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July 26, 2021

Via Electronic Filing

Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street
Harrisburg, PA 17120

In re: Docket No. A-2021-3026132

Application of Aqua Pennsylvania Wastewater, Inc. pursuant to Sections 1102, 1329, 507 and 2102 of the Public Utility Code for Approval of its Acquisition of the Wastewater System Assets of East Whiteland Township

Dear Secretary Chiavetta:

We are counsel to Aqua Pennsylvania Wastewater, Inc. in the above matter, which we uploaded for filing, via Share Point, on Friday afternoon, July 23, 2021. The uploaded filing included 78 separate pdf files. During our post filing review, we discovered that Item #65 – Exhibit Q - FMV Appraisal - Gannett Fleming Valuation and Rate Consultants, LLC – is a duplicate of Item #66 – Exhibit R - FMV Appraisal - AUS Consultants. To correct that oversight, we are uploading with this letter the intended Exhibit Q – FMV Appraisal - Gannett Fleming Valuation and Rate Consultants, LLC. Please replace the Exhibit Q, uploaded to you on July 23, 2021, with the Exhibit Q included with this letter and contact me with any questions concerning this matter.

Very truly yours,

THOMAS, NIESEN & THOMAS, LLC

By

Thomas T. Niesen

cc: Daniel Searfoorce, Manager (via email, w/encl.)
Sean Donnelly, Supervisor (via email, w/encl.)
Allison C. Kaster, Esq. (via email, w/encl.)
Christine Maloni Hoover, Esq. (via email, w/encl.)
Teresa Reed Wagner (via email, w/encl.)
Alexander R. Stahl, Esquire (via email, w/encl.)
Thomas S. Wyatt, Esquire (via email, w/encl.)

EXHIBIT Q

FAIR MARKET VALUE APPRAISAL
GANNETT FLEMING VALUATION
AND RATE CONSULTANTS, LLC

EAST WHITELAND TOWNSHIP
WASTEWATER SYSTEM ASSETS

FAIR MARKET VALUE APPRAISAL

AT

MAY 20, 2021

Prepared by:
GANNETT FLEMING
VALUATION AND RATE CONSULTANTS, LLC



Valley Forge, Pennsylvania



Gannett Fleming

*Excellence Delivered **As Promised***

June 25, 2021

VIA EMAIL

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

Re: Fair Market Value Appraisal

Dear Mr. Packer:

In accordance with your request, we have prepared a fair market value appraisal of East Whiteland Township's wastewater system assets ("Wastewater System") as of May 20, 2021.

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

Based on our analysis, as described in the attached appraisal report, the estimate of the fair market value of the Wastewater System as of May 20, 2021 is \$55,668,000 (rounded).

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

The attached narrative appraisal presents our findings and conclusions regarding the fair market value of the Wastewater System's assets of May 20, 2021. The report describes the valuation methodologies employed and the Exhibits that present the valuation results.

Gannett Fleming Valuation and Rate Consultants, LLC

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Mr. William C. Packer
Bryn Mawr, PA 19010

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June 25, 2021

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

<u>Valuation Approach</u>	<u>Indicated Value</u>
Cost Approach	\$59,118,924
Income Approach	61,147,544
Market Approach	46,741,589

We thank Aqua 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:amp

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INTRODUCTION

Introduction and Summary. The following narrative report presents our findings and conclusions regarding the fair market value of the wastewater system assets of the East Whiteland Township as of May 20, 2021. The report describes the valuation methodologies employed and the Exhibits that present the valuation results. Based upon the analyses, we believe the fair market value of the East Whiteland Township's wastewater system assets is \$55.7 million. This conclusion is based upon the values suggested by the Cost, Income, and Market approaches. During our analysis we found indications of value that ranged from \$46.7 million to \$61.1 million. However, most of the appropriate indicated values approximated \$55.7 million.

Description of the Assignment. Gannett Fleming Valuation and Rate Consultants, LLC was retained by Aqua Pennsylvania Wastewater, Inc. ("Aqua") to estimate the fair market value of East Whiteland Township's wastewater system assets ("Wastewater System") as of May 20, 2021.

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

¹ The International Glossary of Business Valuation Standards

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

We valued the 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.

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 Uniform Standards of Professional Appraisal Practices, employing the cost, market, and income approaches.

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

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 the East Whiteland Township and/or Aqua 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.

Site Inspection. We viewed or observed the Wastewater System's facilities on June 15, 2021. We also relied on engineering assessment of the Wastewater System's facilities report, "East Whiteland Township Sewerage Facilities Engineering Assessment and Original Cost" and related files prepared by Pennoni Associates Inc., to confirm the condition of the Wastewater System's property and equipment.

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

"East Whiteland Township Sewerage Facilities Engineering Assessment and Original Cost" and related files prepared by Pennoni Associates Inc.;

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

Wastewater System's Customer data;

Wastewater System's Fee Schedule;

Wastewater System's 537 Plan;

Wastewater System's Chapter 94 Reports;

Wastewater System's Sewage Service and Treatment Agreements;

Wastewater System's Municipal Wasteload Management Program Reduction Plan;

Asset Purchase Agreement;

East Whiteland Township's Audited Financials (2016 - 2019);

East Whiteland Township's Budgets for Wastewater System (2020 - 2021);

Blue Chip Financial Forecasts;

US Census Bureau, various data files;

Value Line Investment Survey; and

S&P Capital IQ.

Description of the East Whiteland Township. East Whiteland Township is located in east-central Chester County, in southeastern Pennsylvania. East Whiteland Township borders Malvern Borough and the Townships of Tredyffrin, Willistown, East Goshen, West Whiteland, and Charlestown, all located in Chester County. East Whiteland Township is the 35th largest land mass of Chester County's 73 municipalities and was the 20th most populous with 10,702 people (2015) and 3,551 housing units (2015). East Whiteland Township consists of 10.9 square miles and lies approximately 29 miles northwest of Philadelphia, Pennsylvania. According to U.S. Census figures, East Whiteland Township's population grew 14.1% from 2000 to 2010, while population in Pennsylvania grew 3.4% and 15.1% in Chester County.

East Whiteland Township has a diverse and dynamic economy, boasting over 900 payroll establishments. "With more than 20,000 persons employed in the municipality, the number of people who work in the Township is much greater than the resident population. The present ratio of employed persons to residents, more than two to one, is likely to continue, with several large office complexes slated for construction during the coming years."²

Description of the Wastewater System. East Whiteland Township owns and operates the Wastewater System which consists of 12 pump stations, about 329,072 linear feet of mains, approximately 1,506 manholes, associated infrastructure and appurtenances, and related land and land rights. The Wastewater System accepts flows and collects sewer rental fees from the adjoining municipalities of East Goshen Township, Charlestown Township and Malvern Borough.

² <https://www.eastwhiteland.org/244/Demographics> , 6/14/21

The Wastewater System, in turn, pays sewer rental fees to neighboring Tredyffrin Township and East Goshen Township, and a public utility company for conveyance and to the Valley Forge Sewer Authority Wastewater Treatment Plant for which the Township has purchased capacity.

The Wastewater System's 12 pump stations are: Deer Run; Flat Road; Hillbrook Circle; King Road; Lapp Road; Lee Boulevard; Malvern Hunt; Meadowview; Mill Lane; Planebrook Road; Westgate; and Wilburdale. The Wastewater System has approximately 26,300 linear feet of force mains ranging in size from 4 to 14 inches diameter and were installed between 1976 to 2017. The force mains consist of asbestos-cement ("ACP"), ductile iron ("DIP") and polyvinyl chloride ("PVC") pipe.

The Wastewater System's 302,772 linear feet of gravity sewer collection mains consist of 8-inch, 10-inch, 12-inch, 15-inch, 16-inch, 18-inch, 20-inch, 24-inch, 27-inch and 36-inch diameter pipe which was installed between 1951 to 2020. About 41% of the gravity mains were installed in the 1970s, 27% between 1980 and 1999, and 21% after 1999. The mains consist of ACP, cast iron ("CIP"), corrugated steel ("CSP"), DIP and PVC pipe. There are 1,506 manholes and 3,895 service laterals in the system.

East Whiteland Township utilizes one enterprise fund to account for the Wastewater System's operations. East Whiteland Township's audited financial statements reflect the use of the full accrual accounting, which measures revenues when earned and expenses when a liability is incurred, regardless of the timing of related cash flows. For the year ended December 31, 2019, (shown on Exhibit 1) the Wastewater System had reported revenues of \$4.444 million and expenses of \$3.848 million. At the same point in time, the Wastewater System was capitalized with \$26.447 million of fund equity and East Whiteland Township's long-term debt attributable

to the Wastewater System was \$16.065 million. At the same point in time, the Wastewater System had total assets of \$45.379 million, including \$34.143 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 PA Department of Community and Economic Development ("DCED") versus Financial Accounting Standards Board ("FASB") method of accounting used by investor-owned utilities ("IOU"). Municipalities are not typically concerned with the return on and the return of their investments of their utility systems since they deem they are providing a public service to their taxpayers. Municipalities typically expense (i.e., maintenance expense) renewals replacement, and customer collection services capital expenditures and they do not typically fully account for the replacement of all capital assets which are all typically capitalized (i.e., construction of capital asset, construction expenditure, etc.) and "booked" at original cost by IOUs. For these reasons, we do not believe Wastewater System's financial statements should be fully relied upon without recognizing their limitations.

As shown on Exhibit 2, the Wastewater System provides service to 3,895 customers within a population of 14,720 people and services approximately 7,908 Equivalent Dwelling Units ("EDU"). EDUs are estimated to increase by 2,443 EDUs through 2025.

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 9.7% from 2000 to 2010, and the population in Pennsylvania grew 3.4%. During this same period, Chester County's population grew 15.1% and East Whiteland Township's population grew 14.1% (Exhibit 3, Table 3.2). East

Whiteland Township's population growth was ranked 323 of the 2,572 municipalities in Pennsylvania.

The Census Bureau and planning agencies provide population projections for future time periods. Population projections are a primary indicator of expected future growth, and they help determine predictable demand for utility services, housing, roads, business services and facilities. The Delaware Valley Regional Planning Commission ("DVRPC") publishes population projections and employment projections for East Whiteland Township and the nine Delaware Valley counties ("Nine DVRPC Counties"). The DVRPC counties include Bucks County, Chester County, Delaware County, Montgomery County and Philadelphia County, in Pennsylvania, and Burlington County, Camden County, Gloucester County, and Mercer County, in New Jersey.

As shown on Page 2 of Exhibit 3, Table 3.3, East Whiteland Township's population growth is projected to be about 507% the growth rate projected for the Nine DVRPC Counties during each five-year period from 2015 through 2045. East Whiteland Township's project population growth places them in the upper 81 percent or 81st percentile of the 369 municipalities analyzed by DVRPC. Page 3 of Exhibit 3, Table 3.4 shows East Whiteland Township's employment growth is projected to be about 262% the growth rate projected growth rate projected for the Nine DVRPC Counties during each five-year period from 2015 through 2045.

Currently, there are approximately 14,720 people (Exhibit 2) in the Wastewater System's service area. There are 5,085 housing units in the Wastewater System's service area, and the ratio of people to households is 2.89 persons per household. The Wastewater System's service area density is 3.8 people per customer based on an estimated population of 14,720 and 3,895 customers. The Wastewater System's service area density is higher than the 3.6 per customer

density of water and wastewater systems (see Table 2 in this report) indicating lower market penetration.

HISTORY AND NATURE OF THE BUSINESS

Economic Outlook. The valuation date (May 20, 2021) 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.

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

We do not believe the appraised value of the long-lived Wastewater System assets is materially impacted by the COVID-19 or its related relatively short-term events. The Wastewater System’s customer base is not heavily dependent on customers from sectors of the economy providing tourism and travel, employment services, mining/oil and gas (energy), and leisure and hospitality which have been most impacted by COVID-19’s related short-term events. Therefore, even on a short-term basis, the Wastewater System’s revenues and cash flows should not be materially impacted on a relative basis.

Nevertheless, we have included subsequent information in Appendix B (Known Impact of COVID-19) regarding COVID-19’s known impact for informational purposes only and does not affect the determination of value as of the specified valuation date of May 20, 2021.

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 May 20, 2021. We focused on the forecasts and economic commentary presented in Blue Chip Financial Forecasts in the May 1, 2021 edition. Some of these economic forecasts are presented in Table 1.

	<u>Economic Indicators</u>		
	<u>Latest Qtr</u>	<u>Consensus Forecasts</u>	
	<u>1Q 2021</u>	<u>2Q 2021</u>	<u>3Q 2021</u>
<u>Key Assumptions</u>			
Real GDP	6.4	9.0	7.1
GDP Price Index	4.1	2.4	2.2
Consumer Price Index	3.7	2.8	2.4
<u>Interest Rates</u>			
3-mo. Treasury Bills	0.05	0.0	0.1
10 Year Notes	1.32	1.7	1.8
30 Year Notes	2.07	2.4	2.5
Aaa Corporate Bond Yield	2.88	3.0	3.2
Baa Corporate Bond Yield	3.35	3.9	4.0
State & Local Bonds	2.68	2.7	2.8
Home Mortgage Rate	2.88	3.2	3.3

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 2,104 U.S. Businesses with a SIC code of 4952.

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

A comparative industry to the wastewater utility industry is the water supply industry. 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 11,283 U.S. Businesses with a SIC code of 4941.

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

customers share a common well.

An estimated 14% of all water suppliers are managed or owned by IOUs. IOUs consist of companies with common stock that is either actively traded or inactively traded, as well as companies that are closely held, or not publicly traded. Currently (May 20, 2021), there are only about nine investor-owned water utility companies with publicly traded stock in the U.S.

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

The larger IOUs have been following an aggressive acquisition program to expand their operations by acquiring smaller wastewater and water systems. Generally, they enter a new market by acquiring one or several wastewater or water utilities. After their initial entry into a new market, the larger investor-owned water utility companies continually seek to expand their market share and services through the acquisition of wastewater and water utility businesses and operations that can be integrated with their existing operations. Such acquisitions may allow a company to expand market share and increase asset utilization by eliminating duplicate management, administrative, and operational functions.

Acquisitions of small, independent utilities can often add earning assets without necessarily incurring the costs associated with the 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 requirements³ and to replace the aging infrastructure of many systems, has moved the wastewater and water industries toward consolidation. Moreover, Federal and State regulations and controls concerning water quality are still in the process of being developed and it is not possible to predict the scope or the enforceability of regulations or standards which may be established in the future, or the cost and effect of existing and potential regulations and legislation upon the sewer and water systems. However, as a small to medium sized wastewater system, the Wastewater System faces the cost of compliance with significantly limited financial resources when compared to larger IOU water utilities.

QUANTITATIVE AND QUALITATIVE ANALYSIS

Comparison Review. The comparison review considers the financial and operating statistics for the 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 like 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 financial information; (2) inclusion in the S&P Capital IQ database; (3) a May 20, 2021 market

³ 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.

value of common stock, the product of multiplying the closing stock price by the number of common shares outstanding, greater than \$200.0 million; (4) a May 20, 2021 total enterprise value (the sum of market value, preferred stock and total debt) greater than \$450.0 million; (5) were not the subject of a known acquisition at May 20, 2021; (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.

	<u>Acquisition Date Size Statistics</u>			
	<u>Revenues</u> (Mill. \$)	<u>Customers</u>	<u>Population</u>	<u>Customer Density</u>
East Whiteland Township Wastewater System Assets	<u>\$4.328</u>	<u>3,895</u>	<u>14,720</u>	<u>3.8</u>
<u>Comparable Group</u>				
American States Water Co	\$473.869	286,341	1,000,000	3.5
American Water Works Co Inc	3,610.000	3,496,000	15,000,000	4.3
Artesian Resources -CL A	83.595	95,640	300,000	3.1
California Water Service Gp	714.557	543,000	2,000,000	3.7
Essential Utilities, Inc.	889.692	1,798,803	5,000,000	2.8
Middlesex Water Co	134.598	122,200	500,000	4.1
SJW Corp	420.482	389,293	1,614,866	4.1
York Water Co	<u>51.578</u>	<u>72,681</u>	<u>202,000</u>	<u>2.8</u>
Median	<u>\$447.176</u>	<u>337,817</u>	<u>1,307,433</u>	<u>3.6</u>

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 are 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 will discuss the difference in risk resulting from size later in this report.

Financial Review. We conducted a financial review that considered the financial and operating statistics for the Wastewater System and the Comparable Group for the three-year period, 2017 to 2019. 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. Additionally, after comparing the Wastewater System's historical

financial performance to budgeted numbers we believe the Wastewater System's historical financial performance (pre-transfers) may not include all expenses. Therefore, 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 2017-2019, the Wastewater System's financial benchmark ratios show (Exhibit 4) higher investment risk than the Comparable Group based on coverage and cash flow.

Risk Analysis. From an operations standpoint, the 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.

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

As mentioned previously, size is a determinant of risk. Based on size, the 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 on 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 3,113 publicly traded common stocks based on size of market value (market price multiples by the number of shares) and placed them into four different portfolios (quartiles). The common stock quartile return and the resultant size premium, column B, increased at an increasing rate as you move from a larger stock quartile to a smaller stock quartile. Similarly, the total risk, or

standard deviation of annual returns (a measure of risk), also increased with decreasing company size (column C).

The Comparable Group's market value on May 20, 2021 ranged from \$381 million to \$28,022 million as shown on Table 5.2 of Exhibit 5. Based on their market value, the Comparable Group's median market quartile was 3. Wastewater System's market value would place them in quartile 4 based upon Wastewater System's financial statements and since the largest company in quartile 4 on Table 5.1 had a market value of \$728 million.

The change in risk adjusted common stock return rate between quartile 3 and quartile 4 (column J) is 97 basis points. The results of the illustration shown on Exhibit 5 suggests the Wastewater System's common equity cost rate could be about 97 basis points higher than the Comparable Group. The history of common stock returns indicates small company stocks are riskier than large company stocks because as one moves from the larger to smaller quartiles, the standard deviation (a measure of risk) of returns increases. Historically, common stock investors have been compensated for taking on this additional risk by the higher returns provided by small company stocks.

In general, it is reasonable to expect small companies to be more risky than large ones. Exhibit 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 17, page 2). As shown on Exhibit 17, 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 wastewater collection system with treatment rights. The Wastewater System does not have the number of large treatment facilities that the Comparable Group has. The Wastewater System's gross property, plant and equipment is in relatively good condition given its age (Exhibit 6, Table 6.1) with 76% of their gross property, plant and equipment remaining undepreciated while 78% of the Comparable Group's gross property, plant and equipment remained undepreciated.⁴

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

⁴ The Wastewater System's gross and net property, plant and equipment is developed on Exhibit 7.

and Wastewater Systems), the original source of funding for any part of the assets of a selling utility is not relevant to determining the value of a selling utility's assets.

We found a 20% (100% - 80%) difference between the Comparable Group's net property, plant and equipment and the Comparable Group's investor provided capital on the valuation date (Exhibit 6, page 1, Table 6.2). The difference between the Comparable Group's net property, plant and equipment and the Comparable Group's investor provided capital is comprised of "cost free" capital such as customer contributions.⁵ This is evidenced by the 20% 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 2020.

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 expenditures required for business purposes is an indicator of risk. Over the last four years, the Comparable Group had annual capital expenditures of about 9% of net plant (Exhibit 6, page 2, Table 6.3). During this same time, 2016-19, the Wastewater System had annual capital expenditures of about 3% of net plant. Therefore, the Wastewater System historical capital spending was less than the Comparable Group's average.

Growth Rate Analyses. Higher growth rates are an indication of less risk. A review of

⁵ 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.

the growth rates in revenue, operating income plus depreciation and operating income, reveal that the Wastewater System's revenues have been growing more than the Comparable Group (Exhibit 6, page 4, Table 6.4) over the last three years, as has operating income plus depreciation. Conversely, the Wastewater System's operating income has been growing less than the Comparable Group. Prospectively, the Wastewater System's growth rates should lag without increased rates and a higher level of planned capital additions.

Profit Margin Analyses. Higher profit margins are an indication of less risk. We compared earnings before interest and taxes ("EBIT") to revenues to see how successful the 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, while the EBIT profit margins are lower indicating more risk (Exhibit 6, page 5, Table 6.5).

VALUATION

The purpose of this valuation is to comply with 66 Pa. C.S. Section 1329 (Valuation of Acquired Water and Water Systems) and conduct a fair market value appraisal of the Wastewater System's assets as of May 20, 2021 in compliance with the Uniform Standards of Professional Appraisal Practices, employing the cost, market, and income approaches. Consequently, three basic valuation approaches were considered in this analysis: the cost approach, the income approach, and the market approach.

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

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

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

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

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

The RPCN and the RCN methods include the research and verification of the inventory of a company’s tangible personal property. Upon verification of the inventory, current material costs, current construction costs, engineering costs, administration costs, interest during construction, and entrepreneurial profit⁶ 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.

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.

⁶ 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.

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, East Whiteland Township/Aqua provided us a copy of the Engineer’s assessment report “East Whiteland Township Sewerage Facilities Engineering Assessment and Original Cost” and related files prepared by Pennoni Associates Inc., 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 May 20, 2021 (“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 May 20, 2021. 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 10.

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 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 May 20, 2021 was not less than \$43.4 million (\$43,447,309 rounded). The OCNLD Study also determined a theoretical calculated accrued depreciation reserve of the utility plant in service of \$10.5 million (\$10,491,713 rounded) as of May 20, 2021. After factoring in the OCNLD Study's accrued depreciation reserve, the OCNLD of Wastewater System's utility plant in service as of May 20, 2021 was determined to be \$33.0 million ($\$43,447,309 - \$10,491,713 = \$32,955,596$).

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 transition factors.⁷ The result of this analysis is shown in the Replacement Cost and Related Accrued Depreciation of the Wastewater System as of May 20, 2021 ("RCNLD Study") shown on Exhibit 9.

Page 1 of Exhibit 9 summarizes the replacement cost new and related accrued depreciation

⁷ 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.

by account for the Wastewater System as of May 20, 2021. 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 obsolescence factors. A summarizing analysis of the replacement cost new of the Wastewater System by account and vintage year and related transition factors is shown on Exhibit 10.⁸

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.

The results of the RCNLD Study established that the RCN of the Wastewater System's utility plant in service as of May 20, 2021 was not less than \$92.7 million (\$92,712,337 rounded). The RCNLD Study also determined a theoretical calculated accrued depreciation reserve of the utility plant in service of \$33.6 million (\$33,593,413 rounded) as of May 20, 2021. After factoring in the RCNLD Study's accrued depreciation reserve, the RCNLD of Wastewater System's utility plant in service as of May 20, 2021 was determined to be \$59.1 million ($\$92,712,337 - \$33,593,413 = \$59,118,924$).

⁸ All land and land rights were valued at original cost.

The results of the OCNLD and RCNLD Cost Approaches show a range of value for the Wastewater System of \$33.0 million to \$59.1 million and collectively, indicated value of \$59.1 million (\$59,118,924 rounded) for the Wastewater System based on the results of the RCNLD.

Benchmark Metrics. Besides providing an indication of value based upon a cost method, the OCN and OCNLD can also provide a meaningful metric to evaluate the reasonableness of other indications of value produced by other valuation methods. For example, the Comparable Group's market value of common equity plus minority interest, preferred stock, and total debt net of cash and cash equivalents ("Enterprise Value") is currently 1.88-times (Exhibit 17, page 2) their OCNLD or net property, plant and equipment. Similarly, the Comparable Group's Enterprise Value is currently 1.49-times (Exhibit 17, page 2) their OCN or gross property, plant and equipment.

The above-mentioned property, plant and equipment "multiples" 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.⁹ Subtracting customer contributions ("CIAC") from the Comparable Group's property, plant and equipment (Exhibit 17, page 3) based on differences between investor provided capital and OCN results in CIAC adjusted multiples of 2.06-times OCNLD and 1.63-times OCN for the Comparable Group.

Multiplying the Wastewater System's OCN of \$43.4 million by the Comparable Group's 1.49-times OCN multiple or the 1.63-times contributions adjusted OCN multiple indicates a range of market value of \$64.7 million to \$70.7 million for the Wastewater System, similar to the

⁹ 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.

RCNLD of \$59.1 million. Further, multiplying the Wastewater System's OCNLD of \$33.0 million by the Comparable Group's 1.88-times OCNLD multiple or the 2.06-times contributions adjusted OCNLD multiple indicates a range of market value of \$62.0 million to \$68.0 million for the Wastewater System, similar to the RCNLD of \$59.1 million.¹⁰ The aforementioned range of market values 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.

Comparing the results of the OCNLD method and RCNLD method to the benchmark metrics indicates that the value indicated by the OCNLD method of \$33.0 million is inconsistent with the benchmark metrics. Therefore, the results of \$59.1 million RCNLD method form the basis for our Cost Approach conclusion of \$59.1 million (\$59,118,924 rounded) and is used as the Cost Approach as part of our fair market value determination for the Wastewater System.

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

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

¹⁰ Similarly, multiplying the Wastewater System's number of customers of 3,895 by the Comparable Group's \$10,014-times customer multiple indicates a market value of \$39.0 million, similar to the RCNLD of \$59.1 million.

flow, can be predicted. The implicit assumption in the capitalization of earning method is that the cash flow is a perpetuity, and the capitalization rate is a constant.

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

The capitalization rate used in the capitalization of earnings method and the discount rate used in the DCF method are related. The discount rate is the opportunity cost rate related to the risk of the cash flows. For the Wastewater System, the appropriate discount rate is the current municipal revenue bond yield on May 20, 2021 of 3.09%. The appropriate IOU discount rate is the current net of tax overall cost of capital (weighted average cost of capital) on May 20, 2021 and ranges from 6.57% to 7.79%.¹¹ The capitalization rate is simply the discount rate minus the expected growth rate. If no growth is assumed, the capitalization rate is equal to the discount rate.

The capitalization of earnings method is generally a reasonable approach for valuing the Wastewater System as it is currently owned (i.e., non-IOU) and operated. However, change in ownership of the Wastewater System to another large regional municipal authority (“MUNI”) or IOU produces a myriad of problems for both the capitalization of earnings method and the DCF

¹¹ 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.”

Method because any future cash flow estimates would be hypothetical or estimated due to the uncertain nature that would accompany new ownership including future rates, future expenses, future capital expenditures, taxes, and regulation.

For a MUNI, the appropriate discount rate is the current municipal revenue bond, 3.09%, because debt is the only major source of capital available to finance an acquisition (Exhibit 20, 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.¹² For valuation purposes, an embedded cost of debt, or the historical cost of all debt issuances outstanding is not used because this capital is already invested in assets. Whereas the marginal cost of debt, 3.09%, 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), 6.57% to 7.79% (Exhibit 20, 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 23.9% debt and 76.1% equity, a market cost of debt of 3.37% and a range of market cost of equity of 7.87% to 9.47%.¹³ 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

12 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).

13 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>.

investment valuation, not a fair market valuation.¹⁴

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 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-2020 financial information for pro forma expenses and returns to be reflective of a

¹⁴ We did not use the 6.33% 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 6.33% DSIC related cost was determined based the Comparable Group's book value capital structure of 47.4% debt and 52.6% equity, a cost of debt of 3.37% and a DSIC cost of equity of 9.85%. We note the 6.33% Comparable Group's DSIC related net of tax overall cost of capital falls below the 6.57% to 7.79% range of discount rates used in our Income Approach.

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, plus or minus projected changes in net cash working capital, less projected capital expenditures. Specifically, our capitalization of earnings method capitalizes Wastewater System's current (2021) budgeted 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 May 20, 2021 of 3.09% (Exhibit 12, line 24) as a capitalization rate.

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 ranges of growth in the capitalization of earnings method. Based on the current level of rates we concluded a no growth scenario is the most probable for the Wastewater System based on current ownership and operations.

Exhibit 12 shows the results of the capitalization of earnings method. For the Wastewater System, the capitalization of earnings method using a 3.09% capitalization rate (no growth) indicates a value of –\$30.5 million (without rate increases) due to the existence of negative debt free net cash flow. Negative debt free net cash flow is indicative of a system which requires adjustments to their rates if they plan to remain operational.

The DCF Method. For the 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 24 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 3.09% 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 6.57% to 7.79%. 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 0.2% (i.e., discount rate – 0.2% growth = capitalization rate) under MUNI ownership and 0.2% growth (i.e., discount rate – 0.2% growth = capitalization rate) under IOU ownership based on inflation, changes in Debt Free Net Cash Flows and the projected population growth.

We computed the Market Multiple DCF terminal values by multiplying the Wastewater System’s projected EBIT and EBITDA by the Comparable Group’s adjusted multiples of 23.5-times and 16.3-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 \$49.5 million to \$51.1 million. The results of the Market Multiple DCF shown on Exhibit 13 show a value of \$44.9 million. Collectively, the DCF method based on the MUNI ownership scenario indicates a value of \$48.0 million for the Wastewater System based on the 0.2% 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 \$30.3 million to \$36.5 million. The results of the Market Multiple DCF shown on Exhibit 14 show a range of value of \$38.0 million to \$45.0 million. Collectively, the DCF method based on the IOU ownership scenario and a 0.2% growth assumption indicates a value of indicates a value of \$37.3 million for the Wastewater System.¹⁵

The DCF method based on the MUNI ownership scenario indicates a value of \$48.0 million and the DCF method based on the IOU ownership scenario indicates a value of \$37.3 million. Collectively, the DCF method indicates a value of \$42.6 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

¹⁵ If we used the 6.33% 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 \$37.7 million. Further, the results of the Market Multiple DCF would show a value of \$46.5 million and collectively, the DCF method based on the IOU ownership scenario and a 0.2% growth assumption would indicate a value of \$42.3 million for the Wastewater System. The DCF method based on the MUNI ownership scenario indicates a value of \$48.0 million and the DCF method based on the IOU ownership scenario indicates a value of \$42.3 million. Collectively, the DCF method indicates a value of \$45.1 million based on OCNLD.

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 OCNLD and RCNLD. Exhibit 15 shows the results of the DCF method under the MUNI ownership scenario. The results of the Capitalization DCF shown on Exhibit 15 show a range of value for the Wastewater System of \$68.3 million to \$70.7 million. The results of the Market Multiple DCF shown on Exhibit 15 show a value of \$63.6 million. Collectively, the DCF method based on the MUNI ownership scenario indicates a value of \$67.1 million for the Wastewater System based on the 0.2% growth assumption.

Exhibit 16 shows the results of the DCF method under the IOU ownership. The results of the Capitalization DCF shown on Exhibit 16 show a range of value for Wastewater System of \$44.4 million to \$53.7 million. The results of the Market Multiple DCF shown on Exhibit 16 show a range of value of \$56.5 million to \$67.2 million. Collectively, the DCF method based on the IOU ownership scenario and a 0.2% growth assumption indicates a value of \$55.1 million for the Wastewater System.¹⁶

¹⁶ If we used the 6.33% 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 \$55.5 million. Further, the results of the Market Multiple DCF would show a value of \$69.6 million and collectively, the DCF method based on the IOU ownership scenario and a 0.2% growth assumption would indicate a value of \$62.8 million for the Wastewater System. The DCF method based on the MUNI ownership scenario indicates a value of \$67.1 million and the DCF method based on the IOU ownership scenario using DSIC indicates a value of \$62.8 million. Collectively, the DCF method indicates a value of \$65.0 million when DSIC is considered.

The DCF method based on the MUNI ownership scenario indicates a value of \$67.1 million and the DCF method based on the IOU ownership scenario indicates a value of \$55.1 million. Collectively, the DCF method indicates a value of \$61.1 million based on the Income Approach.

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

The Market Multiples Method. The market multiples method valuation begins by reviewing market price data of corporations engaged in the same or a similar line of business as the 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. The Enterprise Value provides an indication of the value of the entire business. The Enterprise Value multiples (“Market Multiples”) are shown on Exhibit 17. For the Comparable Group, the Market Multiples were calculated as of May 20, 2021 based on the latest twelve months of financial data available at the appraisal date.

We used the Comparable Group’s Enterprise Value at May 20, 2021 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% ($1 \div 16.14 = 6.20\%$). Each capitalization rate is unique to the entity and the statistic being evaluated and reflects the growth and investment risk of the entity.

We believe that similar economic, industry and business risks have affected the Comparable Group as those faced by the 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 20% more risky than the Comparable Group and produces an 80% ($100\% - 20\%$) base risk adjustment to the Comparable Group’s Market Multiples. We applied the 80% base risk adjustment to all financial multiples. For example, the

Comparable Group's ICAP multiple was multiplied by 80% 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 17, 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 17, 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 to the Comparable Group's Market Multiples are shown on page 1 of Exhibit 17. The adjustments to the Comparable Group's Market Multiples are: 80% of ICAP (more risk/less growth), 88% of GPPE (more risk/lower growth and contributions), 87% of NPPE (more risk/lower growth and contributions), 80% of Revenue (more risk/lower growth); 80% of EBIT and 80% EBITDA (more risk/lower growth); and 88% of Customers and Population (growth, earning rate, and contributions).

Page 1 of Exhibit 17 shows the market multiples method indicated values based on: Revenue, EBIT and EBITDA (collectivity called "Income Statement Items"); ICAP, GPPE and NPPE (collectivity called "Capital Items"); and Customers and Population (collectivity called "Demographics Items"). For most municipal utilities, the indicated values based on Income Statement Items are far below the indicated values that are based on Capital Items and those based on Demographics Items. We attribute this to the dollars of Revenue, EBIT and EBITDA do not

reflect any provision for taxes while the multiples for the Comparable Group do.¹⁷ 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. This is accomplished by multiplying the Wastewater System's financial and operating data by the Comparable Group's median Market Multiples (Exhibit 17, page 1). The results of the market multiples method (Exhibit 17, page 1) show a range of value for the Wastewater System of \$36.6 million to \$62.1 million and collectively, indicate value of \$49.3 million based on the meaningful Market Multiples.

The Selected Transactions Method. The selected transactions method entails analyzing certain public information relating to selected transactions involving the purchase or sales of businesses involved in the same or similar business line. The number of selected transactions available for review is limited because most acquisitions in the water and wastewater industry involve small acquisitions for which no public information 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.

¹⁷ The Revenue, EBIT and EBITDA for the Wastewater System also do not include a fair rate of return.

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 (May 20, 2021). The change in the Comparable Group's market multiples of NPPE and ICAP, shown in Figure 1, shows the change in market valuation over a recent 72-month period. In Figure 1 the Comparable Group's market multiples of NPPE and ICAP were indexed to May 20, 2021 valuation multiples so that the May 20, 2021 valuation multiples have an index value of 100.

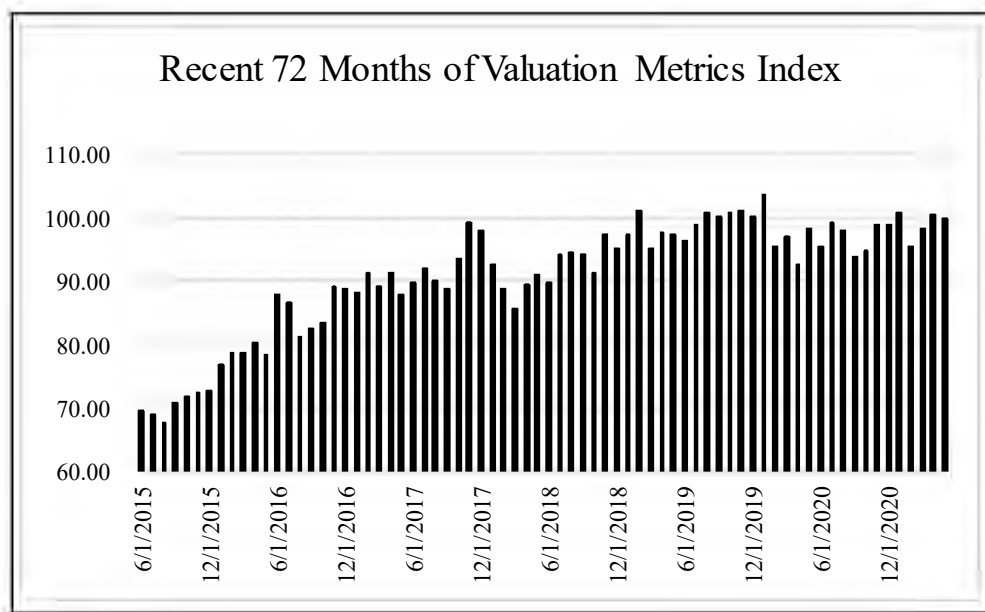


Figure 1

The index of the Comparable Group's appraisal date (May 20, 2021) valuation multiples is 4% above the 2021's lowest levels and 1% below 2021's highest levels and 7% above the 2020's lowest levels and 4% below 2020's highest levels. The index of the Comparable Group's May 20, 2021 valuation multiples is 7% higher than 2019's lowest levels and 1% below 2019's highest levels, are 14% higher than 2018's lowest levels and 3% above 2018's highest levels, are 14% to higher than 2017's lowest levels and 1% above 2017's and are 11% to 23% higher than 2016's multiples' index.

Because of the rapid rise in valuation multiples since early 2016 we limited our search for selected transactions to: (1) those that occurred in 2016 or later; (2) purchases of water or sewer systems; (3) assets being purchased; and (4) those that did not discount “cost free” capital/customer contributions in the valuation. The selected transactions that met the stated selection criteria are shown on pages 2 and 3 of Exhibit 18.

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 18, 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.¹⁸ Consequently, we do not believe the results of the multiples of Income Statement Items are meaningful.

The selected transaction method relies on and reflects information that was known, ex-ante, at the time the winning purchase bid (price) was offered, and the metrics used are time period sensitive. For example, bids made in 2016 only reflects metrics from 2015 since the results of 2016 could not be known at the time of the bids. The selected transaction method ex-ante information (metrics) is shown on page 2 of Exhibit 18. Complete information only exists for a few of the transactions, with only Customers and Population having ample data for all transactions

¹⁸ Further, Revenue, EBIT and EBITDA for the Wastewater System also do not include a fair rate of return.

as is evident from the information shown (Exhibit 18, 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 18.

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. This is accomplished by multiplying the Wastewater System’s financial and operating data by the selling utilities’ transactions multiples (Exhibit 18, pages 2 and 3). The results of the selected transactions method (Exhibit 18, page 1) show a range of value for the Wastewater System of \$35.5 million to \$63.2 million when all transactions are considered and a range of value of \$19.2 million to \$58.7 million when mostly collection/distribution assets are solely considered. Collectively, the selected transactions method indicates a value of \$44.1 million after giving additional weight to the collection/distribution assets selected transactions multiples.

In 2018 two IOUs, Connecticut Water Service, Inc and SJW Group, announced a planned merger with Connecticut Water being acquired by SJW through a stock purchase. SJW Group’s purchase of Connecticut Water was approved in late 2019. Although this acquisition is not directly applicable to the Wastewater System, it does provide a range of indicated value for the Wastewater System (Exhibit 18, page 4) which we relied on as a check. In this selected transaction, the significant selected transactions multiples of the selling utilities (Connecticut Water) are used to develop an indicated value of the Wastewater System. 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 show a range of value for the Wastewater System of \$50.3 million when the reported significant selected transactions multiples are considered and a value of \$56.1 million when the reported significant

selected transactions multiples have been adjusted for “cost free” capital. Since the Connecticut Water transaction was a stock transaction, we believe it may understate the value of an asset purchase. However, we also note that Connecticut Water was a fully integrated company, was publicly traded which the Wastewater System is not, and therefore, may overstate the value of the Wastewater System.

The results of the market multiples method shown on Exhibit 17 indicate value of \$49.3 million. The results of the selected transactions method shown on Exhibit 18 indicate value of \$44.1 million. Based on the aforesaid results, the Market Approach to valuation indicates a value of \$46.7 million for the Wastewater System based on the results of the market multiples method and the selected transactions method.

Conclusion. We summarize our findings for the Wastewater System on Exhibit 19. Our finding for 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 estimate of the fair market value conclusion. Based on these facts, our conclusion regarding the fair market value is \$55.7 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 19. The results of our analyses, shown on Exhibit 19, indicate a range of value for the Wastewater System of \$46.7 million to \$61.1 million and collectively indicate a fair market value of \$55,668,000 for the Wastewater System.

APPENDIX A - QUALIFICATIONS

APPENDIX A

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

EDUCATION

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

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

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

BUSINESS EXPERIENCE

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

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

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

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

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

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

EXPERT TESTIMONY

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

PROFESSIONAL AFFILIATIONS

Society of Utility and Regulatory Financial Analysts

Board of Directors, 1996-2000, 2005-2008

President, 2000-2002

Treasurer, 1996-1998

National Association of Water Companies

Pennsylvania Municipal Authorities Association

Electric Deregulation Committee

TECHNICAL PUBLICATIONS & PRESENTATIONS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

APPENDIX B - KNOWN IMPACT OF COVID-19

APPENDIX B

Known Impact of COVID-19

On March 11, 2020, the World Health Organization (“WHO”) declared a quickly spreading coronavirus infection a pandemic (“COVID-19”). A coronavirus is a kind of common virus that causes an infection in sinuses, or upper throat. An outbreak of a new strain of coronavirus was first reported in Wuhan, China in late 2019 and quickly spread around the world. The WHO named the virus SARS-CoV-2, and the disease COVID-19. A pandemic is a disease outbreak that spreads widely across countries or continents. Categorizing a disease as a pandemic does not signify lethality nor economic calamity. Rather, labeling a disease as a pandemic indicates its spread over a wide geographic area and affecting a high proportion of the population.

The valuation date (May 20, 2021) 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 but have no bearing on an appraised value.

Nevertheless, we have included subsequent information since the valuation date in this appendix (Appendix B) regarding COVID-19’s known impact for informational purposes only and this information does not affect the determination of value as of our valuation date of May 20, 2021.

The United States Environmental Protection Agency (“EPA”) is providing information on drinking water and wastewater to provide clarity to the public regarding COVID-19. According to EPA, the COVID-19 virus has not been detected in drinking-water supplies. Based on current

evidence, the risk to water supplies is low.¹⁹ EPA has also stated that wastewater treatment plants treat the COVID-19 virus, “wastewater treatment plants treat viruses and other pathogens. Coronavirus, which causes COVID-19, is a type of virus that is particularly susceptible to disinfection. Standard treatment and disinfectant processes at wastewater treatment plants are expected to be effective.”²⁰ EPA sent a “letter to Governors in all 50 states, territories, tribes and Washington, DC, requesting that water and wastewater workers, as well as the manufacturers and suppliers who provide vital services and materials to the water sector, are considered essential workers and businesses by state authorities when enacting restrictions to curb the spread of COVID-19.”²¹

In response to COVID-19 the Federal Reserve has provided monetary and fiscal stimulus to increase liquidity in the form of new fiscal stimulus programs and rate cuts. “For context, new fiscal stimulus and total fiscal deficits in the US are roughly double the levels seen in 2008-2009, and the US fiscal deficit we project for 2020 of 15%-18% is only matched by deficits seen at the height of WWII in 1942-1943.”²² The combined result of these actions by the Federal Reserve and investors’ flight to quality have resulted in artificial and historically low risk-free rates as measured by the 30-year treasury bond yield. Public utility bond yields have not fluctuated to the degree which yields of 30-year treasury bonds have. This is evident by the initial widening of the yield spread or default spread shown in **Table 3** (below) from pre-COVID-19 levels compared to the 30-year treasury bond yield low of 0.99% on March 9, 2000. Recently, the yield spread, or default spread, has returned much closer to the pre-COVID-19 levels.

19 <https://www.epa.gov/coronavirus>, 5/27/20.

20 <https://www.epa.gov/coronavirus/do-wastewater-treatment-plants-treat-covid-19>, 7/31/20.

21 <https://www.epa.gov/coronavirus/coronavirus-and-drinking-water-and-wastewater>, 5/27/20

22 <https://www.jpmorgan.com/jpmpdf/1320748588999.pdf>, 5/29/20.

		Bond Yields			Yield Spread	
		30-Year Treasury Bond	A Rated Public Utility Bond	Baa Rated Public Utility Bond	A Rated Yield LESS 30-Year Bond	Baa Rated Yield LESS 30-Year Bond
Monthly	Sep-2019	2.16	3.37	3.71	1.21	1.55
Monthly	Oct-2019	2.19	3.39	3.72	1.20	1.53
Monthly	Nov-2019	2.28	3.43	3.76	1.15	1.48
Monthly	Dec-2019	2.30	3.40	3.73	1.10	1.43
Daily	1/30/20	2.04	3.13	3.45	1.09	1.41
Daily	2/27/20	1.79	3.03	3.34	1.24	1.55
* Daily	3/9/20	0.99	2.76	3.27	1.77	2.28
** Daily	5/20/21	2.34	3.37	3.63	1.03	1.29
Daily	6/22/21	2.10	3.10	3.36	1.00	1.26
* - 30-year Treasury yield low						
** - Valuation date of current appraisal						

Table 3

Before the COVID-19 pandemic the previous all-time market high for the S&P 500 Index occurred on February 19, 2020. After February 19, 2020, the COVID-19 pandemic resulted in large-scale economic shutdowns, produced widespread stock market turbulence, and generally resulted in decreased financial asset prices for some sectors of the economy. As a result, by March 23, 2020 the S&P 500 index had decline by 34% from its February 19, 2020 peak. More recently, between May 20, 2021 and June 22, 2021, the S&P 500 Index reached several new all-time highs and is currently 90% above its March 23, 2020 closing price. During this entire period of widespread stock market turbulence, the asset prices reflected in water utility and wastewater utility market valuations have remained relatively steady as demonstrated by the Comparison

Group's market multiples shown in **Table 4** below.²³

Water Utility Comparison Group Enterprise Value as a Multiple of								
	Invest. Capital	Gross PP&E	Net PP&E	Rev.	EBITDA	EBIT	Customers	Population
	(x)	(x)	(x)	(x)	(x)	(x)	(\$)	(\$)
12/31/2017	2.04	1.20	1.57	6.00	15.07	21.23	\$7,348	\$1,994
4/30/2018	1.94	1.17	1.54	6.11	14.48	20.78	\$7,131	\$1,843
11/30/2018	1.90	1.17	1.55	7.06	16.34	23.99	\$7,538	\$2,120
2/28/2019	2.03	1.20	1.59	7.34	16.48	24.10	\$8,042	\$2,303
6/30/2019	2.25	1.40	1.83	7.88	18.03	26.89	\$8,368	\$2,463
12/31/2019	2.00	1.35	1.76	8.30	20.08	29.37	\$9,631	\$2,879
* 5/20/2021	2.06	1.49	1.88	8.68	20.33	29.36	\$10,014	\$2,999
6/22/2021	2.10	1.51	1.90	8.93	20.93	29.85	\$10,944	\$3,117

*** - Valuation date of current appraisal**

Comment:
Valuation date of 12/31/2017 from East Bradford Township A-2018-3001582
http://www.puc.state.pa.us/about_puc/consolidated_case_view.aspx?Docket=A-2018-3001582
Valuation date of 04/30/2018 from Exeter Township – A-2018-3004933
http://www.puc.state.pa.us/about_puc/consolidated_case_view.aspx?Docket=A-2018-3004933
Valuation date of 11/30/2018 from Cheltenham Township – A-2019-3008491
http://www.puc.state.pa.us/about_puc/consolidated_case_view.aspx?Docket=A-2019-3008491
Valuation date of 02/28/2019 from East Norriton – A-2019-3009052
http://www.puc.state.pa.us/about_puc/consolidated_case_view.aspx?Docket=A-2019-3009052
Valuation date of 06/30/2019 from Borough of Kane Authority – A-2019-3014248
http://www.puc.state.pa.us/about_puc/consolidated_case_view.aspx?Docket=A-2019-3014248
Valuation date of 12/31/2019 from DELCORA – A-2019-3015173
http://www.puc.state.pa.us/about_puc/consolidated_case_view.aspx?Docket=A-2019-3015173

Table 4

Even though most of the US may likely be affected by COVID-19's related economic effects, we believe those effects will vary greatly from place-to-place dependent on the nature of

²³ The first six spot dates and the related multiples shown in the market multiples Table 4 were taken from recent Gannett Fleming appraisals filed with the PA PUC.

the business sectors which comprise each local economy and their concentration within the local economy. We do not believe the appraised value of the long-lived Wastewater System assets will be materially impacted by the COVID-19 or its related relatively short-term events. The Wastewater System's customer base is not heavily dependent on customers from sectors of the economy providing tourism and travel, employment services, mining/oil and gas (energy), and leisure and hospitality which have been most impacted by COVID-19's related short-term events. Therefore, even on a short-term basis, the Wastewater System's revenues and cash flows should not be materially impacted on a relative basis.

COMPLIANCE & APPRAISAL CERTIFICATION

Compliance with Uniform Standards of Professional

Appraisal Practice (USPAP) 2020-2021

Fulfillment of Requirements for a Personal Property Appraisal and Report

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

The client is Aqua Pennsylvania Wastewater, Inc. The intended users of the valuation are Aqua Pennsylvania Wastewater, Inc., and the Pennsylvania Public Utility Commission.

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

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

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

East Whiteland Township owns and operates the Wastewater System which consists of 12 pump stations, about 329,072 linear feet of mains, approximately 1,506 manholes, associated infrastructure and appurtenances, and related land and land rights. The Wastewater System accepts flows and collects sewer rental fees from the adjoining municipalities of East Goshen Township, Charlestown Township and Malvern Borough. The Wastewater System, in turn, pays sewer rental fees to neighboring Tredyffrin Township and East Goshen Township, and a public utility company for conveyance and to the Valley Forge Sewer Authority Wastewater Treatment Plant for which the Township has purchased capacity.

The Wastewater System's 12 pump stations are: Deer Run; Flat Road; Hillbrook Circle; King Road; Lapp Road; Lee Boulevard; Malvern Hunt; Meadowview; Mill Lane; Planebrook Road; Westgate; and Wilburdale. The Wastewater System has approximately 26,300 linear feet of force mains ranging in size from 4 to 14 inches diameter and were installed between 1976 to 2017. The force mains consist of asbestos-cement ("ACP"), ductile iron ("DIP") and polyvinyl chloride ("PVC") pipe.

The Wastewater System's 302,772 linear feet of gravity sewer collection mains consist of 8-inch, 10-inch, 12-inch, 15-inch, 16-inch, 18-inch, 20-inch, 24-inch, 27-inch and 36-inch diameter pipe which was installed between 1951 to 2020. About 41% of the gravity mains were installed in the 1970s, 27% between 1980 and 1999,

Compliance with Uniform Standards of Professional

Appraisal Practice (USPAP) 2020-2021

Fulfillment of Requirements for a Personal Property Appraisal and Report

and 21% after 1999. The mains consist of ACP, cast iron (“CIP”), corrugated steel (“CSP”), DIP and PVC pipe. There are 1,506 manholes and 3,895 service laterals in the system.

East Whiteland Township’s Wastewater System land and land rights include land used for wastewater collection and transmission, about 63 miles of mains, 12 pump stations and multiple easements and rights-of-way necessary to operate the Wastewater System.

- **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 May 20, 2021 and the appraisal report date is June 2021.

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

Conduct a fair market value appraisal of the East Whiteland Township’s Wastewater System assets in compliance with the Uniform Standards of Professional Appraisal Practices, employing the cost, market, and income approaches.

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

Compliance with Uniform Standards of Professional

Appraisal Practice (USPAP) 2020-2021

Fulfillment of Requirements for a Personal Property Appraisal and Report

We accepted all information and data provided by the East Whiteland Township and Aqua Pennsylvania Wastewater, Inc. as it pertains to this assignment “as is” after a limited review. That is, we neither audited nor verify any data, original cost data, financial records or operating data provided for this assignment.

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

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

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

Market Approach - The market approach was developed based on the market multiples method and the selected transaction method. The market multiples method was based on the market price data of publicly traded corporations engaged in the same or a similar line of business as the 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

Compliance with Uniform Standards of Professional

Appraisal Practice (USPAP) 2020-2021

Fulfillment of Requirements for a Personal Property Appraisal and Report

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.

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

- Not applicable.

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

- See scope of work above.

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

- East Whiteland Township's Wastewater System land and land rights include land used for wastewater collection and transmission, about 63 miles of mains, 12 pump stations and multiple easements and rights-of-way necessary to operate the Wastewater System.

**Compliance with Uniform Standards of Professional
Appraisal Practice (USPAP) 2020-2021
Fulfillment of Requirements for a Personal Property Appraisal and Report**

The East Whiteland Township 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.

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

No departures for Standard 1 were made.

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

See attached for signed certification.

APPRAISAL CERTIFICATION
East Whiteland Township, Pennsylvania
East Whiteland Township
Wastewater System Assets
Fair Market Value Appraisal Report
As of May 20, 2021

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 East Whiteland Township 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 (2020-2021)

APPRAISAL CERTIFICATION
East Whiteland Township, Pennsylvania
East Whiteland Township
Wastewater System Assets
Fair Market Value Appraisal Report
As of May 20, 2021

- The signers of this report have made a personal inspection of the property that is the subject of this report.

- Individuals providing significant appraisal assistance to the person signing this certification include: John J. Spanos, 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

East Whiteland Township Wastewater System Assets
Selected Audited Financial Information

	12-Months Ended December 31:			
	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>
Gross property, plant & equipment	44,323,950	45,329,501	47,751,038	48,672,940
Accumulated depreciation	12,377,360	13,065,252	13,754,484	14,529,267
Net property, plant & equipment	31,946,590	32,264,249	33,996,554	34,143,673
Assets	39,689,139	40,478,142	44,559,944	45,379,319
Debt Current	725,000	745,000	715,000	735,000
Debt	17,466,860	16,741,396	16,045,932	15,330,468
Equity	20,205,657	21,279,413	25,275,734	26,447,777
Total Capital	38,397,517	38,765,809	42,036,666	42,513,245
OPERATING REVENUES				
Charges for services	3,312,268	3,294,177	3,809,229	3,761,787
Other operating income	677,340	216,471	1,563,159	682,780
TOTAL OPERATING REVENUES	3,989,608	3,510,648	5,372,388	4,444,567
Expenses	2,552,665	2,864,649	2,407,506	3,073,240
Depreciation	673,195	687,892	718,700	774,783
TOTAL OPERATING EXPENSES	3,225,860	3,552,541	3,126,206	3,848,023
CAPX	1,188,175	1,005,551	393,256	740,070
Interest	564,911	553,075	539,353	522,264
Principal	720,000	725,000	745,000	715,000
Transfer (net of CAPX fund)	30,000	3,543	166,320	166,165

Source of Information: Audited Financial Statements (2016-2019)

East Whiteland Township Wastewater System Assets
Population, Housing Units, Customers and EDUs
Customer Count

	<u>2020</u>	<u>Population To Customers</u>
Population	14,720	<u>3.8</u>
Housing Units	<u>5,085</u>	
Average Size	<u>2.89</u>	

	<u>Current</u>
<u>Customers</u>	
Residential & Commercial	<u>3,895</u>
Total	<u><u>3,895</u></u>

Total EDUs	<u><u>7,908</u></u>

	<u>Projected New EDUs</u>				
	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>
New EDUs	550	741	681	428	43

Population and Housing Units (2020)

<u>Total Population</u>	<u>Population in Households</u>	<u>Total Housing Units</u>	<u>Vacancy Rate</u>	<u>Population per Housing Unit</u>
14,720	13,514	5,085	5.1%	2.89

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

TABLE 3.2 Pennsylvania Population Census by County and Municipality, 2000 & 2010				
Geographic Area	Population		Percentage Change	Municipal Growth Rank
	2000	2010		
Pennsylvania	12,281,054	12,702,379	3.4%	-
Chester County	433,501	498,886	15.1%	-
East Whiteland township	9,333	10,650	14.1%	323 out of 2,572
Source: U.S. Census Bureau, Census 2000 & 2010 Redistricting Data (Public Law 94-171) Summary File.				

TABLE 3.3 Forecasted Population by County and Municipality, 2015-2045

	Population							Percentage Change						
	Estimate 2015	Forecast 2020	Forecast 2025	Forecast 2030	Forecast 2035	Forecast 2040	Forecast 2045	2015 to 2020	2020 to 2025	2025 to 2030	2030 to 2035	2035 to 2040	2040 to 2045	2015 to 2045
Bucks County	627,367	640,495	654,792	669,299	681,273	691,111	699,498	2.1%	2.2%	2.2%	1.8%	1.4%	1.2%	11.5%
Chester County	515,939	543,702	571,641	599,932	624,832	645,562	662,283	5.4%	5.1%	4.9%	4.2%	3.3%	2.6%	28.4%
Delaware County	563,894	568,337	572,758	577,248	581,136	584,329	587,037	0.8%	0.8%	0.8%	0.7%	0.5%	0.5%	4.1%
Montgomery County	819,264	840,934	863,327	884,387	903,114	918,918	932,820	2.6%	2.7%	2.4%	2.1%	1.7%	1.5%	13.9%
Philadelphia County	1,567,443	1,594,787	1,616,816	1,643,971	1,667,290	1,683,402	1,696,133	1.7%	1.4%	1.7%	1.4%	1.0%	0.8%	8.2%
Subtotal - Five Pennsylvania Counties	4,093,907	4,188,255	4,279,334	4,374,837	4,457,645	4,523,322	4,577,771	2.3%	2.2%	2.2%	1.9%	1.5%	1.2%	11.8%
Burlington County	450,226	459,344	468,428	475,978	482,560	488,026	492,709	2.0%	2.0%	1.6%	1.4%	1.1%	1.0%	9.4%
Camden County	510,923	514,006	517,073	520,189	522,886	525,101	526,997	0.6%	0.6%	0.6%	0.5%	0.4%	0.4%	3.1%
Gloucester County	291,479	307,766	323,969	340,425	354,677	366,383	376,308	5.6%	5.3%	5.1%	4.2%	3.3%	2.7%	29.1%
Mercer County	371,398	377,328	383,227	389,219	394,407	398,669	402,283	1.6%	1.6%	1.6%	1.3%	1.1%	0.9%	8.3%
Subtotal - Four New Jersey Counties	1,624,026	1,658,444	1,692,697	1,725,811	1,754,530	1,778,179	1,798,297	2.1%	2.1%	2.0%	1.7%	1.3%	1.1%	10.7%
Total - Nine DVRPC Counties	5,717,933	5,846,699	5,972,031	6,100,648	6,212,175	6,301,501	6,376,068	2.3%	2.1%	2.2%	1.8%	1.4%	1.2%	11.5%
East Whiteland Township	10,702	12,002	13,196	14,309	15,358	16,221	16,952	12.1%	9.9%	8.4%	7.3%	5.6%	4.5%	58.4%

Source: Delaware Valley Regional Planning Commission, June 2016.

TABLE 3.4 Forecasted Employment by County and Municipality, 2015-2045

	Employment							Percentage Change						
	Estimate 2015	Forecast 2020	Forecast 2025	Forecast 2030	Forecast 2035	Forecast 2040	Forecast 2045	2015 to 2020	2020 to 2025	2025 to 2030	2030 to 2035	2035 to 2040	2040 to 2045	2015 to 2045
Bucks County	322,731	329,645	337,203	344,859	351,310	356,671	361,124	2.1%	2.3%	2.3%	1.9%	1.5%	1.2%	11.9%
Chester County	309,605	326,320	343,050	359,774	374,967	387,391	397,405	5.4%	5.1%	4.9%	4.2%	3.3%	2.6%	28.4%
Delaware County	268,054	270,167	272,269	274,401	276,248	277,763	279,050	0.8%	0.8%	0.8%	0.7%	0.5%	0.5%	4.1%
Montgomery County	582,443	598,434	614,469	629,563	642,996	654,966	664,385	2.7%	2.7%	2.5%	2.1%	1.9%	1.4%	14.1%
Philadelphia County	772,847	786,308	797,156	810,574	822,002	829,937	836,825	1.7%	1.4%	1.7%	1.4%	1.0%	0.8%	8.3%
Subtotal - Five Pennsylvania Counties	2,255,680	2,310,874	2,364,147	2,419,171	2,467,523	2,506,728	2,538,789	2.4%	2.3%	2.3%	2.0%	1.6%	1.3%	12.6%
Burlington County	241,298	246,351	251,368	255,562	258,363	261,195	263,622	2.1%	2.0%	1.7%	1.1%	1.1%	0.9%	9.3%
Camden County	263,582	265,169	266,753	268,359	269,750	270,892	271,869	0.6%	0.6%	0.6%	0.5%	0.4%	0.4%	3.1%
Gloucester County	121,382	128,161	134,902	141,752	147,682	152,554	156,686	5.6%	5.3%	5.1%	4.2%	3.3%	2.7%	29.1%
Mercer County	286,295	290,864	295,408	300,025	304,021	307,302	310,084	1.6%	1.6%	1.6%	1.3%	1.1%	0.9%	8.3%
Subtotal - Four New Jersey Counties	912,557	930,545	948,431	965,698	979,816	991,943	1,002,261	2.0%	1.9%	1.8%	1.5%	1.2%	1.0%	9.8%
Total - Nine DVRPC Counties	3,168,237	3,241,419	3,312,578	3,384,869	3,447,339	3,498,671	3,541,050	2.3%	2.2%	2.2%	1.8%	1.5%	1.2%	11.8%
East Whiteland Township	23,399	24,735	26,117	27,514	28,722	29,730	30,623	5.7%	5.6%	5.3%	4.4%	3.5%	3.0%	30.9%

Source: Delaware Valley Regional Planning Commission, September 2016. Base employment data from the National Establishments Time Series (NETS) database, 2010 and 2013.

Comparison of Credit Market Financial Risk Metrics
For East Whiteland Township Wastewater System Assets
And the Comparable Group
2017 - 2019 (1)

	East Whiteland Township Wastewater System Assets			Comparable Group		
	2019	2018	2017	2019	2018	2017
Debt Service Coverage	1.1	2.3	0.5	2.0	3.7	2.7
Pre-Tax Interest Coverage - Including AFC(2)(x)	1.1	4.2	-0.1	3.6	3.6	4.4
Post-Tax Interest Coverage - Including AFC(2)(x)	1.1	4.2	-0.1	2.9	3.0	3.5
GCF / Interest Coverage(3)(x)	2.6	5.5	1.2	4.7	4.9	5.9
GCF / Tot. Debt(4)(%)	5.3	14.5	0.5	15.8	18.7	23.2
GCF / Construction(5)(%)	114.7	616.8	9.2	63.0	63.2	81.8

- 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: 2017-19 Annual Reports and Budgets
S&P Capital IQ
EXHIBIT 1

East Whiteland Township Wastewater System Assets
 Illustrating the Impact of Size on Risk and Return
Through Common Stock Returns

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

	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>	<u>G</u>	<u>H</u>	<u>I</u>	<u>J</u>
	Market	Average	Standard	Change in	Largest	Quartile	Comparison	Beta	Beta Adjusted	
<u>Market</u>	<u>Quartile</u>	<u>Quartile</u>	<u>Deviation</u>	<u>Quartile</u>	<u>Market Value</u>	<u>Beta</u>	<u>Group</u>	<u>Ratio</u>	<u>Quartile</u>	<u>Change in</u>
<u>Quartile</u>	<u>Name</u>	<u>1926-18</u>	<u>of</u>	<u>Premium</u>	<u>in the Quartile</u>		<u>Beta</u>		<u>Size</u>	<u>Quartile</u>
		<u>(%)</u>	<u>Return</u>	<u>(%)</u>	<u>(Mill \$)</u>				<u>Premium</u>	<u>Premium</u>
			<u>(%)</u>	<u>(%)</u>					<u>(%)</u>	<u>(%)</u>
(Largest Stocks)										
1	Large-Cap	0.00	19.9	--	1,073,390	1.00	0.80	80%	0.00	
2	Mid-Cap	0.89	24.3	0.89	13,456	1.12	0.80	71%	0.64	0.64
3	Low-Cap	1.60	28.5	0.71	2,993	1.22	0.80	66%	1.05	0.41
4	Mico-Cap	3.40	38.5	1.80	728	1.35	0.80	59%	2.01	0.97
(Smallest Stocks)										

Notes: (1) 2019 Ibbotson Stocks, Bonds, Bills, and Inflation (SBBi) Yearbook

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

	5/20/2021	Market	
	Market	Quartile	Market
	<u>Value</u>	<u>Name</u>	<u>Quartile</u>
	<u>(Mill \$)</u>		
<u>Comparable Group</u>			
American States Water Co	2,891	Low-Cap	3
American Water Works Co Inc	28,022	Large-Cap	1
Artesian Resources -Cl A	381	Mico-Cap	4
California Water Service Gp	2,847	Low-Cap	3
Essential Utilities, Inc.	11,511	Mid-Cap	2
Middlesex Water Co	1,410	Low-Cap	3
SJW Corp	1,890	Low-Cap	3
York Water Co	634	Mico-Cap	4
Median	2,369	Low-Cap	3

East Whiteland Township 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 \$)			
East Whiteland Township Wastewater System Assets *	\$43.447	\$32.956	<u>76%</u>
<u>Comparable Group</u>			
American States Water Company	\$2,100.362	\$1,532.036	73%
American Water Works Company	25,709.000	19,805.000	77%
Artesian Resources Corporation	712.151	563.817	79%
California Water Service Group	3,878.445	2,654.027	68%
Essential Utilities, Inc.	11,680.353	9,573.211	82%
Middlesex Water Company	1,000.470	813.014	81%
SJW Group	3,403.010	2,356.988	69%
The York Water Company	436.163	344.365	<u>79%</u>
Median			<u>78%</u>
* - Developed on Exhibit 7.			

TABLE 6.2 Property Plant & Equipment Analysis for Contributions

(As of 5/20/2021)				
	Net Property, Plant & Equipment	Investor's Capital	Percentage of Property, Plant & Equipment Net of Contributions	2020 Percentage of Known "Cost Free" Capital
(Millions of \$)				
<u>Comparable Group</u>				
American States Water Co	\$1,532.036	\$1,228.228	80%	22%
American Water Works Co Inc	19,805.000	17,492.000	88%	19%
Artesian Resources -CL A	563.817	340.886	60%	39%
California Water Service Gp	2,654.027	2,093.196	79%	28%
Essential Utilities, Inc.	9,573.211	10,461.483	109%	20%
Middlesex Water Co	813.014	636.533	78%	25%
SJW Corp	2,356.988	2,456.075	104%	26%
York Water Co	344.365	269.556	78%	28%
Median			<u>80%</u>	<u>25%</u>

East Whiteland Township 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				Capital Expenditures			
	2019	2018	2017	2016	2019	2018	2017	2016
	(Millions of \$)				(Millions of \$)			
East Whiteland Township Wastewater System Assets	\$34.144	\$33.997	\$32.264	\$31.947	\$0.740	\$0.393	\$1.006	\$1.188
<u>Comparable Group</u>								
American States Water Co	\$1,437.042	\$1,304.683	\$1,213.264	\$1,159.766	\$151.940	\$126.561	\$113.126	\$129.867
American Water Works Co Inc	18,335.000	17,409.000	16,246.000	14,992.000	1,654.000	1,586.000	1,434.000	1,311.000
Artesian Resources -CL A	535.013	502.527	464.384	429.383	40.677	49.053	41.094	28.251
California Water Service Gp	2,409.873	2,220.873	2,036.971	1,847.460	273.770	271.707	259.194	228.938
Essential Utilities, Inc.	6,358.657	5,930.326	5,399.860	5,001.615	550.273	495.737	478.089	382.996
Middlesex Water Co	722.044	628.476	566.718	526.907	89.125	72.094	50.301	47.375
SJW Corp	2,230.343	1,365.771	1,278.025	1,180.481	164.325	135.973	141.213	129.134
York Water Co	313.993	299.871	289.524	271.652	20.537	16.882	25.074	13.208
	Capital Expenditures / PP&E-Total Net							
	2019	2018	2017	2016				
East Whiteland Township Wastewater System Assets	2%	1%	3%	4%				
<u>Comparable Group</u>								
American States Water Co	11%	10%	9%	11%				
American Water Works Co Inc	9%	9%	9%	9%				
Artesian Resources -CL A	8%	10%	9%	7%				
California Water Service Gp	11%	12%	13%	12%				
Essential Utilities, Inc.	9%	8%	9%	8%				
Middlesex Water Co	12%	11%	9%	9%				
SJW Corp	7%	10%	11%	11%				
York Water Co	7%	6%	9%	5%				
Median	9%	10%	9%	9%				

East Whiteland Township Wastewater System Assets

Property Plant & Equipment Analysis

Capital Expenditures Analysis

Growth Rate Analyses

Profit Margin Analyses

Revenues				EBITDA			
2019	2018	2017	2016	2019	2018	2017	2016
(Millions of \$)				(Millions of \$)			

East Whiteland Township Wastewater System Assets	\$4.445	\$5.372	\$3.511	\$3.990	\$1.371	\$2.965	\$0.646	\$1.437

Comparable Group

American States Water Co	\$473.869	\$436.816	\$440.603	\$436.087	\$164.085	\$144.803	\$159.380	\$154.263
American Water Works Co Inc	3,610.000	3,440.000	3,357.000	3,302.000	1,306.476	1,154.957	1,102.741	917.849
Artesian Resources -CL A	83.595	80.411	82.235	79.089	433.284	387.423	380.137	340.460
California Water Service Gp	714.557	698.196	676.113	609.370	30.401	25.800	26.382	25.061
Essential Utilities, Inc.	889.692	838.091	809.525	819.875	147.867	140.577	127.710	122.709
Middlesex Water Co	134.598	138.077	130.775	132.906	38.056	33.947	35.841	28.720
SJW Corp	420.482	397.699	389.225	339.706	86.302	83.532	68.003	63.335
York Water Co	51.578	48.437	48.589	47.584	25.743	24.780	24.359	21.800

EBIT			
2019	2018	2017	2016
(Millions of \$)			

East Whiteland Township Wastewater System Assets	\$0.597	\$2.246	(\$0.042)	\$0.764

Comparable Group

American States Water Co	\$128.372	\$104.140	\$120.107	\$115.154
American Water Works Co Inc	1,220.000	1,139.000	1,228.000	1,147.000
Artesian Resources -CL A	25.106	23.946	26.895	27.150
California Water Service Gp	109.924	119.686	132.592	104.015
Essential Utilities, Inc.	357.241	315.347	328.967	333.298
Middlesex Water Co	34.318	37.766	37.967	40.060
SJW Corp	70.089	89.694	98.079	93.116
York Water Co	22.335	21.232	22.473	22.888

East Whiteland Township 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		
	2019	2018	2017	2019	2018	2017
East Whiteland Township Wastewater System Assets	-17.3%	53.0%	-12.0%	-53.8%	359.0%	-55.0%
<u>Comparable Group</u>						
American States Water Co	8.5%	-0.9%	1.0%	13.3%	-9.1%	3.3%
American Water Works Co Inc	4.9%	2.5%	1.7%	13.1%	4.7%	20.1%
Artesian Resources -CL A	4.0%	-2.2%	4.0%	11.8%	1.9%	11.7%
California Water Service Gp	2.3%	3.3%	11.0%	17.8%	-2.2%	5.3%
Essential Utilities, Inc.	6.2%	3.5%	-1.3%	5.2%	10.1%	4.1%
Middlesex Water Co	-2.5%	5.6%	-1.6%	12.1%	-5.3%	24.8%
SJW Corp	5.7%	2.2%	14.6%	3.3%	22.8%	7.4%
York Water Co	6.5%	-0.3%	2.1%	3.9%	1.7%	11.7%
Median	5.3%	2.4%	1.9%	12.0%	1.8%	9.6%
	EBIT Growth					
	2019	2018	2017			
East Whiteland Township Wastewater System Assets	-73.4%	-5447.6%	-105.5%			
<u>Comparable Group</u>						
American States Water Co	23.3%	-13.3%	4.3%			
American Water Works Co Inc	7.1%	-7.2%	7.1%			
Artesian Resources -CL A	4.8%	-11.0%	-0.9%			
California Water Service Gp	-8.2%	-9.7%	27.5%			
Essential Utilities, Inc.	13.3%	-4.1%	-1.3%			
Middlesex Water Co	-9.1%	-0.5%	-5.2%			
SJW Corp	-21.9%	-8.5%	5.3%			
York Water Co	5.2%	-5.5%	-1.8%			
Median	5.0%	-7.9%	1.7%			

East Whiteland Township 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		
	2019	2018	2017
East Whiteland Township Wastewater System Assets	30.8%	55.2%	18.4%
<u>Comparable Group</u>			
American States Water Co	34.6%	33.1%	36.2%
American Water Works Co Inc	36.2%	33.6%	32.8%
Artesian Resources -CL A	518.3%	481.8%	462.3%
California Water Service Gp	4.3%	3.7%	3.9%
Essential Utilities, Inc.	16.6%	16.8%	15.8%
Middlesex Water Co	28.3%	24.6%	27.4%
SJW Corp	20.5%	21.0%	17.5%
York Water Co	49.9%	51.2%	50.1%
Median	31.5%	28.9%	30.1%
	EBIT / Revenue - Margin		
	2019	2018	2017
East Whiteland Township Wastewater System Assets	13.4%	41.8%	-1.2%
<u>Comparable Group</u>			
American States Water Co	27.1%	23.8%	27.3%
American Water Works Co Inc	33.8%	33.1%	36.6%
Artesian Resources -CL A	30.0%	29.8%	32.7%
California Water Service Gp	15.4%	17.1%	19.6%
Essential Utilities, Inc.	40.2%	37.6%	40.6%
Middlesex Water Co	25.5%	27.4%	29.0%
SJW Corp	16.7%	22.6%	25.2%
York Water Co	43.3%	43.8%	46.3%
Median	28.6%	28.6%	30.9%

Source: S&P Capital IQ
EXHIBIT 1

**EAST WHITELAND TOWNSHIP
EAST WHITELAND TOWNSHIP WASTEWATER SYSTEM ASSETS**

**SUMMARY OF ORIGINAL COST AND ACCRUED DEPRECIATION
OF WASTEWATER SYSTEM AS OF MAY 20, 2021**

ACCOUNT	DESCRIPTION	ORIGINAL COST	ACCRUED DEPRECIATION
(1)	(2)	(3)	(4)
353.20	LAND AND LAND RIGHTS - COLLECTION	668.00	
353.30	LAND AND LAND RIGHTS - PUMPING	13.00	
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	7,826,287.43	1,329,577
354.40	STRUCTURES AND IMPROVEMENTS - TREATMENT	11,085,241.50	1,133,066
355.00	POWER GENERATION EQUIPMENT	75,416.00	15,379
360.10	FORCE MAINS	2,304,354.56	706,979
361.10	GRAVITY MAINS	10,767,737.94	3,687,821
361.12	GRAVITY MAINS MANHOLES	4,350,867.00	1,656,016
363.20	SERVICES TO CUSTOMERS	6,619,976.05	1,682,736
365.20	METER PITS	78,670.00	58,625
371.30	PUMPING EQUIPMENT	49,664.45	18,041
390.70	COMPUTERS	21,550.00	21,550
391.70	TRANSPORTATION EQUIPMENT	212,955.81	142,750
395.70	POWER OPERATED EQUIPMENT	53,907.50	39,173
	TOTAL COMPANY	43,447,309.24	10,491,713

EAST WHITELAND TOWNSHIP
EAST WHITELAND TOWNSHIP WASTEWATER SYSTEM ASSETS

SUMMARY OF ANALYSIS OF ORIGINAL COST
OF WASTEWATER SYSTEM AS OF MAY 20, 2021

ACCOUNT	DESCRIPTION	ORIGINAL COST
(1)	(2)	(3)
353.20	LAND AND LAND RIGHTS - COLLECTION	668.00
353.30	LAND AND LAND RIGHTS - PUMPING	13.00
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	7,826,287.43
354.40	STRUCTURES AND IMPROVEMENTS - TREATMENT	11,085,241.50
355.00	POWER GENERATION EQUIPMENT	75,416.00
360.10	FORCE MAINS	2,304,354.56
361.10	GRAVITY MAINS	10,767,737.94
361.12	GRAVITY MAINS MANHOLES	4,350,867.00
363.20	SERVICES TO CUSTOMERS	6,619,976.05
365.20	METER PITS	78,670.00
371.30	PUMPING EQUIPMENT	49,664.45
390.70	COMPUTERS	21,550.00
391.70	TRANSPORTATION EQUIPMENT	212,955.81
395.70	POWER OPERATED EQUIPMENT	53,907.50
	TOTAL COMPANY	43,447,309.24

**EAST WHITELAND TOWNSHIP
EAST WHITELAND TOWNSHIP WASTEWATER SYSTEM ASSETS**

**SUMMARY OF SERVICE LIFE ESTIMATES AND CALCULATED ACCRUED
DEPRECIATION RELATED TO ORIGINAL COST AS OF MAY 20, 2021**

ACCOUNT	DESCRIPTION	SURVIVOR CURVE	ORIGINAL COST	ACCRUED DEPRECIATION
(1)	(2)	(3)	(4)	(5)
353.20	LAND AND LAND RIGHTS - COLLECTION	NONDEPRECIABLE	668.00	
353.30	LAND AND LAND RIGHTS - PUMPING	NONDEPRECIABLE	13.00	
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	60-R3	7,826,287.43	1,329,577
354.40	STRUCTURES AND IMPROVEMENTS - TREATMENT	65-R2.5	11,085,241.50	1,133,066
355.00	POWER GENERATION EQUIPMENT	30-S2	75,416.00	15,379
360.10	FORCE MAINS	70-R2.5	2,304,354.56	706,979
361.10	GRAVITY MAINS	65-R2.5	10,767,737.94	3,687,821
361.12	GRAVITY MAINS MANHOLES	60-R3	4,350,867.00	1,656,016
363.20	SERVICES TO CUSTOMERS	55-R2.5	6,619,976.05	1,682,736
365.20	METER PITS	50-R3	78,670.00	58,625
371.30	PUMPING EQUIPMENT	40-R1.5	49,664.45	18,041
390.70	COMPUTERS	5-SQ	21,550.00	21,550
391.70	TRANSPORTATION EQUIPMENT	11-S1.5	212,955.81	142,750
395.70	POWER OPERATED EQUIPMENT	15-L4	53,907.50	39,173
TOTAL COMPANY			43,447,309.24	10,491,713

EAST WHITELAND TOWNSHIP
EAST WHITELAND TOWNSHIP WASTEWATER SYSTEM ASSETS
ACCOUNT 353.20 LAND AND LAND RIGHTS - COLLECTION

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT MAY 20, 2021

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

NONDEPRECIABLE

1987	668.00

668.00

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 0.00

EAST WHITELAND TOWNSHIP WASTEWATER SYSTEM ASSETS

ACCOUNT 353.30 LAND AND LAND RIGHTS - PUMPING

RELATED TO ORIGINAL COST AT MAY 20, 2021

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

NONDEPRECIABLE

1993	13.00

13.00

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 0.00

EAST WHITELAND TOWNSHIP
EAST WHITELAND TOWNSHIP WASTEWATER SYSTEM ASSETS

ACCOUNT 354.30 STRUCTURES AND IMPROVEMENTS - PUMPING

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT MAY 20, 2021

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL RATE	ACCRUAL-- AMOUNT	EXP.	--ACCRUED FACTOR	DEPREC.-- AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 60-R3							
NET SALVAGE PERCENT.. 0							
1976	118,670.00	60.00	1.67	1,981.79	20.93	0.6512	77,274
1980	106,067.00	60.00	1.67	1,771.32	23.76	0.6040	64,064
1987	179,265.00	60.00	1.67	2,993.73	29.11	0.5148	92,291
1988	78,824.35	60.00	1.67	1,316.37	29.91	0.5015	39,530
2000	838,626.14	60.00	1.67	14,005.06	40.16	0.3307	277,309
2001	89,972.00	60.00	1.67	1,502.53	41.06	0.3157	28,401
2004	233,129.00	60.00	1.67	3,893.25	43.80	0.2700	62,945
2006	131,119.57	60.00	1.67	2,189.70	45.66	0.2390	31,338
2007	556,117.00	60.00	1.67	9,287.15	46.59	0.2235	124,292
2014	4,143,867.37	60.00	1.67	69,202.59	53.27	0.1122	464,818
2017	565,100.00	60.00	1.67	9,437.17	56.19	0.0635	35,884
2018	433,530.00	60.00	1.67	7,239.95	57.16	0.0473	20,519
2019	352,000.00	60.00	1.67	5,878.40	58.14	0.0310	10,912
7,826,287.43				130,699.01	1,329,577		
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.67							

EAST WHITELAND TOWNSHIP
EAST WHITELAND TOWNSHIP WASTEWATER SYSTEM ASSETS

ACCOUNT 354.40 STRUCTURES AND IMPROVEMENTS - TREATMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT MAY 20, 2021

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL RATE (4)	ACCRUAL-- AMOUNT (5)	EXP. (6)	--ACCRUED FACTOR (7)	DEPREC.-- AMOUNT (8)
SURVIVOR CURVE.. IOWA 65-R2.5							
NET SALVAGE PERCENT.. 0							
2013	8,916,353.50	65.00	1.54	137,311.84	57.63	0.1134	1,010,936
2017	2,168,888.00	65.00	1.54	33,400.88	61.34	0.0563	122,130
	11,085,241.50			170,712.72			1,133,066
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.54							

EAST WHITELAND TOWNSHIP
EAST WHITELAND TOWNSHIP WASTEWATER SYSTEM ASSETS

ACCOUNT 355.00 POWER GENERATION EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT MAY 20, 2021

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 30-S2							
NET SALVAGE PERCENT.. 0							
2007	23,866.00	30.00	3.33	794.74	16.91	0.4363	10,413
2018	51,550.00	30.00	3.33	1,716.62	27.11	0.0963	4,966
	75,416.00			2,511.36			15,379
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 3.33							

EAST WHITELAND TOWNSHIP
EAST WHITELAND TOWNSHIP WASTEWATER SYSTEM ASSETS

ACCOUNT 360.10 FORCE MAINS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT MAY 20, 2021

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL RATE	ACCRUAL-- AMOUNT	EXP.	--ACCRUED FACTOR	DEPREC.-- AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE... IOWA 70-R2.5							
NET SALVAGE PERCENT... 0							
1976	224,591.51	70.00	1.43	3,211.66	31.79	0.5459	122,596
1979	77,969.12	70.00	1.43	1,114.96	33.97	0.5147	40,131
1980	63,237.44	70.00	1.43	904.30	34.72	0.5040	31,872
1987	616,571.40	70.00	1.43	8,816.97	40.12	0.4269	263,190
1988	137,992.57	70.00	1.43	1,973.29	40.92	0.4154	57,326
2000	365,087.80	70.00	1.43	5,220.76	50.95	0.2721	99,355
2004	286,021.50	70.00	1.43	4,090.11	54.47	0.2219	63,457
2016	89,428.47	70.00	1.43	1,278.83	65.41	0.0656	5,864
2017	443,454.75	70.00	1.43	6,341.40	66.34	0.0523	23,188
2,304,354.56				32,952.28	706,979		
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.43							

EAST WHITELAND TOWNSHIP
EAST WHITELAND TOWNSHIP WASTEWATER SYSTEM ASSETS

ACCOUNT 361.10 GRAVITY MAINS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT MAY 20, 2021

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 65-R2.5							
NET SALVAGE PERCENT.. 0							
1951	2,995.29	65.00	1.54	46.13	13.45	0.7931	2,376
1954	18,192.92	65.00	1.54	280.17	14.69	0.7740	14,081
1967	101,639.86	65.00	1.54	1,565.25	21.44	0.6702	68,114
1970	88,975.20	65.00	1.54	1,370.22	23.29	0.6417	57,094
1971	25,402.60	65.00	1.54	391.20	23.92	0.6320	16,054
1972	23,205.13	65.00	1.54	357.36	24.57	0.6220	14,434
1973	96,745.87	65.00	1.54	1,489.89	25.23	0.6119	59,194
1974	105,874.72	65.00	1.54	1,630.47	25.89	0.6017	63,704
1975	1,212,493.01	65.00	1.54	18,672.39	26.57	0.5912	716,862
1977	190,730.14	65.00	1.54	2,937.24	27.95	0.5700	108,716
1978	445,959.85	65.00	1.54	6,867.78	28.65	0.5592	249,394
1979	113,876.97	65.00	1.54	1,753.71	29.37	0.5482	62,422
1981	204,755.08	65.00	1.54	3,153.23	30.82	0.5259	107,670
1983	124,221.58	65.00	1.54	1,913.01	32.30	0.5031	62,493
1984	122,229.73	65.00	1.54	1,882.34	33.05	0.4915	60,081
1985	25,549.19	65.00	1.54	393.46	33.81	0.4799	12,260
1987	445,308.18	65.00	1.54	6,857.75	35.35	0.4562	203,127
1988	683,452.64	65.00	1.54	10,525.17	36.13	0.4442	303,555
1990	322,292.20	65.00	1.54	4,963.30	37.72	0.4197	135,263
1991	188,920.85	65.00	1.54	2,909.38	38.52	0.4074	76,963
1992	113,430.73	65.00	1.54	1,746.83	39.33	0.3949	44,796
1993	125,848.33	65.00	1.54	1,938.06	40.14	0.3825	48,132
1994	48,812.47	65.00	1.54	751.71	40.96	0.3699	18,053
1996	17,626.35	65.00	1.54	271.45	42.63	0.3442	6,066
1997	195,693.34	65.00	1.54	3,013.68	43.47	0.3312	64,820
1998	161,226.12	65.00	1.54	2,482.88	44.31	0.3183	51,320
1999	191,811.88	65.00	1.54	2,953.90	45.17	0.3051	58,518
2000	841,402.41	65.00	1.54	12,957.60	46.02	0.2920	245,690
2001	33,916.65	65.00	1.54	522.32	46.89	0.2786	9,450
2002	573,796.70	65.00	1.54	8,836.47	47.76	0.2652	152,188
2003	130,439.13	65.00	1.54	2,008.76	48.63	0.2519	32,851
2004	150,691.88	65.00	1.54	2,320.65	49.51	0.2383	35,911
2005	1,084,944.19	65.00	1.54	16,708.14	50.40	0.2246	243,700
2006	25,135.71	65.00	1.54	387.09	51.28	0.2111	5,306
2007	572,582.23	65.00	1.54	8,817.77	52.18	0.1972	112,930
2011	132,177.28	65.00	1.54	2,035.53	55.80	0.1415	18,708
2012	254,832.50	65.00	1.54	3,924.42	56.71	0.1275	32,501
2013	497,526.27	65.00	1.54	7,661.90	57.63	0.1134	56,410
2014	49,702.48	65.00	1.54	765.42	58.56	0.0991	4,925
2016	152,918.81	65.00	1.54	2,354.95	60.41	0.0706	10,799
2017	589,958.65	65.00	1.54	9,085.36	61.34	0.0563	33,221

EAST WHITELAND TOWNSHIP
EAST WHITELAND TOWNSHIP WASTEWATER SYSTEM ASSETS

ACCOUNT 361.10 GRAVITY MAINS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT MAY 20, 2021

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 65-R2.5							
NET SALVAGE PERCENT.. 0							
2018	118,706.70	65.00	1.54	1,828.08	62.28	0.0419	4,968
2019	42,281.39	65.00	1.54	651.13	63.22	0.0274	1,158
2020	119,454.73	65.00	1.54	1,839.60	64.16	0.0129	1,543
10,767,737.94				165,823.15			3,687,821
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.54							

EAST WHITELAND TOWNSHIP
EAST WHITELAND TOWNSHIP WASTEWATER SYSTEM ASSETS

ACCOUNT 361.12 GRAVITY MAINS MANHOLES

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT MAY 20, 2021

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 60-R3							
NET SALVAGE PERCENT.. 0							
1951	2,077.71	60.00	1.67	34.70	8.20	0.8633	1,794
1954	8,810.81	60.00	1.67	147.14	9.24	0.8460	7,454
1967	23,972.08	60.00	1.67	400.33	15.27	0.7455	17,871
1970	24,659.55	60.00	1.67	411.81	17.03	0.7162	17,660
1971	9,074.19	60.00	1.67	151.54	17.65	0.7058	6,405
1972	5,589.66	60.00	1.67	93.35	18.28	0.6953	3,887
1973	48,339.55	60.00	1.67	807.27	18.92	0.6847	33,097
1974	38,646.13	60.00	1.67	645.39	19.58	0.6737	26,035
1975	418,962.34	60.00	1.67	6,996.67	20.25	0.6625	277,563
1977	82,138.97	60.00	1.67	1,371.72	21.62	0.6397	52,542
1978	146,936.93	60.00	1.67	2,453.85	22.32	0.6280	92,276
1979	45,962.11	60.00	1.67	767.57	23.04	0.6160	28,313
1980	4,128.63	60.00	1.67	68.95	23.76	0.6040	2,494
1981	81,156.88	60.00	1.67	1,355.32	24.50	0.5917	48,018
1983	44,080.82	60.00	1.67	736.15	26.00	0.5667	24,979
1984	63,456.18	60.00	1.67	1,059.72	26.76	0.5540	35,155
1985	13,376.28	60.00	1.67	223.38	27.54	0.5410	7,237
1987	188,257.68	60.00	1.67	3,143.90	29.11	0.5148	96,921
1988	256,487.24	60.00	1.67	4,283.34	29.91	0.5015	128,628
1990	120,708.58	60.00	1.67	2,015.83	31.54	0.4743	57,256
1991	92,502.00	60.00	1.67	1,544.78	32.37	0.4605	42,597
1992	50,864.94	60.00	1.67	849.44	33.20	0.4467	22,720
1993	63,128.39	60.00	1.67	1,054.24	34.05	0.4325	27,303
1994	24,141.72	60.00	1.67	403.17	34.90	0.4183	10,099
1996	7,168.03	60.00	1.67	119.71	36.62	0.3897	2,793
1997	85,453.87	60.00	1.67	1,427.08	37.50	0.3750	32,045
1998	113,259.95	60.00	1.67	1,891.44	38.38	0.3603	40,811
1999	77,279.51	60.00	1.67	1,290.57	39.26	0.3457	26,713
2000	440,368.85	60.00	1.67	7,354.16	40.16	0.3307	145,617
2001	16,180.36	60.00	1.67	270.21	41.06	0.3157	5,108
2002	254,336.19	60.00	1.67	4,247.41	41.97	0.3005	76,428
2003	55,496.10	60.00	1.67	926.78	42.88	0.2853	15,835
2004	68,061.20	60.00	1.67	1,136.62	43.80	0.2700	18,377
2005	465,353.00	60.00	1.67	7,771.40	44.73	0.2545	118,432
2006	19,772.02	60.00	1.67	330.19	45.66	0.2390	4,726
2007	182,884.21	60.00	1.67	3,054.17	46.59	0.2235	40,875
2011	52,057.49	60.00	1.67	869.36	50.38	0.1603	8,346
2012	100,911.05	60.00	1.67	1,685.21	51.34	0.1443	14,564
2013	85,237.04	60.00	1.67	1,423.46	52.30	0.1283	10,938
2014	25,014.12	60.00	1.67	417.74	53.27	0.1122	2,806
2016	32,964.00	60.00	1.67	550.50	55.21	0.0798	2,632

EAST WHITELAND TOWNSHIP
EAST WHITELAND TOWNSHIP WASTEWATER SYSTEM ASSETS

ACCOUNT 361.12 GRAVITY MAINS MANHOLES

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT MAY 20, 2021

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 60-R3							
NET SALVAGE PERCENT.. 0							
2017	246,501.10	60.00	1.67	4,116.57	56.19	0.0635	15,653
2018	77,599.65	60.00	1.67	1,295.91	57.16	0.0473	3,673
2019	14,388.35	60.00	1.67	240.29	58.14	0.0310	446
2020	58,497.23	60.00	1.67	976.90	59.13	0.0145	848
2021	14,624.31	60.00	1.67	244.23	59.81	0.0032	46
	4,350,867.00			72,659.47			1,656,016
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.67							

EAST WHITELAND TOWNSHIP
EAST WHITELAND TOWNSHIP WASTEWATER SYSTEM ASSETS

ACCOUNT 363.20 SERVICES TO CUSTOMERS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT MAY 20, 2021

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL RATE (4)	ACCRUAL-- AMOUNT (5)	EXP. (6)	--ACCRUED FACTOR (7)	DEPREC.-- AMOUNT (8)
SURVIVOR CURVE.. IOWA 55-R2.5							
NET SALVAGE PERCENT.. 0							
1970	69,770.80	55.00	1.82	1,269.83	15.16	0.7244	50,539
1976	267,367.04	55.00	1.82	4,866.08	18.57	0.6624	177,093
1978	64,086.47	55.00	1.82	1,166.37	19.81	0.6398	41,004
1980	80,220.26	55.00	1.82	1,460.01	21.10	0.6164	49,445
1982	102,469.43	55.00	1.82	1,864.94	22.44	0.5920	60,662
1985	52,315.53	55.00	1.82	952.14	24.53	0.5540	28,983
1986	47,611.22	55.00	1.82	866.52	25.25	0.5409	25,753
1987	36,853.27	55.00	1.82	670.73	25.98	0.5276	19,445
1988	112,029.11	55.00	1.82	2,038.93	26.71	0.5144	57,623
1989	216,183.43	55.00	1.82	3,934.54	27.46	0.5007	108,250
1993	71,273.98	55.00	1.82	1,297.19	30.53	0.4449	31,711
1995	28,853.50	55.00	1.82	525.13	32.11	0.4162	12,008
1996	10,713.57	55.00	1.82	194.99	32.92	0.4015	4,301
1997	45,795.05	55.00	1.82	833.47	33.73	0.3867	17,710
1998	106,491.11	55.00	1.82	1,938.14	34.55	0.3718	39,596
1999	81,005.82	55.00	1.82	1,474.31	35.38	0.3567	28,897
2000	32,495.47	55.00	1.82	591.42	36.21	0.3416	11,102
2001	340,755.79	55.00	1.82	6,201.76	37.05	0.3264	111,209
2002	136,495.47	55.00	1.82	2,484.22	37.90	0.3109	42,438
2003	26,084.10	55.00	1.82	474.73	38.76	0.2953	7,702
2004	407,503.61	55.00	1.82	7,416.57	39.62	0.2796	113,954
2012	4,283,602.02	55.00	1.82	77,961.56	46.74	0.1502	643,311
	6,619,976.05			120,483.58			1,682,736

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.82

EAST WHITELAND TOWNSHIP
EAST WHITELAND TOWNSHIP WASTEWATER SYSTEM ASSETS

ACCOUNT 365.20 METER PITS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT MAY 20, 2021

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 50-R3							
NET SALVAGE PERCENT.. 0							
1976	78,670.00	50.00	2.00	1,573.40	12.74	0.7452	58,625
	78,670.00			1,573.40			58,625
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 2.00							

EAST WHITELAND TOWNSHIP
EAST WHITELAND TOWNSHIP WASTEWATER SYSTEM ASSETS

ACCOUNT 371.30 PUMPING EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT MAY 20, 2021

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 40-R1.5							
NET SALVAGE PERCENT.. 0							
2002	49,664.45	40.00	2.50	1,241.61	25.47	0.3633	18,041
	49,664.45			1,241.61			18,041
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 2.50							

EAST WHITELAND TOWNSHIP
EAST WHITELAND TOWNSHIP WASTEWATER SYSTEM ASSETS

ACCOUNT 390.70 COMPUTERS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT MAY 20, 2021

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. 5-SQUARE							
NET SALVAGE PERCENT.. 0							
2008	21,550.00	5.00				1.0000	21,550
	21,550.00						21,550
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 0.00							

EAST WHITELAND TOWNSHIP
EAST WHITELAND TOWNSHIP WASTEWATER SYSTEM ASSETS

ACCOUNT 391.70 TRANSPORTATION EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT MAY 20, 2021

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 11-S1.5							
NET SALVAGE PERCENT.. 0							
2001	39,952.00	11.00	9.09	3,631.64	0.55	0.9500	37,954
2003	25,808.00	11.00	9.09	2,345.95	1.06	0.9036	23,321
2010	62,722.85	11.00	9.09	5,701.51	3.20	0.7091	44,476
2011	44,208.46	11.00	9.09	4,018.55	3.63	0.6700	29,620
2018	7,264.50	11.00	9.09	660.34	8.23	0.2518	1,829
2019	33,000.00	11.00	9.09	2,999.70	9.15	0.1682	5,550
	212,955.81			19,357.69			142,750
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 9.09							

EAST WHITELAND TOWNSHIP
EAST WHITELAND TOWNSHIP WASTEWATER SYSTEM ASSETS

ACCOUNT 395.70 POWER OPERATED EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT MAY 20, 2021

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 15-L4							
NET SALVAGE PERCENT.. 0							
2009	53,907.50	15.00	6.67	3,595.63	4.10	0.7267	39,173
	53,907.50			3,595.63			39,173
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 6.67							

EAST WHITELAND TOWNSHIP
EAST WHITELAND TOWNSHIP WASTEWATER SYSTEM ASSETS

SUMMARY OF REPLACEMENT COST AND ACCRUED DEPRECIATION
OF WASTEWATER SYSTEM AS OF MAY 20, 2021

ACCOUNT	DESCRIPTION	REPLACEMENT COST	ACCRUED DEPRECIATION
(1)	(2)	(3)	(4)
353.20	LAND AND LAND RIGHTS - COLLECTION	668.00	
353.30	LAND AND LAND RIGHTS - PUMPING	13.00	
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	11,876,309.88	2,769,664
354.40	STRUCTURES AND IMPROVEMENTS - TREATMENT	13,514,005.82	1,392,486
355.00	POWER GENERATION EQUIPMENT	115,234.46	29,479
360.10	FORCE MAINS	6,489,847.72	2,493,840
361.10	GRAVITY MAINS	34,298,562.34	15,386,808
361.12	GRAVITY MAINS MANHOLES	13,431,174.93	6,591,000
363.20	SERVICES TO CUSTOMERS	12,145,646.25	4,368,034
365.20	METER PITS	389,336.22	290,133
371.30	PUMPING EQUIPMENT	134,816.92	48,972
390.70	COMPUTERS	13,689.27	13,689
391.70	TRANSPORTATION EQUIPMENT	236,892.89	161,246
395.70	POWER OPERATED EQUIPMENT	66,139.54	48,062
	TOTAL COMPANY	92,712,337.24	33,593,413

EAST WHITELAND TOWNSHIP
EAST WHITELAND TOWNSHIP WASTEWATER SYSTEM ASSETS

SUMMARY OF ANALYSIS OF REPLACEMENT COST
OF WASTEWATER SYSTEM AS OF MAY 20, 2021

ACCOUNT	DESCRIPTION	REPLACEMENT COST
(1)	(2)	(3)
353.20	LAND AND LAND RIGHTS - COLLECTION	668.00
353.30	LAND AND LAND RIGHTS - PUMPING	13.00
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	11,876,309.88
354.40	STRUCTURES AND IMPROVEMENTS - TREATMENT	13,514,005.82
355.00	POWER GENERATION EQUIPMENT	115,234.46
360.10	FORCE MAINS	6,489,847.72
361.10	GRAVITY MAINS	34,298,562.34
361.12	GRAVITY MAINS MANHOLES	13,431,174.93
363.20	SERVICES TO CUSTOMERS	12,145,646.25
365.20	METER PITS	389,336.22
371.30	PUMPING EQUIPMENT	134,816.92
390.70	COMPUTERS	13,689.27
391.70	TRANSPORTATION EQUIPMENT	236,892.89
395.70	POWER OPERATED EQUIPMENT	66,139.54
	TOTAL COMPANY	92,712,337.24

**EAST WHITELAND TOWNSHIP
EAST WHITELAND TOWNSHIP WASTEWATER SYSTEM ASSETS**

**SUMMARY OF SERVICE LIFE ESTIMATES AND CALCULATED ACCRUED
DEPRECIATION RELATED TO REPLACEMENT COST AS OF MAY 20, 2021**

ACCOUNT	DESCRIPTION	SURVIVOR CURVE	REPLACEMENT COST	ACCRUED DEPRECIATION
(1)	(2)	(3)	(4)	(5)
353.20	LAND AND LAND RIGHTS - COLLECTION	NONDEPRECIABLE	668.00	
353.30	LAND AND LAND RIGHTS - PUMPING	NONDEPRECIABLE	13.00	
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	60-R3	11,876,309.88	2,769,664
354.40	STRUCTURES AND IMPROVEMENTS - TREATMENT	65-R2.5	13,514,005.82	1,392,486
355.00	POWER GENERATION EQUIPMENT	30-S2	115,234.46	29,479
360.10	FORCE MAINS	70-R2.5	6,489,847.72	2,493,840
361.10	GRAVITY MAINS	65-R2.5	34,298,562.34	15,386,808
361.12	GRAVITY MAINS MANHOLES	60-R3	13,431,174.93	6,591,000
363.20	SERVICES TO CUSTOMERS	55-R2.5	12,145,646.25	4,368,034
365.20	METER PITS	50-R3	389,336.22	290,133
371.30	PUMPING EQUIPMENT	40-R1.5	134,816.92	48,972
390.70	COMPUTERS	5-SQ	13,689.27	13,689
391.70	TRANSPORTATION EQUIPMENT	11-S1.5	236,892.89	161,246
395.70	POWER OPERATED EQUIPMENT	15-L4	66,139.54	48,062
	TOTAL COMPANY		92,712,337.24	33,593,413

**EAST WHITELAND TOWNSHIP
EAST WHITELAND TOWNSHIP WASTEWATER SYSTEM ASSETS**

**SUMMARY OF REPLACEMENT COST AND TRANSITION FACTORS BY ACCOUNT AND VINTAGE YEAR
OF WASTEWATER SYSTEM AS OF MAY 20, 2021**

ACCOUNT	DESCRIPTION	VINTAGE YEAR	BASE COST	TRANSITION FACTOR	FACTOR REFERENCE	REPLACEMENT COST
(1)	(2)	(3)	(4)	(5)	(6)	(7)
353.20	LAND AND LAND RIGHTS - COLLECTION	1987	668.00	1.00000	(1)	668.00
353.30	LAND AND LAND RIGHTS - PUMPING	1993	13.00	1.00000	(1)	13.00
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	1976	118,670.00	5.86154	(2)	695,588.77
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	1980	106,067.00	4.20994	(2)	446,536.21
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	1987	179,265.00	3.18828	(2)	571,547.82
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	1988	78,824.35	3.03586	(2)	239,299.42
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	2000	838,626.14	2.10497	(2)	1,765,284.86
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	2001	89,972.00	2.01587	(2)	181,372.13
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	2004	233,129.00	1.80998	(2)	421,957.95
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	2006	131,119.57	1.63519	(2)	214,405.82
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	2007	556,117.00	1.53629	(2)	854,357.17
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	2014	4,143,867.37	1.20761	(2)	5,004,163.13
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	2017	565,100.00	1.12889	(2)	637,935.11
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	2018	433,530.00	1.08239	(2)	469,246.96
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	2019	352,000.00	1.06425	(2)	374,614.53
354.40	STRUCTURES AND IMPROVEMENTS - TREATMENT	2013	8,916,353.50	1.24104	(2)	11,065,572.26
354.40	STRUCTURES AND IMPROVEMENTS - TREATMENT	2017	2,168,888.00	1.12889	(2)	2,448,433.56
355.00	POWER GENERATION EQUIPMENT	2007	23,866.00	2.26498	(3)	54,056.11
355.00	POWER GENERATION EQUIPMENT	2018	51,550.00	1.18678	(3)	61,178.35
360.10	FORCE MAINS	1976	224,591.51	5.73377	(4)	1,287,755.22
360.10	FORCE MAINS	1979	77,969.12	4.77297	(4)	372,144.50
360.10	FORCE MAINS	1980	63,237.44	4.37129	(4)	276,429.01
360.10	FORCE MAINS	1987	616,571.40	3.35741	(4)	2,070,085.73
360.10	FORCE MAINS	1988	137,992.57	3.15357	(4)	435,169.43
360.10	FORCE MAINS	2000	365,087.80	2.34218	(4)	855,099.54
360.10	FORCE MAINS	2004	286,021.50	2.04398	(4)	584,622.65
360.10	FORCE MAINS	2016	89,428.47	1.16954	(4)	104,589.85
360.10	FORCE MAINS	2017	443,454.75	1.13642	(4)	503,951.79
361.10	GRAVITY MAINS	1951	2,995.29	19.62222	(4)	58,774.25
361.10	GRAVITY MAINS	1954	18,192.92	18.39583	(4)	334,673.92
361.10	GRAVITY MAINS	1967	101,639.86	11.61842	(4)	1,180,894.69
361.10	GRAVITY MAINS	1970	88,975.20	10.51190	(4)	935,298.83
361.10	GRAVITY MAINS	1971	25,402.60	9.39362	(4)	238,622.30
361.10	GRAVITY MAINS	1972	23,205.13	9.01020	(4)	209,082.96
361.10	GRAVITY MAINS	1973	96,745.87	8.83000	(4)	854,266.03
361.10	GRAVITY MAINS	1974	105,874.72	8.02727	(4)	849,885.25
361.10	GRAVITY MAINS	1975	1,212,493.01	6.04795	(4)	7,333,091.29
361.10	GRAVITY MAINS	1977	190,730.14	5.45062	(4)	1,039,597.00
361.10	GRAVITY MAINS	1978	445,959.85	5.10405	(4)	2,276,199.70
361.10	GRAVITY MAINS	1979	113,876.97	4.77297	(4)	543,531.70
361.10	GRAVITY MAINS	1981	204,755.08	4.03196	(4)	825,565.00
361.10	GRAVITY MAINS	1983	124,221.58	3.69456	(4)	458,944.16
361.10	GRAVITY MAINS	1984	122,229.73	3.61885	(4)	442,331.36
361.10	GRAVITY MAINS	1985	25,549.19	3.47638	(4)	88,818.64
361.10	GRAVITY MAINS	1987	445,308.18	3.35741	(4)	1,495,084.12
361.10	GRAVITY MAINS	1988	683,452.64	3.15357	(4)	2,155,316.72
361.10	GRAVITY MAINS	1990	322,292.20	2.93355	(4)	945,461.84
361.10	GRAVITY MAINS	1991	188,920.85	2.87622	(4)	543,378.21
361.10	GRAVITY MAINS	1992	113,430.73	2.83923	(4)	322,055.74
361.10	GRAVITY MAINS	1993	125,848.33	2.75078	(4)	346,180.92
361.10	GRAVITY MAINS	1994	48,812.47	2.70031	(4)	131,808.60
361.10	GRAVITY MAINS	1996	17,626.35	2.60472	(4)	45,911.70
361.10	GRAVITY MAINS	1997	195,693.34	2.54467	(4)	497,974.70
361.10	GRAVITY MAINS	1998	161,226.12	2.48732	(4)	401,021.59
361.10	GRAVITY MAINS	1999	191,811.88	2.44598	(4)	469,168.67
361.10	GRAVITY MAINS	2000	841,402.41	2.34218	(4)	1,970,711.75
361.10	GRAVITY MAINS	2001	33,916.65	2.25831	(4)	76,594.38
361.10	GRAVITY MAINS	2002	573,796.70	2.18564	(4)	1,254,115.06
361.10	GRAVITY MAINS	2003	130,439.13	2.16953	(4)	282,992.02
361.10	GRAVITY MAINS	2004	150,691.88	2.04398	(4)	308,011.41
361.10	GRAVITY MAINS	2005	1,084,944.19	1.88273	(4)	2,042,656.12

**EAST WHITELAND TOWNSHIP
EAST WHITELAND TOWNSHIP WASTEWATER SYSTEM ASSETS**

**SUMMARY OF REPLACEMENT COST AND TRANSITION FACTORS BY ACCOUNT AND VINTAGE YEAR
OF WASTEWATER SYSTEM AS OF MAY 20, 2021**

ACCOUNT	DESCRIPTION	VINTAGE YEAR	BASE COST	TRANSITION FACTOR	FACTOR REFERENCE	REPLACEMENT COST
(1)	(2)	(3)	(4)	(5)	(6)	(7)
361.10	GRAVITY MAINS	2006	25,135.71	1.76954	(4)	44,478.62
361.10	GRAVITY MAINS	2007	572,582.23	1.66604	(4)	953,943.60
361.10	GRAVITY MAINS	2011	132,177.28	1.36265	(4)	180,111.94
361.10	GRAVITY MAINS	2012	254,832.50	1.28530	(4)	327,535.80
361.10	GRAVITY MAINS	2013	497,526.27	1.25963	(4)	626,698.57
361.10	GRAVITY MAINS	2014	49,702.48	1.20793	(4)	60,037.33
361.10	GRAVITY MAINS	2016	152,918.81	1.16954	(4)	178,844.12
361.10	GRAVITY MAINS	2017	589,958.65	1.13642	(4)	670,442.07
361.10	GRAVITY MAINS	2018	118,706.70	1.09963	(4)	130,533.02
361.10	GRAVITY MAINS	2019	42,281.39	1.06386	(4)	44,981.29
361.10	GRAVITY MAINS	2020	119,454.73	1.02914	(4)	122,935.35
361.12	GRAVITY MAINS MANHOLES	1951	2,077.71	19.62222	(4)	40,769.29
361.12	GRAVITY MAINS MANHOLES	1954	8,810.81	18.39583	(4)	162,082.19
361.12	GRAVITY MAINS MANHOLES	1967	23,972.08	11.61842	(4)	278,517.72
361.12	GRAVITY MAINS MANHOLES	1970	24,659.55	10.51190	(4)	259,218.84
361.12	GRAVITY MAINS MANHOLES	1971	9,074.19	9.39362	(4)	85,239.47
361.12	GRAVITY MAINS MANHOLES	1972	5,589.66	9.01020	(4)	50,363.98
361.12	GRAVITY MAINS MANHOLES	1973	48,339.55	8.83000	(4)	426,838.23
361.12	GRAVITY MAINS MANHOLES	1974	38,646.13	8.02727	(4)	310,223.03
361.12	GRAVITY MAINS MANHOLES	1975	418,962.34	6.04795	(4)	2,533,861.28
361.12	GRAVITY MAINS MANHOLES	1977	82,138.97	5.45062	(4)	447,708.09
361.12	GRAVITY MAINS MANHOLES	1978	146,936.93	5.10405	(4)	749,972.89
361.12	GRAVITY MAINS MANHOLES	1979	45,962.11	4.77297	(4)	219,375.91
361.12	GRAVITY MAINS MANHOLES	1980	4,128.63	4.37129	(4)	18,047.43
361.12	GRAVITY MAINS MANHOLES	1981	81,156.88	4.03196	(4)	327,221.58
361.12	GRAVITY MAINS MANHOLES	1983	44,080.82	3.69456	(4)	162,859.26
361.12	GRAVITY MAINS MANHOLES	1984	63,456.18	3.61885	(4)	229,638.55
361.12	GRAVITY MAINS MANHOLES	1985	13,376.28	3.47638	(4)	46,501.00
361.12	GRAVITY MAINS MANHOLES	1987	188,257.68	3.35741	(4)	632,059.05
361.12	GRAVITY MAINS MANHOLES	1988	256,487.24	3.15357	(4)	808,850.83
361.12	GRAVITY MAINS MANHOLES	1990	120,708.58	2.93355	(4)	354,105.24
361.12	GRAVITY MAINS MANHOLES	1991	92,502.00	2.87622	(4)	266,056.24
361.12	GRAVITY MAINS MANHOLES	1992	50,864.94	2.83923	(4)	144,417.18
361.12	GRAVITY MAINS MANHOLES	1993	63,128.39	2.75078	(4)	173,652.24
361.12	GRAVITY MAINS MANHOLES	1994	24,141.72	2.70031	(4)	65,190.03
361.12	GRAVITY MAINS MANHOLES	1996	7,168.03	2.60472	(4)	18,670.71
361.12	GRAVITY MAINS MANHOLES	1997	85,453.87	2.54467	(4)	217,451.78
361.12	GRAVITY MAINS MANHOLES	1998	113,259.95	2.48732	(4)	281,714.19
361.12	GRAVITY MAINS MANHOLES	1999	77,279.51	2.44598	(4)	189,024.40
361.12	GRAVITY MAINS MANHOLES	2000	440,368.85	2.34218	(4)	1,031,420.94
361.12	GRAVITY MAINS MANHOLES	2001	16,180.36	2.25831	(4)	36,540.30
361.12	GRAVITY MAINS MANHOLES	2002	254,336.19	2.18564	(4)	555,888.26
361.12	GRAVITY MAINS MANHOLES	2003	55,496.10	2.16953	(4)	120,400.63
361.12	GRAVITY MAINS MANHOLES	2004	68,061.20	2.04398	(4)	139,115.83
361.12	GRAVITY MAINS MANHOLES	2005	465,353.00	1.88273	(4)	876,133.69
361.12	GRAVITY MAINS MANHOLES	2006	19,772.02	1.76954	(4)	34,987.36
361.12	GRAVITY MAINS MANHOLES	2007	182,884.21	1.66604	(4)	304,692.00
361.12	GRAVITY MAINS MANHOLES	2011	52,057.49	1.36265	(4)	70,936.36
361.12	GRAVITY MAINS MANHOLES	2012	100,911.05	1.28530	(4)	129,700.81
361.12	GRAVITY MAINS MANHOLES	2013	85,237.04	1.25963	(4)	107,367.06
361.12	GRAVITY MAINS MANHOLES	2014	25,014.12	1.20793	(4)	30,215.41
361.12	GRAVITY MAINS MANHOLES	2016	32,964.00	1.16954	(4)	38,552.60
361.12	GRAVITY MAINS MANHOLES	2017	246,501.10	1.13642	(4)	280,129.31
361.12	GRAVITY MAINS MANHOLES	2018	77,599.65	1.09963	(4)	85,330.62
361.12	GRAVITY MAINS MANHOLES	2019	14,388.35	1.06386	(4)	15,307.12
361.12	GRAVITY MAINS MANHOLES	2020	58,497.23	1.02914	(4)	60,201.69
361.12	GRAVITY MAINS MANHOLES	2021	14,624.31	1.00000	(4)	14,624.31
363.20	SERVICES TO CUSTOMERS	1970	69,770.80	9.01266	(5)	628,820.37
363.20	SERVICES TO CUSTOMERS	1976	267,367.04	5.47692	(5)	1,464,348.71
363.20	SERVICES TO CUSTOMERS	1978	64,086.47	4.91034	(5)	314,686.67
363.20	SERVICES TO CUSTOMERS	1980	80,220.26	4.06857	(5)	326,381.86

**EAST WHITELAND TOWNSHIP
EAST WHITELAND TOWNSHIP WASTEWATER SYSTEM ASSETS**

**SUMMARY OF REPLACEMENT COST AND TRANSITION FACTORS BY ACCOUNT AND VINTAGE YEAR
OF WASTEWATER SYSTEM AS OF MAY 20, 2021**

ACCOUNT (1)	DESCRIPTION (2)	VINTAGE YEAR (3)	BASE COST (4)	TRANSITION FACTOR (5)	FACTOR REFERENCE (6)	REPLACEMENT COST (7)
363.20	SERVICES TO CUSTOMERS	1982	102,469.43	3.59596	(5)	368,475.93
363.20	SERVICES TO CUSTOMERS	1985	52,315.53	3.22172	(5)	168,545.96
363.20	SERVICES TO CUSTOMERS	1986	47,611.22	3.15044	(5)	149,996.41
363.20	SERVICES TO CUSTOMERS	1987	36,853.27	3.09565	(5)	114,084.91
363.20	SERVICES TO CUSTOMERS	1988	112,029.11	2.90612	(5)	325,570.31
363.20	SERVICES TO CUSTOMERS	1989	216,183.43	2.75969	(5)	596,599.23
363.20	SERVICES TO CUSTOMERS	1993	71,273.98	2.43836	(5)	173,791.35
363.20	SERVICES TO CUSTOMERS	1995	28,853.50	2.31922	(5)	66,917.56
363.20	SERVICES TO CUSTOMERS	1996	10,713.57	2.21807	(5)	23,763.43
363.20	SERVICES TO CUSTOMERS	1997	45,795.05	2.20433	(5)	100,947.60
363.20	SERVICES TO CUSTOMERS	1998	106,491.11	2.15758	(5)	229,762.64
363.20	SERVICES TO CUSTOMERS	1999	81,005.82	2.13174	(5)	172,683.07
363.20	SERVICES TO CUSTOMERS	2000	32,495.47	2.04598	(5)	66,484.98
363.20	SERVICES TO CUSTOMERS	2001	340,755.79	2.01130	(5)	685,361.93
363.20	SERVICES TO CUSTOMERS	2002	136,495.47	1.97778	(5)	269,957.71
363.20	SERVICES TO CUSTOMERS	2003	26,084.10	1.93478	(5)	50,467.06
363.20	SERVICES TO CUSTOMERS	2004	407,503.61	1.83505	(5)	747,790.13
363.20	SERVICES TO CUSTOMERS	2012	4,283,602.02	1.19064	(5)	5,100,208.43
365.20	METER PITS	1976	78,670.00	4.94898	(6)	389,336.22
371.30	PUMPING EQUIPMENT	2002	49,664.45	2.71456	(3)	134,816.92
390.70	COMPUTERS	2008	21,550.00	0.63523	(7)	13,689.27
391.70	TRANSPORTATION EQUIPMENT	2001	39,952.00	1.13057	(8)	45,168.39
391.70	TRANSPORTATION EQUIPMENT	2003	25,808.00	1.15114	(8)	29,708.65
391.70	TRANSPORTATION EQUIPMENT	2010	62,722.85	1.13683	(8)	71,305.49
391.70	TRANSPORTATION EQUIPMENT	2011	44,208.46	1.12940	(8)	49,929.18
391.70	TRANSPORTATION EQUIPMENT	2018	7,264.50	1.01468	(8)	7,371.16
391.70	TRANSPORTATION EQUIPMENT	2019	33,000.00	1.01242	(8)	33,410.02
395.70	POWER OPERATED EQUIPMENT	2009	53,907.50	1.22691	(9)	66,139.54
TOTAL COMPANY			43,447,309.24			92,712,337.24

- NOTES : (1) Not trended
- (2) Handy-Whitman Index of Public Utility Costs, 1/1/21, Cost Trends of Water Utility Construction, North Atlantic Region, Line 8
- (3) Handy-Whitman Index of Public Utility Costs, 1/1/21, Cost Trends of Water Utility Construction, North Atlantic Region, Line 9
- (4) Handy-Whitman Index of Public Utility Costs, 1/1/21, Cost Trends of Water Utility Construction, North Atlantic Region, Line 34
- (5) Handy-Whitman Index of Public Utility Costs, 1/1/21, Cost Trends of Water Utility Construction, North Atlantic Region, Line 39
- (6) Handy-Whitman Index of Public Utility Costs, 1/1/21, Cost Trends of Water Utility Construction, North Atlantic Region, Line 40
- (7) 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
- (8) U.S. Bureau of Labor Statistics, Producer Price Index, Series Title: PPI industry data for Computer & peripheral equipment mfg, not seasonally adjusted
- (9) U.S. Bureau of Labor Statistics, Producer Price Index, Series Title: PPI industry data for Construction machinery mfg, not seasonally adjusted

EAST WHITELAND TOWNSHIP
EAST WHITELAND TOWNSHIP WASTEWATER SYSTEM ASSETS

ACCOUNT 353.20 LAND AND LAND RIGHTS - COLLECTION

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT MAY 20, 2021

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

NONDEPRECIABLE

1987	668.00						

	668.00						

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 0.00

EAST WHITELAND TOWNSHIP
EAST WHITELAND TOWNSHIP WASTEWATER SYSTEM ASSETS

ACCOUNT 353.30 LAND AND LAND RIGHTS - PUMPING

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT MAY 20, 2021

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
NONDEPRECIABLE							
1993	13.00						
	13.00						
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 0.00							

EAST WHITELAND TOWNSHIP WASTEWATER SYSTEM ASSETS

ACCOUNT 354.30 STRUCTURES AND IMPROVEMENTS - PUMPING

RELATED TO REPLACEMENT COST AT MAY 20, 2021

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.67

EAST WHITELAND TOWNSHIP
EAST WHITELAND TOWNSHIP WASTEWATER SYSTEM ASSETS

ACCOUNT 354.40 STRUCTURES AND IMPROVEMENTS - TREATMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT MAY 20, 2021

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 65-R2.5							
NET SALVAGE PERCENT.. 0							
2013	11,065,572.26	65.00	1.54	170,409.81	57.63	0.1134	1,254,615
2017	2,448,433.56	65.00	1.54	37,705.88	61.34	0.0563	137,871
	13,514,005.82			208,115.69			1,392,486
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.54							

EAST WHITELAND TOWNSHIP
EAST WHITELAND TOWNSHIP WASTEWATER SYSTEM ASSETS

ACCOUNT 355.00 POWER GENERATION EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT MAY 20, 2021

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 30-S2							
NET SALVAGE PERCENT.. 0							
2007	54,056.11	30.00	3.33	1,800.07	16.91	0.4363	23,586
2018	61,178.35	30.00	3.33	2,037.24	27.11	0.0963	5,893
	115,234.46			3,837.31			29,479
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 3.33							

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.43

EAST WHITELAND TOWNSHIP
EAST WHITELAND TOWNSHIP WASTEWATER SYSTEM ASSETS

ACCOUNT 361.10 GRAVITY MAINS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT MAY 20, 2021

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 65-R2.5							
NET SALVAGE PERCENT.. 0							
1951	58,774.25	65.00	1.54	905.12	13.45	0.7931	46,613
1954	334,673.92	65.00	1.54	5,153.98	14.69	0.7740	259,038
1967	1,180,894.69	65.00	1.54	18,185.78	21.44	0.6702	791,377
1970	935,298.83	65.00	1.54	14,403.60	23.29	0.6417	600,172
1971	238,622.30	65.00	1.54	3,674.78	23.92	0.6320	150,809
1972	209,082.96	65.00	1.54	3,219.88	24.57	0.6220	130,050
1973	854,266.03	65.00	1.54	13,155.70	25.23	0.6119	522,683
1974	849,885.25	65.00	1.54	13,088.23	25.89	0.6017	511,367
1975	7,333,091.29	65.00	1.54	112,929.61	26.57	0.5912	4,335,544
1977	1,039,597.00	65.00	1.54	16,009.79	27.95	0.5700	592,570
1978	2,276,199.70	65.00	1.54	35,053.48	28.65	0.5592	1,272,919
1979	543,531.70	65.00	1.54	8,370.39	29.37	0.5482	297,937
1981	825,565.00	65.00	1.54	12,713.70	30.82	0.5259	434,123
1983	458,944.16	65.00	1.54	7,067.74	32.30	0.5031	230,886
1984	442,331.36	65.00	1.54	6,811.90	33.05	0.4915	217,424
1985	88,818.64	65.00	1.54	1,367.81	33.81	0.4799	42,620
1987	1,495,084.12	65.00	1.54	23,024.30	35.35	0.4562	681,983
1988	2,155,316.72	65.00	1.54	33,191.88	36.13	0.4442	957,284
1990	945,461.84	65.00	1.54	14,560.11	37.72	0.4197	396,801
1991	543,378.21	65.00	1.54	8,368.02	38.52	0.4074	221,361
1992	322,055.74	65.00	1.54	4,959.66	39.33	0.3949	127,186
1993	346,180.92	65.00	1.54	5,331.19	40.14	0.3825	132,400
1994	131,808.60	65.00	1.54	2,029.85	40.96	0.3699	48,749
1996	45,911.70	65.00	1.54	707.04	42.63	0.3442	15,801
1997	497,974.70	65.00	1.54	7,668.81	43.47	0.3312	164,944
1998	401,021.59	65.00	1.54	6,175.73	44.31	0.3183	127,649
1999	469,168.67	65.00	1.54	7,225.20	45.17	0.3051	143,134
2000	1,970,711.75	65.00	1.54	30,348.96	46.02	0.2920	575,448
2001	76,594.38	65.00	1.54	1,179.55	46.89	0.2786	21,341
2002	1,254,115.06	65.00	1.54	19,313.37	47.76	0.2652	332,629
2003	282,992.02	65.00	1.54	4,358.08	48.63	0.2519	71,272
2004	308,011.41	65.00	1.54	4,743.38	49.51	0.2383	73,402
2005	2,042,656.12	65.00	1.54	31,456.90	50.40	0.2246	458,821
2006	44,478.62	65.00	1.54	684.97	51.28	0.2111	9,389
2007	953,943.60	65.00	1.54	14,690.73	52.18	0.1972	188,146
2011	180,111.94	65.00	1.54	2,773.72	55.80	0.1415	25,493
2012	327,535.80	65.00	1.54	5,044.05	56.71	0.1275	41,774
2013	626,698.57	65.00	1.54	9,651.16	57.63	0.1134	71,055
2014	60,037.33	65.00	1.54	924.57	58.56	0.0991	5,948
2016	178,844.12	65.00	1.54	2,754.20	60.41	0.0706	12,630
2017	670,442.07	65.00	1.54	10,324.81	61.34	0.0563	37,753

EAST WHITELAND TOWNSHIP
EAST WHITELAND TOWNSHIP WASTEWATER SYSTEM ASSETS

ACCOUNT 361.10 GRAVITY MAINS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT MAY 20, 2021

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 65-R2.5							
NET SALVAGE PERCENT.. 0							
2018	130,533.02	65.00	1.54	2,010.21	62.28	0.0419	5,463
2019	44,981.29	65.00	1.54	692.71	63.22	0.0274	1,232
2020	122,935.35	65.00	1.54	1,893.20	64.16	0.0129	1,588
	34,298,562.34			528,197.85			15,386,808
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.54							

EAST WHITELAND TOWNSHIP
EAST WHITELAND TOWNSHIP WASTEWATER SYSTEM ASSETS

ACCOUNT 361.12 GRAVITY MAINS MANHOLES

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT MAY 20, 2021

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 60-R3							
NET SALVAGE PERCENT.. 0							
1951	40,769.29	60.00	1.67	680.85	8.20	0.8633	35,197
1954	162,082.19	60.00	1.67	2,706.77	9.24	0.8460	137,122
1967	278,517.72	60.00	1.67	4,651.25	15.27	0.7455	207,635
1970	259,218.84	60.00	1.67	4,328.95	17.03	0.7162	185,645
1971	85,239.47	60.00	1.67	1,423.50	17.65	0.7058	60,165
1972	50,363.98	60.00	1.67	841.08	18.28	0.6953	35,020
1973	426,838.23	60.00	1.67	7,128.20	18.92	0.6847	292,243
1974	310,223.03	60.00	1.67	5,180.72	19.58	0.6737	208,988
1975	2,533,861.28	60.00	1.67	42,315.48	20.25	0.6625	1,678,683
1977	447,708.09	60.00	1.67	7,476.73	21.62	0.6397	286,385
1978	749,972.89	60.00	1.67	12,524.55	22.32	0.6280	470,983
1979	219,375.91	60.00	1.67	3,663.58	23.04	0.6160	135,136
1980	18,047.43	60.00	1.67	301.39	23.76	0.6040	10,901
1981	327,221.58	60.00	1.67	5,464.60	24.50	0.5917	193,607
1983	162,859.26	60.00	1.67	2,719.75	26.00	0.5667	92,287
1984	229,638.55	60.00	1.67	3,834.96	26.76	0.5540	127,220
1985	46,501.00	60.00	1.67	776.57	27.54	0.5410	25,157
1987	632,059.05	60.00	1.67	10,555.39	29.11	0.5148	325,403
1988	808,850.83	60.00	1.67	13,507.81	29.91	0.5015	405,639
1990	354,105.24	60.00	1.67	5,913.56	31.54	0.4743	167,963
1991	266,056.24	60.00	1.67	4,443.14	32.37	0.4605	122,519
1992	144,417.18	60.00	1.67	2,411.77	33.20	0.4467	64,507
1993	173,652.24	60.00	1.67	2,899.99	34.05	0.4325	75,105
1994	65,190.03	60.00	1.67	1,088.67	34.90	0.4183	27,271
1996	18,670.71	60.00	1.67	311.80	36.62	0.3897	7,275
1997	217,451.78	60.00	1.67	3,631.44	37.50	0.3750	81,544
1998	281,714.19	60.00	1.67	4,704.63	38.38	0.3603	101,510
1999	189,024.40	60.00	1.67	3,156.71	39.26	0.3457	65,340
2000	1,031,420.94	60.00	1.67	17,224.73	40.16	0.3307	341,060
2001	36,540.30	60.00	1.67	610.22	41.06	0.3157	11,535
2002	555,888.26	60.00	1.67	9,283.33	41.97	0.3005	167,044
2003	120,400.63	60.00	1.67	2,010.69	42.88	0.2853	34,354
2004	139,115.83	60.00	1.67	2,323.23	43.80	0.2700	37,561
2005	876,133.69	60.00	1.67	14,631.43	44.73	0.2545	222,976
2006	34,987.36	60.00	1.67	584.29	45.66	0.2390	8,362
2007	304,692.00	60.00	1.67	5,088.36	46.59	0.2235	68,099
2011	70,936.36	60.00	1.67	1,184.64	50.38	0.1603	11,373
2012	129,700.81	60.00	1.67	2,166.00	51.34	0.1443	18,720
2013	107,367.06	60.00	1.67	1,793.03	52.30	0.1283	13,778
2014	30,215.41	60.00	1.67	504.60	53.27	0.1122	3,389
2016	38,552.60	60.00	1.67	643.83	55.21	0.0798	3,078

EAST WHITELAND TOWNSHIP
EAST WHITELAND TOWNSHIP WASTEWATER SYSTEM ASSETS

ACCOUNT 361.12 GRAVITY MAINS MANHOLES

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT MAY 20, 2021

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 60-R3							
NET SALVAGE PERCENT.. 0							
2017	280,129.31	60.00	1.67	4,678.16	56.19	0.0635	17,788
2018	85,330.62	60.00	1.67	1,425.02	57.16	0.0473	4,039
2019	15,307.12	60.00	1.67	255.63	58.14	0.0310	475
2020	60,201.69	60.00	1.67	1,005.37	59.13	0.0145	873
2021	14,624.31	60.00	1.67	244.23	59.81	0.0032	46
	13,431,174.93			224,300.63			6,591,000
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.67							

EAST WHITELAND TOWNSHIP WASTEWATER SYSTEM ASSETS

ACCOUNT 363.20 SERVICES TO CUSTOMERS

RELATED TO REPLACEMENT COST AT MAY 20, 2021

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL RATE	ACCRUAL-- AMOUNT	EXP.	--ACCRUED FACTOR	DEPREC.-- AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 55-R2.5							
NET SALVAGE PERCENT.. 0							
1970	628,820.37	55.00	1.82	11,444.53	15.16	0.7244	455,492
1976	1,464,348.71	55.00	1.82	26,651.15	18.57	0.6624	969,926
1978	314,686.67	55.00	1.82	5,727.30	19.81	0.6398	201,343
1980	326,381.86	55.00	1.82	5,940.15	21.10	0.6164	201,169
1982	368,475.93	55.00	1.82	6,706.26	22.44	0.5920	218,138
1985	168,545.96	55.00	1.82	3,067.54	24.53	0.5540	93,374
1986	149,996.41	55.00	1.82	2,729.93	25.25	0.5409	81,135
1987	114,084.91	55.00	1.82	2,076.35	25.98	0.5276	60,196
1988	325,570.31	55.00	1.82	5,925.38	26.71	0.5144	167,460
1989	596,599.23	55.00	1.82	10,858.11	27.46	0.5007	298,735
1993	173,791.35	55.00	1.82	3,163.00	30.53	0.4449	77,322
1995	66,917.56	55.00	1.82	1,217.90	32.11	0.4162	27,850
1996	23,763.43	55.00	1.82	432.49	32.92	0.4015	9,540
1997	100,947.60	55.00	1.82	1,837.25	33.73	0.3867	39,039
1998	229,762.64	55.00	1.82	4,181.68	34.55	0.3718	85,430
1999	172,683.07	55.00	1.82	3,142.83	35.38	0.3567	61,601
2000	66,484.98	55.00	1.82	1,210.03	36.21	0.3416	22,714
2001	685,361.93	55.00	1.82	12,473.59	37.05	0.3264	223,675
2002	269,957.71	55.00	1.82	4,913.23	37.90	0.3109	83,933
2003	50,467.06	55.00	1.82	918.50	38.76	0.2953	14,901
2004	747,790.13	55.00	1.82	13,609.78	39.62	0.2796	209,112
2012	5,100,208.43	55.00	1.82	92,823.79	46.74	0.1502	765,949
	12,145,646.25			221,050.77			4,368,034

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.82

EAST WHITELAND TOWNSHIP
EAST WHITELAND TOWNSHIP WASTEWATER SYSTEM ASSETS

ACCOUNT 365.20 METER PITS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT MAY 20, 2021

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 50-R3							
NET SALVAGE PERCENT.. 0							
1976	389,336.22	50.00	2.00	7,786.72	12.74	0.7452	290,133
	389,336.22			7,786.72			290,133
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 2.00							

EAST WHITELAND TOWNSHIP
EAST WHITELAND TOWNSHIP WASTEWATER SYSTEM ASSETS

ACCOUNT 371.30 PUMPING EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT MAY 20, 2021

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 40-R1.5							
NET SALVAGE PERCENT.. 0							
2002	134,816.92	40.00	2.50	3,370.42	25.47	0.3633	48,972
	134,816.92			3,370.42			48,972
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 2.50							

EAST WHITELAND TOWNSHIP
EAST WHITELAND TOWNSHIP WASTEWATER SYSTEM ASSETS

ACCOUNT 390.70 COMPUTERS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT MAY 20, 2021

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. 5-SQUARE							
NET SALVAGE PERCENT.. 0							
2008	13,689.27	5.00				1.0000	13,689
	13,689.27						13,689
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 0.00							

EAST WHITELAND TOWNSHIP WASTEWATER SYSTEM ASSETS

ACCOUNT 391.70 TRANSPORTATION EQUIPMENT

RELATED TO REPLACEMENT COST AT MAY 20, 2021

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL RATE	ACCRUAL-- AMOUNT	EXP.	--ACCRUED FACTOR	DEPREC.-- AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 11-S1.5							
NET SALVAGE PERCENT.. 0							
2001	45,168.39	11.00	9.09	4,105.81	0.55	0.9500	42,910
2003	29,708.65	11.00	9.09	2,700.52	1.06	0.9036	26,846
2010	71,305.49	11.00	9.09	6,481.67	3.20	0.7091	50,562
2011	49,929.18	11.00	9.09	4,538.56	3.63	0.6700	33,453
2018	7,371.16	11.00	9.09	670.04	8.23	0.2518	1,856
2019	33,410.02	11.00	9.09	3,036.97	9.15	0.1682	5,619
	236,892.89			21,533.57			161,246

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 9.09

EAST WHITELAND TOWNSHIP
EAST WHITELAND TOWNSHIP WASTEWATER SYSTEM ASSETS

ACCOUNT 395.70 POWER OPERATED EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT MAY 20, 2021

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 15-L4							
NET SALVAGE PERCENT.. 0							
2009	66,139.54	15.00	6.67	4,411.51	4.10	0.7267	48,062
	66,139.54			4,411.51			48,062
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 6.67							

Income Approach
 East Whiteland Township Wastewater System Assets
 Pro Forma Operations
Earnings Capitalization Model

	Actual		Budget	Budget
			Year 0	
	2018	2019	2020	2021
1. OPERATING REVENUES (1)				
2. Charges for services	3,809,229	3,761,787	3,948,000	3,948,000
3. Other operating revenue	1,563,159	682,780	439,000	380,000
4. Tap Fees	0	0	0	0
5. Total Operating Revenues	5,372,388	4,444,567	4,387,000	4,328,000
6. Rate Increase				
7. OPERATING EXPENSES (1)				
8. Operating & Maintenance Expenses	2,407,506	3,073,240	3,106,409	3,222,278
9. Operating Expenses Before Depreciation	2,407,506	3,073,240	3,106,409	3,222,278
10. Depreciation (2)	718,700	774,783	774,783	733,450
11. Total Operating Expenses	3,126,206	3,848,023	3,881,192	3,955,728
12. Operating Income	2,246,182	596,544	505,808	372,272
13. Revenues (3)	5,372,388	4,444,567	4,387,000	4,328,000
14. EBITDA (4)	2,964,882	1,371,327	1,280,591	1,105,722
15. EBIT (5)	2,246,182	596,544	505,808	372,272
16. EBIT	2,246,182	596,544	505,808	372,272
17. (-) Income Taxes	0	0	0	0
18. Debt Free Net Income	2,246,182	596,544	505,808	372,272
19. (+) Depreciation & Amortization	718,700	774,783	774,783	733,450
20. (-) Capital Expenditures (6)	393,256	740,070	2,738,000	2,038,000
21. (-) Changes in Working Capital (7)	11,282	9,334	9,213	9,089
22. Debt Free Net Cash Flow	\$2,560,344	\$621,923	(\$1,466,622)	(\$941,367)

Income Approach
East Whiteland Township Wastewater System Assets
Pro Forma Operations
Earnings Capitalization Model

2021

3.09% Capitalization Rate Model (No Growth)

23.	Debt Free Net Cash Flow (10)	(\$941,367)
24.	Capitalization Factor: (8)	<u>3.09%</u>
25.	Indicated Value (line 23 ÷ line 24)	<u><u>(\$30,464,945)</u></u>

3.09% Capitalization Rate Model (0.00% Growth)

26.	Debt Free Net Cash Flow (10)	(\$941,367)
27.	Capitalization Factor: (9)	<u>3.09%</u>
28.	Indicated Value (line 26 ÷ line 27)	<u><u>(\$30,464,945)</u></u>

See last page of this EXHIBIT for notes and assumptions.

Income Approach
 East Whiteland Township Wastewater System Assets
 Pro Forma Operations
Earnings Capitalization Model

Notes: (1) Assumptions:

- Charges for services - Pre-2022 are actual or budget. Post-2021 based on customer growth (EDU) and average revenue per customer.
- OPERATING EXPENSES - increase at 2.5% annually after 2021 unless noted elsewhere. Assumed economies of scale are shown on lines below.
- (2) Depreciation - Pre-2022 based on actual depreciation rate plus same rate on half of CAPX. Post-2021 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-2028 based on financials/budget. Post-2027 years are estimates at 1.63% of prior year-end GROSS Property, plant and equipment.
 - (7) Changes in Working Capital - based on water industry 0.21% of revenues.
 - (8) Discount rate is the the current MUNI discount rate. Capitalization rate (K) at 5/20/2021 equal to discount rate, where capitalization rate = $K - g$.
 - (9) Discount rate is the current MUNI discount rate. Capitalization rate (K) at 5/20/2021 adjusted for stated growth (g) where capitalization rate = $K - g$.
 - (10) Final year shown, line 22.

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

East Whiteland Township Wastewater System Assets
 Pro Forma and Estimated Operations With MUNI Ownership
 DCF With Capitalization of Terminal Value Model and
DCF With EBIT & EBITDA Terminal Value Model

	Actual		Budget	Budget	Estimated	Estimated
				Year 0	Year 1	Year 2
	2018	2019	2020	2021	2022	2023
1. OPERATING REVENUES (1)						
2. Charges for services	3,809,229	3,761,787	3,948,000	3,948,000	4,120,950	4,273,291
3. Other operating revenue	1,563,159	682,780	439,000	380,000	380,000	380,000
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	0	0	0	0	0
6. Total Operating Revenues	5,372,388	4,444,567	4,387,000	4,328,000	4,500,950	4,653,291
7. Rate Increase						
8. OPERATING EXPENSES (1)						
9. Operating & Maintenance Expenses	2,407,506	3,073,240	3,106,409	3,222,278	3,302,835	3,385,406
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	0	0	0	(733,706)	(752,048)	(770,849)
12. LESS: EOS - Professional Services	0	0	0	(103,125)	(105,703)	(108,346)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	0	0	0	0	0	0
15. Operating Expenses Before Depreciation	2,407,506	3,073,240	3,106,409	2,385,447	2,445,084	2,506,211
16. Depreciation (2)	718,700	774,783	774,783	733,450	754,251	764,682
17. Total Operating Expenses	3,126,206	3,848,023	3,881,192	3,118,898	3,199,335	3,270,892
18. Operating Income	2,246,182	596,544	505,808	1,209,102	1,301,615	1,382,399
19. Revenues (3)	5,372,388	4,444,567	4,387,000	4,328,000	4,500,950	4,653,291
20. EBITDA (4)	2,964,882	1,371,327	1,280,591	1,942,553	2,055,866	2,147,080
21. EBIT (5)	2,246,182	596,544	505,808	1,209,102	1,301,615	1,382,399
22. EBIT	2,246,182	596,544	505,808	1,209,102	1,301,615	1,382,399
23. (-) Income Taxes	0	0	0	0	0	0
24. Debt Free Net Income	2,246,182	596,544	505,808	1,209,102	1,301,615	1,382,399
25. (+) Depreciation & Amortization	718,700	774,783	774,783	733,450	754,251	764,682
26. (-) Capital Expenditures (6)	393,256	740,070	2,738,000	2,038,000	734,982	745,145
27. (-) Changes in Working Capital (7)	11,282	9,334	9,213	9,089	9,452	9,772
28. Debt Free Net Cash Flow	\$2,560,344	\$621,923	(\$1,466,622)	(\$104,536)	\$1,311,432	\$1,392,163
29. PV Time Period (mid-year)					0.5	1.5
30. Present Value Factor: 3.09% (8)					0.9849	0.9554
31. Present Value Debt Free Net Cash Flow					\$1,291,630	\$1,330,073
32. Present Value Factor: 2.89% (9)					0.9859	0.9582
33. Present Value Debt Free Net Cash Flow					\$1,292,941	\$1,333,971

See last page of this EXHIBIT for notes and assumptions.

Income Approach

East Whiteland Township Wastewater System Assets
 Pro Forma and Estimated Operations With MUNI Ownership
 DCF With Capitalization of Terminal Value Model and
DCF With EBIT & EBITDA Terminal Value Model

	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated
	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
	2024	2025	2026	2027	2028	2029
1. OPERATING REVENUES (1)						
2. Charges for services	4,521,585	4,627,087	4,673,730	4,748,510	4,824,486	4,901,678
3. Other operating revenue	380,000	380,000	380,000	380,000	380,000	380,000
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	0	0	0	0	0
6. Total Operating Revenues	4,901,585	5,007,087	5,053,730	5,128,510	5,204,486	5,281,678
7. Rate Increase						
8. OPERATING EXPENSES (1)						
9. Operating & Maintenance Expenses	3,470,041	3,556,792	3,645,712	3,736,855	3,830,276	3,926,033
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	(790,121)	(809,874)	(830,120)	(850,873)	(872,145)	(893,949)
12. LESS: EOS - Professional Services	(111,054)	(113,831)	(116,676)	(119,593)	(122,583)	(125,648)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	0	0	0	0	0	0
15. Operating Expenses Before Depreciation	2,568,866	2,633,088	2,698,915	2,766,388	2,835,547	2,906,436
16. Depreciation (2)	775,255	785,975	796,844	807,862	819,033	830,359
17. Total Operating Expenses	3,344,121	3,419,063	3,495,759	3,574,250	3,654,580	3,736,795
18. Operating Income	1,557,464	1,588,024	1,557,971	1,554,260	1,549,906	1,544,883
19. Revenues (3)	4,901,585	5,007,087	5,053,730	5,128,510	5,204,486	5,281,678
20. EBITDA (4)	2,332,719	2,373,999	2,354,815	2,362,122	2,368,939	2,375,242
21. EBIT (5)	1,557,464	1,588,024	1,557,971	1,554,260	1,549,906	1,544,883
22. EBIT	1,557,464	1,588,024	1,557,971	1,554,260	1,549,906	1,544,883
23. (-) Income Taxes	0	0	0	0	0	0
24. Debt Free Net Income	1,557,464	1,588,024	1,557,971	1,554,260	1,549,906	1,544,883
25. (+) Depreciation & Amortization	775,255	785,975	796,844	807,862	819,033	830,359
26. (-) Capital Expenditures (6)	755,449	765,895	776,486	787,223	798,108	809,144
27. (-) Changes in Working Capital (7)	10,293	10,515	10,613	10,770	10,929	11,092
28. Debt Free Net Cash Flow	\$1,566,977	\$1,597,589	\$1,567,716	\$1,564,129	\$1,559,901	\$1,555,006
29. PV Time Period (mid-year)	2.5	3.5	4.5	5.5	6.5	7.5
30. Present Value Factor: 3.09% (8)	0.9267	0.8990	0.8720	0.8459	0.8205	0.7959
31. Present Value Debt Free Net Cash Flow	\$1,452,117	\$1,436,233	\$1,367,049	\$1,323,097	\$1,279,899	\$1,237,630
32. Present Value Factor: 2.89% (9)	0.9313	0.9051	0.8797	0.8550	0.8309	0.8076
33. Present Value Debt Free Net Cash Flow	\$1,459,325	\$1,445,978	\$1,379,120	\$1,337,331	\$1,296,122	\$1,255,823

See last page of this EXHIBIT for notes and assumptions.

Income Approach

East Whiteland Township Wastewater System Assets
 Pro Forma and Estimated Operations With MUNI Ownership
 DCF With Capitalization of Terminal Value Model and
DCF With EBIT & EBITDA Terminal Value Model

	Estimated Year 9	Estimated Year 10	Estimated Year 11	Estimated Year 12	Estimated Year 13	Estimated Year 14
	2030	2031	2032	2033	2034	2035
1. OPERATING REVENUES (1)						
2. Charges for services	4,980,105	5,059,786	5,140,743	5,222,995	5,359,628	5,445,383
3. Other operating revenue	380,000	380,000	380,000	380,000	380,000	380,000
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	0	0	52,230	0	0
6. Total Operating Revenues	5,360,105	5,439,786	5,520,743	5,655,225	5,739,628	5,825,383
7. Rate Increase				1%		
8. OPERATING EXPENSES (1)						
9. Operating & Maintenance Expenses	4,024,184	4,124,788	4,227,908	4,333,606	4,441,946	4,552,994
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	(916,298)	(939,205)	(962,685)	(986,752)	(1,011,421)	(1,036,707)
12. LESS: EOS - Professional Services	(128,789)	(132,009)	(135,309)	(138,692)	(142,159)	(145,713)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	0	0	0	0	0	0
15. Operating Expenses Before Depreciation	2,979,097	3,053,574	3,129,914	3,208,162	3,288,366	3,370,575
16. Depreciation (2)	841,841	853,482	865,283	877,248	889,378	901,677
17. Total Operating Expenses	3,820,938	3,907,056	3,995,197	4,085,410	4,177,744	4,272,252
18. Operating Income	1,539,167	1,532,730	1,525,546	1,569,815	1,561,884	1,553,131
19. Revenues (3)	5,360,105	5,439,786	5,520,743	5,655,225	5,739,628	5,825,383
20. EBITDA (4)	2,381,008	2,386,212	2,390,829	2,447,063	2,451,262	2,454,808
21. EBIT (5)	1,539,167	1,532,730	1,525,546	1,569,815	1,561,884	1,553,131
22. EBIT	1,539,167	1,532,730	1,525,546	1,569,815	1,561,884	1,553,131
23. (-) Income Taxes	0	0	0	0	0	0
24. Debt Free Net Income	1,539,167	1,532,730	1,525,546	1,569,815	1,561,884	1,553,131
25. (+) Depreciation & Amortization	841,841	853,482	865,283	877,248	889,378	901,677
26. (-) Capital Expenditures (6)	820,333	831,676	843,177	854,836	866,656	878,640
27. (-) Changes in Working Capital (7)	11,256	11,424	11,594	11,876	12,053	12,233
28. Debt Free Net Cash Flow	\$1,549,419	\$1,543,112	\$1,536,059	\$1,580,351	\$1,572,553	\$1,563,935
29. PV Time Period (mid-year)	8.5	9.5	10.5	11.5	12.5	13.5
30. Present Value Factor: 3.09% (8)	0.7721	0.7489	0.7265	0.7047	0.6836	0.6631
31. Present Value Debt Free Net Cash Flow	\$1,196,306	\$1,155,637	\$1,115,947	\$1,113,674	\$1,074,997	\$1,037,045
32. Present Value Factor: 2.89% (9)	0.7849	0.7629	0.7414	0.7206	0.7004	0.6807
33. Present Value Debt Free Net Cash Flow	\$1,216,139	\$1,177,240	\$1,138,834	\$1,138,801	\$1,101,416	\$1,064,570

See last page of this EXHIBIT for notes and assumptions.

Income Approach

East Whiteland Township Wastewater System Assets
 Pro Forma and Estimated Operations With MUNI Ownership
 DCF With Capitalization of Terminal Value Model and
DCF With EBIT & EBITDA Terminal Value Model

	Estimated Year 15	Estimated Year 16	Estimated Year 17	Estimated Year 18	Estimated Year 19	Estimated Year 20
	2036	2037	2038	2039	2040	2041
1. OPERATING REVENUES (1)						
2. Charges for services	5,532,509	5,621,029	5,710,965	5,802,341	5,895,178	5,989,501
3. Other operating revenue	380,000	380,000	380,000	380,000	380,000	380,000
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	0	0	0	0	0
6. Total Operating Revenues	5,912,509	6,001,029	6,090,965	6,182,341	6,275,178	6,369,501
7. Rate Increase						
8. OPERATING EXPENSES (1)						
9. Operating & Maintenance Expenses	4,666,819	4,783,490	4,903,077	5,025,654	5,151,295	5,280,078
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	(1,062,624)	(1,089,190)	(1,116,420)	(1,144,330)	(1,172,939)	(1,202,262)
12. LESS: EOS - Professional Services	(149,356)	(153,090)	(156,917)	(160,840)	(164,861)	(168,982)
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	3,454,839	3,541,210	3,629,740	3,720,484	3,813,496	3,908,833
16. Depreciation (2)	914,145	926,786	939,601	952,594	965,766	979,120
17. Total Operating Expenses	4,368,985	4,467,996	4,569,341	4,673,078	4,779,262	4,887,954
18. Operating Income	1,543,524	1,533,033	1,521,624	1,509,263	1,495,916	1,481,547
19. Revenues (3)	5,912,509	6,001,029	6,090,965	6,182,341	6,275,178	6,369,501
20. EBITDA (4)	2,457,670	2,459,819	2,461,225	2,461,857	2,461,682	2,460,668
21. EBIT (5)	1,543,524	1,533,033	1,521,624	1,509,263	1,495,916	1,481,547
22. EBIT	1,543,524	1,533,033	1,521,624	1,509,263	1,495,916	1,481,547
23. (-) Income Taxes	0	0	0	0	0	0
24. Debt Free Net Income	1,543,524	1,533,033	1,521,624	1,509,263	1,495,916	1,481,547
25. (+) Depreciation & Amortization	914,145	926,786	939,601	952,594	965,766	979,120
26. (-) Capital Expenditures (6)	890,790	903,108	915,596	928,256	941,092	954,105
27. (-) Changes in Working Capital (7)	12,416	12,602	12,791	12,983	13,178	13,376
28. Debt Free Net Cash Flow	\$1,554,464	\$1,544,109	\$1,532,838	\$1,520,618	\$1,507,412	\$1,493,187
29. PV Time Period (mid-year)	14.5	15.5	16.5	17.5	18.5	19.5
30. Present Value Factor: 3.09% (8)	0.6432	0.6239	0.6052	0.5871	0.5695	0.5524
31. Present Value Debt Free Net Cash Flow	\$999,831	\$963,369	\$927,673	\$892,755	\$858,471	\$824,836
32. Present Value Factor: 2.89% (9)	0.6616	0.6430	0.6249	0.6074	0.5903	0.5738
33. Present Value Debt Free Net Cash Flow	\$1,028,433	\$992,862	\$957,870	\$923,623	\$889,825	\$856,790

See last page of this EXHIBIT for notes and assumptions.

Income Approach

East Whiteland Township Wastewater System Assets
 Pro Forma and Estimated Operations With MUNI Ownership
 DCF With Capitalization of Terminal Value Model and
DCF With EBIT & EBITDA Terminal Value Model

	Estimated Year 21 2042	Estimated Year 22 2043	Estimated Year 23 2044	Estimated Year 24 2045
1. OPERATING REVENUES (1)				
2. Charges for services	6,085,333	6,182,698	6,281,621	6,445,949
3. Other operating revenue	380,000	380,000	380,000	380,000
4. Tap Fees	0	0	0	0
5. Other (Rate Increase)	0	0	62,816	0
6. Total Operating Revenues	6,465,333	6,562,698	6,724,437	6,825,949
7. Rate Increase			1%	
8. OPERATING EXPENSES (1)				
9. Operating & Maintenance Expenses	5,412,080	5,547,382	5,686,066	5,828,218
10. Remove Economies of Scale				
11. LESS: EOS - Wages & Benefits	(1,232,319)	(1,263,126)	(1,294,705)	(1,327,072)
12. LESS: EOS - Professional Services	(173,207)	(177,537)	(181,975)	(186,525)
13. LESS: EOS - Eliminated Expenses	0	0	0	0
14. ADD: Additional O&M	0	0	0	0
15. Operating Expenses Before Depreciation	4,006,554	4,106,718	4,209,386	4,314,621
16. Depreciation (2)	992,660	1,006,386	1,020,302	1,034,410
17. Total Operating Expenses	4,999,214	5,113,104	5,229,688	5,349,031
18. Operating Income	1,466,119	1,449,594	1,494,749	1,476,918
19. Revenues (3)	6,465,333	6,562,698	6,724,437	6,825,949
20. EBITDA (4)	2,458,779	2,455,980	2,515,051	2,511,328
21. EBIT (5)	1,466,119	1,449,594	1,494,749	1,476,918
22. EBIT	1,466,119	1,449,594	1,494,749	1,476,918
23. (-) Income Taxes	0	0	0	0
24. Debt Free Net Income	1,466,119	1,449,594	1,494,749	1,476,918
25. (+) Depreciation & Amortization	992,660	1,006,386	1,020,302	1,034,410
26. (-) Capital Expenditures (6)	967,299	980,674	994,235	1,007,983
27. (-) Changes in Working Capital (7)	13,577	13,782	14,121	14,334
28. Debt Free Net Cash Flow	\$1,477,903	\$1,461,524	\$1,506,695	\$1,489,011
29. PV Time Period (mid-year)	20.5	21.5	22.5	23.5
30. Present Value Factor: 3.09% (8)	0.5359	0.5198	0.5042	0.4891
31. Present Value Debt Free Net Cash Flow	\$792,008	\$759,700	\$759,675	\$728,275
32. Present Value Factor: 2.89% (9)	0.5576	0.5420	0.5267	0.5120
33. Present Value Debt Free Net Cash Flow	\$824,078	\$792,146	\$793,576	\$762,374

See last page of this EXHIBIT for notes and assumptions.

Income Approach

East Whiteland Township Wastewater System Assets
 Pro Forma and Estimated Operations With MUNI Ownership
 DCF With Capitalization of Terminal Value Model and
DCF With EBIT & EBITDA Terminal Value Model

DCF With Capitalization of Terminal Value Model @ 3.09%	
	Terminal Value
Projected Debt Free Net Cash Flow (10)	\$1,489,011
Divided by Capitalization Factor (8)	3.09%
24th Year Terminal Value	48,188,052
24th Year Present Value Factor (11)	0.4891
Present Value of Terminal Value	23,568,776
Present Value Debt Free Net	
Cash Flow for 24 Years	25,917,928
Indicated Value	<u>\$49,486,704</u>

DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 3.09%			
		Multiples (13)	Terminal Value
Projected EBIT	\$1,476,918	23.5	\$34,707,579
Projected EBITDA	2,511,328	16.3	40,934,651
Weighted (1/3 EBIT 2/3 EBITDA) Terminal Value			38,879,717
24th Year Present Value Factor (11)			0.4891
Present Value of Terminal Value			19,016,070
Present Value Debt Free Net			
Cash Flow for 24 Years			25,917,928
Indicated Value			<u>\$44,933,997</u>

DCF With Capitalization of Terminal Value Model @ 2.89%	
	Terminal Value
Projected Debt Free Net Cash Flow (10)	\$1,489,011
Divided by Capitalization Factor (9)	2.89%
24th Year Terminal Value	51,522,865
24th Year Present Value Factor (12)	0.4891
Present Value of Terminal Value	25,199,833
Present Value Debt Free Net	
Cash Flow for 24 Years	25,917,928
Indicated Value	<u>\$51,117,761</u>

DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 2.89%			
		Multiples (13)	Terminal Value
Projected EBIT	\$1,476,918	23.5	\$34,707,579
Projected EBITDA	2,511,328	16.3	40,934,651
Weighted (1/3 EBIT 2/3 EBITDA) Terminal Value			38,879,717
24th Year Present Value Factor (12)			0.4891
Present Value of Terminal Value			19,016,070
Present Value Debt Free Net			
Cash Flow for 24 Years			25,917,928
Indicated Value			<u>\$44,933,997</u>

See last page of this EXHIBIT for notes and assumptions.

Income Approach

East Whiteland Township Wastewater System Assets
 Pro Forma and Estimated Operations With MUNI Ownership
 DCF With Capitalization of Terminal Value Model and
DCF With EBIT & EBITDA Terminal Value Model

Notes: (1) Assumptions:

Charges for services - Pre-2022 are actual or budget. Post-2021 based on customer growth (EDU) and average revenue per customer. Rate increases (Other rate increase line item) are added year after they occur.

Other (Rate Increase) - Assumed purchase by MUNI at end of 2021 with shown rate increases.

OPERATING EXPENSES - increase at 2.5% annually after 2021 unless noted elsewhere. Assumed economies of scale are shown on lines below.

Wages & Benefits - Post-2021 assumed 15% savings due to economies of scale. Increase at 2.5% afterwards.

Professional Services - Post-2021 assumed 50% savings due to economies of scale. Increase at 2.5% afterwards.

No Additional O&M.

- (2) Depreciation - Pre-2022 based on actual depreciation rate plus same rate on half of CAPX. Post-2021 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-2028 based on financials/budget. Post-2027 years are estimates at 1.63% of prior year-end GROSS Property, plant and equipment.
- (7) Changes in Working Capital - based on water industry 0.21% of revenues.
- (8) Discount rate is the the current MUNI discount rate. Capitalization rate (K) at 5/20/2021 equal to discount rate, where capitalization rate = $K - g$.
- (9) Discount rate is the current MUNI discount rate. Capitalization rate (K) at 5/20/2021 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 17.

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

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

	Actual		Budget	Budget	Estimated	Estimated
				Year 0	Year 1	Year 2
	2018	2019	2020	2021	2022	2023
1. OPERATING REVENUES (1)						
2. Charges for services	3,809,229	3,761,787	3,948,000	3,948,000	4,120,950	4,273,291
3. Other operating revenue	1,563,159	682,780	439,000	380,000	380,000	380,000
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	0	0	0	0	0
6. Total Operating Revenues	5,372,388	4,444,567	4,387,000	4,328,000	4,500,950	4,653,291
7. Rate Increase						
8. OPERATING EXPENSES (1)						
9. Operating & Maintenance Expenses	2,407,506	3,073,240	3,106,409	3,222,278	3,302,835	3,385,406
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	0	0	0	(733,706)	(752,048)	(770,849)
12. LESS: EOS - Professional Services	0	0	0	(103,125)	(105,703)	(108,346)
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	73,687	74,643
16. Operating Expenses Before Depreciation	2,407,506	3,073,240	3,106,409	2,385,447	2,518,771	2,580,854
17. Depreciation (2)	718,700	774,783	774,783	733,450	754,251	764,682
18. Total Operating Expenses	3,126,206	3,848,023	3,881,192	3,118,898	3,273,022	3,345,535
19. Operating Income	2,246,182	596,544	505,808	1,209,102	1,227,928	1,307,756
20. Revenues (3)	5,372,388	4,444,567	4,387,000	4,328,000	4,500,950	4,653,291
21. EBITDA (4)	2,964,882	1,371,327	1,280,591	1,942,553	1,982,179	2,072,437
22. EBIT (5)	2,246,182	596,544	505,808	1,209,102	1,227,928	1,307,756
23. EBIT	2,246,182	596,544	505,808	1,209,102	1,227,928	1,307,756
24. (-) Income Taxes	0	0	0	349,310	354,748	377,811
25. Debt Free Net Income	2,246,182	596,544	505,808	859,792	873,180	929,945
26. (+) Depreciation & Amortization	718,700	774,783	774,783	733,450	754,251	764,682
27. (-) Capital Expenditures (6)	393,256	740,070	2,738,000	2,038,000	734,982	745,145
28. (-) Changes in Working Capital (7)	11,282	9,334	9,213	9,089	9,452	9,772
29. Debt Free Net Cash Flow	\$2,560,344	\$621,923	(\$1,466,622)	(\$453,846)	\$882,997	\$939,709
30. PV Time Period (mid-year)					0.5	1.5
31. Present Value Factor: 6.57% (8)					0.9687	0.9090
32. Present Value Debt Free Net Cash Flow					\$855,360	\$854,196
33. Present Value Factor: 7.79% (9)					0.9632	0.8936
34. Present Value Debt Free Net Cash Flow					\$850,503	\$839,724
35. Present Value Factor: 6.37% (8)					0.9696	0.9115
36. Present Value Debt Free Net Cash Flow					\$856,154	\$856,545
37. Present Value Factor: 7.59% (9)					0.9641	0.8961
38. Present Value Debt Free Net Cash Flow					\$851,298	\$842,074

See last page of this EXHIBIT for notes and assumptions.

Income Approach

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

	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated
	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
	2024	2025	2026	2027	2028	2029
1. OPERATING REVENUES (1)						
2. Charges for services	4,521,585	6,616,735	6,683,434	6,790,369	6,899,015	7,009,399
3. Other operating revenue	380,000	380,000	380,000	380,000	380,000	380,000
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	1,944,282	0	0	0	0	0
6. Total Operating Revenues	6,845,867	6,996,735	7,063,434	7,170,369	7,279,015	7,389,399
7. Rate Increase	43%					
8. OPERATING EXPENSES (1)						
9. Operating & Maintenance Expenses	3,470,041	3,556,792	3,645,712	3,736,855	3,830,276	3,926,033
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	(790,121)	(809,874)	(830,120)	(850,873)	(872,145)	(893,949)
12. LESS: EOS - Professional Services	(111,054)	(113,831)	(116,676)	(119,593)	(122,583)	(125,648)
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	75,482	87,930	88,759	89,110	89,688	90,277
16. Operating Expenses Before Depreciation	2,644,348	2,721,018	2,787,674	2,855,498	2,925,235	2,996,713
17. Depreciation (2)	775,255	785,975	796,844	807,862	819,033	830,359
18. Total Operating Expenses	3,419,603	3,506,993	3,584,518	3,663,360	3,744,268	3,827,072
19. Operating Income	3,426,264	3,489,742	3,478,916	3,507,009	3,534,747	3,562,327
20. Revenues (3)	6,845,867	6,996,735	7,063,434	7,170,369	7,279,015	7,389,399
21. EBITDA (4)	4,201,519	4,275,717	4,275,760	4,314,871	4,353,780	4,392,686
22. EBIT (5)	3,426,264	3,489,742	3,478,916	3,507,009	3,534,747	3,562,327
23. EBIT	3,426,264	3,489,742	3,478,916	3,507,009	3,534,747	3,562,327
24. (-) Income Taxes	989,848	1,008,186	1,005,059	1,013,175	1,021,188	1,029,156
25. Debt Free Net Income	2,436,416	2,481,556	2,473,857	2,493,834	2,513,559	2,533,171
26. (+) Depreciation & Amortization	775,255	785,975	796,844	807,862	819,033	830,359
27. (-) Capital Expenditures (6)	755,449	765,895	776,486	787,223	798,108	809,144
28. (-) Changes in Working Capital (7)	14,376	14,693	14,833	15,058	15,286	15,518
29. Debt Free Net Cash Flow	\$2,441,846	\$2,486,943	\$2,479,382	\$2,499,416	\$2,519,198	\$2,538,868
30. PV Time Period (mid-year)	2.5	3.5	4.5	5.5	6.5	7.5
31. Present Value Factor: 6.57% (8)	0.8529	0.8003	0.7510	0.7047	0.6613	0.6205
32. Present Value Debt Free Net Cash Flow	\$2,082,650	\$1,990,301	\$1,862,016	\$1,761,338	\$1,665,945	\$1,575,368
33. Present Value Factor: 7.79% (9)	0.8290	0.7691	0.7135	0.6619	0.6141	0.5697
34. Present Value Debt Free Net Cash Flow	\$2,024,290	\$1,912,708	\$1,769,039	\$1,654,363	\$1,547,039	\$1,446,393
35. Present Value Factor: 6.37% (8)	0.8569	0.8056	0.7574	0.7120	0.6694	0.6293
36. Present Value Debt Free Net Cash Flow	\$2,092,418	\$2,003,481	\$1,877,884	\$1,779,584	\$1,686,351	\$1,597,710
37. Present Value Factor: 7.59% (9)	0.8329	0.7741	0.7195	0.6687	0.6216	0.5777
38. Present Value Debt Free Net Cash Flow	\$2,033,813	\$1,925,143	\$1,783,915	\$1,671,359	\$1,565,933	\$1,466,704

See last page of this EXHIBIT for notes and assumptions.

Income Approach

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

	Estimated Year 9	Estimated Year 10	Estimated Year 11	Estimated Year 12	Estimated Year 13	Estimated Year 14
	2030	2031	2032	2033	2034	2035
1. OPERATING REVENUES (1)						
2. Charges for services	7,121,550	7,235,495	7,167,481	7,282,161	7,398,675	7,517,054
3. Other operating revenue	380,000	380,000	380,000	380,000	380,000	380,000
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	(180,887)	0	0	0	0
6. Total Operating Revenues	7,501,550	7,434,608	7,547,481	7,662,161	7,778,675	7,897,054
7. Rate Increase						
8. OPERATING EXPENSES (1)						
9. Operating & Maintenance Expenses	4,024,184	4,124,788	4,227,908	4,333,606	4,441,946	4,552,994
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	(916,298)	(939,205)	(962,685)	(986,752)	(1,011,421)	(1,036,707)
12. LESS: EOS - Professional Services	(128,789)	(132,009)	(135,309)	(138,692)	(142,159)	(145,713)
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	90,875	91,482	91,070	91,680	92,301	92,931
16. Operating Expenses Before Depreciation	3,069,972	3,145,056	3,220,984	3,299,842	3,380,667	3,463,506
17. Depreciation (2)	841,841	853,482	865,283	877,248	889,378	901,677
18. Total Operating Expenses	3,911,813	3,998,538	4,086,267	4,177,090	4,270,045	4,365,183
19. Operating Income	3,589,737	3,436,070	3,461,214	3,485,071	3,508,630	3,531,871
20. Revenues (3)	7,501,550	7,434,608	7,547,481	7,662,161	7,778,675	7,897,054
21. EBITDA (4)	4,431,578	4,289,552	4,326,497	4,362,319	4,398,008	4,433,548
22. EBIT (5)	3,589,737	3,436,070	3,461,214	3,485,071	3,508,630	3,531,871
23. EBIT	3,589,737	3,436,070	3,461,214	3,485,071	3,508,630	3,531,871
24. (-) Income Taxes	1,037,075	992,681	999,945	1,006,837	1,013,643	1,020,358
25. Debt Free Net Income	2,552,662	2,443,389	2,461,269	2,478,234	2,494,987	2,511,513
26. (+) Depreciation & Amortization	841,841	853,482	865,283	877,248	889,378	901,677
27. (-) Capital Expenditures (6)	820,333	831,676	843,177	854,836	866,656	878,640
28. (-) Changes in Working Capital (7)	15,753	15,613	15,850	16,091	16,335	16,584
29. Debt Free Net Cash Flow	\$2,558,417	\$2,449,582	\$2,467,526	\$2,484,556	\$2,501,374	\$2,517,966
30. PV Time Period (mid-year)	8.5	9.5	10.5	11.5	12.5	13.5
31. Present Value Factor: 6.57% (8)	0.5822	0.5463	0.5127	0.4811	0.4514	0.4236
32. Present Value Debt Free Net Cash Flow	\$1,489,510	\$1,338,207	\$1,265,100	\$1,195,320	\$1,129,120	\$1,066,611
33. Present Value Factor: 7.79% (9)	0.5285	0.4903	0.4549	0.4220	0.3915	0.3632
34. Present Value Debt Free Net Cash Flow	\$1,352,123	\$1,201,030	\$1,122,477	\$1,048,483	\$979,288	\$914,525
35. Present Value Factor: 6.37% (8)	0.5916	0.5562	0.5229	0.4916	0.4621	0.4345
36. Present Value Debt Free Net Cash Flow	\$1,513,559	\$1,362,457	\$1,290,269	\$1,221,408	\$1,155,885	\$1,094,056
37. Present Value Factor: 7.59% (9)	0.5370	0.4991	0.4639	0.4311	0.4007	0.3725
38. Present Value Debt Free Net Cash Flow	\$1,373,870	\$1,222,586	\$1,144,685	\$1,071,092	\$1,002,301	\$937,942

See last page of this EXHIBIT for notes and assumptions.

Income Approach

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

	Estimated Year 15	Estimated Year 16	Estimated Year 17	Estimated Year 18	Estimated Year 19	Estimated Year 20
	2036	2037	2038	2039	2040	2041
1. OPERATING REVENUES (1)						
2. Charges for services	7,637,327	7,759,524	7,883,676	7,809,570	7,934,523	8,061,475
3. Other operating revenue	380,000	380,000	380,000	380,000	380,000	380,000
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	0	(197,092)	0	0	0
6. Total Operating Revenues	8,017,327	8,139,524	8,066,584	8,189,570	8,314,523	8,441,475
7. Rate Increase						
8. OPERATING EXPENSES (1)						
9. Operating & Maintenance Expenses	4,666,819	4,783,490	4,903,077	5,025,654	5,151,295	5,280,078
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	(1,062,624)	(1,089,190)	(1,116,420)	(1,144,330)	(1,172,939)	(1,202,262)
12. LESS: EOS - Professional Services	(149,356)	(153,090)	(156,917)	(160,840)	(164,861)	(168,982)
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	93,571	94,223	94,884	94,435	95,100	95,776
16. Operating Expenses Before Depreciation	3,548,410	3,635,433	3,724,624	3,814,919	3,908,596	4,004,609
17. Depreciation (2)	914,145	926,786	939,601	952,594	965,766	979,120
18. Total Operating Expenses	4,462,556	4,562,219	4,664,225	4,767,513	4,874,362	4,983,730
19. Operating Income	3,554,771	3,577,305	3,402,359	3,422,057	3,440,161	3,457,745
20. Revenues (3)	8,017,327	8,139,524	8,066,584	8,189,570	8,314,523	8,441,475
21. EBITDA (4)	4,468,917	4,504,091	4,341,960	4,374,651	4,405,927	4,436,866
22. EBIT (5)	3,554,771	3,577,305	3,402,359	3,422,057	3,440,161	3,457,745
23. EBIT	3,554,771	3,577,305	3,402,359	3,422,057	3,440,161	3,457,745
24. (-) Income Taxes	1,026,973	1,033,483	982,942	988,632	993,863	998,943
25. Debt Free Net Income	2,527,798	2,543,822	2,419,417	2,433,425	2,446,298	2,458,802
26. (+) Depreciation & Amortization	914,145	926,786	939,601	952,594	965,766	979,120
27. (-) Capital Expenditures (6)	890,790	903,108	915,596	928,256	941,092	954,105
28. (-) Changes in Working Capital (7)	16,836	17,093	16,940	17,198	17,460	17,727
29. Debt Free Net Cash Flow	\$2,534,317	\$2,550,407	\$2,426,482	\$2,440,565	\$2,453,511	\$2,466,090
30. PV Time Period (mid-year)	14.5	15.5	16.5	17.5	18.5	19.5
31. Present Value Factor: 6.57% (8)	0.3975	0.3730	0.3500	0.3284	0.3081	0.2891
32. Present Value Debt Free Net Cash Flow	\$1,007,391	\$951,302	\$849,269	\$801,482	\$755,927	\$712,947
33. Present Value Factor: 7.79% (9)	0.3370	0.3126	0.2900	0.2691	0.2496	0.2316
34. Present Value Debt Free Net Cash Flow	\$854,065	\$797,257	\$703,680	\$656,756	\$612,396	\$571,147
35. Present Value Factor: 6.37% (8)	0.4084	0.3840	0.3610	0.3394	0.3190	0.2999
36. Present Value Debt Free Net Cash Flow	\$1,035,015	\$979,356	\$875,960	\$828,328	\$782,670	\$739,581
37. Present Value Factor: 7.59% (9)	0.3462	0.3218	0.2991	0.2780	0.2584	0.2401
38. Present Value Debt Free Net Cash Flow	\$877,381	\$820,721	\$725,761	\$678,477	\$633,987	\$592,108

See last page of this EXHIBIT for notes and assumptions.

Income Approach

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

	Estimated Year 21 2042	Estimated Year 22 2043	Estimated Year 23 2044	Estimated Year 24 2045
1. OPERATING REVENUES (1)				
2. Charges for services	8,190,459	8,321,506	8,454,650	8,589,925
3. Other operating revenue	380,000	380,000	380,000	380,000
4. Tap Fees	0	0	0	0
5. Other (Rate Increase)	0	0	0	0
6. Total Operating Revenues	8,570,459	8,701,506	8,834,650	8,969,925
7. Rate Increase				
8. OPERATING EXPENSES (1)				
9. Operating & Maintenance Expenses	5,412,080	5,547,382	5,686,066	5,828,218
10. Remove Economies of Scale				
11. LESS: EOS - Wages & Benefits	(1,232,319)	(1,263,126)	(1,294,705)	(1,327,072)
12. LESS: EOS - Professional Services	(173,207)	(177,537)	(181,975)	(186,525)
13. LESS: EOS - Eliminated Expenses	0	0	0	0
14. ADD: Additional O&M	0	0	0	0
15. ADD: PURTA & Reg Assessment	96,462	97,159	97,869	98,588
16. Operating Expenses Before Depreciation	4,103,016	4,203,877	4,307,255	4,413,209
17. Depreciation (2)	992,660	1,006,386	1,020,302	1,034,410
18. Total Operating Expenses	5,095,676	5,210,263	5,327,557	5,447,619
19. Operating Income	3,474,783	3,491,243	3,507,093	3,522,306
20. Revenues (3)	8,570,459	8,701,506	8,834,650	8,969,925
21. EBITDA (4)	4,467,443	4,497,629	4,527,395	4,556,716
22. EBIT (5)	3,474,783	3,491,243	3,507,093	3,522,306
23. EBIT	3,474,783	3,491,243	3,507,093	3,522,306
24. (-) Income Taxes	1,003,865	1,008,620	1,013,199	1,017,594
25. Debt Free Net Income	2,470,918	2,482,623	2,493,894	2,504,712
26. (+) Depreciation & Amortization	992,660	1,006,386	1,020,302	1,034,410
27. (-) Capital Expenditures (6)	967,299	980,674	994,235	1,007,983
28. (-) Changes in Working Capital (7)	17,998	18,273	18,553	18,837
29. Debt Free Net Cash Flow	\$2,478,281	\$2,490,062	\$2,501,408	\$2,512,302
30. PV Time Period (mid-year)	20.5	21.5	22.5	23.5
31. Present Value Factor: 6.57% (8)	0.2713	0.2546	0.2389	0.2242
32. Present Value Debt Free Net Cash Flow	\$672,358	\$633,970	\$597,586	\$563,258
33. Present Value Factor: 7.79% (9)	0.2149	0.1993	0.1849	0.1716
34. Present Value Debt Free Net Cash Flow	\$532,583	\$496,269	\$462,510	\$431,111
35. Present Value Factor: 6.37% (8)	0.2820	0.2651	0.2492	0.2343
36. Present Value Debt Free Net Cash Flow	\$698,875	\$660,115	\$623,351	\$588,632
37. Present Value Factor: 7.59% (9)	0.2232	0.2074	0.1928	0.1792
38. Present Value Debt Free Net Cash Flow	\$553,152	\$516,439	\$482,271	\$450,205

See last page of this EXHIBIT for notes and assumptions.

Income Approach

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

DCF With Capitalization of Terminal Value Model @ 6.57%	
	<u>Terminal Value</u>
Projected Debt Free Net Cash Flow (10)	\$2,512,302
Divided by Capitalization Factor (8)	<u>6.57%</u>
24th Year Terminal Value	38,239,002
24th Year Present Value Factor (11)	<u>0.2242</u>
Present Value of Terminal Value	8,573,184
Present Value Debt Free Net	
Cash Flow for 24 Years	<u>27,676,530</u>
Indicated Value	<u><u>\$36,249,714</u></u>

DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 6.57%			
		<u>Multiples (13)</u>	<u>Terminal Value</u>
Projected EBIT	\$3,522,306	23.5	\$82,774,197
Projected EBITDA	4,556,716	16.3	<u>74,274,476</u>
Weighted (1/3 EBIT 2/3 EBITDA) Terminal Value			77,079,384
24th Year Present Value Factor (11)			<u>0.2242</u>
Present Value of Terminal Value			17,281,198
Present Value Debt Free Net			
Cash Flow for 24 Years			<u>27,676,530</u>
Indicated Value			<u><u>\$44,957,728</u></u>

DCF With Capitalization of Terminal Value Model @ 7.79%	
	<u>Terminal Value</u>
Projected Debt Free Net Cash Flow (10)	\$2,512,302
Divided by Capitalization Factor (9)	<u>7.79%</u>
24th Year Terminal Value	32,250,352
24th Year Present Value Factor (12)	<u>0.1716</u>
Present Value of Terminal Value	5,534,160
Present Value Debt Free Net	
Cash Flow for 24 Years	<u>24,779,761</u>
Indicated Value	<u><u>\$30,313,921</u></u>

DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 7.79%			
		<u>Multiples (13)</u>	<u>Terminal Value</u>
Projected EBIT	\$3,522,306	23.5	\$82,774,197
Projected EBITDA	4,556,716	16.3	<u>74,274,476</u>
Weighted (1/3 EBIT 2/3 EBITDA) Terminal Value			77,079,384
24th Year Present Value Factor (12)			<u>0.1716</u>
Present Value of Terminal Value			13,226,822
Present Value Debt Free Net			
Cash Flow for 24 Years			<u>24,779,761</u>
Indicated Value			<u><u>\$38,006,583</u></u>

DCF With Capitalization of Terminal Value Model @ 6.37%	
	<u>Terminal Value</u>
Projected Debt Free Net Cash Flow (10)	\$2,512,302
Divided by Capitalization Factor (8)	<u>6.37%</u>
24th Year Terminal Value	39,439,599
24th Year Present Value Factor (11)	<u>0.2242</u>
Present Value of Terminal Value	8,842,358
Present Value Debt Free Net	
Cash Flow for 24 Years	<u>27,676,530</u>
Indicated Value	<u><u>\$36,518,888</u></u>

DCF With Capitalization of Terminal Value Model @ 7.59%	
	<u>Terminal Value</u>
Projected Debt Free Net Cash Flow (10)	\$2,512,302
Divided by Capitalization Factor (9)	<u>7.59%</u>
24th Year Terminal Value	33,100,164
24th Year Present Value Factor (12)	<u>0.1716</u>
Present Value of Terminal Value	5,679,988
Present Value Debt Free Net	
Cash Flow for 24 Years	<u>24,779,761</u>
Indicated Value	<u><u>\$30,459,749</u></u>

See last page of this EXHIBIT for notes and assumptions.

Income Approach

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

Notes: (1) Assumptions:

Charges for services - Pre-2022 are actual or budget. Post-2021 based on customer growth (EDU) and average revenue per customer. Rate increases (Other rate increase line item) are added year after they occur.

Other (Rate Increase) - Assumed purchase by IOU at end of 2021 with shown rate increases.

OPERATING EXPENSES - increase at 2.5% annually after 2021 unless noted elsewhere. Assumed economies of scale are shown on lines below.

Wages & Benefits - Post-2021 assumed 15% savings due to economies of scale. Increase at 2.5% afterwards.

Professional Services - Post-2021 assumed 50% savings due to economies of scale. Increase at 2.5% afterwards.

No Additional O&M.

PURTA & Reg Assessment - 2021 assumed due to IOU purchase at the end of 2020.

- (2) Depreciation - Pre-2022 based on actual depreciation rate plus same rate on half of CAPX. Post-2021 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-2028 based on financials/budget. Post-2027 years are estimates at 1.63% of prior year-end GROSS Property, plant and equipment.
- (7) Changes in Working Capital - based on water industry 0.21% of revenues.
- (8) Discount rate is the current lower end of the IOU discount rate. Capitalization rate (K) at 5/20/2021 adjusted for stated growth (g) where capitalization rate
- (9) Discount rate is the current upper end of the IOU discount rate. Capitalization rate (K) at 5/20/2021 adjusted for stated growth (g) where capitalization rate
- (10) Final year shown, line 29.
- (11) Final year shown, line 31.
- (12) Final year shown, line 33.
- (13) Developed on Market Multiples EXHIBIT 17.

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

East Whiteland Township Wastewater System Assets
Pro Forma and Estimated Operations With MUNI Ownership
DCF With Capitalization of Terminal Value Model and
DCF With EBIT & EBITDA Terminal Value Model

	Actual		Budget	Budget	Estimated	Estimated
				Year 0	Year 1	Year 2
	2018	2019	2020	2021	2022	2023
1. OPERATING REVENUES (1)						
2. Charges for services	3,809,229	3,761,787	3,948,000	3,948,000	4,120,950	4,273,291
3. Other operating revenue	1,563,159	682,780	439,000	380,000	380,000	380,000
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	0	0	0	0	0
6. Total Operating Revenues	5,372,388	4,444,567	4,387,000	4,328,000	4,500,950	4,653,291
7. Rate Increase						
8. OPERATING EXPENSES (1)						
9. Operating & Maintenance Expenses	2,407,506	3,073,240	3,106,409	3,222,278	3,302,835	3,385,406
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	0	0	0	(733,706)	(752,048)	(770,849)
12. LESS: EOS - Professional Services	0	0	0	(103,125)	(105,703)	(108,346)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	0	0	0	0	0	0
15. Operating Expenses Before Depreciation	2,407,506	3,073,240	3,106,409	2,385,447	2,445,084	2,506,211
16. Depreciation (2)	718,700	774,783	774,783	1,366,425	1,390,766	1,409,650
17. Total Operating Expenses	3,126,206	3,848,023	3,881,192	3,751,873	3,835,850	3,915,861
18. Operating Income	2,246,182	596,544	505,808	576,127	665,100	737,430
19. Revenues (3)	5,372,388	4,444,567	4,387,000	4,328,000	4,500,950	4,653,291
20. EBITDA (4)	2,964,882	1,371,327	1,280,591	1,942,553	2,055,866	2,147,080
21. EBIT (5)	2,246,182	596,544	505,808	576,127	665,100	737,430
22. EBIT	2,246,182	596,544	505,808	576,127	665,100	737,430
23. (-) Income Taxes	0	0	0	0	0	0
24. Debt Free Net Income	2,246,182	596,544	505,808	576,127	665,100	737,430
25. (+) Depreciation & Amortization	718,700	774,783	774,783	1,366,425	1,390,766	1,409,650
26. (-) Capital Expenditures (6)	393,256	740,070	2,738,000	2,038,000	1,355,374	1,373,777
27. (-) Changes in Working Capital (7)	11,282	9,334	9,213	9,089	9,452	9,772
28. Debt Free Net Cash Flow	\$2,560,344	\$621,923	(\$1,466,622)	(\$104,536)	\$691,040	\$763,531
29. PV Time Period (mid-year)					0.5	1.5
30. Present Value Factor: 3.09% (8)					0.9849	0.9554
31. Present Value Debt Free Net Cash Flow					\$680,606	\$729,478
32. Present Value Factor: 2.89% (9)					0.9859	0.9582
33. Present Value Debt Free Net Cash Flow					\$681,297	\$731,616

See last page of this EXHIBIT for notes and assumptions.

Income Approach

East Whiteland Township Wastewater System Assets
 Pro Forma and Estimated Operations With MUNI Ownership
 DCF With Capitalization of Terminal Value Model and
DCF With EBIT & EBITDA Terminal Value Model

	Estimated Year 3	Estimated Year 4	Estimated Year 5	Estimated Year 6	Estimated Year 7	Estimated Year 8
	2024	2025	2026	2027	2028	2029
1. OPERATING REVENUES (1)						
2. Charges for services	4,521,585	5,830,130	5,888,900	5,983,123	6,078,853	6,176,114
3. Other operating revenue	380,000	380,000	380,000	380,000	380,000	380,000
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	1,175,612	0	0	0	0	0
6. Total Operating Revenues	6,077,197	6,210,130	6,268,900	6,363,123	6,458,853	6,556,114
7. Rate Increase	26%					
8. OPERATING EXPENSES (1)						
9. Operating & Maintenance Expenses	3,470,041	3,556,792	3,645,712	3,736,855	3,830,276	3,926,033
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	(790,121)	(809,874)	(830,120)	(850,873)	(872,145)	(893,949)
12. LESS: EOS - Professional Services	(111,054)	(113,831)	(116,676)	(119,593)	(122,583)	(125,648)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	0	0	0	0	0	0
15. Operating Expenses Before Depreciation	2,568,866	2,633,088	2,698,915	2,766,388	2,835,547	2,906,436
16. Depreciation (2)	1,428,790	1,448,190	1,467,854	1,487,784	1,507,985	1,528,461
17. Total Operating Expenses	3,997,656	4,081,278	4,166,769	4,254,172	4,343,532	4,434,897
18. Operating Income	2,079,541	2,128,852	2,102,131	2,108,951	2,115,321	2,121,217
19. Revenues (3)	6,077,197	6,210,130	6,268,900	6,363,123	6,458,853	6,556,114
20. EBITDA (4)	3,508,331	3,577,042	3,569,985	3,596,735	3,623,306	3,649,678
21. EBIT (5)	2,079,541	2,128,852	2,102,131	2,108,951	2,115,321	2,121,217
22. EBIT	2,079,541	2,128,852	2,102,131	2,108,951	2,115,321	2,121,217
23. (-) Income Taxes	0	0	0	0	0	0
24. Debt Free Net Income	2,079,541	2,128,852	2,102,131	2,108,951	2,115,321	2,121,217
25. (+) Depreciation & Amortization	1,428,790	1,448,190	1,467,854	1,487,784	1,507,985	1,528,461
26. (-) Capital Expenditures (6)	1,392,430	1,411,336	1,430,499	1,449,922	1,469,609	1,489,563
27. (-) Changes in Working Capital (7)	12,762	13,041	13,165	13,363	13,564	13,768
28. Debt Free Net Cash Flow	\$2,103,139	\$2,152,665	\$2,126,321	\$2,133,451	\$2,140,133	\$2,146,347
29. PV Time Period (mid-year)	2.5	3.5	4.5	5.5	6.5	7.5
30. Present Value Factor: 3.09% (8)	0.9267	0.8990	0.8720	0.8459	0.8205	0.7959
31. Present Value Debt Free Net Cash Flow	\$1,948,979	\$1,935,246	\$1,854,152	\$1,804,686	\$1,755,979	\$1,708,278
32. Present Value Factor: 2.89% (9)	0.9313	0.9051	0.8797	0.8550	0.8309	0.8076
33. Present Value Debt Free Net Cash Flow	\$1,958,653	\$1,948,377	\$1,870,525	\$1,824,100	\$1,778,237	\$1,733,390

See last page of this EXHIBIT for notes and assumptions.

Income Approach

East Whiteland Township Wastewater System Assets
 Pro Forma and Estimated Operations With MUNI Ownership
 DCF With Capitalization of Terminal Value Model and
DCF With EBIT & EBITDA Terminal Value Model

	Estimated Year 9	Estimated Year 10	Estimated Year 11	Estimated Year 12	Estimated Year 13	Estimated Year 14
	2030	2031	2032	2033	2034	2035
1. OPERATING REVENUES (1)						
2. Charges for services	6,274,932	6,375,331	6,477,336	6,580,974	6,686,269	6,793,249
3. Other operating revenue	380,000	380,000	380,000	380,000	380,000	380,000
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	0	0	0	0	0
6. Total Operating Revenues	6,654,932	6,755,331	6,857,336	6,960,974	7,066,269	7,173,249
7. Rate Increase						
8. OPERATING EXPENSES (1)						
9. Operating & Maintenance Expenses	4,024,184	4,124,788	4,227,908	4,333,606	4,441,946	4,552,994
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	(916,298)	(939,205)	(962,685)	(986,752)	(1,011,421)	(1,036,707)
12. LESS: EOS - Professional Services	(128,789)	(132,009)	(135,309)	(138,692)	(142,159)	(145,713)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	0	0	0	0	0	0
15. Operating Expenses Before Depreciation	2,979,097	3,053,574	3,129,914	3,208,162	3,288,366	3,370,575
16. Depreciation (2)	1,549,214	1,570,249	1,591,569	1,613,180	1,635,083	1,657,284
17. Total Operating Expenses	4,528,311	4,623,823	4,721,483	4,821,341	4,923,449	5,027,859
18. Operating Income	2,126,621	2,131,508	2,135,853	2,139,633	2,142,820	2,145,390
19. Revenues (3)	6,654,932	6,755,331	6,857,336	6,960,974	7,066,269	7,173,249
20. EBITDA (4)	3,675,835	3,701,757	3,727,422	3,752,812	3,777,903	3,802,674
21. EBIT (5)	2,126,621	2,131,508	2,135,853	2,139,633	2,142,820	2,145,390
22. EBIT	2,126,621	2,131,508	2,135,853	2,139,633	2,142,820	2,145,390
23. (-) Income Taxes	0	0	0	0	0	0
24. Debt Free Net Income	2,126,621	2,131,508	2,135,853	2,139,633	2,142,820	2,145,390
25. (+) Depreciation & Amortization	1,549,214	1,570,249	1,591,569	1,613,180	1,635,083	1,657,284
26. (-) Capital Expenditures (6)	1,509,788	1,530,288	1,551,066	1,572,126	1,593,473	1,615,109
27. (-) Changes in Working Capital (7)	13,975	14,186	14,400	14,618	14,839	15,064
28. Debt Free Net Cash Flow	\$2,152,072	\$2,157,282	\$2,161,956	\$2,166,068	\$2,169,591	\$2,172,501
29. PV Time Period (mid-year)	8.5	9.5	10.5	11.5	12.5	13.5
30. Present Value Factor: 3.09% (8)	0.7721	0.7489	0.7265	0.7047	0.6836	0.6631
31. Present Value Debt Free Net Cash Flow	\$1,661,615	\$1,615,589	\$1,570,661	\$1,526,428	\$1,483,133	\$1,440,586
32. Present Value Factor: 2.89% (9)	0.7849	0.7629	0.7414	0.7206	0.7004	0.6807
33. Present Value Debt Free Net Cash Flow	\$1,689,161	\$1,645,791	\$1,602,874	\$1,560,869	\$1,519,582	\$1,478,822

See last page of this EXHIBIT for notes and assumptions.

Income Approach

East Whiteland Township Wastewater System Assets
 Pro Forma and Estimated Operations With MUNI Ownership
 DCF With Capitalization of Terminal Value Model and
DCF With EBIT & EBITDA Terminal Value Model

	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated
	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20
	2036	2037	2038	2039	2040	2041
1. OPERATING REVENUES (1)						
2. Charges for services	6,901,941	7,012,373	7,124,570	7,238,564	7,354,381	7,472,051
3. Other operating revenue	380,000	380,000	380,000	380,000	380,000	380,000
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	0	0	0	0	0
6. Total Operating Revenues	7,281,941	7,392,373	7,504,570	7,618,564	7,734,381	7,852,051
7. Rate Increase						
8. OPERATING EXPENSES (1)						
9. Operating & Maintenance Expenses	4,666,819	4,783,490	4,903,077	5,025,654	5,151,295	5,280,078
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	(1,062,624)	(1,089,190)	(1,116,420)	(1,144,330)	(1,172,939)	(1,202,262)
12. LESS: EOS - Professional Services	(149,356)	(153,090)	(156,917)	(160,840)	(164,861)	(168,982)
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	3,454,839	3,541,210	3,629,740	3,720,484	3,813,496	3,908,833
16. Depreciation (2)	1,679,787	1,702,595	1,725,713	1,749,144	1,772,893	1,796,966
17. Total Operating Expenses	5,134,626	5,243,805	5,355,453	5,469,628	5,586,389	5,705,800
18. Operating Income	2,147,315	2,148,568	2,149,117	2,148,936	2,147,992	2,146,251
19. Revenues (3)	7,281,941	7,392,373	7,504,570	7,618,564	7,734,381	7,852,051
20. EBITDA (4)	3,827,102	3,851,163	3,874,830	3,898,080	3,920,885	3,943,218
21. EBIT (5)	2,147,315	2,148,568	2,149,117	2,148,936	2,147,992	2,146,251
22. EBIT	2,147,315	2,148,568	2,149,117	2,148,936	2,147,992	2,146,251
23. (-) Income Taxes	0	0	0	0	0	0
24. Debt Free Net Income	2,147,315	2,148,568	2,149,117	2,148,936	2,147,992	2,146,251
25. (+) Depreciation & Amortization	1,679,787	1,702,595	1,725,713	1,749,144	1,772,893	1,796,966
26. (-) Capital Expenditures (6)	1,637,038	1,659,266	1,681,795	1,704,631	1,727,776	1,751,235
27. (-) Changes in Working Capital (7)	15,292	15,524	15,760	15,999	16,242	16,489
28. Debt Free Net Cash Flow	\$2,174,772	\$2,176,373	\$2,177,275	\$2,177,450	\$2,176,867	\$2,175,493
29. PV Time Period (mid-year)	14.5	15.5	16.5	17.5	18.5	19.5
30. Present Value Factor: 3.09% (8)	0.6432	0.6239	0.6052	0.5871	0.5695	0.5524
31. Present Value Debt Free Net Cash Flow	\$1,398,813	\$1,357,839	\$1,317,687	\$1,278,381	\$1,239,726	\$1,201,742
32. Present Value Factor: 2.89% (9)	0.6616	0.6430	0.6249	0.6074	0.5903	0.5738
33. Present Value Debt Free Net Cash Flow	\$1,438,829	\$1,399,408	\$1,360,579	\$1,322,583	\$1,285,004	\$1,248,298

See last page of this EXHIBIT for notes and assumptions.

Income Approach

East Whiteland Township Wastewater System Assets
 Pro Forma and Estimated Operations With MUNI Ownership
 DCF With Capitalization of Terminal Value Model and
DCF With EBIT & EBITDA Terminal Value Model

	Estimated Year 21 2042	Estimated Year 22 2043	Estimated Year 23 2044	Estimated Year 24 2045
1. OPERATING REVENUES (1)				
2. Charges for services	7,591,604	7,713,069	7,836,478	7,969,824
3. Other operating revenue	380,000	380,000	380,000	380,000
4. Tap Fees	0	0	0	0
5. Other (Rate Increase)	0	0	7,836	0
6. Total Operating Revenues	7,971,604	8,093,069	8,224,314	8,349,824
7. Rate Increase			0%	
8. OPERATING EXPENSES (1)				
9. Operating & Maintenance Expenses	5,412,080	5,547,382	5,686,066	5,828,218
10. Remove Economies of Scale				
11. LESS: EOS - Wages & Benefits	(1,232,319)	(1,263,126)	(1,294,705)	(1,327,072)
12. LESS: EOS - Professional Services	(173,207)	(177,537)	(181,975)	(186,525)
13. LESS: EOS - Eliminated Expenses	0	0	0	0
14. ADD: Additional O&M	0	0	0	0
15. Operating Expenses Before Depreciation	4,006,554	4,106,718	4,209,386	4,314,621
16. Depreciation (2)	1,821,364	1,846,095	1,871,161	1,896,568
17. Total Operating Expenses	5,827,919	5,952,813	6,080,547	6,211,189
18. Operating Income	2,143,685	2,140,256	2,143,767	2,138,635
19. Revenues (3)	7,971,604	8,093,069	8,224,314	8,349,824
20. EBITDA (4)	3,965,050	3,986,351	4,014,928	4,035,203
21. EBIT (5)	2,143,685	2,140,256	2,143,767	2,138,635
22. EBIT	2,143,685	2,140,256	2,143,767	2,138,635
23. (-) Income Taxes	0	0	0	0
24. Debt Free Net Income	2,143,685	2,140,256	2,143,767	2,138,635
25. (+) Depreciation & Amortization	1,821,364	1,846,095	1,871,161	1,896,568
26. (-) Capital Expenditures (6)	1,775,014	1,799,115	1,823,543	1,848,303
27. (-) Changes in Working Capital (7)	16,740	16,995	17,271	17,535
28. Debt Free Net Cash Flow	\$2,173,295	\$2,170,240	\$2,174,114	\$2,169,366
29. PV Time Period (mid-year)	20.5	21.5	22.5	23.5
30. Present Value Factor: 3.09% (8)	0.5359	0.5198	0.5042	0.4891
31. Present Value Debt Free Net Cash Flow	\$1,164,669	\$1,128,091	\$1,096,188	\$1,061,037
32. Present Value Factor: 2.89% (9)	0.5576	0.5420	0.5267	0.5120
33. Present Value Debt Free Net Cash Flow	\$1,211,830	\$1,176,270	\$1,145,106	\$1,110,715

See last page of this EXHIBIT for notes and assumptions.

Income Approach

East Whiteland Township Wastewater System Assets
 Pro Forma and Estimated Operations With MUNI Ownership
 DCF With Capitalization of Terminal Value Model and
DCF With EBIT & EBITDA Terminal Value Model

DCF With Capitalization of Terminal Value Model @ 3.09%	
	<u>Terminal Value</u>
Projected Debt Free Net Cash Flow (10)	\$2,169,366
Divided by Capitalization Factor (8)	<u>3.09%</u>
24th Year Terminal Value	70,206,009
24th Year Present Value Factor (11)	<u>0.4891</u>
Present Value of Terminal Value	34,337,759
Present Value Debt Free Net	
Cash Flow for 24 Years	<u>33,959,587</u>
Indicated Value	<u>\$68,297,346</u>

DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 3.09%			
		<u>Multiples (13)</u>	<u>Terminal Value</u>
Projected EBIT	\$2,138,635	23.5	\$50,257,930
Projected EBITDA	4,035,203	16.3	<u>65,773,814</u>
Weighted (1/3 EBIT 2/3 EBITDA) Terminal Value			60,653,572
24th Year Present Value Factor (11)			<u>0.4891</u>
Present Value of Terminal Value			29,665,662
Present Value Debt Free Net			
Cash Flow for 24 Years			<u>33,959,587</u>
Indicated Value			<u>\$63,625,249</u>

DCF With Capitalization of Terminal Value Model @ 2.89%	
	<u>Terminal Value</u>
Projected Debt Free Net Cash Flow (10)	\$2,169,366
Divided by Capitalization Factor (9)	<u>2.89%</u>
24th Year Terminal Value	75,064,556
24th Year Present Value Factor (12)	<u>0.4891</u>
Present Value of Terminal Value	36,714,074
Present Value Debt Free Net	
Cash Flow for 24 Years	<u>33,959,587</u>
Indicated Value	<u>\$70,673,661</u>

DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 2.89%			
		<u>Multiples (13)</u>	<u>Terminal Value</u>
Projected EBIT	\$2,138,635	23.5	\$50,257,930
Projected EBITDA	4,035,203	16.3	<u>65,773,814</u>
Weighted (1/3 EBIT 2/3 EBITDA) Terminal Value			60,653,572
24th Year Present Value Factor (12)			<u>0.4891</u>
Present Value of Terminal Value			29,665,662
Present Value Debt Free Net			
Cash Flow for 24 Years			<u>33,959,587</u>
Indicated Value			<u>\$63,625,249</u>

See last page of this EXHIBIT for notes and assumptions.

Income Approach

East Whiteland Township Wastewater System Assets
 Pro Forma and Estimated Operations With MUNI Ownership
 DCF With Capitalization of Terminal Value Model and
DCF With EBIT & EBITDA Terminal Value Model

Notes: (1) Assumptions:

Charges for services - Pre-2022 are actual or budget. Post-2021 based on customer growth (EDU) and average revenue per customer. Rate increases (Other rate increase line item) are added year after they occur.

Other (Rate Increase) - Assumed purchase by MUNI at end of 2021 with shown rate increases.

OPERATING EXPENSES - increase at 2.5% annually after 2021 unless noted elsewhere. Assumed economies of scale are shown on lines below.

Wages & Benefits - Post-2021 assumed 15% savings due to economies of scale. Increase at 2.5% afterwards.

Professional Services - Post-2021 assumed 50% savings due to economies of scale. Increase at 2.5% afterwards.

No Additional O&M.

- (2) Depreciation - Pre-2022 based on actual depreciation rate plus same rate on half of CAPX. Post-2021 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-2028 based on financials/budget. Post-2027 years are estimates at 1.60% of prior year-end GROSS Property, plant and equipment.
- (7) Changes in Working Capital - based on water industry 0.21% of revenues.
- (8) Discount rate is the the current MUNI discount rate. Capitalization rate (K) at 5/20/2021 equal to discount rate, where capitalization rate = $K - g$.
- (9) Discount rate is the current MUNI discount rate. Capitalization rate (K) at 5/20/2021 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 17.

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

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

	Actual		Budget	Budget	Estimated	Estimated
				Year 0	Year 1	Year 2
	2018	2019	2020	2021	2022	2023
1. OPERATING REVENUES (1)						
2. Charges for services	3,809,229	3,761,787	3,948,000	3,948,000	4,120,950	4,273,291
3. Other operating revenue	1,563,159	682,780	439,000	380,000	380,000	380,000
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	0	0	0	0	0
6. Total Operating Revenues	5,372,388	4,444,567	4,387,000	4,328,000	4,500,950	4,653,291
7. Rate Increase						
8. OPERATING EXPENSES (1)						
9. Operating & Maintenance Expenses	2,407,506	3,073,240	3,106,409	3,222,278	3,302,835	3,385,406
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	0	0	0	(733,706)	(752,048)	(770,849)
12. LESS: EOS - Professional Services	0	0	0	(103,125)	(105,703)	(108,346)
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	101,484	102,417
16. Operating Expenses Before Depreciation	2,407,506	3,073,240	3,106,409	2,385,447	2,546,568	2,608,628
17. Depreciation (2)	718,700	774,783	774,783	1,366,425	1,390,766	1,409,650
18. Total Operating Expenses	3,126,206	3,848,023	3,881,192	3,751,873	3,937,334	4,018,278
19. Operating Income	2,246,182	596,544	505,808	576,127	563,616	635,013
20. Revenues (3)	5,372,388	4,444,567	4,387,000	4,328,000	4,500,950	4,653,291
21. EBITDA (4)	2,964,882	1,371,327	1,280,591	1,942,553	1,954,382	2,044,663
22. EBIT (5)	2,246,182	596,544	505,808	576,127	563,616	635,013
23. EBIT	2,246,182	596,544	505,808	576,127	563,616	635,013
24. (-) Income Taxes	0	0	0	166,443	162,829	183,455
25. Debt Free Net Income	2,246,182	596,544	505,808	409,684	400,787	451,558
26. (+) Depreciation & Amortization	718,700	774,783	774,783	1,366,425	1,390,766	1,409,650
27. (-) Capital Expenditures (6)	393,256	740,070	2,738,000	2,038,000	1,355,374	1,373,777
28. (-) Changes in Working Capital (7)	11,282	9,334	9,213	9,089	9,452	9,772
29. Debt Free Net Cash Flow	\$2,560,344	\$621,923	(\$1,466,622)	(\$270,979)	\$426,727	\$477,659
30. PV Time Period (mid-year)					0.5	1.5
31. Present Value Factor: 6.57% (8)					0.9687	0.9090
32. Present Value Debt Free Net Cash Flow					\$413,371	\$434,192
33. Present Value Factor: 7.79% (9)					0.9632	0.8936
34. Present Value Debt Free Net Cash Flow					\$411,024	\$426,836
35. Present Value Factor: 6.37% (8)					0.9696	0.9115
36. Present Value Debt Free Net Cash Flow					\$413,755	\$435,387
37. Present Value Factor: 7.59% (9)					0.9641	0.8961
38. Present Value Debt Free Net Cash Flow					\$411,408	\$428,031

See last page of this EXHIBIT for notes and assumptions.

Income Approach

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

	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated
	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
	2024	2025	2026	2027	2028	2029
1. OPERATING REVENUES (1)						
2. Charges for services	4,521,585	9,161,633	9,253,986	9,402,050	9,552,483	9,452,984
3. Other operating revenue	380,000	380,000	380,000	380,000	380,000	380,000
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	4,431,154	0	0	0	(248,365)	0
6. Total Operating Revenues	9,332,739	9,541,633	9,633,986	9,782,050	9,684,118	9,832,984
7. Rate Increase	98%					
8. OPERATING EXPENSES (1)						
9. Operating & Maintenance Expenses	3,470,041	3,556,792	3,645,712	3,736,855	3,830,276	3,926,033
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	(790,121)	(809,874)	(830,120)	(850,873)	(872,145)	(893,949)
12. LESS: EOS - Professional Services	(111,054)	(113,831)	(116,676)	(119,593)	(122,583)	(125,648)
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	103,233	129,807	130,943	131,414	132,203	131,591
16. Operating Expenses Before Depreciation	2,672,099	2,762,895	2,829,858	2,897,802	2,967,750	3,038,027
17. Depreciation (2)	1,428,790	1,448,190	1,467,854	1,487,784	1,507,985	1,528,461
18. Total Operating Expenses	4,100,889	4,211,085	4,297,712	4,385,586	4,475,735	4,566,488
19. Operating Income	5,231,850	5,330,548	5,336,274	5,396,464	5,208,383	5,266,496
20. Revenues (3)	9,332,739	9,541,633	9,633,986	9,782,050	9,684,118	9,832,984
21. EBITDA (4)	6,660,640	6,778,738	6,804,128	6,884,248	6,716,368	6,794,957
22. EBIT (5)	5,231,850	5,330,548	5,336,274	5,396,464	5,208,383	5,266,496
23. EBIT	5,231,850	5,330,548	5,336,274	5,396,464	5,208,383	5,266,496
24. (-) Income Taxes	1,511,481	1,539,995	1,541,650	1,559,038	1,504,702	1,521,491
25. Debt Free Net Income	3,720,369	3,790,553	3,794,624	3,837,426	3,703,681	3,745,005
26. (+) Depreciation & Amortization	1,428,790	1,448,190	1,467,854	1,487,784	1,507,985	1,528,461
27. (-) Capital Expenditures (6)	1,392,430	1,411,336	1,430,499	1,449,922	1,469,609	1,489,563
28. (-) Changes in Working Capital (7)	19,599	20,037	20,231	20,542	20,337	20,649
29. Debt Free Net Cash Flow	\$3,737,130	\$3,807,370	\$3,811,748	\$3,854,746	\$3,721,720	\$3,763,254
30. PV Time Period (mid-year)	2.5	3.5	4.5	5.5	6.5	7.5
31. Present Value Factor: 6.57% (8)	0.8529	0.8003	0.7510	0.7047	0.6613	0.6205
32. Present Value Debt Free Net Cash Flow	\$3,187,398	\$3,047,038	\$2,862,623	\$2,716,439	\$2,461,173	\$2,335,099
33. Present Value Factor: 7.79% (9)	0.8290	0.7691	0.7135	0.6619	0.6141	0.5697
34. Present Value Debt Free Net Cash Flow	\$3,098,081	\$2,928,248	\$2,719,682	\$2,551,456	\$2,285,508	\$2,143,926
35. Present Value Factor: 6.37% (8)	0.8569	0.8056	0.7574	0.7120	0.6694	0.6293
36. Present Value Debt Free Net Cash Flow	\$3,202,347	\$3,067,217	\$2,887,018	\$2,744,579	\$2,491,319	\$2,368,216
37. Present Value Factor: 7.59% (9)	0.8329	0.7741	0.7195	0.6687	0.6216	0.5777
38. Present Value Debt Free Net Cash Flow	\$3,112,656	\$2,947,285	\$2,742,553	\$2,577,669	\$2,313,421	\$2,174,032

See last page of this EXHIBIT for notes and assumptions.

Income Approach

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

	Estimated Year 9	Estimated Year 10	Estimated Year 11	Estimated Year 12	Estimated Year 13	Estimated Year 14
	2030	2031	2032	2033	2034	2035
1. OPERATING REVENUES (1)						
2. Charges for services	9,604,232	9,757,899	9,914,026	10,072,650	9,937,032	10,096,024
3. Other operating revenue	380,000	380,000	380,000	380,000	380,000	380,000
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	0	0	(292,107)	0	0
6. Total Operating Revenues	9,984,232	10,137,899	10,294,026	10,160,543	10,317,032	10,476,024
7. Rate Increase						
8. OPERATING EXPENSES (1)						
9. Operating & Maintenance Expenses	4,024,184	4,124,788	4,227,908	4,333,606	4,441,946	4,552,994
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	(916,298)	(939,205)	(962,685)	(986,752)	(1,011,421)	(1,036,707)
12. LESS: EOS - Professional Services	(128,789)	(132,009)	(135,309)	(138,692)	(142,159)	(145,713)
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	132,382	133,186	134,004	134,834	134,015	134,846
16. Operating Expenses Before Depreciation	3,111,479	3,186,760	3,263,918	3,342,996	3,422,381	3,505,421
17. Depreciation (2)	1,549,214	1,570,249	1,591,569	1,613,180	1,635,083	1,657,284
18. Total Operating Expenses	4,660,693	4,757,009	4,855,487	4,956,175	5,057,464	5,162,705
19. Operating Income	5,323,539	5,380,890	5,438,539	5,204,368	5,259,568	5,313,319
20. Revenues (3)	9,984,232	10,137,899	10,294,026	10,160,543	10,317,032	10,476,024
21. EBITDA (4)	6,872,753	6,951,139	7,030,108	6,817,547	6,894,651	6,970,603
22. EBIT (5)	5,323,539	5,380,890	5,438,539	5,204,368	5,259,568	5,313,319
23. EBIT	5,323,539	5,380,890	5,438,539	5,204,368	5,259,568	5,313,319
24. (-) Income Taxes	1,537,970	1,554,539	1,571,194	1,503,542	1,519,489	1,535,018
25. Debt Free Net Income	3,785,569	3,826,351	3,867,345	3,700,826	3,740,079	3,778,301
26. (+) Depreciation & Amortization	1,549,214	1,570,249	1,591,569	1,613,180	1,635,083	1,657,284
27. (-) Capital Expenditures (6)	1,509,788	1,530,288	1,551,066	1,572,126	1,593,473	1,615,109
28. (-) Changes in Working Capital (7)	20,967	21,290	21,617	21,337	21,666	22,000
29. Debt Free Net Cash Flow	\$3,804,028	\$3,845,022	\$3,886,231	\$3,720,542	\$3,760,024	\$3,798,477
30. PV Time Period (mid-year)	8.5	9.5	10.5	11.5	12.5	13.5
31. Present Value Factor: 6.57% (8)	0.5822	0.5463	0.5127	0.4811	0.4514	0.4236
32. Present Value Debt Free Net Cash Flow	\$2,214,705	\$2,100,536	\$1,992,471	\$1,789,953	\$1,697,275	\$1,609,035
33. Present Value Factor: 7.79% (9)	0.5285	0.4903	0.4549	0.4220	0.3915	0.3632
34. Present Value Debt Free Net Cash Flow	\$2,010,429	\$1,885,214	\$1,767,846	\$1,570,069	\$1,472,049	\$1,379,607
35. Present Value Factor: 6.37% (8)	0.5916	0.5562	0.5229	0.4916	0.4621	0.4345
36. Present Value Debt Free Net Cash Flow	\$2,250,463	\$2,138,601	\$2,032,110	\$1,829,019	\$1,737,507	\$1,650,438
37. Present Value Factor: 7.59% (9)	0.5370	0.4991	0.4639	0.4311	0.4007	0.3725
38. Present Value Debt Free Net Cash Flow	\$2,042,763	\$1,919,050	\$1,802,822	\$1,603,926	\$1,506,641	\$1,414,933

See last page of this EXHIBIT for notes and assumptions.

Income Approach

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

	Estimated Year 15	Estimated Year 16	Estimated Year 17	Estimated Year 18	Estimated Year 19	Estimated Year 20
	2036	2037	2038	2039	2040	2041
1. OPERATING REVENUES (1)						
2. Charges for services	10,257,561	10,421,682	10,588,429	10,488,898	10,656,720	10,827,227
3. Other operating revenue	380,000	380,000	380,000	380,000	380,000	380,000
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	0	(264,711)	0	0	0
6. Total Operating Revenues	10,637,561	10,801,682	10,703,718	10,868,898	11,036,720	11,207,227
7. Rate Increase						
8. OPERATING EXPENSES (1)						
9. Operating & Maintenance Expenses	4,666,819	4,783,490	4,903,077	5,025,654	5,151,295	5,280,078
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	(1,062,624)	(1,089,190)	(1,116,420)	(1,144,330)	(1,172,939)	(1,202,262)
12. LESS: EOS - Professional Services	(149,356)	(153,090)	(156,917)	(160,840)	(164,861)	(168,982)
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	135,691	136,549	137,421	136,800	137,676	138,566
16. Operating Expenses Before Depreciation	3,590,530	3,677,759	3,767,161	3,857,284	3,951,172	4,047,399
17. Depreciation (2)	1,679,787	1,702,595	1,725,713	1,749,144	1,772,893	1,796,966
18. Total Operating Expenses	5,270,317	5,380,354	5,492,874	5,606,428	5,724,065	5,844,366
19. Operating Income	5,367,244	5,421,328	5,210,844	5,262,470	5,312,655	5,362,861
20. Revenues (3)	10,637,561	10,801,682	10,703,718	10,868,898	11,036,720	11,207,227
21. EBITDA (4)	7,047,031	7,123,923	6,936,557	7,011,614	7,085,548	7,159,828
22. EBIT (5)	5,367,244	5,421,328	5,210,844	5,262,470	5,312,655	5,362,861
23. EBIT	5,367,244	5,421,328	5,210,844	5,262,470	5,312,655	5,362,861
24. (-) Income Taxes	1,550,597	1,566,222	1,505,413	1,520,328	1,534,826	1,549,331
25. Debt Free Net Income	3,816,647	3,855,106	3,705,431	3,742,142	3,777,829	3,813,530
26. (+) Depreciation & Amortization	1,679,787	1,702,595	1,725,713	1,749,144	1,772,893	1,796,966
27. (-) Capital Expenditures (6)	1,637,038	1,659,266	1,681,795	1,704,631	1,727,776	1,751,235
28. (-) Changes in Working Capital (7)	22,339	22,684	22,478	22,825	23,177	23,535
29. Debt Free Net Cash Flow	\$3,837,057	\$3,875,751	\$3,726,871	\$3,763,830	\$3,799,769	\$3,835,726
30. PV Time Period (mid-year)	14.5	15.5	16.5	17.5	18.5	19.5
31. Present Value Factor: 6.57% (8)	0.3975	0.3730	0.3500	0.3284	0.3081	0.2891
32. Present Value Debt Free Net Cash Flow	\$1,525,230	\$1,445,655	\$1,304,405	\$1,236,042	\$1,170,709	\$1,108,909
33. Present Value Factor: 7.79% (9)	0.3370	0.3126	0.2900	0.2691	0.2496	0.2316
34. Present Value Debt Free Net Cash Flow	\$1,293,088	\$1,211,560	\$1,080,793	\$1,012,847	\$948,422	\$888,354
35. Present Value Factor: 6.37% (8)	0.4084	0.3840	0.3610	0.3394	0.3190	0.2999
36. Present Value Debt Free Net Cash Flow	\$1,567,054	\$1,488,289	\$1,345,400	\$1,277,444	\$1,212,126	\$1,150,334
37. Present Value Factor: 7.59% (9)	0.3462	0.3218	0.2991	0.2780	0.2584	0.2401
38. Present Value Debt Free Net Cash Flow	\$1,328,389	\$1,247,217	\$1,114,707	\$1,046,345	\$981,860	\$920,958

See last page of this EXHIBIT for notes and assumptions.

Income Approach

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

	Estimated Year 21 2042	Estimated Year 22 2043	Estimated Year 23 2044	Estimated Year 24 2045
1. OPERATING REVENUES (1)				
2. Charges for services	11,000,463	11,176,470	11,094,122	11,271,628
3. Other operating revenue	380,000	380,000	380,000	380,000
4. Tap Fees	0	0	0	0
5. Other (Rate Increase)	0	(257,059)	0	0
6. Total Operating Revenues	11,380,463	11,299,411	11,474,122	11,651,628
7. Rate Increase				
8. OPERATING EXPENSES (1)				
9. Operating & Maintenance Expenses	5,412,080	5,547,382	5,686,066	5,828,218
10. Remove Economies of Scale				
11. LESS: EOS - Wages & Benefits	(1,232,319)	(1,263,126)	(1,294,705)	(1,327,072)
12. LESS: EOS - Professional Services	(173,207)	(177,537)	(181,975)	(186,525)
13. LESS: EOS - Eliminated Expenses	0	0	0	0
14. ADD: Additional O&M	0	0	0	0
15. ADD: PURTA & Reg Assessment	139,471	140,391	139,862	140,788
16. Operating Expenses Before Depreciation	4,146,025	4,247,109	4,349,248	4,455,409
17. Depreciation (2)	1,821,364	1,846,095	1,871,161	1,896,568
18. Total Operating Expenses	5,967,390	6,093,204	6,220,409	6,351,977
19. Operating Income	5,413,073	5,206,207	5,253,713	5,299,651
20. Revenues (3)	11,380,463	11,299,411	11,474,122	11,651,628
21. EBITDA (4)	7,234,438	7,052,302	7,124,874	7,196,219
22. EBIT (5)	5,413,073	5,206,207	5,253,713	5,299,651
23. EBIT	5,413,073	5,206,207	5,253,713	5,299,651
24. (-) Income Taxes	1,563,837	1,504,073	1,517,798	1,531,069
25. Debt Free Net Income	3,849,236	3,702,134	3,735,915	3,768,582
26. (+) Depreciation & Amortization	1,821,364	1,846,095	1,871,161	1,896,568
27. (-) Capital Expenditures (6)	1,775,014	1,799,115	1,823,543	1,848,303
28. (-) Changes in Working Capital (7)	23,899	23,729	24,096	24,468
29. Debt Free Net Cash Flow	\$3,871,688	\$3,725,385	\$3,759,437	\$3,792,379
30. PV Time Period (mid-year)	20.5	21.5	22.5	23.5
31. Present Value Factor: 6.57% (8)	0.2713	0.2546	0.2389	0.2242
32. Present Value Debt Free Net Cash Flow	\$1,050,389	\$948,483	\$898,130	\$850,251
33. Present Value Factor: 7.79% (9)	0.2149	0.1993	0.1849	0.1716
34. Present Value Debt Free Net Cash Flow	\$832,026	\$742,469	\$695,120	\$650,772
35. Present Value Factor: 6.37% (8)	0.2820	0.2651	0.2492	0.2343
36. Present Value Debt Free Net Cash Flow	\$1,091,816	\$987,600	\$936,852	\$888,554
37. Present Value Factor: 7.59% (9)	0.2232	0.2074	0.1928	0.1792
38. Present Value Debt Free Net Cash Flow	\$864,161	\$772,645	\$724,820	\$679,594

See last page of this EXHIBIT for notes and assumptions.

Income Approach

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

DCF With Capitalization of Terminal Value Model @ 6.57%	
	<u>Terminal Value</u>
Projected Debt Free Net Cash Flow (10)	\$3,792,379
Divided by Capitalization Factor (8)	<u>6.57%</u>
24th Year Terminal Value	57,722,662
24th Year Present Value Factor (11)	<u>0.2242</u>
Present Value of Terminal Value	12,941,421
Present Value Debt Free Net	
Cash Flow for 24 Years	<u>40,399,510</u>
Indicated Value	<u>\$53,340,930</u>

DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 6.57%			
		<u>Multiples (13)</u>	<u>Terminal Value</u>
Projected EBIT	\$5,299,651	23.5	\$124,541,806
Projected EBITDA	7,196,219	16.3	117,298,375
Weighted (1/3 EBIT 2/3 EBITDA) Terminal Value			119,688,707
24th Year Present Value Factor (11)			<u>0.2242</u>
Present Value of Terminal Value			26,834,208
Present Value Debt Free Net			
Cash Flow for 24 Years			<u>40,399,510</u>
Indicated Value			<u>\$67,233,718</u>

DCF With Capitalization of Terminal Value Model @ 7.79%	
	<u>Terminal Value</u>
Projected Debt Free Net Cash Flow (10)	\$3,792,379
Divided by Capitalization Factor (9)	<u>7.79%</u>
24th Year Terminal Value	48,682,656
24th Year Present Value Factor (12)	<u>0.1716</u>
Present Value of Terminal Value	8,353,944
Present Value Debt Free Net	
Cash Flow for 24 Years	<u>36,005,427</u>
Indicated Value	<u>\$44,359,371</u>

DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 7.79%			
		<u>Multiples (13)</u>	<u>Terminal Value</u>
Projected EBIT	\$5,299,651	23.5	\$124,541,806
Projected EBITDA	7,196,219	16.3	117,298,375
Weighted (1/3 EBIT 2/3 EBITDA) Terminal Value			119,688,707
24th Year Present Value Factor (12)			<u>0.1716</u>
Present Value of Terminal Value			20,538,582
Present Value Debt Free Net			
Cash Flow for 24 Years			<u>36,005,427</u>
Indicated Value			<u>\$56,544,009</u>

DCF With Capitalization of Terminal Value Model @ 6.37%	
	<u>Terminal Value</u>
Projected Debt Free Net Cash Flow (10)	\$3,792,379
Divided by Capitalization Factor (8)	<u>6.37%</u>
24th Year Terminal Value	59,534,990
24th Year Present Value Factor (11)	<u>0.2242</u>
Present Value of Terminal Value	13,347,745
Present Value Debt Free Net	
Cash Flow for 24 Years	<u>40,399,510</u>
Indicated Value	<u>\$53,747,255</u>

DCF With Capitalization of Terminal Value Model @ 7.59%	
	<u>Terminal Value</u>
Projected Debt Free Net Cash Flow (10)	\$3,792,379
Divided by Capitalization Factor (9)	<u>7.59%</u>
24th Year Terminal Value	49,965,466
24th Year Present Value Factor (12)	<u>0.1716</u>
Present Value of Terminal Value	8,574,074
Present Value Debt Free Net	
Cash Flow for 24 Years	<u>36,005,427</u>
Indicated Value	<u>\$44,579,501</u>

See last page of this EXHIBIT for notes and assumptions.

Income Approach

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

Notes: (1) Assumptions:

Charges for services - Pre-2022 are actual or budget. Post-2021 based on customer growth (EDU) and average revenue per customer. Rate increases (Other rate increase line item) are added year after they occur.

Other (Rate Increase) - Assumed purchase by IOU at end of 2021 with shown rate increases.

OPERATING EXPENSES - increase at 2.5% annually after 2021 unless noted elsewhere. Assumed economies of scale are shown on lines below.

Wages & Benefits - Post-2021 assumed 15% savings due to economies of scale. Increase at 2.5% afterwards.

Professional Services - Post-2021 assumed 50% savings due to economies of scale. Increase at 2.5% afterwards.

No Additional O&M.

PURTA & Reg Assessment - 2021 assumed due to IOU purchase at the end of 2020.

- (2) Depreciation - Pre-2022 based on actual depreciation rate plus same rate on half of CAPX. Post-2021 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-2028 based on financials/budget. Post-2027 years are estimates at 1.60% of prior year-end GROSS Property, plant and equipment.
- (7) Changes in Working Capital - based on water industry 0.21% of revenues.
- (8) Discount rate is the current lower end of the IOU discount rate. Capitalization rate (K) at 5/20/2021 adjusted for stated growth (g) where capitalization rate
- (9) Discount rate is the current upper end of the IOU discount rate. Capitalization rate (K) at 5/20/2021 adjusted for stated growth (g) where capitalization rate
- (10) Final year shown, line 29.
- (11) Final year shown, line 31.
- (12) Final year shown, line 33.
- (13) Developed on Market Multiples EXHIBIT 17.

Terms:

CAPX - Capital Expenditures

CIP - Capital improvement plan

Dep - Depreciation expense

GROSS PPE - GROSS Property, plant and equipment

IOU - Investor owned utility

MUNI - Large regional municipally owned utility

NET PPE - NET Property, plant and equipment

Market Multiples Method

East Whiteland Township Wastewater System Assets

2021 Operations

Market Multiple Method

	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u> (Col B × Col C)	<u>E</u> (Col A × Col D)	
		Comparison		East Whiteland's		
	Subject	Group's	East Whiteland's	Risk Adjusted	East Whiteland's	
	Company	Valuation	Growth &	Valuation	Market	
	Statistic (1)	Multiples	Risk	Multiples	Multiples	
	<u>Statistic (1)</u>	<u>5/20/2021</u>	<u>Adjustment</u>	<u>5/20/2021</u>	<u>Valuation</u>	
Risk Adjusted Multiple						
1. <u>East Whiteland Township Wastewater System Assets</u>						
2.	Investor Provided Capital	\$42,513,245	2.06	80.00%	1.65	\$70,146,854
3.	Gross PP&E	\$43,447,309	1.49	88.00%	1.31	56,915,975
4.	Net PP&E	\$32,955,596	1.88	87.00%	1.64	54,047,177
5.	Revenues	\$4,328,000	8.68	80.00%	6.94	30,036,320
6.	EBITDA	\$1,942,553	20.33	80.00%	16.26	31,585,904
7.	EBIT	\$1,209,102	29.36	80.00%	23.49	28,401,810
8.	Customers	3,895	\$10,014	88.00%	\$8,812	34,322,740
9.	Population	14,720	\$2,999	88.00%	\$2,639	38,846,080
10.						
11.	Average					\$43,037,858

Conclusion of Market Multiple Method Valuation

		<u>Low</u>	<u>High</u>	<u>Conclusion</u>
12.	Capital Items	\$54,047,177	\$70,146,854	\$62,097,016
13.	(Items 2-4)			
14.	Income Statement Items	28,401,810	31,585,904	-
15.	(Items 5 -7)			
16.	Demographics Items	34,322,740	38,846,080	36,584,410
17.	(Items 8-9)			
			Conclusion	<u>\$49,340,713</u>

Market Multiples Method
East Whiteland Township Wastewater System Assets
Development of Market Multiples Method for the Market Multiples Method

	Latest Quarter End			Latest 12 Months			2020		5/20/2021
	Gross PP&E (\$ Mill)	Net PP&E (\$ Mill)	Invest. Total Capital (\$ Mill)	12 Mos. Rev. (\$ Mill)	12 Mos. EBITDA (\$ Mill)	12 Mos. EBIT (\$ Mill)	Customers	Population	Enterprise Value (\$ Mill)
American States Water Co	\$2,100.362	\$1,532.036	\$1,228.228	\$488.243	\$171.044	\$133.840	286,341	1,000,000	\$3,464.566
American Water Works Company Inc	\$25,709.000	\$19,805.000	\$17,492.000	\$3,777.000	\$1,901.000	\$1,297.000	3,496,000	15,000,000	\$38,786.473
Artesian Resources Corp	\$712.151	\$563.817	\$340.886	\$88.141	\$39.122	\$27.979	95,640	300,000	\$547.493
California Water Service Group	\$3,878.445	\$2,654.027	\$2,093.196	\$794.307	\$244.000	\$143.065	543,000	2,000,000	\$3,983.968
Essential Utilities, Inc.	\$11,680.353	\$9,573.211	\$10,461.483	\$1,462.698	\$730.696	\$473.637	1,798,803	5,000,000	\$17,249.523
Middlesex Water Co	\$1,000.470	\$813.014	\$636.533	\$141.592	\$58.537	\$37.699	122,200	500,000	\$1,706.421
SJW Corp.	\$3,403.010	\$2,356.988	\$2,456.075	\$564.526	\$208.918	\$117.296	389,293	1,614,866	\$3,379.882
York Water Company (The)	\$436.163	\$344.365	\$269.556	\$53.852	\$31.246	\$23.069	72,681	202,000	\$758.677
Average	\$6,114.994	\$4,705.307	\$4,372.245	\$921.295	\$423.070	\$281.698	850,495	3,202,108	\$8,734.625
Max	\$25,709.000	\$19,805.000	\$17,492.000	\$3,777.000	\$1,901.000	\$1,297.000	3,496,000	15,000,000	\$38,786.473
Min	\$436.163	\$344.365	\$269.556	\$53.852	\$31.246	\$23.069	72,681	202,000	\$547.493
Median	\$2,751.686	\$1,944.512	\$1,660.712	\$526.385	\$189.981	\$125.568	337,817	1,307,433	\$3,422.224

	Enterprise Value as a Multiple of								Population Per Customer
	Invest. Capital (x)	Gross PP&E (x)	Net PP&E (x)	Rev. (x)	EBITDA (x)	EBIT (x)	Customers (\$)	Population (\$)	
American States Water Co	2.82	1.65	2.26	7.10	20.26	25.89	\$12,099	\$3,465	3.49
American Water Works Company Inc	2.22	1.51	1.96	10.27	20.40	29.90	\$11,095	\$2,586	4.29
Artesian Resources Corp	1.61	0.77	0.97	6.21	13.99	19.57	\$5,725	\$1,825	3.14
California Water Service Group	1.90	1.03	1.50	5.02	16.33	27.85	\$7,337	\$1,992	3.68
Essential Utilities, Inc.	1.65	1.48	1.80	11.79	23.61	36.42	\$9,589	\$3,450	2.78
Middlesex Water Co	2.68	1.71	2.10	12.05	29.15	45.26	\$13,964	\$3,413	4.09
SJW Corp.	1.38	0.99	1.43	5.99	16.18	28.81	\$8,682	\$2,093	4.15
York Water Company (The)	2.81	1.74	2.20	14.09	24.28	32.89	\$10,438	\$3,756	2.78
Average	2.13	1.36	1.78	9.06	20.52	30.82	\$9,866	\$2,822	3.55
Max	2.82	1.74	2.26	14.09	29.15	45.26	\$13,964	\$3,756	4.29
Min	1.38	0.77	0.97	5.02	13.99	19.57	\$5,725	\$1,825	2.78
Median	2.06	1.49	1.88	8.68	20.33	29.36	\$10,014	\$2,999	3.59

Market Multiples Method
East Whiteland Township Wastewater System Assets
Quantification of the Effective Risk/Growth Adjustments

	Net PP&E	Gross PP&E	Invest. Capital
Comparable Group Multiple	1.88	1.49	2.06
Ratio to Net PPE		79.26%	
Not Contributed Multiple (NPPE = ICAP mult.)	2.06	1.63	
Base Risk Factor	x 80%	80%	
Subject Company Adjusted Multiple	1.65	1.30	
Subject Company Adjusted Multiple	1.65	1.30	
Comparable Group Multiple	÷ 1.88	1.49	
Effective Risk/Growth Adjustment	88%	87%	

	Net PP&E	Gross PP&E
Plant Assets	100%	100%
Ratio of Known "Cost Free" Capital	25%	25%
Plant Assets Less Known "Cost Free" Capital	75%	75%
Comparable Group Multiple	1.88	1.49
Plant Assets Less Known "Cost Free" Capital	÷ 75%	75%
Multiple Without "Cost Free" Capital	2.51	1.99
Base Risk Factor	x 80%	80%
Subject Company Adjusted Multiple	2.01	1.59
Subject Company Adjusted Multiple	2.01	1.59
Comparable Group Multiple	÷ 1.88	1.49
Effective Risk/Growth Adjustment	107%	107%

	Net PP&E	Customers
Comparable Group Multiple	1.88	10,014.00
Implied Capitalization Rate (1÷Multiple)	53.19%	0.0100%
Ratio of Net PP&E Mult. to Invest. Capital Mult.	109.57%	
Less 1	- 1.00	
Difference in Capital Source due to Contributions	9.57%	
Assumed Investor Financed (1-Difference in Capital Source)	90.43%	90.43%
Implied Capitalization Rate (1÷Multiple)	x 0.0100%	
Not Contributed Cap. Rate		0.0090%
Not Contributed Multiple (1÷Cap. Rate)		11,073.76
Base Risk Factor	x 80%	
Subject Company Adjusted Multiple		8,859.01
Subject Company Adjusted Multiple		8,859.01
Comparable Group Multiple	÷ 10,014.00	
Effective Risk/Growth Adjustment		88%

Selected Transactions Method
For East Whiteland Township Wastewater System Assets
Summary

	<u>Median</u>	<u>Mid-Point</u>	<u>Value</u>
<u>All Selected Transactions Companies</u>			
1. Asset Items			\$63,197,042
2. Ex-Ante (page 2)	\$66,785,680	\$65,947,059	
3. Ex-Post (page 3)	\$51,879,567	\$68,175,863	
4. Demographics Items			\$35,549,532
5. Ex-Ante (page 2)	\$35,409,148	\$35,689,915	
6. Ex-Post (page 3)	\$35,409,148	\$35,689,915	
7.		Indicated Value	<u>\$49,373,287</u>
<u>Fully Integrated Selected Transactions Companies</u>			
8. Asset Items			\$60,787,989
9. Ex-Ante (page 2)	\$66,785,680	\$65,947,059	
10. Ex-Post (page 3)	\$52,991,676	\$57,427,539	
11. Demographics Items			\$47,164,106
12. Ex-Ante (page 2)	\$46,476,671	\$47,851,542	
13. Ex-Post (page 3)	\$46,476,671	\$47,851,542	
14.		Indicated Value	<u>\$53,976,047</u>
<u>Mostly Collection/Distribution Selected Transactions Companies</u>			
15. Asset Items			\$58,659,023
16. Ex-Ante (page 2)	NA	NA	
17. Ex-Post (page 3)	\$49,142,184	\$68,175,863	
18. Demographics Items			\$19,164,261
19. Ex-Ante (page 2)	\$16,576,577	\$21,751,944	
20. Ex-Post (page 3)	\$16,576,577	\$21,751,944	
21.		Indicated Value	<u>\$38,911,642</u>

Selected Transactions Method - Ex-Ante

For East Whiteland Township Wastewater System Assets

Based on 2016 - 2020 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	50,570
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
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

Subject Company's Metrics											
East Whiteland Township Wastewater System Assets											
			\$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 Selected Transactions Multiples Valuations											
Municipal Authority of the City of McKeesport	WW	INT	\$58,254,204	\$79,044,240	\$74,126,113	\$69,649,217	\$51,745,560	\$49,030,420	\$49,484,738	\$47,544,601	\$45,408,740
New Garden Township/Authority's WW System's Assets	WW	INT	\$56,108,197	\$54,525,155	\$49,318,121	\$54,108,801	\$56,461,477	\$63,154,270	\$71,388,713	\$63,976,893	\$35,932,147
Limerick Township Wastewater System's Assets	WW	INT	\$67,772,672	\$73,393,469	\$53,624,328	\$68,532,584	\$73,557,219	\$58,641,033	\$101,615,458	\$54,009,324	\$58,807,958
Steelton Borough (Water) Authority	W	INT	\$45,642,417	NA	NA	NA	NA	NA	NA	\$35,452,063	\$55,832,771
Exeter Township Wastewater System Assets	WW	INT	\$42,285,428	NA	NA	NA	\$53,709,848	\$40,009,947	\$24,903,375	\$41,620,659	\$51,183,310
Kane Borough Authority Wastewater System	WW	INT	\$60,118,996	\$69,065,098	\$37,646,182	\$65,038,776	\$52,999,195	\$49,809,767	\$116,869,050	\$33,876,275	\$55,647,621
Borough of Royersford Wastewater System Assets	WW	INT	\$71,751,036	\$117,515,517	\$82,058,041	\$94,247,936	\$65,195,829	\$90,072,524	\$56,063,803	\$31,726,190	\$37,128,444
Sadsbury Township Wastewater Utility	WW	C/D	\$35,733,593	NA	NA	NA	NA	NA	NA	\$36,100,952	\$35,366,234
East Bradford Township Wastewater System Assets	WW	C/D	\$87,040,531	\$163,685,358	NA	NA	\$19,144,140	\$195,019,732	\$121,386,050	\$15,604,968	\$7,402,937
Township of Mahoning Water System Assets	W	C/D	\$36,477,769	NA	NA	NA	\$27,183,160	\$60,543,885	\$62,588,484	\$15,549,786	\$16,523,532
Township of Mahoning Sewer System Assets	WW	C/D	(\$6,041,185)	NA	NA	NA	\$17,286,535	(\$53,332,926)	(\$23,580,647)	\$12,791,491	\$16,629,622
Cheltenham Township Wastewater System Assets	WW	C/D	\$19,450,871	NA	NA	NA	\$23,409,074	\$21,662,145	\$13,483,160	\$19,152,926	\$19,547,052
East Norriton Township Wastewater System Assets	WW	C/D	\$65,604,760	\$220,159,744	NA	NA	\$27,375,904	\$66,566,263	\$41,432,811	\$16,471,003	\$21,622,832

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 East Whiteland Township Wastewater System Assets

Based on 2016 - 2020 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	50,570
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
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

Subject Company's Metrics											
East Whiteland Township Wastewater System Assets			\$42,513,245	\$43,447,309	\$32,955,596	\$4,328,000	\$1,942,553	\$1,209,102	3,895	14,720	

Ex-Post Subject Company's Selected Transactions Multiples Valuations											
Municipal Authority of the City of McKeesport	WW	INT	\$56,134,497	\$79,044,240	\$62,622,950	\$64,194,722	\$51,745,560	\$49,030,420	\$49,484,738	\$47,544,601	\$45,408,740
New Garden Township/Authority's WW System's Assets	WW	INT	\$55,626,400	\$54,525,155	\$47,213,416	\$52,359,130	\$56,461,477	\$63,154,270	\$71,388,713	\$63,976,893	\$35,932,147
Limerick Township Wastewater System's Assets	WW	INT	\$65,631,086	\$73,393,469	\$51,400,004	\$53,624,223	\$73,557,219	\$58,641,033	\$101,615,458	\$54,009,324	\$58,807,958
Steelton Borough (Water) Authority	W	INT	\$48,045,229	NA	\$49,522,245	\$51,373,836	NA	NA	NA	\$35,452,063	\$55,832,771
Exeter Township Wastewater System Assets	WW	INT	\$49,504,534	NA	\$60,974,806	\$74,129,790	\$53,709,848	\$40,009,947	\$24,903,375	\$41,620,659	\$51,183,310
Kane Borough Authority Wastewater System	WW	INT	\$57,176,360	\$69,065,098	\$36,289,570	\$42,854,303	\$52,999,195	\$49,809,767	\$116,869,050	\$33,876,275	\$55,647,621
Borough of Royersford Wastewater System Assets	WW	INT	\$68,742,626	\$117,515,517	\$73,673,193	\$78,565,509	\$65,195,829	\$90,072,524	\$56,063,803	\$31,726,190	\$37,128,444
Sadsbury Township Wastewater Utility	WW	C/D	\$43,732,340	NA	\$53,723,973	\$49,738,200	NA	NA	NA	\$36,100,952	\$35,366,234
East Bradford Township Wastewater System Assets	WW	C/D	\$72,316,809	\$163,685,358	\$26,189,071	\$30,102,218	\$19,144,140	\$195,019,732	\$121,386,050	\$15,604,968	\$7,402,937
Township of Mahoning Water System Assets	W	C/D	\$37,962,351	NA	\$38,856,016	\$44,491,593	\$27,183,160	\$60,543,885	\$62,588,484	\$15,549,786	\$16,523,532
Township of Mahoning Sewer System Assets	WW	C/D	\$8,617,308	NA	\$41,980,911	\$48,546,167	\$17,286,535	(\$53,332,926)	(\$23,580,647)	\$12,791,491	\$16,629,622
Cheltenham Township Wastewater System Assets	WW	C/D	\$44,984,524	NA	\$110,162,654	\$107,474,654	\$23,409,074	\$21,662,145	\$13,483,160	\$19,152,926	\$19,547,052
East Norriton Township Wastewater System Assets	WW	C/D	\$65,296,373	\$220,159,744	\$53,936,040	\$74,806,383	\$27,375,904	\$66,566,263	\$41,432,811	\$16,471,003	\$21,622,832

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

For East Whiteland Township Wastewater System Assets

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

Connecticut Water Service Inc.			East Whiteland Township Wastewater System Assets		
Purchase Price was: \$1,106,267			East Whiteland Township Wastewater	Selected Transactions Multiples	
	<u>Subject Company Statistics</u>	<u>Transaction Multiple</u>			
Investor Provided Capital	\$573,223	1.93	\$42,513,245	\$82,046,607	
Gross PP&E	\$939,050	1.18	\$43,447,309	\$51,183,991	
Net PP&E	\$697,723	1.59	\$32,955,596	\$52,252,384	\$66,615,299
Revenues	\$107,054	10.33	\$4,328,000	\$44,724,380	
EBITDA	\$48,920	22.61	\$1,942,553	\$43,928,493	
EBIT	\$32,236	34.32	\$1,209,102	\$41,493,668	\$50,295,976
Customers	135,645	\$8,156	3,895	\$31,766,082	
Population	450,000	\$2,458	14,720	\$36,187,224	\$33,976,653
Average				<u>\$47,947,854</u>	
	<u>Subject Company Statistics</u>	<u>Transaction Multiple</u>			
Investor Provided Capital	\$573,223	1.93	\$42,513,245	\$82,046,607	
Gross PP&E (Less "Cost Free" Capital)	\$646,723	1.71	\$43,447,309	\$74,319,848	
Net PP&E (Less "Cost Free" Capital)	\$480,521	2.30	\$32,955,596	\$75,871,169	\$78,183,227
Revenues	\$107,054	10.33	\$4,328,000	\$44,724,380	
EBITDA	\$48,920	22.61	\$1,942,553	\$43,928,493	
EBIT	\$32,236	34.32	\$1,209,102	\$41,493,668	\$56,079,940
Customers	135,645	\$8,156	3,895	\$31,766,082	
Population	450,000	\$2,458	14,720	\$36,187,224	\$33,976,653
Average				<u>\$53,792,184</u>	

East Whiteland Township Wastewater System Assets
Summary of Approach Results and
Fair Market Value Conclusion at Appraisal Date

<u>Valuation Approach</u>	<u>Indicated Value</u>	<u>Conclusion</u>	<u>Consideration</u>
Cost Approach	\$59,118,924		33.33%
Income Approach	61,147,544		33.33%
Market Approach	46,741,589		33.34%
		Conclusion \$55,668,000	

WORKPAPERS

Daily Bond Yields and Key Indicators

Updated by 11 am ET with data from the previous business day. Data as of 17-May-21

Moody's Daily Long-term Corporate Bond Yield Averages

	Utilities	Industrial	Corporate
Aaa	NA	3.00	3.00
Aa	3.23	2.99	3.11
A	3.38	3.25	3.32
Baa	3.64	3.68	3.66
Avg	3.42	3.23	3.33

Moody's Daily Treasury Yield Averages

Short-Term (3-5 yrs)	0.56
Medium-Term (5-10 yrs)	1.19
Long-Term (10+ yrs)	2.24

Moody's Daily Public Utility Common Stock Yield Averages

Price	516.33
Yield	3.75
New Dividend	19.35

Index Name: S&P Municipal Bond Revenue Index

As of: 10-Jun-21

Effective date	Yield To Maturity
5/14/2021	2.70%
5/17/2021	2.69%
5/18/2021	2.69%
5/19/2021	2.68%
5/20/2021	2.69%
5/21/2021	2.69%
5/24/2021	2.68%
5/25/2021	2.67%
5/26/2021	2.67%

FED H.15

DATE	DAAA	DBAA	DGS10	DGS20	DGS30
2021-05-14	3.00	3.66	1.63	2.25	2.35
2021-05-17	3.00	3.66	1.64	2.27	2.36
2021-05-18	3.01	3.67	1.64	2.27	2.37
2021-05-19	3.04	3.70	1.68	2.30	2.38
2021-05-20	2.98	3.65	1.63	2.25	2.34
2021-05-21	2.97	3.64	1.63	2.24	2.33
2021-05-24	2.94	3.61	1.61	2.22	2.31
2021-05-25	2.89	3.57	1.56	2.16	2.26
2021-05-26	2.88	3.56	1.58	2.17	2.27

FED H.15

		10-yr T-bond	20-yr T-bond	30-yr T-bond
Spot	5/20/21	1.63	2.25	2.34

FED H.15

	AAA Corp	BAA CORP		A Rated Utility	
5/20/21	2.98	3.65	Spread	-0.02	-0.01
Moody's Spot ==>	3.00	3.66	Moody's Spot ==>	3.38	3.38
	-0.02	-0.01	Implied	3.36	3.37
					3.37

Moody's Daily Long-term Corporate Bond Yield Averages

	5/17/2021	Utilities	Industrial	Corporate
Spot	Aaa	NA	3	3
	Aa	3.23	2.99	3.11
	A	3.38	3.25	3.32
	Baa	3.64	3.68	3.66
	Avg	3.42	3.23	3.33

S&P Municipal Bond Revenue Index

5/20/21	2.69%

Utilities

Aa

A

Baa

3.37

		Decade Spread	Annual Spread
10-Year	1.63		
20-Year	2.25	0.620	0.062
30-Year	2.34	0.090	

REVENUE BOND INDEX

10-20 Yr	2.69
20-30 Yr	0.31
	0.09

3.09

30-Yr Rev Bond Est.

3.09

2019 Lt Debt	3.17	3.37
Prf Stk	5.84	184%
Pref Stock Est.	184%	6.21

5/20/21

A-Rated Rev Bonds	3.09
A-Rated PU Bonds	3.37
A-Rated PU Pref Stk	6.21
30-yr T-bond	2.34

	SBB	SBB
Equity Risk Premium	6.91	6.91
Beta (Value Line Med.)	0.80	0.80
Risk Adjusted Equity Premium	5.53	5.53
Yield (RF)	2.34	2.34
Size Premium	1.60	0.00
	9.47	7.87

High 9.47
Low 7.87

0.80

11.88 Total Return SBB 1926-2018
4.97 Income Return SBB 1926-2018

2.34 30-yr T-bond

	Recent Market Value (Mill \$)	Market Quartile Name	Market Quartile	Quartile Size Premium	Value Line Beta
American States Water Co	2,890.66	Low-Cap	3	1.6	0.65
American Water Works Co Inc	28,022.47	Large-Cap	1	0	0.85
Artesian Resources Corp	380.99	Mico-Cap	4	3.4	-
California Water Service Gp	2,847.27	Low-Cap	3	1.6	0.65
Essential Utilities, Inc.	11,510.85	Mid-Cap	2	0.89	0.95
Middlesex Water Co	1,409.99	Low-Cap	3	1.6	0.7
SJW Corp	1,890.47	Low-Cap	3	1.6	0.85
York Water Co	634.44	Mico-Cap	4	3.4	0.8
Average	6,198.390	Mid-Cap	2	0.89	0.78
Median	2,368.867	Low-Cap	3	1.60	0.80

6/11/2021	Company Name	Ticker Symbol	12/31/20				5/20/21				Book Ratios			Market Ratios		
			LT Debt-Total Qly	Preferred S Minority In Common Equity-Total-Qly	Invested Capital-Total Qly	Market Value-Monthly	LTD	Pref	Equity	LTD	Pref	Equity				
	AMERICAN ST. AWR		586.555	0.000	641.673	1,228.228	2,890.658	AMERICA	0.478	0.000	0.522	1.000	0.169	0.000	0.831	1.000
	AMERICAN W/ AWR		9,756.000	0.000	6,454.000	16,210.000	28,022.473	AMERICA	0.602	0.000	0.398	1.000	0.258	0.000	0.742	1.000
	ARTESIAN RES ARTN.-A		144.542	0.000	169.426	313.968	380.989	ARTESIA	0.460	0.000	0.540	1.000	0.275	0.000	0.725	1.000
	CALIFORNIA WCWT		801.852	0.000	921.344	1,723.196	2,847.268	CALIFORNI	0.465	0.000	0.535	1.000	0.220	0.000	0.780	1.000
	ESSENTIAL UT WTRG		5,655.405	0.000	4,683.877	10,339.282	11,510.847	ESSENTIA	0.547	0.000	0.453	1.000	0.329	0.000	0.671	1.000
	MIDDLESEX W MSEX		286.241	2.084	346.208	634.533	1,409.988	MIDDLES	0.451	0.003	0.546	1.000	0.169	0.001	0.830	1.000
	SIW GROUP SJAW		1,363.821	0.000	917.160	2,280.981	1,890.466	SIW GROU	0.598	0.000	0.402	1.000	0.419	0.000	0.581	1.000
	THE YORK WAY YORW		126.304	0.000	143.252	269.556	634.436	THE YOR	0.469	0.000	0.531	1.000	0.166	0.000	0.834	1.000

Assumptions:	5/20/2021
Debt Cost	3.37
Pref. Stock Cost	6.21
Equity Cost	9.47
Equity Cost	7.87

Ratio	Cost	Wt	Shield	Overall
23.90%	3,370	0.81	0.72	0.57799096
0.00%	6,210	0.00	1	0
76.10%	9,470	7.21	1	7.20667
		8.01		7.79
				<<<<<ANSWER
23.90%	3,370	0.81	0.72	0.57799096
0.00%	6,210	0.00	1	0
76.10%	7,868	5.99	1	5.987548
		6.79		6.57
				<<<<<ANSWER

Public Meeting held May 6, 2021

ROE

9.85

DSIC Weighted Cost of Capital

<u>Assumptions:</u>	<u>5/20/2021</u>
Debt Cost	3.37
Pref. Stock Cost	6.21
DSIC Equity Cost	9.85

	Ratio	Cost	Wt	Shield	Overall
Debt	47.40%	3.370	1.60	0.72	1.150114
Pref	0.00%	6.210	0.00	1	0
Equity	52.60%	9.850	5.18	1	5.1811
			6.78		6.33 <<<<ANSWER

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

July 02, 2018 07:00 AM Eastern Daylight Time

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

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

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

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

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

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

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

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

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

Forward-Looking Statements

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

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

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

1. Customers include all Active and Inactive Accounts

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

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

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

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

Competition

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

Employees

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

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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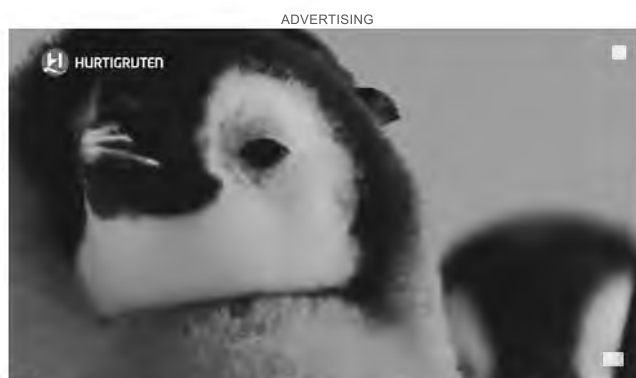
Watch Now >

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

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

1 **Q. How many customers will the acquisition add?**

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

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

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

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

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

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 ($\$38.52 + \$13.42 = \$51.94$). ($\$13.42 \div \$38.52 \times 100 = 34.84\%$).

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

1 **Q. Describe the scope and organization of your testimony.**

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

II. EXECUTIVE SUMMARY

A. Overview

10 **Q. Please summarize Aqua’s application in this proceeding.**

11 A. Aqua’s application proposes to acquire the Township’s wastewater assets under Sections
12 1102 and 1329 of the Public Utility Code (the “Code”). According to Section 1329(c)(2)
13 of the Code, the ratemaking rate base is the lesser of the negotiated purchase price and the
14 average of two FMV appraisals. The FMV estimated by Gannett Fleming and AUS
15 Consultants is \$24.2 million and \$25.1 million, respectively. The purchase price negotiated
16 by Aqua and the Township is \$21 million. Thus, the proposed rate base in the application
17 is \$21 million.

09/02/16

**Exeter Township
Customer List**

Page 19 of 295

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	100 PA	A 19606	
(610) 670-0191 20010.00	KL MHC LLC 44 KEYSTONE ROAD	43-5335-14-34- READING	201 PA	A 19606-3655	
20020.00	BORDIC MOBILE HOME PARK 214 BORDIC ROAD	43-5335-09-16- READING	200 PA	A 19606-3605	
20030.00	KL MHC LLC 44 KEYSTONE ROAD	43-5335-10-35- READING	201 PA	A 19606-3655	
20060.00	ALSACE TOWNSHIP 240 SPIES CHURCH ROAD	READING	101 PA	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	200 PA	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](https://www.readingeagle.com/news/article/exeter-township-supervisors-agree-to-sell-municipal-wastewater-system-for-96-million)

Share

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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 1. The collection of a DSIC prior to inclusion of the acquired assets in a base
- 2 rate case;
- 3 2. The accrual of Allowance for Funds Used During Construction (AFUDC)
- 4 on non-DSIC eligible post-acquisition improvements; and
- 5 3. The deferral of depreciation for book and ratemaking purposes on non-
- 6 DSIC eligible post-acquisition improvements.
- 7

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

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

12
13 **Q. Please describe the Kane wastewater utility.**

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

20
21 **Q. Does the Application provide the terms of the Proposed Transaction?**

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

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

Report Criteria:
Customer.Final bill date = (IS NULL)

5/30/17

Customer #	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
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
1439.01	GEORGE HEIM CAR WASH	1802 MONTOUR BLVD	1541551330	Commercial	1.5
Total 1.5:				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
11101.01	NAILS TO TAILS GROOMING SALON	938 BLOOM RD.	1810172132	Commercial	3/4
11109.01	BROKENSHIRE JOHN	769 BLOOM RD.	1541276984	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. Everett 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



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 McKeesport 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 pension obligations associated with the city's pension funds." Page 30 of 295

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	2015-2 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	2014-1
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	2015-2 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



[Home](#) > [News / Events](#) > [Press Releases](#) > [The PA PUC Approves First Wastewater Sale Under New Act 12](#)

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

1 invest in necessary capital improvements and resources, and experienced managerial and
2 operating personnel necessary to provide safe and reliable sewer services to the residents of
3 the TOS and surrounding areas. PAWC is currently the water provider within TOS and is
4 the operator of TOS's System pump station.

5
6 **Q. PLEASE DESCRIBE PAWC'S HISTORICAL RELATIONSHIP WITH TOS.**

7 A. Since PAWC's acquisition of the water and wastewater assets of the City of Coatesville
8 Authority ("CCA") in March 2001, PAWC has been the regional wastewater (and water)
9 provider in the City of Coatesville and surrounding communities. . PAWC's treats the
10 wastewater from the communities of Sadsbury Township, City of Coatesville, East
11 Fallowfield Township, Caln Township, West Caln Township, Valley Township, West
12 Sadsbury Township, Highland Township, West Brandywine Township and Parksburg
13 Borough. TOS has been a bulk wastewater customer of PAWC since PAWC's acquisition
14 of CCA's water and wastewater system assets. We maintain a relationship with TOS and
15 other local municipalities by participating in local events, providing environmental and
16 firefighting grants, offering the "H2O Assistance Program," and supporting economic
17 growth through infrastructure improvements in the communities we serve.

18
19 **Q. HOW MANY CUSTOMERS DOES THE TOS SYSTEM CURRENTLY SERVE**
20 **AND HOW MANY CUSTOMERS DOES PAWC CURRENTLY SERVE?**

21 A. As of December 31, 2016, TOS furnished wastewater services to 998 customers. This
22 number includes 950 residential and 48 commercial customer connections. Of these

1 interest in discussing the potential acquisition of the System and the use of Section 1329,
2 the fair market value approach. TOS's representatives executed the Letter of Interest on
3 December 6 and 7, 2016 and returned it to PAWC. This "Letter of Interest" was extended
4 through amendments on March 9, 2017, May 2, 2017, June 6, 2017, and July 5, 2017 to
5 allow the parties to enter into a definitive agreement. Through these extensions, PAWC
6 and TOS jointly retained the services of Herbert E. MacCombie, Jr., P.E., of Media
7 Pennsylvania to complete the Engineer's Assessment of Tangible Assets pursuant to
8 Section 1329. The Engineer's Assessment of Tangible Assets is included as Schedule 1.1
9 of the APA and included with the UVE fair market valuation reports at **Appendix A-5**.
10 PAWC, pursuant to Section 1329, retained the services of AUS Consultants of Greenfield
11 Wisconsin to complete an appraisal of the System. TOS retained the services of Herbert,
12 Rowland & Grubic, Inc. of Harrisburg, Pennsylvania to also complete an appraisal of the
13 System. These appraisals accompany the Application at **Appendix A-5** (together with
14 electronic working documents at **Appendix A-4**) and are included as Schedule 2.2 of the
15 APA. After receipt of the two appraisals and subsequent arms-length negotiations, on May
16 1, 2018 TOS's Board of Supervisors approved the APA, which was subsequently executed
17 by PAWC and TOS that day too. This APA includes a negotiated purchase price of
18 \$9,250,000.

19
20 **Q. CAN YOU PLEASE PROVIDE AN OVERVIEW OF THE APA?**

21 **A.** Yes. The APA is attached as **Appendix A-24-a** to the Application (**PAWC Exhibit KEG-**
22 **1**). The APA sets forth the terms and conditions pursuant to which the TOS will sell, and
23 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@anwater.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.



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Borough of Royersford

Table Lists - Master Billing List - Numeric

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Cust No	Name	Customer Type	Group Code	Service No	Description	Unit/Share
I33438358	Morath, Christina	Commercial	None	1	SEWER	1
I33453937	Baeder, William	Commercial	None	1	SEWER	1
I33521786	Sanders, Debra	Commercial	None	1	SEWER	1
I33757653	Advanced Auto Parts	Commercial	None	1	SEWER	1
I34016546	Nelson's Ice Cream	Commercial	None	1	SEWER	1
I34030702	Pitcher, Paul	Commercial	None	1	SEWER	1
I34083232	Beck, Katharine G	Commercial	None	1	SEWER	1
I34862572	LK Miller Properties LLC	Commercial	None	1	SEWER	1
I02939458	Fuhrman, Steve	Commercial	None	1	SEWER	1
I03198199	Sarangpur Realty LLC	Commercial	None	1	SEWER	1
I03373167	Wilhelm, Rosemarie	Commercial	None	1	SEWER	1
I04397982	Pragi Enterprises LLC	Commercial	None	1	SEWER	1
I06085025	Plank Jr, Robert E	Commercial	None	1	SEWER	1
I06197065	LD Hedge Associates LLC	Commercial	None	1	SEWER	1
I06197096	LD Hedge Associates LLC	Commercial	None	1	SEWER	1
I07394708	Fissingner, Matthew	Commercial	None	1	SEWER	1
I07425268	Snyder, Joseph	Commercial	None	1	SEWER	1
I07461417	Varlotta, Michael	Commercial	None	1	SEWER	1
I07487679	CG Complex LLC	Commercial	None	1	SEWER	1
I07519040	Bristol Road Partners Inc.	Commercial	None	1	SEWER	1
I08908308	Superior Credit Union	Commercial	None	1	SEWER	1
I09217890	Hoff Properties LLC	Commercial	None	1	SEWER	1
I10722804	AMA Realty Properties LLC	Commercial	None	1	SEWER	1
I11184863	Attilio, Thomas	Commercial	None	1	SEWER	1
I12032330	310 Chestnut Street LLC	Commercial	None	1	SEWER	1
I13068080	Branch Banking & Trust Company	Commercial	None	1	SEWER	1
I13286185	White, Elaine & Bruce	Commercial	None	1	SEWER	1
I15089717	C&R Property Management LLC	Commercial	None	1	SEWER	1
I15089748	C&R Property Management LLC	Commercial	None	1	SEWER	1
I15292810	Preston, Aaron	Commercial	None	1	SEWER	1
I16240812	Shalom, Jan	Commercial	None	1	SEWER	1
I16276750	Copenhafer, Fay	Commercial	None	1	SEWER	1
I16612479	Donohue, Patrick R	Commercial	None	1	SEWER	1
I17470098	Lewis Group Ltd Partnership	Commercial	None	1	SEWER	1
I17961983	Qawasmy, John	Commercial	None	1	SEWER	1
I18085592	Christman, Lewis	Commercial	None	1	SEWER	1
I18305104	Tarquini Herrera, Rachel	Commercial	None	1	SEWER	1
I18888302	Florence Attilio Rental Acct.	Commercial	None	1	SEWER	1
I18888319	Attilio, Thomas	Commercial	None	1	SEWER	1
I19364687	Conigliaro, Vito	Commercial	None	1	SEWER	1
I21630875	Chesterview Apartments	Commercial	None	1	SEWER	1
I22621041	Main Street Royersford LLC	Commercial	None	1	SEWER	1
I22621096	Spring Mountain Brewing Co	Commercial	None	1	SEWER	1
I23796115	Kassam, Tashir	Commercial	None	1	SEWER	1
I26295581	JD Arnold LLC	Commercial	None	1	SEWER	1
I26393133	Ostebo, Kurt	Commercial	None	1	SEWER	1

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Report Criteria:

Billing.Service No = 1

Customer.Customer Type = Commercial, Industrial, Residential

Borough of Royersford

Table Lists - Master Billing List - Numeric

Page: 1
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Report Criteria:

Billing.Service No = 1

Customer.Customer Type = Industrial, Residential

Cust No	Name	Customer Type	Group Code	Service No	Description	Unit/Share
128611137	Lewis Group Ltd. Partnership	Industrial	None	1	SEWER	1
128619292	Giftwares Co Inc	Industrial	None	1	SEWER	1
128619407	Specialty Chemical Systems Inc	Industrial	None	1	SEWER	1
128619759	Accumetrics Limited	Industrial	None	1	SEWER	1
128619773	Accumetrics Limited	Industrial	None	1	SEWER	1
128620339	Nelson's Ice Cream Inc.	Industrial	None	1	SEWER	1
128620858	American Machine & Tool Co.	Industrial	None	1	SEWER	1
129486532	A.C. Miller Concrete Company	Industrial	None	1	SEWER	1
129651213	Borough of Royersford	Industrial	None	1	SEWER	1
129709754	Royersford Spring Company	Industrial	None	1	SEWER	1
129784885	Advanced Fluid Systems Inc	Industrial	None	1	SEWER	1
		11				

Borough of Royersford

Table Lists - Master Billing List - Numeric

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Cust No	Name	Customer Type	Group Code	Service No	Description	Unit/Share
J25581487	Sakal, Brian J	Residential	None	1	SEWER	1
J25581852	Barbara Berman Ricci	Residential	None	1	SEWER	1
J25590276	Tallman, William	Residential	None	1	SEWER	1
J25596441	Tarantino, Joseph	Residential	None	1	SEWER	1
J25635087	Benson, Merrill G	Residential	None	1	SEWER	1
J25760044	Blamey, Chad & Katrin	Residential	None	1	SEWER	1
J25762972	Whitmore, Andrew	Residential	None	1	SEWER	1
J25807684	Mecca, Jessica	Residential	None	1	SEWER	1
J25824139	Gerber, Jenna	Residential	None	1	SEWER	1
J25859012	Creciun, Peter	Residential	None	1	SEWER	1
J25869156	Seiders, Lester & Monica	Residential	None	1	SEWER	1
J25879108	Chesterview Apartments	Residential	None	1	SEWER	1
J25930898	US Bank NA	Residential	None	1	SEWER	1
J25948684	Findley, Nicole M	Residential	None	1	SEWER	1
J25987108	Craft, Elena	Residential	None	1	SEWER	1
J26021179	John McDonald & Karlyn Eyre	Residential	None	1	SEWER	1
J26043841	Blanche, Camile	Residential	None	1	SEWER	1
J26160869	Hirst, Sharon A	Residential	None	1	SEWER	1
J26161459	John Marlatt & Rebecca Gardner	Residential	None	1	SEWER	1
J26204967	Niemczuk, Joseph W	Residential	None	1	SEWER	1
J26223333	Weiss, Joseph	Residential	None	1	SEWER	1
J26239376	C&R Property Management LLC	Residential	None	1	SEWER	1
J26300278	Millard, Barry & Sheryl	Residential	None	1	SEWER	1
J26310954	Nevin, Sean	Residential	None	1	SEWER	1
J26326843	Davis, Jeff	Residential	None	1	SEWER	1
J26340238	Jacobs, Jamie	Residential	None	1	SEWER	1
J26352002	Slifer, Richard	Residential	None	1	SEWER	1
J26353432	Lynch, Heather	Residential	None	1	SEWER	1
J26380250	Tallman, William	Residential	None	1	SEWER	1
J26381130	Stem, Matt & Heather	Residential	None	1	SEWER	1
J26403078	Petaccio, Andrea	Residential	None	1	SEWER	1
J26630702	O'Donnell, Kaitlyn	Residential	None	1	SEWER	1
J26660253	Ilyas, Asif	Residential	None	1	SEWER	1
J26713911	Hernandez, S & Murphy, M	Residential	None	1	SEWER	1
J26746591	Gieske and Niemann LLC	Residential	None	1	SEWER	1
J26875659	Speck, Erin	Residential	None	1	SEWER	1
J26880804	Raser, Randy	Residential	None	1	SEWER	1
J26909682	Perez, Waldemar & Aracelis	Residential	None	1	SEWER	1
J26969219	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

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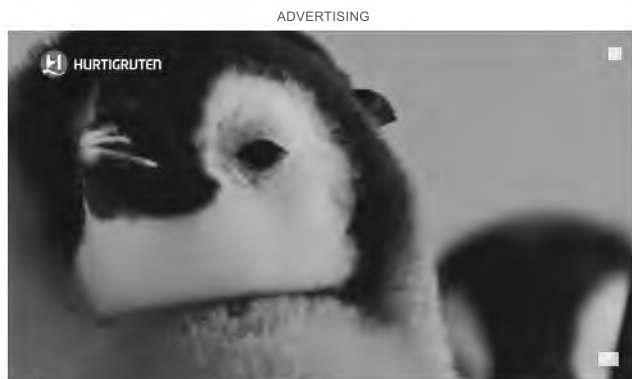
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To pay for the acquisition, SJW will initially utilize a \$975 million bridge loan from financial adviser JP Morgan Chase (JPM.N). Ultimately, the purchase would be covered by debt and between \$450 million and \$500 million of equity finance.

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](#)).

ADVERTISEMENT



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

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

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

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

RBS sounds alarm over Brexit

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

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

Our Standards: [The Thomson Reuters Trust Principles.](#)

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CONNECTICUT WATER SERVICE INC / CT

BALANCE_SHEET2

Form Type: 10-K

Period End: Dec 31, 2017

Date Filed: Mar 15, 2018

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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

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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

EAST WHITELAND TOWNSHIP

As of Year End 2020

District A/B \$100.00 Qtr or \$400.00 per year (Majority of billing, residential and business – approximately 3,053 accounts)

District C- \$135.50 Qtr or \$542.00 per year (Lochwood Chase 28 homes)

District D - \$150.00 Qtr or \$600.00 per year (Malvern Hunt-This billing is based off a spray irrigation system. Does not go to VFSA Treatment Plant.) – 279 homes

District E- \$120.00 Qtr or \$480.00 per year (Atwater, residential and business 522 accounts at year end 2020, but has been fully built out @ 2/2021 with 545 accounts)

High Volume- Water Use customers based on water meter reading (about 13 customers at year end 2020) \$6.20 per thousand gallons. It averages about \$90,000.00 Qtr or \$360,000.00 per year.

Two Intermunicipal Agreements with Charlestown Township & Malvern Borough based off an annual formula. Charlestown Twp- \$20,071.00 Qtr or \$80,068. 00 per year. Malvern Boro- \$37,575.00 Qtr or \$150,300.00 per year.

Approximate # of Accounts – 3,895

***Township Of East Whiteland Data &
Demographics (As of July 1, 2020)***

POPULATION

Total Population	14,270 (100%)
Population in Households	13,514 (94.7%)
Population in Families	11,297 (79.2%)
Population in Group Quarters ¹	756 (5.3%)
Population Density	1,305
Diversity Index ²	52

INCOME

Median Household Income	\$112,769
Average Household Income	\$150,838
% of Income for Mortgage ⁴	16%
Per Capita Income	\$51,110
Wealth Index ⁵	187

HOUSING

Total HU (Housing Units)	5,085 (100%)
Owner Occupied HU	3,293 (64.8%)
Renter Occupied HU	1,533 (30.1%)
Vacant Housing Units	259 (5.1%)
Median Home Value	\$418,059
Average Home Value	\$441,193
Housing Affordability Index ³	142

HOUSEHOLDS

Total Households	4,826
Average Household Size	2.8
Family Households	3,461
Average Family Size	3

Sanitary Sewer Collection System East Whiteland Township Chester County, PA

Current Conditions

LEGEND

Pump Stations

1. Deer Run
2. Mill Ln
3. Wilburdale Rd
4. Lee Blvd
5. Meadow View
6. Flat Rd
7. Lapp Rd
8. Westgate
9. Church Rd
10. Frame Ave
11. Hillbrook Circle
12. King Rd
13. Malvern Hunt
14. Planebrook Rd

Meters

- I. Old Lincoln Hwy
- II. Warren Ave
- III. Lee Blvd
- IV. Church Rd
- V. Matthews Rd
- VI. Unisys
- VII. Northridge/Miner Hill
- VIII. Elm Glen
- IX. Westgate
- X. Church Rd
- XI. Charlestown Meadows
- XII. Atwater

Force Mains & Size

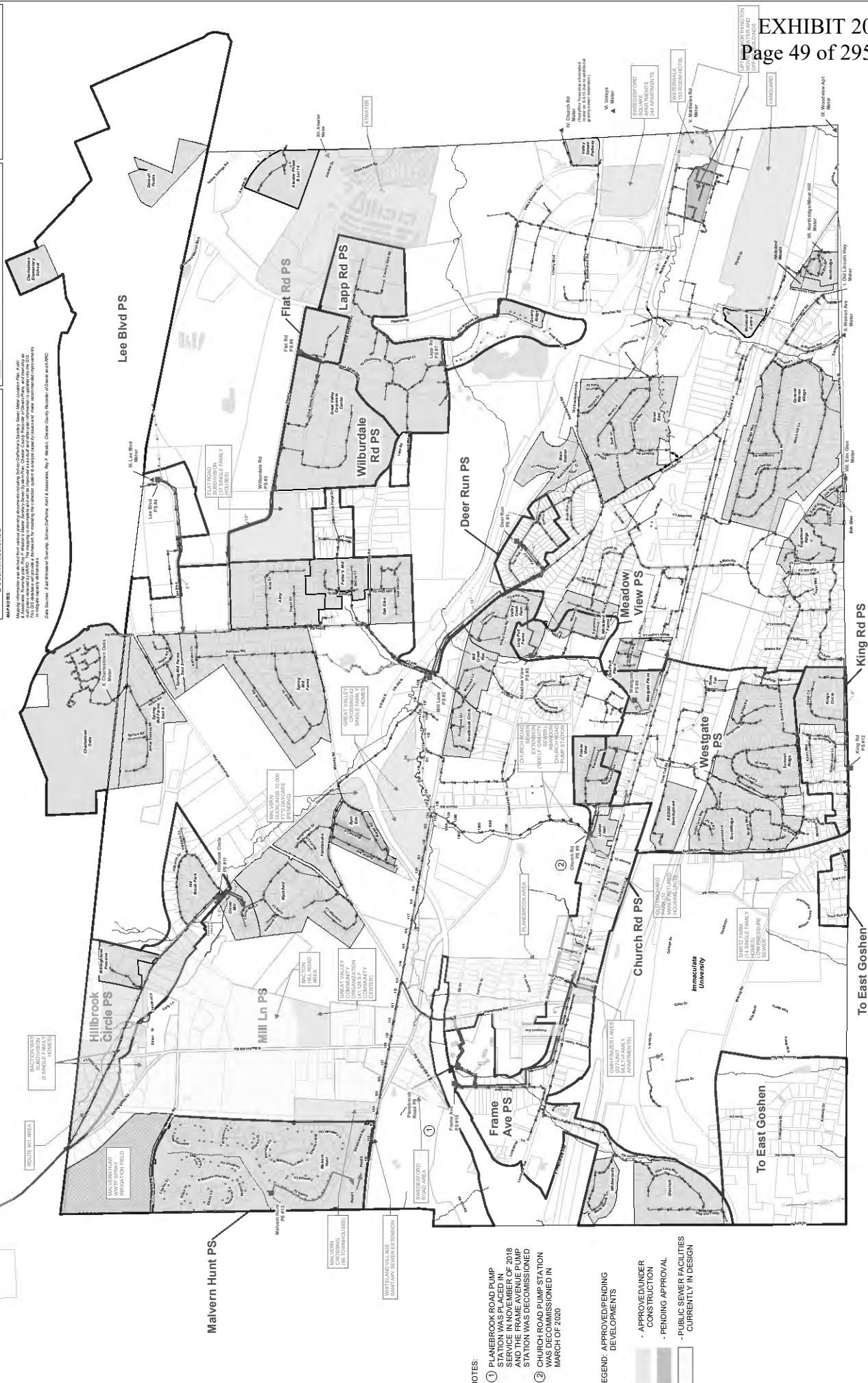
- 8" Gravity Sewer
- 10" Proposed Gravity Sewer
- 12" Gravity Sewer
- 14" Gravity Sewer
- 16" Gravity Sewer
- 18" Gravity Sewer
- 20" Gravity Sewer
- 22" Gravity Sewer
- 24" Gravity Sewer
- 26" Gravity Sewer
- 30" Gravity Sewer
- Unknown Pipe Diameter

Other Features

- Manholes
- Valves
- Pump Stations
- Laterals
- Water Main Plan Area
- Municipal Boundaries
- Lakes & Ponds
- Streams
- Subdivisions
- Pipe Station Drainage Basins
- Parcel Boundaries
- Valley Forge Service Area
- Valley Forge Service Area Proposed

Scale: 1 inch = 600 feet

Revision Date: 02/25/2018



NOTES:

1. PLANEBOOK ROAD PUMP STATION WAS PLACED IN SERVICE IN NOVEMBER OF 2018
2. CHURCH ROAD PUMP STATION WAS DECOMMISSIONED MARCH OF 2020

LEGEND:

- APPROVED/PENDING DEVELOPMENTS
- CONSTRUCTION
- PENDING APPROVAL
- PUBLIC SEWER FACILITIES CURRENTLY IN DESIGN



Westgate Pump Station - P.S. 8



Meadowview Pump Station - P.S. 5



Deer Run Pump Station - P.S. 1



Deer Run Pump Station - P.S. 1



Lapp Road Pump Station - P.S. 7



Lee Boulevard Pump Station - P.S. 4



Wilburdale Pump Station - P.S. 3



Mill Lane Pump Station - P.S. 2



Planebrook Road Pump Station - P.S. 14



Malvern Hunt Pump Station - P.S. 13



Hillbrook Circle Pump Station - P.S. 11

EAST WHITELAND TOWNSHIP

Statement of Net Position

Proprietary Funds

December 31, 2016

	<u>Sewer Fund</u>
ASSETS	
CURRENT ASSETS	
Cash and cash equivalents	\$ 6,580,678
Accounts receivable	1,161,871
TOTAL CURRENT ASSETS	<u>7,742,549</u>
NONCURRENT ASSETS	
Capital assets	32,785,377
Other capital assets	11,538,573
Accumulated depreciation	(12,377,360)
TOTAL NONCURRENT ASSETS	<u>31,946,590</u>
TOTAL ASSETS	<u>39,689,139</u>
DEFERRED OUTFLOWS OF RESOURCES	
Deferred amount related to pensions	70,666
Deferred amount on refunding	215,921
TOTAL DEFERRED OUTFLOWS OF RESOURCES	<u>286,587</u>
LIABILITIES	
CURRENT LIABILITIES	
Accounts payable	123,100
Accrued liabilities	13,831
Due to other funds	371
Compensated absences	6,015
Unearned revenue	830,898
Accrued interest	188,258
Bonds payable	725,000
TOTAL CURRENT LIABILITIES	<u>1,887,473</u>
NONCURRENT LIABILITIES	
Compensated absences	34,085
Bonds payable	17,466,860
Net pension liability	137,571
Other post-employment benefits and obligations	232,724
TOTAL NONCURRENT LIABILITIES	<u>17,871,240</u>
TOTAL LIABILITIES	<u>19,758,713</u>
DEFERRED INFLOWS OF RESOURCES	
Deferred amount related to pensions	11,356
NET POSITION	
Net investment in capital assets	13,970,651
Unrestricted	6,235,006
TOTAL NET POSITION	<u>\$ 20,205,657</u>

See accompanying notes to the basic financial statements.

EAST WHITELAND TOWNSHIP
Statement of Revenues, Expenses and
Changes in Net Position
Proprietary Funds
Year Ended December 31, 2016

	<u>Sewer Fund</u>
OPERATING REVENUES	
Charges for services	
Sewer service	\$ 3,312,268
Tapping fees	844,300
Miscellaneous	677,340
TOTAL OPERATING REVENUES	<u>4,833,908</u>
OPERATING EXPENSES	
Sewer and collection fees	1,484,102
Salaries, wages and benefits	651,954
Repairs and maintenance	140,341
Contracted services	85,418
Utilities	95,347
Insurance	38,276
Depreciation	673,195
Other	57,227
TOTAL OPERATING EXPENSES	<u>3,225,860</u>
OPERATING INCOME	<u>1,608,048</u>
NONOPERATING REVENUES (EXPENSES)	
Interest income	15,300
Interest expense	(605,904)
Transfers out	(30,000)
TOTAL NONOPERATING REVENUES (EXPENSES)	<u>(620,604)</u>
CHANGE IN NET POSITION	987,444
NET POSITION AT BEGINNING OF YEAR	<u>19,218,213</u>
NET POSITION AT END OF YEAR	<u>\$ 20,205,657</u>

See accompanying notes to the basic financial statements.

EAST WHITELAND TOWNSHIP

Statement of Cash Flows

Proprietary Funds

Year Ended December 31, 2016

	<u>Sewer Fund</u>
CASH FLOWS FROM OPERATING ACTIVITIES	
Cash received from customers	\$ 4,058,022
Cash payments to suppliers for goods and services	(1,823,910)
Cash payments to employees for services	(579,944)
NET CASH PROVIDED BY OPERATING ACTIVITIES	<u>1,654,168</u>
CASH FLOWS FROM NONCAPITAL FINANCING ACTIVITIES	
Transfers to other funds	<u>(30,000)</u>
CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES	
Acquisition and construction of capital assets	(1,188,175)
Principal paid on capital debt	(720,000)
Interest paid on capital debt	(564,911)
NET CASH USED BY CAPITAL AND RELATED FINANCING ACTIVITIES	<u>(2,473,086)</u>
CASH FLOWS FROM INVESTING ACTIVITIES	
Earnings on investments	<u>15,300</u>
NET DECREASE IN CASH AND CASH EQUIVALENTS	(833,618)
CASH AND CASH EQUIVALENTS AT BEGINNING OF YEAR	<u>7,414,296</u>
CASH AND CASH EQUIVALENTS AT END OF YEAR	<u>\$ 6,580,678</u>

See accompanying notes to the basic financial statements.

EAST WHITELAND TOWNSHIP
STATEMENT OF NET POSITION
PROPRIETARY FUNDS
DECEMBER 31, 2017

	<u>Sewer Fund</u>
ASSETS	
CURRENT ASSETS	
Cash and cash equivalents	\$ 7,518,955
Accounts receivable	683,599
Due from other funds	11,339
TOTAL CURRENT ASSETS	<u>8,213,893</u>
NONCURRENT ASSETS	
Capital assets	34,244,259
Other capital assets	11,085,242
Accumulated depreciation	(13,065,252)
TOTAL NONCURRENT ASSETS	<u>32,264,249</u>
TOTAL ASSETS	<u>40,478,142</u>
DEFERRED OUTFLOWS OF RESOURCES	
Deferred amount related to pensions	109,842
Deferred amount on refunding	190,519
TOTAL DEFERRED OUTFLOWS OF RESOURCES	<u>300,361</u>
LIABILITIES	
CURRENT LIABILITIES	
Accounts payable	138,497
Accrued liabilities	10,221
Due to other funds	210,243
Compensated absences	5,417
Unearned revenue	917,045
Accrued interest	197,363
Bonds payable	745,000
TOTAL CURRENT LIABILITIES	<u>2,223,786</u>
NONCURRENT LIABILITIES	
Compensated absences	30,694
Bonds payable	16,741,396
Net pension liability	163,903
Other post-employment benefits and obligations	294,321
TOTAL NONCURRENT LIABILITIES	<u>17,230,314</u>
TOTAL LIABILITIES	<u>19,454,100</u>
DEFERRED INFLOWS OF RESOURCES	
Deferred amount related to pensions	44,990
NET POSITION	
Net investment in capital assets	14,968,372
Unrestricted	6,311,041
TOTAL NET POSITION	<u>\$ 21,279,413</u>

See accompanying notes to the basic financial statements.

EAST WHITELAND TOWNSHIP
STATEMENT OF REVENUES, EXPENSES AND CHANGES
IN NET POSITION
PROPRIETARY FUNDS
YEAR ENDED DECEMBER 31, 2017

	<u>Sewer Fund</u>
OPERATING REVENUES	
Charges for services	
Sewer service	\$ 3,294,177
Tapping fees	1,706,800
Miscellaneous	216,471
TOTAL OPERATING REVENUES	<u>5,217,448</u>
OPERATING EXPENSES	
Sewer and collection fees	1,155,032
Salaries, wages and benefits	731,028
Repairs and maintenance	643,587
Contracted services	57,917
Utilities	84,883
Insurance	35,780
Depreciation	687,892
Other	156,422
TOTAL OPERATING EXPENSES	<u>3,552,541</u>
OPERATING INCOME	<u>1,664,907</u>
NONOPERATING REVENUES (EXPENSES)	
Interest income	19,510
Interest expense	(607,118)
TOTAL NONOPERATING REVENUES (EXPENSES)	<u>(587,608)</u>
INCOME BEFORE TRANSFERS	1,077,299
TRANSFERS OUT	<u>(3,543)</u>
CHANGE IN NET POSITION	1,073,756
NET POSITION AT BEGINNING OF YEAR	<u>20,205,657</u>
NET POSITION AT END OF YEAR	<u>\$ 21,279,413</u>

See accompanying notes to the basic financial statements.

EAST WHITELAND TOWNSHIP
STATEMENT OF CASH FLOWS
PROPRIETARY FUNDS
YEAR ENDED DECEMBER 31, 2017

	<u>Sewer Fund</u>
CASH FLOWS FROM OPERATING ACTIVITIES	
Cash received from customers	\$ 5,781,867
Cash payments to suppliers for goods and services	(1,919,691)
Cash payments to employees for services	(656,240)
NET CASH PROVIDED BY OPERATING ACTIVITIES	<u>3,205,936</u>
CASH FLOWS FROM NONCAPITAL FINANCING ACTIVITIES	
Transfers to other funds	<u>(3,543)</u>
CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES	
Acquisition and construction of capital assets	(1,005,551)
Principal paid on capital debt	(725,000)
Interest paid on capital debt	(553,075)
NET CASH USED BY CAPITAL AND RELATED FINANCING ACTIVITIES	<u>(2,283,626)</u>
CASH FLOWS FROM INVESTING ACTIVITIES	
Earnings on investments	<u>19,510</u>
NET INCREASE IN CASH AND CASH EQUIVALENTS	938,277
CASH AND CASH EQUIVALENTS AT BEGINNING OF YEAR	<u>6,580,678</u>
CASH AND CASH EQUIVALENTS AT END OF YEAR	<u>\$ 7,518,955</u>

See accompanying notes to the basic financial statements.

EAST WHITELAND TOWNSHIP
STATEMENT OF NET POSITION
PROPRIETARY FUNDS
DECEMBER 31, 2018

	<u>Sewer Fund</u>
ASSETS	
CURRENT ASSETS	
Cash and cash equivalents	\$ 9,567,007
Accounts receivable	848,468
Due from other funds	147,915
TOTAL CURRENT ASSETS	<u>10,563,390</u>
NONCURRENT ASSETS	
Capital assets	36,333,876
Other capital assets	11,417,162
Accumulated depreciation	(13,754,484)
TOTAL NONCURRENT ASSETS	<u>33,996,554</u>
TOTAL ASSETS	<u>44,559,944</u>
DEFERRED OUTFLOWS OF RESOURCES	
Deferred amount related to pensions	183,740
Deferred amount related to OPEB	28,363
Deferred amount on refunding	165,117
TOTAL DEFERRED OUTFLOWS OF RESOURCES	<u>377,220</u>
LIABILITIES	
CURRENT LIABILITIES	
Accounts payable	82,760
Accrued liabilities	10,708
Due to other funds	78
Due to Fiduciary Funds	12,396
Compensated absences	4,953
Unearned revenue	931,069
Accrued interest	191,523
Bonds payable	715,000
TOTAL CURRENT LIABILITIES	<u>1,948,487</u>
NONCURRENT LIABILITIES	
Compensated absences	28,065
Bonds payable	16,045,932
Net pension liability	333,457
Other post-employment benefits and obligations	1,239,417
TOTAL NONCURRENT LIABILITIES	<u>17,646,871</u>
TOTAL LIABILITIES	<u>19,595,358</u>
DEFERRED INFLOWS OF RESOURCES	
Deferred amount related to pensions	6,206
Deferred amount related to OPEB	59,866
TOTAL DEFERRED INFLOWS OF RESOURCES	<u>66,072</u>
NET POSITION	
Net investment in capital assets	17,400,739
Unrestricted	7,874,995
TOTAL NET POSITION	<u>\$ 25,275,734</u>

See accompanying notes to the basic financial statements.

EAST WHITELAND TOWNSHIP
STATEMENT OF REVENUES, EXPENSES AND CHANGES
IN NET POSITION
PROPRIETARY FUNDS
YEAR ENDED DECEMBER 31, 2018

	<u>Sewer Fund</u>
OPERATING REVENUES	
Charges for services	
Sewer service	\$ 3,809,229
Tapping fees	1,306,657
Miscellaneous	1,563,159
TOTAL OPERATING REVENUES	<u>6,679,045</u>
OPERATING EXPENSES	
Sewer and collection fees	1,174,936
Salaries, wages and benefits	867,750
Repairs and maintenance	57,793
Contracted services	96,819
Utilities	85,609
Insurance	37,641
Depreciation	718,700
Other	86,958
TOTAL OPERATING EXPENSES	<u>3,126,206</u>
OPERATING INCOME	<u>3,552,839</u>
NONOPERATING REVENUES (EXPENSES)	
Interest income	27,696
Interest expense	(578,450)
TOTAL NONOPERATING REVENUES (EXPENSES)	<u>(550,754)</u>
INCOME BEFORE CAPITAL CONTRIBUTIONS AND TRANSFERS	3,002,085
CAPITAL CONTRIBUTIONS	2,057,746
TRANSFERS OUT	<u>(166,320)</u>
CHANGE IN NET POSITION	4,893,511
NET POSITION AT BEGINNING OF YEAR, restated	<u>20,382,223</u>
NET POSITION AT END OF YEAR	<u>\$ 25,275,734</u>

See accompanying notes to the basic financial statements.

EAST WHITELAND TOWNSHIP
STATEMENT OF CASH FLOWS
PROPRIETARY FUNDS
YEAR ENDED DECEMBER 31, 2018

	<u>Sewer Fund</u>
CASH FLOWS FROM OPERATING ACTIVITIES	
Cash received from customers	\$ 6,528,200
Cash payments to suppliers for goods and services	(1,942,234)
Cash payments to employees for services	(721,681)
NET CASH PROVIDED BY OPERATING ACTIVITIES	<u>3,864,285</u>
CASH FLOWS FROM NONCAPITAL FINANCING ACTIVITIES	
Transfers to other funds	<u>(166,320)</u>
CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES	
Acquisition and construction of capital assets	(393,256)
Principal paid on capital debt	(745,000)
Interest paid on capital debt	(539,353)
NET CASH USED BY CAPITAL AND RELATED FINANCING ACTIVITIES	<u>(1,677,609)</u>
CASH FLOWS FROM INVESTING ACTIVITIES	
Earnings on investments	<u>27,696</u>
NET INCREASE IN CASH AND CASH EQUIVALENTS	2,048,052
CASH AND CASH EQUIVALENTS AT BEGINNING OF YEAR	<u>7,518,955</u>
CASH AND CASH EQUIVALENTS AT END OF YEAR	<u>\$ 9,567,007</u>

See accompanying notes to the basic financial statements.

EAST WHITELAND TOWNSHIP
STATEMENT OF NET POSITION
PROPRIETARY FUNDS
DECEMBER 31, 2019

	<u>Sewer Fund</u>
ASSETS	
CURRENT ASSETS	
Cash and cash equivalents	\$ 10,083,775
Accounts receivable	1,151,871
TOTAL CURRENT ASSETS	<u>11,235,646</u>
NONCURRENT ASSETS	
Capital assets	37,387,925
Other capital assets	11,285,015
Accumulated depreciation	(14,529,267)
TOTAL NONCURRENT ASSETS	<u>34,143,673</u>
TOTAL ASSETS	<u>45,379,319</u>
DEFERRED OUTFLOWS OF RESOURCES	
Deferred amount related to pensions	113,838
Deferred amount related to OPEB	130,298
Deferred amount on refunding	139,715
TOTAL DEFERRED OUTFLOWS OF RESOURCES	<u>383,851</u>
LIABILITIES	
CURRENT LIABILITIES	
Accounts payable	417,065
Accrued liabilities	13,689
Due to other funds	18,493
Compensated absences	3,114
Unearned revenue	971,503
Accrued interest	185,646
Bonds payable	735,000
TOTAL CURRENT LIABILITIES	<u>2,344,510</u>
NONCURRENT LIABILITIES	
Compensated absences	17,649
Bonds payable	15,330,468
Net pension liability	192,049
Net OPEB liability	921,823
TOTAL NONCURRENT LIABILITIES	<u>16,461,989</u>
TOTAL LIABILITIES	<u>18,806,499</u>
DEFERRED INFLOWS OF RESOURCES	
Deferred amount related to pensions	82,821
Deferred amount related to OPEB	426,073
TOTAL DEFERRED INFLOWS OF RESOURCES	<u>508,894</u>
NET POSITION	
Net investment in capital assets	18,217,920
Unrestricted	8,229,857
TOTAL NET POSITION	<u>\$ 26,447,777</u>

See accompanying notes to the basic financial statements.

EAST WHITELAND TOWNSHIP
STATEMENT OF REVENUES, EXPENSES AND CHANGES
IN NET POSITION
PROPRIETARY FUNDS
YEAR ENDED DECEMBER 31, 2019

	<u>Sewer Fund</u>
OPERATING REVENUES	
Charges for services	
Sewer service	\$ 3,761,787
Tapping fees	984,100
Miscellaneous	682,780
TOTAL OPERATING REVENUES	<u>5,428,667</u>
OPERATING EXPENSES	
Sewer and collection fees	1,779,913
Salaries, wages and benefits	687,311
Repairs and maintenance	236,403
Contracted services	41,140
Utilities	86,097
Insurance	40,288
Depreciation	774,783
Other	202,088
TOTAL OPERATING EXPENSES	<u>3,848,023</u>
OPERATING INCOME	<u>1,580,644</u>
NONOPERATING REVENUES (EXPENSES)	
Interest income	137,057
Interest expense	(561,324)
TOTAL NONOPERATING REVENUES (EXPENSES)	<u>(424,267)</u>
INCOME BEFORE CAPITAL CONTRIBUTIONS AND TRANSFERS	1,156,377
CAPITAL CONTRIBUTIONS	181,831
TRANSFERS OUT	<u>(166,165)</u>
CHANGE IN NET POSITION	1,172,043
NET POSITION AT BEGINNING OF YEAR	<u>25,275,734</u>
NET POSITION AT END OF YEAR	<u>\$ 26,447,777</u>

See accompanying notes to the basic financial statements.

EAST WHITELAND TOWNSHIP
STATEMENT OF CASH FLOWS
PROPRIETARY FUNDS
YEAR ENDED DECEMBER 31, 2019

	<u>Sewer Fund</u>
CASH FLOWS FROM OPERATING ACTIVITIES	
Cash received from customers	\$ 5,165,698
Cash payments to suppliers for goods and services	(1,885,294)
Cash payments to employees for services	(757,194)
NET CASH PROVIDED BY OPERATING ACTIVITIES	<u>2,523,210</u>
CASH FLOWS FROM NONCAPITAL FINANCING ACTIVITIES	
Transfers to other funds	<u>(166,165)</u>
CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES	
Acquisition and construction of capital assets	(740,070)
Principal paid on capital debt	(715,000)
Interest paid on capital debt	(522,264)
NET CASH USED BY CAPITAL AND RELATED FINANCING ACTIVITIES	<u>(1,977,334)</u>
CASH FLOWS FROM INVESTING ACTIVITIES	
Earnings on investments	<u>137,057</u>
NET INCREASE IN CASH AND CASH EQUIVALENTS	516,768
CASH AND CASH EQUIVALENTS AT BEGINNING OF YEAR	<u>9,567,007</u>
CASH AND CASH EQUIVALENTS AT END OF YEAR	<u>\$ 10,083,775</u>

See accompanying notes to the basic financial statements.

ACCOUNTS FOR:

Sewer Fund	2019 ACTUAL	2020 ORIG BUD	2020 REVISED BUD	2020 ACTUAL	2020 PROJECTION	2021 Final	PCT CHANGE
08341 Interest	-17,845.60	-12,000.00	-12,000.00	-6,133.66	-12,000.00	-12,000.00	.0%
08341 34101 Interest E	-17,845.60	-12,000.00	-12,000.00	-6,133.66	-12,000.00	-12,000.00	.0%
TOTAL Interest							
08364 Sewer Dept. Earning	-206,836.00	-210,000.00	-210,000.00	-283,248.00	-210,000.00	-210,000.00	.0%
08364 36400 Sewer Rent	-40,100.00	-35,000.00	-35,000.00	-45,712.50	-35,000.00	-35,000.00	.0%
08364 36411 Sewer Conn	-3,464,965.77	-3,703,000.00	-3,703,000.00	-4,317,738.84	-3,703,000.00	-3,703,000.00	.0%
08364 36412 Sewer Rent							
TOTAL Sewer Dept. Earning	-3,711,901.77	-3,948,000.00	-3,948,000.00	-4,646,699.34	-3,948,000.00	-3,948,000.00	.0%
08380 Miscellaneous Revenue							
08380 36244 Sewer Cert	-4,510.00	-5,000.00	-5,000.00	-5,355.00	-5,000.00	-5,000.00	.0%
08380 38002 Other Non-	-85,475.40	.00	.00	.00	.00	.00	.0%
08380 38003 Refund fro	-287,779.92	-434,000.00	-434,000.00	-457,733.76	-434,000.00	-375,000.00	-13.6%
TOTAL Miscellaneous Revenue	-377,765.32	-439,000.00	-439,000.00	-463,088.76	-439,000.00	-380,000.00	-13.4%
08387 Donations/Contributions							
08387 38700 Contributi	-181,831.00	.00	.00	.00	.00	.00	.0%
TOTAL Donations/Contribution	-181,831.00	.00	.00	.00	.00	.00	.0%
08429 Sewer Dept. Expenses							
08429 12000 Salary - D	120,907.20	138,000.00	138,000.00	70,331.04	138,000.00	.00	-100.0%
08429 13000 Wages - Se	134,690.73	181,100.00	181,100.00	215,968.80	181,100.00	500,000.00	176.1%
08429 13200 Mechanic	6,495.33	6,830.00	6,830.00	4,721.96	6,830.00	.00	-100.0%
08429 13500 Wages - Ot	22,631.31	.00	.00	9,510.00	.00	.00	.0%
08429 14000 Wages/Sala	143,878.59	177,000.00	177,000.00	102,732.03	177,000.00	.00	-100.0%
08429 15300 Disability	2,255.75	3,000.00	3,000.00	3,062.04	3,000.00	3,000.00	.0%
08429 15600 Medical In	134,139.53	163,500.00	163,500.00	136,229.67	163,500.00	119,000.00	-27.2%
08429 15650 OPEB	-32,094.76	25,250.00	25,250.00	16,943.16	25,250.00	17,000.00	-32.7%
08429 15700 Drug & Alc	363.00	525.00	525.00	.00	525.00	525.00	.0%
08429 15800 Life Insur	1,748.46	2,325.00	2,325.00	2,017.55	2,325.00	2,325.00	.0%
08429 16000 Pension/Re	81,249.00	86,251.00	86,251.00	86,251.00	86,251.00	158,000.00	83.2%
08429 16100 FICA (Soc.	36,166.04	41,000.00	41,000.00	32,062.10	41,000.00	39,000.00	-4.9%
08429 17000 Vacat Pay	1,357.80	2,500.00	2,500.00	.00	2,500.00	2,500.00	.0%
08429 18200 Longevity	7,358.00	7,358.00	7,358.00	7,358.00	7,358.00	7,358.00	.0%
08429 18300 Overtime	24,665.35	15,000.00	15,000.00	7,199.14	15,000.00	15,000.00	.0%
08429 19000 Other Pay	1,500.00	.00	.00	.00	.00	.00	.0%
08429 20000 Material &	3,148.47	4,000.00	4,000.00	1,299.14	4,000.00	4,000.00	.0%

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NEXT YEAR / CURRENT YEAR BUDGET ANALYSISP 16
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PROJECTION: 20211 2021 Budget

FOR PERIOD 99

ACCOUNTS FOR:

Sewer Fund	2019 ACTUAL	2020 ORIG BUD	2020 REVISED BUD	2020 ACTUAL	2020 PROJECTION	2021 Final	PCT CHANGE
08429 21300 Small Item	2,292.31	5,000.00	5,000.00	358.25	5,000.00	5,000.00	.0%
08429 23000 Utilities	86,096.76	91,200.00	91,200.00	81,899.62	91,200.00	91,200.00	.0%
08429 23100 Vehicle Fu	7,562.07	10,000.00	10,000.00	3,590.67	10,000.00	10,000.00	.0%
08429 23800 Uniforms	2,313.96	3,800.00	3,800.00	2,320.04	3,800.00	3,800.00	.0%
08429 31100 Financial	7,875.00	9,000.00	9,000.00	7,875.00	9,000.00	9,000.00	.0%
08429 31300 Twp. Engin	14,533.71	55,000.00	55,000.00	12,867.05	55,000.00	55,000.00	.0%
08429 31400 Legal Serv	10,862.00	15,000.00	15,000.00	8,382.50	15,000.00	15,000.00	.0%
08429 31700 Banking /	.00	.00	.00	120.00	.00	.00	.0%
08429 31900 Compu Serv	13,253.37	27,250.00	27,250.00	7,496.01	27,250.00	27,250.00	.0%
08429 32100 Telephone	14,019.77	15,500.00	15,500.00	13,920.46	15,500.00	15,500.00	.0%
08429 32500 Postage &	5,952.50	7,500.00	7,500.00	6,350.00	7,500.00	7,500.00	.0%
08429 33100 Training,	818.20	2,500.00	2,500.00	60.00	2,500.00	2,500.00	.0%
08429 34000 Advertisin	3,656.63	4,000.00	4,000.00	3,355.17	4,000.00	4,000.00	.0%
08429 35200 Insurance	32,065.28	34,000.00	34,000.00	33,901.02	34,000.00	34,000.00	.0%
08429 35400 Worker's C	8,223.22	8,000.00	8,000.00	7,079.95	8,000.00	8,000.00	.0%
08429 37000 Office Equ	837.75	1,200.00	1,200.00	832.00	1,200.00	1,200.00	.0%
08429 37100 Sewer Syst	84,858.34	120,120.00	120,120.00	86,747.71	120,120.00	121,920.00	1.5%
08429 37200 Road Maint	.00	1,000.00	1,000.00	15,700.00	1,000.00	1,000.00	.0%
08429 37300 Pump Stati	147,060.92	76,000.00	76,000.00	69,337.09	76,000.00	76,000.00	.0%
08429 37400 Equipment	315.17	700.00	700.00	466.06	700.00	700.00	.0%
08429 37500 Vehicle -	3,332.76	6,000.00	6,000.00	5,357.28	6,000.00	6,000.00	.0%
08429 38500 Sewer Rent	1,779,913.45	1,760,000.00	1,760,000.00	1,647,143.72	1,760,000.00	1,760,000.00	.0%
08429 80000 Deprec	774,782.74	.00	.00	.00	.00	.00	.0%
TOTAL Sewer Dept. Expenses	3,691,085.71	3,106,409.00	3,106,409.00	2,710,845.23	3,106,409.00	3,122,278.00	.5%
08470 Debt - Sewer Dept.							
08470 25522 GOB 2013	.00	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	.0%
08470 25523 GOB 12 A	.00	350,000.00	350,000.00	350,000.00	350,000.00	350,000.00	.0%
08470 25524 GOB 2012B	.00	335,000.00	335,000.00	335,000.00	335,000.00	335,000.00	.0%
08470 47000 Debt Servi	561,657.03	516,409.00	516,409.00	516,074.77	516,409.00	516,409.00	.0%
TOTAL Debt - Sewer Dept.	561,657.03	1,251,409.00	1,251,409.00	1,251,074.77	1,251,409.00	1,251,409.00	.0%
08475 Fiscal Agent Fees							
08475 47600 Fiscal Age	1,500.00	3,150.00	3,150.00	2,500.00	3,150.00	3,150.00	.0%
TOTAL Fiscal Agent Fees	1,500.00	3,150.00	3,150.00	2,500.00	3,150.00	3,150.00	.0%
08492 Interfund Operating Transfers							
08492 49201 Transfer t	166,165.00	168,345.00	168,345.00	.00	168,345.00	168,345.00	.0%
TOTAL Interfund Operating Tr	166,165.00	168,345.00	168,345.00	.00	168,345.00	168,345.00	.0%
TOTAL Sewer Fund	131,064.05	130,313.00	130,313.00	-1,151,501.76	130,313.00	205,182.00	57.5%

Sewer Reserve Fund	2019 ACTUAL	2020 ORIG BUD	2020 REVISED BUD	2020 ACTUAL	2020 PROJECTION	2021 Final	PCT CHANGE

09341 Interest	-119,211.83	-96,000.00	-96,000.00	-35,949.18	-96,000.00	-96,000.00	.0%
09341 34101 Interest E	-119,211.83	-96,000.00	-96,000.00	-35,949.18	-96,000.00	-96,000.00	.0%
TOTAL Interest	-944,000.00	-1,108,000.00	-1,108,000.00	-548,000.00	-1,108,000.00	-792,000.00	-28.5%
09364 Sewer Reserve - Earnings	-944,000.00	-1,108,000.00	-1,108,000.00	-548,000.00	-1,108,000.00	-792,000.00	-28.5%
09364 36411 Sewer Tapp	-944,000.00	-1,108,000.00	-1,108,000.00	-548,000.00	-1,108,000.00	-792,000.00	-28.5%
TOTAL Sewer Reserve - Earnin	-395,000.00	.00	.00	-3,335.18	.00	.00	.0%
09380 Sewer Reserve - Earnings	-395,000.00	.00	.00	-3,335.18	.00	.00	.0%
09380 38000 Miscellane	-395,000.00	.00	.00	-3,335.18	.00	.00	.0%
TOTAL Sewer Reserve - Earnin	-4,500.78	2,500,000.00	2,500,000.00	451,421.82	2,500,000.00	2,000,000.00	-20.0%
09429 Sewer Expenses	135,873.00	38,000.00	38,000.00	.00	38,000.00	38,000.00	.0%
09429 60000 Capital Co	135,873.00	38,000.00	38,000.00	.00	38,000.00	38,000.00	.0%
09429 60100 ValleyCr	4,499.81	200,000.00	200,000.00	556.50	200,000.00	.00	-100.0%
09429 60200 Capital Co	135,872.03	2,738,000.00	2,738,000.00	451,978.32	2,738,000.00	2,038,000.00	-25.6%
TOTAL Sewer Expenses	-333.00	.00	.00	.00	.00	.00	.0%
09470 Bond Interest Exp	-333.00	.00	.00	.00	.00	.00	.0%
09470 47000 Debt Serv	-333.00	.00	.00	.00	.00	.00	.0%
TOTAL Bond Interest Exp	11,699.00	.00	.00	.00	.00	.00	.0%
09472 Bond Amortization	11,699.00	.00	.00	.00	.00	.00	.0%
09472 47270 Amortiz	11,699.00	.00	.00	.00	.00	.00	.0%
TOTAL Bond Amortization	7,869.08	.00	.00	208,876.87	.00	100,000.00	.0%
09480 Miscellaneous Expenditures	7,869.08	.00	.00	208,876.87	.00	100,000.00	.0%
09480 31200 Consulting	7,869.08	.00	.00	208,876.87	.00	100,000.00	.0%
TOTAL Miscellaneous Expendit	-1,303,104.72	1,534,000.00	1,534,000.00	73,570.83	1,534,000.00	1,250,000.00	-18.5%
TOTAL Sewer Reserve Fund							

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 its Form 10-K for the year ended December 31, 2020.

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 Operation*" under the section titled "*Regulatory Matters*."

AWR's regulated utilities served 261,796 water customers and 24,545 electric customers at December 31, 2020, or a total of 286,341 customers, compared with 260,708 water customers and 24,420 electric customers at December 31, 2019, or a total of 285,128 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, 2020, 2019 and 2018.

ASUS, itself or 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 50-year 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.

AMERICAN STATES WATER COMPANY AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

► **Note 1 — Summary of Significant Accounting Policies**

► **Nature of Operations:** American States Water Company (“AWR”) is the parent company of Golden State Water Company (“GSWC”), Bear Valley Electric Service Inc. (“BVESI”), and American States Utility Services, Inc. (“ASUS”) (and its wholly owned subsidiaries, Fort Bliss Water Services Company (“FBWS”), Terrapin Utility Services, Inc. (“TUS”), Old Dominion Utility Services, Inc. (“ODUS”), Palmetto State Utility Services, Inc. (“PSUS”), Old North Utility Services, Inc. (“ONUS”), Emerald Coast Utility Services, Inc. (“ECUS”), and Fort Riley Utility Services, Inc. (“FRUS”). AWR and its subsidiaries may be collectively referred to as “Registrant” or “the Company.” The subsidiaries of ASUS are collectively referred to as the “Military Utility Privatization Subsidiaries.” On July 1, 2020, GSWC completed the transfer of the electric utility assets and liabilities from its electric division to BVESI, a separate legal entity and wholly owned subsidiary of AWR (Note 20). This reorganization did not result in any substantive changes to AWR's operations and business segments. AWR, through its wholly owned subsidiaries, serves over one million people in nine states.

GSWC and BVESI are both California public utilities, with GSWC engaged in the purchase, production, distribution and sale of water throughout California serving approximately 261,800 customers, while BVESI distributes electricity in several San Bernardino County mountain communities in California serving approximately 24,500 customers. The California Public Utilities Commission (“CPUC”) regulates GSWC's and BVESI's businesses in matters including properties, rates, services, facilities, and transactions between GSWC, BVESI, and their affiliates.

ASUS, through its Military Utility Privatization Subsidiaries, operates, maintains and performs construction activities (including renewal and replacement capital work) on water and/or wastewater systems at various U.S. military bases pursuant to 50-year firm fixed-price contracts. These contracts are subject to annual economic price adjustments and modifications for changes in circumstances, changes in laws and regulations and additions to the contract value for new construction of facilities at the military bases.

There is no direct regulatory oversight by the CPUC over AWR or the operations, rates or services provided by ASUS or the Military Utility Privatization Subsidiaries.

Basis of Presentation: The consolidated financial statements and notes thereto are presented in a combined report filed by two separate Registrants: AWR and GSWC. References in this report to “Registrant” are to AWR and GSWC, collectively, unless otherwise specified.

AWR owns all of the outstanding Common Shares of GSWC, BVESI and ASUS. ASUS owns all of the outstanding common shares of the Military Utility Privatization Subsidiaries. The consolidated financial statements of AWR include the accounts of AWR and its subsidiaries. These financial statements are prepared in conformity with accounting principles generally accepted in the United States of America. Intercompany transactions and balances have been eliminated in the AWR consolidated financial statements.

► **Related-Party Transactions:** GSWC, BVESI and ASUS provide and/or receive various support services to and from their parent, AWR, and among themselves. GSWC also allocates certain corporate office administrative and general costs to its affiliates using allocation factors approved by the CPUC. During the years ended December 31, 2020, 2019 and 2018, GSWC allocated to ASUS approximately \$4.9 million, \$4.7 million and \$4.2 million, respectively, of corporate office administrative and general costs. During the year ended December 31, 2020, GSWC allocated corporate office administrative and general costs to BVESI of approximately \$1.3 million.

Furthermore, AWR borrows under a credit facility, which expires in May 2023, and provides funds to GSWC and ASUS in support of their operations. The interest rate charged to GSWC and ASUS is sufficient to cover AWR's interest expense under the credit facility. The CPUC requires GSWC to pay down all intercompany borrowings from AWR within a 24-month period, which was required by November 2020. In October 2020, the Board of Directors authorized AWR to invest equity in GSWC to enable the subsidiary to pay down all its intercompany borrowings. During the fourth quarter of 2020, AWR invested \$60 million of equity in GSWC and received five shares of GSWC common stock. The majority of the proceeds from this stock issuance were used by GSWC to pay down its intercompany borrowings from AWR, satisfying the CPUC's requirement. As a result, GSWC had no intercompany borrowings from AWR as of December 31, 2020.

In October 2020, AWR issued an interest bearing promissory note to GSWC, which expires in May 2023. Under the terms of the note, AWR may borrow from GSWC amounts up to \$30 million for working capital purposes. AWR agrees to pay any unpaid principal amounts outstanding under this note, plus accrued interest. In November 2020, AWR borrowed \$6 million from GSWC under the terms of the note, which was subsequently repaid in December. As of December 31, 2020, there were no amounts outstanding under this note.

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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 its Form 10-K for the year ended December 31, 2020.

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PART I

ITEM 1. BUSINESS

The Company

With a history dating back to 1886, American Water is the largest and most geographically diverse, publicly-traded water and wastewater utility company in the United States, as measured by both operating revenues and population served. A holding company originally incorporated in Delaware in 1936, the Company employs approximately 7,000 professionals who provide drinking water, wastewater and other related services to over 15 million people in 46 states. The Company conducts the majority of its business through regulated utilities that provide water and wastewater services, collectively presented as the “Regulated Businesses.” The Company also operates market-based businesses that provide complementary services. Individually, these businesses do not meet the criteria of a reportable segment in accordance with generally accepted accounting principles in the United States (“GAAP”), and are collectively presented as the “Market-Based Businesses,” which is consistent with how management assesses the results of these businesses.

Throughout this Form 10-K, unless the context otherwise requires, references to “we,” “us,” “our,” the “Company,” and “American Water” mean American Water Works Company, Inc. and its subsidiaries, taken together as a whole. References to “parent company” mean American Water Works Company, Inc., without its subsidiaries.

Regulated Businesses

The Company’s primary business involves the ownership of utilities that provide water and wastewater services to residential, commercial, industrial, public authority, fire service and sale for resale customers. The Company’s utilities operate in over 1,700 communities in 16 states in the United States, with 3.5 million active customers in its water and wastewater networks. Services provided by the Company’s utilities are subject to regulation by multiple state utility commissions or other entities engaged in utility regulation, collectively referred to as public utility commissions (“PUCs”). Federal, state and local governments also regulate environmental, health and safety, and water quality and water accountability matters. The Company reports the results of the services provided by its utilities in the Regulated Businesses segment. Operating revenues for the Regulated Businesses were \$3,255 million for 2020, \$3,094 million for 2019 and \$2,984 million for 2018, accounting for 86%, 86% and 87%, respectively, of the Company’s total operating revenues for the same periods.

Presented in the table below is a geographic summary of the Regulated Businesses’ operating revenues and the number of customers the Company serves, by type of service, for and as of the year ended December 31, 2020:

	Operating Revenues (in millions)				Number of Customers (in thousands)			
	Water (a)	Wastewater	Total	% of Total	Water	Wastewater	Total	% of Total
New Jersey	\$ 753	\$ 43	\$ 796	24.5 %	657	55	712	20.4 %
Pennsylvania	663	70	733	22.5 %	673	77	750	21.6 %
Missouri	335	11	346	10.6 %	472	15	487	13.9 %
Illinois	293	32	325	10.0 %	292	68	360	10.3 %
California	247	3	250	7.7 %	183	3	186	5.3 %
Indiana	234	2	236	7.3 %	318	2	320	9.2 %
West Virginia	164	1	165	5.1 %	168	1	169	4.8 %
Total—Top Seven States (b)	2,689	162	2,851	87.7 %	2,763	221	2,984	85.5 %
Other (c)	381	23	404	12.3 %	481	31	512	14.5 %
Total Regulated Businesses	<u>\$ 3,070</u>	<u>\$ 185</u>	<u>\$ 3,255</u>	<u>100.0 %</u>	<u>3,244</u>	<u>252</u>	<u>3,496</u>	<u>100.0 %</u>

(a) Includes other operating revenues consisting primarily of miscellaneous utility charges, fees and rents.

(b) The Company’s “Top Seven States” are determined based upon operating revenues.

(c) Includes the Company’s utility operations in the following states: Georgia, Hawaii, Iowa, Kentucky, Maryland, Michigan, New York, Tennessee and Virginia and other revenue attributable collectively to the Regulated Businesses.

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ITEM 7. MANAGEMENT’S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion should be read together with the Consolidated Financial Statements and the Notes thereto included elsewhere in this Form 10-K. This discussion contains forward-looking statements that are based on management’s current expectations, estimates and projections about the Company’s business, operations and financial performance. The cautionary statements made in this Form 10-K should be read as applying to all related forward-looking statements whenever they appear in this Form 10-K. The Company’s actual results may differ materially from those currently anticipated and expressed in such forward-looking statements as a result of a number of factors, including those that are discussed under “Forward-Looking Statements,” Item 1A—Risk Factors and elsewhere in this Form 10-K. The Company has a disclosure committee consisting of members of senior management and other key employees involved in the preparation of the Company’s SEC reports. The committee is actively involved in the review and discussion of the Company’s SEC filings. For a discussion and analysis of the Company’s financial statements for fiscal 2019 compared to fiscal 2018, please refer to Item 7—Management’s Discussion and Analysis of Financial Condition and Results of Operations in the Company’s Annual Report on Form 10-K for the year ended December 31, 2019, filed with the SEC on February 18, 2020.

Overview

American Water is the largest and most geographically diverse, publicly-traded water and wastewater utility company in the United States, as measured by both operating revenues and population served. The Company employs approximately 7,000 professionals who provide drinking water, wastewater and other related services to over 15 million people in 46 states. The Company’s primary business involves the ownership of utilities that provide water and wastewater services to residential, commercial, industrial, public authority, fire service and sale for resale customers, collectively presented as the “Regulated Businesses.” The Company’s utilities operate in over 1,700 communities in 16 states in the United States, with 3.5 million active customers with services provided by its water and wastewater networks. Services provided by the Company’s utilities are subject to regulation by PUCs. The Company also operates market-based businesses that provide water, wastewater and other services to residential and smaller commercial customers, the U.S. government on military installations, as well as municipalities and utility customers, collectively presented as the “Market-Based Businesses.” These Market-Based Businesses are not subject to economic regulation by state PUCs. See Item 1—Business for additional information.

Novel Coronavirus (COVID-19) Pandemic Update

American Water has been monitoring the global impact of COVID-19 pandemic and has taken steps to mitigate adverse impacts to the Company. The Company has three main areas of focus as part of its response to COVID-19: the care and safety of its employees; the safety of its customers and the communities it serves; and the execution of its business continuity plan. American Water continues to work with its vendors to prevent disruptions in its supply chain, and, at this time, has not experienced, and does not anticipate, any material negative impacts. The Company has also been monitoring the impacts of the pandemic on its access to the capital markets, and to the extent such access is adversely affected, American Water may need to consider alternative sources of funding for its operations and for working capital, any of which could increase its cost of capital.

This pandemic continues to evolve, and American Water continues to monitor developments affecting its employees, customers, contractors and vendors and will take additional actions as warranted. To date, the Company has experienced COVID-19 financial impacts, including an increase in uncollectible accounts expense, additional debt costs, and certain incremental operation and maintenance (“O&M”) expenses. The Company has also experienced decreased revenues as a result of the suspension of late fees and foregone reconnect fees. These impacts are collectively referred to as “financial impacts.” See Note 3—Impact of Novel Coronavirus (COVID-19) Pandemic in the Notes to Consolidated Financial Statements for additional information. The extent to which COVID-19 may further impact American Water, including without limitation, its liquidity, financial condition, and results of operations, will depend on future developments, which presently cannot be predicted.

agreement, the expenditure in 2020 was \$0.1 million. Tank painting expense for 2020, 2019 and 2018 was \$155,000, \$447,000, and \$658,000, respectively. Page 73 of 295

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 2021 through 2023 are as follows:

In thousands

2021	\$ 3,020
2022	3,020
2023	3,020
	<u>\$ 9,060</u>

The exact timing and extent of these relocation projects is controlled primarily by the Delaware Department of Transportation.

NOTE 12

GEOGRAPHIC CONCENTRATION OF CUSTOMERS

Artesian Water, Artesian Water Maryland and Artesian Water Pennsylvania provide water utility service to customers within their established service territory in all three counties of Delaware and in portions of Maryland and Pennsylvania, pursuant to rates filed with and approved by the DEPSC, the MDPSC and the PAPUC. As of December 31, 2020, Artesian Water was serving approximately 90,300 customers, Artesian Water Maryland was serving approximately 2,500 customers and Artesian Water Pennsylvania was serving approximately 40 customers.

Artesian Wastewater provides wastewater utility service to customers within its established service territory in Sussex County, Delaware pursuant to rates filed with and approved by the DEPSC. As of December 31, 2020, Artesian Wastewater was serving approximately 2,800 customers, including one large industrial customer that comprises approximately 24% of the outstanding accounts receivable balance at year end. All wastewater customers are located in Sussex County, Delaware.

NOTE 13

REGULATORY PROCEEDINGS

Overview

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 requested level of rates by the Company.

We are subject to regulation by the following state regulatory commissions:

- The DEPSC, regulates both Artesian Water and Artesian Wastewater.
- 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 utilities 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. 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. 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.



Artesian Resources Corporation 2020 Annual Report Available Electronically to Shareholders

April 08, 2021 17:28 ET | Source: [Artesian Resources Corporation](#)



NEWARK, Del., April 08, 2021 (GLOBE NEWSWIRE) -- Artesian Resources Corporation (NASDAQ: ARTNA), a leading provider of water, wastewater services and related services on the Delmarva Peninsula today announced that its 2020 Annual Report is available electronically to shareholders through its website at <https://www.artesianwater.com/investor-relations/annual-report/>. If any shareholder would like to receive a print copy of the 2020 Annual Report, they can request one free of charge by writing or calling Artesian Resources Corporation, 664 Churchmans Road, Newark, Delaware 19702, Attention Laura Slayman (Phone Number: 302-453-6900).

About Artesian Resources

Artesian Resources Corporation operates as a holding company of wholly-owned subsidiaries offering water and wastewater services, and related services, on the Delmarva Peninsula. Artesian Water Company, the principal subsidiary, is the oldest and largest regulated water utility on the Delmarva Peninsula and has been providing water service since 1905. Artesian supplies 8.3 billion gallons of water per year through 1,311 miles of main to over 300,000 people.

Contact:

Nicholle Taylor

Investor Relations

(302) 453-6900

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ACCEPT

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Effective June 30, 2011, the CPUC adopted new rules related to the provision of non-regulated services using utility assets and employees. As a result, nearly all California non-regulated activities are now considered NTPS. The prescribed accounting for these NTPS is incremental cost allocation plus revenue sharing with regulated customers. Non-regulated services determined to be "active activities" require a 10% revenue sharing, and "passive activities" require a 30% revenue sharing. The amount of non-regulated revenues subject to revenue sharing is the total billed revenues less any authorized pass-through costs. Some examples of CPUC authorized pass-through costs are purchased water, purchased power, and pump taxes. All of our non-regulated services, except for leasing communication antenna sites on our properties, are "active activities" subject to a 10% revenue sharing. Leasing communication antenna sites on our properties are "passive activities" subject to a 30% revenue sharing. Cal Water's annual revenue sharing with regulated customers was \$2.5 million, \$2.7 million, and \$2.6 million in 2020, 2019, and 2018, respectively.

Operating Segment

We operate in one reportable segment, the supply and distribution of water and providing water-related utility services. For information about revenue from external customers, net income and total assets, see "Item 8. Financial Statements and Supplementary Data."

Growth

We intend to continue exploring opportunities to expand our regulated and non-regulated water and wastewater activities, particularly in the western United States. The opportunities could include system acquisitions, lease arrangements similar to the City of Hawthorne and City of Commerce contracts, full service system operation and maintenance agreements, meter reading, billing contracts and other utility-related services.

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)

SAN FRANCISCO BAY AREA/NORTH COAST

	2020	2019
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	55,900
Bear Gulch (serving portions of Menlo Park, Atherton, Woodside and Portola Valley)	19,000	18,900
Los Altos (including portions of Cupertino, Los Altos Hills, Mountain View and Sunnyvale)	19,000	19,000
Livermore	18,900	18,900
	<u>112,900</u>	<u>112,700</u>

SACRAMENTO VALLEY

Chico (including Hamilton City)	30,800	30,500
Oroville	3,700	3,600
Marysville	3,800	3,800
Dixon	3,100	3,000
Willows	2,400	2,400
	<u>43,800</u>	<u>43,300</u>

SALINAS VALLEY

Salinas Valley Region (including Salinas and King City)	31,600	31,500
	<u>31,600</u>	<u>31,500</u>

SAN JOAQUIN VALLEY

Bakersfield	73,500	72,700
Stockton	44,800	44,400
Visalia	46,700	46,000

		EXHIBIT 20	
Selma	6,500	Page 76 of 295	6,500
Kern River Valley	4,000		4,000

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(rounded to the nearest hundred)

	2020	2019
	175,500	173,600
LOS ANGELES AREA		
East Los Angeles	26,900	26,800
Hermosa Redondo (serving Hermosa Beach, Redondo Beach and a portion of Torrance)	27,100	27,100
Dominguez (Carson and portions of Compton, Harbor City, Long Beach, Los Angeles and Torrance)	34,300	34,200
Los Angeles County Region (including Palos Verdes Estates, Rancho Palos Verdes, Rolling Hills Estates, Rolling Hills, Fremont Valley, Lake Hughes, Lancaster and Leona Valley)	25,700	25,700
Westlake (a portion of Thousand Oaks)	7,100	7,100
Hawthorne and Commerce (leased municipal systems)	7,700	7,600
	128,800	128,500
CALIFORNIA TOTAL	492,600	489,600
HAWAII	5,300	5,000
NEW MEXICO	8,500	8,300
WASHINGTON	36,600	17,700
COMPANY TOTAL	543,000	520,600

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 which have 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 every three years. In a GRC proceeding the CPUC not only considers the utility's rate setting requests, but may also consider other issues that affect the utility's rates and operations. The CPUC is generally required to issue its GRC decision prior to the first day of the test year or authorize interim rates. In accordance with the rate case plan, Cal Water will file its next GRC application in July of 2021.

Between GRC filings, Cal Water may file escalation rate increases, which allow Cal Water to recover cost increases, primarily from inflation and incremental investments, during the second and third years of the rate case cycle. However, escalation rate increases are district specific and subject to an earnings test. The CPUC may reduce a district's escalation rate increase if, in the most recent 13-month period, the earnings test reflects earnings in excess of what was authorized for that district.

In addition, California water utilities are entitled to make offset requests via advice letter. Offsets may be requested to adjust revenues for construction projects authorized in GRCs when those capital projects go into service (these filings are referred to as "rate base offsets"), or for rate changes charged to Cal Water for purchased water, purchased power, and pump taxes (which are referred to as "expense offsets"). Rate changes approved in offset requests remain in effect until the next GRC is approved.

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- 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; 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 six 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), 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. 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. 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 for fire protection. 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, 2020, there were no significant changes in the kind of products produced or services rendered by our operating subsidiaries, or in the markets or methods of distribution.

Our mailing address and contact information is:

California Water Service Group
1720 North First Street
San Jose, California 95112-4598
Telephone number: 408-367-8200
www.calwatergroup.com

Annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to these reports are available free of charge through our website at www.calwatergroup.com. The reports are available on our website as soon as reasonably practicable after such reports are filed with the SEC.

The content on any website referred to in this annual report is not incorporated by reference in this annual report unless expressly noted.

Regulated Business

California water operations are conducted by Cal Water, which provides service to approximately 492,600 customer connections in approximately 100 California communities through 21 separate districts, which are subject to regulation by the California Public Utilities Commission (CPUC). California water operations accounted for approximately 90.7% of our total customer connections and 93.8% 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

patterns by our customers, resulting from such causes as increased water conservation and the installation of water saving devices and appliances that can result in decreased water usage. It is estimated that in the event we experience a 0.50% decrease in residential water consumption it would result in a decrease in annual residential water revenue of approximately \$2,800,000 and 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 (consisting of miscellaneous service revenue from gas distribution operations; gas processing and handling revenue; sales of natural gas at market-based rates and contracted fixed prices; sales of gas purchased from third parties; and other gas marketing activities). The Regulated Natural Gas segment operating revenues are reported for the period since closing on the Peoples Gas Acquisition on March 16, 2020. Substantially all of our natural gas utility customers are metered, which allows 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 growth in revenues over the past five years is primarily a result of the 2020 Peoples Gas Acquisition, increases in water and wastewater rates and customer growth. See *Economic Regulation* for a discussion of water, wastewater and natural gas rates. The increase in our utility customer base has been due to customers added through acquisitions, partnerships with developers, and organic growth (excluding dispositions) as shown below:

Year	Utility Customer Growth Rate
2020	42.9%
2019	2.1%
2018	2.3%
2017	1.1%
2016	1.6%

In 2020, 2019, and 2018, our customer count increased by 772,099, 21,108, and 22,741 customers, respectively, primarily due to the addition of approximately 750,000 natural gas utility customers from the Peoples Gas Acquisition, water and wastewater utility systems that we acquired, and organic growth. Overall, for the five year period of 2016 through 2020, our utility customer base, adjusted to exclude customers associated with utility system dispositions, increased at an annual compound rate of 13.4%. During the five year period ended December 31, 2020, our utility customer base including customers associated with utility system acquisitions and dispositions increased from 957,866 at January 1, 2016 to 1,798,803 at December 31, 2020.

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 2019 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 8.3 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.

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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

Certain statements in this Annual Report on Form 10-K, or this Annual Report are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934 that are made based upon, among other things, our current assumptions, expectations, plans, and beliefs concerning future events and their potential effect on us. These forward-looking statements involve risks, uncertainties and other factors, many of which are outside our control that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by these forward-looking statements. In some cases you can identify forward-looking statements where statements are preceded by, followed by or include the words “believes,” “expects,” “estimates,” “anticipates,” “plans,” “future,” “potential,” “probably,” “predictions,” “intends,” “will,” “continue,” “in the event” or the negative of such terms or similar expressions. Please refer to the Summary in Item 1A – Risk Factors in this Annual Report for a description of the types of Forward-looking statements in this Annual Report.

Given these risks and uncertainties, you should not place undue reliance on any forward-looking statements. You should read this Annual Report completely and with the understanding that our actual future results, performance and achievements may be materially different from what we expect. These forward-looking statements represent assumptions, expectations, plans, and beliefs only as of the date of this Annual Report. Except for our ongoing obligations to disclose certain information under the federal securities laws, we are not obligated, and assume no obligation, to update these forward-looking statements, even though our situation may change in the future. For further information or other factors which could affect our financial results and such forward-looking statements, see *Item 1A – Risk Factors*. We qualify all of our forward-looking statements by these cautionary statements.

PART I

Item 1. *Business*

The Company

Essential Utilities, Inc. (referred to as “Essential Utilities”, 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, is Aqua Pennsylvania, Inc., (“Aqua Pennsylvania”) accounted for approximately 55% of operating revenues and approximately 67% of income for our Regulated Water segment in 2020. As of December 31, 2020, 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 utility subsidiaries provide similar services in seven additional states. Additionally, pursuant to the Company’s growth strategy, commencing on March 16, 2020 with the completion of the Peoples Gas Acquisition, the Company began to provide natural gas distribution services to customers in western Pennsylvania, Kentucky, and West Virginia. Approximately 93% of the total number of natural gas utility customers we serve are in western Pennsylvania. Lastly, the Company’s market-based activities are conducted through Aqua Infrastructure, LLC and Aqua Resources Inc., and certain other non-regulated subsidiaries of Peoples. Prior to our October 30, 2020 sale of our investment in a joint venture, Aqua Infrastructure provided non-utility raw water supply services for firms in the natural gas drilling industry. Following the October 30, 2020 closing, Aqua Infrastructure does not provide any services to the natural gas drilling industry. Aqua Resources offers, through a third-party, water and sewer line protection solutions and repair services to households.

Essential Utilities, which prior to its name change on February 3, 2020 was known as Aqua America, Inc., was formed in 1968 as a holding company for its primary subsidiary, Aqua Pennsylvania, formerly known as Philadelphia Suburban Water Company. In the early 1990s, we embarked on a growth through acquisition strategy. Our most significant transactions to date have been the merger with Consumers Water Company in 1999, the acquisition of the regulated water and wastewater operations of AquaSource, Inc. in 2003, the acquisition of Heater Utilities, Inc. in 2004, the acquisition of American Water Works Company, Inc.’s regulated water and wastewater operations in Ohio in 2012, and the Peoples Gas

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), Utility Service Affiliates (Perth Amboy) Inc., (USA-PA), Tidewater Environmental Services, Inc. (TESI) and Twin Lakes Utilities, Inc. (Twin Lakes).

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

The Middlesex System in New Jersey provides water services to approximately 61,000 retail customers, primarily in eastern Middlesex County, New Jersey and provides water under wholesale contracts to the City of Rahway, Townships of Edison and Marlboro, the Borough of Highland Park and the Old Bridge Municipal Utilities Authority. The Middlesex System treats, stores and distributes water for residential, commercial, industrial and fire protection purposes. The Middlesex System also provides water treatment and pumping services to the Township of East Brunswick under contract. The amount of water supply allocated to the Township of East Brunswick is granted directly to the Township by the New Jersey Water Supply Authority. The Middlesex System produced approximately 59% of our 2020 consolidated operating revenues.

The Middlesex System's retail customers are located in an area of approximately 55 square miles in Woodbridge Township, the City of South Amboy, the Boroughs of Metuchen and Carteret, portions of the Township of Edison and the Borough of South Plainfield, all in Middlesex County, and a portion of the Township of Clark in Union County. Retail customers include a mix of residential customers, large industrial concerns and commercial and light industrial facilities. These customers are located in generally well-developed areas of central New Jersey.

The contract customers of the Middlesex System comprise an area of approximately 110 square miles with a population of over 200,000. Contract sales to the Townships of Edison and Marlboro, the City of Rahway and the Old Bridge Municipal Utilities Authority are supplemental to the water systems owned and operated by these customers. Middlesex is the sole source of water for the Borough of Highland Park and the Township of East Brunswick.

Middlesex provides water service to approximately 300 customers in Cumberland County, New Jersey. This system is referred to as Bayview, and is not physically interconnected with the Middlesex System. Bayview produced less than 1% of our 2020 consolidated operating revenues.

Tidewater System

Tidewater, together with its wholly-owned subsidiary, Southern Shores, provides water services to approximately 52,000 retail customers for residential, commercial and fire protection purposes in over 430 separate communities in New Castle, Kent and Sussex Counties, Delaware. The Tidewater System produced approximately 28% of our 2020 consolidated operating revenues.

USA-PA

USA-PA operates the City of Perth Amboy, New Jersey's (Perth Amboy) water and wastewater systems under a 10-year agreement, which expires in December 2028. There are approximately 12,000 customers comprised of residential, commercial and industrial connections, most of which are served by both the water and wastewater systems. In addition to performing day-to day operations, USA-PA is also responsible for emergency responses and management of capital projects funded by Perth Amboy. USA-PA produced approximately 5% of our 2020 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 2020 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 2020 consolidated operating revenues.

USA

[Link](#)

Tidewater System

Tidewater, together with its wholly-owned subsidiary, Southern Shores, provides water services to approximately 52,000 retail customers for residential, commercial and fire protection purposes in over 430 separate communities in New Castle, Kent and Sussex Counties, Delaware. The Tidewater System produced approximately 28% of our 2020 consolidated operating revenues.

USA-PA

USA-PA operates the City of Perth Amboy, New Jersey's (Perth Amboy) water and wastewater systems under a 10-year agreement, which expires in December 2028. There are approximately 12,000 customers comprised of residential, commercial and industrial connections, most of which are served by both the water and wastewater systems. In addition to performing day-to-day operations, USA-PA is also responsible for emergency responses and management of capital projects funded by Perth Amboy. USA-PA produced approximately 5% of our 2020 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 2020 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 2020 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 2022. USA serves approximately 6,400 retail customers in Avalon, most of which are served by both the water system and wastewater collection system. In addition to performing day-to-day operations, USA is responsible for billing, collections, customer service, emergency responses and management of capital projects funded by Avalon.

USA operates the Borough of Highland Park, New Jersey's (Highland Park) water utility and sewer utility under a ten-year operations and maintenance contract expiring in 2030. USA serves approximately 3,300 mostly retail customers in Highland Park. The contract commenced July 1, 2020.

USA also provides unregulated water and wastewater services under contract with several other smaller New Jersey municipalities.

Under a marketing agreement with HomeServe, USA offers residential customers in New Jersey and Delaware various water and wastewater related home maintenance programs. HomeServe is a leading national provider of such home maintenance service programs. USA receives a service fee for the billing, cash collection and other administrative matters associated with HomeServe's service contracts. The agreement expires in July 2021 and renewal discussions are underway.

USA produced approximately 2% of our 2020 consolidated operating revenues.

TESI System

TESI provides wastewater collection and treatment services to approximately 3,900 retail customers in Sussex County, Delaware. TESI produced approximately 2% of our 2020 consolidated operating revenues.

3

White Marsh

White Marsh operates or maintains water and/or wastewater systems that serve approximately 1,900 retail customers under more than 36 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 2020 consolidated operating revenues.

Financial Information

Consolidated operating revenues, operating income and net income are as follows:

	(Thousands of Dollars) Years Ended December 31,		
	2020	2019	2018
Operating Revenues	\$ 141,592	\$ 134,598	\$ 138,077
Operating Income	\$ 37,420	\$ 35,520	\$ 37,142
Net Income	\$ 38,425	\$ 33,888	\$ 32,452

Operating revenues were earned from the following sources:

EXHIBIT 99.1**FOR IMMEDIATE RELEASE****Middlesex Water Company Declares Quarterly Cash Dividend**

ISELIN, N.J., Jan. 28, 2021 -- Middlesex Water Company (NASDAQ:MSEX) announced today that its Board of Directors has declared a cash dividend of \$0.2725 per share on its common stock payable on March 1, 2021 to holders of record as of February 12, 2021. Middlesex Water has paid cash dividends in varying amounts continually since 1912 and has increased its annual dividend rate for 48 consecutive years.

Organized in 1897, Middlesex Water provides regulated and unregulated water and wastewater utility services primarily in New Jersey and Delaware through various subsidiary companies. To learn more about Middlesex Water, including information about its Investment Plan, visit the Investor Relations section at www.middlesexwater.com.

ABOUT MIDDLESEX WATER COMPANY

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. Named a 2020 Top Workplace in New Jersey, 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> Please follow us on Facebook, Twitter and LinkedIn.

This release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, including, among others, our long-term strategy and expectations, the status of our acquisition program, the impact of our acquisitions, the impact of current and projected rate requests and the impact of our capital program on our environmental compliance. There are important factors that could cause actual results to differ materially from those expressed or implied by such forward-looking statements including: general economic business conditions, unfavorable weather conditions, the success of certain cost containment initiatives, changes in regulations or regulatory treatment, availability and the cost of capital, the success of growth initiatives and other factors discussed in our filings with the Securities and Exchange Commission.

Contact:

Bernadette Sohler, Vice President – Corporate Affairs
Middlesex Water Company
(732) 638-7549
www.middlesexwater.com

Item 6. Selected Financial Data

FIVE YEAR FINANCIAL AND STATISTICAL REVIEW
SJW Group and Subsidiaries

	2020	2019	2018	2017	2016
CONSOLIDATED RESULTS OF OPERATIONS					
(in thousands)					
Operating revenue	\$ 564,526	420,482	397,699	389,225	339,706
Operating expense:					
Purchased water	100,723	99,118	97,378	86,456	72,971
Power	13,330	7,443	6,180	7,295	6,102
Groundwater extraction charges	71,359	43,917	46,770	47,817	32,088
Other production expenses	40,380	25,291	18,398	16,571	14,470
Administrative and general	79,741	66,301	48,933	48,940	41,529
Maintenance	22,158	20,505	18,414	18,361	18,361
Property taxes and other non-income taxes	29,886	19,068	14,975	13,642	12,123
Depreciation and amortization	89,279	65,592	54,601	48,292	44,625
Merger related expenses	—	15,768	18,610	—	—
Total operating expense	446,856	363,003	324,259	287,374	242,269
Operating income	117,670	57,479	73,440	101,851	97,437
Interest expense, other income and expense	(47,775)	(25,398)	(24,608)	(5,358)	(11,056)
Income before income taxes	69,895	32,081	48,832	96,493	86,381
Provision for income taxes	8,380	8,454	10,065	35,393	33,542
Net income before noncontrolling interest	61,515	23,627	38,767	61,100	52,839
Less net income attributable to the noncontrolling interest	—	224	—	1,896	—
SJW Group net income	\$ 61,515	23,403	38,767	59,204	52,839
Dividends paid	\$ 36,509	34,134	23,074	21,332	16,559
CONSOLIDATED PER SHARE DATA					
Earnings per share - diluted	2.14	0.82	1.82	2.86	2.57
Dividends paid	1.28	1.20	1.12	1.04	0.81
Book value per common share	32.12	31.28	31.31	22.57	20.61
CONSOLIDATED BALANCE SHEET (in thousands)					
Utility plant and intangible assets	\$ 3,380,048	3,168,505	1,935,911	1,792,323	1,666,381
Less accumulated depreciation and amortization	1,045,136	962,019	607,090	553,059	520,018
Net utility plant	2,334,912	2,206,486	1,328,821	1,239,264	1,146,363
Total assets	3,311,465	3,132,470	1,956,389	1,458,001	1,443,376
Capitalization:					
Stockholders' equity	917,160	889,984	889,312	463,209	421,646
Long-term debt, less current portion	1,287,580	1,283,597	431,424	431,092	433,335
Total capitalization	\$ 2,204,740	2,173,581	1,320,736	894,301	854,981
OTHER STATISTICS—WATER UTILITY SERVICES					
Average revenue per connection (in thousands)	\$ 1,450	1,087	1,609	1,594	1,402

Note: Information in this table, including Other Statistics, include SJWNE, LLC from the date of October 9, 2019.

Item 6. Selected Financial Data

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SJW Group and Subsidiaries

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(in thousands)					
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Operating expense:					
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Power	13,330	7,443	6,180	7,295	6,102
Groundwater extraction charges	71,359	43,917	46,770	47,817	32,088
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Administrative and general	79,741	66,301	48,933	48,940	41,529
Maintenance	22,158	20,505	18,414	18,361	18,361
Property taxes and other non-income taxes	29,886	19,068	14,975	13,642	12,123
Depreciation and amortization	89,279	65,592	54,601	48,292	44,625
Merger related expenses	—	15,768	18,610	—	—
Total operating expense	446,856	363,003	324,259	287,374	242,269
Operating income	117,670	57,479	73,440	101,851	97,437
Interest expense, other income and expense	(47,775)	(25,398)	(24,608)	(5,358)	(11,056)
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Total capitalization	\$ 2,204,740	2,173,581	1,320,736	894,301	854,981
OTHER STATISTICS—WATER UTILITY SERVICES					
Average revenue per connection (in thousands)	\$ 1,450	1,087	1,609	1,594	1,402

Investment in gross utility plant per connection (in thousands)	\$ 8,683	8,195	7,832	7,340	6,874
Connections at year-end	389,293	386,607	247,267	244,133	242,421
Miles of main at year-end	5,462	5,465	3,091	3,082	3,069
Water production (million gallons)	53,604	42,216	40,053	38,584	35,847
Maximum daily production (million gallons)	218	206	149	148	136
Population served (estimate)	1,614,866	1,604,442	1,114,200	1,100,200	1,092,600

Note: Information in this table, including Other Statistics, include SJWNE, LLC from the date of October 9, 2019.

Lead and copper may enter drinking water primarily through plumbing materials. The Company is required to comply with the Lead and Copper Rule established by the EPA and administered by the DEP. The Company must monitor drinking water at customer taps for compliance with this rule. If lead concentrations exceed an action level, the Company must undertake a number of additional actions to control corrosion, inform the public about steps they should take to protect their health and may be required to replace lead service lines under its control. See “Management’s Discussion and Analysis – Environmental Matters” for a discussion of the Company’s compliance with the Lead and Copper rule.

The DEP and the Susquehanna River Basin Commission, or SRBC, regulate the amount of water withdrawn from streams in the watershed to assure that sufficient quantities are available to meet the needs of the Company and other regulated users. Through its Division of Dam Safety, the DEP regulates the operation and maintenance of the Company's impounding dams. The Company routinely inspects its dams and prepares annual reports of their condition as required by DEP regulations. The DEP reviews these reports and inspects the Company's dams. The DEP most recently inspected the Company's dams in 2019.

Since 1980, the DEP has required any new dam to have a spillway that is capable of passing the design flood without overtopping the dam. The design flood is either the Probable Maximum Flood, or PMF, or some fraction of it, depending on the size and location of the dam. PMF is very conservative and is calculated using the most severe combination of meteorological and hydrologic conditions reasonably possible in the watershed area of a dam.

The Company engaged a professional engineer to analyze the spillway capacities at the Lake Williams and Lake Redman dams and validate the DEP's recommended flood design for the dams. Management presented the results of the study to the DEP in December 2004, and DEP then requested that the Company submit a proposed schedule for the actions to address the spillway capacities. Thereafter, the Company retained an engineering firm to prepare preliminary designs for increasing the spillway capacities to pass the PMF through armoring the dams with roller compacted concrete. Management has met with the DEP on a regular basis to review the preliminary design and discuss scheduling, permitting, and construction requirements. Recently, DEP expressed concern regarding the stability of the Lake Williams spillway in light of current design standards. The Company is currently completing the final design and the permitting process to armor and replace the spillway of the Lake Williams dam. The Company expects to finalize its plans in 2021 and begin construction in 2022 at a total cost of approximately \$27 million. The Lake Redman dam will be reviewed following the completion of the work on the Lake Williams dam.

Capital expenditures and operating costs required as a result of water quality standards and environmental requirements have been traditionally recognized by state public utility commissions as appropriate for inclusion in establishing rates. The capital expenditures currently required as a result of water quality standards and environmental requirements have been budgeted in the Company's capital program and represent less than 15% of its expected total capital expenditures over the next five years. The Company is currently in compliance with wastewater environmental standards and does not anticipate any major capital expenditures for its current wastewater business.

Growth

(All dollar amounts are stated in thousands of dollars)

The Company continues to grow its number of customers and distribution facilities.

The growth in the number of customers of the Company is due primarily to the acquisition of water and wastewater systems and organic growth. During the year ended December 31, 2020, the Company increased its number of customers from 71,411 to 72,681. 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, 2020, the Company installed an additional 14,950 feet of water distribution mains and acquired an additional 32,593 feet of wastewater collection mains resulting in 987 miles of water mains and 36 miles of wastewater mains as of December 31, 2020.

THE YORK WATER COMPANY

PART I

Item 1. Business.

The York Water Company (the “Company”) is the oldest investor-owned water utility in the United States and is duly organized under the laws of the Commonwealth of Pennsylvania. The Company has operated continuously since 1816. The primary business of the Company is to impound, purify to meet or exceed safe drinking water standards and distribute water. The Company also owns and operates two wastewater collection systems and five wastewater collection and treatment systems. The Company operates within its franchised water and wastewater territory, which covers portions of 51 municipalities within three counties in south-central Pennsylvania. The Company is regulated by the Pennsylvania Public Utility Commission, or PPUC, for both water and wastewater in the areas of billing, payment procedures, dispute processing, terminations, service territory, debt and equity financing and rate setting. The Company must obtain PPUC approval before changing any practices associated with the aforementioned areas.

Water service is supplied through the Company's own distribution system. The Company obtains the bulk of its water supply from both the South Branch and East Branch of the Codorus Creek, which together have an average daily flow of 73.0 million gallons. This combined watershed area is approximately 117 square miles. The Company has two reservoirs, Lake Williams and Lake Redman, which together hold up to approximately 2.2 billion gallons of water. The Company supplements its reservoirs with a 15-mile pipeline from the Susquehanna River to Lake Redman which provides access to an additional supply of 12.0 million gallons of untreated water per day. The Company also owns nine wells which are capable of providing a safe yield of approximately 597,000 gallons per day to supply water to the customers of its satellite systems in Adams County. As of December 31, 2020, the Company's average daily availability was 35.6 million gallons, and average daily consumption was approximately 19.9 million gallons. The Company's service territory had an estimated population of 202,000 as of December 31, 2020. Industry within the Company's service territory is diversified, manufacturing such items as fixtures and furniture, electrical machinery, food products, paper, ordnance units, textile products, air conditioning systems, laundry detergent, barbells, and motorcycles.

The Company's water business is somewhat dependent on weather conditions, particularly the amount and timing of rainfall. Revenues are particularly vulnerable to weather conditions in the summer months. Prolonged periods of hot and dry weather generally cause increased water usage for watering lawns, washing cars, and keeping golf courses and sports fields irrigated. Conversely, prolonged periods of dry weather could lead to drought restrictions from governmental authorities. Despite the Company's adequate water supply, customers may be required to cut back water usage under such drought restrictions which would negatively impact revenues. The Company has addressed some of this vulnerability by instituting minimum customer charges which are intended to cover fixed costs of operations under all likely weather conditions.

The Company's business does not require large amounts of working capital and is not dependent on any single customer or a very few customers for a material portion of its business. Increases in revenues are generally dependent on the Company's ability to obtain rate increases from the PPUC in a timely manner and in adequate amounts and to increase volumes of water sold through increased consumption and increases in the number of customers served. The Company continuously looks for water and wastewater acquisition and expansion opportunities both within and outside its current service territory as well as additional opportunities to enter into bulk water contracts with municipalities and other entities to supply water.

The Company has agreements with several municipalities to provide sewer billing and collection services. The Company also has a service line protection program on a targeted basis in order to further diversify its business. Under this optional program, customers pay a fixed monthly fee, and the Company will repair or replace damaged customer service lines, as needed, subject to an annual maximum dollar amount. The Company continues to review and consider opportunities to expand both initiatives.

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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

5/20/2021

INDEX

Month

Company Name	Enterprise value to Net PPE																						
	0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11	-12	-13	-14	-15	-16	-17	-18	-19	-20	-21	-22
	Month End	4/30/2021	3/31/2021	2/28/2021	1/31/2021	12/31/2020	11/30/2020	10/31/2020	9/30/2020	8/31/2020	7/31/2020	6/30/2020	5/31/2020	4/30/2020	3/31/2020	2/29/2020	1/31/2020	Month End	Month End	Month End	Month End	Month End	Month End
Enterprise value to Net PPE	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap
AMERICAN STATES WATER COMP	2.261	2.267	2.180	2.165	2.259	2.314	2.207	2.228	2.235	2.299	2.313	2.357	2.434	2.349	2.407	2.372	2.672	2.622	2.632	2.894	2.753	2.898	2.453
AMERICAN WATER WORKS COMP	1.958	1.958	1.903	1.871	1.871	1.964	1.996	1.962	1.909	1.910	1.954	1.773	1.791	1.719	1.698	1.744	1.849	1.717	1.732	1.755	1.762	1.810	1.682
ESSENTIAL UTILITIES, INC.	1.802	1.812	1.751	1.715	1.806	1.832	1.820	1.725	1.699	1.793	1.828	1.743	2.513	1.804	1.762	1.741	1.978	1.804	1.735	1.766	1.748	1.756	1.958
ARTESIAN RESOURCES CORPORA	0.971	0.972	0.960	0.925	0.982	0.923	0.936	0.890	0.878	0.902	0.888	0.905	0.897	0.889	0.932	0.893	0.954	0.943	0.953	0.941	0.941	0.944	0.921
CALIFORNIA WATER SERVICE GR	1.501	1.554	1.494	1.500	1.461	1.499	1.393	1.288	1.267	1.352	1.369	1.360	1.366	1.324	1.410	1.393	1.468	1.470	1.565	1.505	1.607	1.524	1.975
MIDDLESEX WATER COMPANY	2.099	2.115	2.050	1.899	2.137	1.978	1.938	1.838	1.788	1.882	1.878	1.939	2.011	1.822	1.818	1.874	2.070	2.028	2.078	2.013	1.957	1.934	1.975
SIW GROUP	1.434	1.460	1.443	1.429	1.451	1.491	1.471	1.399	1.401	1.431	1.420	1.416	1.450	1.393	1.370	2.195	1.557	1.512	1.531	1.561	1.476	1.506	1.435
THE YORK WATER COMPANY	2.203	2.326	2.224	1.968	2.040	2.165	2.160	2.036	2.037	2.205	2.227	2.294	2.174	2.000	2.131	2.091	2.302	2.250	2.221	2.191	2.175	1.931	1.862

Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap
Company Name	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP
AMERICAN STATES WATER COMP	2.821	2.828	2.719	2.754	2.874	2.944	2.805	2.832	2.841	2.955	2.972	3.030	3.224	3.110	3.188	3.061	3.448	3.382	3.426	3.766	3.582	3.881	3.285
AMERICAN WATER WORKS COMP	2.217	2.217	2.154	2.094	2.256	2.198	2.234	2.196	2.136	2.143	2.191	1.989	2.096	2.012	1.987	2.062	2.187	2.030	2.041	2.067	2.075	2.153	2.000
ESSENTIAL UTILITIES, INC.	1.649	1.658	1.602	1.578	1.663	1.687	1.660	1.574	1.550	1.622	1.653	1.576	2.289	1.643	1.605	1.552	1.763	1.608	1.555	1.582	1.567	2.227	2.483
ARTESIAN RESOURCES CORPORA	1.606	1.608	1.588	1.542	1.636	1.539	1.589	1.511	1.490	1.542	1.517	1.547	1.528	1.514	1.587	1.529	1.633	1.615	1.629	1.630	1.648	1.608	1.608
CALIFORNIA WATER SERVICE GR	1.903	1.970	1.894	1.879	1.830	1.815	1.800	1.665	1.636	1.742	1.765	1.752	1.852	1.795	1.911	1.887	1.989	1.962	1.985	2.113	2.032	2.190	2.076
MIDDLESEX WATER COMPANY	2.681	2.701	2.618	2.364	2.660	2.462	2.366	2.244	2.183	2.287	2.282	2.356	2.463	2.232	2.226	2.249	2.484	2.433	2.773	2.686	2.611	2.607	2.862
SIW GROUP	1.376	1.401	1.384	1.374	1.395	1.433	1.411	1.342	1.344	1.379	1.369	1.365	1.398	1.343	1.321	2.144	1.521	1.477	1.482	1.511	1.479	1.459	1.390
THE YORK WATER COMPANY	2.815	2.971	2.842	2.496	2.587	2.745	2.847	2.685	2.686	2.912	2.941	3.030	2.875	2.645	2.817	2.777	3.057	2.988	2.986	2.945	2.923	2.610	2.518

5/20/2021

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Month

Enterprise value to Net PPE	Enterprise value to Net PPE	Enterprise value to Net PPE	Enterprise value to Net PPE	Enterprise value to Net PPE	Enterprise value to Net PPE	Enterprise value to Net PPE	Enterprise value to Net PPE	Enterprise value to Net PPE	Enterprise value to Net PPE	Enterprise value to Net PPE	Enterprise value to Net PPE	Enterprise value to Net PPE	Enterprise value to Net PPE	Enterprise value to Net PPE	Enterprise value to Net PPE	Enterprise value to Net PPE	Enterprise value to Net PPE	Enterprise value to Net PPE	Enterprise value to Net PPE	Enterprise value to Net PPE	Enterprise value to Net PPE	Enterprise value to Net PPE	Enterprise value to Net PPE
Enterprise value to Net PPE	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap
Company Name	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP
AMERICAN STATES WATER COMP	1.000	1.002	0.964	0.957	0.999	1.023	0.976	0.985	0.988	1.017	1.023	1.042	1.076	1.039	1.065	1.049	1.182	1.159	1.164	1.280	1.217	1.281	1.085
AMERICAN WATER WORKS COMP	1.000	1.000	0.972	0.955	1.029	1.003	1.019	1.002	0.975	0.976	0.998	0.906	0.915	0.878	0.906	0.867	0.890	0.944	0.877	0.885	0.896	0.900	0.859
ESSENTIAL UTILITIES, INC.	1.000	1.006	0.972	0.952	1.003	1.017	1.010	0.958	0.943	0.995	1.014	0.967	1.394	1.001	0.978	0.966	1.098	1.001	0.963	0.980	0.970	0.975	1.086
ARTESIAN RESOURCES CORPORA	1.000	1.001	0.989	0.953	1.011	0.951	0.964	0.917	0.904	0.929	0.914	0.932	0.914	0.960	0.919	0.982	0.971	0.982	0.969	0.970	0.972	0.949	1.086
CALIFORNIA WATER SERVICE GR	1.000	1.035	0.995	0.999	0.973	0.965	0.928	0.858	0.844	0.900	0.912	0.906	0.910	0.882	0.939	0.928	0.978	0.964	0.979	1.043	1.002	1.071	1.015
MIDDLESEX WATER COMPANY	1.000	1.008	0.977	0.905	1.018	0.942	0.923	0.876	0.852	0.897	0.895	0.924	0.958	0.868	0.866	0.893	0.986	0.966	0.990	0.959	0.932	0.921	0.941
SIW GROUP	1.000	1.018	1.006	0.997	1.012	1.039	1.026	0.976	0.977	0.998	1.001	0.987	1.011	0.971	0.956	1.530	1.086	1.054	1.068	1.089	1.030	1.050	1.001
THE YORK WATER COMPANY	1.000	1.056	1.010	0.893	0.926	0.982	0.980	0.924	0.925	1.001	1.011	1.041	0.987	0.908	0.967	0.949	1.045	1.021	1.008	0.994	0.987	0.876	0.845

Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap	Enterprise value to Inv Cap
Company Name	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP
AMERICAN STATES WATER COMP	1.000	1.002	0.964	0.976	1.019	1.044	0.995	1.004	1.007	1.048	1.054	1.074	1.143	1.103	1.130	1.085	1.222	1.199	1.214	1.335	1.270	1.376	1.165
AMERICAN WATER WORKS COMP	1.000	1.000	0.972	0.944	1.018	0.991	1.008	0.990	0.963	0.966	0.988	0.897	0.945	0.907	0.896	0.930	0.986	0.916	0.920	0.932	0.936	0.971	0.902
ESSENTIAL UTILITIES, INC.	1.000	1.006	0.972	0.952	1.008	1.023	1.007	0.954	0.940	0.983	1.003	0.956	1.388	0.997	0.973	0.941	1.069	0.975	0.943	0.960	0.950	1.351	1.506
ARTESIAN RESOURCES CORPORA	1.000	1.001	0.989	0.960	1.019	0.958	0.990	0.941	0.928	0.960	0.945	0.963	0.951	0.943	0.988	0.952	1.017	1.006	1.028	1.014	1.015	1.026	1.001
CALIFORNIA WATER SERVICE GR	1.000	1.035	0.995	0.987	0.961	0.954	0.946	0.875	0.860	0.915	0.927	0.921	0.973	0.943	1.004	0.991	1.045	1.031	1.043	1.110	1.068	1.151	1.091
MIDDLESEX WATER COMPANY	1.000	1.008	0.977	0.882	0.992	0.918	0.883	0.837	0.814	0.853	0.851	0.879	0.919	0.833	0.830	0.839	0.927	0.908	1.034	1.002	0.974	0.972	0.993
SIW GROUP	1.000	1.018	1.006	0.999	1.014	1.041	1.025	0.975	0.976	1.002	0.995	0.992	1.016	0.976	0.960	1.558	1.105	1.073	1.077	1.098	1.039	1.060	1.010
THE YORK WATER COMPANY	1.000	1.056	1.010	0.887	0.919	0.975	1.012	0.954	0.954	1.035	1.045	1.077	1.021	0.940	1.001	0.987	1.086	1.062	1.061	1.046	1.039	0.927	0.895

5/20/2021

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Month

Enterprise value to Net PPE	Enterprise value to Net PPE	Enterprise value to Net PPE	Enterprise value to Net PPE	Enterprise value to Net PPE	Enterprise value to Net PPE	Enterprise value to Net PPE	Enterprise value to Net PPE	Enterprise value to Net PPE	Enterprise value to Net PPE	Enterprise value to Net PPE	Enterprise value to Net PPE	Enterprise value to Net PPE	Enterprise value to Net PPE	Enterprise value to Net PPE	Enterprise value to Net PPE	Enterprise value to Net PPE	Enterprise value to Net PPE	Enterprise value to Net PPE	Enterprise value to Net PPE	Enterprise value to Net PPE	Enterprise value to Net PPE	Enterprise value to Net PPE	Enterprise value to Net PPE
Enterprise value to Net PPE	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap	Inv Cap
Company Name	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP	AMERICAN STATES WATER COMP
AMERICAN STATES WATER COMP	1.000	1.002	0.964	0.976	1.019	1.044	0.995	1.004	1.007	1.048	1.054	1.074	1.143	1.103	1.130	1.085	1.222	1.199	1.214	1.335	1.270	1.376	1.165
AMERICAN WATER WORKS COMP	1.000	1.000	0.972	0.944	1.018	0.991	1.008	0.990	0.963	0.966	0.988	0.897	0.945	0.907	0.896	0.930	0.986	0.916	0.920	0.932	0.936	0.971	0.902
ESSENTIAL UTILITIES, INC.	1.000	1.006	0.972	0.952	1.008	1.023	1.007	0.954	0.940	0.983	1.003	0.956	1.388										

	6/30/2017	9/30/2017	12/31/2017	3/31/2018	6/30/2018	9/30/2018	12/31/2018	3/31/2019	6/30/2019	9/30/2019	12/31/2019	3/31/2020	6/30/2020	9/30/2020	12/31/2020	3/31/2021	6/30/2021	9/30/2021	12/31/2021	3/31/2022	6/30/2022	9/30/2022	12/31/2022	3/31/2023	6/30/2023	9/30/2023	12/31/2023	3/31/2024	6/30/2024	9/30/2024	12/31/2024	3/31/2025	6/30/2025	9/30/2025	12/31/2025	3/31/2026	6/30/2026	9/30/2026	12/31/2026	3/31/2027	6/30/2027	9/30/2027	12/31/2027	3/31/2028	6/30/2028	9/30/2028	12/31/2028	3/31/2029	6/30/2029	9/30/2029	12/31/2029	3/31/2030	6/30/2030	9/30/2030	12/31/2030	3/31/2031	6/30/2031	9/30/2031	12/31/2031	3/31/2032	6/30/2032	9/30/2032	12/31/2032	3/31/2033	6/30/2033	9/30/2033	12/31/2033	3/31/2034	6/30/2034	9/30/2034	12/31/2034	3/31/2035	6/30/2035	9/30/2035	12/31/2035	3/31/2036	6/30/2036	9/30/2036	12/31/2036	3/31/2037	6/30/2037	9/30/2037	12/31/2037	3/31/2038	6/30/2038	9/30/2038	12/31/2038	3/31/2039	6/30/2039	9/30/2039	12/31/2039	3/31/2040	6/30/2040	9/30/2040	12/31/2040	3/31/2041	6/30/2041	9/30/2041	12/31/2041	3/31/2042	6/30/2042	9/30/2042	12/31/2042	3/31/2043	6/30/2043	9/30/2043	12/31/2043	3/31/2044	6/30/2044	9/30/2044	12/31/2044	3/31/2045	6/30/2045	9/30/2045	12/31/2045	3/31/2046	6/30/2046	9/30/2046	12/31/2046	3/31/2047	6/30/2047	9/30/2047	12/31/2047	3/31/2048	6/30/2048	9/30/2048	12/31/2048	3/31/2049	6/30/2049	9/30/2049	12/31/2049	3/31/2050	6/30/2050	9/30/2050	12/31/2050	3/31/2051	6/30/2051	9/30/2051	12/31/2051	3/31/2052	6/30/2052	9/30/2052	12/31/2052	3/31/2053	6/30/2053	9/30/2053	12/31/2053	3/31/2054	6/30/2054	9/30/2054	12/31/2054	3/31/2055	6/30/2055	9/30/2055	12/31/2055	3/31/2056	6/30/2056	9/30/2056	12/31/2056	3/31/2057	6/30/2057	9/30/2057	12/31/2057	3/31/2058	6/30/2058	9/30/2058	12/31/2058	3/31/2059	6/30/2059	9/30/2059	12/31/2059	3/31/2060	6/30/2060	9/30/2060	12/31/2060	3/31/2061	6/30/2061	9/30/2061	12/31/2061	3/31/2062	6/30/2062	9/30/2062	12/31/2062	3/31/2063	6/30/2063	9/30/2063	12/31/2063	3/31/2064	6/30/2064	9/30/2064	12/31/2064	3/31/2065	6/30/2065	9/30/2065	12/31/2065	3/31/2066	6/30/2066	9/30/2066	12/31/2066	3/31/2067	6/30/2067	9/30/2067	12/31/2067	3/31/2068	6/30/2068	9/30/2068	12/31/2068	3/31/2069	6/30/2069	9/30/2069	12/31/2069	3/31/2070	6/30/2070	9/30/2070	12/31/2070	3/31/2071	6/30/2071	9/30/2071	12/31/2071	3/31/2072	6/30/2072	9/30/2072	12/31/2072	3/31/2073	6/30/2073	9/30/2073	12/31/2073	3/31/2074	6/30/2074	9/30/2074	12/31/2074	3/31/2075	6/30/2075	9/30/2075	12/31/2075	3/31/2076	6/30/2076	9/30/2076	12/31/2076	3/31/2077	6/30/2077	9/30/2077	12/31/2077	3/31/2078	6/30/2078	9/30/2078	12/31/2078	3/31/2079	6/30/2079	9/30/2079	12/31/2079	3/31/2080	6/30/2080	9/30/2080	12/31/2080	3/31/2081	6/30/2081	9/30/2081	12/31/2081	3/31/2082	6/30/2082	9/30/2082	12/31/2082	3/31/2083	6/30/2083	9/30/2083	12/31/2083	3/31/2084	6/30/2084	9/30/2084	12/31/2084	3/31/2085	6/30/2085	9/30/2085	12/31/2085	3/31/2086	6/30/2086	9/30/2086	12/31/2086	3/31/2087	6/30/2087	9/30/2087	12/31/2087	3/31/2088	6/30/2088	9/30/2088	12/31/2088</

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Month	End	4/9/2017	5/9/2017	6/9/2017	7/9/2017	8/9/2017	9/9/2017	10/9/2017	11/9/2017	12/9/2017	1/9/2018	2/9/2018	3/9/2018	4/9/2018	5/9/2018	6/9/2018	7/9/2018	8/9/2018	9/9/2018	10/9/2018	11/9/2018	12/9/2018	1/9/2019	2/9/2019	3/9/2019	4/9/2019	5/9/2019	6/9/2019	7/9/2019	8/9/2019	9/9/2019	10/9/2019	11/9/2019	12/9/2019	1/9/2020	2/9/2020	3/9/2020	4/9/2020	5/9/2020	6/9/2020	7/9/2020	8/9/2020	9/9/2020	10/9/2020	11/9/2020	12/9/2020	1/9/2021	2/9/2021	3/9/2021	4/9/2021	5/9/2021	6/9/2021	7/9/2021	8/9/2021	9/9/2021	10/9/2021	11/9/2021	12/9/2021	1/9/2022	2/9/2022	3/9/2022	4/9/2022	5/9/2022	6/9/2022	7/9/2022	8/9/2022	9/9/2022	10/9/2022	11/9/2022	12/9/2022	1/9/2023	2/9/2023	3/9/2023	4/9/2023	5/9/2023	6/9/2023	7/9/2023	8/9/2023	9/9/2023	10/9/2023	11/9/2023	12/9/2023	1/9/2024	2/9/2024	3/9/2024	4/9/2024	5/9/2024	6/9/2024	7/9/2024	8/9/2024	9/9/2024	10/9/2024	11/9/2024	12/9/2024	1/9/2025	2/9/2025	3/9/2025	4/9/2025	5/9/2025	6/9/2025	7/9/2025	8/9/2025	9/9/2025	10/9/2025	11/9/2025	12/9/2025	1/9/2026	2/9/2026	3/9/2026	4/9/2026	5/9/2026	6/9/2026	7/9/2026	8/9/2026	9/9/2026	10/9/2026	11/9/2026	12/9/2026	1/9/2027	2/9/2027	3/9/2027	4/9/2027	5/9/2027	6/9/2027	7/9/2027	8/9/2027	9/9/2027	10/9/2027	11/9/2027	12/9/2027	1/9/2028	2/9/2028	3/9/2028	4/9/2028	5/9/2028	6/9/2028	7/9/2028	8/9/2028	9/9/2028	10/9/2028	11/9/2028	12/9/2028	1/9/2029	2/9/2029	3/9/2029	4/9/2029	5/9/2029	6/9/2029	7/9/2029	8/9/2029	9/9/2029	10/9/2029	11/9/2029	12/9/2029	1/9/2030	2/9/2030	3/9/2030	4/9/2030	5/9/2030	6/9/2030	7/9/2030	8/9/2030	9/9/2030	10/9/2030	11/9/2030	12/9/2030	1/9/2031	2/9/2031	3/9/2031	4/9/2031	5/9/2031	6/9/2031	7/9/2031	8/9/2031	9/9/2031	10/9/2031	11/9/2031	12/9/2031	1/9/2032	2/9/2032	3/9/2032	4/9/2032	5/9/2032	6/9/2032	7/9/2032	8/9/2032	9/9/2032	10/9/2032	11/9/2032	12/9/2032	1/9/2033	2/9/2033	3/9/2033	4/9/2033	5/9/2033	6/9/2033	7/9/2033	8/9/2033	9/9/2033	10/9/2033	11/9/2033	12/9/2033	1/9/2034	2/9/2034	3/9/2034	4/9/2034	5/9/2034	6/9/2034	7/9/2034	8/9/2034	9/9/2034	10/9/2034	11/9/2034	12/9/2034	1/9/2035	2/9/2035	3/9/2035	4/9/2035	5/9/2035	6/9/2035	7/9/2035	8/9/2035	9/9/2035	10/9/2035	11/9/2035	12/9/2035	1/9/2036	2/9/2036	3/9/2036	4/9/2036	5/9/2036	6/9/2036	7/9/2036	8/9/2036	9/9/2036	10/9/2036	11/9/2036	12/9/2036	1/9/2037	2/9/2037	3/9/2037	4/9/2037	5/9/2037	6/9/2037	7/9/2037	8/9/2037	9/9/2037	10/9/2037	11/9/2037	12/9/2037	1/9/2038	2/9/2038	3/9/2038	4/9/2038	5/9/2038	6/9/2038	7/9/2038	8/9/2038	9/9/2038	10/9/2038	11/9/2038	12/9/2038	1/9/2039	2/9/2039	3/9/2039	4/9/2039	5/9/2039	6/9/2039	7/9/2039	8/9/2039	9/9/2039	10/9/2039	11/9/2039	12/9/2039	1/9/2040	2/9/2040	3/9/2040	4/9/2040	5/9/2040	6/9/2040	7/9/2040	8/9/2040	9/9/2040	10/9/2040	11/9/2040	12/9/2040	1/9/2041	2/9/2041	3/9/2041	4/9/2041	5/9/2041	6/9/2041	7/9/2041	8/9/2041	9/9/2041	10/9/2041	11/9/2041	12/9/2041	1/9/2042	2/9/2042	3/9/2042	4/9/2042	5/9/2042	6/9/2042	7/9/2042	8/9/2042	9/9/2042	10/9/2042	11/9/2042	12/9/2042	1/9/2043	2/9/2043	3/9/2043	4/9/2043	5/9/2043	6/9/2043	7/9/2043	8/9/2043	9/9/2043	10/9/2043	11/9/2043	12/9/2043	1/9/2044	2/9/2044	3/9/2044	4/9/2044	5/9/2044	6/9/2044	7/9/2044	8/9/2044	9/9/2044	10/9/2044	11/9/2044	12/9/2044	1/9/2045	2/9/2045	3/9/2045	4/9/2045	5/9/2045	6/9/2045	7/9/2045	8/9/2045	9/9/2045	10/9/2045	11/9/2045	12/9/2045	1/9/2046	2/9/2046	3/9/2046	4/9/2046	5/9/2046	6/9/2046	7/9/2046	8/9/2046	9/9/2046	10/9/2046	11/9/2046	12/9/2046	1/9/2047	2/9/2047	3/9/2047	4/9/2047	5/9/2047	6/9/2047	7/9/2047	8/9/2047	9/9/2047	10/9/2047	11/9/2047	12/9/2047	1/9/2048	2/9/2048	3/9/2048	4/9/2048	5/9/2048	6/9/2048	7/9/2048	8/9/2048	9/9/2048	10/9/2048	11/9/2048	12/9/2048	1/9/2049	2/9/2049	3/9/2049	4/9/2049	5/9/2049	6/9/2049	7/9/2049	8/9/2049	9/9/2049	10/9/2049	11/9/2049	12/9/2049	1/9/2050	2/9/2050	3/9/2050	4/9/2050	5/9/2050	6/9/2050	7/9/2050	8/9/2050	9/9/2050	10/9/2050	11/9/2050	12/9/2050	1/9/2051	2/9/2051	3/9/2051	4/9/2051	5/9/2051	6/9/2051	7/9/2051	8/9/2051	9/9/2051	10/9/2051	11/9/2051	12/9/2051	1/9/2052	2/9/2052	3/9/2052	4/9/2052	5/9/2052	6/9/2052	7/9/2052	8/9/2052	9/9/2052	10/9/2052	11/9/2052	12/9/2052	1/9/2053	2/9/2053	3/9/2053	4/9/2053	5/9/2053	6/9/2053	7/9/2053	8/9/2053	9/9/2053	10/9/2053	11/9/2053	12/9/2053	1/9/2054	2/9/2054	3/9/2054	4/9/2054	5/9/2054	6/9/2054	7/9/2054	8/9/2054	9/9/2054	10/9/2054	11/9/2054	12/9/2054	1/9/2055	2/9/2055	3/9/2055	4/9/2055	5/9/2055	6/9/2055	7/9/2055	8/9/2055	9/9/2055	10/9/2055	11/9/2055	12/9/2055	1/9/2056	2/9/2056	3/9/2056	4/9/2056	5/9/2056	6/9/2056	7/9/2056	8/9/2056	9/9/2056	10/9/2056	11/9/2056	12/9/2056	1/9/2057	2/9/2057	3/9/2057	4/9/2057	5/9/2057	6/9/2057	7/9/2057	8/9/2057	9/9/2057	10/9/2057	11/9/2057	12/9/2057	1/9/2058	2/9/2058	3/9/2058	4/9/2058	5/9/2058	6/9/2058	7/9/2058	8/9/2058	9/9/2058	10/9/2058	11/9/2058	12/9/2058	1/9/2059	2/9/2059	3/9/2059	4/9/2059	5/9/2059	6/9/2059	7/9/2059	8/9/2059	9/9/2059	10/9/2059	11/9/2059	12/9/2059	1/9/2060	2/9/2060	3/9/2060	4/9/2060	5/9/2060	6/9/2060	7/9/2060	8/9/2060	9/9/2060	10/9/2060	11/9/2060	12/9/2060	1/9/2061	2/9/2061	3/9/2061	4/9/2061	5/9/2061	6/9/2061	7/9/2061	8/9/2061	9/9/2061	10/9/2061	11/9/2061	12/9/2061	1/9/2062	2/9/2062	3/9/2062	4/9/2062	5/9/2062	6/9/2062	7/9/2062	8/9/2062	9/9/2062	10/9/2062	11/9/2062	12/9/2062	1/9/2063	2/9/2063	3/9/2063	4/9/2063	5/9/2063	6/9/2063	7/9/2063	8/9/2063	9/9/2063	10/9/2063	11/9/2063	12/9/2063	1/9/2064	2/9/2064	3/9/2064	4/9/2064	5/9/2064	6/9/2064	7/9/2064	8/9/2064	9/9/2064	10/9/2064	11/9/2064	12/9/2064	1/9/2065	2/9/2065	3/9/2065	4/9/2065	5/9/2065	6/9/2065	7/9/2065	8/9/2065	9/9/2065	10/9/2065	11/9/2065	12/9/2065	1/9/2066	2/9/2066	3/9/2066	4/9/2066	5/9/2066	6/9/2066	7/9/2066	8/9/2066	9/9/2066	10/9/2066	11/9/2066	12/9/2066	1/9/2067	2/9/2067	3/9/2067	4/9/2067	5/9/2067	6/9/2067	7/9/2067	8/9/2067	9/9/2067	10/9/2067	11/9/2067	12/9/2067	1/9/2068	2/9/2068	3/9/2068	4/9/2068	5/9/2068	6/9/2068	7/9/2068	8/9/2068	9/9/2068	10/9/2068	11/9/2068	12/9/2068	1/9/2069	2/9/2069	3/9/2069	4/9/2069	5/9/2069	6/9/2069	7/9/2069	8/9/2069	9/9/2069	10/9/2069	11/9/2069	12/9/2069	1/9/2070	2/9/2070	3/9/2070	4/9/2070	5/9/2070	6/9/2070	7/9/2070	8/9/2070	9/9/2070	10/9/2070	11/9/2070	12/9/2070	1/9/2071	2/9/2071	3/9/2071	4/9/2071	5/9/2071	6/9/2071	7/9/2071	8/9/2071	9/9/2071	10/9/2071	11/9/2071	12/9/2071	1/9/2072	2/9/2072	3/9/2072	4/9/2072	5/9/2072	6/9/2072	7/9/2072	8/9/2072	9/9/2072	10/9/2072	11/9/2072	12/9/2072	1/9/2073	2/9/2073	3/9/2073	4/9/2073	5/9/2073	6/9/2073	7/9/2073	8/9/2073	9/9/2073	10/9/2073	11/9/2073	12/9/2073	1/9/2074	2/9/2074	3/9/2074	4/9/2074	5/9/2074	6/9/2074	7/9/2074	8/9/2074	9/9/2074	10/9/2074	11/9/2074	12/9/2074	1/9/2075	2/9/2075	3/9/2075	4/9/2075	5/9/2075	6/9/2075	7/9/2075	8/9/2075	9/9/2075	10/9/2075	11/9/2075	12/9/2075	1/9/2076	2/9/2076	3/9/2076	4/9/2076	5/9/2076	6/9/2076	7/9/2076	8/9/2076	9/9/2076	10/9/2076	11/9/2076	12/9/2076	1/9/2077	2/9/2077	3/9/2077	4/9/2077	5/9/2077	6/9/2077	7/9/2077	8/9/2077	9/9/2077	10/9/2077	11/9/2077	12/9/2077	1/9/2078	2/9/2078	3/9/2078	4/9/2078	5/9/2078	6/9/2078	7/9/2078	8/9/2078	9/9/2078	10/9/2078	11/9/2078	12/9/2078	1/9/2079	2/9/2079	3/9/2079	4/9/2079	5/9/2079	6/9/2079	7/9/2079	8/9/2079	9/9/2079	10/9/2079	11/9/2079	12/9/2079	1/9/2080	2/9/2080	3/9/2080	4/9/2080	5/9/2080	6/9/2080	7/9/2080	8/9/2080	9/9/2080	10/9/2080	11/9/2080	12/9/2080	1/9/2081	2/9/2081	3/9/2081	4/9/2081	5/9/2081	6/9/2081	7/9/2081	8/9/2081	9/9/2081	10/9/2081	11/9/2081	12/9/2081	1/9/2082	2/9/2082	3/9/2082	4/9/2082	5/9/2082	6/9/2082	7/9/2082	8/9/2082	9/9/2082	10/9/2082	11/9/2082	12/9/2082	1/9/2083	2/9/2083	3/9/2083	4/9/2083	5/9/2083	6/9/2083	7/9/2083	8/9/2083	9/9/2083	10/9/2083	11/9/2083	12/9/2083	1/9/2084	2/9/2084	3/9/2084	4/9/2084	5/9/2084	6/9/2084	7/9/2084	8/9/2084	9/9/2084	10/9/2084	11/9/2084	12/9/2084	1/9/2085	2/9/2085	3/9/2085	4/9/2085	5/9/2085	6/9/2085	7/9/2085	8/9/2085	9/9/2085	10/9/2085	11/9/2085	12/9/2085	1/9/2086	2/9/2086	3/9/2086	4/9/2086	5/9/2086	6/9/2086	7/9/2086	8/9/2086	9/9/2086	10/9/2086	11/9/2086	12/9/2086	1/9/2087	2/9/2087	3/9/2087	4/9/2087	5/9/2087	6/9/2087	7/9/2087	8/9/2087	9/9/2087	10/9/2087	11/9/2087	12/9/2087	1/9/2088	2/9/2088	3/9/2088	4/9/2088	5/9/2088	6/9/2088	7/9/2088	8/9/2088	9/9/2088	10/9/2088	11/9/2088	12/9/2088	1/9/2089	2/9/2089	3/9/2089	4/9/2089	5/9/2089	6/9/2089	7/9/2089	8/9/2089	9/9/2089	10/9/2089	11/9/2089	12/9/2089	1/9/2090	2/9/2090	3/9/2090	4/9/2090	5/9/2090	6/9/2090	7/9/2090	8/9/2090	9/9/2090	10/9/2090	11/9/2090	12/9/2090	1/9/2091	2/9/2091	3/9/2091	4/9/2091	5/9/2091	6/9/2091	7/9/2091	8/9/2091	9/9/2091	10/9/2091	11/9/2091	12/9/2091	1/9/2092	2/9/2092	3/9/2092	4/9/2092	5/9/2092	6/9/2092	7/9/2092	8/9/2092	9/9/2092	10/9/2092	11/9/2092	12/9/2092	1/9/2093	2/9/2093	3/9/2093	4/9/2093	5/9/2093	6/9/2093	7/9/2093	8/9/2093	9/9/2093	10/9/2093	11/9/2093	12/9/2093	1/9/2094	2/9/2094	3/9/2094	4/9/2094	5/9/2094	6/9/2094	7/9/2094	8/9/2094	9/9/2094	10/9/2094	11/9/2094	12/9/2094	1/9

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5/20/2021

NetPlant Advances CIAC DefTax ITC

2020 Net Property, Plant & Equipment	Advances for construction	Contributions in aid of construction	Deferred income taxes, net	Deferred investment tax credits	2020 Known "Cost Free" Capital	2020 Percentage of Known "Cost Free" Capital	

(Millions of \$)

Comparable Group

1	American States Water Co	\$1,512.043	\$63.354	\$138.691	\$124.581	\$1.224	\$327.850	22%
2	American Water Works Co Inc	\$19,710.000	\$270.000	\$1,393.000	\$2,113.000	\$0.000	\$3,776.000	19%
3	Artesian Resources -CL A	\$559.561	\$4.578	\$160.258	\$50.313	\$0.473	\$215.622	39%
4	California Water Service Gp	\$2,650.558	\$195.625	\$268.050	\$276.032	\$0.000	\$739.707	28%
5	Essential Utilities, Inc.	\$9,512.877	\$99.014	\$573.774	\$1,258.098	\$0.000	\$1,930.886	20%
6	Middlesex Water Co	\$796.598	\$23.404	\$111.990	\$61.297	\$0.000	\$196.691	25%
7	SJW Corp	\$2,334.912	\$125.027	\$296.105	\$191.415	\$0.000	\$612.547	26%
8	York Water Co	\$344.365	\$10.326	\$41.307	\$43.538	\$0.000	\$95.171	28%

Median

25%

CONSOLIDATED BALANCE SHEETS - USD (\$)	Dec. 31, 2020	Dec. 31, 2019
\$ in Thousands		
Regulated utility plant, at cost		
Water	\$1,784,402	\$1,700,442
Electric	112,507	108,425
Total	1,896,909	1,808,867
Non-regulated utility property, at cost	33,315	30,554
Total utility plant, at cost	1,930,224	1,839,421
Less — accumulated depreciation	(568,326)	(543,263)
Utility plant before construction work in progress	1,361,898	1,296,158
Construction work in progress	150,145	119,547
Net utility plant	1,512,043	1,415,705
Other Property and Investments		
Goodwill	1,116	1,116
Other property and investments	35,318	30,298
Total other property and investments	36,434	31,409
Current Assets		
Cash and cash equivalents	36,737	1,334
Accounts receivable — customers, less allowance for doubtful accounts	29,162	20,907
Unbilled revenue — receivable (Note 2)	25,836	20,482
Receivable from U.S. government, less allowance for doubtful accounts (Note 2)	25,182	22,613
Other accounts receivable, less allowance for doubtful accounts	3,960	3,096
Income taxes receivable	103	5,685
Materials and supplies	8,619	6,429
Regulatory assets — current	13,088	20,930
Prepayments and other current assets	5,555	5,413
Contract assets (Note 2)	8,873	15,567
Total current assets	157,115	122,456
Regulatory and Other Assets		
Unbilled revenue, receivable from U.S government	9,945	8,621
Receivable from U.S. government (Note 2)	49,488	42,206
Contract assets (Note 2)	1,384	64
Operating lease right-of-use assets	11,146	13,168
Regulatory Assets, Noncurrent	3,451	0
Other	10,597	7,702
Total other assets	86,011	71,761
Total Assets	1,791,603	1,641,331
Capitalization		
Common shareholders' equity	641,673	601,530
Long-term debt	440,348	280,996
Total capitalization	1,082,021	882,526
Current Liabilities		
Notes payable to banks	0	5,000
Long-term debt - current	358	344
Accounts payable	63,788	55,616
Income taxes payable	6,783	95
Accrued other taxes	11,902	11,110
Accrued employee expenses	15,122	14,255
Accrued interest	4,832	3,050
Unrealized loss on purchased power contracts	1,537	3,171
Contract liabilities (Note 2)	1,800	11,167
Operating lease liabilities	2,013	1,849
Other	10,437	10,341
Total current liabilities	118,572	115,998
Other Credits		
Notes payable to banks	134,200	200,000
Advances for Construction	63,374	63,989
Contributions in aid of construction — net	140,312	134,706
Deferred income taxes	131,172	125,304
Regulatory liabilities	0	23,380
Unamortized investment tax credits	1,224	1,295
Accrued pension and other post-retirement benefits	95,639	68,469
Operating lease liabilities	9,636	11,739
Other	15,433	13,925
Total other credits	591,010	642,807
Commitments and Contingencies		
Liabilities and Equity, Total	1,791,603	1,641,331
GSWC		
Regulated utility plant, at cost		
Water	1,784,402	1,700,442
Electric	0	108,425
Total utility plant, at cost	1,784,402	1,808,867
Less — accumulated depreciation	(502,283)	(531,801)
Utility plant before construction work in progress	1,282,119	1,277,066
Construction work in progress	118,370	117,676
Net utility plant	1,400,489	1,394,742
Other Property and Investments		
Other property and investments	33,240	28,212
Total other property and investments	33,240	28,212
Current Assets		
Cash and cash equivalents	35,578	401
Accounts receivable — customers, less allowance for doubtful accounts	29,920	20,907
Unbilled revenue — receivable (Note 2)	19,330	18,636
Other accounts receivable, less allowance for doubtful accounts	3,255	1,857
Intercompany receivable	1,107	0
Income taxes receivable	0	7,727
Materials and supplies	3,659	4,920
Regulatory assets — current	11,325	20,930
Prepayments and other current assets	4,114	4,497
Total current assets	105,288	79,875
Regulatory and Other Assets		
Operating lease right-of-use assets	11,103	12,745
Regulatory Assets, Noncurrent	0	1,048
Other	9,614	6,880
Total other assets	21,765	19,625
Total Assets	1,560,782	1,522,454
Capitalization		
Common shareholders' equity	583,298	551,188
Long-term debt	440,348	280,996
Total capitalization	1,023,646	832,184
Current Liabilities		
Long-term debt - current	358	344
Intercompany payable to Parent	0	158,845
Accounts payable	45,613	45,756
Income taxes payable	12,351	10,640
Accrued other taxes	10,382	0
Accrued employee expenses	12,351	12,360
Accrued interest	4,545	2,736
Unrealized loss on purchased power contracts	0	3,171
Operating lease liabilities	1,956	1,612
Other	9,403	9,745
Total current liabilities	89,220	245,239
Other Credits		
Advances for Construction	63,354	63,989
Contributions in aid of construction — net	138,691	134,706
Deferred income taxes	124,581	127,806
Regulatory liabilities	0	23,380
Unamortized investment tax credits	1,224	1,295
Accrued pension and other post-retirement benefits	95,570	68,469
Operating lease liabilities	9,636	11,588
Other	14,860	13,802
Total other credits	447,916	445,035
Liabilities and Equity, Total		
	1,512,043	1,415,705
NetPlant	1,512,043	1,415,705
Advances	63,354	63,989
CIAC	138,691	134,706
DefTax	124,581	127,806
ITC	1,224	1,295

olidated Balance Sheets - USD (\$)	Dec. 31, 2020	Dec. 31, 2019
Millions		
ETS		
Property, plant and equipment	\$25,614	\$23,9
Accumulated depreciation	-5,904	-5,
Property, plant and equipment, net	19,710	18,
Intangible assets:		
Patents and cash equivalents	547	
Restricted funds	29	
Accounts receivable, net of allowance for uncollectible accounts of \$60 and \$41, respectively	321	
Deferred revenues	206	
Materials and supplies	47	
Assets held for sale	629	
Other	127	
Total current assets	1,906	1,
Regulatory and other long-term assets:		
Regulatory assets	1,127	1,
Operating lease right-of-use assets	95	
Goodwill	1,504	1,
Retirement benefit assets	173	
Other intangible assets	55	
Other	196	
Total regulatory and other long-term assets	3,150	3,
Total assets	24,766	22,
Capitalization:		
Common stock (\$0.01 par value; 500,000,000 shares authorized; 186,466,707 and 185,903,727 shares issued, respectively)	2	
Additional paid-in capital	6,747	6,
Accumulated earnings (accumulated deficit)	102	-
Accumulated other comprehensive loss	-49	
Treasury stock, at cost (5,168,215 and 5,090,855 shares, respectively)	-348	-
Total common shareholders' equity	6,454	6,
Long-term debt	9,329	8,
Convertible preferred stock at redemption value	4	
Total long-term debt	9,333	8,
Total capitalization	15,787	14,
Intangible liabilities:		
Short-term debt	1,282	
Current portion of long-term debt	329	
Accounts payable	189	
Deferred liabilities	591	
Deferred taxes	50	
Deferred interest	88	
Liabilities related to assets held for sale	137	
Other	215	
Total current liabilities	2,881	2,
Regulatory and other long-term liabilities:		
Advances for construction	270	
Deferred income taxes and investment tax credits	2,113	1,
Regulatory liabilities	1,770	1,
Operating lease liabilities	81	
Deferred pension expense	388	
Other	83	
Total regulatory and other long-term liabilities	4,705	4,
Contributions in aid of construction	1,393	1,
Commitments and contingencies		
Total capitalization and liabilities	\$24,766	\$22,6
NetPlant	19,710	18,
Advances	270	
CIAC	1,393	1,
DefTax	2,113	1,
ITC	0	

CONSOLIDATED BALANCE SHEETS - USD (\$)	Dec. 31, 2020	Dec. 31, 2019	
\$ in Thousands			
ASSETS			
Utility plant, at original cost (less accumulated depreciation - 2020 - \$147,469,; 2019 - \$136,588)	\$559,561	\$530,721	
Current assets			
Cash and cash equivalents	28	596	
Accounts receivable (less allowance for doubtful accounts 2020 - \$862; 2019-\$264)	10,162	6,913	
Income tax receivable	629	19	
Unbilled operating revenues	1,166	1,211	
Materials and supplies	1,535	1,264	
Prepaid property taxes	1,891	1,954	
Prepaid expenses and other	2,208	2,250	
Total current assets	17,619	14,207	
Other assets			
Non-utility property (less accumulated depreciation - 2020- \$865; 2019 - \$790)	3,796	3,812	
Other deferred assets	5,309	4,257	
Operating lease right of use assets	460	480	
Total other assets	9,565	8,549	
Regulatory assets, net	6,473	6,891	
Total assets	593,218	560,368	
Stockholders' equity			
Common stock	9,357	9,292	
Preferred stock	0	0	
Additional paid-in capital	103,463	101,811	
Retained earnings	56,606	49,165	
Total stockholders' equity	169,426	160,268	
Long-term debt, net of current portion	142,333	144,156	
Total stockholders' equity and long-term debt	311,759	304,424	
Current liabilities			
Lines of credit	26,813	7,500	
Current portion of long-term debt	1,757	1,706	
Accounts payable	6,341	8,176	
Accrued expenses	3,414	3,113	
Overdraft payable	105	15	
Accrued interest	930	830	
Income taxes payable	237	343	
Customer and other deposits	2,060	1,970	
OtherLiabilitiesCurrent	2,067	1,946	
Total current liabilities	43,724	25,599	
Commitments and contingencies (Note 11)			
Deferred credits and other liabilities			
Net advances for construction	4,578	5,421	
OperatingLeaseLiabilityNoncurrent	432	450	
Regulatory liabilities	21,681	22,246	
Deferred investment tax credits	473	490	
Deferred income taxes	50,313	52,259	
Total deferred credits and other liabilities	77,477	80,866	
Net contributions in aid of construction	160,258	149,479	
Total Liabilities and Stockholders' Equity			
	NetPlant	\$559,561	\$530,721
	Advances	4,578	5,421
	CIAC	160,258	149,479
	DefTax	50,313	52,259
	ITC	473	490

Consolidated Balance Sheets - USD (\$)		Dec. 31, 2020	Dec. 31, 2019
Thousands			
Utility plant:			
Plant		\$45,672	\$45,100
Depreciable plant and equipment		3,645,770	3,235,000
Construction work in progress		171,414	245,000
Intangible assets		27,567	24,000
Utility plant		3,890,423	3,550,000
Accumulated depreciation and amortization		-1,239,865	-1,144,000
Utility plant		2,650,558	2,406,000
Current assets:			
Cash and cash equivalents		44,555	42,000
Receivables:			
Customers, net		44,025	32,000
Regulatory balancing accounts		96,241	38,000
Prepaid, net		20,331	14,000
Unbilled revenue, net		34,069	34,000
Materials and supplies at weighted average cost		8,831	7,000
Prepaid expenses, and other assets		17,964	14,000
Current assets		266,016	184,000
Other assets:			
Regulatory assets		325,376	433,000
Goodwill		31,842	2,000
Other		120,456	84,000
Other assets		477,674	520,000
AL ASSETS		3,394,248	3,111,000
Capitalization:			
Common stock, \$0.01 par value; 68,000 shares authorized, 50,334 and 48,532 outstanding in 2020 and 2019, respectively		503	
Additional paid-in capital		448,632	362,000
Retained earnings		472,209	417,000
Other common stockholders' equity		921,344	779,000
Long-term debt, net		781,100	786,000
Other capitalization		1,702,444	1,566,000
Current liabilities:			
Current maturities of long-term debt, net		5,127	21,000
Short-term borrowings		370,000	175,000
Accounts payable		131,725	108,000
Regulatory balancing accounts		34,636	4,000
Accrued other taxes		4,477	4,000
Accrued interest		6,178	5,000
Other accrued liabilities		36,563	38,000
Current liabilities		588,706	358,000
Deferred income taxes		276,032	222,000
Regulatory liabilities		180,718	211,000
Pension and postretirement benefits other than pensions		115,581	258,000
Advances for construction		195,625	191,000
Contributions in aid of construction		268,050	241,000
Other long-term liabilities		67,092	60,000
Commitments and contingencies			
AL CAPITALIZATION AND LIABILITIES		\$3,394,248	\$3,111,000
	NetPlant	2,650,558	2,406,000
	Advances	195,625	191,000
	CIAC	268,050	241,000
	DefTax	276,032	222,000
	ITC	0	

Condensed Balance Sheets - USD (\$)		Dec. 31, 2020
Assets		
Cash and cash equivalents		\$11,600,000
Accounts receivable, net		2,300,000
Prepaid expenses, plant and equipment		9,100,000
Other assets:		
Cash equivalents		
Accounts receivable, net		
Prepaid expenses		
Materials and supplies		
Gas stored		
Prepaid expenses and other current assets		
Other assets		
Assets held for sale		
Other assets		
Other assets		1,300,000
Charges and other assets, net		
Investment in joint venture		
Restricted for construction activity		2,300,000
Long lease right-of-use assets		
Other assets		
Other assets		13,700,000
Utilities stockholders' equity:		
Stock at \$0.50 par value, authorized 600,000,000 shares, issued 248,571,355 and 223,871,284 as of December 31, 2020 and December 31, 2019		
Excess of par value		3,300,000
Earnings		1,300,000
Stock, at cost, 3,180,887 and 3,112,565 shares as of December 31, 2020 and December 31, 2019		
Stockholders' equity		4,600,000
Long debt, excluding current portion		5,100,000
Debt issuance costs		
Long debt, excluding current portion, net of debt issuance costs		5,100,000
Prepaid expenses and contingencies (See Note 9)		
Liabilities:		
Portion of long-term debt		
Payable		
Payable		
Draft		
Interest		
Taxes		
Other liabilities		
Accrued liabilities		
Long-term liabilities		
Credits and other liabilities:		
Income taxes and investment tax credits		1,300,000
Stockholders' advances for construction		
Other liabilities		
Pension obligations		
Long lease liabilities		
And other postretirement benefit liabilities		
Deferred credits and other liabilities		2,300,000
Contributions in aid of construction		
Liabilities and equity		\$13,700,000
	NetPlant	9,100,000
	Advances	
	CIAC	
	DefTax	1,300,000
	ITC	

CONSOLIDATED BALANCE SHEETS - USD (\$)	Dec. 31, 2020	Dec. 31, 2019
\$ in Thousands		
UTILITY PLANT:		
Water Production	\$168,080	\$160,870
Transmission and Distribution	648,763	556,517
General	85,056	83,043
Construction Work in Progress	80,055	75,520
TOTAL	981,954	875,950
Less Accumulated Depreciation	185,356	170,220
UTILITY PLANT - NET	796,598	705,730
CURRENT ASSETS:		
Cash and Cash Equivalents	4,491	2,230
Accounts Receivable, net	14,569	11,908
Unbilled Revenues	7,065	7,183
Materials and Supplies (at average cost)	5,112	5,445
Prepayments	2,886	2,367
TOTAL CURRENT ASSETS	34,123	29,133
Operating Lease Right of Use Asset	5,209	5,944
Preliminary Survey and Investigation Charges	5,192	2,054
Regulatory Assets	118,144	110,479
Restricted Cash	5,913	44,269
Non-utility Assets - Net	11,207	10,370
Other	84	1,899
TOTAL OTHER ASSETS	145,749	175,015
TOTAL ASSETS	976,470	909,878
CAPITALIZATION:		
Common Stock, No Par Value	217,451	215,125
Retained Earnings	128,757	108,667
TOTAL COMMON EQUITY	346,208	323,792
Preferred Stock	2,084	2,084
Long-term Debt	273,244	230,777
TOTAL CAPITALIZATION	621,536	556,653
CURRENT LIABILITIES:		
Current Portion of Long-term Debt	7,255	7,178
Notes Payable	2,000	20,000
Accounts Payable	30,443	23,306
Accrued Taxes	10,138	7,635
Accrued Interest	2,137	2,031
Unearned Revenues and Advanced Service Fees	1,255	1,211
Other	3,620	3,620
TOTAL CURRENT LIABILITIES	56,848	64,981
COMMITMENTS AND CONTINGENT LIABILITIES (Note 4)		
OTHER LIABILITIES:		
Customer Advances for Construction	23,404	23,905
Lease Obligations	5,042	5,732
Accumulated Deferred Income Taxes	61,297	54,408
Employee Benefit Plans	34,426	34,671
Regulatory Liabilities	60,792	69,152
Other	1,135	2,546
TOTAL OTHER LIABILITIES	186,096	190,414
CONTRIBUTIONS IN AID OF CONSTRUCTION	111,990	97,830
TOTAL CAPITALIZATION AND LIABILITIES	\$976,470	\$909,878
NetPlant	796,598	705,730
Advances	23,404	23,905
CIAC	111,990	97,830
DefTax	61,297	54,408
ITC	0	0

ated Balance Sheets - USD (\$)		Dec. 31, 2
lands		
ant:		
		\$
ble plant and equipment		3,
tion in progress		:
e assets		
, plant and equipment, gross		3,
imulated depreciation and amortization		1,(
ilities, property, plant and equipment, net		2,
te investments		
imulated depreciation and amortization		
te investments, net		
issets:		
d cash		
. receivable:		
rs, net of allowances for uncollectible accounts of \$3,891 and \$1,512 in 2020 and 2019, respectively		
ax		
unbilled utility revenue		
egulatory assets, net		
xpenses		
rrent assets		
rent assets		:
sets:		
latory assets, less current portion		:
nts		(
er assets		}
ets		3,
lers' equity:		
stock, \$0.001 par value; authorized 70,000,000 shares in 2020 and 2019; issued and outstanding 28,556,605 shares in 2020 and 28,456,508 shares in 201		!
al paid-in capital		
earnings		4
ated other comprehensive (loss) income		
ckholders' equity		!
n debt, less current portion		1,
ation, long-term debt and equity		2,
iabilities:		
:redit		:
ortion of long-term debt		
groundwater extraction charges, purchased water and power		
: payable		
interest		
payroll		
rrent liabilities		
rent liabilities		:
income taxes		:
s for construction		:
tions in aid of construction		:
ement benefit plans		:
ncurrent liabilities		
ments and contingencies		
ity and liabilities		\$3,3
	NetPlant	2,
	Advances	:
	CIAC	:
	DefTax	:
	ITC	

Sheets - USD (\$)	Dec. 31, 2	
Islands		
Plant, at original cost		\$43
Acquisition adjustments		
Accumulated depreciation		-
Net plant		3
PHYSICAL PROPERTY, net of accumulated depreciation of \$458 in 2020 and \$435 in 2019		
NET ASSETS:		
Net cash equivalents		
Net cash		
Accounts receivable, net of reserves of \$655 in 2020 and \$305 in 2019		
Revenues		
Payable income taxes		
Inventory and supplies inventories, at cost		
Prepaid expenses		
Intangible assets		
LONG-TERM ASSETS:		
Depreciation cost		
Debt		
Regulatory assets		
Assets		
Other long-term assets		
Assets		4
NET STOCKHOLDERS' EQUITY:		
Common stock, no par value, authorized 46,500,000 shares, issued and outstanding 13,060,817 shares in 2020 and 13,014,898 shares in 2019		
Retained earnings		
Common stockholders' equity		1
PREFERRED STOCK, authorized 500,000 shares, no shares issued		
LONG-TERM DEBT, excluding current portion		1
LIABILITIES		
NET LIABILITIES:		
Portion of long-term debt		
Accounts payable		
Salaries payable		
Compensation and benefits		
Interest		
Regulatory liabilities		
Accrued expenses		
Intangible liabilities		
NET CREDITS:		
Accounts' advances for construction		
Income taxes		
Employee benefits		
Regulatory liabilities		
Deferred credits		
Deferred credits		
Contributions in aid of construction		
Stockholders' Equity and Liabilities		
	NetPlant	3
	Advances	
	CIAC	
	DefTax	
	ITC	

Bulletin No. 193

1912 to January 1, 2021

The
Handy-Whitman Index®
of
Public Utility
Construction Costs™



Trends of Construction Costs

COMPILED & PUBLISHED BY
Whitman, Requardt & Associates, LLP
Engineers, Architects and Planners
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Baltimore, Maryland 21231
410-235-3450

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WHITMAN, REQUARDT AND ASSOCIATES, LLP

ISSN 1092-955X

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Pacific Region	E-6	E-6-1

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North Atlantic Region	G-1	G-1-1
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Cost Trend Tables - 1912 to January 1, 2021		
North Atlantic Region	W-1	W-1-1
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South Central Region	W-4	W-4-1
Plateau Region	W-5	W-5-1
Pacific Region	W-6	W-6-1

TRENDS OF PUBLIC UTILITY CONSTRUCTION COSTS

GEOGRAPHIC REGIONS



FOREWORD

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.

FOREWORD

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. 193

During the twelve-month period ending January 1, 2021, the average index of all geographical regions for Total Gas Plant increased 0.9%, and the comparable index for Electric Plant-All Steam Generation increased 4.5%.

May 2021
Whitman, Requardt and Associates, LLP

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
1990	127.4	128	128.7	128.9	129.2	129.9	130.4	131.6	132.7	133.5	133.8	133.8	128.7	132.6
1991	134.6	134.8	135	135.2	135.6	136	136.2	136.6	137.2	137.4	137.8	137.9	135.2	137.2
1992	138.1	138.6	139.3	139.5	139.7	140.2	140.5	140.9	141.3	141.8	142	141.9	139.2	141.4
1993	142.6	143.1	143.6	144	144.2	144.4	144.4	144.8	145.1	145.7	145.8	145.8	143.7	145.3
1994	146.2	146.7	147.2	147.4	147.5	148	148.4	149	149.4	149.5	149.7	149.7	147.2	149.3
1995	150.3	150.9	151.4	151.9	152.2	152.5	152.5	152.9	153.2	153.7	153.6	153.5	151.5	153.2
1996	154.4	154.9	155.7	156.3	156.6	156.7	157	157.3	157.8	158.3	158.6	158.6	155.8	157.9
1997	159.1	159.6	160	160.2	160.1	160.3	160.5	160.8	161.2	161.6	161.5	161.3	159.9	161.2
1998	161.6	161.9	162.2	162.5	162.8	163	163.2	163.4	163.6	164	164	163.9	162.3	163.7
1999	164.3	164.5	165	166.2	166.2	166.2	166.7	167.1	167.9	168.2	168.3	168.3	165.4	167.8
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										

[illegible]

Handy-Whitman Handy-Whitman Handy-Whitman Handy-Whitman Handy-Whitman Handy-Whitman Handy-Whitman Handy-Whitman Handy-Whitman

Line #	Line #	Line #	Line #	Line #	Line #	Line #	Line #	Line #	Line #
2	8	9	16	23	24	34	38	39	40
1938	0	18	0	0	0	22	0	14	0
1939	0	18	20	0	0	22	0	14	0
1940	0	20	0	0	0	24	0	14	0
1941	0	0	0	0	0	0	0	15	0
1942	0	0	0	0	0	0	0	16	0
1943	0	0	0	0	0	0	0	16	0
1944	0	21	0	0	0	25	0	17	0
1945	0	22	0	0	0	26	0	17	0
1946	0	24	0	0	0	29	0	19	0
1947	0	28	32	0	0	35	0	22	0
1948	0	32	35	29	0	41	0	25	0
1949	0	35	36	0	0	42	0	27	52
1950	0	36	38	0	0	43	0	28	59
1951	0	38	40	0	0	45	0	29	61
1952	0	38	41	0	0	47	0	31	61
1953	0	39	42	0	0	48	0	33	65
1954	0	41	0	0	0	48	0	0	67
1955	0	43	0	0	0	53	0	36	70
1956	0	46	0	0	0	57	0	0	77
1957	0	49	0	0	0	60	0	41	78
1958	0	50	0	0	0	63	0	44	78
1959	0	52	54	36	0	65 na	0	46	78
1960	0	53	55	35	0	68 na	0	48	78
1961	0	53	56	35	0	69 na	0	50	78
1962	0	54	58	35	0	71 na	0	51	84
1963	0	55	59	41	0	72 na	0	53	87
1964	0	56	60	44	0	73 na	0	55	87
1965	0	57	62	45	38	74 na	0	58	93
1966	0	56	64	46	41	75 na	0	60	101
1967	64	61	67	47	44	76 na	0	63	101

Handy-Whitman Handy-Whitman Handy-Whitman Handy-Whitman Handy-Whitman Handy-Whitman Handy-Whitman Handy-Whitman Handy-Whitman

Line #	Line #	Line #	Line #	Line #	Line #	Line #	Line #	Line #	Line #
2	8	9	16	23	24	34	38	39	40
1968	0	64	81	69	49	0	77 na	66	101
1969	0	69	84	73	53	0	80 na	72	106
1970	0	75	89	79	75	0	84 na	79	108
1971	0	84	93	89	82	0	94 na	89	108
1972	0	92	96	96	85	0	98 na	96	106
1973	0	100	100	100	100	0	100 na	100	100
1974	0	117	122	118	140	0	110	115	93
1975	0	127	155	134	159	0	146	123	93
1976	0	130	174	144	171	0	154	130	98
1977	0	137	184	152	172	0	162	139	101
1978	0	148	192	162	173	0	173	145	105
1979	0	163	205	175	178	0	185	160	108
1980	0	181	222	191	191	0	202	175	122
1981	196	191	245	208	208	0	219	184	127
1982	197	198	260	227	210	244	231	198	128
1983	206	206	271	242	182	197	239	207	141
1984	217	218	277	251	184	200	244	215	148
1985	227	225	282	262	181	198	254	221	135
1986	234	233	284	269	184	207	255	226	135
1987	238	239	299	276	196	0	263	230	137
1988	248	251	311	286	220	0	280	245	140
1989	255	265	330	301	216	0	295	258	150
1990	258	271	349	313	229	0	301	262	159
1991	262	274	355	322	253	0	307	272	162
1992	270	281	368	332	261	0	311	283	196
1993	282	294	386	342	248	0	321	292	195

[illegible]

Handy-Whitman	Series Id: PCU3341--3341--	Series Id: PCU336110336110	Series Id: PCU3333120333120
	Series Title: PPI industry group data for Computer & peripheral equipment mfg, not seasonally adjusted	Series Title: PPI industry data for Automobile, light truck and utility vehicle mfg, not seasonally adjusted	Series Title: PPI industry data for Construction machinery mfg, not seasonally adjusted
	Industry: Computer & peripheral equipment mfg	Industry: Automobill e, light truck and utility vehicle mfg	Industry: Constructi on machinery mfg
	Product: Computer & peripheral equipment mfg	Product: Automobill e, light truck and utility vehicle mfg	Product: Constructi on machinery mfg
Base Date: 200612			
Line #			
42			
1912	0		
1913	0		
1914	0		
1915	0		
1916	0		
1917	0		
1918	0		
1919	0		
1920	0		
1921	0		
1922	0		
1923	0		
1924	0		
1925	0		
1926	0		
1927	0		
1928	0		
1929	0		
1930	0		
1931	0		
1932	0		
1933	0		
1934	0		
1935	0		
1936	0		
1937	0		

Handy-Whitman	Series Id: PCU3341--3341--	Series Id: PCU336110336110	Series Id: PCU3333120333120
	Series Title: PPI industry group data for Computer & peripheral equipment mfg, not seasonally adjusted	Series Title: PPI industry data for Automobile, light truck and utility vehicle mfg, not seasonally adjusted	Series Title: PPI industry data for Construction machinery mfg, not seasonally adjusted
	Industry: Computer & peripheral equipment mfg	Industry: Automobili e, light truck and utility vehicle mfg	Industry: Constructi on machinery mfg
	Product: Computer & peripheral equipment mfg	Product: Automobili e, light truck and utility vehicle mfg	Product: Constructi on machinery mfg
	Base Date: 200612	Base Date: 198206	Base Date: 198012
Line #			
42			
1938	0		
1939	0		
1940	0		
1941	0		
1942	0		
1943	0		
1944	0		
1945	0		
1946	0		
1947	0		
1948	0		
1949	35		
1950	37		
1951	41		
1952	41		
1953	43		
1954	44		
1955	44		
1956	48		
1957	50		
1958	51		
1959	53		
1960	54		
1961	55		
1962	56		
1963	57		
1964	58		
1965	58		
1966	61		
1967	64		

Handy-Whitman	Series Id:	PCU3341--3341--	Series Id:	PCU336110336110	Series Id:	PCU333120333120
	Series Title:	PPI industry group data for Computer & peripheral equipment mfg, not seasonally adjusted	Series Title:	PPI industry data for Automobile, light truck and utility vehicle mfg, not seasonally adjusted	Series Title:	PPI industry data for Construction machinery mfg, not seasonally adjusted
	Industry:	Computer & peripheral equipment mfg	Industry:	Automobile, light truck and utility vehicle mfg	Industry:	Construction on machinery mfg
	Product:	Computer & peripheral equipment mfg	Product:	Automobile, light truck and utility vehicle mfg	Product:	Construction on machinery mfg
	Base Date:	200612	Base Date:	198206	Base Date:	198012
	68		1975	62.900	1976	67.8
	69		1976		1977	70.8
	70		1977		1978	77.5
	71		1978		1979	84.8
	72		1979		1980	95.3
73		1980		1981	106.3	
74		1981		1982	112.2	
75		1982		1983	114.3	
76		1983	276.983	1984	116.2	
77		1984	276.983	1985	119.9	
78		1985	276.983	1986	120.0	
79		1986	276.983	1987	122.2	
80		1987	276.983	1988	125.5	
81		1988	276.983	1989	132.2	
82		1989	276.983	1990	137.6	
83		1990	276.983	1991	141.9	
84		1991	276.983	1992	146.5	
85		1992	276.983	1993	151.1	

Line #	Handy-Whitman		Series Id: PCU3341--3341--		Series Id: PCU336110336110		Series Id: PCU333120333120	
	Series Title: PPI industry group data for Computer & peripheral equipment mfg, not seasonally adjusted		Series Title: PPI industry data for Automobile, light truck and utility vehicle mfg, not seasonally adjusted		Series Title: PPI industry data for Construction machinery mfg, not seasonally adjusted			
42	Industry: Computer & peripheral equipment mfg		Industry: Automobill e, light truck and utility vehicle mfg		Industry: Constructi on machinery mfg			
	Product: Computer & peripheral equipment mfg		Product: Automobill e, light truck and utility vehicle mfg		Product: Constructi on machinery mfg			
	Base Date: 200612		Base Date: 198206		Base Date: 198012			
1994	391	276.983	1994	137.950	1994	153.767		
1995	398	276.983	1995	139.100	1995	157.250		
1996	418	249.050	1996	140.433	1996	161.583		
1997	475	219.583	1997	138.700	1997	164.392		
1998	493	191.717	1998	136.842	1998	167.775		
1999	508	172.783	1999	137.642	1999	170.833		
2000	526	162.158	2000	138.767	2000	172.708		
2001	551	153.075	2001	137.542	2001	173.517		
2002	565	139.533	2002	134.892	2002	175.942		
2003	570	123.950	2003	135.083	2003	178.358		
2004	585	115.350	2004	136.475	2004	183.933		
2005	601	107.775	2005	135.067	2005	192.367		
2006	643	102.067	2006	130.817	2006	201.058		
2007	674	94.450	2007	131.117	2007	206.817		
2008	706	86.425	2008	132.892	2008	213.375		
2009	734	81.092	2009	136.742	2009	221.125		
2010	728	76.475	2010	136.783	2010	220.475		
2011	737	73.408	2011	137.683	2011	227.800		
2012	762	70.658	2012	141.250	2012	235.408		
2013	787	67.642	2013	142.733	2013	239.167		
2014	846	66.392	2014	145.333	2014	242.375		
2015	927	63.208	2015	148.883	2015	245.258		
2016	974	59.858	2016	150.108	2016	247.083		
2017	989	58.775	2017	152.067	2017	248.408		
2018	1027	58.483	2018	153.250	2018	250.850		
2019	1069	56.308	2019	153.592	2019	262.108		
2020	1123	54.950	2020	153.108	2020	266.758		
2021	1184	54.900	2021	155.500	2021	271.300		
2021	1184	54.900		155.500		271.300		

State	1790	1800	1810	1820	1830	1840	1850
Alabama	-	1,250	9,046	127,901	309,527	590,756	771,623
Alaska	-	-	-	-	-	-	-
Arizona	-	-	-	-	-	-	-
Arkansas	-	-	1,062	14,273	30,388	97,574	209,897
California	-	-	-	-	-	-	92,597
Colorado	-	-	-	-	-	-	-
Connecticut	237,946	251,002	261,942	275,248	297,675	309,978	370,792
Delaware	59,096	64,273	72,674	72,749	76,748	78,085	91,532
District of Columbia	-	8,144	15,471	23,336	30,261	33,745	51,687
Florida	-	-	-	-	34,730	54,477	87,445
Georgia	82,548	162,686	252,433	340,989	516,823	691,392	906,185
Hawaii	-	-	-	-	-	-	-
Idaho	-	-	-	-	-	-	-
Illinois	-	-	12,282	55,211	157,445	476,183	851,470
Indiana	-	5,641	24,520	147,718	343,031	685,866	988,416
Iowa	-	-	-	-	-	43,112	192,914
Kansas	-	-	-	-	-	-	-
Kentucky	73,677	220,955	406,511	564,317	687,917	779,828	982,405
Louisiana	-	-	76,556	153,407	215,739	352,411	517,762
Maine	96,540	151,719	228,705	298,335	399,455	501,793	583,169
Maryland	319,728	341,548	380,546	407,350	447,040	470,019	583,034
Massachusetts	378,787	422,845	472,040	523,287	610,408	737,699	994,514
Michigan	-	-	4,762	8,896	31,639	212,267	397,654
Minnesota	-	-	-	-	-	-	6,077
Mississippi	-	7,600	31,306	75,448	136,621	375,651	606,526
Missouri	-	-	19,783	66,586	140,455	383,702	682,044
Montana	-	-	-	-	-	-	-
Nebraska	-	-	-	-	-	-	-
Nevada	-	-	-	-	-	-	-
New Hampshire	141,885	183,858	214,460	244,161	269,328	284,574	317,976
New Jersey	184,139	211,149	245,562	277,575	320,823	373,306	489,555
New Mexico	-	-	-	-	-	-	61,547
New York	340,120	589,051	959,049	1,372,812	1,918,608	2,428,921	3,097,394
North Carolina	393,751	478,103	555,500	638,829	737,987	753,419	869,039
North Dakota	-	-	-	-	-	-	-
Ohio	-	45,365	230,760	581,434	937,903	1,519,467	1,980,329
Oklahoma	-	-	-	-	-	-	-
Oregon	-	-	-	-	-	-	12,093
Pennsylvania	434,373	602,365	810,091	1,049,458	1,348,233	1,724,033	2,311,786
Rhode Island	68,825	69,122	76,931	83,059	97,199	108,830	147,545
South Carolina	249,073	345,591	415,115	502,741	581,185	594,398	668,507
South Dakota	-	-	-	-	-	-	-
Tennessee	35,691	105,602	261,727	422,823	681,904	829,210	1,002,717
Texas	-	-	-	-	-	-	212,592
Utah	-	-	-	-	-	-	11,380
Vermont	85,425	154,465	217,895	235,981	280,652	291,948	314,120
Virginia	691,737	807,557	877,683	938,261	1,044,054	1,025,227	1,119,348
Washington	-	-	-	-	-	-	1,201
West Virginia	55,873	78,592	105,469	136,808	176,924	224,537	302,313
Wisconsin	-	-	-	-	-	30,945	305,391
Wyoming	-	-	-	-	-	-	-
Total - States & D.C.	3,929,214	5,308,483	7,239,881	9,638,993	12,860,702	17,063,353	23,192,576

and District of Columbia Population Census

State	1860	1870	1880	1890	1900	1910
Alabama	964,201	996,992	1,262,505	1,513,401	1,828,697	2,138,093
Alaska	-	-	33,426	32,052	63,592	64,356
Arizona	-	9,658	40,440	88,243	122,931	204,354
Arkansas	435,450	484,471	802,525	1,128,211	1,311,564	1,574,449
California	379,994	560,247	864,694	1,213,398	1,485,053	2,377,549
Colorado	34,277	39,864	194,327	413,249	539,700	799,024
Connecticut	460,147	537,454	622,700	746,258	908,420	1,114,756
Delaware	112,216	125,015	146,608	168,493	184,735	202,322
District of Columbia	75,080	131,700	177,624	230,392	278,718	331,069
Florida	140,424	187,748	269,493	391,422	528,542	752,619
Georgia	1,057,286	1,184,109	1,542,180	1,837,353	2,216,331	2,609,121
Hawaii	-	-	-	-	154,001	191,874
Idaho	-	14,999	32,610	88,548	161,772	325,594
Illinois	1,711,951	2,539,891	3,077,871	3,826,352	4,821,550	5,638,591
Indiana	1,350,428	1,680,637	1,978,301	2,192,404	2,516,462	2,700,876
Iowa	674,913	1,194,020	1,624,615	1,912,297	2,231,853	2,224,771
Kansas	107,206	364,399	996,096	1,428,108	1,470,495	1,690,949
Kentucky	1,155,684	1,321,011	1,648,690	1,858,635	2,147,174	2,289,905
Louisiana	708,002	726,915	939,946	1,118,588	1,381,625	1,656,388
Maine	628,279	626,915	648,936	661,086	694,466	742,371
Maryland	687,049	780,894	934,943	1,042,390	1,188,044	1,295,346
Massachusetts	1,231,066	1,457,351	1,783,085	2,238,947	2,805,346	3,366,416
Michigan	749,113	1,184,059	1,636,937	2,093,890	2,420,982	2,810,173
Minnesota	172,023	439,706	780,773	1,310,283	1,751,394	2,075,708
Mississippi	791,305	827,922	1,131,597	1,289,600	1,551,270	1,797,114
Missouri	1,182,012	1,721,295	2,168,380	2,679,185	3,106,665	3,293,335
Montana	-	20,595	39,159	142,924	243,329	376,053
Nebraska	28,841	122,993	452,402	1,062,656	1,066,300	1,192,214
Nevada	6,857	42,491	62,266	47,355	42,335	81,875
New Hampshire	326,073	318,300	346,991	376,530	411,588	430,572
New Jersey	672,035	906,096	1,131,116	1,444,933	1,883,669	2,537,167
New Mexico	93,516	91,874	119,565	160,282	195,310	327,301
New York	3,880,735	4,382,759	5,082,871	6,003,174	7,268,894	9,113,614
North Carolina	992,622	1,071,361	1,399,750	1,617,949	1,893,810	2,206,287
North Dakota	-	2,405	36,909	190,983	319,146	577,056
Ohio	2,339,511	2,665,260	3,198,062	3,672,329	4,157,545	4,767,121
Oklahoma	-	-	-	258,657	790,391	1,657,155
Oregon	52,465	90,923	174,768	317,704	413,536	672,765
Pennsylvania	2,906,215	3,521,951	4,282,891	5,258,113	6,302,115	7,665,111
Rhode Island	174,620	217,353	276,531	345,506	428,556	542,610
South Carolina	703,708	705,606	995,577	1,151,149	1,340,316	1,515,400
South Dakota	4,837	11,776	98,268	348,600	401,570	583,888
Tennessee	1,109,801	1,258,520	1,542,359	1,767,518	2,020,616	2,184,789
Texas	604,215	818,579	1,591,749	2,235,527	3,048,710	3,896,542
Utah	40,273	86,786	143,963	210,779	276,749	373,351
Vermont	315,098	330,551	332,286	332,422	343,641	355,956
Virginia	1,219,630	1,225,163	1,512,565	1,655,980	1,854,184	2,061,612
Washington	11,594	23,955	75,116	357,232	518,103	1,141,990
West Virginia	376,688	442,014	618,457	762,794	958,800	1,221,119
Wisconsin	775,881	1,054,670	1,315,497	1,693,330	2,069,042	2,333,860
Wyoming	-	9,118	20,789	62,555	92,531	145,965
Total - States & D.C.	31,443,321	38,558,371	50,189,209	62,979,766	76,212,168	92,228,496

is Counts: 1790 to 2010

State	1920	1930	1940	1950	1960	1970
Alabama	2,348,174	2,646,248	2,832,961	3,061,743	3,266,740	3,444,165
Alaska	55,036	59,278	72,524	128,643	226,167	300,382
Arizona	334,162	435,573	499,261	749,587	1,302,161	1,770,900
Arkansas	1,752,204	1,854,482	1,949,387	1,909,511	1,786,272	1,923,295
California	3,426,861	5,677,251	6,907,387	10,586,223	15,717,204	19,953,134
Colorado	939,629	1,035,791	1,123,296	1,325,089	1,753,947	2,207,259
Connecticut	1,380,631	1,606,903	1,709,242	2,007,280	2,535,234	3,031,709
Delaware	223,003	238,380	266,505	318,085	446,292	548,104
District of Columbia	437,571	486,869	663,091	802,178	763,956	756,510
Florida	968,470	1,468,211	1,897,414	2,771,305	4,951,560	6,789,443
Georgia	2,895,832	2,908,506	3,123,723	3,444,578	3,943,116	4,589,575
Hawaii	255,881	368,300	422,770	499,794	632,772	768,561
Idaho	431,866	445,032	524,873	588,637	667,191	712,567
Illinois	6,485,280	7,630,654	7,897,241	8,712,176	10,081,158	11,113,976
Indiana	2,930,390	3,238,503	3,427,796	3,934,224	4,662,498	5,193,669
Iowa	2,404,021	2,470,939	2,538,268	2,621,073	2,757,537	2,824,376
Kansas	1,769,257	1,880,999	1,801,028	1,905,299	2,178,611	2,246,578
Kentucky	2,416,630	2,614,589	2,845,627	2,944,806	3,038,156	3,218,706
Louisiana	1,798,509	2,101,593	2,363,880	2,683,516	3,257,022	3,641,306
Maine	768,014	797,423	847,226	913,774	969,265	992,048
Maryland	1,449,661	1,631,526	1,821,244	2,343,001	3,100,689	3,922,399
Massachusetts	3,852,356	4,249,614	4,316,721	4,690,514	5,148,578	5,689,170
Michigan	3,668,412	4,842,325	5,256,106	6,371,766	7,823,194	8,875,083
Minnesota	2,387,125	2,563,953	2,792,300	2,982,483	3,413,864	3,804,971
Mississippi	1,790,618	2,009,821	2,183,796	2,178,914	2,178,141	2,216,912
Missouri	3,404,055	3,629,367	3,784,664	3,954,653	4,319,813	4,676,501
Montana	548,889	537,606	559,456	591,024	674,767	694,409
Nebraska	1,296,372	1,377,963	1,315,834	1,325,510	1,411,330	1,483,493
Nevada	77,407	91,058	110,247	160,083	285,278	488,738
New Hampshire	443,083	465,293	491,524	533,242	606,921	737,681
New Jersey	3,155,900	4,041,334	4,160,165	4,835,329	6,066,782	7,168,164
New Mexico	360,350	423,317	531,818	681,187	951,023	1,016,000
New York	10,385,227	12,588,066	13,479,142	14,830,192	16,782,304	18,236,967
North Carolina	2,559,123	3,170,276	3,571,623	4,061,929	4,556,155	5,082,059
North Dakota	646,872	680,845	641,935	619,636	632,446	617,761
Ohio	5,759,394	6,646,697	6,907,612	7,946,627	9,706,397	10,652,017
Oklahoma	2,028,283	2,396,040	2,336,434	2,233,351	2,328,284	2,559,229
Oregon	783,389	953,786	1,089,684	1,521,341	1,768,687	2,091,385
Pennsylvania	8,720,017	9,631,350	9,900,180	10,498,012	11,319,366	11,793,909
Rhode Island	604,397	687,497	713,346	791,896	859,488	946,725
South Carolina	1,683,724	1,738,765	1,899,804	2,117,027	2,382,594	2,590,516
South Dakota	636,547	692,849	642,961	652,740	680,514	665,507
Tennessee	2,337,885	2,616,556	2,915,841	3,291,718	3,567,089	3,923,687
Texas	4,663,228	5,824,715	6,414,824	7,711,194	9,579,677	11,196,730
Utah	449,396	507,847	550,310	688,862	890,627	1,059,273
Vermont	352,428	359,611	359,231	377,747	389,881	444,330
Virginia	2,309,187	2,421,851	2,677,773	3,318,680	3,966,949	4,648,494
Washington	1,356,621	1,563,396	1,736,191	2,378,963	2,853,214	3,409,169
West Virginia	1,463,701	1,729,205	1,901,974	2,005,552	1,860,421	1,744,237
Wisconsin	2,632,067	2,939,006	3,137,587	3,434,575	3,951,777	4,417,731
Wyoming	194,402	225,565	250,742	290,529	330,066	332,416
Total - States & D.C.	106,021,537	123,202,624	132,164,569	151,325,798	179,323,175	203,211,926

State	1980	1990	2000	2010
Alabama	3,893,888	4,040,587	4,447,351	4,779,736
Alaska	401,851	550,043	626,931	710,231
Arizona	2,718,215	3,665,228	5,130,632	6,392,017
Arkansas	2,286,435	2,350,725	2,673,400	2,915,918
California	23,667,902	29,760,021	33,871,653	37,253,956
Colorado	2,889,964	3,294,394	4,302,015	5,029,196
Connecticut	3,107,576	3,287,116	3,405,602	3,574,097
Delaware	594,338	666,168	783,600	897,934
District of Columbia	638,333	606,900	572,059	601,723
Florida	9,746,324	12,937,926	15,982,824	18,801,310
Georgia	5,463,105	6,478,216	8,186,816	9,687,653
Hawaii	964,691	1,108,229	1,211,537	1,360,301
Idaho	943,935	1,006,749	1,293,956	1,567,582
Illinois	11,426,518	11,430,602	12,419,647	12,830,632
Indiana	5,490,224	5,544,159	6,080,517	6,483,802
Iowa	2,913,808	2,776,755	2,926,382	3,046,355
Kansas	2,363,679	2,477,574	2,688,824	2,853,118
Kentucky	3,660,777	3,685,296	4,042,285	4,339,367
Louisiana	4,205,900	4,219,973	4,468,958	4,533,372
Maine	1,124,660	1,227,928	1,274,923	1,328,361
Maryland	4,216,975	4,781,468	5,296,507	5,773,552
Massachusetts	5,737,037	6,016,425	6,349,105	6,547,629
Michigan	9,262,078	9,295,297	9,938,480	9,883,640
Minnesota	4,075,970	4,375,099	4,919,492	5,303,925
Mississippi	2,520,638	2,573,216	2,844,656	2,967,297
Missouri	4,916,686	5,117,073	5,596,683	5,988,927
Montana	786,690	799,065	902,195	989,415
Nebraska	1,569,825	1,578,385	1,711,265	1,826,341
Nevada	800,493	1,201,833	1,998,257	2,700,551
New Hampshire	920,610	1,109,252	1,235,786	1,316,470
New Jersey	7,364,823	7,730,188	8,414,347	8,791,894
New Mexico	1,302,894	1,515,069	1,819,046	2,059,179
New York	17,558,072	17,990,455	18,976,821	19,378,102
North Carolina	5,881,766	6,628,637	8,046,485	9,535,483
North Dakota	652,717	638,800	642,200	672,591
Ohio	10,797,630	10,847,115	11,353,145	11,536,504
Oklahoma	3,025,290	3,145,585	3,450,652	3,751,351
Oregon	2,633,105	2,842,321	3,421,436	3,831,074
Pennsylvania	11,863,895	11,881,643	12,281,054	12,702,379
Rhode Island	947,154	1,003,464	1,048,319	1,052,567
South Carolina	3,121,820	3,486,703	4,011,816	4,625,364
South Dakota	690,768	696,004	754,844	814,180
Tennessee	4,591,120	4,877,185	5,689,267	6,346,105
Texas	14,229,191	16,986,510	20,851,790	25,145,561
Utah	1,461,037	1,722,850	2,233,198	2,763,885
Vermont	511,456	562,758	608,827	625,741
Virginia	5,346,818	6,187,358	7,079,030	8,001,024
Washington	4,132,156	4,866,692	5,894,141	6,724,540
West Virginia	1,949,644	1,793,477	1,808,350	1,852,994
Wisconsin	4,705,767	4,891,769	5,363,715	5,686,986
Wyoming	469,557	453,588	493,782	563,626
Total - States & D.C.	226,545,805	248,709,873	281,424,603	308,745,538



ADR 022 | July 2016

Analytical Data Report

County- and Municipal-Level
Population Forecasts, 2015–2045





The Delaware Valley Regional Planning Commission is dedicated to uniting the region's elected officials, planning professionals, and the public with a common vision of making a great region even greater. Shaping the way we live, work, and play, DVRPC builds consensus on improving transportation, promoting smart growth, protecting the environment, and enhancing the economy. We serve a diverse region of nine counties: Bucks, Chester, Delaware, Montgomery, and Philadelphia in Pennsylvania; and Burlington, Camden, Gloucester, and Mercer in New Jersey. DVRPC is the federally designated Metropolitan Planning Organization for the Greater Philadelphia Region — leading the way to a better future.



The symbol in our logo is adapted from the official DVRPC seal and is designed as a stylized image of the Delaware Valley. The outer ring symbolizes the region as a whole while the diagonal bar signifies the Delaware River. The two adjoining crescents represent the Commonwealth of Pennsylvania and the State of New Jersey.

DVRPC is funded by a variety of funding sources, including federal grants from the U.S. Department of Transportation's Federal Highway Administration (FHWA) and Federal Transit Administration (FTA); the Pennsylvania and New Jersey departments of transportation; and DVRPC's state and local member governments. The authors, however, are solely responsible for the findings and conclusions herein, which may not represent the official views or policies of the funding agencies.

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As the region's metropolitan planning organization, DVRPC provides technical assistance and services to its member state and local governments. *Delaware Valley Data* is our periodic series of free data bulletins, analytical data reports, data reference guides, and data snapshots.

Background

Population and employment forecasts are a critical component of long-range land use and transportation planning. As a part of the Delaware Valley Regional Planning Commission's (DVRPC's) long-range planning activities, the Commission is required to maintain forecasts with at least a 20-year horizon, or to the horizon year of the long-range plan. DVRPC last adopted forecasts through the year 2040 in January 2012. Since that time, the Census Bureau has released 2015 population estimates, and both the nation and the region have continued to recover from the significant economic recession that officially began in December 2007 and ended in June 2009.

In order to incorporate the 2015 Census estimates and maintain a 30-year planning horizon, DVRPC has prepared 2045 population forecasts for its member counties and municipalities. These forecasts were formally adopted by the DVRPC Board on July 28, 2016, and serve as the basis for DVRPC planning and modeling activities. Employment forecasts in five-year increments through 2045 are scheduled to be adopted in October 2016.

Three alternative sets of county- and municipal-level 2045 population forecasts were developed based on the method described below, and sent to the county planning staffs for review and comment. Agreement was first reached on the county- and municipal-level 2045 population forecasts; forecasts for 2020, 2025, 2030, 2035, and 2040 were then calculated by DVRPC, based on the population growth rate predicted over each five-year increment by the Commission's age-cohort survival model. These mid-cycle forecasts were again sent to the counties for review, and their suggested revisions were incorporated to produce the final set of 2045 forecasts.

Method for Calculating County-Level 2045 Population Forecasts

Three alternative 2045 population forecasts were calculated for each county based on three separate methods, the results of which define a reasonable range of values within which each county's 2045 population total is expected to fall. This process replicates the process employed in 2007 and again in 2011, to develop the Commission's adopted 2035 and 2040 population forecasts. The three alternative methods are as follows:

- An initial set of draft county-level 2045 forecasts was obtained by running the traditional age-cohort survival model used in the previously forecasted round, but updating the model to incorporate 2000, 2005, 2010, and 2015 population data in five-year age/sex cohorts. When the analysis for this report was conducted, the Census Bureau had released 2015 estimates of the total population in each county, but had not yet released 2015 estimates by age/sex cohorts. The percentage of the population in each age/sex cohort in 2014 was therefore applied to the 2015 county estimates, to approximate 2015 age/sex breakdowns. The model incorporates birth, death, survival, and migration rates as follows:

- **Birth rate:** The model uses the number of live births per 1,000 women by five-year age cohort in New Jersey in 2013, assuming that New Jersey state-wide data is a better proxy for the Greater Philadelphia region's fertility rate than state-wide data from Pennsylvania (which has many non-metropolitan counties).
- **Survival rate:** Survival rate data (and, conversely, mortality rate data) was obtained from the National Vital Statistics System of the Center for Disease Control and Prevention (CDC). Future survival rates were adjusted to account for expected improvements in mortality related to medical advances and lifestyle changes, based on average increases in life expectancy over the past 20 years.
- **Migration:** The model assumes that migration (the change in the population that cannot be accounted for through births and deaths) in future years will be the same as the average migration rate experienced by each five-year age/sex cohort in each county between 2000 and 2015. Using the average migration rates between 2000 and 2015 accounts for changes in migration experienced prior to the economic recession, during the recession, and post-recession.

This age-cohort model replicates the model used in 2007 and again in 2011, but incorporates recent data to more accurately portray recent demographic trends. These trends include higher in-migration of seniors to certain areas of the region, declining overall fertility rates but higher fertility rates among women over age 35, and in-migration to Philadelphia and some of the region's older suburbs.

- A second set of county-level forecasts was developed utilizing the region-wide 2045 population forecast from the age-cohort model described above, but redistributing the total 2045 regional population to each of the nine counties based on the county percentages from the adopted 2040 forecasts. This alternative acknowledges that the longer-term development trends agreed upon during the process of developing the 2040 forecasts may be more important in some counties than the age-cohort births/deaths and shorter-term migration trends reflected in the county-level age-cohort method described above. It therefore continues those longer-term growth trends by reassigning the 2045 regional population among the nine counties, essentially adjusting migration rates to compensate for birth-death effects.
- A third alternative set of county-level forecasts was developed by applying the growth rates between each five-year time period from DVRPC's adopted 2040 forecasts to the previous five-year total, but using 2015 American Community Survey data as the base. The expected growth rate between 2040 and 2045 was based on the average change in the forecasted growth rate for each five-year increment between 2015 and 2040.

This alternative ignores the results of the most recent age-cohort model and simply extends to 2045 the growth rates agreed upon during the process of developing the 2040 forecasts, as applied to the new 2015 base. This method assumes future population growth will follow previously adopted trends but adjusts for the differences in growth that actually occurred between 2010 and 2015.

The two alternatives to the age-cohort model incorporate the value of local planning knowledge and recognize that the adopted 2040 forecasts did not simply reflect the age-cohort results, but included significant input from the county planning staffs. Based on the above steps, three alternative sets of 2045 forecasts were developed for each of the nine counties, creating expected minimum and maximum 2045 county-level forecasts.

Method for Calculating Municipal-Level 2045 Population Forecasts

Each set of alternative county-level 2045 forecasts was disaggregated to the municipal level using the following method:

- The difference between the municipal-level 2015 Census population estimate and DVRPC's 2015 population forecast was calculated for each municipality.
- These differences were added or subtracted as appropriate from the adopted municipal-level 2040 forecasts. These adjusted 2040 forecasts were then used as a base for the calculation of the 2045 municipal forecasts.
- The adjusted 2040 population forecasts were summed and, for each set of alternatives, the percentage of the population forecasted to live in each municipality in 2040 (based on the adjusted 2040 forecasts) was applied to each of the 2045 county-level alternatives to create preliminary 2045 municipal forecasts, with the sum of all municipalities within each county matching the county-level 2045 forecast for each of the three alternatives.

This method assumes that the proportion of the county's population living in each municipality in 2040 will remain the same in 2045 and, when applied to the three alternative county-level forecasts, produced three alternative sets of municipal-level 2045 forecasts. These alternatives were sent to DVRPC's member counties' planning staff for review and comment, and consensus was reached on a full set of 2045 county and municipal forecasts.

Method for Developing Mid-Year Population Forecasts

Once agreement was reached on the county- and municipal-level 2045 population forecasts, forecasts for 2020, 2025, 2030, 2035, and 2040 were developed by DVRPC, based on the population growth predicted for each mid-year increment by the regional age-cohort survival model. The age-cohort model predicted a slight curve (rather than a straight line), with slightly more growth in the early years and a slight slowing near the end.

Obviously, the population of every municipality is not going to increase at exactly the same rate during each five-year interval. These mid-year numbers were simply intended to provide a logical starting point for discussion, and were sent to the county planning staffs for final review, based on their local knowledge of pending and approved development proposals and population growth trends. Their suggested revisions were incorporated to produce the final set of 2045 forecasts. Table 1 summarizes DVRPC's adopted regional and county forecasts in five-year increments through 2045, and municipal-level forecasts are provided in Appendix A.

Table 1: Forecasted Population by County, 2015-2045

County	2015						2015-2045			
	2010 Census	Census Estimate	2020 Forecast	2025 Forecast	2030 Forecast	2035 Forecast	2040 Forecast	2045 Forecast	Absolute Change	Percentage Change
Bucks County	625,249	627,367	640,495	654,792	669,299	681,273	691,111	699,498	72,131	11.5%
Chester County	498,886	515,939	543,702	571,641	599,932	624,832	645,562	662,283	146,344	28.4%
Delaware County	558,979	563,894	568,337	572,758	577,248	581,136	584,329	587,037	23,143	4.1%
Montgomery County	799,874	819,264	840,934	863,327	884,387	903,114	918,918	932,820	113,556	13.9%
Philadelphia County	1,526,006	1,567,443	1,594,787	1,616,816	1,643,971	1,667,290	1,683,402	1,696,133	128,690	8.2%
Five Pennsylvania Counties	4,008,994	4,093,907	4,188,255	4,279,333	4,374,837	4,457,645	4,523,322	4,577,771	483,864	11.8%
Burlington County	448,734	450,226	459,344	468,428	475,978	482,560	488,026	492,709	42,483	9.4%
Camden County	513,657	510,923	514,006	517,073	520,189	522,886	525,101	526,997	16,074	3.1%
Gloucester County	288,288	291,479	307,766	323,969	340,425	354,677	366,383	376,308	84,829	29.1%
Mercer County	367,511	371,398	377,328	383,227	389,219	394,407	398,669	402,283	30,885	8.3%
Four New Jersey Counties	1,618,190	1,624,026	1,658,444	1,692,697	1,725,811	1,754,530	1,778,179	1,798,296	174,270	10.7%
Nine-County DVRPC Region	5,627,184	5,717,933	5,846,699	5,972,030	6,100,648	6,212,175	6,301,501	6,376,067	658,134	11.5%

Source: Delaware Valley Regional Planning Commission, July 2016.

Table 2 identifies the 20 municipalities expected to gain the most residents between 2015 and 2045, and Table 3 identifies municipalities with the highest forecasted percentage change in population. Figure 1 illustrates the 2040 population forecasts by municipality, with concentrations of population seen in Philadelphia and the region's mature suburbs and along major highway corridors, including Route 422, Route 30, Mercer County's Route 1 corridor, and the Route 55 in Gloucester County and southern Camden County. Figures 2 and 3 illustrate absolute and percent change in population by municipality between 2015 and 2045, respectively.

Figure 4 illustrates the absolute increase in population per square mile in each of the region's 352 municipalities. This map illustrates not just where the population is increasing, but also the impact of relatively small population increases on the population density in specific municipalities. Significant increases in density are forecast not just in the City of Philadelphia, but also in many of the region's smaller boroughs, including Phoenixville, Atglen, Parkesburg, Oxford, Avondale, West Grove, and Kennett Square in Chester County; Bridgeport and Conshohocken in Montgomery County; and Riverside and Beverly in Burlington County.

Highlights

- The DVRPC region is forecast to gain over 658,000 residents between 2015 and 2045 (an 11.5 percent increase).
- As it has since the mid-2000s, the population of the City of Philadelphia increased between 2010 and 2015, with the city adding more than 41,000 residents. This trend is forecast to continue, with the city's population expected to increase by over 8 percent by 2045, adding over 128,000 residents. The share of the region's population living in the city is expected to increase slightly by 2045, from 26 percent, in 2015, to 27 percent.
- The population of the region's five southeastern Pennsylvania counties is forecast to increase by 11.8 percent between 2015 and 2045, while the population of the four New Jersey counties is expected to increase by 10.7 percent.
- The largest percentage increases in population are expected in municipalities in Gloucester County, New Jersey (where the county's population is forecast to increase by over 29 percent) and Chester County, Pennsylvania (where the population is forecast to increase by more than 28 percent).

- The largest absolute increase in population is forecast for Chester County, which is expected to gain over 146,000 residents and surpass Delaware County to become the region's fourth most populous county by 2045. Other counties forecast to see a significant number of additional residents include Philadelphia (as mentioned above), Montgomery County (with a forecasted increase of over 113,000 people), and Gloucester County, New Jersey (forecast to add almost 85,000 residents).

Table 2: Municipalities with the Greatest Forecasted Absolute Change in Population, 2015–2045

Rank	Municipality or City Planning Area	County	Absolute Change	Rank	Municipality or City Planning Area	County	Absolute Change
1	Central	Philadelphia	30,406	11	Harrison Township	Gloucester	7,666
2	Lower North	Philadelphia	16,360	12	Washington Township	Gloucester	7,504
3	University/Southwest	Philadelphia	14,586	13	Bristol Township	Bucks	6,766
4	Monroe Township	Gloucester	13,519	14	Mantua Township	Gloucester	6,667
5	Woolwich Township	Gloucester	12,362	15	River Wards	Philadelphia	6,566
6	Phoenixville Borough	Chester	9,052	16	East Whiteland Township	Chester	6,250
7	North	Philadelphia	8,607	17	Glassboro Borough	Gloucester	6,063
8	West	Philadelphia	8,278	18	Lower Merion Township	Montgomery	6,054
9	Bensalem Township	Bucks	7,838	19	Upper Providence Township	Montgomery	6,050
10	South	Philadelphia	7,767	20	Horsham Township	Montgomery	5,954

Source: Delaware Valley Regional Planning Commission, July 2016.

Table 3: Municipalities with the Greatest Forecasted Percentage Change in Population, 2015–2045

Rank	Municipality or City Planning Area	County	Absolute Change	Rank	Municipality or City Planning Area	County	Absolute Change
1	Woolwich Township	Gloucester	100.5%	11	London Grove Township	Chester	52.4%
2	Elk Township	Gloucester	70.3%	12	South Coatesville Borough	Chester	50.5%
3	Atglen Borough	Chester	63.9%	13	West Brandywine Township	Chester	48.2%
4	Elverson Borough	Chester	62.6%	14	East Vincent Township	Chester	47.6%
5	Modena Borough	Chester	62.5%	15	East Brandywine Township	Chester	47.0%
6	Sadsbury Township	Chester	62.3%	16	Penn Township	Chester	46.5%
7	Harrison Township	Gloucester	59.0%	17	Charlestown Township	Chester	46.5%
8	East Whiteland Township	Chester	58.4%	18	New Hanover Township	Montgomery	46.3%
9	West Sadsbury Township	Chester	54.5%	19	Hainesport Township	Burlington	45.5%
10	Phoenixville Borough	Chester	54.3%	20	Mantua Township	Gloucester	44.3%

Source: Delaware Valley Regional Planning Commission, July 2016.



Figure 1:
2045 Municipal Population Forecast

People

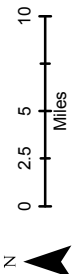
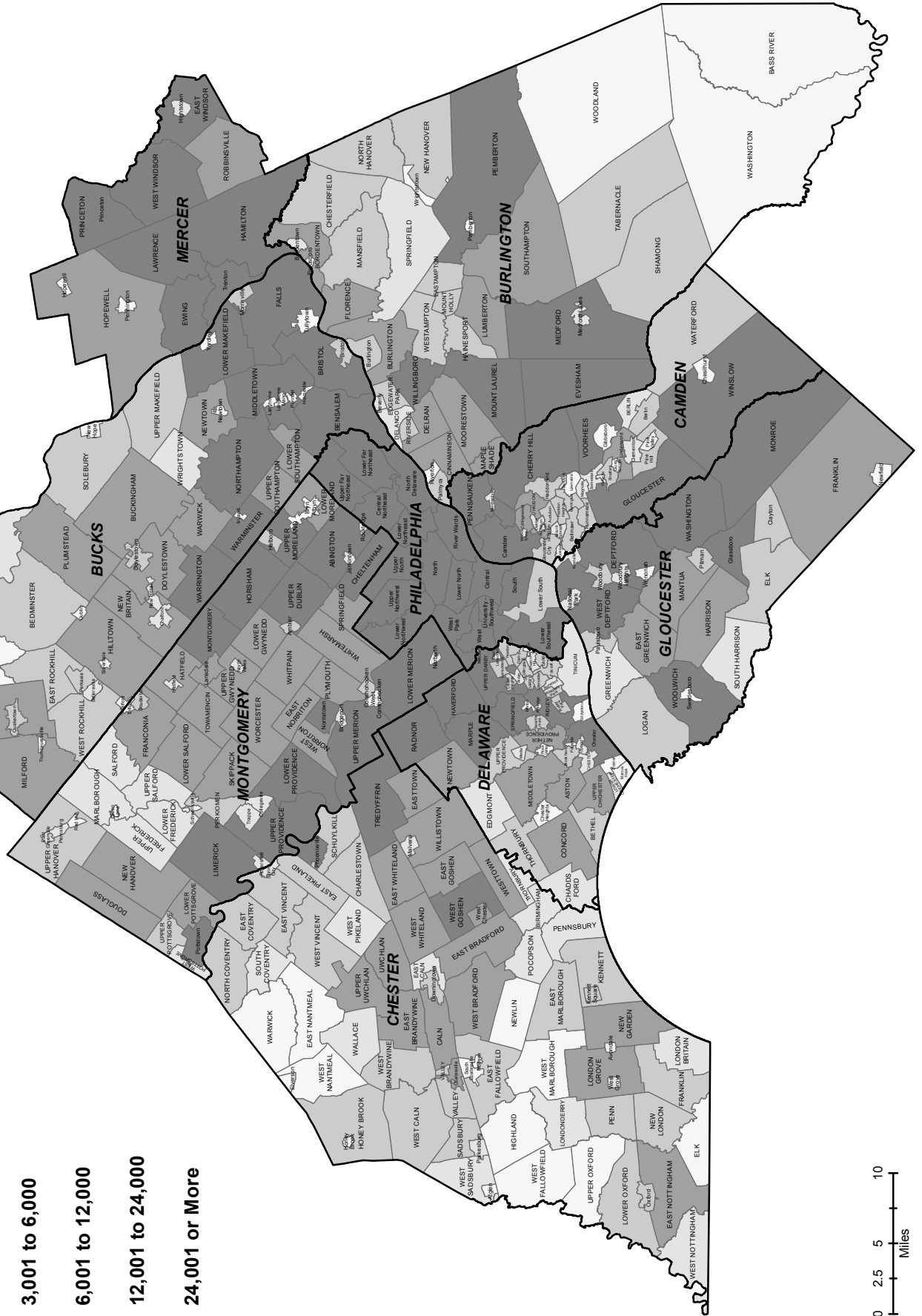
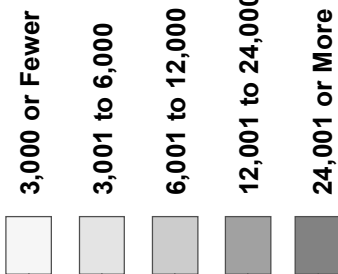


Figure 2:
2045 Municipal Population Forecast
Absolute Change: 2015–2045

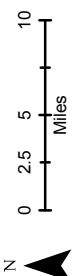
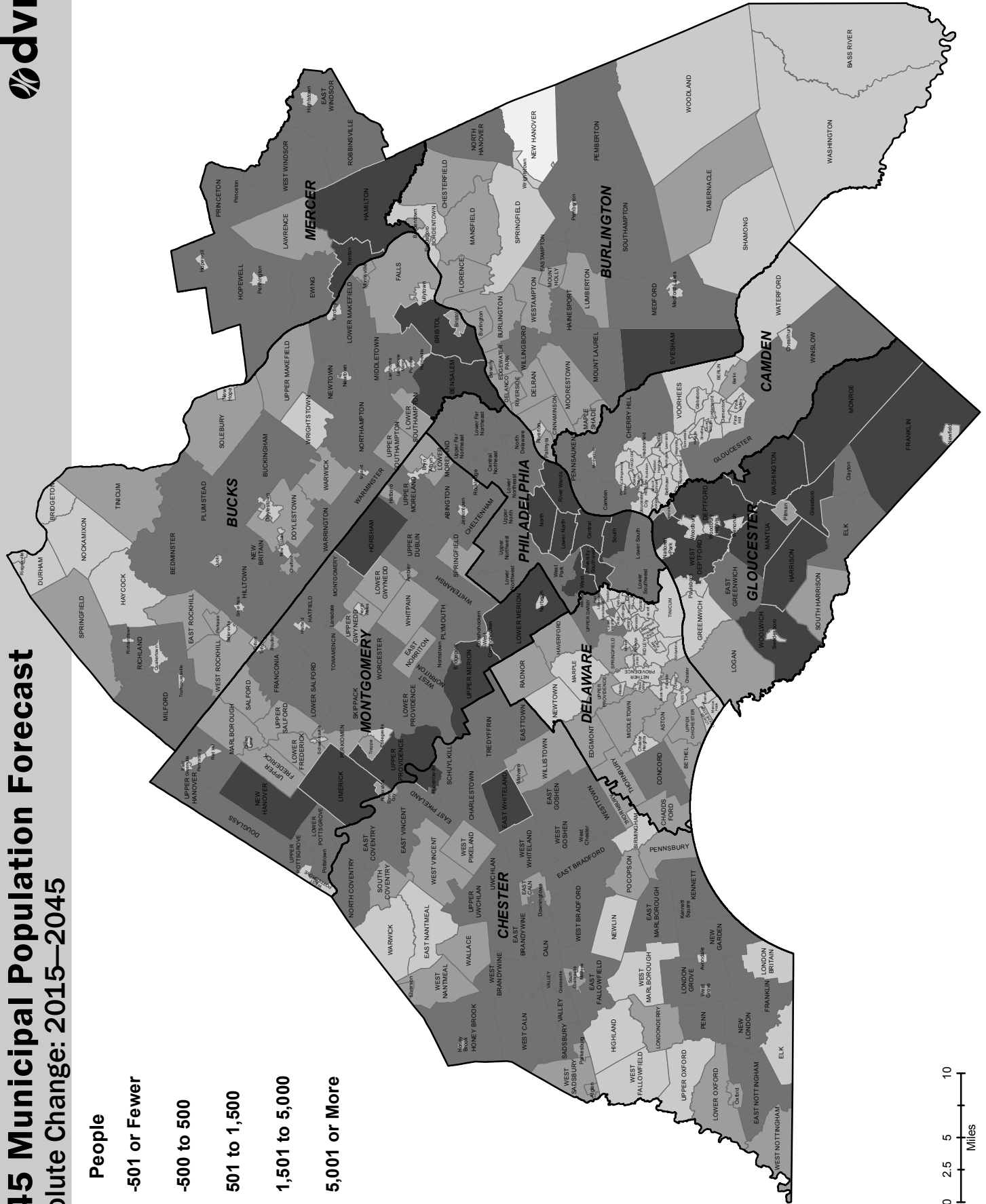
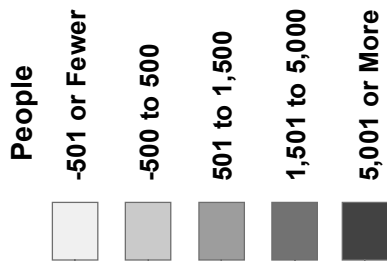


Figure 3:
2045 Municipal Population Forecast
Percentage Change: 2015–2045

- Decline (Below -5%)
- Stable (-5% to +5%)
- Moderate Growth (+6% to +25%)
- Significant Growth (+26% to +50%)
- Exceptional Growth (Above +50%)

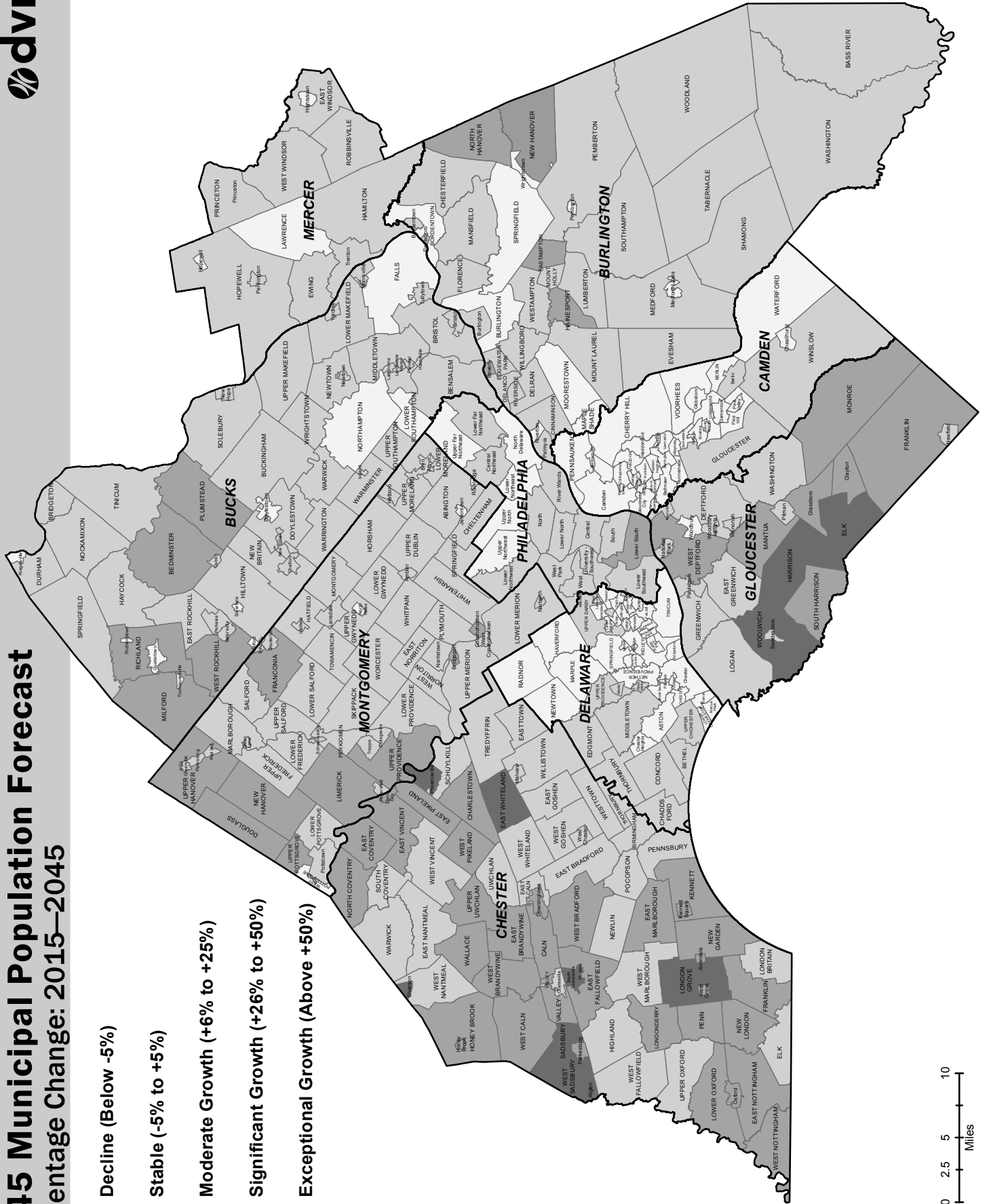
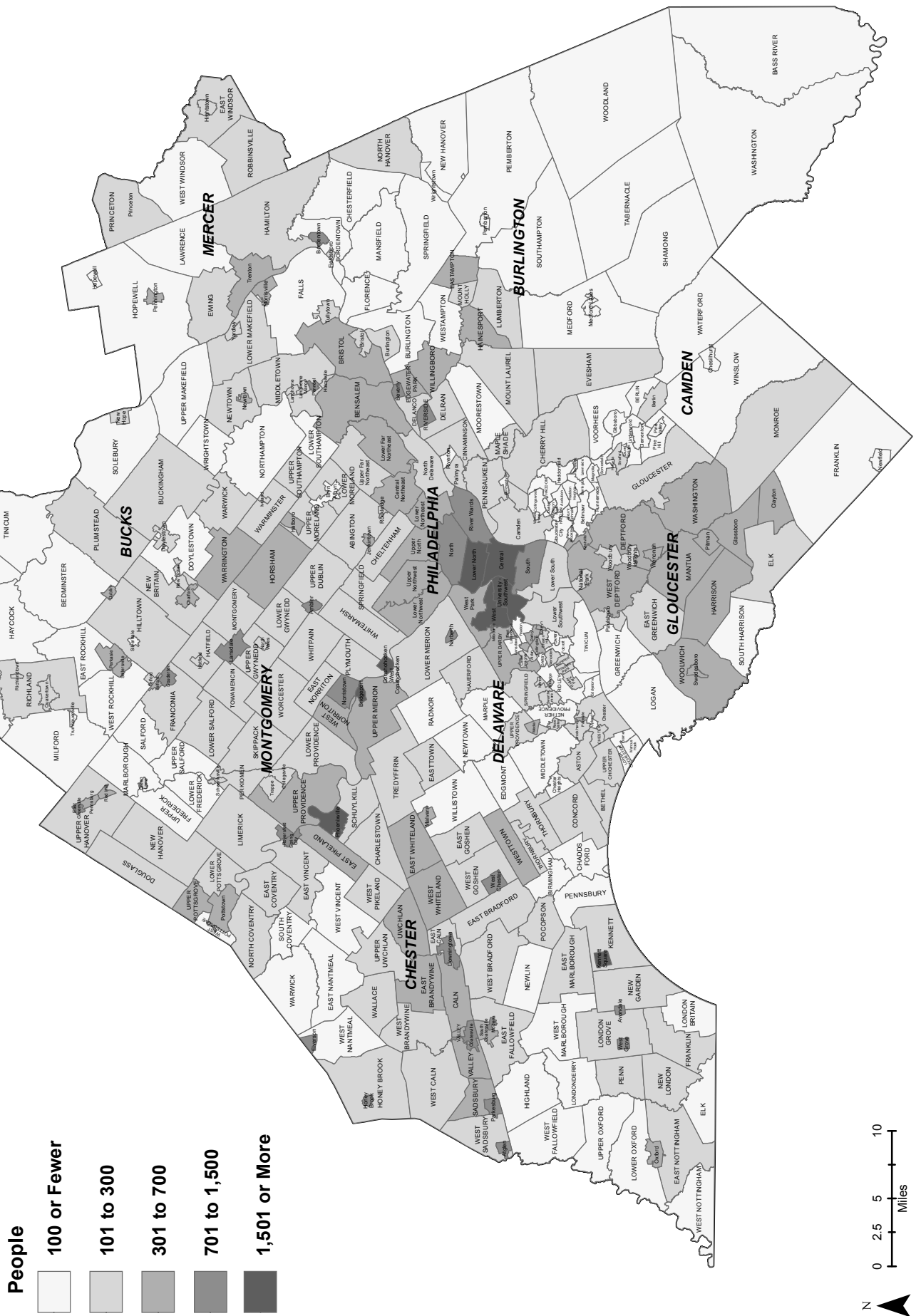




Figure 4:
2045 Municipal Population Forecast
Absolute Change per Square Mile by Municipality:
2015–2045



Summary

This report summarizes the method used to develop 2045 and interim-year population forecasts, which were adopted by the DVRPC Board on July 28, 2016. The population of the nine-county DVRPC region is forecast to increase by 11.5 percent between 2015 and 2045, with much of this growth concentrated in the suburbs, particularly in Chester County, Pennsylvania, and Gloucester County, New Jersey. The population of the City of Philadelphia is expected to increase by over 8 percent by 2045, and the share of the region's population living in the city is expected to increase slightly, from 26 percent in 2015 to 27 percent in 2045.

Population and employment forecasts are a critical component of long-range land use and transportation planning. The adopted population forecasts provided in this report will serve as the basis for DVRPC's planning and modeling activities. Employment forecasts in five-year increments through 2045 will be prepared and adopted in October 2016. The population and employment forecasts will be included in and support *Connections 2045*, the region's long-range plan update, scheduled for adoption in July 2017.

Appendix A: Forecasted Population by County and Municipality, 2015-2045

County / Municipality	2015 Census				2015-2045						
	2000 Census	2010 Census	2015 Census Estimate	2020 Forecast	2025 Forecast	2030 Forecast	2035 Forecast	2040 Forecast	2045 Forecast	Absolute Change	Percentage Change
Bucks County	597,636	625,249	627,367	640,495	654,792	669,299	681,273	691,111	699,498	72,131	11.5%
Bedminster Township	4,800	6,574	7,037	7,407	7,775	8,149	8,473	8,739	8,965	1,928	27.4%
Bensalem Township	58,435	60,427	60,374	61,878	63,377	64,898	66,212	67,296	68,212	7,838	13.0%
Bridgeton Township	1,410	1,277	1,283	1,309	1,335	1,361	1,384	1,402	1,418	135	10.5%
Bristol Borough	9,923	9,726	9,569	9,674	9,778	9,884	9,976	10,051	10,115	546	5.7%
Bristol Township	55,521	54,582	54,086	54,360	56,166	57,990	59,127	60,060	60,852	6,766	12.5%
Buckingham Township	16,440	20,075	20,385	21,079	21,770	22,471	23,078	23,577	24,000	3,615	17.7%
Chalfont Borough	3,900	4,009	4,069	4,496	4,559	4,625	4,672	4,699	4,726	657	16.1%
Doylestown Borough	8,230	8,380	8,301	8,368	8,435	8,502	8,561	8,609	8,650	349	4.2%
Doylestown Township	18,387	17,565	17,563	17,806	18,048	18,293	18,506	18,681	18,829	1,266	7.2%
Dublin Borough	2,085	2,158	2,169	2,221	2,273	2,325	2,371	2,408	2,440	271	12.5%
Durham Township	1,313	1,144	1,144	1,175	1,206	1,238	1,265	1,288	1,307	163	14.2%
East Rockhill Township	5,200	5,706	5,742	5,924	6,106	6,290	6,450	6,581	6,692	950	16.5%
Falls Township	34,865	34,300	33,901	34,074	34,245	34,420	34,571	34,695	34,800	899	2.7%
Haycock Township	2,190	2,225	2,218	2,266	2,315	2,363	2,406	2,441	2,470	252	11.4%
Hilltown Township	12,100	15,029	15,262	15,807	16,349	16,900	17,376	17,768	18,100	2,838	18.6%
Hulmeville Borough	895	1,003	996	1,007	1,017	1,028	1,037	1,045	1,051	55	5.5%
Ivyland Borough	492	1,041	1,053	1,071	1,089	1,108	1,124	1,137	1,148	95	9.0%
Langhorne Borough	1,980	1,622	1,599	1,618	1,638	1,657	1,674	1,688	1,700	101	6.3%
Langhorne Manor Borough	925	1,442	1,431	1,449	1,467	1,485	1,501	1,514	1,525	94	6.6%
Lower Makefield Township	32,691	32,559	32,755	33,683	34,074	34,474	34,855	35,181	35,500	2,745	8.4%
Lower Southampton Township	19,275	18,909	19,142	19,266	19,389	19,515	19,623	19,712	19,788	646	3.4%
Middletown Township	44,140	45,436	45,407	46,097	46,784	47,480	48,084	48,580	49,000	3,593	7.9%
Milford Township	8,810	9,902	10,053	10,555	11,055	11,562	12,002	12,363	12,669	2,616	26.0%
Morrisville Borough	10,020	8,728	8,605	8,623	8,796	8,968	9,074	9,160	9,234	629	7.3%
New Britain Borough	2,358	3,152	3,017	3,080	3,143	3,207	3,263	3,308	3,347	330	10.9%
New Britain Township	10,695	11,070	11,236	11,653	12,068	12,489	12,854	13,154	13,408	2,172	19.3%
New Hope Borough	2,250	2,528	2,510	2,550	2,590	2,631	2,666	2,695	2,719	209	8.3%
Newtown Borough	2,310	2,248	2,222	2,284	2,345	2,407	2,461	2,505	2,543	321	14.4%
Newtown Township	18,206	19,299	19,704	20,059	20,412	20,770	21,081	21,336	21,552	1,848	9.4%
Nockamixon Township	3,520	3,441	3,413	3,491	3,568	3,647	3,715	3,771	3,818	405	11.9%
Northampton Township	39,384	39,726	39,587	39,841	40,262	40,691	41,012	41,276	41,500	1,913	4.8%
Penndel Borough	2,420	2,328	2,221	2,283	2,345	2,408	2,462	2,507	2,545	324	14.6%
Perkasie Borough	8,830	8,511	8,471	8,671	8,869	9,071	9,246	9,389	9,511	1,040	12.3%
Plumstead Township	11,410	12,442	13,511	14,417	15,318	16,233	17,025	17,676	18,228	4,717	34.9%
Quakertown Borough	8,935	8,979	8,855	8,912	8,968	9,025	9,075	9,115	9,150	295	3.3%
Richland Township	9,920	13,052	13,155	13,855	14,551	15,258	15,871	16,374	16,800	3,645	27.7%

County / Municipality	2015 Census							2015-2045			
	2000 Census	2010 Census	Estimate	2020 Forecast	2025 Forecast	2030 Forecast	2035 Forecast	2040 Forecast	2045 Forecast	Absolute Change	Percentage Change
Richlandtown Borough	1,285	1,327	1,312	1,319	1,327	1,334	1,340	1,346	1,350	38	2.9%
Riegelsville Borough	863	868	858	865	873	880	886	892	896	38	4.4%
Sellersville Borough	4,564	4,249	4,212	4,297	4,382	4,469	4,544	4,605	4,657	445	10.6%
Silverdale Borough	1,000	871	856	863	869	876	881	886	890	34	4.0%
Solebury Township	7,740	8,692	8,639	8,766	8,892	9,020	9,131	9,223	9,300	661	7.7%
Springfield Township	4,965	5,035	5,036	5,239	5,440	5,645	5,823	5,968	6,092	1,056	21.0%
Telford Borough (part)	2,201	2,207	2,193	2,214	2,234	2,255	2,273	2,287	2,300	107	4.9%
Tinicum Township	4,205	3,995	3,963	4,136	4,307	4,482	4,633	4,757	4,862	899	22.7%
Trumbauersville Borough	1,060	974	959	967	975	983	990	995	1,000	41	4.3%
Tullytown Borough	2,035	1,872	1,859	1,906	1,953	2,000	2,042	2,075	2,104	245	13.2%
Upper Makefield Township	7,180	8,190	8,255	8,477	8,697	8,921	9,115	9,275	9,410	1,155	14.0%
Upper Southampton Township	15,765	15,152	15,121	15,271	15,419	15,570	15,701	15,809	15,900	779	5.2%
Warminster Township	31,383	32,682	32,594	33,035	33,473	33,918	34,304	34,620	34,889	2,295	7.0%
Warrington Township	17,580	23,418	23,942	24,796	25,646	26,510	27,257	27,871	28,392	4,450	18.6%
Warwick Township	11,975	14,437	14,694	14,972	15,249	15,531	15,774	15,974	16,144	1,450	9.9%
West Rockhill Township	4,230	5,256	5,277	5,369	5,733	6,098	6,337	6,534	6,700	1,423	27.0%
Wrightstown Township	2,840	2,995	3,110	3,197	3,284	3,373	3,449	3,512	3,565	455	14.6%
Yardley Borough	2,500	2,434	2,441	2,497	2,554	2,611	2,660	2,701	2,735	294	12.0%
Chester County	433,512	498,886	515,939	543,702	571,641	599,932	624,832	645,562	662,283	146,344	28.4%
Atglen Borough	1,215	1,406	1,408	1,532	1,683	1,858	2,030	2,203	2,308	900	63.9%
Avondale Borough	1,110	1,265	1,399	1,490	1,581	1,672	1,752	1,818	1,873	474	33.9%
Birmingham Township	4,220	4,208	4,262	4,320	4,377	4,435	4,486	4,527	4,562	300	7.0%
Cain Township	11,916	13,817	14,115	15,025	15,929	16,848	17,644	18,299	18,852	4,737	33.6%
Charlestown Township	4,050	5,671	5,690	6,198	6,703	7,217	7,661	8,026	8,336	2,646	46.5%
Coatesville City	10,838	13,100	13,148	13,666	14,182	14,706	15,160	15,532	15,848	2,700	20.5%
Downingtown Borough	7,590	7,891	7,946	8,508	9,068	9,636	10,128	10,532	10,875	2,929	36.9%
East Bradford Township	9,405	9,942	10,038	10,470	10,900	11,336	11,714	12,025	12,288	2,250	22.4%
East Brandywine Township	5,825	6,742	8,295	9,044	9,789	10,545	11,201	11,739	12,195	3,900	47.0%
East Caln Township	2,855	4,838	4,873	5,073	5,273	5,475	5,651	5,795	5,917	1,044	21.4%
East Coventry Township	4,565	6,636	6,753	7,173	7,592	8,017	8,385	8,687	8,943	2,190	32.4%
East Fallowfield Township	5,160	7,449	7,570	7,992	8,412	8,839	9,208	9,512	9,769	2,199	29.0%
East Goshen Township	16,825	18,026	18,339	18,685	19,028	19,378	19,680	19,928	20,139	1,800	9.8%
East Marlborough Township	6,315	7,026	7,283	7,850	8,414	8,986	9,482	9,890	10,235	2,952	40.5%
East Nantmeal Township	1,785	1,803	1,842	1,871	1,899	1,929	1,954	1,974	1,992	150	8.1%
East Nottingham Township	5,515	8,650	8,930	9,571	10,208	10,855	11,415	11,876	12,266	3,336	37.4%
East Pikeland Township	6,550	7,079	7,359	7,932	8,502	9,081	9,583	9,995	10,344	2,985	40.6%
East Vincent Township	5,493	6,821	6,920	7,552	8,182	8,821	9,374	9,829	10,214	3,294	47.6%
East Whiteland Township	9,335	10,650	10,702	12,002	13,196	14,309	15,358	16,221	16,952	6,250	58.4%

County / Municipality	2015 Census										2015-2045	
	2000 Census	2010 Census	Estimate	2020 Forecast	2025 Forecast	2030 Forecast	2035 Forecast	2040 Forecast	2045 Forecast	Absolute Change	Percentage Change	
Easttown Township	10,265	10,477	10,620	10,966	11,309	11,659	11,961	12,209	12,420	1,800	16.9%	
Elk Township	1,490	1,681	1,695	1,753	1,810	1,868	1,919	1,960	1,995	300	17.7%	
Elverson Borough	960	1,225	1,314	1,472	1,629	1,788	1,926	2,040	2,136	822	62.6%	
Franklin Township	3,850	4,352	4,518	4,861	5,202	5,548	5,848	6,094	6,303	1,785	39.5%	
Highland Township	1,125	1,272	1,289	1,332	1,375	1,419	1,457	1,488	1,514	225	17.5%	
Honey Brook Borough	1,285	1,713	1,758	1,873	1,988	2,104	2,205	2,288	2,358	600	34.1%	
Honey Brook Township	6,280	7,647	8,124	8,510	8,980	9,523	10,058	10,596	10,924	2,800	34.5%	
Kennett Square Borough	5,275	6,072	6,167	6,666	7,163	7,667	8,104	8,463	8,767	2,600	42.2%	
Kennett Township	6,450	7,565	8,172	8,690	9,206	9,730	10,184	10,556	10,872	2,700	33.0%	
London Britain Township	2,795	3,139	3,268	3,314	3,360	3,406	3,447	3,480	3,508	240	7.3%	
London Grove Township	5,265	7,475	8,592	9,213	9,969	10,842	11,702	12,566	13,092	4,500	52.4%	
Londonderry Township	1,630	2,149	2,400	2,553	2,706	2,860	2,995	3,105	3,198	798	33.3%	
Lower Oxford Township	4,320	5,200	5,001	5,289	5,576	5,867	6,119	6,326	6,501	1,500	30.0%	
Malvern Borough	3,060	2,998	3,430	3,557	3,684	3,813	3,924	4,015	4,093	663	19.3%	
Modena Borough	610	535	528	591	654	718	774	819	858	330	62.5%	
New Garden Township	9,080	11,984	12,096	12,730	13,360	14,000	14,555	15,010	15,396	3,300	27.3%	
New London Township	4,585	5,631	5,944	6,438	6,930	7,429	7,862	8,217	8,518	2,574	43.3%	
Newlin Township	1,150	1,285	1,356	1,415	1,474	1,534	1,586	1,629	1,665	309	22.8%	
North Coventry Township	7,380	7,866	8,024	8,397	8,851	9,375	9,891	10,409	10,724	2,700	33.6%	
Oxford Borough	4,315	5,077	5,385	5,571	5,798	6,060	6,318	6,577	6,735	1,350	25.1%	
Parkesburg Borough	3,375	3,593	3,687	3,974	4,260	4,551	4,802	5,009	5,184	1,497	40.6%	
Penn Township	2,810	5,364	5,475	5,964	6,451	6,945	7,373	7,724	8,022	2,547	46.5%	
Pennsbury Township	3,505	3,604	3,659	3,763	3,867	3,972	4,064	4,138	4,202	543	14.8%	
Phoenixville Borough	14,795	16,440	16,658	18,696	20,725	22,481	24,002	25,051	25,710	9,052	54.3%	
Pocopson Township	3,350	4,582	4,856	5,060	5,264	5,471	5,649	5,796	5,921	1,065	21.9%	
Sadsbury Township	2,580	3,570	3,850	4,311	4,769	5,235	5,638	5,969	6,250	2,400	62.3%	
Schuylkill Township	6,965	8,516	8,576	8,922	9,265	9,615	9,917	10,165	10,376	1,800	21.0%	
South Coatesville Borough	995	1,303	1,435	1,574	1,713	1,853	1,975	2,075	2,160	725	50.5%	
South Coventry Township	1,895	2,604	2,616	2,721	2,825	2,931	3,023	3,098	3,162	546	20.9%	
Spring City Borough	3,305	3,323	3,322	3,514	3,705	3,898	4,066	4,204	4,321	999	30.1%	
Thornbury Township	2,678	3,017	3,343	3,503	3,662	3,824	3,964	4,079	4,177	834	24.9%	
Tredyffrin Township	29,065	29,332	29,559	30,232	30,900	31,578	32,165	32,648	33,059	3,500	11.8%	
Upper Oxford Township	2,095	2,484	2,504	2,594	2,684	2,776	2,855	2,920	2,975	471	18.8%	
Upper Uwchlan Township	6,850	11,227	11,545	12,179	12,809	13,449	14,004	14,459	14,845	3,300	28.6%	
Uwchlan Township	16,575	18,088	19,072	19,763	20,451	21,149	21,754	22,251	22,672	3,600	18.9%	
Valley Township	5,115	6,794	7,632	8,187	8,740	9,301	9,787	10,186	10,524	2,892	37.9%	
Wallace Township	3,240	3,458	3,698	3,985	4,270	4,560	4,811	5,017	5,192	1,494	40.4%	
Warwick Township	2,555	2,507	2,550	2,610	2,671	2,732	2,785	2,828	2,865	315	12.4%	
West Bradford Township	10,775	12,223	12,779	13,519	14,255	15,003	15,651	16,183	16,634	3,855	30.2%	

County / Municipality	2015 Census					2015-2045								
	2000 Census	2010 Census	2015 Census Estimate	2020 Forecast	2025 Forecast	2030 Forecast	2035 Forecast	2040 Forecast	2045 Forecast	Absolute Change	Percentage Change			
West Brandywine Township	7,160	7,394	7,468	8,159	8,847	9,545	10,150	10,647	11,068	3,600	48.2%			
West Caln Township	7,055	9,014	9,085	9,539	9,990	10,449	10,846	11,172	11,449	2,364	26.0%			
West Chester Borough	17,861	18,461	19,842	20,361	20,876	21,400	21,853	22,225	22,542	2,700	13.6%			
West Fallowfield Township	2,485	2,566	2,596	2,625	2,653	2,683	2,708	2,728	2,746	150	5.8%			
West Goshen Township	20,495	21,866	23,137	23,713	24,284	24,868	25,369	25,786	26,137	3,000	13.0%			
West Grove Borough	2,650	2,854	2,859	3,002	3,144	3,288	3,413	3,516	3,603	744	26.0%			
West Marlborough Township	855	814	821	830	838	847	855	861	866	45	5.5%			
West Nantmeal Township	2,030	2,170	2,190	2,294	2,397	2,502	2,592	2,667	2,730	540	24.7%			
West Nottingham Township	2,634	2,722	2,706	2,879	3,051	3,225	3,377	3,501	3,606	900	33.3%			
West Pikeland Township	3,550	4,024	4,085	4,324	4,562	4,803	5,013	5,184	5,330	1,245	30.5%			
West Sadsbury Township	2,440	2,444	2,475	2,661	2,888	3,150	3,408	3,667	3,825	1,350	54.5%			
West Vincent Township	3,170	4,567	5,038	5,230	5,422	5,616	5,784	5,923	6,040	1,002	19.9%			
West Whiteland Township	16,500	18,274	18,450	19,266	20,077	20,901	21,614	22,201	22,698	4,248	23.0%			
Westtown Township	10,352	10,827	10,913	11,426	11,936	12,454	12,902	13,271	13,583	2,670	24.5%			
Willistown Township	10,015	10,497	10,905	11,177	11,448	11,724	11,962	12,158	12,324	1,419	13.0%			
Delaware County	551,989	558,979	563,894	568,337	572,758	577,248	581,136	584,329	587,037	23,143	4.1%			
Aldan Borough	4,315	4,152	4,165	4,186	4,208	4,230	4,248	4,264	4,277	112	2.7%			
Aston Township	16,205	16,592	16,799	16,942	17,083	17,227	17,352	17,455	17,541	742	4.4%			
Bethel Township	6,420	8,791	9,166	9,359	9,550	9,745	9,914	10,052	10,170	1,004	11.0%			
Brookhaven Borough	7,985	8,006	8,078	8,138	8,198	8,259	8,311	8,355	8,391	313	3.9%			
Chadds Ford Township	3,170	3,640	3,740	3,848	3,955	4,064	4,159	4,237	4,302	562	15.0%			
Chester City	36,855	33,972	34,092	34,281	34,468	34,659	34,824	34,960	35,075	983	2.9%			
Chester Heights Borough	2,481	2,531	2,626	2,647	2,667	2,688	2,706	2,721	2,733	107	4.1%			
Chester Township	4,605	3,940	4,103	4,140	4,178	4,216	4,248	4,275	4,298	195	4.8%			
Clifton Heights Borough	6,780	6,652	6,684	6,709	6,733	6,758	6,780	6,798	6,813	129	1.9%			
Collingdale Borough	8,665	8,786	8,792	8,866	8,939	9,014	9,079	9,132	9,177	385	4.4%			
Colwyn Borough	2,455	2,546	2,553	2,584	2,615	2,646	2,673	2,695	2,714	161	6.3%			
Concord Township	11,235	17,231	17,663	18,150	18,635	19,127	19,554	19,904	20,201	2,538	14.4%			
Darby Borough	10,300	10,687	10,687	10,756	10,825	10,896	10,956	11,006	11,049	362	3.4%			
Darby Township	9,625	9,264	9,318	9,322	9,326	9,330	9,333	9,336	9,338	20	0.2%			
East Lansdowne Borough	2,585	2,668	2,665	2,673	2,682	2,690	2,697	2,703	2,709	44	1.7%			
Eddystone Borough	2,440	2,410	2,407	2,414	2,420	2,427	2,433	2,438	2,442	35	1.5%			
Edgmont Township	3,915	3,987	4,069	4,214	4,358	4,504	4,631	4,735	4,823	754	18.5%			
Folcroft Borough	6,980	6,606	6,637	6,631	6,625	6,619	6,614	6,610	6,606	-31	-0.5%			
Glenolden Borough	7,475	7,153	7,173	7,194	7,215	7,236	7,255	7,270	7,283	110	1.5%			
Haverford Township	49,608	48,491	49,057	49,279	49,500	49,724	49,918	50,078	50,213	1,156	2.4%			
Lansdowne Borough	11,044	10,620	10,639	10,655	10,671	10,688	10,702	10,714	10,724	85	0.8%			
Lower Chichester Township	3,590	3,469	3,477	3,488	3,499	3,510	3,519	3,527	3,534	57	1.6%			

County / Municipality	2015 Census										2015-2045	
	2000 Census	2010 Census	2015 Census Estimate	2020 Forecast	2025 Forecast	2030 Forecast	2035 Forecast	2040 Forecast	2045 Forecast	2045 Forecast	Absolute Change	Percentage Change
Marcus Hook Borough	2,315	2,397	2,397	2,415	2,433	2,451	2,466	2,479	2,490	2,490	93	3.9%
Marple Township	23,735	23,428	23,743	23,794	23,846	23,898	23,942	23,979	24,011	24,011	268	1.1%
Media Borough	5,530	5,327	5,363	5,445	5,526	5,608	5,679	5,738	5,788	5,788	425	7.9%
Middletown Township	16,065	15,807	15,998	16,185	16,371	16,560	16,724	16,858	16,972	16,972	974	6.1%
Millbourne Borough	945	1,159	1,162	1,178	1,194	1,210	1,223	1,235	1,244	1,244	82	7.1%
Morton Borough	2,715	2,669	2,695	2,707	2,720	2,732	2,743	2,752	2,760	2,760	65	2.4%
Nether Providence Township	13,456	13,706	13,808	13,893	13,977	14,063	14,138	14,199	14,251	14,251	443	3.2%
Newtown Township	11,705	12,216	12,754	12,849	12,943	13,038	13,121	13,189	13,246	13,246	492	3.9%
Norwood Borough	5,985	5,890	5,898	5,917	5,935	5,954	5,970	5,984	5,995	5,995	97	1.6%
Parkside Borough	2,265	2,328	2,334	2,349	2,365	2,380	2,394	2,405	2,414	2,414	80	3.4%
Prospect Park Borough	6,595	6,454	6,481	6,515	6,548	6,582	6,612	6,636	6,656	6,656	175	2.7%
Radnor Township	30,880	31,531	31,612	31,808	32,003	32,201	32,373	32,513	32,633	32,633	1,021	3.2%
Ridley Park Borough	7,195	7,002	7,035	7,071	7,106	7,143	7,174	7,200	7,221	7,221	186	2.6%
Ridley Township	30,790	30,768	31,053	31,129	31,205	31,281	31,348	31,402	31,449	31,449	396	1.3%
Rose Valley Borough	945	913	949	970	991	1,012	1,031	1,046	1,058	1,058	109	11.5%
Rutledge Borough	860	784	795	798	801	804	807	809	811	811	16	2.0%
Sharon Hill Borough	5,465	5,697	5,702	5,733	5,764	5,795	5,822	5,845	5,863	5,863	161	2.8%
Springfield Township	23,675	24,211	24,401	24,612	24,822	25,035	25,220	25,372	25,500	25,500	1,099	4.5%
Swarthmore Borough	6,170	6,194	6,211	6,249	6,287	6,325	6,359	6,386	6,409	6,409	198	3.2%
Thornbury Township	5,787	8,028	7,857	8,039	8,219	8,403	8,562	8,692	8,803	8,803	946	12.0%
Tinicum Township	4,355	4,091	4,109	4,113	4,117	4,120	4,124	4,126	4,129	4,129	20	0.5%
Trainer Borough	1,905	1,828	1,844	1,833	1,822	1,810	1,801	1,793	1,786	1,786	-58	-3.1%
Upland Borough	2,980	3,239	3,251	3,263	3,274	3,286	3,296	3,304	3,311	3,311	60	1.8%
Upper Chichester Township	16,845	16,738	17,003	17,177	17,350	17,526	17,678	17,803	17,909	17,909	906	5.3%
Upper Darby Township	81,821	82,795	82,878	83,699	84,521	85,354	86,073	86,662	87,167	87,167	4,289	5.2%
Upper Providence Township	10,510	10,142	10,448	10,592	10,735	10,881	11,007	11,110	11,198	11,198	750	7.2%
Yeadon Borough	11,762	11,443	11,523	11,528	11,533	11,539	11,543	11,547	11,550	11,550	27	0.2%
Montgomery County	748,978	799,874	819,264	840,934	863,327	884,387	903,114	918,918	932,820	932,820	113,556	13.9%
Abington Township	56,105	55,310	55,590	56,172	56,754	57,336	57,918	58,500	59,083	59,083	3,493	6.3%
Ambler Borough	6,425	6,417	6,505	6,657	6,810	6,963	7,116	7,269	7,422	7,422	917	14.1%
Bridgeport Borough	4,370	4,554	4,564	4,964	5,464	5,533	5,602	5,671	5,740	5,740	1,176	25.8%
Bryn Athyn Borough	1,350	1,375	1,392	1,408	1,423	1,439	1,453	1,464	1,474	1,474	82	5.9%
Cheltenham Township	36,880	36,793	37,014	37,364	37,714	38,146	38,578	39,092	39,607	39,607	2,593	7.0%
Collegeville Borough	4,930	5,089	5,287	5,360	5,432	5,506	5,569	5,622	5,666	5,666	379	7.2%
Conshohocken Borough	7,590	7,833	7,956	8,706	9,456	9,877	10,297	10,567	10,837	10,837	2,881	36.2%
Douglass Township	9,104	10,195	10,432	10,950	11,464	11,987	12,440	12,812	13,128	13,128	2,696	25.8%
East Greenville Borough	3,105	2,951	2,985	3,047	3,109	3,171	3,233	3,295	3,358	3,358	373	12.5%
East Norriton Township	13,211	13,590	14,082	14,256	14,430	14,606	14,759	14,884	14,990	14,990	908	6.4%

County / Municipality	2015 Census										2015-2045	
	2000 Census	2010 Census	2015 Census Estimate	2020 Forecast	2025 Forecast	2030 Forecast	2035 Forecast	2040 Forecast	2045 Forecast	2050 Forecast	Absolute Change	Percentage Change
Franconia Township	11,525	13,064	13,241	13,798	14,355	14,912	15,469	16,026	16,584	17,142	3,343	25.2%
Green Lane Borough	580	508	500	508	515	523	530	535	540	545	40	8.0%
Hatboro Borough	7,390	7,360	7,411	7,591	7,770	7,952	8,110	8,240	8,349	8,458	938	12.7%
Hatfield Borough	2,605	3,290	3,306	3,342	3,378	3,415	3,447	3,473	3,495	3,517	189	5.7%
Hatfield Township	16,712	17,249	17,558	18,057	18,553	19,057	19,493	19,851	20,155	20,459	2,597	14.8%
Horsham Township	24,234	26,147	26,587	26,987	28,319	29,668	31,023	31,845	32,541	33,237	5,954	22.4%
Jenkintown Borough	4,475	4,422	4,431	4,467	4,504	4,541	4,572	4,599	4,621	4,643	190	4.3%
Lansdale Borough	16,070	16,269	16,512	17,019	17,523	18,035	18,479	18,843	19,152	19,461	2,640	16.0%
Limerick Township	13,535	18,074	18,798	19,854	20,904	21,970	22,894	23,653	24,296	24,939	5,498	29.2%
Lower Frederick Township	4,795	4,840	4,892	4,985	5,078	5,171	5,263	5,355	5,447	5,539	555	11.3%
Lower Gwynedd Township	10,420	11,405	11,548	11,732	11,916	12,100	12,284	12,468	12,651	12,835	1,103	9.6%
Lower Merion Township	58,740	57,825	58,177	59,676	61,027	62,135	62,983	63,732	64,231	64,730	6,054	10.4%
Lower Moreland Township	11,280	12,982	13,220	13,426	13,631	13,839	14,020	14,168	14,294	14,420	1,074	8.1%
Lower Pottsgrove Township	11,213	12,059	12,174	12,565	12,954	13,350	13,692	13,973	14,212	14,451	2,038	16.7%
Lower Providence Township	22,390	25,436	26,187	26,679	27,168	27,664	28,094	28,448	28,747	29,046	2,560	9.8%
Lower Salford Township	12,895	14,959	15,344	15,922	16,497	17,081	17,587	18,002	18,355	18,708	3,011	19.6%
Marlborough Township	3,110	3,178	3,308	3,405	3,501	3,599	3,683	3,753	3,812	3,871	504	15.2%
Montgomery Township	22,025	24,790	26,025	26,545	27,063	27,588	28,044	28,418	28,735	29,052	2,710	10.4%
Narberth Borough	4,235	4,282	4,309	4,378	4,447	4,517	4,578	4,627	4,669	4,711	360	8.4%
New Hanover Township	7,365	10,939	12,495	13,605	14,708	15,829	16,800	17,598	18,274	18,950	5,779	46.3%
Norristown Borough	31,280	34,324	34,412	34,777	35,212	35,737	36,344	36,942	37,543	38,144	3,131	9.1%
North Wales Borough	3,340	3,229	3,250	3,277	3,304	3,332	3,356	3,375	3,392	3,410	142	4.4%
Pennsburg Borough	2,730	3,843	3,873	3,942	4,010	4,080	4,140	4,190	4,232	4,274	359	9.3%
Perkiomen Township	7,095	9,139	9,245	9,486	9,726	9,969	10,180	10,354	10,501	10,648	1,256	13.6%
Plymouth Township	16,045	16,525	17,653	18,091	18,527	18,969	19,353	19,668	19,934	20,200	2,281	12.9%
Pottstown Borough	21,859	22,377	22,664	22,959	23,253	23,551	23,809	24,021	24,201	24,381	1,537	6.8%
Red Hill Borough	2,195	2,383	2,383	2,441	2,498	2,557	2,607	2,649	2,684	2,719	301	12.6%
Rockledge Borough	2,575	2,543	2,541	2,553	2,565	2,577	2,588	2,596	2,604	2,612	63	2.5%
Royersford Borough	4,245	4,752	4,771	4,893	5,014	5,136	5,243	5,330	5,404	5,478	633	13.3%
Salford Township	2,365	2,504	2,954	3,088	3,222	3,358	3,475	3,572	3,654	3,736	700	23.7%
Schwenksville Borough	1,395	1,385	1,398	1,422	1,445	1,469	1,489	1,506	1,521	1,536	123	8.8%
Skippack Township	9,915	13,715	14,992	15,475	15,958	16,441	16,924	17,407	17,891	18,374	2,899	19.3%
Souderton Borough	6,725	6,618	6,747	6,917	7,086	7,258	7,406	7,528	7,632	7,736	885	13.1%
Springfield Township	19,530	19,418	19,574	19,766	19,957	20,151	20,319	20,457	20,574	20,691	1,000	5.1%
Telford Borough (pt.)	2,474	2,665	2,668	2,720	2,771	2,823	2,868	2,905	2,937	2,969	269	10.1%
Towamencin Township	17,600	17,578	18,272	18,755	19,235	19,723	20,146	20,493	20,787	21,081	2,515	13.8%
Trappe Borough	3,210	3,509	3,553	3,656	3,758	3,862	3,952	4,026	4,089	4,152	536	15.1%
Upper Dublin Township	25,875	25,569	26,211	26,890	27,715	28,501	28,995	29,383	29,745	30,107	3,534	13.5%
Upper Frederick Township	3,140	3,523	3,564	3,662	3,760	3,860	3,946	4,016	4,076	4,136	512	14.4%

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Upper Gwynedd Township	14,245	15,552	15,928	16,116	16,304	16,492	16,679	16,866	17,053	1,125	7.1%	
Upper Hanover Township	4,885	6,464	7,287	7,696	8,103	8,516	8,874	9,168	9,417	2,130	29.2%	
Upper Merion Township	26,863	28,395	28,620	30,147	31,668	32,607	33,393	34,003	34,491	5,871	20.5%	
Upper Moreland Township	24,990	24,015	24,231	24,522	24,812	25,107	25,362	25,572	25,749	1,518	6.3%	
Upper Pottsgrove Township	4,105	5,315	5,483	5,774	6,065	6,357	6,649	6,941	7,233	1,750	31.9%	
Upper Providence Township	15,395	21,219	23,460	24,622	25,777	26,951	27,967	28,802	29,510	6,050	25.8%	
Upper Salford Township	3,025	3,299	3,378	3,507	3,636	3,765	3,894	4,024	4,154	776	23.0%	
West Conshohocken Borough	1,445	1,320	1,381	1,411	1,442	1,472	1,499	1,521	1,539	158	11.4%	
West Norriton Township	14,900	15,663	15,779	16,145	16,509	16,878	17,198	17,461	17,684	1,905	12.1%	
West Pottsgrove Township	3,815	3,874	3,884	3,915	3,945	3,976	4,003	4,025	4,044	160	4.1%	
Whitemarsh Township	16,702	17,349	17,663	18,503	19,040	19,486	19,859	20,197	20,476	2,813	15.9%	
Whitpain Township	18,562	18,875	19,180	19,464	19,747	20,034	20,283	20,487	20,661	1,481	7.7%	
Worcester Township	7,789	9,750	10,435	10,917	11,396	11,882	12,304	12,650	12,943	2,508	24.0%	
Philadelphia County	1,517,550	1,526,006	1,567,443	1,594,787	1,616,816	1,643,971	1,667,290	1,683,402	1,696,133	128,690	8.2%	
Central	100,188	117,132	126,629	132,848	137,233	143,015	148,841	153,321	157,035	30,406	24.0%	
Central Northeast	72,179	78,266	79,870	81,333	82,568	83,813	84,123	84,490	84,713	4,843	6.1%	
Lower Far Northeast	71,657	70,340	70,596	71,526	72,319	73,060	73,588	74,087	74,502	3,906	5.5%	
Lower North	95,139	95,176	101,692	105,069	108,227	111,507	114,601	116,878	118,052	16,360	16.1%	
Lower Northeast	93,471	100,232	102,654	103,621	104,301	104,837	105,110	105,080	105,424	2,770	2.7%	
Lower Northwest	51,869	50,799	52,319	53,241	54,072	54,730	55,162	55,406	55,811	3,492	6.7%	
Lower South	4,318	5,150	5,499	5,747	5,998	6,501	6,749	7,001	7,335	1,836	33.4%	
Lower Southwest	41,642	42,117	42,462	43,288	43,711	44,054	44,854	45,183	45,439	2,977	7.0%	
North	141,061	137,849	138,049	138,663	140,022	142,561	144,724	145,520	146,656	8,607	6.2%	
North Delaware	96,005	100,631	101,251	102,210	102,553	102,944	102,909	103,041	103,280	2,029	2.0%	
River Wards	66,321	68,489	70,385	72,380	73,004	74,203	75,613	76,270	76,951	6,566	9.3%	
South	131,616	132,904	137,110	138,842	140,432	141,898	143,712	144,223	144,877	7,767	5.7%	
University/Southwest	83,639	81,746	87,719	92,546	94,735	97,599	99,607	101,667	102,305	14,586	16.6%	
Upper Far Northeast	64,469	66,605	67,986	68,387	69,071	69,893	69,943	70,370	70,660	2,674	3.9%	
Upper North	154,560	144,381	145,913	146,533	147,898	149,046	149,501	150,207	150,422	4,509	3.1%	
Upper Northwest	89,851	85,093	85,633	86,048	87,079	88,209	89,309	89,432	89,915	4,282	5.0%	
West	111,973	105,642	106,922	107,403	108,060	109,844	112,163	114,009	115,200	8,278	7.7%	
West Park	47,592	43,454	44,754	45,102	45,533	46,257	46,781	47,217	47,556	2,802	6.3%	
Burlington County	423,397	448,734	450,226	459,344	468,428	475,978	482,560	488,026	492,709	42,483	9.4%	
Bass River Township	1,510	1,443	1,449	1,483	1,516	1,550	1,580	1,604	1,624	175	12.1%	
Beverly City	2,660	2,577	2,559	2,710	2,859	3,011	3,143	3,251	3,343	784	30.6%	
Bordentown City	3,970	3,924	3,882	4,012	4,141	4,273	4,387	4,480	4,559	677	17.4%	
Bordentown Township	8,375	11,367	11,935	11,965	11,996	12,027	12,053	12,075	12,094	159	1.3%	

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										Absolute Change	Percentage Change	
Burlington City	9,740	9,920	9,808	10,010	10,210	10,414	10,590	10,735	10,858	1,050	10.7%	
Burlington Township	20,190	22,594	22,826	22,936	23,045	23,156	23,252	23,331	23,398	572	2.5%	
Chesterfield Township	5,955	7,699	7,572	7,715	7,857	8,002	8,127	8,230	8,317	745	9.8%	
Cinnaminson Township	14,595	15,569	16,651	16,880	17,108	17,339	17,540	17,704	17,844	1,193	7.2%	
Delanco Township	3,335	4,283	4,541	4,644	4,746	4,849	4,939	5,013	5,075	534	11.8%	
Delran Township	15,535	16,896	16,767	16,959	17,150	17,343	17,511	17,649	17,766	999	6.0%	
Eastampton Township	6,205	6,069	6,011	6,450	6,887	7,331	7,715	8,031	8,298	2,287	38.0%	
Edgewater Park Township	7,865	8,881	8,788	8,995	9,200	9,409	9,590	9,738	9,864	1,076	12.2%	
Evesham Township	42,275	45,538	45,577	47,546	49,519	49,847	50,175	50,504	50,831	5,254	11.5%	
Fieldsboro Borough	522	540	532	539	547	554	560	565	570	38	7.1%	
Florence Township	10,745	12,109	12,688	12,864	13,038	13,216	13,369	13,495	13,602	914	7.2%	
Hainesport Township	4,125	6,110	6,053	6,582	7,108	7,643	8,105	8,486	8,808	2,755	45.5%	
Lumberton Township	10,455	12,559	12,428	12,712	12,995	13,281	13,530	13,734	13,907	1,479	11.9%	
Mansfield Township	5,090	8,544	8,574	8,735	8,896	9,058	9,200	9,315	9,414	840	9.8%	
Maple Shade Township	19,080	19,131	18,963	19,071	19,178	19,287	19,381	19,459	19,524	561	3.0%	
Medford Lakes Borough	4,175	4,146	4,085	4,097	4,109	4,122	4,132	4,141	4,149	64	1.6%	
Medford Township	22,250	23,033	23,414	23,916	24,415	24,922	25,361	25,721	26,027	2,613	11.2%	
Moorestown Township	19,020	20,726	20,564	20,745	20,925	21,107	21,265	21,395	21,505	941	4.6%	
Mount Holly Township	10,728	9,536	9,493	9,620	9,747	9,875	9,987	10,078	10,156	663	7.0%	
Mount Laurel Township	40,225	41,864	41,842	42,342	42,839	43,346	43,784	44,146	44,449	2,607	6.2%	
New Hanover Township	9,744	7,385	8,078	7,927	7,777	7,625	7,493	7,384	7,292	-786	-9.7%	
North Hanover Township	7,347	7,678	7,609	8,049	8,486	8,930	9,315	9,630	9,898	2,289	30.1%	
Palmyra Borough	7,090	7,398	7,314	7,420	7,525	7,632	7,725	7,801	7,865	551	7.5%	
Pemberton Borough	1,210	1,409	1,383	1,390	1,397	1,404	1,410	1,415	1,419	36	2.6%	
Pemberton Township	28,575	27,912	27,771	28,279	28,784	29,297	29,741	30,106	30,416	2,645	9.5%	
Riverside Township	7,910	8,079	7,997	8,254	8,511	8,771	8,996	9,181	9,338	1,341	16.8%	
Riverton Borough	2,760	2,779	2,748	2,753	2,758	2,763	2,768	2,771	2,774	26	0.9%	
Shamong Township	6,465	6,490	6,419	6,494	6,568	6,644	6,709	6,763	6,809	390	6.1%	
Southampton Township	10,388	10,464	10,337	10,735	11,131	11,533	11,881	12,167	12,409	2,072	20.0%	
Springfield Township	3,225	3,414	3,355	3,386	3,417	3,448	3,475	3,498	3,517	162	4.8%	
Tabernacle Township	7,170	6,949	6,954	7,051	7,147	7,244	7,329	7,398	7,457	503	7.2%	
Washington Township	621	687	674	681	689	697	703	708	713	39	5.8%	
Westampton Township	7,217	8,813	8,726	8,932	9,137	9,345	9,525	9,673	9,799	1,073	12.3%	
Willingboro Township	33,010	31,629	31,270	31,831	32,391	32,959	33,451	33,855	34,198	2,928	9.4%	
Woodland Township	1,290	1,788	1,793	1,833	1,873	1,913	1,948	1,977	2,001	208	11.6%	
Wrightstown Borough	750	802	796	801	806	811	815	819	822	26	3.3%	
Camden County	508,929	513,657	510,923	514,006	517,073	520,189	522,886	525,101	526,997	16,074	3.1%	
Audubon Borough	9,180	8,819	8,730	8,699	8,668	8,637	8,609	8,587	8,568	-162	-1.9%	

County / Municipality	2015 Census										2015-2045	
	2000 Census	2010 Census	Estimate	2020 Forecast	2025 Forecast	2030 Forecast	2035 Forecast	2040 Forecast	2045 Forecast	Absolute Change	Percentage Change	
Audubon Park Borough	1,100	1,023	1,011	1,008	1,006	1,003	1,001	999	997	-14	-1.4%	
Barrington Borough	7,084	6,983	6,817	6,816	6,815	6,814	6,813	6,812	6,811	-6	-0.1%	
Bellmawr Borough	11,265	11,583	11,462	11,464	11,467	11,469	11,470	11,471	11,472	10	0.1%	
Berlin Borough	6,150	7,588	7,590	7,688	7,785	7,884	7,970	8,040	8,100	510	6.7%	
Berlin Township	5,290	5,357	5,434	5,439	5,444	5,448	5,453	5,456	5,459	25	0.5%	
Brooklawn Borough	2,355	1,955	1,933	1,939	1,945	1,951	1,956	1,960	1,964	31	1.6%	
Camden City	79,905	77,344	76,119	76,512	76,904	77,302	77,643	77,929	78,169	2,050	2.7%	
Cherry Hill Township	69,960	71,045	71,340	71,903	72,462	73,031	73,523	73,927	74,270	2,930	4.1%	
Chesilhurst Borough	1,520	1,634	1,634	1,632	1,631	1,629	1,628	1,627	1,626	-8	-0.5%	
Clementon Borough	4,985	5,000	4,947	4,981	5,014	5,048	5,077	5,102	5,122	175	3.5%	
Collingswood Borough	14,326	13,926	14,000	13,997	13,994	13,991	13,988	13,986	13,984	-16	-0.1%	
Gibbsboro Borough	2,435	2,274	2,244	2,242	2,239	2,236	2,234	2,233	2,231	-13	-0.6%	
Gloucester City	11,484	11,456	11,329	11,326	11,323	11,320	11,318	11,316	11,314	-15	-0.1%	
Gloucester Township	64,350	64,634	63,939	64,859	65,777	66,707	67,514	68,176	68,737	4,798	7.5%	
Haddon Heights Borough	7,545	7,473	7,514	7,474	7,434	7,393	7,358	7,329	7,305	-209	-2.8%	
Haddon Township	14,651	14,707	14,543	14,580	14,617	14,655	14,688	14,714	14,737	194	1.3%	
Haddonfield Borough	11,661	11,593	11,414	11,412	11,410	11,408	11,407	11,405	11,404	-10	-0.1%	
Hi-Nella Borough	1,035	870	860	860	859	859	859	858	858	-2	-0.2%	
Laurel Springs Borough	1,970	1,908	1,884	1,883	1,882	1,882	1,881	1,880	1,880	-4	-0.2%	
Lawnside Borough	2,692	2,945	2,919	2,917	2,915	2,913	2,911	2,909	2,908	-11	-0.4%	
Lindenwold Borough	17,410	17,613	17,458	17,449	17,441	17,432	17,424	17,418	17,413	-45	-0.3%	
Magnolia Borough	4,405	4,341	4,298	4,290	4,282	4,274	4,267	4,260	4,256	-42	-1.0%	
Merchantville Borough	3,800	3,821	3,778	3,778	3,777	3,777	3,777	3,776	3,776	-2	-0.1%	
Mount Ephraim Borough	4,495	4,676	4,639	4,637	4,636	4,634	4,633	4,632	4,631	-8	-0.2%	
Oaklyn Borough	4,188	4,038	3,992	4,001	4,010	4,019	4,026	4,033	4,038	46	1.2%	
Pennsauken Township	35,737	35,885	35,628	35,924	36,219	36,518	36,778	36,990	37,171	1,543	4.3%	
Pine Hill Borough	10,880	10,233	10,510	10,501	10,492	10,482	10,474	10,468	10,462	-48	-0.5%	
Pine Valley Borough	20	12	12	12	12	12	12	12	12	0	0.0%	
Runnemede Borough	8,535	8,468	8,381	8,380	8,378	8,377	8,376	8,375	8,374	-7	-0.1%	
Somerdale Borough	5,192	5,151	5,460	5,444	5,427	5,411	5,397	5,385	5,375	-85	-1.6%	
Stratford Borough	7,270	7,040	7,013	7,047	7,081	7,116	7,146	7,170	7,191	178	2.5%	
Tavistock Borough	24	5	5	5	5	5	5	5	5	0	0.0%	
Voorhees Township	28,130	29,131	29,370	29,305	29,240	29,174	29,117	29,071	29,031	-339	-1.2%	
Waterford Township	10,494	10,649	10,753	10,749	10,744	10,740	10,736	10,733	10,747	-6	-0.1%	
Winslow Township	34,611	39,499	39,019	39,910	40,797	41,698	42,478	43,119	43,662	4,643	11.9%	
Woodlynne Borough	2,795	2,978	2,944	2,943	2,941	2,940	2,939	2,938	2,937	-7	-0.2%	
Gloucester County	255,719	288,288	291,479	307,766	323,969	340,425	354,677	366,383	376,308	84,829	29.1%	
Clayton Borough	7,135	8,179	8,493	9,013	9,531	10,057	10,512	10,886	11,203	2,710	31.9%	

County / Municipality	2015 Census					2015-2045							
	2000 Census	2010 Census	Estimate	2020 Forecast	2025 Forecast	2030 Forecast	2035 Forecast	2040 Forecast	2045 Forecast	Absolute Change	Percentage Change		
Deptford Township	26,770	30,561	30,569	31,601	32,628	33,671	34,574	35,316	35,945	5,376	17.6%		
East Greenwich Township	5,430	9,555	10,380	10,798	11,214	11,637	12,003	12,303	12,558	2,178	21.0%		
Elk Township	3,615	4,216	4,156	4,717	5,274	5,841	6,331	6,734	7,076	2,920	70.3%		
Franklin Township	15,470	16,820	16,669	17,714	18,753	19,808	20,722	21,473	22,110	5,441	32.6%		
Glassboro Borough	18,970	18,579	19,216	20,380	21,538	22,715	23,733	24,570	25,279	6,063	31.6%		
Greenwich Township	4,880	4,899	4,857	4,942	5,027	5,113	5,188	5,249	5,301	444	9.1%		
Harrison Township	8,785	12,417	12,984	14,456	15,920	17,407	18,695	19,753	20,650	7,666	59.0%		
Logan Township	6,035	6,042	5,983	6,217	6,450	6,687	6,892	7,061	7,203	1,220	20.4%		
Mantua Township	14,217	15,217	15,054	16,334	17,608	18,901	20,021	20,941	21,721	6,667	44.3%		
Monroe Township	28,967	36,129	36,862	39,459	42,040	44,662	46,934	48,799	50,381	13,519	36.7%		
National Park Borough	3,205	3,036	2,999	3,053	3,107	3,162	3,210	3,249	3,282	283	9.4%		
Newfield Borough	1,615	1,553	1,534	1,561	1,588	1,615	1,639	1,659	1,675	141	9.2%		
Paulsboro Borough	6,160	6,097	5,989	6,054	6,118	6,184	6,241	6,287	6,327	338	5.6%		
Pitman Borough	9,330	9,011	8,898	9,092	9,285	9,482	9,652	9,791	9,910	1,012	11.4%		
South Harrison Township	2,415	3,162	3,138	3,397	3,655	3,917	4,144	4,331	4,489	1,351	43.1%		
Swedesboro Borough	2,055	2,584	2,613	2,686	2,758	2,831	2,895	2,947	2,991	378	14.5%		
Washington Township	48,155	48,559	47,862	49,302	50,738	52,192	53,452	54,488	55,366	7,504	15.7%		
Wenonah Borough	2,315	2,278	2,254	2,318	2,382	2,447	2,503	2,549	2,588	334	14.8%		
West Deptford Township	19,370	21,677	21,420	22,506	23,586	24,683	25,634	26,414	27,076	5,656	26.4%		
Westville Borough	4,500	4,288	4,224	4,338	4,451	4,566	4,665	4,747	4,816	592	14.0%		
Woodbury City	10,305	10,174	10,020	10,105	10,190	10,276	10,351	10,412	10,464	444	4.4%		
Woodbury Heights Borough	2,990	3,055	3,010	3,054	3,098	3,143	3,181	3,213	3,240	230	7.6%		
Woolwich Township	3,030	10,200	12,295	14,669	17,030	19,428	21,505	23,211	24,657	12,362	100.5%		
Mercer County	320,527	367,511	371,398	377,328	383,227	389,219	394,407	398,669	402,283	30,885	8.3%		
East Windsor Township	24,915	27,190	27,603	28,068	28,531	29,002	29,409	29,743	30,027	2,424	8.8%		
Ewing Township	35,710	35,790	36,486	37,076	37,660	38,254	38,769	39,192	39,550	3,064	8.4%		
Hamilton Township	87,109	88,464	89,030	90,099	91,163	92,243	93,178	93,947	94,598	5,568	6.3%		
Hightstown Borough	5,215	5,494	5,517	5,562	5,607	5,653	5,693	5,725	5,753	236	4.3%		
Hopewell Borough	2,035	1,922	1,929	1,932	1,936	1,939	1,942	1,944	1,946	17	0.9%		
Hopewell Township	16,105	18,302	18,606	19,460	20,310	21,174	21,921	22,535	23,056	4,450	23.9%		
Lawrence Township	29,160	33,472	33,242	33,511	33,779	34,052	34,287	34,481	34,645	1,403	4.2%		
Pennington Borough	2,695	2,585	2,598	2,654	2,710	2,766	2,816	2,856	2,890	292	11.2%		
Princeton**		28,572	29,603	30,084	30,559	31,044	31,463	31,808	32,100	2,497	8.4%		
Robbinsville	10,275	13,642	14,176	14,784	15,390	16,006	16,538	16,978	17,347	3,171	22.4%		
Trenton City	85,403	84,913	84,225	85,213	86,197	87,194	88,059	88,767	89,372	5,147	6.1%		
West Windsor Township	21,905	27,165	28,383	28,885	29,385	29,892	30,332	30,693	30,999	2,616	9.2%		
Source: Delaware Valley Regional Planning Commission, June 2016. ** In January 2013, Princeton Township and Princeton Borough, in Mercer County, merged to form one single municipality, known simply as Princeton.													

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Report Title: Analytical Data Report # 022: County- and Municipal-Level Population Forecasts, 2015-2045

Publication No.: ADR 022

Date Published: July 2016

Geographic Area Covered: DVRPC's 9-county region, including Burlington, Camden, Gloucester, and Mercer counties in New Jersey, and Bucks, Chester, Delaware, Montgomery, and Philadelphia counties in Pennsylvania.

Key Words: population, population forecasts, age-cohort survival model, birth rates, survival rates, migration, Connections 2045, long-range plan

ABSTRACT: This report presents the Delaware Valley Regional Planning Commission's (DVRPC's) adopted 2045 county- and municipal-level population forecasts and describes the method used to develop them. Population and employment forecasts are a critical component of long-range land use and transportation planning. As a part of DVRPC's long-range planning activities, the Commission is required to maintain forecasts with at least a 20-year horizon, or to the horizon year of the long-range plan. DVRPC last adopted forecasts through the year 2040 in January 2012. Since that time, the Census Bureau has released 2015 population estimates, and both the nation and the region have continued to recover from the significant economic recession that officially began in December 2007 and ended in June 2009.

In order to incorporate the 2015 Census estimates and maintain a 30-year planning horizon, DVRPC has prepared 2045 population forecasts for its member counties and municipalities. These forecasts were formally adopted by the DVRPC Board on July 28, 2016, and serve as the basis for DVRPC planning and modeling activities. Employment forecasts in five-year increments through 2045 are scheduled to be adopted in October 2016.

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ADR 023 | October 2016

Analytical Data Report

Regional, County, and
Municipal Employment
Forecasts, 2015–2045



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The Delaware Valley Regional Planning Commission is dedicated to uniting the region's elected officials, planning professionals, and the public with a common vision of making a great region even greater. Shaping the way we live, work, and play, DVRPC builds consensus on improving transportation, promoting smart growth, protecting the environment, and enhancing the economy. We serve a diverse region of nine counties: Bucks, Chester, Delaware, Montgomery, and Philadelphia in Pennsylvania; and Burlington, Camden, Gloucester, and Mercer in New Jersey. DVRPC is the federally designated Metropolitan Planning Organization for the Greater Philadelphia Region — leading the way to a better future.



The symbol in our logo is adapted from the official DVRPC seal and is designed as a stylized image of the Delaware Valley. The outer ring symbolizes the region as a whole while the diagonal bar signifies the Delaware River. The two adjoining crescents represent the Commonwealth of Pennsylvania and the State of New Jersey.

DVRPC is funded by a variety of funding sources, including federal grants from the U.S. Department of Transportation's Federal Highway Administration (FHWA) and Federal Transit Administration (FTA); the Pennsylvania and New Jersey departments of transportation; and DVRPC's state and local member governments. The authors, however, are solely responsible for the findings and conclusions herein, which may not represent the official views or policies of the funding agencies.

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As the region's metropolitan planning organization, DVRPC provides technical assistance and services to its member state and local governments. *Delaware Valley Data* is our periodic series of free data bulletins, analytical data reports, data reference guides, and data snapshots.

Introduction

As a part of our long-range planning activities, DVRPC is required to maintain forecasts with at least a 20-year horizon, or to the horizon year of the long-range plan. Population forecasts in five-year increments between 2015 and 2045 were adopted by the DVRPC Board on July 28, 2016. This document presents employment forecasts in five-year increments between 2015 and 2045, developed by DVRPC in coordination with its member county planning staffs. These population and employment forecasts will support the region's 2045 long-range plan, scheduled for adoption in July 2017, and serve as the basis for DVRPC's planning and modeling activities.

2010 and 2013 Employment Base

DVRPC has traditionally based its long-range employment forecasts on employment data from the American Association of State Highway and Transportation Officials' (AASHTO) Census Transportation Planning Products (CTPP). However, 2010 CTPP data was not released until mid-2013, too late to be used for forecasting purposes prior to the 2013 adoption of the current Connections 2040 Long Range Plan. Additionally, changes in the method for calculating CTPP data has increased the margins of error and made it a less reliable source of employment data for small geographies. Subsequently, DVRPC staff researched and compared several sources of employment data, including government sources (such as ES-202 data, the BLS' Quarterly Census of Employment and Wages, and the Current Employment Statistics survey) and private proprietary sources (including Dun and Bradstreet). The National Establishment Time-Series (NETS), produced by Walls and Associates, was determined to be superior to other sources in terms of coverage, accuracy, and the provision of locational data.

The NETS database is essentially a "cleaned-up" version of the Dun and Bradstreet database. Using each company's unique DUNS number (or numbers, in cases where separate divisions within a company have unique DUNS numbers), Walls and Associates creates a time series for each business and then screens the data to eliminate duplicates and identify anomalies. If a file contains suspicious information, the data is cross-checked with previous annual records and adjusted or eliminated as appropriate, based on information collected from other sources (including government and non-profits). One advantage of the establishment-based NETS Database is that all employment, sales, and other activity is reported at the actual facility—not the headquarters.

Unlike government sources of employment data, the NETS database includes sole proprietors, part-time jobs, and farm operations, and has been found to be more accurate in reporting data for small privately-owned firms and public sector employers such as post offices and public schools. Employment from the NETS database is therefore generally higher than many of these other sources. As a base for the 2040 forecasts, DVRPC and county planning staffs reviewed 2000 and 2010 employment data from a NETS database that was acquired in 2013.

In March 2016, DVRPC acquired an updated NETS dataset that included both revised 2010 and 2013 employment data. All corrections made to the previous NETS database by DVRPC and county planning staffs, either during the previous forecasting round or as a result of ongoing DVRPC land

use and transportation studies, were incorporated in to the new database. DVRPC staff reviewed the revised 2010 data and the 2013 data to eliminate any remaining duplicates and correct obvious errors, using resources that included CoStar, company web sites, and on-line business directories. The data was then reviewed by the region's county planning staffs, and further corrections were made based on local knowledge (including errors in location and missing large employers).

The NETS database used by DVRPC includes the street address and the most current latitude-longitude for each establishment as well as the origin and destination latitude-longitudes for all significant moves, at the four-decimal-place-level. In order to assign each employer to a specific municipality, every employer in the NETS database was geocoded. Based on an internal review by DVRPC staff, several spatially inaccurate results were identified, and numerous adjustments were made to improve the accuracy of the dataset before the results were sent to the counties for review. While the counties were reviewing the employment data, DVRPC staff continued to refine the NETS GIS dataset, by comparing TomTom results with other geocoding services, and by manually checking the location of hundreds of significant employers.

2015 Employment Estimates

Estimates of the 2015 employment were then calculated, based on both the changes in NETS employment by sector in each county between 2010 and 2013, and the employment change in each county between 2010 and 2015 released by the BLS in September 2016. The estimated 2015 county employment was allocated to municipalities based on the proportion of the county's employment that was present in each municipality in 2013.

2045 Employment Forecasts

Employment forecasts in five-year increments through 2045 were developed using a similar method as was used in previous forecasting rounds. Various studies and past experience have shown that there is a direct relationship between the number of workers living in a region (which is a function of population) and the number of jobs. To forecast future employment, DVRPC determined an expected future ratio of employment to population for each county, based on the known ratio in 2015. These ratios were applied to the Commission's adopted 2045 population forecasts, to create employment forecasts for each county, in five-year increments through 2045.

County-level employment forecasts between 2020 and 2040 were disaggregated to the municipal level based on the proportion of each county's employment that was expected to be in each municipality by DVRPC's adopted 2040 forecasts, as adjusted by the differences between the Commission's adopted 2015 forecast and the 2015 NETS employment estimates. The proportion of each county's employment expected to be in each municipality in 2045 was forecast based on the linear trend in the proportion from 2015 to 2040. The draft employment forecasts in five-year increments were then reviewed by county planning staffs, and final revisions were made based on their recommendations.

Military employment, which DVRPC staff believes was not accurately reflected in the NETS database, was accounted for by adding the military employment in each municipality reported in the 2006–2010 five-

year CTPP estimates to the 2015 employment estimate and the future employment forecasts. Given the difficulty of forecasting future military employment, the number of military employees was kept stable in future years.

Table 1 summarizes regional and county employment forecasts in five-year increments through 2045, and municipal-level forecasts are provided in Appendix A. Table 2 identifies the 20 municipalities expected to gain the most employees between 2015 and 2045 in absolute numbers, while Table 3 identifies municipalities with the highest forecast percentage change in employment. Figure 1 illustrates the DVRPC region's 2045 municipal employment forecasts, and Figures 2 and 3 illustrate absolute and percent change in employment by municipality between 2015 and 2045.

Figure 4 illustrates the absolute increase in employment per square mile in each of the region's 352 municipalities and 18 City of Philadelphia planning districts. This map highlights not only where employment is increasing, but also the impact of relatively small increases on employment density in many of the region's centers. Employment density is forecast to increase not only in the City of Philadelphia, but also in many of the region's smaller boroughs, including Conshohocken and West Conshohocken boroughs in Montgomery County; Dublin, Penndel, and Ivyland boroughs in Bucks County; and Kennett Square, Phoenixville, and Downingtown boroughs in Chester County.

Highlights include the following:

- The DVRPC region is forecast to gain almost 373,000 jobs between 2015 and 2045 (an increase of almost 12 percent), with much of this growth concentrated in the suburbs.
- The region's five southeastern Pennsylvania counties are forecast to experience a 12.6 percent increase in employment, while employment in the four New Jersey counties is expected to increase by 9.8 percent.
- The largest percent increases are forecast in Gloucester County in New Jersey and Chester County in Pennsylvania, where employment is forecast to increase by 29 and 28 percent, respectively.
- The largest absolute increase in employment is forecast for Chester County, expected to gain 87,800 employees. Other counties forecast to see a significant number of additional employees include Montgomery County (expected to gain almost 82,000 employees) and Philadelphia (with a forecasted increase of almost 64,000 jobs).
- Both Philadelphia and Camden City, New Jersey, are forecast to gain employment, with forecasted percentage increases of 8.3 percent and 10.1 percent, respectively. The region's other two core cities are expected to see their employment stabilize and increase slightly, with a 2.8 percent increase in employment in Trenton, New Jersey, and a 2.6 percent increase in Chester City, Pennsylvania.

Summary

Population and employment forecasts are a critical component of long-range land use and transportation planning. This report presents the method used to develop 2045 and interim year employment forecasts, adopted by the DVRPC Board on October 27, 2016.

Data from the National Establishments Time Series (NETS) database served as the base for the 2045 employment forecasts. In March 2016, DVRPC acquired an updated NETS database that included 2013 employment data and revised 2010 data. The 2010 and 2013 employment data was reviewed and revised by DVRPC staff, utilizing resources that included CoStar, on-line business directories, company websites and, when appropriate, direct telephone calls. The revised data was then sent to the county planning staffs for additional revision. Additionally, during the summer of 2016, DVRPC acquired improved geocoding resources that allowed staff to further correct the spatial locations of employers.

Based on changes in the NETS employment between 2010 and 2013, and changes in employment in each county between 2010 and 2015 as reported by the U.S. Bureau of Labor Statistics (BLS), 2015 employment was estimated by county and municipality. Given that studies have shown that there is a direct relationship between the number of workers living in an area and the number of jobs, employment forecasts were calculated in five-year increments through 2045, by estimating a future ratio of population to employment in each county and applying it to DVRPC's adopted population forecasts.

Employment in the nine-county region is forecast to increase by almost 12 percent between 2015 and 2045, with the greatest absolute increases in employment expected in Chester, Montgomery, and Philadelphia counties and the greatest percentage increases forecast in Gloucester County, New Jersey, and Chester County, Pennsylvania. Together with the 2045 population forecasts adopted by the DVRPC Board in July 2016, these employment forecasts will serve as the basis for DVRPC's planning and modeling activities, and support the region's 2045 long-range plan, scheduled for adoption in July 2017.

Table 1: 2045 Employment Forecasts by County

County	2015 Employment	2020 Employment Forecast	2025 Employment Forecast	2030 Employment Forecast	2035 Employment Forecast	2040 Employment Forecast	2045 Employment Forecast	Forecasted Absolute Change, 2015-2045	Forecasted Percent Change, 2015-2045
Bucks County	322,731	329,645	337,203	344,859	351,310	356,671	361,124	38,393	11.9%
Chester County	309,605	326,320	343,050	359,774	374,967	387,391	397,405	87,800	28.4%
Delaware County	268,054	270,167	272,269	274,401	276,248	277,763	279,050	10,996	4.1%
Montgomery County	582,443	598,434	614,469	629,563	642,996	654,966	664,385	81,942	14.1%
Philadelphia County	772,847	786,308	797,156	810,574	822,002	829,937	836,825	63,978	8.3%
Five Pennsylvania Counties	2,255,680	2,310,874	2,364,147	2,419,171	2,467,523	2,506,728	2,538,789	283,109	12.6%
Burlington County	241,298	246,351	251,368	255,562	258,363	261,195	263,622	22,324	9.3%
Camden County	263,582	265,169	266,753	268,359	269,750	270,892	271,869	8,287	3.1%
Gloucester County	121,382	128,161	134,902	141,752	147,682	152,554	156,686	35,304	29.1%
Mercer County	286,295	290,864	295,408	300,025	304,021	307,302	310,084	23,789	8.3%
Four New Jersey Counties	912,557	930,545	948,431	965,698	979,816	991,943	1,002,261	89,704	9.8%
Nine DVRPC Counties	3,168,237	3,241,419	3,312,578	3,384,869	3,447,339	3,498,671	3,541,050	372,813	11.8%

Source: Delaware Valley Regional Planning Commission, October 2016.

Table 2: Municipalities with the Greatest Forecasted Absolute Change in Employment, 2015–2045

Rank	Municipality/County	Absolute Change	Rank	Municipality/County	Absolute Change
1	Upper Merion Township/ Montgomery	9,470	11	Plymouth Township/ Montgomery	4,500
2	Horsham Township/ Montgomery	8,660	12	Woolwich Township/ Gloucester	4,338
3	East Whiteland Township/ Chester	7,224	13	Camden City/ Camden	4,206
4	Uwchlan Township/ Chester	6,737	14	West Deptford Township/ Gloucester	3,844
5	Tredyffrin Township/ Chester	6,625	15	West Windsor Township/ Mercer	3,713
6	West Whiteland Township/ Chester	6,259	16	Hopewell Township/ Mercer	3,712
7	West Goshen Township/ Chester	5,459	17	Phoenixville Borough/ Chester	3,621
8	Conshohocken Borough/ Montgomery	5,000	18	Lower Merion Township/ Montgomery	3,500
9	Monroe Township/ Camden	4,999	19	Mt. Laurel Township/ Burlington	3,444
10	Upper Providence Township/ Montgomery	4,520	20	Upper Dublin Township/Bucks	3,400

Source: Delaware Valley Regional Planning Commission, October 2016. Does not include Philadelphia, which is both a county and a municipality.

Table 3: Municipalities with the Greatest Forecasted Percentage Change in Employment, 2015–2045

Rank	Municipality/County	Absolute Change	Rank	Municipality/County	Absolute Change
1	Woolwich Township/ Gloucester	164%	11	Parkesburg Borough/ Chester	59%
2	Modena Borough/ Chester	125%	12	West Sadsbury Township/ Chester	58%
3	Elk Township/ Gloucester	92%	13	Mantua Township/ Gloucester	57%
4	Dublin Borough/ Bucks	84%	14	Honey Brook Borough/ Chester	55%
5	Lower Oxford Township/ Chester	82%	15	Conshohocken Borough/ Montgomery	53%
6	West Brandywine Township/ Chester	77%	16	Wallace Township/ Chester	53%
7	Elverson Borough/ Chester	72%	17	Phoenixville Borough/ Chester	53%
8	East Vincent Township/ Chester	68%	18	West Nottingham Township/ Chester	53%
9	Harrison Township/ Gloucester	64%	19	Sellersville Borough/ Bucks	52%
10	South Coventry Township/ Chester	61%	20	Upper Oxford Township/ Chester	52%

Source: Delaware Valley Regional Planning Commission, October, 2016. Does not include Philadelphia, which is both a county and a municipality.



Figure 1:
2045 Municipal Employment Forecast

Employees

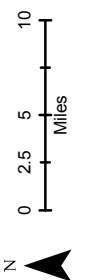
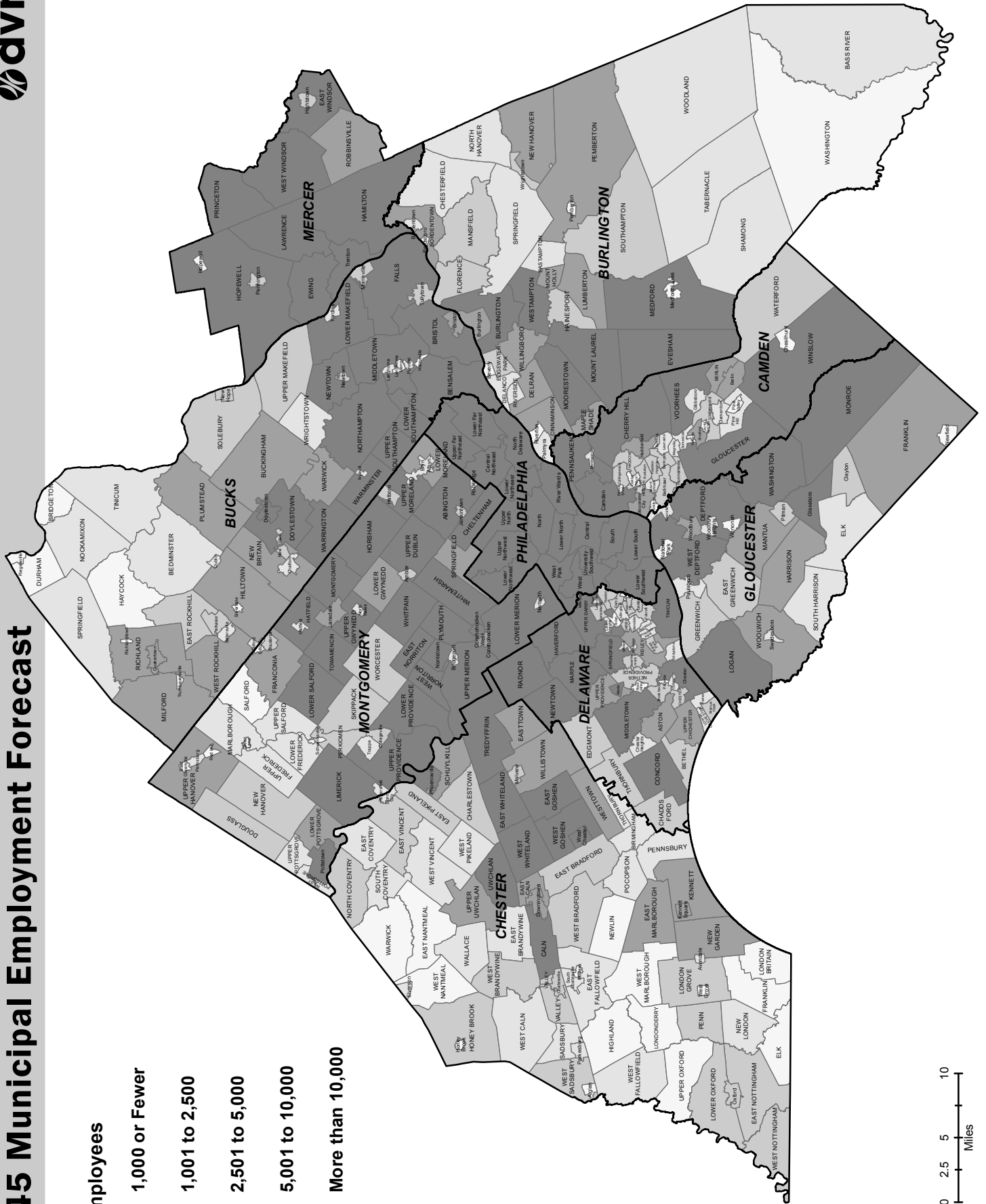
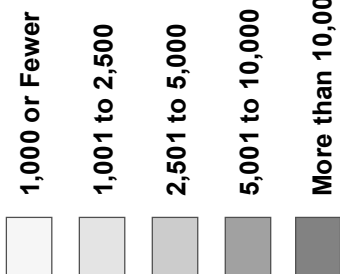




Figure 2:
2045 Municipal Employment Forecast
Absolute Change: 2015–2045

Employees

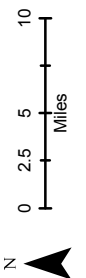
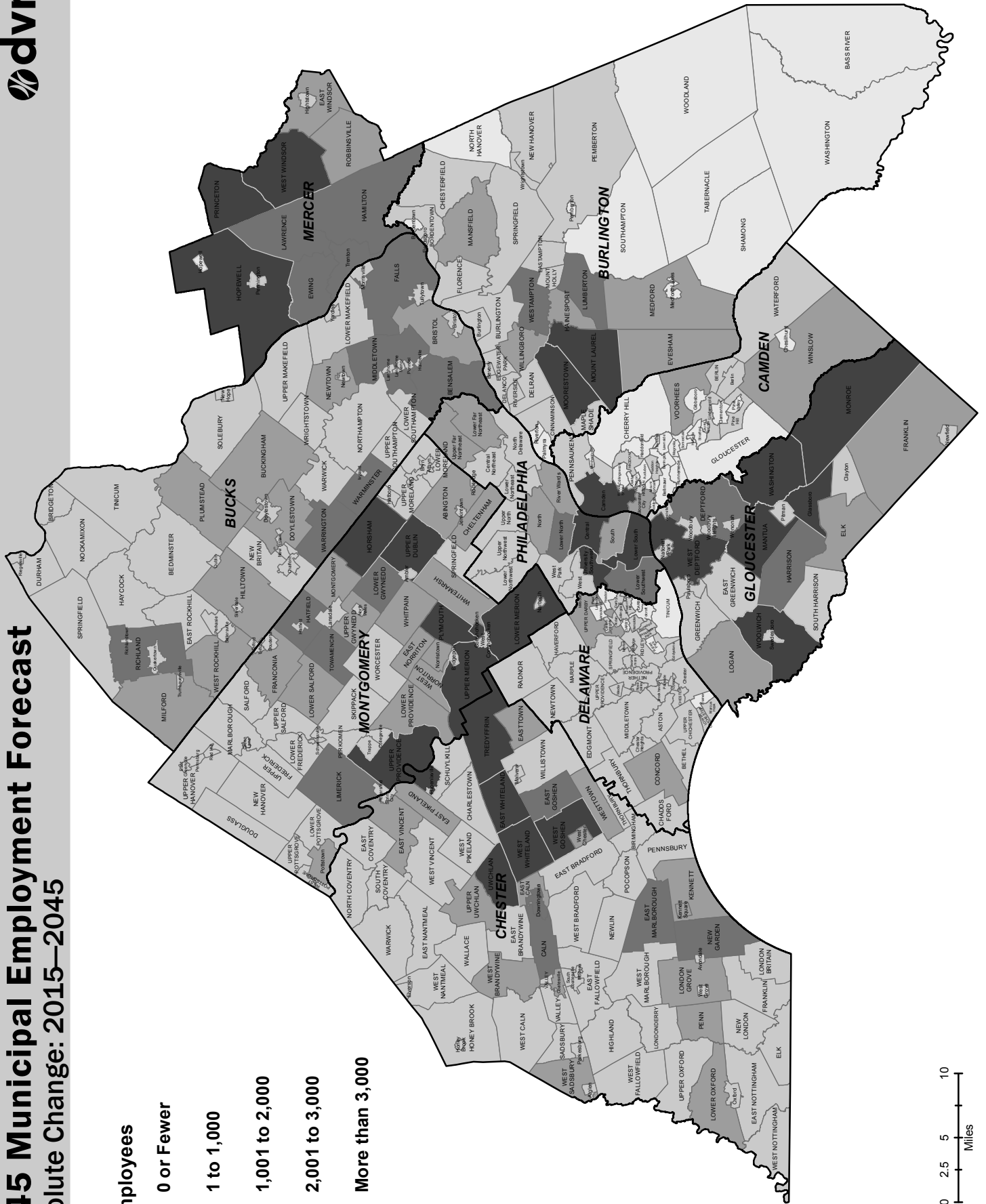
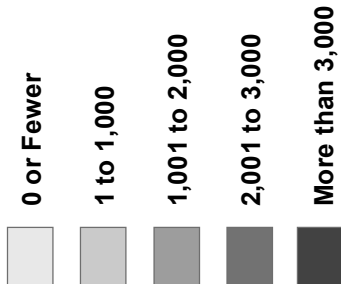




Figure 3:
2045 Municipal Employment Forecast
Percentage Change: 2015–2045

- Stable (-5% to +5%)
- Moderate Growth (+6% to +25%)
- Significant Growth (+26% to +50%)
- Exceptional Growth (Above +50%)

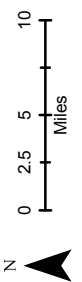
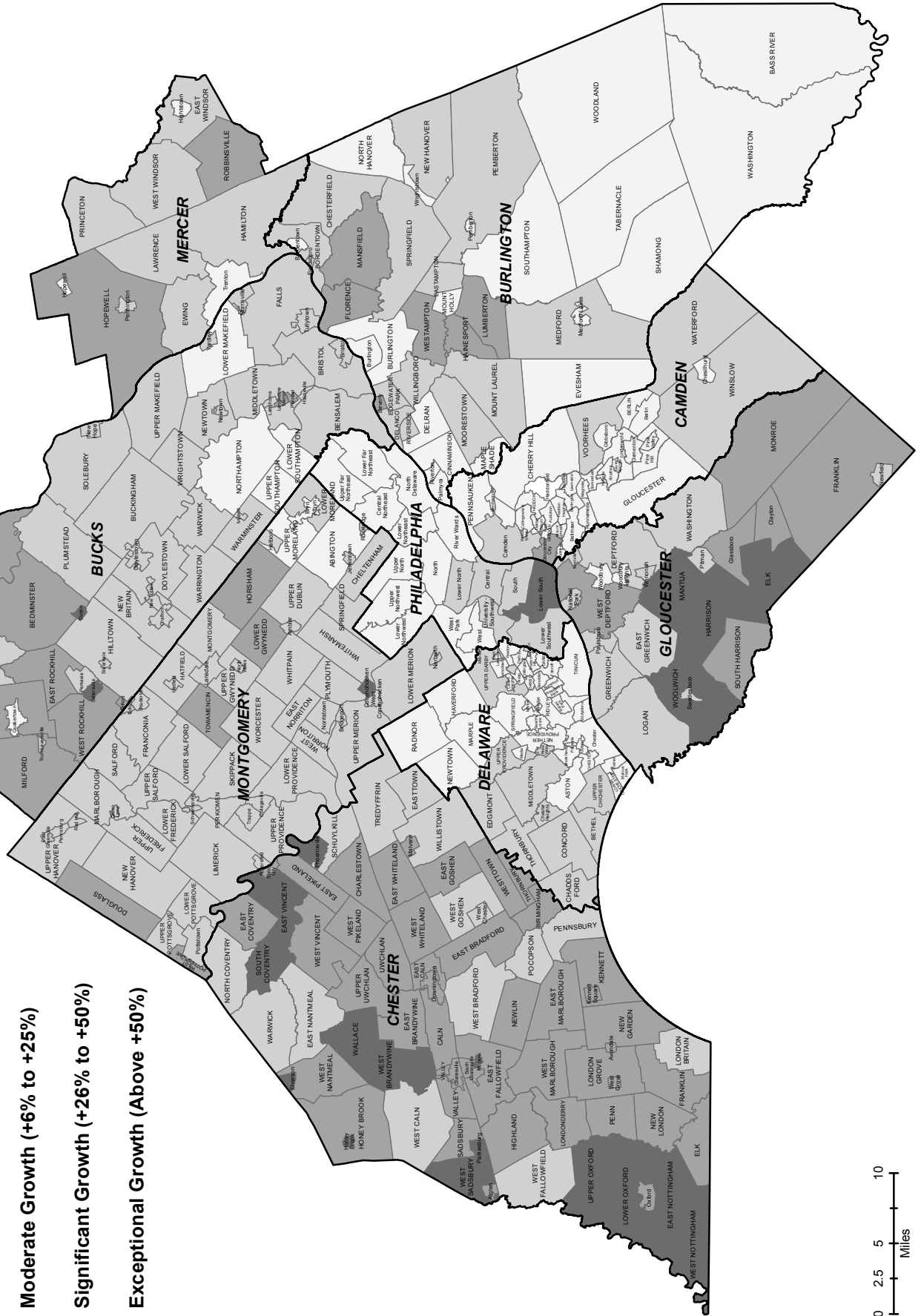
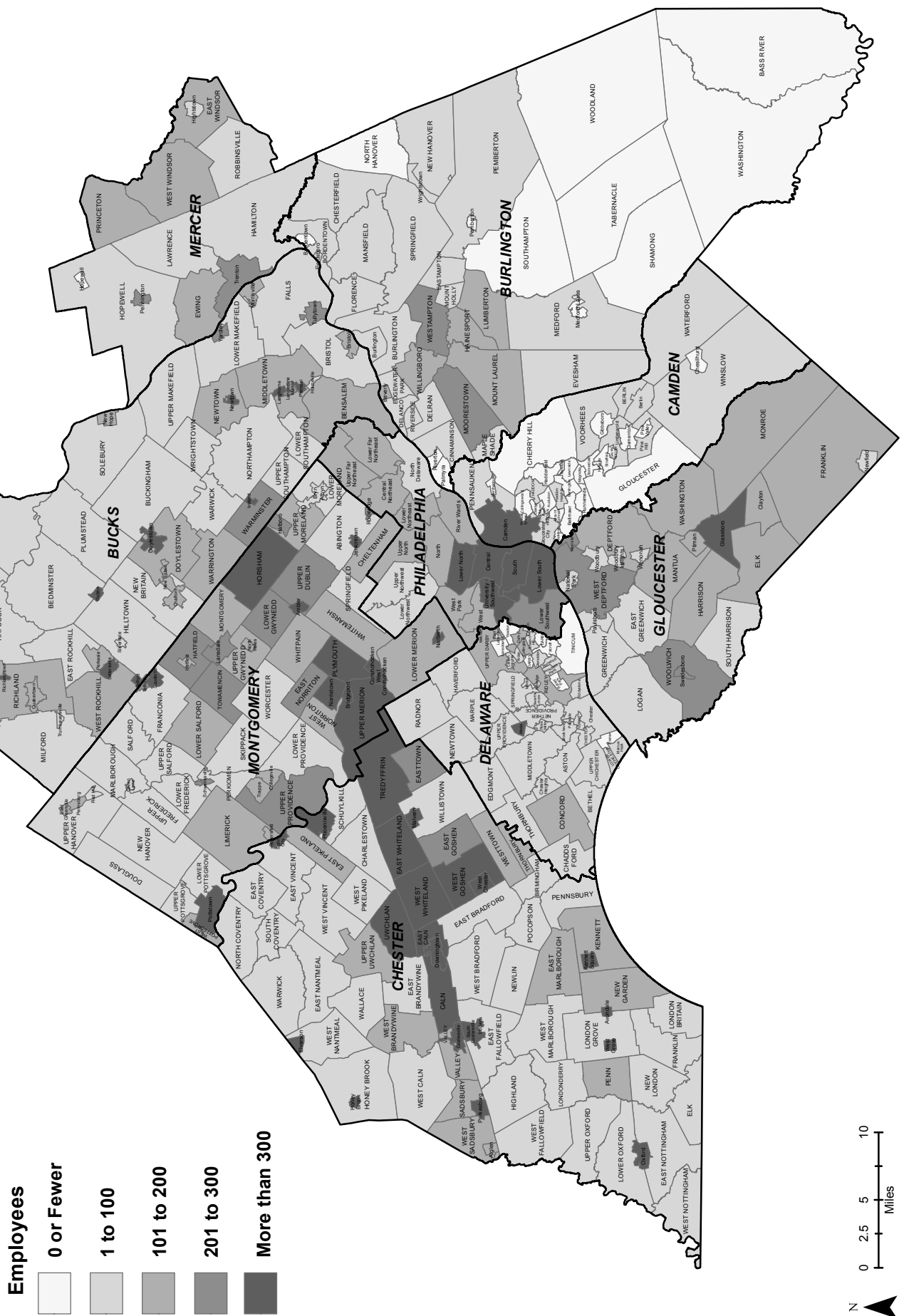




Figure 4:
2045 Municipal Employment Forecast
Absolute Change per Square Mile by Municipality:
2015–2045



Appendix A: Forecasted Employment by County and Municipality, 2015-2045

County / Municipality	2015		2020		2025		2030		2035		2040		2045		Absolute Change, 2015-2045	Percentage Change 2015-2045
	Employment Estimate		Employment Forecast		Employment Forecast		Employment Forecast		Employment Forecast		Employment Forecast		Employment Forecast			
Bucks County	322,731		329,645		337,203		344,859		351,310		356,671		361,124		38,393	11.9%
Bedminster Township	1,864		2,018		2,116		2,215		2,260		2,311		2,424		560	30.0%
Bensalem Township	43,829		44,472		44,697		44,952		45,567		46,304		46,023		2,194	5.0%
Bridgeton Township	334		351		368		395		402		419		434		100	29.9%
Bristol Borough	5,111		5,166		5,239		5,315		5,366		5,396		5,415		304	5.9%
Bristol Township	23,168		23,575		23,799		24,037		24,370		24,768		24,740		1,572	6.8%
Buckingham Township	7,609		7,755		8,012		8,271		8,409		8,476		8,667		1,058	13.9%
Chalfont Borough	1,300		1,332		1,393		1,454		1,485		1,499		1,550		250	19.2%
Doylestown Borough	10,480		10,628		10,861		11,097		11,236		11,309		11,438		958	9.1%
Doylestown Township	11,453		11,838		12,071		12,308		12,652		13,030		13,163		1,710	14.9%
Dublin Borough	820		879		926		962		1,225		1,530		1,520		700	85.4%
Durham Township	254		256		257		259		267		276		273		19	7.5%
East Rockhill Township	2,140		2,259		2,335		2,411		2,520		2,636		2,700		560	26.2%
Falls Township	16,290		16,575		17,065		17,558		17,827		17,961		18,302		2,012	12.4%
Haycock Township	486		507		519		532		556		582		590		104	21.4%
Hilltown Township	6,113		6,252		6,509		6,766		6,897		6,959		7,167		1,054	17.2%
Hulmeville Borough	254		262		268		274		282		290		294		40	15.7%
Ivyland Borough	1,671		1,749		1,789		1,830		1,869		1,913		1,948		277	16.6%
Langhorne Borough	1,150		1,176		1,225		1,274		1,299		1,311		1,351		201	17.5%
Langhorne Manor Borough	313		329		364		398		413		420		454		141	45.0%
Lower Makefield Township	11,612		11,717		11,768		11,827		12,007		12,219		12,111		499	4.3%
Lower Southampton Township	13,210		13,289		13,334		13,387		13,457		13,512		13,401		191	1.4%
Middletown Township	24,781		25,116		25,630		26,154		26,465		26,634		26,900		2,119	8.6%
Milford Township	3,753		3,912		4,241		4,567		4,720		4,784		5,100		1,347	35.9%
Morrisville Borough	2,903		2,951		3,033		3,115		3,161		3,184		3,238		335	11.5%
New Britain Borough	3,004		3,046		3,088		3,132		3,176		3,214		3,204		200	6.7%
New Britain Township	5,330		5,453		5,528		5,605		5,791		5,992		5,999		669	12.6%
New Hope Borough	2,854		2,893		2,953		3,015		3,051		3,071		3,102		248	8.7%
Newtown Borough	2,375		2,404		2,426		2,447		2,522		2,604		2,588		213	9.0%
Newtown Township	13,519		13,712		14,016		14,325		14,505		14,601		14,771		1,252	9.3%
Nockamixon Township	1,519		1,580		1,617		1,655		1,733		1,816		1,838		319	21.0%

County / Municipality	2015	2020		2025		2030		2035		2040		2045		Absolute Change, 2015-2045	Percentage Change 2015-2045
	Employment Estimate	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast				
Northampton Township	14,669	14,801	14,953	15,113	15,233	15,310	15,299	630	4.3%						
Pennel Borough	1,403	1,453	1,555	1,656	1,704	1,725	1,819	416	29.7%						
Perkasie Borough	2,991	3,058	3,182	3,305	3,369	3,399	3,499	508	17.0%						
Plumstead Township	6,583	6,785	7,183	7,578	7,771	7,856	8,214	1,631	24.8%						
Quakertown Borough	5,546	5,598	5,660	5,724	5,772	5,801	5,802	256	4.6%						
Richland Township	6,678	7,236	7,597	7,956	8,221	8,510	8,904	2,226	33.3%						
Richlandtown Borough	288	300	326	351	363	368	393	105	36.5%						
Riegelsville Borough	142	145	148	149	154	159	159	17	12.0%						
Sellersville Borough	1,150	1,230	1,377	1,520	1,597	1,632	1,750	600	52.2%						
Silverdale Borough	299	301	303	305	315	327	323	24	8.0%						
Solebury Township	3,399	3,472	3,605	3,739	3,808	3,841	3,946	547	16.1%						
Springfield Township	1,474	1,524	1,555	1,586	1,638	1,693	1,710	236	16.0%						
Telford Borough (part)	778	815	894	971	1,007	1,022	1,099	321	41.3%						
Tinicum Township	1,532	1,584	1,690	1,794	1,844	1,866	1,963	431	28.1%						
Trumbauersville Borough	307	309	314	317	333	348	346	39	12.7%						
Tullytown Borough	3,097	3,158	3,267	3,377	3,435	3,463	3,546	449	14.5%						
Upper Makefield Township	2,741	2,790	2,876	2,962	3,008	3,031	3,092	351	12.8%						
Upper Southampton Township	9,981	10,006	10,026	10,053	10,322	10,618	10,459	478	4.8%						
Warminster Township	16,109	16,891	17,210	17,536	17,956	18,424	18,702	2,593	16.1%						
Warrington Township	9,581	9,863	10,414	10,963	11,232	11,352	11,842	2,261	23.6%						
Warwick Township	5,967	6,074	6,258	6,444	6,544	6,594	6,724	757	12.7%						
West Rockhill Township	5,227	5,442	5,885	6,323	6,530	6,617	7,040	1,813	34.7%						
Wrightstown Township	1,294	1,324	1,378	1,433	1,461	1,474	1,519	225	17.4%						
Yardley Borough	1,996	2,034	2,100	2,167	2,203	2,220	2,269	273	13.7%						
Chester County	309,605	326,320	343,050	359,774	374,967	387,391	397,405	87,800	28.4%						
Atglen Borough	498	521	549	577	599	617	643	145	29.1%						
Avondale Borough	780	840	906	971	1,026	1,071	1,122	342	43.8%						
Birmingham Township	1,573	1,664	1,754	1,846	1,927	1,994	2,046	473	30.1%						
Cain Township	8,191	8,719	9,294	9,872	10,358	10,761	11,181	2,990	36.5%						
Charlestown Township	3,134	3,309	3,483	3,661	3,818	3,947	4,050	916	29.2%						
Coatesville City	2,579	2,759	2,958	3,160	3,327	3,465	3,619	1,040	40.3%						
Downingtown Borough	6,455	6,798	7,192	7,588	7,910	8,175	8,499	2,044	31.7%						

County / Municipality	2015		2020		2025		2030		2035		2040		2045		Absolute Change, 2015-2045	Percentage Change 2015-2045
	Employment Estimate		Employment Forecast		Employment Forecast		Employment Forecast		Employment Forecast		Employment Forecast		Employment Forecast			
East Bradford Township	1,844		1,966		2,097		2,229		2,341		2,433		2,527		683	37.0%
East Brandywine Township	1,649		1,777		1,921		2,068		2,187		2,285		2,404		755	45.8%
East Caln Township	4,254		4,474		4,685		4,900		5,096		5,258		5,367		1,113	26.2%
East Coventry Township	1,515		1,618		1,730		1,842		1,937		2,015		2,096		581	38.3%
East Fallowfield Township	911		969		1,029		1,089		1,140		1,186		1,221		310	34.0%
East Goshen Township	8,156		8,597		9,036		9,482		9,877		10,205		10,461		2,305	28.3%
East Marlborough Township	5,264		5,608		6,002		6,399		6,721		6,987		7,308		2,044	38.8%
East Nantmeal Township	821		862		896		931		966		996		999		178	21.7%
East Nottingham Township	1,713		1,854		2,020		2,187		2,320		2,430		2,571		858	50.1%
East Pikeland Township	2,836		3,040		3,268		3,499		3,687		3,845		4,025		1,189	41.9%
Easttown Township	7,006		7,347		7,667		7,992		8,291		8,545		8,694		1,688	24.1%
East Vincent Township	1,867		2,063		2,298		2,306		2,716		2,858		3,129		1,262	67.6%
East Whiteland Township	23,399		24,735		26,117		27,514		28,722		29,730		30,623		7,224	30.9%
Elk Township	266		287		305		324		342		357		363		97	36.5%
Elverson Borough	596		663		746		829		894		947		1,026		430	72.1%
Franklin Township	608		659		715		773		820		859		905		297	48.8%
Highland Township	535		567		594		623		649		674		681		146	27.3%
Honey Brook Borough	389		425		466		507		541		569		602		213	54.8%
Honey Brook Township	2,990		3,164		3,342		3,522		3,678		3,809		3,920		930	31.1%
Kennett Township	5,782		6,112		6,450		6,793		7,092		7,341		7,555		1,773	30.7%
Kennett Square Borough	4,177		4,405		4,632		4,862		5,066		5,239		5,370		1,193	28.6%
London Britain Township	630		665		691		719		747		772		773		143	22.7%
Londonderry Township	488		530		575		621		660		694		729		241	49.4%
London Grove Township	2,535		2,738		2,972		3,208		3,400		3,559		3,755		1,220	48.1%
Lower Oxford Township	1,874		2,096		2,397		2,698		2,918		3,098		3,418		1,544	82.4%
Malvern Borough	2,359		2,500		2,646		2,794		2,921		3,027		3,121		762	32.3%
Modena Borough	124		147		178		207		230		248		279		155	125.0%
New Garden Township	6,534		6,884		7,277		7,673		7,999		8,268		8,578		2,044	31.3%
Newlin Township	271		293		315		336		357		375		387		116	42.8%
New London Township	1,041		1,098		1,155		1,213		1,263		1,306		1,385		344	33.0%
North Coventry Township	3,730		3,896		4,037		4,182		4,323		4,444		4,483		753	20.2%
Oxford Borough	2,156		2,319		2,504		2,691		2,843		2,968		3,118		962	44.6%
Parkesburg Borough	671		734		811		888		948		997		1,065		394	58.7%

County / Municipality	2015		2020		2025		2030		2035		2040		2045		Absolute Change, 2015-2045	Percentage Change 2015-2045
	Employment Estimate	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast			
Penn Township	2,916	3,084	3,286	3,490	3,649	3,781	3,961	1,045	35.8%							
Pennsbury Township	1,395	1,460	1,514	1,568	1,624	1,671	1,680	285	20.4%							
Phoenixville Borough	6,835	7,419	8,119	8,823	9,378	9,835	10,456	3,621	53.0%							
Pocopson Township	1,030	1,081	1,123	1,165	1,208	1,244	1,252	222	21.6%							
Sadsbury Township	1,571	1,692	1,830	1,969	2,083	2,176	2,288	717	45.6%							
Schuylkill Township	4,530	4,706	4,840	4,977	5,124	5,197	5,247	717	15.8%							
South Coatesville Borough	1,390	1,502	1,629	1,759	1,862	1,949	2,055	665	47.8%							
South Coventry Township	1,146	1,257	1,392	1,528	1,633	1,721	1,844	698	60.9%							
Spring City Borough	959	1,027	1,100	1,173	1,235	1,287	1,339	380	39.6%							
Thornbury Township	1,302	1,384	1,470	1,557	1,631	1,693	1,749	447	34.3%							
Tredyffrin Township	55,495	57,323	58,540	59,802	61,270	62,518	62,120	6,625	11.9%							
Upper Oxford Township	361	393	428	465	494	519	547	186	51.5%							
Upper Uwchlan Township	4,216	4,447	4,677	4,910	5,116	5,288	5,421	1,205	28.6%							
Uwchlan Township	14,889	16,014	17,312	18,619	19,674	20,545	21,626	6,737	45.2%							
Valley Township	2,085	2,249	2,440	2,633	2,787	2,915	3,074	989	47.4%							
Wallace Township	903	981	1,074	1,168	1,242	1,304	1,383	480	53.2%							
Warwick Township	614	648	674	701	729	753	754	140	22.8%							
West Bradford Township	2,095	2,190	2,269	2,349	2,429	2,497	2,514	419	20.0%							
West Brandywine Township	2,088	2,331	2,643	2,955	3,192	3,386	3,694	1,606	76.9%							
West Caln Township	1,450	1,523	1,590	1,657	1,721	1,775	1,799	349	24.1%							
West Chester Borough	11,440	11,787	11,979	12,181	12,448	12,678	12,510	1,070	9.4%							
West Fallowfield Township	958	1,006	1,043	1,082	1,122	1,155	1,159	201	21.0%							
West Goshen Township	24,174	25,299	26,334	27,385	28,369	29,189	29,633	5,459	22.6%							
West Grove Borough	674	719	763	808	848	881	907	233	34.6%							
West Marlborough Township	330	353	371	388	409	424	426	96	29.1%							
West Nantmeal Township	647	690	732	775	814	845	870	223	34.5%							
West Nottingham Township	1,736	1,884	2,060	2,238	2,378	2,493	2,647	911	52.5%							
West Pikeland Township	964	1,029	1,097	1,165	1,225	1,274	1,320	356	36.9%							
West Sadsbury Township	2,106	2,300	2,537	2,774	2,959	3,112	3,327	1,221	58.0%							
West Vincent Township	1,476	1,552	1,623	1,695	1,759	1,816	1,846	370	25.1%							
West Whiteland Township	23,476	24,691	25,883	27,093	28,175	29,076	29,735	6,259	26.7%							
Westtown Township	4,257	4,479	4,693	4,910	5,107	5,271	5,383	1,126	26.5%							
Willistown Township	7,896	8,118	8,275	8,436	8,616	8,769	8,741	845	10.7%							

County / Municipality	2015	2020	2025	2030	2035	2040	2045	Absolute Change, 2015-2045	Percentage Change 2015-2045
	Employment Estimate	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast		
Delaware County	268,054	270,167	272,269	274,401	276,248	277,763	279,050	10,996	4.1%
Aldan Borough	957	963	966	969	973	978	978	21	2.2%
Aston Township	6,558	6,615	6,678	6,742	6,793	6,832	6,876	318	4.8%
Bethel Township	2,297	2,331	2,388	2,445	2,478	2,497	2,548	251	10.9%
Brookhaven Borough	2,702	2,722	2,739	2,756	2,773	2,787	2,796	94	3.5%
Chadds Ford Twp.	4,153	4,232	4,374	4,516	4,593	4,634	4,768	615	14.8%
Chester City	11,939	12,014	12,062	12,112	12,174	12,234	12,244	305	2.6%
Chester Township	942	956	980	1,004	1,017	1,025	1,047	105	11.1%
Chester Heights Borough	2,926	2,945	2,958	2,971	2,987	3,002	3,005	79	2.7%
Clifton Heights Borough	2,142	2,153	2,155	2,157	2,165	2,175	2,169	27	1.3%
Collingdale Borough	2,108	2,125	2,143	2,161	2,176	2,188	2,199	91	4.3%
Colwyn Borough	417	421	425	430	433	435	439	22	5.3%
Concord Township	11,491	11,733	12,179	12,629	12,864	12,988	13,416	1,925	16.8%
Darby Borough	3,955	3,982	4,003	4,025	4,047	4,068	4,077	122	3.1%
Darby Township	2,593	2,602	2,595	2,588	2,594	2,604	2,588	-5	-0.2%
East Lansdowne Borough	658	661	661	661	664	667	665	7	1.1%
Eddystone Borough	2,429	2,439	2,436	2,433	2,440	2,450	2,439	10	0.4%
Edgmont Township	2,247	2,307	2,424	2,542	2,601	2,630	2,745	498	22.2%
Folcroft Borough	3,501	3,507	3,484	3,460	3,462	3,474	3,437	-64	-1.8%
Glenolden Borough	2,366	2,376	2,376	2,375	2,383	2,394	2,385	19	0.8%
Haverford Township	16,973	17,066	17,103	17,142	17,217	17,298	17,279	306	1.8%
Lansdowne Borough	2,650	2,659	2,652	2,646	2,652	2,662	2,646	-4	-0.2%
Lower Chichester Township	1,374	1,380	1,381	1,381	1,386	1,392	1,387	13	0.9%
Marcus Hook Borough	3,014	3,037	3,058	3,079	3,099	3,115	3,127	113	3.7%
Marple Township	14,026	14,082	14,063	14,045	14,085	14,143	14,075	49	0.3%
Media Borough	11,882	11,974	12,064	12,156	12,236	12,303	12,357	475	4.0%
Middletown Township	14,076	14,220	14,407	14,597	14,727	14,820	14,968	892	6.3%
Millbourne Borough	370	375	382	389	393	396	402	32	8.6%
Morton Borough	1,290	1,297	1,300	1,303	1,309	1,315	1,314	24	1.9%
Nether Providence Township	4,626	4,656	4,677	4,698	4,723	4,747	4,753	127	2.7%
Newtown Township	12,615	12,710	12,798	12,888	12,971	13,040	13,090	475	3.8%

County / Municipality	2015	2020	2025	2030	2035	2040	2045	Absolute Change, 2015-2045	Percentage Change 2015-2045
	Employment Estimate	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast		
Norwood Borough	1,140	1,145	1,146	1,146	1,151	1,156	1,152	12	1.1%
Parkside Borough	328	330	332	334	336	337	338	10	3.0%
Prospect Park Borough	1,726	1,736	1,742	1,747	1,756	1,764	1,764	38	2.2%
Radnor Township	25,694	25,861	25,978	26,099	26,239	26,371	26,407	713	2.8%
Ridley Township	2,809	2,814	2,795	2,776	2,777	2,786	2,757	-52	-1.9%
Ridley Park Borough	9,411	9,463	9,483	9,505	9,546	9,591	9,580	169	1.8%
Rose Valley Borough	297	302	310	318	323	326	333	36	12.1%
Rutledge Borough	131	132	132	132	133	133	133	2	1.5%
Sharon Hill Borough	2,985	3,003	3,014	3,026	3,041	3,056	3,058	73	2.4%
Springfield Township	14,177	14,292	14,411	14,532	14,633	14,715	14,791	614	4.3%
Swarthmore Borough	2,660	2,677	2,688	2,700	2,714	2,727	2,730	70	2.6%
Thornbury Township	2,366	2,418	2,514	2,610	2,661	2,687	2,780	414	17.5%
Tinicum Township	12,489	12,531	12,495	12,461	12,488	12,537	12,457	-32	-0.3%
Trainer Borough	1,799	1,799	1,779	1,760	1,757	1,762	1,735	-64	-3.6%
Upland Borough	1,222	1,227	1,228	1,228	1,232	1,237	1,233	11	0.9%
Upper Chichester Township	6,648	6,710	6,786	6,862	6,918	6,959	7,016	368	5.5%
Upper Darby Township	25,058	25,282	25,543	25,806	26,007	26,159	26,346	1,288	5.1%
Upper Providence Township	5,055	5,114	5,198	5,283	5,338	5,373	5,445	390	7.7%
Yeadon Borough	2,782	2,791	2,784	2,776	2,783	2,794	2,776	-6	-0.2%
Montgomery County	582,443	598,434	614,469	629,563	642,996	654,966	664,385	81,942	14.1%
Abington Township	30,656	31,098	31,327	31,512	31,899	32,371	32,156	1,500	4.9%
Ambler Borough	3,185	3,248	3,322	3,392	3,450	3,501	3,537	352	11.1%
Bridgeport Borough	2,180	2,248	2,298	2,345	2,399	2,455	2,480	300	13.8%
Bryn Athyn Borough	1,427	1,440	1,452	1,463	1,474	1,484	1,477	50	3.5%
Cheltenham Township	18,189	18,517	18,725	18,906	19,201	19,546	19,489	1,300	7.1%
Collegeville Borough	2,626	2,668	2,705	2,738	2,775	2,814	2,815	189	7.2%
Conshohocken Borough	9,368	10,531	11,292	12,036	12,854	13,522	14,368	5,000	53.4%
Douglass Township	3,661	3,820	4,038	4,249	4,380	4,431	4,661	1,000	27.3%
East Greenville Borough	651	663	675	687	697	707	711	60	9.2%
East Norriton Township	10,682	10,999	11,317	11,617	11,813	11,880	12,182	1,500	14.0%
Franconia Township	7,630	7,696	8,004	8,297	8,439	8,497	8,745	1,115	14.6%
Green Lane Borough	183	186	187	189	191	193	193	10	5.5%

County / Municipality	2015		2020		2025		2030		2035		2040		2045		Absolute Change, 2015-2045	Percentage Change 2015-2045
	Employment Estimate	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast			
Hatboro Borough	3,893	3,978	4,018	4,055	4,125	4,204	4,193	300	7.7%							
Hatfield Borough	1,150	1,172	1,190	1,208	1,227	1,248	1,250	100	8.7%							
Hatfield Township	17,580	18,120	18,629	19,110	19,533	19,857	20,218	2,638	15.0%							
Horsham Township	30,408	31,549	33,538	35,468	36,584	37,907	39,068	8,660	28.5%							
Jenkintown Borough	4,597	4,677	4,722	4,761	4,833	4,918	4,897	300	6.5%							
Lansdale Borough	7,772	7,952	8,045	8,126	8,254	8,372	8,384	612	7.9%							
Limerick Township	11,533	11,874	12,362	12,826	13,324	13,799	14,151	2,618	22.7%							
Lower Frederick Township	1,110	1,146	1,178	1,208	1,260	1,320	1,334	224	20.2%							
Lower Gwynedd Township	7,006	7,282	7,770	8,244	8,514	8,687	9,125	2,119	30.2%							
Lower Merion Township	55,354	56,522	57,038	57,471	58,209	58,915	58,854	3,500	6.3%							
Lower Moreland Township	8,085	8,225	8,331	8,424	8,551	8,692	8,685	600	7.4%							
Lower Pottsgrove Township	4,670	4,768	4,943	5,109	5,239	5,346	5,470	800	17.1%							
Lower Providence Township	12,994	13,230	13,581	13,910	14,129	14,290	14,494	1,500	11.5%							
Lower Salford Township	9,663	9,864	10,234	10,586	10,776	10,886	11,163	1,500	15.5%							
Marlborough Township	978	991	1,010	1,027	1,051	1,071	1,078	100	10.2%							
Montgomery Township	16,097	16,473	16,923	17,343	17,580	17,640	18,012	1,915	11.9%							
Narberth Borough	2,039	2,076	2,101	2,122	2,155	2,193	2,189	150	7.4%							
New Hanover Township	2,020	2,102	2,198	2,290	2,370	2,435	2,515	495	24.5%							
Norristown Borough	14,095	14,558	14,873	15,166	15,560	15,972	16,095	2,000	14.2%							
North Wales Borough	1,419	1,443	1,460	1,476	1,498	1,522	1,519	100	7.0%							
Pennsburg Borough	1,519	1,552	1,573	1,592	1,617	1,641	1,645	126	8.3%							
Perkiomen Township	2,416	2,469	2,537	2,602	2,651	2,693	2,733	317	13.1%							
Plymouth Township	23,839	24,550	25,500	26,410	27,090	27,652	28,339	4,500	18.9%							
Pottstown Borough	10,757	11,090	11,342	11,578	11,857	12,128	12,257	1,500	13.9%							
Red Hill Borough	631	642	654	666	676	685	689	58	9.2%							
Rockledge Borough	957	979	996	1,011	1,031	1,054	1,057	100	10.4%							
Royersford Borough	1,393	1,419	1,443	1,466	1,489	1,511	1,518	125	9.0%							
Salford Township	526	544	564	583	605	627	641	115	21.9%							
Schwenksville Borough	418	434	454	474	490	504	518	100	23.9%							
Skippack Township	4,197	4,300	4,402	4,496	4,565	4,631	4,697	500	11.9%							
Souderton Borough	2,788	2,876	2,972	3,064	3,147	3,227	3,288	500	17.9%							
Springfield Township	7,874	8,000	8,084	8,158	8,271	8,399	8,374	500	6.4%							
Telford Borough (part)	643	659	684	707	722	734	751	108	16.8%							

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Towamencin Township	7,548	8,086	8,612	9,125	9,567	9,909	10,421	2,873	38.1%
Trappe Borough	2,144	2,190	2,248	2,303	2,345	2,381	2,414	270	12.6%
Upper Dublin Township	21,566	22,207	22,864	23,485	24,048	24,546	24,966	3,400	15.8%
Upper Frederick Township	871	899	930	960	998	1,037	1,056	185	21.2%
Upper Gwynedd Township	25,099	25,428	25,751	26,036	26,324	26,607	26,599	1,500	6.0%
Upper Hanover Township	4,221	4,395	4,541	4,680	4,831	4,957	5,078	857	20.3%
Upper Merion Township	57,038	59,232	60,940	62,559	64,072	65,430	66,508	9,470	16.6%
Upper Moreland Township	18,160	18,395	18,536	18,650	18,853	19,092	18,977	817	4.5%
Upper Pottsgrove Township	1,161	1,186	1,227	1,264	1,301	1,335	1,361	200	17.2%
Upper Providence Township	22,276	23,028	24,014	24,960	25,575	25,947	26,796	4,520	20.3%
Upper Salford Township	1,273	1,303	1,338	1,371	1,407	1,442	1,462	189	14.8%
West Conshohocken Borough	5,836	5,978	6,180	6,371	6,506	6,612	6,748	912	15.6%
West Norriton Township	9,363	9,557	9,802	10,031	10,212	10,367	10,499	1,136	12.1%
West Pottsgrove Township	1,476	1,530	1,622	1,711	1,764	1,798	1,879	403	27.3%
Whitemarsh Township	20,727	21,090	21,343	21,565	21,894	22,235	22,227	1,500	7.2%
Whitpain Township	19,871	20,231	20,641	21,020	21,350	21,653	21,819	1,948	9.8%
Worcester Township	2,954	3,069	3,189	3,304	3,394	3,457	3,560	606	20.5%
Philadelphia County	772,847	786,308	797,156	810,574	822,002	829,937	836,825	63,978	8.3%
Central	277,884	280,877	283,540	287,458	289,839	291,941	294,586	16,702	6.0%
South	32,348	32,823	33,052	33,584	33,897	34,118	34,233	1,885	5.8%
Lower South	19,366	22,053	25,327	28,043	30,830	33,279	35,111	15,745	81.3%
Lower Southwest	21,287	21,570	22,013	22,546	22,943	23,231	23,518	2,231	10.5%
University/Southwest	81,863	84,881	86,678	89,222	91,692	92,487	94,866	13,003	15.9%
West	14,073	14,203	14,299	14,439	14,598	14,699	14,774	701	5.0%
West Park	17,141	17,404	17,509	17,692	17,785	17,928	17,987	846	4.9%
Lower North	27,134	27,582	28,096	28,441	28,963	29,335	29,204	2,070	7.6%
River Wards	23,154	23,578	23,698	23,934	24,224	24,485	24,249	1,095	4.7%
North	41,243	41,508	41,777	42,342	42,647	42,878	42,941	1,698	4.1%
Lower Northwest	18,212	18,475	18,586	18,710	18,889	19,048	19,008	796	4.4%
Upper Northwest	25,673	25,928	26,010	26,217	26,435	26,540	26,478	805	3.1%
Upper North	33,741	34,068	34,214	34,353	34,589	34,656	34,655	914	2.7%
Lower Northeast	27,338	27,591	27,740	27,958	28,086	28,125	28,124	786	2.9%

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	Employment Estimate	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast		
Central Northeast	22,546	22,843	23,015	23,244	23,395	23,498	23,473	927	4.1%
North Delaware	23,938	24,269	24,330	24,557	24,692	24,819	24,807	869	3.6%
Lower Far Northeast	31,433	31,835	32,080	32,378	32,667	32,893	32,853	1,420	4.5%
Upper Far Northeast	34,473	34,820	35,192	35,456	35,831	35,977	35,958	1,485	4.3%
Burlington County	241,298	246,351	251,368	255,562	258,363	261,195	263,622	22,324	9.3%
Bass River Township	1,556	1,572	1,566	1,556	1,558	1,571	1,544	-12	-0.8%
Beverly City	400	417	446	472	485	493	519	119	29.8%
Bordentown City	1,437	1,452	1,447	1,439	1,441	1,451	1,428	-9	-0.6%
Bordentown Township	5,424	5,530	5,624	5,703	5,760	5,824	5,858	434	8.0%
Burlington City	5,162	5,229	5,237	5,231	5,251	5,298	5,242	80	1.5%
Burlington Township	17,266	17,584	17,772	17,879	17,949	18,054	18,013	747	4.3%
Chesterfield Township	1,770	1,800	1,819	1,833	1,846	1,865	1,863	93	5.3%
Cinnaminson Township	9,862	9,981	9,978	9,949	9,979	10,064	9,938	76	0.8%
Delanco Township	1,193	1,234	1,296	1,353	1,383	1,403	1,455	262	22.0%
Delran Township	7,181	7,263	7,249	7,217	7,234	7,295	7,190	9	0.1%
Eastampton Township	949	980	1,027	1,070	1,092	1,109	1,147	198	20.9%
Edgewater Park Township	2,738	2,795	2,849	2,896	2,928	2,961	2,985	247	9.0%
Evesham Township	27,494	27,914	28,117	28,240	28,412	28,688	28,559	1,065	3.9%
Fieldsboro Borough	87	88	89	91	91	92	92	5	5.7%
Florence Township	3,424	3,650	3,889	4,017	4,112	4,190	4,297	873	25.5%
Hainesport Township	3,128	3,287	3,567	3,834	3,962	4,037	4,299	1,171	37.4%
Lumberton Township	6,605	6,926	7,488	8,022	8,279	8,433	8,954	2,349	35.6%
Mansfield Township	2,794	2,935	3,186	3,422	3,537	3,604	3,838	1,044	37.4%
Maple Shade Township	6,792	6,875	6,877	6,860	6,881	6,942	6,858	66	1.0%
Medford Lakes Borough	800	808	805	800	800	807	793	-7	-0.9%
Medford Township	11,762	11,938	12,189	12,416	12,559	12,653	12,855	1,093	9.3%
Moorestown Township	30,721	31,403	32,129	32,756	33,157	33,552	33,945	3,224	10.5%
Mount Holly Township	7,793	7,890	7,894	7,877	7,904	7,972	7,879	86	1.1%
Mount Laurel Township	37,270	38,050	38,815	39,464	39,903	40,362	40,714	3,444	9.2%
New Hanover Township	4,627	4,707	4,791	4,874	4,957	5,040	5,127	500	10.8%
North Hanover Township	1,451	1,455	1,437	1,429	1,422	1,416	1,401	-50	-3.4%
Palmyra Borough	2,008	2,021	1,994	1,963	1,957	1,971	1,916	-92	-4.6%

County / Municipality	2015	2020	2025	2030	2035	2040	2045	Absolute Change, 2015-2045	Percentage Change 2015-2045
	Employment Estimate	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast		
Pemberton Borough	541	547	544	541	541	546	537	-4	-0.7%
Pemberton Township	7,035	7,204	7,420	7,616	7,725	7,816	7,970	935	13.3%
Riverside Township	1,726	1,759	1,787	1,811	1,827	1,847	1,856	130	7.5%
Riverton Borough	836	844	839	832	832	840	823	-13	-1.6%
Shamong Township	1,695	1,713	1,705	1,693	1,696	1,709	1,680	-15	-0.9%
Southampton Township	3,705	3,744	3,729	3,704	3,709	3,739	3,677	-28	-0.8%
Springfield Township	1,513	1,543	1,593	1,640	1,666	1,681	1,726	213	14.1%
Tabernacle Township	2,042	2,063	2,054	2,041	2,044	2,061	2,026	-16	-0.8%
Washington Township	245	247	247	245	246	247	243	-2	-0.8%
Westampton Township	7,379	7,776	8,490	9,169	9,495	9,682	10,357	2,978	40.4%
Willingboro Township	8,184	8,388	8,632	8,850	8,979	9,093	9,253	1,069	13.1%
Woodland Township	1,893	1,911	1,899	1,882	1,883	1,897	1,860	-33	-1.7%
Wrightstown Borough	2,810	2,828	2,852	2,875	2,881	2,890	2,905	95	3.4%
Camden County	263,582	265,169	266,753	268,359	269,750	270,892	271,869	8,287	3.1%
Audubon Borough	2,882	2,878	2,858	2,840	2,834	2,839	2,809	-73	-2.5%
Audubon Park Borough	122	122	121	120	120	120	119	-3	-2.5%
Barrington Borough	2,919	2,916	2,900	2,885	2,881	2,886	2,860	-59	-2.0%
Bellmawr Borough	4,855	4,861	4,856	4,853	4,855	4,867	4,848	-7	-0.1%
Berlin Borough	4,889	4,908	4,936	4,965	4,981	4,998	5,012	123	2.5%
Berlin Township	6,474	6,492	6,514	6,537	6,551	6,572	6,574	100	1.5%
Brooklawn Borough	979	980	979	978	978	981	976	-3	-0.3%
Camden City	41,786	42,644	43,370	44,057	44,850	45,205	45,992	4,206	10.1%
Cherry Hill Township	66,799	66,845	66,734	66,641	66,648	66,808	66,479	-320	-0.5%
Cheshilhurst Borough	268	267	264	262	261	261	257	-11	-4.1%
Clementon Borough	1,391	1,391	1,388	1,385	1,384	1,388	1,379	-12	-0.9%
Collingswood Borough	4,307	4,308	4,296	4,285	4,283	4,292	4,266	-41	-1.0%
Gibbsboro Borough	1,885	1,884	1,875	1,866	1,864	1,867	1,852	-33	-1.8%
Gloucester City	4,709	4,888	5,290	5,692	5,866	5,942	6,345	1,636	34.7%
Gloucester Township	19,959	19,964	19,911	19,863	19,857	19,901	19,782	-177	-0.9%
Haddon Township	4,577	4,590	4,606	4,624	4,634	4,649	4,651	74	1.6%
Haddonfield Borough	6,525	6,526	6,508	6,491	6,488	6,503	6,463	-62	-1.0%
Haddon Heights Borough	3,220	3,227	3,234	3,242	3,248	3,257	3,254	34	1.1%

County / Municipality	2015	2020	2025	2030	2035	2040	2045	Absolute Change, 2015-2045	Percentage Change 2015-2045
	Employment Estimate	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast		
Hi-Nella Borough	201	201	201	201	201	202	201	0	0.0%
Laurel Springs Borough	468	468	465	463	463	464	460	-8	-1.7%
Lawnside Borough	1,916	1,911	1,894	1,877	1,872	1,874	1,850	-66	-3.4%
Lindenwold Borough	3,140	3,147	3,152	3,158	3,163	3,172	3,168	28	0.9%
Magnolia Borough	1,064	1,063	1,058	1,052	1,051	1,053	1,043	-21	-2.0%
Merchantville Borough	1,408	1,409	1,406	1,404	1,404	1,407	1,400	-8	-0.6%
Mount Ephraim Borough	1,137	1,137	1,133	1,129	1,128	1,131	1,123	-14	-1.2%
Oaklyn Borough	991	990	986	981	980	982	974	-17	-1.7%
Pennsauken Township	25,712	25,798	25,799	25,816	25,889	26,018	25,945	233	0.9%
Pine Hill Borough	1,618	1,625	1,627	1,629	1,634	1,643	1,640	22	1.4%
Pine Valley Borough	185	185	185	184	184	184	183	-2	-1.1%
Runnemede Borough	3,101	3,099	3,084	3,070	3,066	3,072	3,047	-54	-1.7%
Somerdale Borough	2,376	2,377	2,375	2,372	2,373	2,378	2,367	-9	-0.4%
Stratford Borough	6,353	6,354	6,335	6,318	6,315	6,329	6,289	-64	-1.0%
Tavistock Borough	50	50	50	50	50	50	50	0	0.0%
Voorhees Township	20,328	20,474	20,749	21,028	21,161	21,258	21,479	1,151	5.7%
Waterford Township	3,606	3,637	3,698	3,760	3,789	3,808	3,860	254	7.0%
Winslow Township	10,976	11,147	11,510	11,875	12,038	12,124	12,466	1,490	13.6%
Woodlynne Borough	406	406	406	406	406	407	406	0	0.0%
Gloucester County	121,382	128,161	134,902	141,752	147,682	152,554	156,686	35,304	29.1%
Clayton Borough	2,236	2,380	2,549	2,718	2,847	2,947	3,076	840	37.6%
Deptford Township	14,845	15,536	16,047	16,583	17,165	17,692	17,824	2,979	20.1%
East Greenwich Township	2,593	2,718	2,817	2,920	3,027	3,121	3,155	562	21.7%
Elk Township	1,106	1,240	1,465	1,684	1,813	1,894	2,126	1,020	92.2%
Franklin Township	4,372	4,642	4,944	5,247	5,488	5,676	5,895	1,523	34.8%
Glassboro Borough	7,359	7,860	8,475	9,089	9,543	9,883	10,380	3,021	41.1%
Greenwich Township	2,436	2,516	2,524	2,539	2,600	2,670	2,601	165	6.8%
Harrison Township	3,492	3,812	4,291	4,762	5,063	5,266	5,724	2,232	63.9%
Logan Township	9,726	10,183	10,529	10,892	11,277	11,624	11,726	2,000	20.6%
Mantua Township	5,333	5,786	6,436	7,078	7,501	7,792	8,396	3,063	57.4%

County / Municipality	2015 Employment Estimate	2020		2025		2030		2035		2040		2045		Absolute Change, 2015-2045	Percentage Change 2015-2045
		Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast				
Monroe Township	11,219	12,024	13,054	14,078	14,812	15,352	16,218	4,999	44.6%						
National Park Borough	430	445	448	453	464	477	467	37	8.6%						
Newfield Borough	441	456	457	460	471	484	472	31	7.0%						
Paulsboro Borough	1,707	1,760	1,760	1,765	1,804	1,852	1,796	89	5.2%						
Pitman Borough	2,481	2,590	2,659	2,733	2,823	2,908	2,911	430	17.3%						
South Harrison Township	1,000	1,066	1,143	1,221	1,280	1,324	1,385	385	38.5%						
Swedesboro Borough	1,618	1,681	1,708	1,740	1,790	1,841	1,822	204	12.6%						
Washington Township	19,175	19,988	20,465	20,982	21,650	22,291	22,242	3,067	16.0%						
Wenonah Borough	520	541	553	565	582	599	596	76	14.6%						
West Deptford Township	13,690	14,441	15,169	15,910	16,564	17,107	17,534	3,844	28.1%						
Westville Borough	1,784	1,860	1,904	1,953	2,015	2,075	2,070	286	16.0%						
Woodbury City	9,289	9,538	9,440	9,372	9,545	9,783	9,366	77	0.8%						
Woodbury Heights Borough	1,887	1,940	1,925	1,915	1,953	2,002	1,923	36	1.9%						
Woolwich Township	2,643	3,158	4,140	5,093	5,605	5,894	6,981	4,338	164.1%						
Mercer County	286,295	290,864	295,408	300,025	304,021	307,302	310,084	23,789	8.3%						
East Windsor Township	17,414	17,737	18,170	18,607	18,858	19,015	19,359	1,945	11.2%						
Ewing Township	22,150	22,877	23,322	23,772	24,047	24,230	24,680	2,530	11.4%						
Hamilton Township	49,812	50,303	50,848	51,406	51,824	52,157	52,345	2,533	5.1%						
Hightstown Borough	2,775	2,796	2,812	2,828	2,846	2,862	2,857	82	3.0%						
Hopewell Borough	982	990	987	984	986	990	980	-2	-0.2%						
Hopewell Township	14,696	14,797	15,282	15,771	17,012	18,290	18,408	3,712	25.3%						
Lawrence Township	28,005	28,973	29,178	29,392	29,586	29,760	30,015	2,010	7.2%						
Pennington Borough	2,412	2,449	2,502	2,555	2,587	2,608	2,646	234	9.7%						
Princeton	26,211	27,014	27,617	28,227	28,585	28,815	29,399	3,188	12.2%						
Robbinsville	6,542	6,815	7,186	7,558	7,743	7,836	8,212	1,670	25.5%						
Trenton City	78,922	79,280	79,783	80,307	80,812	81,280	81,096	2,174	2.8%						
West Windsor Township	36,374	36,833	37,721	38,618	39,135	39,459	40,087	3,713	10.2%						

Source: Delaware Valley Regional Planning Commission, September 2016. Base employment data from the National Establishments Time Series (NETS) database, 2010 and 2013.

Report Title: Analytical Data Report # 023: County- and Municipal-Level Employment Forecasts, 2015–2045

Publication No.: ADR023

Date Published: October 2016

Geographic Area Covered: DVRPC's nine-county region, including Burlington, Camden, Gloucester, and Mercer counties in New Jersey, and Bucks, Chester, Delaware, Montgomery, and Philadelphia counties in Pennsylvania.

Key Words: employment, employment forecasts, National Establishments Time Series database, NETS, Connections 2045, long-range plan

ABSTRACT: This report presents the Delaware Valley Regional Planning Commission's (DVRPC's) adopted 2045 county- and municipal-level employment forecasts and describes the method used to develop them. Population and employment forecasts are a critical component of long-range land use and transportation planning. As a part of DVRPC's long-range planning activities, the Commission is required to maintain forecasts with at least a 20-year horizon, or to the horizon year of the long-range plan.

DVRPC last adopted employment forecasts through the year 2040 in September 2012. In March 2016, DVRPC acquired a National Establishments Time Series (NETS) database that included 2013 employment data and revised 2010 data. The 2010 and 2013 employment data was reviewed and revised by DVRPC staff, utilizing resources that included CoStar, on-line business directories, company web sites, and, when appropriate, direct telephone calls. The revised data was then sent to the county planning staffs for additional revision. Additionally, during the summer of 2016, DVRPC acquired improved geocoding resources that allowed staff to further correct the spatial locations of employers.

Based on changes in the NETS employment between 2010 and 2013, and changes in employment in each county between 2010 and 2015, as reported by the U.S. Bureau of Labor Statistics, 2015 employment was estimated by county and municipality. Studies have shown that there is a direct relationship between the number of workers living in an area and the number of jobs. County-level employment was forecasted in five-year increments through 2045, by estimating a future ratio of population to employment in each county and applying it to DVRPC's adopted population forecasts. Together with the 2045 population forecasts adopted by the DVRPC Board in July 2016, these employment forecasts, adopted by the Board in October 2016, will serve as the basis for DVRPC's planning and modeling activities, and support the region's 2045 long-range plan, scheduled for adoption in July 2017.

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East Whiteland Township Wastewater System Assets

Total Debt	16065468	16760932	17486396
Purchase of Capital Assets	740070	393256	1005551

	2019	2018	2017
Income (Loss) Before Transfers	74280	1706829	-594968
Interest paid	522264	539353	553075
Depreciation	774783	718700	687892
Total Source	\$1,371,327	\$2,964,882	\$645,999

Income tax	0	0	0

Principal	715000	745000	725000
Interest paid	522264	539353	553075
Total Use	\$1,237,264	\$1,284,353	\$1,278,075

W/Out Trans

Debt Service Coverage	1.11	2.31	0.51
Pre-Tax Interest Coverage - Including AFC(3)(x)	1.14	4.16	-0.08
Post-Tax Interest Coverage - Including AFC(3)(x)	1.14	4.16	-0.08
GCF / Interest Coverage(4)(x)	2.63	5.50	1.17
GCF / Tot. Debt(7)(%)	5.29	14.47	0.53
GCF / Construction(6)(%)	114.73	616.78	9.24

Comparable Group

Debt Service Coverage - As Reported						
	2019	2018	2017			
Comparable Group						
AMERICAN STATES WATER COMPANY	2.2	5.4	2.4			
AMERICAN WATER WORKS COMPANY, INC.	1.8	1.7	1.0			
ARTESIAN RESOURCES CORPORATION	3.7	4.1	4.0			
CALIFORNIA WATER SERVICE GROUP	0.4	3.4	3.0			
ESSENTIAL UTILITIES, INC.	0.4	0.5	1.0			
MIDDLESEX WATER COMPANY	4.0	4.0	3.7			
SIJ GROUP	3.7	4.9	5.2			
THE YORK WATER COMPANY	0.3	0.8	1.1			
Median	2.0	3.7	2.7			
	2019	2018	2017	2019	2018	2017
Company Name	DEPRECIATION	DEPRECIATION	DEPRECIATION	TOTAL INTERST EXPENSE	TOTAL INTERST EXPENSE	TOTAL INTERST EXPENSE
AMERICAN STATES WATER COMPANY	35.713	40.663	39.273	24.586	23.433	22.582
AMERICAN WATER WORKS COMPANY, INC.	582.000	545.000	492.000	386.000	361.000	356.000
ARTESIAN RESOURCES CORPORATION	10.803	10.288	9.555	7.024	6.252	6.177
CALIFORNIA WATER SERVICE GROUP	91.288	85.707	78.592	44.891	39.917	36.288
ESSENTIAL UTILITIES, INC.	156.476	146.673	136.724	149.125	158.833	88.543
MIDDLESEX WATER COMPANY	17.232	15.780	14.846	7.264	6.758	5.506
SIJ GROUP	68.489	56.907	50.501	31.796	24.332	22.929
THE YORK WATER COMPANY	7.688	7.010	6.769	5.124	5.509	5.348
	2019	2018	2017	2019	2018	2017
	INCOME TO PREF+COMM	INCOME TO PREF+COMM	INCOME TO PREF+COMM	REPAY LT DEBT	REPAY LT DEBT	REPAY LT DEBT
AMERICAN STATES WATER COMPANY	84.342	63.871	69.367	40.325	0.326	31.329
AMERICAN WATER WORKS COMPANY, INC.	621.000	567.000	426.000	495.000	526.000	896.000
ARTESIAN RESOURCES CORPORATION	14.925	14.278	13.983	1.725	1.344	1.218
CALIFORNIA WATER SERVICE GROUP	63.116	65.584	72.940	405.568	16.532	26.829
ESSENTIAL UTILITIES, INC.	224.543	191.988	239.738	1,073.708	914.125	359.068
MIDDLESEX WATER COMPANY	33.888	32.452	22.809	7.343	7.024	6.159
SIJ GROUP	23.403	38.767	59.204	1.400	0.000	2.717
THE YORK WATER COMPANY	14.402	13.376	12.974	85.906	25.691	17.533

Company Name	Pretax Operating Income			Interest expense			Net Income		
	2019	2018	2017	2019	2018	2017	2019	2018	2017
AMERICAN STATES WATER CO	133.598	105.321	130.923	24.586	23.433	22.582	84.342	63.871	69.367
AMERICAN WATER WORKS CO INC	1,219.000	1,150.000	1,268.000	386.000	361.000	356.000	621.000	567.000	426.000
ARTESIAN RESOURCES -CL A	27.130	25.521	27.455	7.024	6.252	6.177	14.925	14.278	13.983
CALIFORNIA WATER SERVICE GP	125.678	121.373	146.055	44.891	39.917	36.288	63.116	65.584	72.940
ESSENTIAL UTILITIES, INC.	360.651	337.152	345.195	149.125	158.833	88.543	224.543	191.988	239.738
MIDDLESEX WATER CO	38.012	40.134	39.415	7.264	6.758	5.506	33.888	32.452	22.809
SJW GROUP	63.653	73.164	117.526	31.796	24.332	22.929	23.403	38.767	59.204
YORK WATER CO	21.766	21.376	22.865	5.124	5.509	5.348	14.402	13.376	12.974

Company Name	Gross Cash Flow			Total debt			CAPX		
	2019	2018	2017	2019	2018	2017	2019	2018	2017
AMERICAN STATES WATER CO	126.678	98.761	120.792	499.928	416.907	380.363	151.940	126.561	113.126
AMERICAN WATER WORKS CO INC	1,398.000	1,294.000	1,372.000	9,557.000	8,625.000	7,728.000	1,654.000	1,586.000	1,434.000
ARTESIAN RESOURCES -CL A	21.079	24.763	31.428	153.846	133.646	116.845	40.677	49.053	41.094
CALIFORNIA WATER SERVICE GP	168.402	165.097	185.996	998.102	880.038	806.813	273.770	271.707	259.194
ESSENTIAL UTILITIES, INC.	354.411	310.688	375.031	3,097.913	2,627.187	2,146.801	550.273	495.737	478.089
MIDDLESEX WATER CO	46.410	45.909	44.897	263.687	208.694	173.910	89.125	72.094	50.301
SJW GROUP	86.320	83.332	106.462	1,423.078	531.424	456.092	164.325	135.973	141.213
YORK WATER CO	22.365	20.215	21.363	103.282	96.173	93.338	20.537	16.882	25.074

Company Name	Pretax Interest Coverage			Posttax Interest Coverage			GCF Interest Coverage		
	2019	2018	2017	2019	2018	2017	2019	2018	2017
AMERICAN STATES WATER CO	5.4	4.5	5.8	4.4	3.7	4.1	6.2	5.2	6.3
AMERICAN WATER WORKS CO INC	3.2	3.2	3.6	2.6	2.6	2.2	4.6	4.6	4.9
ARTESIAN RESOURCES -CL A	3.9	4.1	4.4	3.1	3.3	3.3	4.0	5.0	6.1
CALIFORNIA WATER SERVICE GP	2.8	3.0	4.0	2.4	2.6	3.0	4.8	5.1	6.1
ESSENTIAL UTILITIES, INC.	2.4	2.1	3.9	2.5	2.2	3.7	3.4	3.0	5.2
MIDDLESEX WATER CO	5.2	5.9	7.2	5.7	5.8	5.1	7.4	7.8	9.2
SJW GROUP	2.0	3.0	5.1	1.7	2.6	3.6	3.7	4.4	5.6
YORK WATER CO	4.2	3.9	4.3	3.8	3.4	3.4	5.4	4.7	5.0
Median	3.6	3.6	4.4	2.9	3.0	3.5	4.7	4.9	5.9

Company Name	GCF To Debt			GCF To CAPX		
	2019	2018	2017	2019	2018	2017
AMERICAN STATES WATER CO	25.3	23.7	31.8	83.4	78.0	106.8
AMERICAN WATER WORKS CO INC	14.6	15.0	17.8	84.5	81.6	95.7
ARTESIAN RESOURCES -CL A	13.7	18.5	26.9	51.8	50.5	76.5
CALIFORNIA WATER SERVICE GP	16.9	18.8	23.1	61.5	60.8	71.8
ESSENTIAL UTILITIES, INC.	11.4	11.8	17.5	64.4	62.7	78.4
MIDDLESEX WATER CO	17.6	22.0	25.8	52.1	63.7	89.3
SJW GROUP	6.1	15.7	23.3	52.5	61.3	75.4
YORK WATER CO	21.7	21.0	22.9	108.9	119.7	85.2
Median	15.8	18.7	23.2	63.0	63.2	81.8

	2019	2018	2017
Pre-Tax Interest Coverage - Including AFC(3)(x)	3.6	3.6	4.4
Post-Tax Interest Coverage - Including AFC(3)(x)	2.9	3.0	3.5
GCF / Interest Coverage(4)(x)	4.7	4.9	5.9
GCF / Tot. Debt(7)(%)	15.8	18.7	23.2
GCF / Construction(6)(%)	63.0	63.2	81.8

WORKING NOTES												WORKING NOTES			
2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028			
GROSS Property, plant and equipment	-	-	-	83,116,429	84,848,729	86,000,797	87,168,507	88,352,072	89,551,708	90,767,632	92,000,066	93,249,234			
Accumulated Depreciation	-	-	-	30,116,429	31,177,154	32,368,614	33,588,198	34,788,123	36,024,613	37,277,892	38,548,188	39,835,732			
NET PPE	-	-	-	53,000,000	53,671,575	53,632,183	53,600,309	53,563,949	53,527,095	53,489,740	53,451,878	53,413,502			
Total Debt	-	-	-	-	16,065,468	-	-	-	-	-	-	-			
Net Equity	-	-	-	-	26,447,777	-	-	-	-	-	-	-			
Investor Provided Capital	-	-	-	-	42,513,245	-	-	-	-	-	-	-			
Depreciation / GROSS PPE	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	0.00%	1.63%									

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	WORKING NOTES					WORKING NOTES							
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Accumulated Depreciation NET PPE	-	-	-	-	-	-	-	30,116,429	-	53,000,000	-	-	-
Total Debt	-	-	-	-	-	-	-	16,065,468	-	-	-	-	-
Net Equity	-	-	-	-	-	-	-	26,447,777	-	-	-	-	-
Investor Provided Capital	-	-	-	-	-	-	-	42,513,245	-	-	-	-	-
Depreciation Rate	0.00%	0.00%	0.00%	#DIV/0!	1.63%								
Depreciation Expense	-	-	718,700	774,783	1,354,798.00								
CAPX	2021 2,038,000	2022 0	2023 0	2024 0	2025 0	2026 0	2027 0	2028 0	2029 0	2030 0	2031 0	2032 0	2033 0
E Whiteland													
XYZ's LTCP													
State of Good Repair													
XYZ's Base CAPX													
Base & LTCP													
Base & LTCP & Expand WWTP													
CAPX													
Expand WWTP work area													
State of Good Repair													
XYZ's Base CAPX													
Base & LTCP													
Base & LTCP & Expand WWTP													
OpEx													
State of Good Repair													
XYZ's Base CAPX													
Base & LTCP													
Base & LTCP & Expand WWTP													
CAPX note													
State of Good Repair													
XYZ's Base CAPX													
Base & LTCP													
Base & LTCP & Expand WWTP													
Additional OpEx note													
Capital Expenditures - Pre-2028 based on financials/budget. Post-2027 years are estimates at 1.60% of prior year-end GROSS Property;													
Capital Expenditures - Pre-2028 based on financials/budget. Post-2027 years are estimates at 1.60% of prior year-end GROSS Property;													

	2029	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2040	2041	2042	2043	2044	2045
GROSS Property, plant and equipment	94,315,363	95,798,683	97,099,428	98,417,834	99,754,141	101,108,593	102,481,436	103,872,918	105,283,294	106,712,820	108,161,756	109,630,366	111,118,916	112,627,678	114,156,926	115,706,938	117,277,996	
Accumulated Depreciation	41,140,759	42,463,505	43,804,211	45,163,120	46,540,481	47,936,543	49,351,562	50,785,792	52,239,497	53,712,941	55,206,390	56,720,117	58,254,398	59,809,511	61,385,739	62,983,369	64,602,692	
NET PPE	53,174,604	53,335,178	53,295,217	53,254,714	53,213,660	53,172,050	53,129,874	53,087,126	53,045,797	52,999,879	52,955,366	52,910,249	52,864,518	52,818,167	52,771,187	52,723,569	52,675,304	

Total Debt
Net Equity
Investor Provided Capital

[illegible][illegible]

Sewer Rental Charges	779,000.00	793,250.00	807,500.00	817,000.00	831,250.00	845,500.00	859,750.00	874,000.00	888,250.00	902,500.00	916,750.00	931,000.00	945,250.00	959,500.00	973,750.00	992,750.00	1,007,000.00

[illegible]

9,452,984	9,604,232	9,757,899	9,914,026	10,072,650	9,937,032	10,096,024	10,257,561	10,421,682	10,588,429	10,488,898	10,656,720	10,827,227	11,000,463	11,176,470	11,094,122	11,271,633	11,450,000	11,629,333	11,808,622	11,987,866	12,167,066	12,346,222	12,525,333	12,704,400	12,883,422	13,062,400	13,241,333	13,420,222	13,599,066	13,777,866	13,956,622	14,135,333	14,314,000	14,492,622	14,671,200	14,849,733	15,028,222	15,206,666	15,385,066	15,563,422	15,741,733	15,920,000	16,098,222	16,276,400	16,454,533	16,632,622	16,810,666	16,988,666	17,166,622	17,344,533	17,522,400	17,700,222	17,878,000	18,055,733	18,233,422	18,411,066	18,588,666	18,766,222	18,943,733	19,121,200	19,298,622	19,476,000	19,653,333	19,830,622	20,007,866	20,185,066	20,362,222	20,539,333	20,716,400	20,893,422	21,070,400	21,247,333	21,424,222	21,601,066	21,777,866	21,954,622	22,131,333	22,308,000	22,484,622	22,661,200	22,837,733	23,014,222	23,190,666	23,367,066	23,543,422	23,719,733	23,896,000	24,072,222	24,248,400	24,424,533	24,600,622	24,776,666	24,952,622	25,128,533	25,304,400	25,480,222	25,656,000	25,831,733	26,007,422	26,183,066	26,358,666	26,534,222	26,709,733	26,885,200	27,060,622	27,236,000	27,411,333	27,586,666	27,762,000	27,937,333	28,112,622	28,287,866	28,463,066	28,638,222	28,813,333	28,988,400	29,163,422	29,338,400	29,513,333	29,688,222	29,863,066	30,037,866	30,212,622	30,387,333	30,562,000	30,736,622	30,911,200	31,085,733	31,260,222	31,434,666	31,609,066	31,783,422	31,957,733	32,132,000	32,306,222	32,480,400	32,654,533	32,828,622	33,002,666	33,176,622	33,350,533	33,524,400	33,698,222	33,872,000	34,045,733	34,219,422	34,393,066	34,566,622	34,740,133	34,913,600	35,087,022	35,260,400	35,433,733	35,607,066	35,780,400	35,953,733	36,127,066	36,300,400	36,473,733	36,647,066	36,820,400	36,993,733	37,167,066	37,340,400	37,513,733	37,687,066	37,860,400	38,033,733	38,207,066	38,380,400	38,553,733	38,727,066	38,900,400	39,073,733	39,247,066	39,420,400	39,593,733	39,767,066	39,940,400	40,113,733	40,287,066	40,460,400	40,633,733	40,807,066	40,980,400	41,153,733	41,327,066	41,500,400	41,673,733	41,847,066	42,020,400	42,193,733	42,367,066	42,540,400	42,713,733	42,887,066	43,060,400	43,233,733	43,407,066	43,580,400	43,753,733	43,927,066	44,100,400	44,273,733	44,447,066	44,620,400	44,793,733	44,967,066	45,140,400	45,313,733	45,487,066	45,660,400	45,833,733	46,007,066	46,180,400	46,353,733	46,527,066	46,700,400	46,873,733	47,047,066	47,220,400	47,393,733	47,567,066	47,740,400	47,913,733	48,087,066	48,260,400	48,433,733	48,607,066	48,780,400	48,953,733	49,127,066	49,300,400	49,473,733	49,647,066	49,820,400	49,993,733	50,167,066	50,340,400	50,513,733	50,687,066	50,860,400	51,033,733	51,207,066	51,380,400	51,553,733	51,727,066	51,900,400	52,073,733	52,247,066	52,420,400	52,593,733	52,767,066	52,940,400	53,113,733	53,287,066	53,460,400	53,633,733	53,807,066	53,980,400	54,153,733	54,327,066	54,500,400	54,673,733	54,847,066	55,020,400	55,193,733	55,367,066	55,540,400	55,713,733	55,887,066	56,060,400	56,233,733	56,407,066	56,580,400	56,753,733	56,927,066	57,100,400	57,273,733	57,447,066	57,620,400	57,793,733	57,967,066	58,140,400	58,313,733	58,487,066	58,660,400	58,833,733	59,007,066	59,180,400	59,353,733	59,527,066	59,700,400	59,873,733	60,047,066	60,220,400	60,393,733	60,567,066	60,740,400	60,913,733	61,087,066	61,260,400	61,433,733	61,607,066	61,780,400	61,953,733	62,127,066	62,300,400	62,473,733	62,647,066	62,820,400	62,993,733	63,167,066	63,340,400	63,513,733	63,687,066	63,860,400	64,033,733	64,207,066	64,380,400	64,553,733	64,727,066	64,900,400	65,073,733	65,247,066	65,420,400	65,593,733	65,767,066	65,940,400	66,113,733	66,287,066	66,460,400	66,633,733	66,807,066	66,980,400	67,153,733	67,327,066	67,500,400	67,673,733	67,847,066	68,020,400	68,193,733	68,367,066	68,540,400	68,713,733	68,887,066	69,060,400	69,233,733	69,407,066	69,580,400	69,753,733	69,927,066	70,100,400	70,273,733	70,447,066	70,620,400	70,793,733	70,967,066	71,140,400	71,313,733	71,487,066	71,660,400	71,833,733	72,007,066	72,180,400	72,353,733	72,527,066	72,700,400	72,873,733	73,047,066	73,220,400	73,393,733	73,567,066	73,740,400	73,913,733	74,087,066	74,260,400	74,433,733	74,607,066	74,780,400	74,953,733	75,127,066	75,300,400	75,473,733	75,647,066	75,820,400	75,993,733	76,167,066	76,340,400	76,513,733	76,687,066	76,860,400	77,033,733	77,207,066	77,380,400	77,553,733	77,727,066	77,900,400	78,073,733	78,247,066	78,420,400	78,593,733	78,767,066	78,940,400	79,113,733	79,287,066	79,460,400	79,633,733	79,807,066	79,980,400	80,153,733	80,327,066	80,500,400	80,673,733	80,847,066	81,020,400	81,193,733	81,367,066	81,540,400	81,713,733	81,887,066	82,060,400	82,233,733	82,407,066	82,580,400	82,753,733	82,927,066	83,100,400	83,273,733	83,447,066	83,620,400	83,793,733	83,967,066	84,140,400	84,313,733	84,487,066	84,660,400	84,833,733	85,007,066	85,180,400	85,353,733	85,527,066	85,700,400	85,873,733	86,047,066	86,220,400	86,393,733	86,567,066	86,740,400	86,913,733	87,087,066	87,260,400	87,433,733	87,607,066	87,780,400	87,953,733	88,127,066	88,300,400	88,473,733	88,647,066	88,820,400	88,993,733	89,167,066	89,340,400	89,513,733	89,687,066	89,860,400	90,033,733	90,207,066	90,380,400	90,553,733	90,727,066	90,900,400	91,073,733	91,247,066	91,420,400	91,593,733	91,767,066	91,940,400	92,113,733	92,287,066	92,460,400	92,633,733	92,807,066	92,980,400	93,153,733	93,327,066	93,500,400	93,673,733	93,847,066	94,020,400	94,193,733	94,367,066	94,540,400	94,713,733	94,887,066	95,060,400	95,233,733	95,407,066	95,580,400	95,753,733	95,927,066	96,100,400	96,273,733	96,447,066	96,620,400	96,793,733	96,967,066	97,140,400	97,313,733	97,487,066	97,660,400	97,833,733	98,007,066	98,180,400	98,353,733	98,527,066	98,700,400	98,873,733	99,047,066	99,220,400	99,393,733	99,567,066	99,740,400	99,913,733	100,087,066	100,260,400	100,433,733	100,607,066	100,780,400	100,953,733	101,127,066	101,300,400	101,473,733	101,647,066	101,820,400	101,993,733	102,167,066	102,340,400	102,513,733	102,687,066	102,860,400	103,033,733	103,207,066	103,380,400	103,553,733	103,727,066	103,900,400	104,073,733	104,247,066	104,420,400	104,593,733	104,767,066	104,940,400	105,113,733	105,287,066	105,460,400	105,633,733	105,807,066	105,980,400	106,153,733	106,327,066	106,500,400	106,673,733	106,847,066	107,020,400	107,193,733	107,367,066	107,540,400	107,713,733	107,887,066	108,060,400	108,233,733	108,407,066	108,580,400	108,753,733	108,927,066	109,100,400	109,273,733	109,447,066	109,620,400	109,793,733	109,967,066	110,140,400	110,313,733	110,487,066	110,660,400	110,833,733	111,007,066	111,180,400	111,353,733	111,527,066	111,700,400	111,873,733	112,047,066	112,220,400	112,393,733	112,567,066	112,740,400	112,913,733	113,087,066	113,260,400	113,433,733	113,607,066	113,780,400	113,953,733	114,127,066	114,300,400	114,473,733	114,647,066	114,820,400	114,993,733	115,167,066	115,340,400	115,513,733	115,687,066	115,860,400	116,033,733	116,207,066	116,380,400	116,553,733	116,727,066	116,900,400	117,073,733	117,247,066	117,420,400	117,593,733	117,767,066	117,940,400	118,113,733	118,287,066	118,460,400	118,633,733	118,807,066	118,980,400	119,153,733	119,327,066	119,500,400	119,673,733	119,847,066	120,020,400	120,193,733	120,367,066	120,540,400	120,713,733	120,887,066	121,060,400	121,233,733	121,407,066	121,580,400	121,753,733	121,927,066	122,100,400	122,273,733	122,447,066	122,620,400	122,793,733	122,967,066	123,140,400	123,313,733	123,487,066	123,660,400	123,833,733	124,007,066	124,180,400	124,353,733	124,527,066	124,700,400	124,873,733	125,047,066	125,220,400	125,393,733	125,567,066	125,740,400	125,913,733	126,087,066	126,260,400	126,433,733	126,607,066	126,780,400	126,953,733	127,127,066	127,300,400	127,473,733	127,647,066	127,820,400	127,993,733	128,167,066	128,340,400	128,513,733	128,687,066	128,860,400	129,033,733	129,207,066	129,380,400	129,553,733	129,727,066	129,900,400	130,073,733	130,247,066	130,420,400	130,593,733	130,767,066	130,940,400	131,113,733	131,287,066	131,460,400	131,633,733	131,807,066	131,980,400	132,153,733	132,327,066	132,500,400	132,673,733	132,847,066	133,020,400	133,193,733	133,367,066	133,540,400	133,713,733	133,887,066	134,060,400	134,233,733	134,407,066	134,580,400	134,753,733	134,927,066	135,100,400	135,273,733	135,447,066	135,620,400	135,793,733	135,967,066	136,140,400	136,313,733	136,487,066	136,660,400	136,833,733	137,007,066	137,180,400	137,353,733	137,527,066	137,700,400	137,873,733	138,047,066	138,220,400	138,393,733	138,567,066	138,740,400	138,913,733	139,087,066	139,260,400	139,433,733	139,607,066	139,780,400	139,953,733	140,127,066	140,300,400	140,473,733	140,647,066	140,820,400	140,993,733	141,167,066	141,340,400	141,513,733	141,687,066	141,860,400	142,033,733	142,207,066	142,380,400	142,553,733	142,727,066	142,900,400	143,073,733	143,247,066	143,420,400	143,593,733	143,767,066	143,940,400	144,113,733	144,287,066	144,460,400	144,633,733	144,807,066	144,980,400	145,153,733	145,327,066	145,500,400	145,673,733	145,847,066	146,020,400	146,193,733	146,367,066	146,540,400	146,713,733	146,887,066	147,060,400	147,233,733	147,407,066	147,580,400	147,753,733	147,927,066	148,100,400	148,273,733	148,447,066	148,620,400

[illegible]

E Whitecland				
LESS: EOS - Wages & Benefits	15% savings	15%	0.15	
LESS: EOS - Professional Services	50% savings	50%	0.5	
LESS: EOS - Eliminated Expenses	100% savings	100%	1	
E Whitecland				
Wages				
Professional Services				
Eliminated Exp				

E Whiteland
Reported CAPX - from the financials

GROSS Property, plant and equipment

[illegible]

y, plant and equipment.

y, plant and equipment.

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
GROSS Property, plant and equipment	-	-	-	-	43,447,309	45,179,609	45,804,344	46,437,717	47,079,849	47,730,860	48,390,873	49,060,013	49,738,405
Accumulated Depreciation	-	-	-	-	10,919,463	10,919,463	11,563,468	12,216,377	12,878,316	13,549,407	14,229,578	14,919,557	15,618,874
Net PPE	-	-	-	-	32,955,596	34,260,146	34,240,876	34,221,340	34,201,533	34,181,453	34,161,095	34,140,456	34,119,531
Total Debt	-	-	-	-	-	-	-	-	-	-	-	-	-
Net Equity	-	-	-	-	-	16,065,468	-	-	-	-	-	-	-
Investor Provided Capital	-	-	-	-	-	26,447,777	-	-	-	-	-	-	-
	-	-	-	-	-	42,513,245	-	-	-	-	-	-	-

[illegible][illegible][illegible]

		1/4/2000									
E Whiteland	Customer Growth	-	15.40								
	Delivered to Customer	3,895	3,895	16	18	19	20	21			
	Customers	3,895	3,895	4,166	4,531	4,806	5,077	5,098			
	Total Revenue (Less TAP)	3,809,229	3,761,787	3,948,000	4,120,950	4,273,291	4,321,585	6,616,735			
								145.73%			
	avg CUST rev	977.98	965.80	947.67	909.50	878.19	890.60	1,297.91			
	avg CUST flow	-	0	0	0	0	0	0			
	avg EDU rev	#DIV/0!	#DIV/0!	499.24	476.47	458.02	463.37	675.11			
	avg EDU flow	#DIV/0!	#DIV/0!	0	0	0	0	0			
	Rev Calculated			4,222,688	4,120,950	4,273,291	4,365,940	4,530,936			
									6.669,669	6,736,901	6,844,692
									671.18	671.18	671.18
									1.60%	1.60%	1.60%
									5,180	5,262	5,347
									6,683,434	6,790,369	6,890,015
									1,290.35	1,290.35	1,290.35
									100.00%	100.00%	100.00%
									0	0	0
									671.16	671.18	671.18
									1.60%	1.60%	1.60%

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	WORKING NOTES						WORKING NOTES						
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Accumulated Depreciation NET PPE	-	-	-	-	10,491,713			10,491,713	-				
					32,955,596			32,955,596	-				
Total Debt	-	-	-	-	16,065,468								
Net Equity	-	-	-	-	26,447,777								
Investor Provided Capital	-	-	-	-	42,513,245			721,610					
Depreciation Rate	0.00%	0.00%	0.00%	#DIV/0!	1.66%								
Depreciation Expense	-	-	718,700	774,783	721,610.00								
CAPX		2021 2,038,000	2022 0	2023 0	2024 0	2025 0	2022 0	2023 0	2024 0	2025 0	2026 0	2027 0	2028 0
E Whiteland													
					XYZ's LTCP								
					State of Good Repair								
					XYZ's Base CAPX								
					Base & LTCP								
					Base & LTCP & Expand WWTP								
					xyz LTCP								
					xyz LTCP								
					Expand WWTP								
					PWD Base charge								
					CAPX								
					Expand WWTP workarea								
					State of Good Repair								
					XYZ's Base CAPX								
					Base & LTCP								
					Base & LTCP & Expand WWTP								
					OpEx								
					Capital Expenditures - Pre-2028 based on financials/budget. Post-2027 years are estimates at 1.63% of prior year-end GROSS Property								
					No Additional O&M.								
					Additional OpEx note								

	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
GROSS Property, plant and equipment	50,426,177	51,123,460	51,830,385	52,547,085	53,273,696	54,010,354	54,757,198	55,514,369	56,282,011	57,060,268	57,849,286	58,649,214	59,460,203	60,282,407	61,115,980	61,961,080	62,817,866
Accumulated Depreciation	16,327,861	17,046,652	17,775,382	18,514,188	19,263,211	20,022,392	20,792,473	21,572,999	22,364,319	23,166,380	23,979,936	24,804,538	25,640,543	26,488,107	27,347,392	28,218,559	29,101,772
NET PPE	34,098,316	34,076,808	34,055,003	34,032,897	34,010,485	33,987,962	33,964,725	33,941,370	33,917,692	33,893,888	33,869,350	33,844,676	33,819,660	33,794,300	33,768,588	33,742,521	33,716,094

Total Debt
Net Equity
Investor Provided Capital

Depreciation / GROSS PPE																																					
100%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
1.63%	1.63%	809,144	820,333	831,676	843,177	854,836	866,656	878,640	890,790	903,108	915,596	928,256	941,092	954,105	967,299	980,674	994,235	1,007,983	1.66%	1.66%	809,144	820,333	831,676	843,177	854,836	866,656	878,640	890,790	903,108	915,596	928,256	941,092	954,105	967,299	980,674	994,235	1,007,983
0.83%	0.83%	6,716	6,809	6,903	6,998	7,095	7,193	7,293	7,394	7,496	7,599	7,705	7,811	7,919	8,029	8,140	8,252	8,366	15.0%	15.0%	121,372	123,050	124,751	126,477	128,225	129,998	131,796	133,619	135,466	137,339	139,238	141,164	143,116	145,095	147,101	149,135	151,197
2.015	2.015	825,658	837,075	848,649	860,384	872,282	884,343	896,572	908,969	921,539	934,281	947,200	960,298	973,577	987,039	1,000,688	1,014,525	1,028,554	2.043	2.043	825,658	837,075	848,649	860,384	872,282	884,343	896,572	908,969	921,539	934,281	947,200	960,298	973,577	987,039	1,000,688	1,014,525	1,028,554
830,359	841,841	853,482	865,283	877,248	889,378	901,677	914,145	926,786	939,601	952,594	979,120	992,660	1,006,386	1,020,302	1,034,410				830,359	841,841	853,482	865,283	877,248	889,378	901,677	914,145	926,786	939,601	952,594	979,120	992,660	1,006,386	1,020,302	1,034,410			

[illegible]

Sewer Rental Charges	779,000.00	793,250.00	807,500.00	817,000.00	831,250.00	845,500.00	859,750.00	874,000.00	888,250.00	902,500.00	916,750.00	931,000.00	945,250.00	959,500.00	973,750.00	992,750.00	1,007,000.00

[illegible]

Whitehead	5,432	5,519	5,607	5,697	5,788	5,881	5,975	6,071	6,168	6,266	6,367	6,469	6,572	6,677	6,784	6,893	7,003	7,100	7,200	7,300	7,400	7,500	7,600	7,700	7,800	7,900	8,000	8,100	8,200	8,300	8,400	8,500	8,600	8,700	8,800	8,900	9,000	9,100	9,200	9,300	9,400	9,500	9,600	9,700	9,800	9,900	10,000	10,100	10,200	10,300	10,400	10,500	10,600	10,700	10,800	10,900	11,000	11,100	11,200	11,300	11,400	11,500	11,600	11,700	11,800	11,900	12,000	12,100	12,200	12,300	12,400	12,500	12,600	12,700	12,800	12,900	13,000	13,100	13,200	13,300	13,400	13,500	13,600	13,700	13,800	13,900	14,000	14,100	14,200	14,300	14,400	14,500	14,600	14,700	14,800	14,900	15,000	15,100	15,200	15,300	15,400	15,500	15,600	15,700	15,800	15,900	16,000	16,100	16,200	16,300	16,400	16,500	16,600	16,700	16,800	16,900	17,000	17,100	17,200	17,300	17,400	17,500	17,600	17,700	17,800	17,900	18,000	18,100	18,200	18,300	18,400	18,500	18,600	18,700	18,800	18,900	19,000	19,100	19,200	19,300	19,400	19,500	19,600	19,700	19,800	19,900	20,000	20,100	20,200	20,300	20,400	20,500	20,600	20,700	20,800	20,900	21,000	21,100	21,200	21,300	21,400	21,500	21,600	21,700	21,800	21,900	22,000	22,100	22,200	22,300	22,400	22,500	22,600	22,700	22,800	22,900	23,000	23,100	23,200	23,300	23,400	23,500	23,600	23,700	23,800	23,900	24,000	24,100	24,200	24,300	24,400	24,500	24,600	24,700	24,800	24,900	25,000	25,100	25,200	25,300	25,400	25,500	25,600	25,700	25,800	25,900	26,000	26,100	26,200	26,300	26,400	26,500	26,600	26,700	26,800	26,900	27,000	27,100	27,200	27,300	27,400	27,500	27,600	27,700	27,800	27,900	28,000	28,100	28,200	28,300	28,400	28,500	28,600	28,700	28,800	28,900	29,000	29,100	29,200	29,300	29,400	29,500	29,600	29,700	29,800	29,900	30,000	30,100	30,200	30,300	30,400	30,500	30,600	30,700	30,800	30,900	31,000	31,100	31,200	31,300	31,400	31,500	31,600	31,700	31,800	31,900	32,000	32,100	32,200	32,300	32,400	32,500	32,600	32,700	32,800	32,900	33,000	33,100	33,200	33,300	33,400	33,500	33,600	33,700	33,800	33,900	34,000	34,100	34,200	34,300	34,400	34,500	34,600	34,700	34,800	34,900	35,000	35,100	35,200	35,300	35,400	35,500	35,600	35,700	35,800	35,900	36,000	36,100	36,200	36,300	36,400	36,500	36,600	36,700	36,800	36,900	37,000	37,100	37,200	37,300	37,400	37,500	37,600	37,700	37,800	37,900	38,000	38,100	38,200	38,300	38,400	38,500	38,600	38,700	38,800	38,900	39,000	39,100	39,200	39,300	39,400	39,500	39,600	39,700	39,800	39,900	40,000	40,100	40,200	40,300	40,400	40,500	40,600	40,700	40,800	40,900	41,000	41,100	41,200	41,300	41,400	41,500	41,600	41,700	41,800	41,900	42,000	42,100	42,200	42,300	42,400	42,500	42,600	42,700	42,800	42,900	43,000	43,100	43,200	43,300	43,400	43,500	43,600	43,700	43,800	43,900	44,000	44,100	44,200	44,300	44,400	44,500	44,600	44,700	44,800	44,900	45,000	45,100	45,200	45,300	45,400	45,500	45,600	45,700	45,800	45,900	46,000	46,100	46,200	46,300	46,400	46,500	46,600	46,700	46,800	46,900	47,000	47,100	47,200	47,300	47,400	47,500	47,600	47,700	47,800	47,900	48,000	48,100	48,200	48,300	48,400	48,500	48,600	48,700	48,800	48,900	49,000	49,100	49,200	49,300	49,400	49,500	49,600	49,700	49,800	49,900	50,000	50,100	50,200	50,300	50,400	50,500	50,600	50,700	50,800	50,900	51,000	51,100	51,200	51,300	51,400	51,500	51,600	51,700	51,800	51,900	52,000	52,100	52,200	52,300	52,400	52,500	52,600	52,700	52,800	52,900	53,000	53,100	53,200	53,300	53,400	53,500	53,600	53,700	53,800	53,900	54,000	54,100	54,200	54,300	54,400	54,500	54,600	54,700	54,800	54,900	55,000	55,100	55,200	55,300	55,400	55,500	55,600	55,700	55,800	55,900	56,000	56,100	56,200	56,300	56,400	56,500	56,600	56,700	56,800	56,900	57,000	57,100	57,200	57,300	57,400	57,500	57,600	57,700	57,800	57,900	58,000	58,100	58,200	58,300	58,400	58,500	58,600	58,700	58,800	58,900	59,000	59,100	59,200	59,300	59,400	59,500	59,600	59,700	59,800	59,900	60,000	60,100	60,200	60,300	60,400	60,500	60,600	60,700	60,800	60,900	61,000	61,100	61,200	61,300	61,400	61,500	61,600	61,700	61,800	61,900	62,000	62,100	62,200	62,300	62,400	62,500	62,600	62,700	62,800	62,900	63,000	63,100	63,200	63,300	63,400	63,500	63,600	63,700	63,800	63,900	64,000	64,100	64,200	64,300	64,400	64,500	64,600	64,700	64,800	64,900	65,000	65,100	65,200	65,300	65,400	65,500	65,600	65,700	65,800	65,900	66,000	66,100	66,200	66,300	66,400	66,500	66,600	66,700	66,800	66,900	67,000	67,100	67,200	67,300	67,400	67,500	67,600	67,700	67,800	67,900	68,000	68,100	68,200	68,300	68,400	68,500	68,600	68,700	68,800	68,900	69,000	69,100	69,200	69,300	69,400	69,500	69,600	69,700	69,800	69,900	70,000	70,100	70,200	70,300	70,400	70,500	70,600	70,700	70,800	70,900	71,000	71,100	71,200	71,300	71,400	71,500	71,600	71,700	71,800	71,900	72,000	72,100	72,200	72,300	72,400	72,500	72,600	72,700	72,800	72,900	73,000	73,100	73,200	73,300	73,400	73,500	73,600	73,700	73,800	73,900	74,000	74,100	74,200	74,300	74,400	74,500	74,600	74,700	74,800	74,900	75,000	75,100	75,200	75,300	75,400	75,500	75,600	75,700	75,800	75,900	76,000	76,100	76,200	76,300	76,400	76,500	76,600	76,700	76,800	76,900	77,000	77,100	77,200	77,300	77,400	77,500	77,600	77,700	77,800	77,900	78,000	78,100	78,200	78,300	78,400	78,500	78,600	78,700	78,800	78,900	79,000	79,100	79,200	79,300	79,400	79,500	79,600	79,700	79,800	79,900	80,000	80,100	80,200	80,300	80,400	80,500	80,600	80,700	80,800	80,900	81,000	81,100	81,200	81,300	81,400	81,500	81,600	81,700	81,800	81,900	82,000	82,100	82,200	82,300	82,400	82,500	82,600	82,700	82,800	82,900	83,000	83,100	83,200	83,300	83,400	83,500	83,600	83,700	83,800	83,900	84,000	84,100	84,200	84,300	84,400	84,500	84,600	84,700	84,800	84,900	85,000	85,100	85,200	85,300	85,400	85,500	85,600	85,700	85,800	85,900	86,000	86,100	86,200	86,300	86,400	86,500	86,600	86,700	86,800	86,900	87,000	87,100	87,200	87,300	87,400	87,500	87,600	87,700	87,800	87,900	88,000	88,100	88,200	88,300	88,400	88,500	88,600	88,700	88,800	88,900	89,000	89,100	89,200	89,300	89,400	89,500	89,600	89,700	89,800	89,900	90,000	90,100	90,200	90,300	90,400	90,500	90,600	90,700	90,800	90,900	91,000	91,100	91,200	91,300	91,400	91,500	91,600	91,700	91,800	91,900	92,000	92,100	92,200	92,300	92,400	92,500	92,600	92,700	92,800	92,900	93,000	93,100	93,200	93,300	93,400	93,500	93,600	93,700	93,800	93,900	94,000	94,100	94,200	94,300	94,400	94,500	94,600	94,700	94,800	94,900	95,000	95,100	95,200	95,300	95,400	95,500	95,600	95,700	95,800	95,900	96,000	96,100	96,200	96,300	96,400	96,500	96,600	96,700	96,800	96,900	97,000	97,100	97,200	97,300	97,400	97,500	97,600	97,700	97,800	97,900	98,000	98,100	98,200	98,300	98,400	98,500	98,600	98,700	98,800	98,900	99,000	99,100	99,200	99,300	99,400	99,500	99,600	99,700	99,800	99,900	100,000	100,100	100,200	100,300	100,400	100,500	100,600	100,700	100,800	100,900	101,000	101,100	101,200	101,300	101,400	101,500	101,600	101,700	101,800	101,900	102,000	102,100	102,200	102,300	102,400	102,500	102,600	102,700	102,800	102,900	103,000	103,100	103,200	103,300	103,400	103,500	103,600	103,700	103,800	103,900	104,000	104,100	104,200	104,300	104,400	104,500	104,600	104,700	104,800	104,900	105,000	105,100	105,200	105,300	105,400	105,500	105,600	105,700	105,800	105,900	106,000	106,100	106,200	106,300	106,400	106,500	106,600	106,700	106,800	106,900	107,000	107,100	107,200	107,300	107,400	107,500	107,600	107,700	107,800	107,900	108,000	108,100	108,200	108,300	108,400	108,500	108,600	108,700	108,800	108,900	109,000	109,100	109,200	109,300	109,400	109,500	109,600	109,700	109,800	109,900	110,000	110,100	110,200	110,300	110,400	110,500	110,600	110,700	110,800	110,900	111,000	111,100	111,200	111,300	111,400	111,500	111,600	111,700	111,800	111,900	112,000	112,100	112,200	112,300	112,400	112,500	112,600	112,700	112,800	112,900	113,000	113,100	113,200	113,300	113,400	113,500	113,600	113,700	113,800	113,900	114,000	114,100	114,200	114,300	114,400	114,500	114,600	114,700	114,800	114,900	115,000	115,100	115,200	115,300	115,400	115,500	115,600	115,700	115,800	115,900	116,000	116,100	116,200	116,300	116,400	116,500	116,600	116,700

	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
			-2.5%							-2.5%							
\$	1,300.59	\$ 1,300.59	\$ 1,268.07	\$ 1,268.07	\$ 1,268.07	\$ 1,268.07	\$ 1,268.07	\$ 1,268.07	\$ 1,268.07	\$ 1,236.37	\$ 1,236.37	\$ 1,236.37	\$ 1,236.37	\$ 1,236.37	\$ 1,236.37	\$ 1,236.37	\$ 1,236.37
\$	-	-	(32.51)	-	-	-	-	-	-	(31.70)	-	-	-	-	-	-	-
55,192	56,075	56,972	57,884	57,340	58,257	59,189	60,136	61,099	62,076	63,069	64,092	65,147	66,247	67,392	68,587	69,832	71,127
7,009,399	7,121,550	7,235,495	7,167,481	7,282,161	7,398,675	7,517,054	7,637,327	7,759,524	7,883,676	7,809,570	8,190,459	8,321,506	8,454,650	8,589,925	8,725,200	8,860,475	8,995,750
		(180,887)							(197,092)								
48,859	48,829	48,798	48,767	48,735	48,703	48,670	48,637	48,604	48,570	48,536	48,430	48,393	48,357	48,319	48,282	48,244	48,206
41,418	42,046	42,684	43,303	43,945	44,598	45,261	45,934	46,619	47,314	48,019	48,734	49,459	50,194	50,929	51,664	52,409	53,154
90,277	90,875	91,482	92,070	92,680	93,301	93,931	94,571	95,223	95,884	96,555	97,236	97,927	98,618	99,319	100,020	100,721	101,422

E Whiteland			
LESS: EOS - Wages & Benefits	15%	0.15	
LESS: EOS - Professional Services	50%	0.5	
LESS: EOS - Eliminated Expenses	100%	1	
E Whiteland			
Wages			
Professional Services			
Eliminated Exp			

E Whiteland
Reported CAPX - from the financials

GROSS Property, plant and equipment

w, plant and equipment.

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[illegible]

[illegible]

E White land
LESS: EOS - Wages & Benefits
LESS: EOS - Professional Services

LESS: EOS - Eliminated Expenses

E Whiteland
Reported CAPX - from the financials

GROSS Property, plant and equipment

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	WORKING NOTES				WORKING NOTES								
	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>
GROSS Property, plant and equipment	-	-	-	-	43,447,309	45,179,609	45,804,344	46,437,717	47,079,849	47,730,860	48,390,873	49,060,013	49,738,405
Accumulated Depreciation	-	-	-	-	10,919,713	10,919,463	11,563,468	12,216,377	12,878,316	13,549,407	14,229,778	14,919,557	15,618,874
NET PPE	-	-	-	-	32,958,596	34,260,146	34,240,876	34,221,340	34,201,533	34,181,453	34,161,095	34,140,456	34,119,531
Total Debt	-	-	-	-	-	-	16,065,468	-	-	-	-	-	-
Net Equity	-	-	-	-	-	-	26,447,777	-	-	-	-	-	-
Investor Provided Capital	-	-	-	-	-	-	42,513,245	-	-	-	-	-	-

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E Whiteland																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						

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Capital Expenditures - Pre-2028 based on financials/budget. Post-2027 years are estimates at 1.63% of prior year-end GROSS Property
dummy
dummy
dummy
Capital Expenditures - Pre-2028 based on financials/budget. Post-2027 years are estimates at 1.63% of prior year-end GROSS Property

	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
GROSS Property, plant and equipment	50,426,177	51,123,460	51,830,385	52,247,085	53,273,696	54,010,354	54,757,198	55,514,369	56,282,011	57,060,268	57,849,286	58,649,214	59,460,203	60,282,407	61,115,980	61,961,080	62,817,866
Accumulated Depreciation	16,527,861	17,046,652	17,775,382	18,514,188	19,263,211	20,022,592	20,792,473	21,572,999	22,364,319	23,166,580	23,979,936	24,804,538	25,640,543	26,488,107	27,347,392	28,218,559	29,101,772
NET PPE	34,098,316	34,076,808	34,055,003	34,032,897	34,010,485	33,987,762	33,964,725	33,941,370	33,917,692	33,893,688	33,869,350	33,844,676	33,819,660	33,794,300	33,768,588	33,742,521	33,716,094

Total Debt	
Net Equity	
Investor Provided Capital	

Depreciation / GROSS PPE																																					
0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%							
1.63%	1.63%	809,144	820,333	831,676	843,177	854,836	866,656	878,640	890,790	903,108	915,596	928,256	941,092	954,105	967,299	980,674	994,235	1,007,983	1.66%	1.66%	809,144	820,333	831,676	843,177	854,836	866,656	878,640	890,790	903,108	915,596	928,256	941,092	954,105	967,299	980,674	994,235	1,007,983
1.66%	1.66%	809,144	820,333	831,676	843,177	854,836	866,656	878,640	890,790	903,108	915,596	928,256	941,092	954,105	967,299	980,674	994,235	1,007,983	1.66%	1.66%	809,144	820,333	831,676	843,177	854,836	866,656	878,640	890,790	903,108	915,596	928,256	941,092	954,105	967,299	980,674	994,235	1,007,983
0.83%	0.83%	6,716	6,809	6,903	6,998	7,095	7,193	7,293	7,394	7,496	7,599	7,705	7,811	7,919	8,029	8,140	8,252	8,366	0.83%	0.83%	6,716	6,809	6,903	6,998	7,095	7,193	7,293	7,394	7,496	7,599	7,705	7,811	7,919	8,029	8,140	8,252	8,366
15.0%	15.0%	121,372	123,050	124,751	126,477	128,225	129,998	131,796	133,619	135,466	137,339	139,238	141,164	143,116	145,095	147,101	149,135	151,197	15.0%	15.0%	121,372	123,050	124,751	126,477	128,225	129,998	131,796	133,619	135,466	137,339	139,238	141,164	143,116	145,095	147,101	149,135	151,197
2.01%	2.01%	2,043	2,071	2,100	2,129	2,158	2,187	2,216	2,245	2,274	2,303	2,332	2,361	2,390	2,419	2,448	2,477	2,506	2.01%	2.01%	2,043	2,071	2,100	2,129	2,158	2,187	2,216	2,245	2,274	2,303	2,332	2,361	2,390	2,419	2,448	2,477	2,506
837,075	837,075	848,649	860,384	872,288	884,343	896,572	908,969	921,539	934,281	947,200	960,298	973,577	987,039	1,000,688	1,014,525	1,028,554	1,042,775	1,057,187	837,075	837,075	848,649	860,384	872,288	884,343	896,572	908,969	921,539	934,281	947,200	960,298	973,577	987,039	1,000,688	1,014,525	1,028,554	1,042,775	1,057,187
830,359	830,359	841,841	853,482	865,283	877,248	889,378	901,677	914,145	926,786	939,601	952,696	965,966	979,512	993,246	1,007,169	1,021,282	1,035,585	1,049,978	830,359	830,359	841,841	853,482	865,283	877,248	889,378	901,677	914,145	926,786	939,601	952,696	965,966	979,512	993,246	1,007,169	1,021,282	1,035,585	1,049,978

[illegible]

Sewer Rental Charges	779,000.00	793,250.00	807,500.00	817,000.00	831,250.00	845,500.00	859,750.00	874,000.00	888,250.00	902,500.00	916,750.00	931,000.00	945,250.00	959,500.00	973,750.00	992,750.00	1,007,000.00

	1.60%	21	22	23	24	25	26	27	28
E Whiteland	1.60%	5,432	5,617	5,788	5,975	6,168	6,367	6,572	6,784
E Whiteland	1.60%	4,901.678	5,059.786	5,222.095	5,393.383	5,572.509	5,760.965	5,959.501	6,168.693
E Whiteland	1.60%	4,901.678	4,980.105	5,140.743	5,304.383	5,472.509	5,645.178	5,818.698	6,000.000

[illegible]

E Whiteland			
LESS: EOS - Wages & Benefits	15% savings	15%	0.15
LESS: EOS - Professional Services	50% savings	50%	0.5
LESS: EOS - Eliminated Expenses	100% savings	100%	1
E Whiteland			
Wages			
Professional Services			
Eliminated Exp			

E Whiteland
Reported CAPX - from the financials

GROSS Property, plant and equipment

[illegible]

y, plant and equipment.

y, plant and equipment.

WORKING NOTES													WORKING NOTES												
2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028													
GROSS Property, plant and equipment	-	-	-	43,447,309	45,179,609	45,804,344	46,437,717	47,079,849	47,730,860	48,390,873	49,060,013	49,738,405													
Accumulated Depreciation	-	-	-	10,919,713	10,919,463	11,563,468	12,216,377	12,878,316	13,549,407	14,229,778	14,919,557	15,618,874													
NET PPE	-	-	-	32,955,596	34,260,146	34,240,876	34,221,340	34,201,533	34,181,453	34,161,095	34,140,456	34,119,531													
Total Debt	-	-	-	-	-	16,065,468	-	-	-	-	-	-													
Net Equity	-	-	-	-	-	26,447,777	-	-	-	-	-	-													
Investor Provided Capital	-	-	-	-	-	42,313,245	-	-	-	-	-	-													

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Capital Expenditures - Pre-2028 based on financials/budget. Post-2027 years are estimates at 1.63% of prior year-end GROSS Property
dummy
dummy
dummy

Capital Expenditures - Pre-2028 based on financials/budget. Post-2027 years are estimates at 1.63% of prior year-end GROSS Property
No Additional O&M.
dummy
dummy
dummy
No Additional O&M.

	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
GROSS Property, plant and equipment	50,426,177	51,123,460	51,830,385	52,247,085	53,273,696	54,010,354	54,757,198	55,514,369	56,282,011	57,060,268	57,849,286	58,649,214	59,460,203	60,282,407	61,115,980	61,961,080	62,817,866
Accumulated Depreciation	16,527,861	17,046,652	17,775,382	18,514,188	19,263,211	20,022,592	20,792,473	21,572,999	22,364,319	23,166,580	23,979,936	24,804,538	25,640,543	26,488,107	27,347,392	28,218,559	29,101,772
NET PPE	34,098,316	34,076,808	34,055,003	34,032,897	34,010,485	33,987,762	33,964,725	33,941,370	33,917,692	33,893,688	33,869,350	33,844,676	33,819,660	33,794,300	33,768,588	33,742,521	33,716,094

Total Debt
Net Equity
Investor Provided Capital

Depreciation / GROSS PPE		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%		0		100%	

[illegible]

Sewer Rental Charges	779,000.00	793,250.00	807,500.00	817,000.00	831,250.00	845,500.00	859,750.00	874,000.00	888,250.00	902,500.00	916,750.00	931,000.00	945,250.00	959,500.00	973,750.00	992,750.00	1,007,000.00

[illegible]

4,901,678	4,980,105	5,059,786	5,140,743	5,222,995	5,359,628	5,445,383	5,532,509	5,621,029	5,710,965	5,802,341	5,895,178	5,989,501	6,085,333	6,182,698	6,281,621	6,445,945
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
902.34	902.34	902.34	902.34	902.34	911.36	911.36	911.36	911.36	911.36	911.36	911.36	911.36	911.36	911.36	911.36	920,460
469.37	469.38	469.37	469.39	469.40	474.09	474.08	474.07	474.07	474.06	474.05	474.04	474.04	474.05	474.06	474.05	478.78
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4,863,082	4,940,891	5,019,946	5,100,264	5,181,869	5,264,779	5,342,505	5,488,946	5,576,769	5,665,997	5,756,653	5,848,760	5,942,339	6,037,417	6,134,016	6,232,160	6,331,875

	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
					1.0%											1.0%	
\$	909,50	\$ 909,50	\$ 909,50	\$ 909,50	\$ 918,60	\$ 918,60	\$ 918,60	\$ 918,60	\$ 918,60	\$ 918,60	\$ 918,60	\$ 918,60	\$ 918,60	\$ 918,60	\$ 918,60	\$ 927,78	\$ 927,78
\$	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38,596	39,213	39,841	40,478	41,126	41,784	42,477	43,563	44,260	44,968	45,688	46,419	47,161	47,916	48,683	49,462	50,253	50,253
4,901,678	4,980,105	5,059,786	5,140,743	5,222,995	5,359,628	5,445,383	5,532,509	5,621,029	5,710,965	5,802,341	5,895,178	5,989,501	6,085,333	6,182,698	6,281,621	6,445,949	6,445,949
				52,230												62,816	
48,859	48,829	48,798	48,767	48,735	48,703	48,670	48,637	48,604	48,570	48,536	48,501	48,466	48,430	48,393	48,357	48,319	48,319
29,614	30,053	30,499	30,952	31,413	32,178	32,658	33,146	33,642	34,146	34,658	35,178	35,706	36,242	36,788	37,342	38,262	38,262
78,473	78,882	79,297	79,719	80,148	80,881	81,328	81,783	82,246	82,716	83,194	83,679	84,172	84,672	85,181	85,699	86,581	86,581

E WhiteLand			
LESS: EOS - Wages & Benefits	15%	0.15	
LESS: EOS - Professional Services	50%	0.5	
LESS: EOS - Eliminated Expenses	100%	1	
E WhiteLand			
Wages			
Professional Services			
Eliminated Exp			

E WhiteLand
Reported CAPX - from the financials

GROSS Property, plant and equipment

[illegible]

Pennsylvania Municipalities, Total Decennial Population, 2010 & 2000

Prepared by The Pennsylvania State Data Center

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

March 9, 2011

2010 State, County & Munic. FIPS Code	Geographic Area	Census: April 1, 2010			Census: April 1, 2000			Change: 2000 to 2010			
		Number	Percent Share of State Total	Munic. Pop. Rank	Number	Percent Share of State Total	Munic. Pop. Rank	Number	Munic. Rank	Percent	Munic. Rank
4200000000	Pennsylvania	12,702,379	100.0%	-	12,281,054	100.0%	-	421,325	-	3.4%	-
4202900000	Chester County	498,886	3.9%	-	433,501	3.5%	-	65,385	-	15.1%	-
4202922056	East Whiteland township	10,650	0.1%	232	9,333	0.1%	254	1,317	165	14.1%	323

	BCWSA			ACSA			ALTOONA WATER AUTHORITY			CRWA		
	2019	2018	2017	2019	2018	2017	2019	2018	2017	2019	2018	2017
NET Property, plant and equipment	453,174,193	444,814,214	447,915,121	629,097,945	622,343,318	608,600,195	100,528,196	106,598,286	112,668,376	203,420,262	178,131,377	156,382,360
Operating Income	19,821,564	15,116,318	19,747,701	75,382,370	68,023,690	73,355,348	12,227,127	14,022,174	8,988,742	21,336,089	20,313,529	15,628,727
ROR/N PPE	4.37%	3.40%	4.41%	11.98%	10.93%	12.05%	12.16%	13.15%	7.98%	10.49%	11.40%	9.99%
3-Year Average	4.06%			11.66%			11.10%			10.63%		
Median of Each Year					5.08%							
Median of Each Entity					5.90%							
Conclusion						5.49%						

	CHESTER WATER AUTHORITY			ERIE CITY WATER AUTHORITY			LASA*			RAWA		
	2019	2018	2017	2019	2018	2017	2019	2018	2017	2019	2018	2017
NET Property, plant and equipment	282,920,765	277,881,505	271,133,389	194,099,358	191,070,499	187,981,855	140,405,221	142,318,075	141,219,375	66,455,706	64,973,550	59,036,648
Operating Income	4,705,194	1,487,430	2,795,223	9,549,652	10,005,109	11,356,179	6,901,580	6,054,460	5,520,628	3,556,133	2,945,874	5,516,028
ROR/N PPE	1.66%	0.54%	1.03%	4.92%	5.24%	6.04%	4.92%	4.25%	3.91%	5.35%	4.53%	9.34%
3-Year Average	1.08%			5.40%			4.36%			6.41%		

* Fiscal year 3/31

Median of Each Year

Median of Each Entity

Conclusion

	WCMA*			PITTSBURGH WATER & SEWER		
	2019	2018	2017	2019	2018	2017
NET Property, plant and equipment	590,631,677	554,245,152	510,067,669	830,578,000	757,480,000	689,807,000
Operating Income	23,281,341	27,079,696	21,532,860	65,808,000	61,660,000	29,604,000
ROR/N PPE	3.94%	4.89%	4.22%	7.92%	8.14%	4.29%
3-Year Average	4.35%			6.78%		
Median of Each Year						
Median of Each Entity						
Conclusion						

*Fiscal Year 3/31

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:

Assets	2019			Totals
	Sewer System	Water System	Administrative Account	
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	<u>304,158,678</u>	<u>142,902,978</u>	<u>6,112,537</u>	<u>453,174,193</u>
Total Assets	<u>374,236,799</u>	<u>184,009,928</u>	<u>4,504,672</u>	<u>562,751,399</u>
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	<u>1,676</u>	<u>296</u>	<u>-</u>	<u>1,972</u>
Total Deferred Outflows of Resources	<u>8,723,865</u>	<u>7,545,366</u>	<u>-</u>	<u>16,269,231</u>
Liabilities and Net Position				
Liabilities				
Current Liabilities	29,501,359	3,745,556	789,063	34,035,978
Non-Current Liabilities	<u>150,796,046</u>	<u>88,247,692</u>	<u>3,715,609</u>	<u>242,759,347</u>
Total Liabilities	<u>180,297,405</u>	<u>91,993,248</u>	<u>4,504,672</u>	<u>276,795,325</u>
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	<u>-</u>	<u>3,967,975</u>	<u>-</u>	<u>3,967,975</u>
Total Deferred Inflows of Resources	<u>135,127</u>	<u>4,186,492</u>	<u>-</u>	<u>4,321,619</u>
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	<u>14,995,576</u>	<u>30,004,441</u>	<u>(6,766,971)</u>	<u>38,233,046</u>
Total Net Position	<u>\$ 202,528,132</u>	<u>\$ 95,375,554</u>	<u>\$ -</u>	<u>\$ 297,903,686</u>

BUCKS COUNTY WATER AND SEWER AUTHORITY
NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)
DECEMBER 31, 2019 AND 2018

NOTE 6: SEGMENT INFORMATION (CONTINUED)

Assets	2018			Totals
	Sewer System	Water System	Administrative Account	
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

<u>ASSETS</u>	<u>2019</u>	<u>2018</u>
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
<u>LIABILITIES AND NET POSITION</u>		
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:

Assets	2018			Totals
	Sewer System	Water System	Administrative Account	
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)

	2017		
	Sewer System	Water System	Administrative Account
Assets			Totals
Current Assets			
Cash and Investments	\$ 8,904,986	\$ 11,194,811	\$ 1,393,738
Accounts Receivable & Unbilled Revenue	22,076,404	4,854,323	(6,223,024)
Other	576,394	79,590	-
Non-Current Assets			
Restricted Assets	48,012,438	22,338,930	3,907,802
Capital Assets	294,731,969	147,991,214	5,191,938
Total Assets	374,302,191	186,458,868	4,270,454
Deferred Outflows of Resources			
Deferred Amount from Debt Refundings	4,223,088	6,924,098	-
Changes in Assumptions	788,141	197,035	-
Difference Between Expected and Actual Experience	208,819	52,205	-
Difference Between Projected and Actual Earnings on Investments	680,277	170,069	-
Contributions Made Subsequent to Measurement Date	1,562,388	390,597	-
Total Deferred Outflows of Resources	7,462,713	7,734,004	-
Liabilities and Net Position			
Liabilities			
Current Liabilities	22,888,994	3,518,492	809,871
Non-Current Liabilities	175,965,552	94,087,732	3,460,583
Total Liabilities	198,854,546	97,606,224	4,270,454
Deferred Inflows of Resources			
Changes in Assumptions	42,826	10,706	-
Proceeds from the Sale of Future Revenues	-	4,313,017	-
Total Deferred Inflows of Resources	42,826	4,323,723	-
Net Position			
Net Investment in Capital Assets	128,626,008	55,498,881	5,191,931
Restricted for Capital Activity	6,277,232	16,463,309	447,206
Restricted for Debt Service	24,622,642	5,870,408	-
Unrestricted	23,341,650	14,430,327	(5,639,137)
Total Net Position	\$ 182,867,532	\$ 92,262,925	\$ -

BUCKS COUNTY WATER AND SEWER AUTHORITY
NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)
DECEMBER 31, 2018 AND 2017

NOTE 6: SEGMENT INFORMATION (CONTINUED)

	2018		
	Sewer System	Water System	Totals
Operating Revenues			
Retail Sewer Service	\$ 48,634,267	\$ -	\$ 48,634,267
Wholesale Sewer Service	19,105,200	-	19,105,200
Retail Water Service	-	11,755,194	11,755,194
Wholesale Water Service	-	4,357,235	4,357,235
Improvement and Tapping Fees	-	279,425	279,425
Other Revenues	3,130,165	1,567,388	4,697,553
Total Operating Revenues	70,869,632	17,959,242	88,828,874
Expenses			
Operating Expenses			
Sewage Treatment and Water Procurement			
Sewage Treatment	20,862,709	-	20,862,709
Water Procurement	-	5,611,587	5,611,587
Total Sewage and Water Procurement	20,862,709	5,611,587	26,474,296
Plant Operations			
Payroll and Related Costs	1,592,995	-	1,592,995
Repairs and Maintenance	1,251,844	-	1,251,844
Electricity	461,808	-	461,808
Water and Sewage Testing	218,091	-	218,091
Total Plant Operations	3,524,738	-	3,524,738
Collection, Transmission and Distribution Service			
Payroll and related costs	6,404,591	1,787,297	8,191,888
Repairs and maintenance	1,660,514	331,489	1,992,003
Electricity	822,812	172,379	995,191
Other related costs	209,224	89,235	298,459
Total Collection, Transmission and Distribution	9,097,141	2,380,400	11,477,541
Service Expense			
Total Operating Expense	33,484,588	7,991,987	41,476,575
General and Administrative Expenses			
Payroll and related costs	5,714,319	1,066,453	6,780,772
Professional fees	1,747,815	233,440	1,981,255
Insurance	395,522	81,075	476,597
Other	4,821,938	111,852	4,933,790
Total General and Administrative Expenses	12,679,594	1,492,820	14,172,414
Income from Operations before depreciation	24,705,450	8,474,435	33,179,885
Depreciation	(14,696,296)	(3,367,271)	(18,063,567)
Operating Income	10,009,154	5,107,164	15,116,318
Nonoperating Revenue (Expense)			
Interest Expense, net of Amounts Capitalized	(5,405,915)	(3,611,700)	(9,017,615)
Investment Income	1,623,182	392,571	2,015,753
Other	4,824	-	4,824
Improvement and Tapping Fees	2,750,737	-	2,750,737
Amortization	(51,377)	-	(51,377)
Total Nonoperating Expense	(1,078,549)	(3,219,129)	(4,297,678)
Increase in Net Position, Before Contributed Capital	8,930,605	1,888,035	10,818,640
Contributed Capital	710,204	69,710	779,914
Net Position - Beginning of Year, as Previously Reported	182,867,532	92,262,925	275,130,457
Adjustment for GASB No. 75	(2,764,403)	(487,836)	(3,252,239)
Net Position - Beginning of Year, Restated	180,103,129	91,775,089	271,878,218
Net Position, End of Year	\$ 189,743,938	\$ 93,732,834	\$ 283,476,772

BUCKS COUNTY WATER AND SEWER AUTHORITY
NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)
DECEMBER 31, 2018 AND 2017

NOTE 6: SEGMENT INFORMATION (CONTINUED)

	2017		
	Sewer System	Water System	Totals
Operating Revenues			
Retail Sewer Service	\$ 45,876,948	\$ -	\$ 45,876,948
Wholesale Sewer Service	15,432,198	-	15,432,198
Retail Water Service	-	11,949,872	11,949,872
Wholesale Water Service	-	6,647,724	6,647,724
Improvement & Tapping Fees	-	232,767	232,767
Other Revenues	3,249,727	1,629,253	4,878,980
Total Operating Revenues	64,558,873	20,459,616	85,018,489
Expenses			
Operating Expenses			
Sewage Treatment and Water Procurement			
Sewage Treatment	17,676,455	-	17,676,455
Water Procurement	-	6,530,098	6,530,098
Total Sewage and Water Procurement	17,676,455	6,530,098	24,206,553
Plant Operations			
Payroll and Related Costs	1,566,670	-	1,566,670
Repairs and Maintenance	958,914	-	958,914
Electricity	407,469	-	407,469
Water and Sewage Testing	219,714	-	219,714
Total Plant Operations	3,152,767	-	3,152,767
Collection, Transmission and Distribution Service			
Payroll and related costs	6,419,918	1,969,201	8,389,119
Repairs and maintenance	1,314,607	262,103	1,576,710
Electricity	672,888	158,476	831,364
Other related costs	105,932	65,769	171,701
Total Collection, Transmission and Distribution Service Expense	8,513,345	2,455,549	10,968,894
Total Operating Expense	29,342,567	8,985,647	38,328,214
General and Administrative Expenses			
Payroll and related costs	3,206,904	623,007	3,829,911
Professional fees	1,322,262	265,487	1,587,749
Insurance	353,433	90,023	443,456
Other	3,503,737	393,590	3,897,327
Total General and Administrative Expenses	8,386,336	1,372,107	9,758,443
Income from Operations before depreciation	26,829,970	10,101,862	36,931,832
Depreciation	(13,769,257)	(3,414,874)	(17,184,131)
Operating Income	13,060,713	6,686,988	19,747,701
Non-Operating Revenue (Expense)			
Interest Expense, net of Amounts Capitalized	(4,463,766)	(4,352,345)	(8,816,111)
Investment Income	1,224,604	435,695	1,660,299
Improvement and Tapping Fees	1,497,598	-	1,497,598
Amortization	(280,152)	(736,050)	(1,016,202)
Total Non-Operating Expense	(2,021,716)	(4,652,700)	(6,674,416)
Increase in Net Position	11,038,997	2,034,288	13,073,285
Net Position, Beginning of Year	171,828,535	90,228,637	262,057,172
Net Position, End of Year	\$ 182,867,532	\$ 92,262,925	\$ 275,130,457

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

BUCKS COUNTY WATER AND SEWER AUTHORITY
NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)
DECEMBER 31, 2018 AND 2017

NOTE 6: SEGMENT INFORMATION (CONTINUED)

	2017			
	Sewer System	Water System	Administrative Account	Totals
Cash Flows from Operating Activities				
Cash Received from Customers	\$ 62,575,421	\$ 20,069,302	\$ -	\$ 82,644,723
Payments to Suppliers	(25,232,863)	(7,175,732)	457,880	(31,950,715)
Payroll and Related Payments	(11,445,049)	(2,595,164)	-	(14,040,213)
Other Operating (Payments) / Transactions	(253,988)	(1,470,351)	1,625,942	(98,397)
Net Cash Provided from Operations	<u>25,643,521</u>	<u>8,828,055</u>	<u>2,083,822</u>	<u>36,555,398</u>
Cash Flows from Capital and Related Financing Activities				
Acquisition and Construction of Capital Assets	(15,016,258)	(3,846,355)	(1,629,962)	(20,492,575)
Improvement and Tapping Fees	1,497,598	-	-	1,497,598
Bond Principal Repayments	(17,375,000)	(2,390,000)	-	(19,765,000)
Bond Issuance Proceeds	34,112,802	80,744,268	-	114,857,070
Transfer to Escrow Agent for Bond Defeasance	(35,441,434)	(97,773,208)	-	(133,214,642)
Interest Paid	(7,346,730)	(4,899,811)	-	(12,246,541)
Net Cash Used in Capital and Related Financing Activities	<u>(39,569,022)</u>	<u>(28,165,106)</u>	<u>(1,629,962)</u>	<u>(69,364,090)</u>
Cash Flows from Investing Activities				
Sale of Investments, Net	12,001,747	17,241,059	-	29,242,806
Interest Received	1,241,452	435,696	-	1,677,148
Net Cash Provided by Investing Activities	<u>13,243,199</u>	<u>17,676,755</u>	<u>-</u>	<u>30,919,954</u>
Net Increase (Decrease) in Cash and Cash Equivalents	(682,302)	(1,660,296)	453,860	(1,888,738)
Cash and Cash Equivalents - Beginning of Year	<u>2,212,202</u>	<u>1,693,781</u>	<u>4,400,474</u>	<u>8,306,457</u>
Cash and Cash Equivalents - End of Year	<u>\$ 1,529,900</u>	<u>\$ 33,485</u>	<u>\$ 4,854,334</u>	<u>\$ 6,417,719</u>
Displayed as:				
Cash and Cash Equivalents	\$ 1,529,900	\$ 33,485	\$ 1,393,738	\$ 2,957,123
Restricted Cash and Cash Equivalents	-	-	3,460,596	3,460,596
	<u>\$ 1,529,900</u>	<u>\$ 33,485</u>	<u>\$ 4,854,334</u>	<u>\$ 6,417,719</u>
Reconciliation of Operating Income to Net Cash Provided from Operations:				
Operating Income	\$ 13,060,713	\$ 6,686,988	\$ -	\$ 19,747,701
Adjustments to Reconcile Operating Income to Net Cash				
Provided from Operating Activities				
Depreciation	13,769,257	3,414,874	-	17,184,131
Changes in Assets and Liabilities:				
Receivables and Unbilled Revenue, Net	(2,092,088)	578,398	-	(1,513,690)
Prepaid Expenses	(31,647)	9,560	155,474	133,387
Intercompany Receivables (Payables)	77,451	(1,420,368)	1,342,917	-
Accounts Payable and Accrued Expenses	935,352	(293,880)	341,623	983,095
Interest Payable	(63,616)	(144,543)	-	(208,159)
Customer and Developer Deposits	-	-	243,808	243,808
Net Pension Liability and Related Pension Deferrals	(11,901)	(2,974)	-	(14,875)
Net Cash Provided from Operations	<u>\$ 25,643,521</u>	<u>\$ 8,828,055</u>	<u>\$ 2,083,822</u>	<u>\$ 36,555,398</u>

BUCKS COUNTY WATER AND SEWER AUTHORITY
STATEMENTS OF NET POSITION
DECEMBER 31, 2016 AND 2015

<u>ASSETS</u>	<u>2016</u>	<u>2015</u>
Current Assets		
Cash and Cash Equivalents	\$ 5,089,665	\$ 5,731,089
Investments	24,374,913	17,814,990
Accounts Receivable, Net of Allowance for Doubtful Accounts	10,620,665	10,570,311
Unbilled Revenue	8,573,348	7,935,326
Prepaid Expenses	789,370	260,954
Total Current Assets	<u>49,447,961</u>	<u>42,312,670</u>
Non-Current Assets		
Restricted Assets		
Cash and Cash Equivalents	3,216,792	3,161,760
Investments	94,684,066	135,009,814
Interest Receivable	59,621	64,688
Total Restricted Assets	<u>97,960,479</u>	<u>138,236,262</u>
Capital Assets		
Land, Rights-of-Way and CIP	77,719,725	74,796,483
Other Capital Assets, Net of Accumulated Depreciation	365,717,807	335,450,721
Total Capital Assets, Net	<u>443,437,532</u>	<u>410,247,204</u>
Total Non-Current Assets	<u>541,398,011</u>	<u>548,483,466</u>
Total Assets	<u>590,845,972</u>	<u>590,796,136</u>
Deferred Outflows of Resources		
Deferred Amount from Debt Refundings	3,184,947	3,396,951
Pension: Difference between expected and Actual Experience	144,527	173,432
Pension: Difference between projected and actual earnings on investments	1,676,529	181,362
Pension: Contributions made subsequent to measurement date	1,754,573	1,714,497
Total Deferred Outflows of Resources	<u>6,760,576</u>	<u>5,466,242</u>
<u>LIABILITIES AND NET POSITION</u>		
Current Liabilities		
Accounts Payable and Accrued Expenses	5,516,076	4,231,827
Current Portion of Bonds Payable	19,765,000	17,535,000
Interest Payable	1,031,332	1,073,303
Total Current Liabilities	<u>26,312,408</u>	<u>22,840,130</u>
Non-Current Liabilities		
Customer and Developer Deposits	3,216,788	3,161,756
Bonds Payable, Net of Unamortized Bond Discount and Premium	293,958,458	315,287,483
Net Pension Liability	6,800,663	5,114,435
Total Non-Current Liabilities	<u>303,975,909</u>	<u>323,563,674</u>
Total Liabilities	<u>330,288,317</u>	<u>346,403,804</u>
Deferred Inflows of Resources		
Pension: Changes in Assumptions	64,329	-
Proceeds from sale of future revenues	5,196,730	5,206,301
Total Deferred Inflows of Resources	<u>5,261,059</u>	<u>5,206,301</u>
Net Position		
Net Investment in Capital Assets	163,868,064	171,371,418
Restricted for Capital Activity	24,324,428	20,752,536
Restricted for Debt Service	30,964,216	34,304,360
Unrestricted	42,900,464	18,223,959
Total Net Position	<u>\$ 262,057,172</u>	<u>\$ 244,652,273</u>

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, 2016 AND 2015

	2016	2015
Operating Revenues		
Retail Sewer Service	\$ 43,421,110	\$ 40,074,901
Wholesale Sewer Service	14,897,563	15,357,443
Retail Water Service	11,916,548	8,704,536
Wholesale Water Service	12,191,561	11,633,096
Improvement and Tapping Fees	110,550	320,175
Other Revenues	4,481,483	4,144,208
Total Operating Revenues	87,018,815	80,234,359
Expenses		
Operating Expenses		
Sewage Treatment and Water Procurement		
Sewage Treatment	16,253,379	13,646,982
Water Procurement	8,547,084	8,073,320
Total Sewage Treatment and Water Procurement	24,800,463	21,720,302
Plant Operations		
Payroll and Related Costs	1,755,388	1,633,434
Repairs and Maintenance	968,414	984,929
Electricity	470,001	386,706
Water and Sewage Testing	165,530	118,633
Total Plant Operations	3,359,333	3,123,702
Collection, Transmission and Distribution Service		
Payroll and Related Costs	8,220,765	8,072,542
Repairs and Maintenance	1,468,471	1,540,762
Electricity	874,124	995,081
Other Related Costs	178,188	257,882
Total Collection, Transmission and Distribution Service	10,741,548	10,866,267
Total Operating Expenses	38,901,344	35,710,271
General and Administrative Expenses		
Payroll and Related Costs	3,343,236	3,444,298
Professional Fees	1,133,397	1,573,043
Insurance	471,189	518,425
Bad Debt	-	-
Other	3,844,235	2,781,201
Total General and Administrative Expense	8,792,057	8,316,967
Total Expenses	47,693,401	44,027,238
Income From Operations Before Depreciation	39,325,414	36,207,121
Depreciation	(15,983,865)	(15,105,344)
Operating Income	23,341,549	21,101,777
Non-Operating Revenue (Expense)		
Interest Expense,		
Net of Amounts Capitalized	(10,941,064)	(10,312,121)
Investment Income	1,338,537	903,993
Other	3,012	-
Improvement and Tapping Fees	4,048,410	3,033,482
Amortization	(385,545)	(1,174,018)
Total Non-Operating Expense	(5,936,650)	(7,548,664)
Increase In Net Position, Before Contributed Capital	17,404,899	13,553,113
Contributed Capital	-	192,833
Increase in Net Position	17,404,899	13,745,946
Net Position - Beginning of Year	244,652,273	234,178,514
Cumulative Change	-	(3,272,187)
Net Position - Beginning of Year, Restated	244,652,273	230,906,327
Net Position - End of Year	\$ 262,057,172	\$ 244,652,273

See accompanying notes to the financial statements.

STATEMENTS OF NET POSITION

DECEMBER 31, 2019 AND 2018

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		Liabilities, Deferred Inflows of Resources, and Net Position	
	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:			
Current liabilities:			
Accounts payable	\$ 7,180,579	\$ 7,167,120	
Accrued liabilities:			
Compensated absences	4,539,483	4,689,828	
Salaries and wages	1,529,529	1,441,024	
Accrued interest on bonds	2,745,875	2,260,535	
Reserve for litigation	2,371,900	2,371,900	
Pretreatment advance payments	24,375	71,600	
Current maturities of sewer revenue bonds	26,630,000	25,395,000	
Total current liabilities	45,021,741	43,397,007	
Long-term liabilities:			
Other post-employment benefits	13,297,158	6,199,726	
Net pension liability	6,121,872	16,421,705	
Sewer revenue bonds - less current maturities	677,935,000	547,335,000	
Unamortized bond premium	55,857,500	48,952,220	
Net long-term debt	733,792,500	596,287,220	
Total long-term liabilities	753,211,530	618,908,651	
Total Liabilities	798,233,271	662,305,658	
Deferred Inflows of Resources:			
Related to pensions	12,389,471	2,935,957	
Net Position:			
Net investment in capital assets	120,849,236	95,281,689	
Unrestricted	185,255,671	167,264,184	
Total Net Position	306,104,907	262,545,873	
Total Liabilities, Deferred Inflows of Resources, and Net Position	\$ 1,116,727,649	\$ 927,787,488	

The notes to financial statements are an integral part of this statement.

ALLEGHENY COUNTY SANITARY AUTHORITY

STATEMENTS OF NET POSITION

DECEMBER 31, 2017 AND 2016

Assets and Deferred Outflows of Resources		Liabilities, Deferred Inflows of Resources, and Net Position	
	2017	2016	
Assets:			
Current assets:			
Cash and cash equivalents	\$ 119,248,255	\$ 91,684,772	
Accounts receivable:			
Billed sewer revenue	17,185,654	14,582,462	
Unbilled sewer revenue	40,232,780	35,405,033	
Other	4,635	40,361	
Other current assets	6,432,263	6,129,723	
Total current assets	183,103,587	147,842,351	
Restricted/designated assets:			
Cash and cash equivalents	100,289,509	92,275,291	
Investments	-	31,442,508	
Accrued interest receivable	-	156,762	
Total restricted/designated assets	100,289,509	123,874,561	
Prepaid bond costs	6,472,479	7,165,980	
Nondepreciable capital assets:			
Land	5,344,896	5,344,896	
Construction in progress	38,371,565	30,816,357	
Total nondepreciable capital assets	43,716,461	36,161,253	
Depreciable capital assets - at cost, net of accumulated depreciation	564,883,734	559,206,163	
Total	608,600,195	595,367,416	
Capital fees receivable	-	40,000	
Total Assets	898,465,770	874,290,308	
Deferred Outflows of Resources:			
Related to pensions	21,247,515	19,454,240	
Refunding adjustment	8,074,203	9,259,327	
Total Deferred Outflows of Resources	29,321,718	28,713,567	
Total Assets and Deferred Outflows of Resources	\$ 927,787,488	\$ 903,003,875	
Liabilities:			
Current liabilities:			
Accounts payable	\$ 7,167,120	\$ 8,192,941	
Accrued liabilities:			
Compensated absences	4,689,828	4,543,017	
Salaries and wages	1,441,024	1,315,045	
Accrued interest on bonds	2,260,535	2,007,614	
Reserve for litigation	2,371,900	2,371,900	
Pretreatment advance payments	71,600	53,300	
Current maturities of sewer revenue bonds	25,395,000	24,205,000	
Total current liabilities	43,397,007	42,688,817	
Long-term liabilities:			
Other post-employment benefits	6,199,726	5,173,881	
Net pension liability	16,421,705	10,265,284	
Sewer revenue bonds - less current maturities	547,335,000	572,730,000	
Unamortized bond premium	48,952,220	54,514,841	
Net long-term debt	596,287,220	627,244,841	
Total long-term liabilities	618,908,651	642,684,006	
Total Liabilities	662,305,658	685,372,823	
Deferred Inflows of Resources:			
Related to pensions	2,935,957	4,102,436	
Net Position:			
Net investment in capital assets	95,281,689	77,051,463	
Unrestricted	167,264,184	136,477,153	
Total Net Position	262,545,873	213,528,616	
Total Liabilities, Deferred Inflows of Resources, and Net Position	\$ 927,787,488	\$ 903,003,875	

The notes to financial statements are an integral part of this statement.

ALLEGHENY COUNTY SANITARY AUTHORITY

STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

YEARS ENDED DECEMBER 31, 2019 AND 2018

	2019	2018
Operating Revenues	\$ 180,238,305	\$ 169,724,327
Operating Expenses:		
Treatment	49,805,868	47,633,280
Intercepting sewer systems	8,753,813	8,490,808
Upper Allegheny system	298,412	563,244
Administrative and engineering	15,962,845	14,736,160
Billing and collecting	3,572,073	3,482,212
Management information systems	3,690,385	3,723,344
Total operating expenses before depreciation	82,083,396	78,629,048
Operating Income Before Depreciation	98,154,909	91,095,279
Depreciation	22,772,539	23,071,589
Operating Income	75,382,370	68,023,690
Non-operating Revenues (Expenses):		
Interest income, net of amounts capitalized	8,966,272	3,127,451
Interest expense on bonds	(28,261,390)	(20,735,872)
Amortization of prepaid bond costs	(596,640)	(629,995)
Change in value of pension related items	(4,177,854)	(61,702)
Change in value of OPEB related items	(774,061)	(789,172)
Total non-operating revenues (expenses)	(24,843,673)	(19,089,290)
Change in Net Position	50,538,697	48,934,400
Net Position:		
Beginning of year	306,104,907	257,170,507
End of year	<u>\$ 356,643,604</u>	<u>\$ 306,104,907</u>

The notes to financial statements are an integral part of this statement.

ALLEGHENY COUNTY SANITARY AUTHORITYSTATEMENTS 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	<u>\$ 306,104,907</u>	<u>\$ 262,545,873</u>

The notes to financial statements are an integral part of this statement.

ALLEGHENY COUNTY SANITARY AUTHORITY

STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

YEARS ENDED DECEMBER 31, 2017 AND 2016

	2017	2016
Operating Revenues	\$ 170,182,173	\$ 151,390,618
Operating Expenses:		
Treatment	44,821,531	44,955,562
Intercepting sewer systems	7,100,846	5,896,400
Upper Allegheny system	487,512	451,733
Administrative and engineering	13,772,696	12,366,247
Billing and collecting	4,439,250	3,348,876
Management information systems	3,778,272	3,571,943
Total operating expenses before depreciation	74,400,107	70,590,761
Operating Income Before Depreciation	95,782,066	80,799,857
Depreciation	22,426,718	21,271,326
Operating Income	73,355,348	59,528,531
Non-operating Revenues (Expenses):		
Interest income, net of amounts capitalized	1,096,517	310,794
Interest expense on bonds, net of amounts capitalized	(21,544,440)	(23,172,637)
Amortization of prepaid bond costs	(693,501)	(1,306,549)
Change in value of pension related items	(3,196,667)	(123,155)
Total non-operating revenues (expenses)	(24,338,091)	(24,291,547)
Change in Net Position	49,017,257	35,236,984
Net Position:		
Beginning of year	213,528,616	178,291,632
End of year	<u>\$ 262,545,873</u>	<u>\$ 213,528,616</u>

The notes to financial statements are an integral part of this statement.

CAPITAL REGION WATER

BALANCE SHEET

DECEMBER 31, 2016

Assets and Deferred Outflows of Resources

Assets:

Current assets:

Cash and cash equivalents	\$ 31,370,479
Accounts receivable, net of allowance for uncollectible accounts of \$4,798,347	8,391,183
Due from the City of Harrisburg	2,995,798
Prepaid expenses	291,184
Inventory	489,164
Total current assets	<u>43,537,808</u>

Restricted assets:

Cash and cash equivalents - restricted under trust indentures and guarantee agreement	4,723,331
Investments - restricted under trust indentures	37,547,376
Total restricted assets	<u>42,270,707</u>

Noncurrent assets:

Capital assets, not being depreciated	12,360,288
Capital assets, net of accumulated depreciation of \$118,292,680	136,420,246
Total noncurrent assets	<u>148,780,534</u>

Total Assets

234,589,049

Deferred Outflows of Resources:

Deferred loss on refunding	8,778,954
Deferred outflows of resources for pensions	757,778
Total Deferred Outflows of Resources	<u>9,536,732</u>

Total Assets and Deferred Outflows of Resources

\$244,125,781

CAPITAL REGION WATER

STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

YEAR ENDED DECEMBER 31, 2016

Operating Revenues:

User charges	\$ 38,184,824
Total operating revenues	38,184,824

Operating Expenses:

Operating	13,802,610
Administrative	5,051,155
Depreciation	4,298,812
Total operating expenses	23,152,577

Operating Income

15,032,247

Non-Operating Revenues (Expenses):

Investment income	2,192,129
Intergovernmental revenue	16,177
Gain on sale of easements	4,671,738
Miscellaneous expense	(240,506)
Interest expense	(7,713,386)
Total non-operating revenues (expenses)	(1,073,848)

Change in Net Position Before Special Item

13,958,399

Special item

92,933

Change in Net Position

14,051,332

Net Position:

Beginning of year	35,564,284
End of year	\$ 49,615,616

The accompanying notes are an integral part of these financial statements.

CAPITAL REGION WATER

BALANCE SHEET

DECEMBER 31, 2017

Assets and Deferred Outflows of Resources

Assets:

Current assets:

Cash and cash equivalents	\$ 39,042,983
Accounts receivable, net of allowance for uncollectible accounts of \$5,381,652	10,642,831
Due from the City of Harrisburg	2,999,854
Prepaid expenses	330,564
Inventory	475,789
Total current assets	<u>53,492,021</u>

Restricted assets:

Cash and cash equivalents - restricted under trust indentures and guarantee agreement	28,128,910
Investments - restricted under trust indentures	19,919,838
Total restricted assets	<u>48,048,748</u>

Noncurrent assets:

Capital assets, not being depreciated	6,640,532
Capital assets, net of accumulated depreciation of \$123,593,986	149,741,828
Total noncurrent assets	<u>156,382,360</u>

Total Assets

257,923,129

Deferred Outflows of Resources:

Deferred loss on refunding	7,666,840
Deferred outflows of resources for pensions	1,087,971
Total Deferred Outflows of Resources	<u>8,754,811</u>

Total Assets and Deferred Outflows of Resources

\$ 266,677,940

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	<u>63,514,228</u>

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	<u>38,863,350</u>

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	<u>178,131,377</u>

Total Assets	<u>280,508,955</u>

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	<u>8,606,318</u>

Total Assets and Deferred Outflows of Resources

\$ 289,115,273

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

STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

YEAR ENDED DECEMBER 31, 2017

Operating Revenues:

User charges	\$ 40,503,481
Total operating revenues	<u>40,503,481</u>

Operating Expenses:

Operating	14,206,161
Administrative	5,367,287
Depreciation	<u>5,301,306</u>
Total operating expenses	<u>24,874,754</u>

Operating Income

15,628,727

Non-Operating Revenues (Expenses):

Investment income	682,914
Intergovernmental revenue	471,421
Miscellaneous expense	(135,908)
Interest expense	<u>(7,450,743)</u>
Total non-operating revenues (expenses)	<u>(6,432,316)</u>

Change in Net Position

9,196,411

Net Position:

Beginning of year - restated	<u>47,619,135</u>
End of year	<u><u>\$ 56,815,546</u></u>

The accompanying notes are an integral part of these financial statements.

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	<u>44,895,271</u>

Operating Expenses:

Operating	13,894,496
Administrative	5,293,225
Depreciation	<u>5,394,021</u>
Total operating expenses	<u>24,581,742</u>

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	<u>(6,812,458)</u>
Total non-operating revenues (expenses)	<u>(83,442)</u>

Change in Net Position

20,230,087

Net Position:

Beginning of year - restated	<u>55,942,804</u>
End of year	<u>\$ 76,172,891</u>

The accompanying notes are an integral part of these financial statements.

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	<u>\$ 94,622,873</u>	<u>\$ 76,172,891</u>

The accompanying notes are an integral part of these financial statements.

**ALTOONA WATER AUTHORITY
STATEMENTS OF NET POSITION**

**EXHIBIT 20
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	December 31,	
	2017	2016
<u>ASSETS</u>		
<u>Current Assets</u>		
Cash	\$ 1,187,229	\$ 2,426,395
Investments	3,009,242	3,590,996
Accounts Receivable	3,728,307	3,890,186
Accrued Interest Receivable	15,956	--
Prepaid Expenses	476,123	301,183
Total Current Assets	8,416,857	10,208,760
<u>Restricted Assets</u>		
Capital Projects	243,872	1,220,873
Debt Service	1,152,851	1,053,440
Debt Service Reserve	2,036,583	2,132,427
Surplus Fund	1,081,611	364,266
Total Restricted Assets	4,514,917	4,771,006
<u>Right to Use Asset</u>		
Right to Use Asset Net	112,668,376	--
<u>Capital Assets</u>		
Total Plant and Properties	--	348,811,369
Less: Accumulated Depreciation	--	(126,269,611)
Net Plant and Properties	--	222,541,758
TOTAL ASSETS	125,600,150	237,521,524
<u>DEFERRED OUTFLOWS OF RESOURCES</u>		
Outflow Related to Pension	1,526,330	792,553
<u>LIABILITIES</u>		
<u>Current Liabilities</u>		
Accounts Payable	1,211,479	1,353,287
Accrued Expenses	353,388	382,098
Accrued Payroll and Taxes	236,925	234,996
Deposits and Credits	99,009	98,909
Current Portion of City Lease Obligation	29,982	--
Current Portion of Notes Payable	2,682,406	1,862,721
Current Portion of Bonds Payable	6,010,000	5,725,000
Total Current Liabilities	10,623,189	9,657,011
<u>Long Term Liabilities</u>		
City Lease Obligation	113,242,714	--
Loans Payable – PennVest	38,640,937	41,937,165
Bonds Payable	31,728,617	37,372,825
Net Pension Liability	2,570,058	2,101,758
Unearned Interest - Series of 1994	105,310	157,966
Total Long Term Liabilities	186,287,636	81,569,714
TOTAL LIABILITIES	196,910,825	91,226,725
<u>DEFERRED INFLOWS OF RESOURCES</u>		
Inflow Related to Pension	829,998	192,683
<u>NET POSITION</u>		
Invested in Capital Assets Net of Related Debt	--	138,861,752
Restricted for:		
Construction	222,881	499,882
Debt Service	1,045,329	1,053,419
Unrestricted	(71,882,553)	6,479,616
TOTAL NET POSITION	\$ (70,614,343)	\$ 146,894,669

See Accompanying Notes to Financial Statements

**ALTOONA WATER AUTHORITY
STATEMENTS OF NET POSITION**

**EXHIBIT 20
Page 236 of 295**

	<u>December 31,</u>	
	<u>2018</u>	<u>2017</u>
<u>ASSETS</u>		
<u>Current Assets</u>		
Cash	\$ 2,420,679	\$ 1,187,229
Investments	4,484,450	3,009,242
Accounts Receivable	4,460,455	3,728,307
Accrued Interest Receivable	29,077	15,956
Prepaid Expenses	<u>307,825</u>	<u>476,123</u>
Total Current Assets	<u>11,702,486</u>	<u>8,416,857</u>
<u>Restricted Assets</u>		
Capital Projects	247,194	243,872
Debt Service	1,041,048	1,152,851
Debt Service Reserve	2,067,009	2,036,583
Surplus Fund	<u>1,097,730</u>	<u>1,081,611</u>
Total Restricted Assets	<u>4,452,981</u>	<u>4,514,917</u>
<u>Right to Use Asset</u>		
Right to Use Asset Net	<u>106,598,286</u>	<u>112,668,376</u>
TOTAL ASSETS	<u>122,753,753</u>	<u>125,600,150</u>
<u>DEFERRED OUTFLOWS OF RESOURCES</u>		
Outflow Related to Pension	<u>2,359,034</u>	<u>1,526,330</u>
<u>LIABILITIES</u>		
<u>Current Liabilities</u>		
Accounts Payable	1,079,614	1,211,479
Accrued Expenses	352,761	353,388
Accrued Payroll and Taxes	274,897	236,925
Deposits and Credits	92,183	99,009
Demand Note	1,464,081	--
Current Portion of City Lease Obligation	1,114,720	29,982
Current Portion of Notes Payable	2,974,950	2,682,406
Current Portion of Bonds Payable	<u>6,305,000</u>	<u>6,010,000</u>
Total Current Liabilities	<u>13,658,206</u>	<u>10,623,189</u>
<u>Long Term Liabilities</u>		
City Lease Obligation	112,127,994	113,242,714
Loans Payable – PennVest	35,892,461	38,640,937
Bonds Payable	25,798,561	31,728,617
Net Pension Liability	4,271,068	2,570,058
Unearned Interest - Series of 1994	<u>52,655</u>	<u>105,310</u>
Total Long Term Liabilities	<u>178,142,739</u>	<u>186,287,636</u>
TOTAL LIABILITIES	<u>191,800,945</u>	<u>196,910,825</u>
<u>DEFERRED INFLOWS OF RESOURCES</u>		
Inflow Related to Pension	<u>642,998</u>	<u>829,998</u>
<u>NET POSITION</u>		
Restricted for:		
Construction	226,203	222,881
Debt Service	1,040,814	1,045,329
Unrestricted	<u>(68,598,173)</u>	<u>(71,882,553)</u>
TOTAL NET POSITION	<u>\$ (67,331,156)</u>	<u>\$ (70,614,343)</u>

See Accompanying Notes to Financial Statements

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	0	0
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:				
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
<u>Operating Revenues, Securing Revenue Bonds</u>		
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
<u>Operating Expenses - Functional and Departmental</u>		
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
<u>Nonoperating Revenues and (Expenses)</u>		
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
<u>Net Position - January 1</u>	146,894,669	145,962,849
<u>Net Position - December 31</u>	<u>\$(70,614,343)</u>	<u>\$ 146,894,669</u>

See Accompanying Notes to Financial Statements

ALTOONA WATER AUTHORITY
STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

	Year Ended December 31,	
	2018	2017
<u>Operating Revenues, Securing Revenue Bonds</u>		
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
<u>Operating Expenses - Functional and Departmental</u>		
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
<u>Nonoperating Revenues and (Expenses)</u>		
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)
<u>Net Position - January 1</u>	(70,614,343)	146,894,669
<u>Net Position - December 31</u>	\$(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-ADMINISTRATIVE	
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 & SUBSCRIPTIONS	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 EXPENDITURES	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.

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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

Management's Discussion and Analysis
December 31, 2018 and 2017

Financial Information

Net Position - The following schedule presents a summary of net position comparison at December 31, 2018, 2017, and 2016:

	<u>2018</u>	<u>2017</u> (As Restated)	<u>2016</u> (As Restated)
Assets			
Unrestricted current assets	\$ 25,886,197	\$ 24,371,571	\$ 20,614,911
Restricted current assets	9,389,010	11,067,725	19,177,004
Capital assets, net	64,973,550	59,036,648	55,262,527
Other asset	951,810	1,020,000	1,020,000
Deferred Outflow of Resources	<u>1,054,979</u>	<u>1,197,798</u>	<u>1,346,286</u>
Total Assets and Deferred Outflow of Resources	<u>\$ 102,255,546</u>	<u>\$ 96,693,742</u>	<u>\$ 97,420,788</u>
Liabilities			
Current liabilities	\$ 7,496,258	\$ 5,387,837	\$ 5,985,559
Long-term debt	<u>80,796,512</u>	<u>84,017,089</u>	<u>87,200,895</u>
Total Liabilities	<u>\$ 88,292,770</u>	<u>\$ 89,404,926</u>	<u>\$ 93,186,454</u>
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	<u>24,579,597</u>	<u>27,039,772</u>	<u>19,047,312</u>
Total Net Position	<u>\$ 13,962,776</u>	<u>\$ 7,288,816</u>	<u>\$ 4,234,334</u>

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:

	<u>2018</u>	<u>2017</u>	<u>2016</u>
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	<u>20,107</u>	<u>60,907</u>	<u>32,001</u>
Total Operating Revenues	<u>\$ 30,585,831</u>	<u>\$ 30,896,495</u>	<u>\$ 30,918,388</u>

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.

Management's Discussion and Analysis
December 31, 2018 and 2017

Financial Information (continued)

Expenses - The following schedule presents a summary of expenses for the years ended December 31, 2018, 2017, and 2016:

	<u>2018</u>	<u>2017</u> (As Restated)	<u>2016</u> (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	<u>3,895,738</u>	<u>3,176,042</u>	<u>2,881,120</u>
Total Operating Expenses	<u>\$ 23,767,518</u>	<u>\$ 22,075,632</u>	<u>\$ 22,678,509</u>

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:

	<u>2018</u>	<u>2017</u> (As Restated)	<u>2016</u> (As Restated)
Operating revenues	\$ 30,585,831	\$ 30,896,495	\$ 30,918,388
Operating expenses	<u>23,767,518</u>	<u>22,075,632</u>	<u>22,678,509</u>
Operating Income before Depreciation	6,818,313	8,820,863	8,239,879
Depreciation and amortization	<u>3,872,439</u>	<u>3,304,835</u>	<u>2,946,682</u>
Operating Income	2,945,874	5,516,028	5,293,197
Nonoperating revenues (expenses), net	<u>3,728,086</u>	<u>(2,461,546)</u>	<u>(3,468,433)</u>
Increase in Net Position	<u>\$ 6,673,960</u>	<u>\$ 3,054,482</u>	<u>\$ 1,824,764</u>

LANCASTER AREA SEWER AUTHORITY
Management's Discussion and Analysis
March 31, 2017 and 2016

Table 2 below shows a Condensed Statement of Revenue, Expenses, and Changes in Net Position for the years ended March 31, 2017, 2016, and 2015 as restated. The change in net position increased from \$ 3.7 million in fiscal year 2016 to \$ 4.6 million in fiscal year 2017. Operating income increased \$ 1.1 million over last year while non-operating revenue (expense) increased \$ 1.1 million over fiscal year 2016.

	2017	2016	2015
Operating revenue	\$ 20,849,832	\$ 19,713,716	\$ 17,642,797
Operating expenses	<u>15,710,138</u>	<u>14,557,000</u>	<u>12,620,147</u>
Operating income	<u>5,139,694</u>	5,156,716	5,022,650
Non-operating revenue (expenses)	<u>(908,165)</u>	<u>(1,983,244)</u>	<u>(741,293)</u>
Income before capital contribution	4,231,529	3,173,472	4,281,357
Capital contribution	<u>324,142</u>	<u>551,477</u>	<u>638,017</u>
Change in net position	4,555,671	3,724,949	4,919,374
Net position, beginning of year	<u>76,825,172</u>	<u>73,100,223</u>	<u>68,180,849</u>
Net position, end of year	<u>\$ 81,380,843</u>	<u>\$ 76,825,172</u>	<u>\$ 73,100,223</u>

**Table 2 - Condensed Statement of Revenues, Expenses,
and Changes in Net Position**

Table 3 and Table 4 below show a breakdown of fiscal year 2017 Operating Revenue and Operating Expenses, respectively.

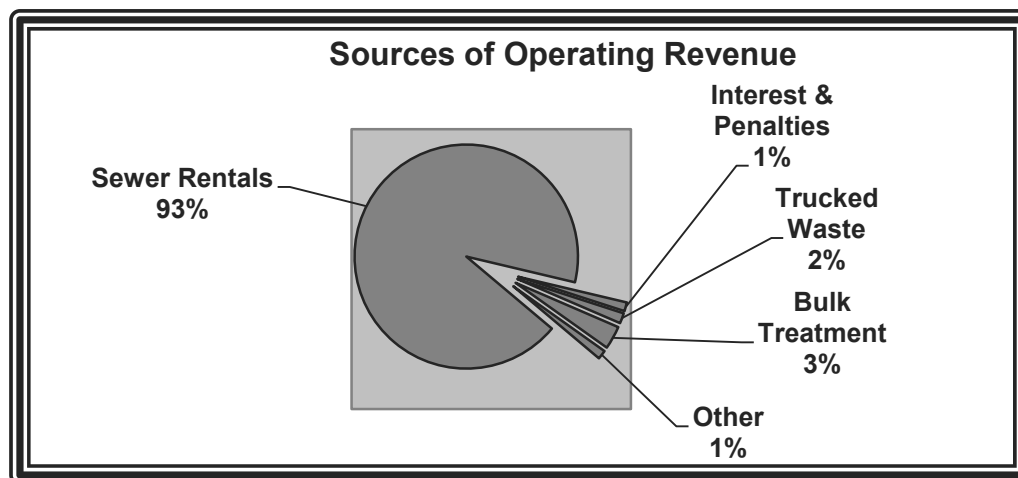


Table 3 - Sources of Operating Revenue - Fiscal Year 2017

LANCASTER AREA SEWER AUTHORITY
Management's Discussion and Analysis
March 31, 2018 and 2017

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.

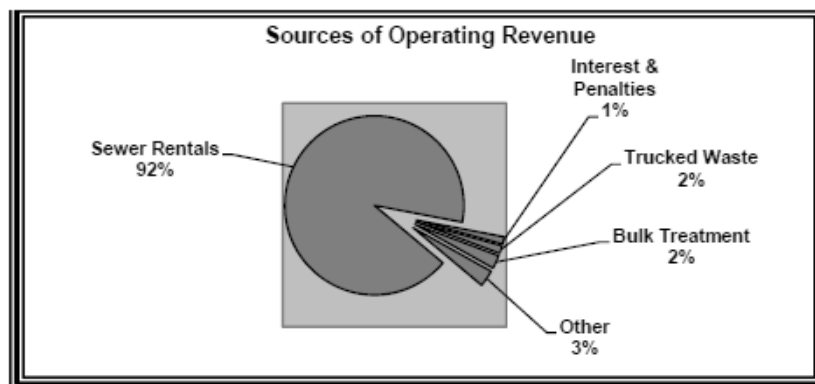


Table 3 - Sources of Operating Revenue - Fiscal Year 2018

LANCASTER AREA SEWER AUTHORITY
Management's Discussion and Analysis

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.

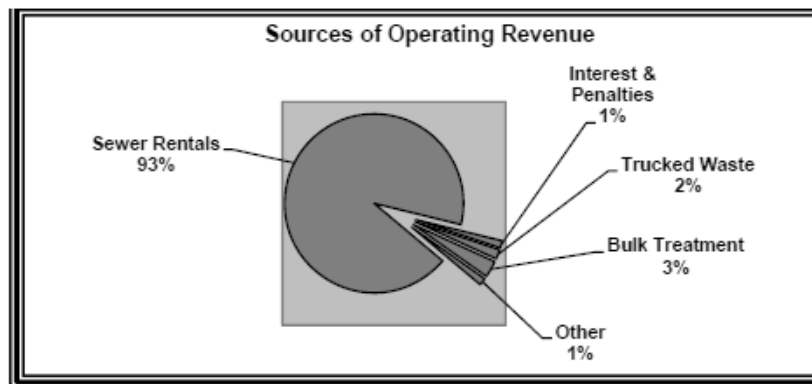


Table 3 - Sources of Operating Revenue - Fiscal Year 2019

LANCASTER AREA SEWER AUTHORITY
Management's Discussion and Analysis

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.

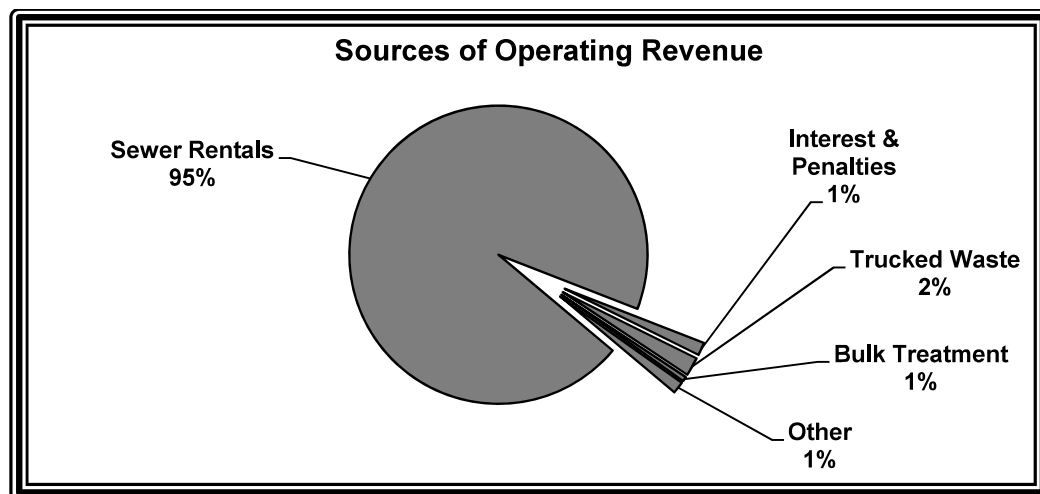


Table 3 - Sources of Operating Revenue - Fiscal Year 2020

LANCASTER AREA SEWER AUTHORITY
Management's Discussion and Analysis
March 31, 2017 and 2016

Revenue

In fiscal year 2017, revenue exceeded budgeted revenue by 1.0% resulting from additional investment income earned from higher than expected rates of return and below projection draws on construction funds.

Expenses

Expenses, excluding depreciation, were 1.3% under budget. Interest expenses were below budget as 24% of paid interest expenses were capitalized as project costs. This was offset by above-budget expenditures in Administrative and Treatment Plant expenses. Higher than budgeted employee health care costs of \$ 113,000 in the self-funded health insurance plan and amortization of pension liability of \$ 52,000 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 \$ 131,000 and expenses for sludge disposal were over-budget by \$ 63,000 to cover disposal costs during an extended repair of the centrifuge. Above-budget expense for depreciation account for 48.5% of the negative budget variance in operating expenses. Prior period adjustments to correct the posting of capitalized interest increased the asset value of constructed assets leading to above-budget depreciation costs.

CAPITAL ASSETS AND DEBT ADMINISTRATION

Capital Assets

The Authority's capital assets, net of accumulated depreciation, as of March 31, 2017 were \$ 119.7 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 2017, 2016, and 2015 is presented in Table 6 below. Additional information on the Authority's capital assets can be found in Note 5 of the financial statements.

	2017	2016	2015
Construction in progress	\$ 24,247,571	\$ 8,328,405	\$ 6,383,634
Land	95,181	95,181	36,257
Sewer System			
Lines	99,909,426	99,088,012	89,292,400
Pump stations	33,042,528	32,887,101	32,787,258
Treatment plant	38,039,056	37,266,392	37,189,692
Buildings and improvements	3,640,150	3,199,420	3,199,420
Technology	1,353,402	1,295,369	1,295,369
Vehicles	1,760,826	1,706,256	1,699,097
Equipment	830,745	830,745	830,745
	<u>202,918,885</u>	<u>184,696,881</u>	<u>172,713,872</u>
Total accumulated depreciation	<u>(83,211,180)</u>	<u>(78,843,305)</u>	<u>(74,748,106)</u>
Total Capital Assets	<u>\$ 119,707,705</u>	<u>\$ 105,853,576</u>	<u>\$ 97,965,766</u>

**Table 6 - Condensed Statement of Capital Assets -
Fiscal Years 2017, 2016, and 2015**

LANCASTER AREA SEWER AUTHORITY
Management's Discussion and Analysis
March 31, 2018 and 2017

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
	<u>229,040,114</u>	<u>202,918,885</u>	<u>184,696,881</u>
Total accumulated depreciation	<u>(87,820,739)</u>	<u>(83,211,180)</u>	<u>(78,843,305)</u>
Total Capital Assets	<u>\$ 141,219,375</u>	<u>\$ 119,707,705</u>	<u>\$ 105,853,576</u>

**Table 6 - Condensed Statement of Capital Assets -
Fiscal Years 2018, 2017, and 2016**

LANCASTER AREA SEWER AUTHORITY
Management's Discussion and Analysis***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
	<u>234,996,143</u>	<u>229,040,114</u>	<u>202,918,885</u>
Total accumulated depreciation	<u>(92,678,068)</u>	<u>(87,820,739)</u>	<u>(83,211,180)</u>
Total Capital Assets	<u>\$ 142,318,075</u>	<u>\$ 141,219,375</u>	<u>\$ 119,707,705</u>

**Table 6 - Condensed Statement of Capital Assets -
Fiscal Years 2019, 2018, and 2017**

LANCASTER AREA SEWER AUTHORITY
Management's Discussion and Analysis

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
	<u>238,177,082</u>	<u>234,996,143</u>	<u>229,040,114</u>
Total accumulated depreciation	<u>(97,771,861)</u>	<u>(92,678,068)</u>	<u>(87,820,739)</u>
Total Capital Assets	<u>\$ 140,405,221</u>	<u>\$ 142,318,075</u>	<u>\$ 141,219,375</u>

**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, 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	<u>5,450,849</u>	<u>3,527,303</u>
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	<u>1,300,000</u>	<u>1,225,000</u>
Total Operating Expenses	<u>80,255,298</u>	<u>78,534,639</u>
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	<u>(403,367)</u>	<u>(336,175)</u>
Total Non-Operating Expenses	(16,414,545)	(12,471,691)
Income Before Capital Contributions	10,665,151	9,061,169
Capital Contributions	<u>6,523,749</u>	<u>13,400,327</u>
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	<u>-</u>	<u>(30,430,294)</u>
Total Net Position, End of Fiscal Year	<u><u>\$ 145,177,760</u></u>	<u><u>\$ 127,988,860</u></u>

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 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 unaccrued 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%).

Erie City Water Authority

(aka Erie Water Works)

MANAGEMENT DISCUSSION AND ANALYSIS (Unaudited)**December 31, 2018 and 2017**

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%
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

(aka Erie Water Works)

MANAGEMENT DISCUSSION AND ANALYSIS (Unaudited)**December 31, 2017 and 2016****ERIE CITY WATER AUTHORITY
STATEMENTS OF FINANCIAL POSITION**

	As of December 31,			
	2017	2016	\$ Change	% Change
ASSETS				
Current assets	\$ 13,116,705	\$ 13,797,317	(\$ 680,612)	(4.9%)
Restricted investments	11,356,255	20,831,757	(9,475,502)	(45.5%)
Capital assets, net of accumulated depreciation	187,981,855	182,608,316	5,373,539	2.9%
Other non-current assets	10,665,706	11,274,848	(609,142)	(5.4%)
Deferred outflows of resources	30,999,314	34,010,414	(3,011,100)	(8.9%)
Total Assets and Deferred Outflows	\$ 254,119,835	\$ 262,522,652	(\$ 8,402,817)	(3.2%)
LIABILITIES AND NET ASSETS				
Current liabilities	\$ 7,893,978	\$ 7,918,630	(\$ 24,652)	(4.9%)
Long-term debt, net of unaccreted discounts	284,395,079	289,960,220	(5,565,141)	(1.9%)
Other non-current liabilities	11,930,218	15,019,944	(3,089,726)	(20.6%)
Deferred inflow of resources	1,113,991	-	1,113,991	-
Total liabilities and deferred outflow of resources	305,333,266	312,898,794	(7,565,528)	(2.4%)
Net position –				
Invested in capital assets, net of related debt	7,320,870	7,270,325	50,545	0.7%
Restricted for capital projects, debt service	7,691,083	13,216,103	5,525,020	41.8%
Unrestricted	(66,225,384)	(70,862,570)	(4,637,186)	(6.5%)
Total net position	(51,213,431)	(50,376,142)	(837,289)	(1.7%)
Total liabilities and net position	\$ 254,119,835	\$ 262,522,652	(\$ 8,402,817)	(3.2%)

Changes in Net Position –

The Authority's net position decreased by \$.84 million in 2017, compared to a \$1.92 million in 2016. The 2017 increase in the net position deficit of \$.85 million resulted from several factors – \$2.6 million increase in net operating revenue - \$19.6 million in 2017 versus \$17.0 million in 2016 and a \$.4 million increase in interest expense - \$13.2 million in 2017 versus \$12.7 million in 2016.

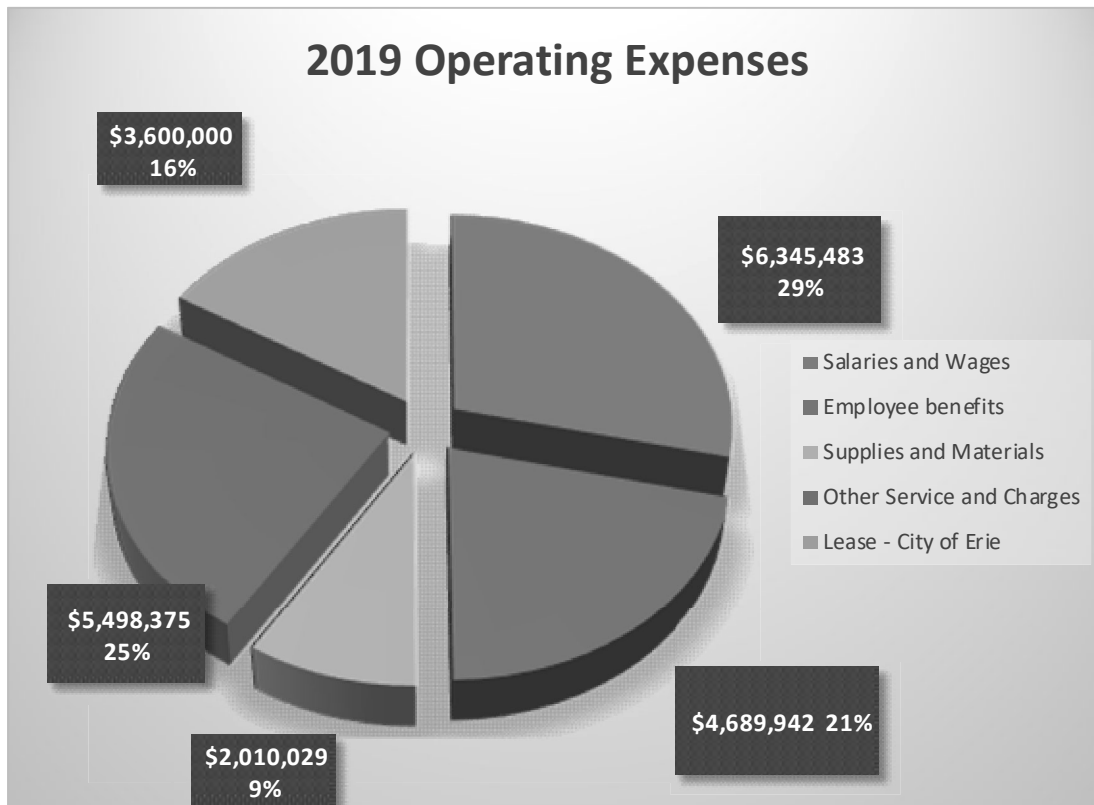
Total operating revenues for the year ended December 31, 2017 of \$38.5 million increased \$1.8 million (4.9%) compared to December 31, 2016.

Total operating expenses of \$18.9 million decreased \$.77 million (3.9%). The majority of the 2017 decrease in operating expenses was attributable to lower repair costs on water mains.

Total 2017 expenses of \$40.3 million increased \$.15 million (.04%) compared to 2016.

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	<u>\$ 9,549,652</u>	<u>\$ 10,005,109</u>	<u>\$ (455,457)</u>	<u>-4.55%</u>
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%
	<u>(10,472,599)</u>	<u>(13,734,800)</u>	<u>3,262,201</u>	<u>-23.75%</u>
Net loss before capital contributions	(922,947)	(3,729,691)	2,806,744	-75.25%
Capital assets contributions	<u>-</u>	<u>79,975</u>	<u>(79,975)</u>	<u>-100.00%</u>
Change in net position	<u>\$ (922,947)</u>	<u>\$ (3,649,716)</u>	<u>\$ 2,726,769</u>	<u>-74.71%</u>



Erie City Water Authority
(aka Erie Water Works)

MANAGEMENT DISCUSSION AND ANALYSIS (Unaudited)

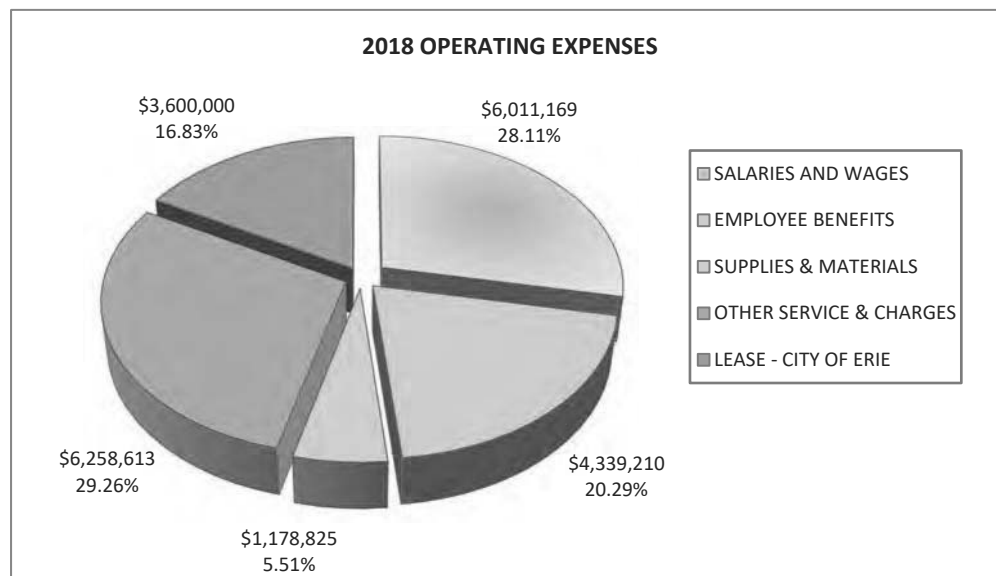
December 31, 2018 and 2017

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%)



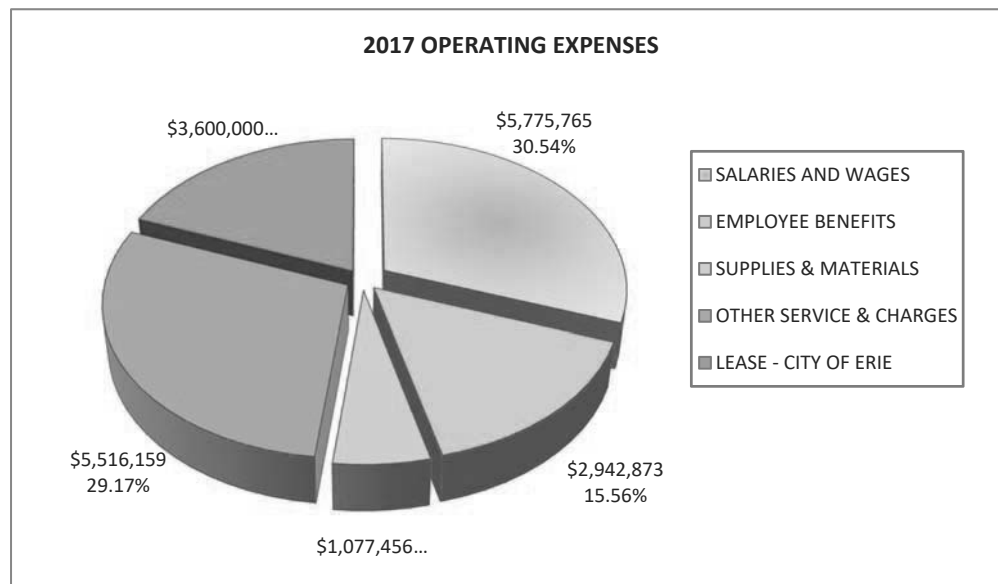
Erie City Water Authority
(aka Erie Water Works)

MANAGEMENT DISCUSSION AND ANALYSIS (Unaudited)

December 31, 2017 and 2016

ERIE CITY WATER AUTHORITY
STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION

	For the year ended December 31,			
	2017	2016	\$ Change	% Change
Operations -				
Operating revenues	\$ 38,483,311	\$ 36,687,234	\$ 1,796,077	4.9%
Operating expenses	(18,912,253)	(19,686,218)	773,965	3.9%
Depreciation	(8,214,879)	(8,033,694)	181,185	2.3%
Operating income	11,356,179	8,967,322	(2,388,857)	(26.6%)
Non-operating revenue (expense)				
Interest expense	(13,165,069)	(12,733,444)	431,625	3.4%
Other revenues	1,326,328	1,292,480	33,848	2.6%
Other expenses	(354,727)	(924,621)	569,894	61.6%
	(12,193,468)	(12,365,585)	172,117	1.4%
Net loss before capital contributions	(837,289)	(3,398,263)	(2,560,974)	(75.4%)
Capital asset contributions		211,506	211,506	100.0%
Change in net position	(\$ 837,289)	(\$ 3,186,757)	(\$ 2,349,468)	(73.7%)



CAPITAL ASSETS AND DEBT ADMINISTRATION

Capital Assets

As of December 31, 2017, the Authority had \$307.0 million of gross investment in capital assets, with \$119.0 million in accumulated depreciation, for a net book value of \$188.0 million. This amount represents a 3.0% increase over the prior year. Net capital assets make up 82.6% of the Authority's total

Chester Water Authority
Statements of Net Position
December 31, 2017 and 2016

Assets and Deferred Outflows of Resources

	<u>December 31,</u>	
	<u>2017</u>	<u>2016</u>
<u>Current Assets</u>		
Cash and cash equivalents	\$ 12,277,333	\$ 15,403,124
Investments	1,185,056	2,006,735
Accounts receivable, net of allowance for doubtful accounts of \$300,000 in both 2017 and 2016	4,018,123	4,041,759
Unbilled revenue	4,100,936	4,657,916
Materials and supplies	2,438,785	1,992,837
Other current assets	72,551	87,336
Total Current Assets	<u>24,092,784</u>	<u>28,189,707</u>
<u>Non-Current Assets</u>		
Property, plant, and equipment—net of accumulated depreciation	271,133,389	264,773,275
Net pension asset	1,501,182	-
Total Non-Current Assets	<u>272,634,571</u>	<u>264,773,275</u>
<u>Restricted Assets</u>		
Cash and cash equivalents	7,549,260	11,607,560
Total Restricted Assets	<u>7,549,260</u>	<u>11,607,560</u>
Total Assets	<u>304,276,615</u>	<u>304,570,542</u>
<u>Deferred Outflows of Resources</u>		
Changes in pension investment returns and actuarial assumptions	1,479,458	1,387,427
Deferred debt issuance costs	-	58,717
Total Deferred Outflows of Resources	<u>1,479,458</u>	<u>1,446,144</u>
<u>Total Assets and Deferred Outflows of Resources</u>	<u>\$ 305,756,073</u>	<u>\$ 306,016,686</u>

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,	
	<u>2018</u>	<u>2017</u>
<u>Current Assets</u>		
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	<u>22,186,750</u>	<u>24,092,784</u>
<u>Non-Current Assets</u>		
Property, plant, and equipment—net of accumulated depreciation	277,881,505	271,133,389
Net pension asset	-	1,501,182
Total Non-Current Assets	<u>277,881,505</u>	<u>272,634,571</u>
<u>Restricted Assets</u>		
Cash and cash equivalents	7,629,992	7,549,260
Total Restricted Assets	<u>7,629,992</u>	<u>7,549,260</u>
Total Assets	<u>307,698,247</u>	<u>304,276,615</u>
<u>Deferred Outflows of Resources</u>		
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	<u>5,066,541</u>	<u>1,479,458</u>
<u>Total Assets and Deferred Outflows of Resources</u>	<u>\$ 312,764,788</u>	<u>\$ 305,756,073</u>

See accompanying notes to financial statements.

Chester Water Authority
Statements of Net Position
December 31, 2019 and 2018

Assets and Deferred Outflows of Resources

	<u>December 31,</u>	
	<u>2019</u>	<u>2018</u>
<u>Current Assets</u>		
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	<u>25,240,228</u>	<u>22,186,751</u>
<u>Non-Current Assets</u>		
Property, plant, and equipment—net of accumulated depreciation	282,114,520	277,881,505
Net pension asset	806,245	-
Total Non-Current Assets	<u>282,920,765</u>	<u>277,881,505</u>
<u>Restricted Assets</u>		
Cash and cash equivalents	28,304,535	7,629,992
Total Restricted Assets	<u>28,304,535</u>	<u>7,629,992</u>
Total Assets	<u>336,465,528</u>	<u>307,698,248</u>
<u>Deferred Outflows of Resources</u>		
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	<u>3,047,572</u>	<u>5,066,541</u>
<u>Total Assets and Deferred Outflows of Resources</u>	<u>\$ 339,513,100</u>	<u>\$ 312,764,789</u>

See accompanying notes to financial statements.

Chester Water Authority
Statements of Revenues, Expenses, and Changes In Net Position
For The Years Ended December 31, 2017 and 2016

	December 31,	
	<u>2017</u>	<u>2016</u>
<u>Operating Revenues</u>		
Residential	\$ 16,471,074	\$ 15,921,450
Commercial	5,885,341	7,832,237
Industrial	7,414,215	7,555,707
Fire protection	4,001,045	3,741,370
Capacity charges, flat and late fee revenues	1,360,899	933,218
Sales to other water utilities	7,158,892	6,674,498
Total Operating Revenues	<u>42,291,466</u>	<u>42,658,480</u>
<u>Operating Expenses</u>		
Purification and Pumping	7,326,031	7,857,889
Distribution	7,159,659	6,740,726
Administrative	11,664,820	11,925,625
Finance/customer service, billing and collections	3,824,583	3,721,092
Depreciation	9,521,150	8,644,302
Total Operating Expenses	<u>39,496,243</u>	<u>38,889,634</u>
<u>Operating Income</u>	<u>2,795,223</u>	<u>3,768,846</u>
<u>Non-Operating Revenues (Expenses)</u>		
Net investment income	146,144	113,603
Interest expense	(2,681,713)	(2,384,151)
Other nonoperating revenues/expenses	982,798	294,218
Amortization of bond discounts and debt issue costs	250,136	20,360
Loss on disposal of property and equipment	(481,900)	(12,038)
Total Non-Operating Revenues/(Expenses)	<u>(1,784,535)</u>	<u>(1,968,008)</u>
<u>Income Before Contributions</u>	1,010,688	1,800,838
<u>Capital Contributions</u>	<u>2,699,498</u>	<u>1,623,074</u>
<u>Change In Net Position</u>	3,710,186	3,423,912
<u>Net Position—Beginning of year</u>	<u>229,828,321</u>	<u>226,404,409</u>
<u>Net Position—End of year</u>	<u>\$ 233,538,507</u>	<u>\$ 229,828,321</u>

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,	
	<u>2018</u>	<u>2017</u>
<u>Operating Revenues</u>		
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	<u>43,326,153</u>	<u>42,291,466</u>
<u>Operating Expenses</u>		
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	<u>41,838,723</u>	<u>39,496,243</u>
<u>Operating Income</u>	<u>1,487,430</u>	<u>2,795,223</u>
<u>Non-Operating Revenues (Expenses)</u>		
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)	<u>(1,711,844)</u>	<u>(1,784,535)</u>
<u>(Loss) Income Before Contributions</u>	<u>(224,414)</u>	<u>1,010,688</u>
<u>Capital Contributions</u>	<u>5,652,845</u>	<u>2,699,498</u>
<u>Change In Net Position</u>	<u>5,428,431</u>	<u>3,710,186</u>
<u>Net Position—Beginning of year, as previously reported</u>	<u>233,538,507</u>	<u>229,828,321</u>
<u>Cumulative effect of prior period adjustment for adoption of GASB 75 - Net OPEB Liability</u>	<u>(4,932,637)</u>	<u>-</u>
<u>Net Position - Beginning of year, restated</u>	<u>228,605,870</u>	<u>229,828,321</u>
<u>Net Position—End of year</u>	<u>\$ 234,034,301</u>	<u>\$ 233,538,507</u>

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,	
	<u>2019</u>	<u>2018</u>
<u>Operating Revenues</u>		
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	<u>45,763,176</u>	<u>43,326,153</u>
<u>Operating Expenses</u>		
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	<u>41,057,982</u>	<u>41,838,723</u>
<u>Operating Income</u>	<u>4,705,194</u>	<u>1,487,430</u>
<u>Non-Operating Revenues/(Expenses)</u>		
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)	<u>(1,561,203)</u>	<u>(1,711,843)</u>
<u>Income (Loss) Before Contributions</u>	<u>3,143,991</u>	<u>(224,413)</u>
<u>Capital Contributions</u>	<u>894,723</u>	<u>5,652,845</u>
<u>Change In Net Position</u>	<u>4,038,714</u>	<u>5,428,432</u>
<u>Net Position - Beginning of year, as previously reported</u>	<u>234,034,302</u>	<u>233,538,507</u>
<u>Cumulative effect of prior period adjustment for adoption of GASB 75 - Net OPEB Liability</u>	<u>-</u>	<u>(4,932,637)</u>
<u>Net Position - Beginning of year, restated</u>	<u>234,034,302</u>	<u>228,605,870</u>
<u>Net Position - End of year</u>	<u>\$ 238,073,016</u>	<u>\$ 234,034,302</u>

See accompanying notes to financial statements.

PITTSBURGH WATER AND SEWER AUTHORITY

STATEMENTS OF NET POSITION

(Dollars expressed in thousands)

DECEMBER 31, 2017 AND 2016

	2017	2016
Assets		
Current assets:		
Cash and cash equivalents	\$ 11,076	\$ 21,620
Accounts receivable, net:		
Water:		
Billed	9,335	6,388
Unbilled	6,760	5,886
Total water	16,095	12,274
Wastewater treatment:		
Billed	9,975	10,844
Unbilled	3,746	3,719
Total wastewater treatment	13,721	14,563
Other receivables	1,074	797
Total accounts receivable, net	30,890	27,634
Prepaid expenses	674	65
Inventory	3,777	2,218
Total current assets	46,417	51,537
Noncurrent assets:		
Restricted assets:		
Cash and cash equivalents	18,264	11,900
Investments	11,684	14,437
Total restricted assets	29,948	26,337
Capital assets, not being depreciated	100,240	88,861
Capital assets, net of accumulated depreciation	589,567	587,937
Total noncurrent assets	719,755	703,135
Total Assets	766,172	754,672
Deferred Outflows of Resources		
Deferred charge on refunding	110,326	25,008
Accumulated decrease in fair value of hedging derivatives	3,279	70,897
Total Deferred Outflows of Resources	113,605	95,905

(Continued)

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 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, 2017 AND 2016

	2017	2016
Operating Revenues:		
Residential, commercial, and industrial water sales	\$ 128,488	\$ 113,818
Wastewater treatment	68,935	62,125
Other	5,573	4,784
Total operating revenues	202,996	180,727
Operating Expenses:		
Direct operating expenses	71,156	60,687
Wastewater treatment	75,107	62,125
Cooperation agreement operating expenses:		
Indirect cost allocation - sewer conveyance	2,250	2,846
Indirect cost allocation - water	3,113	4,304
Expense of water provided by other entities:		
Subsidy of customers located in the City	5,594	1,974
Depreciation	16,172	16,657
Total operating expenses	173,392	148,593
Operating Income	29,604	32,134
Non-operating Revenues (Expenses):		
Donated property	1,595	981
Interest revenue	460	383
Investment income (loss) - change in fair value of swap	835	1,690
Interest and amortization	(34,913)	(36,966)
Bond issuance costs	(3,894)	-
Total non-operating revenues (expenses)	(35,917)	(33,912)
Net Income (Loss)	(6,313)	(1,778)
Net Position:		
Beginning of year	(37,523)	(35,745)
End of year	\$ (43,836)	\$ (37,523)

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.

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.

DUFF & PHELPS

2019 SBBI[®] Yearbook
Stocks, Bonds, Bills, and Inflation[®]

U.S. Capital Markets Performance by
Asset Class 1926–2018

Exhibit 7.1: Aggregate Market Capitalization and Company Counts of the CRSP (NYSE/NYSE MKT/NASDAQ) Deciles and Size Groupings
December 31, 2018

Decile	Historic Average Percentage of Total Capitalization	Recent Number of Companies	Recent Decile Market Capitalization (in \$thousands)	Recent Percentage of Total Capitalization
1-Largest	63.22%	191	19,292,756,366	69.06%
2	13.91%	202	3,374,015,549	12.08%
3	7.53%	192	1,736,953,613	6.22%
4	4.72%	222	1,163,165,541	4.16%
5	3.25%	219	736,762,076	2.64%
6	2.41%	286	631,058,072	2.26%
7	1.79%	284	403,045,100	1.44%
8	1.33%	348	307,565,042	1.10%
9	1.02%	444	200,061,186	0.72%
10-Smallest	0.81%	725	89,596,785	0.32%
Mid-Cap 3-5	15.50%	633	3,636,881,230	13.02%
Low-Cap 6-8	5.52%	918	1,341,668,214	4.80%
Micro-Cap 9-10	1.84%	1,169	289,657,971	1.04%

Source of data: CRSP U.S. Stock Database and CRSP U.S. Indices Database © 2019 Center for Research in Security Prices (CRSP®), University of Chicago Booth School of Business. To learn more about CRSP, visit crsp.com.

In Exhibit 7.2, the largest company in each of the CRSP (NYSE/NYSE MKT/NASDAQ) deciles and size groupings (by market capitalization) are listed as of September 30, 2018.

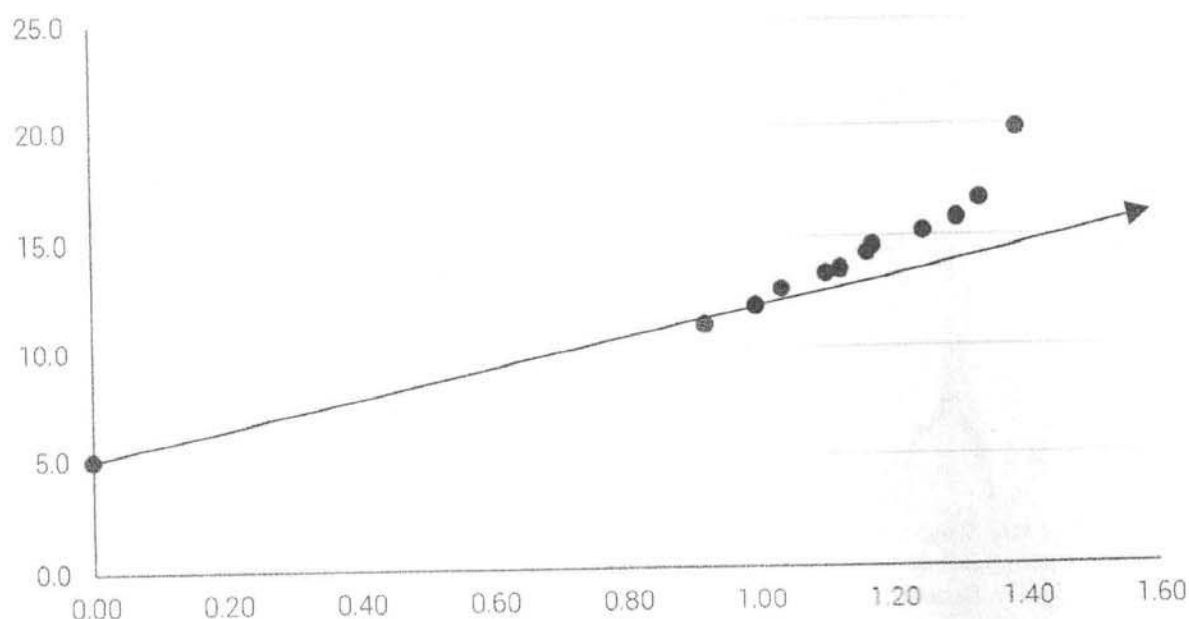
Exhibit 7.6: Summary Statistics of Annual-Returns (CRSP NYSE/NYSE MKT/NASDAQ Deciles) (%)
1926–2018

Decile	Geometric Mean (%)	Arithmetic Mean (%)	Standard Deviation (%)	Serial Correlation
1 - Largest	9.3	11.0	18.8	0.06
2	10.4	12.7	21.4	0.00
3	10.9	13.4	23.2	-0.03
4	10.7	13.6	25.4	-0.03
5	11.2	14.3	26.0	-0.03
6	11.2	14.6	27.0	0.01
7	11.4	15.2	28.9	0.01
8	11.3	15.8	32.7	0.00
9	11.3	16.7	36.8	0.06
10	12.9	19.8	42.1	0.14
Mid-Cap	10.9	13.6	24.3	-0.03
Low-Cap	11.3	15.0	28.5	0.01
Micro-Cap	11.9	17.7	38.5	0.08
The "Market" (Deciles 1-10)	9.8	11.7	19.9	0.01

Source of underlying data: CRSP U.S. Stock Database and CRSP U.S. Indices Database © 2019 Center for Research in Security Prices (CRSP®), University of Chicago Booth School of Business. To learn more about CRSP, visit crsp.com. All calculations performed by Duff & Phelps.

Exhibit 7.7 is a graphical depiction of the year-end index levels presented in Exhibit 7.5 for mid-cap stocks (a portfolio comprised of CRSP deciles 3, 4, and 5), low-cap stocks (a portfolio comprised of CRSP deciles 6, 7, and 8), micro-cap stocks (a portfolio comprised of CRSP deciles 9 and 10), and the "market" (a portfolio comprised of CRSP deciles 1–10).

Exhibit 7.9: Security Market Line Versus a Scatter-Plot of Average Arithmetic Total Returns of the CRSP NYSE/NYSE MKT/NADAQ Deciles 1–10 and Their Respective Betas.



Sources of underlying data: Betas are estimated from monthly returns in excess of the 30-day U.S. Treasury bill total return, January 1926–December 2018. Historical riskless rate measured by the 93-year arithmetic mean income return component of SBBI® 20-year government bonds (4.97%). Calculated in the context of the CAPM by multiplying the equity risk premium by beta. The equity risk premium is estimated by the arithmetic mean total return of the S&P 500 (11.88%) minus the arithmetic mean income return component of SBBI® 20-year government bonds (4.97%) from 1926–2018. Sources of underlying data: (i) Morningstar, Inc. Used with permission. All rights reserved. (ii) CRSP U.S. Stock Database and CRSP U.S. Indices Database © 2019 Center for Research in Security Prices (CRSP®), University of Chicago Booth School of Business. To learn more about CRSP, visit crsp.com. All calculations performed by Duff & Phelps.

Serial Correlation in Small-Cap Stock Returns

Serial correlation, or first-order autocorrelation, measures the degree to which the return of a given series is related from period to period. Serial correlation, like cross-correlation, ranges from 1.0 to negative 1.0. A positive serial correlation can be an indicator of a trend in a return series. A serial correlation of 1.0 indicates that returns from one period have a perfectly positive relationship to the returns of the next period; returns are therefore perfectly predictable from one period to the next. A negative serial correlation can be an indicator of a cycle in a return series. A serial correlation of negative 1.0 indicates that returns from one period have a perfectly negative relationship to the next period. A serial correlation near zero indicates that returns are random or unpredictable.

If stock returns have a positive or a negative serial correlation, one can gain some information about future performance based on prior period returns. The serial correlation of returns on large-cap stocks is near zero (see Exhibit 7.6). For the smallest deciles of stocks, the serial correlation tends to be higher. This observation bears further examination.

INDUSTRY TIMELINESS: 7 (of 97)

Balance Sheets

The Water Utility Industry consists of eight companies that provide water services mostly to residential customers. The group continues to be highly ranked among the 97 industries that are followed by *Value Line*. Much of the appeal of owning these securities has to do with their well-defined earnings and dividend growth prospects. These equities also provide diversification for professional money managers who overseeing funds that must be put invested in regulated utilities. Due to the small number of equities available here, they trade at high Price/Earnings ratios. As a group, these stocks have underperformed the S&P 500 Index since the beginning of the year.

Earnings Remain Steady

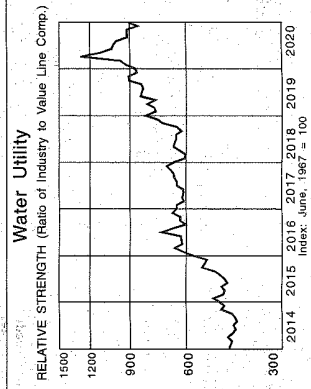
COVID-19 has not caused any real problems for water utilities. This is due to two main reasons. First, the demand for water is relatively inelastic. Whether GDP is rising or falling substantially, the demand for water will not change much. (Regulators can occasionally impose price increases for emergencies, such as a drought, to reduce usage.) People just have to consume this essential resource. Secondly, because utilities must file petitions with state authorities to change rates, the price of water is typically known for the next year or two. For example, in California, the process is so lengthy that a utility will file well in advance to establish rates for the next three-year period. The end result of this is that companies' level of profitability is very predictable relative to that of other industries. Of course, there is a cost for this as investors must pay a premium for these stocks. Furthermore, because profits here are less volatile, so too is dividend growth. The average increase for water utilities is currently in the range of 5% to 10%.

Industry Fundamentals

Change in this industry historically doesn't occur overnight. Indeed, the storyline here has been consistent for some time. Following years of underinvestment, the nation found itself with an aging water infrastructure that is in poor condition. Many pipelines were installed 50 to 75 years ago. In badly need of replacement, water utilities have been spending heavily to replace old assets. This high level of expenditures will have to be maintained for decades.

Regulation

As we have highlighted in the past, one of the most significant factors in determining the profitability of a utility is the regulatory climate where it operates. Fortunately for the Water Utility Industry, state authorities and water utilities both realize what needs to be done, and are working constructively to address the issues. Regulators agree that the outlays being made to upgrade the country's infrastructure are required, so they are allowing fair return on investment to be made. Having a positive relationship may seem reasonable, but this is not the case for gas and electric utilities. Conflicts are not unusual.



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AMER. STATES WATER										RECENT PRICE	75.91	RE	31.5	RE	1.44	1.9%	VALUE	1789
TIMELINESS 3										RECENT PRICE	75.91	RE	31.5	RE	1.44	1.9%	VALUE	1789
SAFETY 2										RECENT PRICE	75.91	RE	31.5	RE	1.44	1.9%	VALUE	1789
TECHNICAL 4										RECENT PRICE	75.91	RE	31.5	RE	1.44	1.9%	VALUE	1789
BETA 45 (1.00 - Market)										RECENT PRICE	75.91	RE	31.5	RE	1.44	1.9%	VALUE	1789
18-Month Target Price Range										RECENT PRICE	75.91	RE	31.5	RE	1.44	1.9%	VALUE	1789
Low-High \$50.00 (\$5.00 to \$10.00)										RECENT PRICE	75.91	RE	31.5	RE	1.44	1.9%	VALUE	1789
2024-2026 PROJECTIONS										RECENT PRICE	75.91	RE	31.5	RE	1.44	1.9%	VALUE	1789
Price Gain Return										RECENT PRICE	75.91	RE	31.5	RE	1.44	1.9%	VALUE	1789
Low High 60 60 (2.0%) 3%										RECENT PRICE	75.91	RE	31.5	RE	1.44	1.9%	VALUE	1789
Institutional Decisions										RECENT PRICE	75.91	RE	31.5	RE	1.44	1.9%	VALUE	1789
2020-2026										RECENT PRICE	75.91	RE	31.5	RE	1.44	1.9%	VALUE	1789
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CONSOLIDATED WATER CO. (INDQ:CWCO)										RECENT PRICE	13.48	PE	26.4	(Trailing-4Q) RELATIVE	1.21	RVD	2.5%	VALUE	1792			
										High:	15.1	11	9.2	16.9	14.5	13.8	14.7	14.0	15.4	17.9	18.8	15.4
										Low:	8.1	7.3	6.7	7.5	6.4	9.6	9.8	10.0	10.8	11.1	10.0	11.7
										LEADS	5	1	3	1	1	1	1	1	1	1	1	1
										52-Week High	15.1	11	9.2	16.9	14.5	13.8	14.7	14.0	15.4	17.9	18.8	15.4
										52-Week Low	8.1	7.3	6.7	7.5	6.4	9.6	9.8	10.0	10.8	11.1	10.0	11.7
										52-Week Range	7.0	6.4	6.7	7.5	6.4	9.6	9.8	10.0	10.8	11.1	10.0	11.7
										52-Week Vol	15.1	11	9.2	16.9	14.5	13.8	14.7	14.0	15.4	17.9	18.8	15.4
										52-Week Avg	15.1	11	9.2	16.9	14.5	13.8	14.7	14.0	15.4	17.9	18.8	15.4
										52-Week High	15.1	11	9.2	16.9	14.5	13.8	14.7	14.0	15.4	17.9	18.8	15.4
										52-Week Low	8.1	7.3	6.7	7.5	6.4	9.6	9.8	10.0	10.8	11.1	10.0	11.7
										52-Week Range	7.0	6.4	6.7	7.5	6.4	9.6	9.8	10.0	10.8	11.1	10.0	11.7
										52-Week Vol	15.1	11	9.2	16.9	14.5	13.8	14.7	14.0	15.4	17.9	18.8	15.4
										52-Week Avg	15.1	11	9.2	16.9	14.5	13.8	14.7	14.0	15.4	17.9	18.8	15.4
										52-Week High	15.1	11	9.2	16.9	14.5	13.8	14.7	14.0	15.4	17.9	18.8	15.4
										52-Week Low	8.1	7.3	6.7	7.5	6.4	9.6	9.8	10.0	10.8	11.1	10.0	11.7
										52-Week Range	7.0	6.4	6.7	7.5	6.4	9.6	9.8	10.0	10.8	11.1	10.0	11.7
										52-Week Vol	15.1	11	9.2	16.9	14.5	13.8	14.7	14.0	15.4	17.9	18.8	15.4
										52-Week Avg	15.1	11	9.2	16.9	14.5	13.8	14.7	14.0	15.4	17.9	18.8	15.4
										52-Week High	15.1	11	9.2	16.9	14.5	13.8	14.7	14.0	15.4	17.9	18.8	15.4
										52-Week Low	8.1	7.3	6.7	7.5	6.4	9.6	9.8	10.0	10.8	11.1	10.0	11.7
										52-Week Range	7.0	6.4	6.7	7.5	6.4	9.6	9.8	10.0	10.8	11.1	10.0	11.7
										52-Week Vol	15.1	11	9.2	16.9	14.5	13.8	14.7	14.0	15.4	17.9	18.8	15.4
										52-Week Avg	15.1	11	9.2	16.9	14.5	13.8	14.7	14.0	15.4	17.9	18.8	15.4
										52-Week High	15.1	11	9.2	16.9	14.5	13.8	14.7	14.0	15.4	17.9	18.8	15.4
										52-Week Low	8.1	7.3	6.7	7.5	6.4	9.6	9.8	10.0	10.8	11.1	10.0	11.7
										52-Week Range	7.0	6.4	6.7	7.5	6.4	9.6	9.8	10.0	10.8	11.1	10.0	11.7
										52-Week Vol	15.1	11	9.2	16.9	14.5	13.8	14.7	14.0	15.4	17.9	18.8	15.4
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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	2Q	3Q	4Q	1Q	2Q	3Q
	<u>Apr 23</u>	<u>Apr 16</u>	<u>Apr 9</u>	<u>Apr 2</u>	<u>Mar</u>	<u>Feb</u>	<u>Jan</u>	<u>1Q 2021</u>	<u>2021</u>	<u>2021</u>	<u>2021</u>	<u>2022</u>	<u>2022</u>	<u>2022</u>
Federal Funds Rate	0.07	0.07	0.07	0.07	0.07	0.08	0.09	0.08	0.1	0.1	0.1	0.1	0.1	0.1
Prime Rate	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.3	3.3	3.3	3.3	3.3	3.3
LIBOR, 3-mo.	0.18	0.19	0.19	0.20	0.19	0.19	0.22	0.20	0.2	0.2	0.3	0.3	0.3	0.3
Commercial Paper, 1-mo.	0.04	0.05	0.05	0.06	0.07	0.06	0.08	0.07	0.1	0.1	0.1	0.1	0.2	0.2
Treasury bill, 3-mo.	0.03	0.02	0.02	0.02	0.03	0.04	0.08	0.05	0.0	0.1	0.1	0.1	0.1	0.2
Treasury bill, 6-mo.	0.04	0.04	0.04	0.04	0.05	0.06	0.09	0.07	0.1	0.1	0.1	0.1	0.2	0.2
Treasury bill, 1 yr.	0.07	0.06	0.06	0.06	0.08	0.07	0.10	0.08	0.1	0.2	0.2	0.2	0.3	0.3
Treasury note, 2 yr.	0.16	0.16	0.16	0.16	0.15	0.12	0.13	0.13	0.2	0.3	0.3	0.4	0.5	0.5
Treasury note, 5 yr.	0.82	0.85	0.88	0.92	0.82	0.54	0.45	0.60	0.9	1.0	1.1	1.2	1.2	1.3
Treasury note, 10 yr.	1.58	1.62	1.68	1.72	1.61	1.26	1.08	1.32	1.7	1.8	1.9	2.0	2.1	2.1
Treasury bond, 30 yr.	2.26	2.29	2.34	2.38	2.34	2.04	1.82	2.07	2.4	2.5	2.6	2.7	2.7	2.8
Corporate Aaa bond	3.02	3.02	3.07	3.16	3.15	2.84	2.64	2.88	3.0	3.2	3.3	3.3	3.4	3.4
Corporate Baa bond	3.49	3.49	3.54	3.63	3.62	3.30	3.14	3.35	3.9	4.0	4.2	4.2	4.3	4.3
State & Local bonds	2.63	2.66	2.71	2.74	2.74	2.63	2.65	2.68	2.7	2.8	2.9	3.0	2.9	3.0
Home mortgage rate	2.97	3.04	3.13	3.18	3.08	2.81	2.74	2.88	3.2	3.3	3.4	3.5	3.6	3.7
Key Assumptions	History								Consensus Forecasts-Quarterly					
	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q
	<u>2019</u>	<u>2019</u>	<u>2019</u>	<u>2020</u>	<u>2020</u>	<u>2020</u>	<u>2020</u>	<u>2021</u>	<u>2021</u>	<u>2021</u>	<u>2021</u>	<u>2022</u>	<u>2022</u>	<u>2022</u>
Fed's AFE Index	110.4	110.6	110.5	111.4	112.4	107.3	105.2	103.4	103.9	103.9	104.1	104.0	104.2	104.2
Real GDP	1.5	2.6	2.4	-5.0	-31.4	33.4	4.3	6.4	9.0	7.1	4.9	3.8	3.1	2.6
GDP Price Index	2.5	1.5	1.4	1.4	-1.8	3.5	2.0	4.1	2.4	2.2	2.1	2.2	2.2	2.2
Consumer Price Index	3.5	1.3	2.6	1.0	-3.1	4.7	2.4	3.7	2.8	2.4	2.2	2.2	2.2	2.2
PCE Price Index	2.5	1.4	1.5	1.3	-1.6	3.7	1.5	3.5	2.5	2.2	2.1	2.1	2.1	2.1

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Company Name	AMERICA N STATES WATER COMPANY	AMERICA N WATER WORKS COMPANY , INC.	ARTESIAN RESOURC ES CORPORATION	CALIFORNIA SERVICE GROUP	ESSENTIAL UTILITIES, INC.	MIDDLESEX WATER COMPANY	SJO GROUP	THE YORK WATER COMPANY
2015 Sales-Net[y15]	458.641	3159	77.024	588.368	814.204	126.025	305.082	47.089
2016 Sales-Net[y16]	436.087	3302	79.089	609.37	819.875	132.906	339.706	47.584
2017 Sales-Net[y17]	440.603	3357	82.235	676.113	809.525	130.775	389.225	48.589
2018 Sales-Net[y18]	436.816	3440	80.411	698.196	838.091	138.077	397.699	48.437
2019 Sales-Net[y19]	473.869	3610	83.595	714.557	889.692	134.598	420.482	51.578
2020 Sales-Net[y20]	488.243	3777	88.141	794.307	1462.698	141.592	564.526	53.852
2015 Cash & Short Term Investment[y15]	4.364	45	0.209	8.837	3.229	3.469	5.239	2.879
2016 Cash & Short Term Investment[y16]	0.436	75	0.226	25.492	3.763	3.879	6.349	4.209
2017 Cash & Short Term Investment[y17]	0.214	55	0.952	94.776	4.204	4.937	7.799	0.002
2018 Cash & Short Term Investment[y18]	7.141	130	0.293	47.176	3.627	3.705	420.722	0.002
2019 Cash & Short Term Investment[y19]	1.334	60	0.596	42.653	1868.922	2.23	12.944	0.002
2020 Cash & Short Term Investment[y20]	36.737	547	0.028	44.555	4.827	4.491	5.269	0.002
2015 Current Assets-Total[y15]	132.697	657	14.444	127.578	128.37	24.41	73.376	11.577
2016 Current Assets-Total[y16]	166.875	784	14.635	142.069	128.65	26.716	99.611	12.62
2017 Current Assets-Total[y17]	155.463	720	18.985	227.873	131.246	29.247	66.858	8.611
2018 Current Assets-Total[y18]	131.468	781	16.118	188.702	147.172	30.815	502.722	9.011
2019 Current Assets-Total[y19]	122.456	1285	14.207	184.712	2015.127	29.133	122.046	9.384
2020 Current Assets-Total[y20]	157.115	1906	17.619	266.016	380.22	34.123	127.331	16.29
2015 Debt in Current Liabilities[y15]	28.312	682	12.322	39.658	52.314	8.739	38.091	0.044
2016 Debt in Current Liabilities[y16]	90.33	1423	8.478	123.308	169.822	18.159	14.325	0.044
2017 Debt in Current Liabilities[y17]	59.324	1230	11.258	291.02	139.048	34.865	25	1.044
2018 Debt in Current Liabilities[y18]	40.32	1049	17.784	170.011	228.723	55.843	100	1.03
2019 Debt in Current Liabilities[y19]	7.193	814	9.24	198.42	142.941	27.178	139.481	6.5
2020 Debt in Current Liabilities[y20]	2.371	1624	28.695	376.884	214.22	9.955	251.335	0
2015 Current Liabilities-Total[y15]	123.507	1533	22.403	147.898	193.199	28.319	79.623	6.197
2016 Current Liabilities-Total[y16]	177.944	2392	19.328	250.23	301.536	47.056	63.573	8.184
2017 Current Liabilities-Total[y17]	156.662	2325	28.461	490.959	284.488	64.537	85.052	9.145
2018 Current Liabilities-Total[y18]	146.585	2094	37.731	321.166	398.977	94.363	163.985	10.841
2019 Current Liabilities-Total[y19]	115.998	2045	25.599	358.721	323.461	64.981	234.567	15.156
2020 Current Liabilities-Total[y20]	118.572	2881	43.724	588.706	603.873	56.848	350.795	11.993
2015 noncash wkcap	33.138	-239	4.154	10.501	-15.744	1.361	26.605	2.545
2016 noncash wkcap	78.825	-260	3.559	-10.345	-6.827	-6.06	44.014	0.271
2017 noncash wkcap	57.911	-430	0.83	-66.842	-18.398	-25.877	74.914	9.653
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	-10.9	14.016	0.726
2020 noncash wkcap	4.177	102	2.562	9.639	-14.26	-17.261	22.602	4.295
2016 Change Non cashWrk Cap	45.687	-21	-0.595	-20.846	8.917	-7.421	17.409	-2.274
2017 Change Non cashWrk Cap	-20.914	-170	-2.729	-56.497	-11.571	-19.817	30.9	9.382
2018 Change Non cashWrk Cap	-39.849	36	-4.952	57.213	-8.311	14.467	-56.899	-10.455
2019 Change Non cashWrk Cap	-5.745	388	1.374	-8.613	-7.606	0.51	-3.999	1.528
2020 Change Non cashWrk Cap	-8.14	108	5.31	27.881	20.055	-6.361	8.586	3.569
2016	10.48%	-0.64%	-0.75%	-3.42%	1.09%	-5.58%	5.12%	-4.78%
2017 WK cap/sale	-4.75%	-5.06%	-3.32%	-8.36%	-1.43%	-15.15%	7.94%	19.31%
2018 WK cap/sale	-9.12%	1.05%	-6.16%	8.19%	-0.99%	10.48%	-14.31%	-21.58%
2019 WK cap/sale	-1.21%	10.75%	1.64%	-1.21%	-0.85%	0.38%	-0.95%	2.96%
2020 WK cap/sale	-1.67%	2.86%	6.02%	3.51%	1.37%	-4.49%	1.52%	6.63%
Average	-1.25%	1.79%	-0.51%	-0.26%	-0.16%	-2.87%	-0.13%	0.51%
						Median		-0.21%