%	14.4%	9.9%	12.5%	12.8%	4.4%	2.6%	6.7%	5.8%	5.5%	6.5%	Return on Shr. Equity	8.0%
8.1%	7.3%	14.4%	9.9%	12.5%	12.8%	4.4%	2.6%	6.7%	5.8%	5.5%	6.5%	Return on Com Equity	8.0%
3.3%	2.8%	10.2%	5.7%	8.6%	8.2%	1.8%	NMF	2.7%	2.0%	1.5%	2.5%	Retained to Com Eq	3.5%
59%	62%	29%	42%	31%	36%	60%	NMF	59%	66%	70%	60%	All Div'ds to Net Prof	54%

CURRENT POSITION ($MILL.)	2020	2021	9/30/22
Cash Assets	9.3	10.9	13.2
Accts Receivable	58.1	53.7	71.1
Other	59.9	69.5	73.6
Current Assets	127.3	134.1	157.9
Accts Payable	34.2	30.4	29.8
Debt Due	76.2	39.1	4.3
Other	240.4	133.8	284.6
Current Liab.	350.8	203.3	318.7

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '19-'21 to '25-'27
Revenues	4.0%	2.5%	3.5%
"Cash Flow"	6.0%	.5%	1.5%
Earnings	6.0%	-6.5%	12.0%
Dividends	6.5%	10.5%	5.5%
Book Value	9.0%	11.5%	4.0%

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2019	77.7	103.0	114.0	125.8	420.5
2020	115.8	147.2	165.9	135.6	564.5
2021	114.8	152.2	166.9	139.8	573.7
2022	124.3	149.0	176.0	150.7	600
2023	130	160	180	155	625

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2019	.21	.47	.33	d.19	.82
2020	.08	.69	.91	.46	2.14
2021	.09	.69	.64	.60	2.03
2022	.12	.38	.82	.73	2.05
2023	.23	.57	.95	.80	2.55

Cal-endar	QUARTERLY DIVIDENDS PAID B■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2018	.28	.28	.28	.28	1.12
2019	.30	.30	.30	.30	1.20
2020	.32	.32	.32	.32	1.28
2021	.34	.34	.34	.34	1.36
2022	.36	.36	.36	.36	

BUSINESS: SJW Group engages in the production, purchase, storage, purification, distribution, and retail sale of water. It provides water service to approximately 231,000 connections with a total population of roughly one million people in the San Jose area and 16,000 connections that reach about 49,000 residents in the region between San Antonio and Austin, Texas. The company merged with Connecticut Water (10/19) which provides service to approx. 138,000 connections with a total population of 450,000 people. Has 751 employees. Officers and directors own about 8.0% of outstanding shares (3/22 proxy). Chairman & CEO: Eric Thornburg. Incorporated: California. Address: 110 West Taylor Street, San Jose, CA 95110. Telephone: (408) 279-7800. Internet: www.sjwater.com.

SJW Group delivered third-quarter financial results on par with our expectations. Revenues of $176 million improved 5% year over year, while earnings jumped 28%, to $0.82 per share. A combination of cumulative rate hikes, favorable memorandum account adjustments, and modest new customer additions helped offset a decline in customer water usage during the period. That said, operating expenses, including water production, energy, labor, and administrative, registered slight annual increases in the September quarter.

The pending California general rate case decision is imminent. At this time, financial results are derived from the 2021 base rate. Upon approval of higher 2022 rates, SJW will realize prorated revenues for the prior nine months of operations. Our presentation, however, does not factor this in, as there is some ambiguity around the final determination.

Our outlook for healthy infrastructure-related investment spending over the long haul remains intact. For starters, the latest general rate application also addresses the necessity for increased water system investment to ensure reliable, clean drinking water. Specifically, a newly proposed three-year capital budget of $350 million is likely to be allocated across the company's operating footprint with the purpose of replacing aging pipelines and water mains, upgrading water treatment facilities, and accelerating its technologically advanced water monitoring initiatives. All told, SJW ought to build up a steady backlog of recoverable revenues while executing on plans to invest more than $1 billion on infrastructure upgrades by late decade.

Despite holding a rank of 3 (average) for Timeliness, we think the equity has some appeal. SJW shares have advanced more than 30% in value over the past three months, etching a fresh all-time high water mark in the process. We are bullish on the stock's near-term price prospects as we head into the new year. That said, appreciation potential over the 18-month and 3- to 5-year windows is limited at recent levels. In sum, the stock is best suited for investors looking to ride the recent price momentum.

Nicholas Patrikis · *January 6, 2023*

(A) Diluted earnings. Excludes nonrecurring losses: '06, $16.36; '08, $1.22; '10, $0.46. GAAP accounting as of 2013. Next earnings report due early February. Quarterly egs. may not add due to rounding.
(B) Dividends historically paid in early March, June, September, and December. ■ Div'd reinvestment plan available.
(C) In millions.
(D) Paid special dividend of $0.17 per share on 11/17.

Company's Financial Strength	B+
Stock's Price Stability	90
Price Growth Persistence	70
Earnings Predictability	45

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INDUSTRY TIMELINESS: 11 (of 93)

The Brokers & Exchanges Industry, as a whole, has held up despite recent market turbulence. In fact, the group is ranked near the top of the *Value Line* investment universe for year-ahead relative price performance.

The financial companies and exchange operators discussed herein are no strangers to major market movements. In fact, many of their businesses are embroiled in the ups and downs of the global equity markets.

We will take a closer look as to how external factors may impact this industry in the near term, and what internal improvements the brokers and exchanges are taking in order to counter headwinds and better position themselves for growth.

The Macroeconomic Environment

In March of 2020, the global economy was hard hit by the onset of COVID-19. Stock markets across the world slumped in the early days of the pandemic, and countries implemented shelter-in-place orders to curb the spread of the virus, and limited non-essential business. China, however, continued its zero-COVID policies, though the world's second-largest economy plans to lift travel restrictions and will be reopening its borders in early 2023. The lingering effects of the coronavirus have had echoes in the market's recent rout.

Rapid inflation hurt businesses and consumers across the globe. In addition, supply-chain disruptions also led to higher operating costs. The ongoing war between Russia and Ukraine further exacerbated oil and energy valuations. Likewise, there are ongoing concerns that several nations are on the brink of a recession or stagnant economic growth.

Overall, 2022 was a turbulent year for U.S. and global stocks, with the major U.S. equity indexes entering into bear market territory several times over the course of the year.

The one silver lining for the exchange operators and financial companies is that market volatility can be good for their businesses. Increased trading activity can boost their revenues, regardless if it is spurred by bullish or bearish market movement. Moreover, a few herein have rolled out new products and services to help their clients navigate the difficult market climate.

Rising U.S. Interest Rates

The Federal Reserve has been trying to strengthen the U.S. economy. At the conclusion of the December meeting of the Federal Open Market Committee, the central bank announced another 50-basis-point increase to the benchmark federal funds rate, raising it to a range of 4.25% to 4.50%. The Fed has also continued its bond-buying program. Additional interest-rate hikes are likely in the next year or so.

The tighter monetary policy aims to restrict money in circulation, and limit consumer spending, thereby countering inflation, which is still flirting with 40-year highs. Personal Consumption Expenditures (PCE) figures have moderated over the last few quarters, but it may take more time for the central bank's efforts to significantly move the needle.

Equities tend to lose some of their luster in rising interest-rate environments. However, thanks to the companies' well-diversified portfolios, and exposure to fixed-income assets, we think that they will perform decently regardless of the market backdrop.

Strategic Business Improvements

The companies herein operate in a fairly competitive space. Several have long histories of growth through acquisitions, and may consider asset purchases or other investments, such as technological innovation, to strengthen their rosters.

Meanwhile, a few implemented cost controls or have been focusing on productivity improvements to bolster margins and aid profit growth.

Conclusion

The Brokers & Exchange Industry has been on an upswing over the past few months. The group, as a whole, is ranked near the top of the *Value Line* industry ranking system for Timeliness.

Due to the nature of their businesses and their proximity to the eye of the storm, so to speak, the companies herein and their stocks tend to be vulnerable to market volatility. As a result, we imagine the stocks herein will probably face a bumpy road in the near term. Moreover, the issues' recent price strength has limited some of the capital appreciation potential we envision over the 2025-2027 pull. Consequently, investors with a longer-term bent may want to wait for a better entry point before taking a position.

Despite elevated volatility, many securities exchanges and brokerages may still appeal to conservative investors. Several in this group are mature companies with long histories and stable finances, earning them high scores for Financial Strength. Moreover, a few stocks stand out thanks to their above-average Safety ranks.

What's more, a few members herein possess attractive dividend yields. Plus, most of their payouts are well secured, thanks to their healthy cash flow. As a result, income-oriented investors may want to take a closer look here, especially those seeking investment vehicles with risk-adjusted total return prospects.

As always, we caution readers from painting with too broad a brush, and recommend evaluating each individual stock report and equity's investment merits and risks before making any capital commitments.

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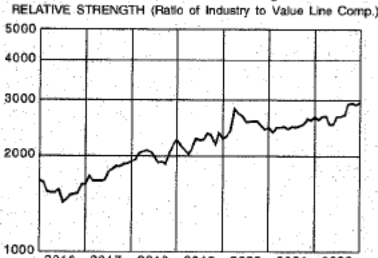
Brokers & Exchanges
RELATIVE STRENGTH (Ratio of Industry to Value Line Comp.)



Index: January, 1974 = 100

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Artesian Res Corp NASDAQ:ARTNA

Last Price	Day Change	Trailing P/E	Relative P/E Last FY	Dividend Yield	3 to 5-Year Target Price Range	Performance	Safety	Financial Strength
$60.77	-$0.53 (-0.86%)		1.36	1.82%	–			

As of 9:32 AM Jan 27, 2023. Delayed at least 15 minutes.

Industry Rank: Water Utility -

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CHARTING

1d | 5d | 3m | 1y | 5y | Show data

QUOTES

Last Price	Day's Change	Volume
$61.30	$0.00 0.00%	50

Bid (size)	Ask (size)	
$58.74 (1)	$63.72 (1)	Above 10-day avg.

As of 3:59 PM Jan 26, 2023. Delayed at least 15 minutes.

Previous close	61.30
Open	–
Trailing P/E	
Market cap	527.79M
Shares outstanding	8.61M
Beta	0.7
Next earnings date	5/8/2020

52 Week Low & High

$44.08 6/14/2022 — 1/25/2023 $63.00

$61.30

Hist. Prices

INDUSTRY AN

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Filing	Filing Date	Category
SC 13G/A	Jan 24, 2023	Insider Activity
5	Jan 17, 2023	Insider Activity
5	Jan 10, 2023	Insider Activity
5	Jan 10, 2023	Insider Activity
5	Jan 10, 2023	Insider Activity
5	Jan 10, 2023	Insider Activity
5	Jan 10, 2023	Insider Activity
5	Jan 10, 2023	Insider Activity
5	Jan 10, 2023	Insider Activity

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DOW 30

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Company Name	Ticker	Safety™
3M Company	MMM	1
American Express Company	AXP	2
Amgen Inc	AMGN	1
Apple Inc	AAPL	1
Boeing Co	BA	3
Caterpillar Inc	CAT	2
Chevron Corporation	CVX	3
Cisco Systems Inc	CSCO	1
Coca Cola Company	KO	1
Dow Inc.	DOW	3

View all »

INSIDER TRANSACTIONS

Options | Buys & Sells

Buys Sells

All insiders

Date	Insider	Trans.
Dec 14	Taylor Dian C	Sell
Dec 14	Taylor Dian C	Sell
Dec 13	Taylor Dian C	Sell
Dec 13	Taylor Dian C	Sell
Dec 12	Taylor Dian C	Sell
Dec 12	Taylor Dian C	Sell
Dec 9	Taylor Dian C	Sell

INSTITUTIONAL OWNERSHIP

Number of Transactions — Show top holders

Buyers Sellers Closing price

Percent Shares Held by Institutions

FINANCIAL STATEMENTS

Income Statement & Balance Sheet	2021	2 Year Trend
Gross Profit	49	
Total Operating Expenses	69	
Operating Income	**22**	
Net Income	**17**	
Total Liabilities	**447**	
Shareholders' Equity	**178**	
Total Liab. & Stockholders' Eq.	**625**	
Cash Flow		
Closing Cash	**0**	
Net CapEx	**–**	
Free Cash Flow	**-10**	

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York Water Co. (The) NASDAQ:YORW

Last Price	Day Change	Trailing P/E	Relative P/E	Last FY	Dividend Yield	3 to 5-Year Target Price Range	Performance	Safety	Financial Strength
$45.60	$0.05 (0.11%)				1.78%	–			

As of 9:30 AM Jan 27, 2023. Delayed at least 15 minutes.

Industry Rank: Water Utility -

Securities Banner:
Customize the page to your preference by choosing from three Security Banners.
1 of 4 Close All Next

CHARTING

1d | 5d | 3m | 1y | 5y Show data

QUOTES

Last Price	Day's Change	Volume
$45.55	**$0.00 0.00%**	**28,746**

Bid (size)	Ask (size)	
$45.60 (5)	**$46.90 (3)**	**Below** 10-day avg.

As of 4:00 PM Jan 26, 2023. Delayed at least 15 minutes.

Previous close	45.55
Open	–
Trailing P/E	
Market cap	650.27M
Shares outstanding	14.28M
Beta	0.8
Next earnings date	3/14/2012

52 Week Low & High

$36.85 10/13/2022 — 3/7/2022 $47.95

$45.55

Hist. Prices

INDUSTRY AN

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SEC FILINGS

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Filing	Filing Date	Category
SC 13G/A	Jan 25, 2023	Insider Activity
4	Jan 20, 2023	Insider Activity
4	Jan 20, 2023	Insider Activity
4	Jan 19, 2023	Insider Activity
4	Jan 19, 2023	Insider Activity
4	Jan 19, 2023	Insider Activity
4	Jan 19, 2023	Insider Activity
4	Jan 19, 2023	Insider Activity
4	Jan 19, 2023	Insider Activity
4	Jan 19, 2023	Insider Activity
4	Jan 19, 2023	Insider Activity

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Amgen Inc	AMGN	1
Apple Inc	AAPL	1
Boeing Co	BA	3
Caterpillar Inc	CAT	2
Chevron Corporation	CVX	3
Cisco Systems Inc	CSCO	1
Coca Cola Company	KO	1
Dow Inc.	DOW	3

View all »

INSIDER TRANSACTIONS

Options | Buys & Sells

Buys Sells

All insiders

Date	Insider	Trans.
Dec 20	Rasmussen Stev...	Buy
Dec 9	Hand Joseph Th...	Buy
Nov 21	Rasmussen Stev...	Buy
Nov 14	Bracey Vernon L	Sell
Oct 20	Rasmussen Stev...	Buy
Oct 17	Hand Joseph Th...	Buy
Oct 17	Wheeler Mark A	Buy

INSTITUTIONAL OWNERSHIP

Number of Transactions Show top holders

Buyers Sellers Closing price

Percent Shares Held by Institutions

FINANCIAL STATEMENTS

Income Statement & Balance Sheet	2021	2 Year Trend
Gross Profit	43	
Total Operating Expenses	32	
Operating Income	**23**	
Net Income	**17**	
Total Liabilities	**306**	
Shareholders' Equity	**153**	
Total Liab. & Stockholders' Eq.	**459**	
Cash Flow		
Closing Cash	**0**	
Net CapEx	**–**	
Free Cash Flow	**11**	

Company Name		AMERICAN STATES WATER COMPANY	AMERICAN WATER WORKS COMPANY, INC.	ARTESIAN RESOURCES CORPORATION	CALIFORNIA WATER SERVICE GROUP	ESSENTIAL UTILITIES, INC.	MIDDLESEX WATER COMPANY	SJW GROUP	THE YORK WATER COMPANY
2017	Sales-Net[y17]	440.603	3357	82.235	676.113	809.525	130.775	389.225	48.589
2018	Sales-Net[y18]	436.816	3440	80.411	698.196	838.091	138.077	397.699	48.437
2019	Sales-Net[y19]	473.869	3610	83.595	714.557	889.692	134.598	420.482	51.578
2020	Sales-Net[y20]	488.243	3777	88.141	794.307	1462.698	141.592	564.526	53.852
2021	Sales-Net[y21]	498.853	3930	90.859	790.909	1878.144	143.141	573.686	55.119
2022	Sales-Net[y22]	491.528	3792	98.897	846.431	2288.032	162.434	620.698	60.061
2017	Cash & Short Term Investment[y17]	0.214	55	0.952	94.776	4.204	4.937	7.799	0.002
2018	Cash & Short Term Investment[y18]	7.141	130	0.293	47.176	3.627	3.705	420.722	0.002
2019	Cash & Short Term Investment[y19]	1.334	60	0.596	42.653	1868.922	2.23	12.944	0.002
2020	Cash & Short Term Investment[y20]	36.737	547	0.028	44.555	4.827	4.491	5.269	0.002
2021	Cash & Short Term Investment[y21]	4.963	116	0.092	78.38	10.567	3.533	10.908	0.001
2022	Cash & Short Term Investment[y22]	5.997	85	1.309	62.1	11.398	3.828	12.344	0.001
2017	Current Assets-Total[y17]	155.463	720	18.985	227.873	131.246	29.247	66.858	8.611
2018	Current Assets-Total[y18]	131.468	781	16.118	188.702	147.172	30.815	502.722	9.011
2019	Current Assets-Total[y19]	122.456	1285	14.207	184.712	2015.127	29.133	122.046	9.384
2020	Current Assets-Total[y20]	157.115	1906	17.619	266.016	380.22	34.123	127.331	16.29
2021	Current Assets-Total[y21]	138.052	1554	18.664	300.458	437.795	34.355	134.085	11.262
2022	Current Assets-Total[y22]	151.294	1250	27.804	295.535	658.159	37.306	154.714	14.234
2017	Debt in Current Liabilities[y17]	59.324	1230	11.258	291.02	139.048	34.865	25	1.044
2018	Debt in Current Liabilities[y18]	40.32	1049	17.784	170.011	228.723	55.843	100	1.03
2019	Debt in Current Liabilities[y19]	7.193	814	9.24	198.42	142.941	27.178	139.481	6.5
2020	Debt in Current Liabilities[y20]	2.371	1611	28.695	376.884	214.22	9.255	251.335	0
2021	Debt in Current Liabilities[y21]	33.421	641	28.33	41.994	286.709	19.731	102.102	7.5
2022	Debt in Current Liabilities[y22]	257.791	1465	22.222	74.375	465.866	73.662	163.938	0
2017	Current Liabilities-Total[y17]	156.662	2325	28.461	490.959	284.488	64.537	85.052	9.145
2018	Current Liabilities-Total[y18]	146.585	2094	37.731	321.166	398.977	94.363	163.985	10.841
2019	Current Liabilities-Total[y19]	115.998	2045	25.599	358.721	323.461	64.981	234.567	15.156
2020	Current Liabilities-Total[y20]	118.572	2881	43.724	588.706	603.873	56.848	350.795	11.993
2021	Current Liabilities-Total[y21]	155.574	2141	47.206	271.937	675.063	56.619	203.271	20.086
2022	Current Liabilities-Total[y22]	396.522	2811	44.069	294.65	1021.869	117.859	264.65	16.981
2017	noncash wkcap	57.911	-430	0.83	-66.842	-18.398	-5.362	-0.993	0.508
2018	noncash wkcap	18.062	-394	-4.122	-9.629	-26.709	-11.41	18.015	-0.802
2019	noncash wkcap	12.317	-6	-2.748	-18.242	-34.315	-180.486	233.427	15.882
2020	noncash wkcap	4.177	89	2.562	9.639	-14.26	-17.961	22.602	4.295
2021	noncash wkcap	10.936	-62	-0.304	-7.865	38.874	-6.066	22.008	-1.325
2022	noncash wkcap	6.566	-181	4.648	13.16	90.758	-10.719	41.658	-2.748
2018	Change Non cashWrk Cap	-39.849	36	-4.952	57.213	-8.311	-6.048	19.008	-1.31
2019	Change Non cashWrk Cap	-5.745	388	1.374	-8.613	-7.606	-169.076	215.412	16.684
2020	Change Non cashWrk Cap	-8.14	95	5.31	27.881	20.055	162.525	-210.825	-11.587
2021	Change Non cashWrk Cap	6.759	-151	-2.866	-17.504	53.134	11.895	-0.594	-5.62
2022	Change Non cashWrk Cap	-4.37	-119	4.952	21.025	51.884	-4.653	19.65	-1.423
2018		-9.12%	1.05%	-6.16%	8.19%	-0.99%	-4.38%	4.78%	-2.70%
2019	Wk cap/sale	-1.21%	10.75%	1.64%	-1.21%	-0.85%	-125.62%	51.23%	32.35%
2020	Wk cap/sale	-1.67%	2.52%	6.02%	3.51%	1.37%	114.78%	-37.35%	-21.52%
2021	Wk cap/sale	1.35%	-3.84%	-3.15%	-2.21%	2.83%	8.31%	-0.10%	-10.20%
2022	Wk cap/sale	-0.89%	-3.14%	5.01%	2.48%	2.27%	-2.86%	3.17%	-2.37%
	Average	-2.31%	1.47%	0.67%	2.15%	0.92%	-1.95%	4.35%	-0.89%
							Median		0.80%

The following sources of information were reviewed but are not included in the workpapers as they are included separately in the PA PUC section 1329 filing related to this FMV and are considered included by this reference:

"Engineering Assessment Study, Physical Assets of the Elizabeth Borough Municipal Authority," dated February 2024, and related files prepared by LSSE, Inc.;

Asset Purchase Agreement;

Wastewater System's Service Agreements;

EBMA's Customer List;

EBMA's Maps;

STP Compliance Evaluation Inspection Reports;

EBMA's CSO Long-Term Control Plan;

EBMA's NPDES Electronic Discharge Monitoring Reports;

Wastewater System's Act 537 Plan update; and

Wastewater System's 2022 Chapter 94 Report.