

# **Pittsburgh Water and Sewer Authority**

Financial Statements  
and Required Supplementary  
and Supplementary Information

Years Ended December 31, 2018 and 2017  
with Independent Auditor's Report

**MaherDuessel**

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# PITTSBURGH WATER AND SEWER AUTHORITY

YEARS ENDED DECEMBER 31, 2018 AND 2017

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## Independent Auditor's Report

### **Board of Directors Pittsburgh Water and Sewer Authority**

We have audited the accompanying financial statements of the Pittsburgh Water and Sewer Authority (Authority), a component unit of the City of Pittsburgh (City), Pennsylvania, as of and for the years ended December 31, 2018 and 2017, and the related notes to the financial statements, which collectively comprise the Authority's basic financial statements as listed in the table of contents.

### **Management's Responsibility for the Financial Statements**

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

### **Auditor's Responsibility**

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

## Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Authority as of December 31, 2018 and 2017, and the changes in financial position and cash flows thereof for the years then ended in accordance with accounting principles generally accepted in the United States of America.

## Other Matters

### *Required Supplementary Information*

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis on pages i through x be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

### *Supplementary Information*

Our audits were conducted for the purpose of forming an opinion on the financial statements that collectively comprise the Authority's basic financial statements. The combining statements of net position and revenue, expenses, and changes in net position (combining statements) are presented for purposes of additional analysis and are not a required part of the basic financial statements.

The combining statements are the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other

records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the combining statements are fairly stated in all material respects, in relation to the basic financial statements as a whole.

*Mahe Duessel*

Pittsburgh, Pennsylvania  
April 23, 2019

# PITTSBURGH WATER AND SEWER AUTHORITY

## 2018 Financial Statements Management's Discussion and Analysis

The Pittsburgh Water and Sewer Authority (Authority) comparative 2018 and 2017 fiscal year financial statements enclosed have been conformed to meet the requirements of Governmental Accounting Standards Board (GASB) Statement No. 34, *“Basic Financial Statements – and Management’s Discussion and Analysis – for State and Local Governments.”* The financial statements incorporate three basic statements: the Statements of Net Position, the Statements of Revenues, Expenses, and Changes in Net Position, and the Statements of Cash Flows.

This Management’s Discussion and Analysis (MD&A) is based upon facts, decisions, and conditions known as of the date of the audit report. Please note that the historical information provided in the financial statements and MD&A reflects the results of past operations and is not necessarily indicative of results of future operations. Future operations will be affected by various factors, including, but not limited to, regulatory mandates, rate changes, weather, labor contracts, population changes, business environment and other matters, the nature and effect of which cannot now be determined.

### **Using This Financial Report – Overview of Reporting Changes**

The Statements of Net Position present information about the resources which are available to the Authority and claims against these resources. Both assets and liabilities are classified in a format which segregates current from noncurrent. In addition, assets available for special purposes – labeled “restricted assets” - are segregated from those assets available for operations. The Authority’s restricted assets represent money on deposit with the bond trustee to meet indenture, debt service, and construction program requirements. Liabilities have a similar classification segregating claims on restricted assets from claims on assets available for operations. The net position section of the Statements of Net Position classifies the total net position as net investment in capital assets, restricted, and unrestricted.

The Statements of Revenues, Expenses, and Changes in Net Position summarize operating and non-operating activity for the fiscal year and the resulting impact on the Authority’s net position.

The Statements of Revenues, Expenses, and Changes in Net Position include wastewater treatment revenues and expenses for services provided by the Allegheny County Sanitary Authority (ALCOSAN). There are no outstanding bond issues associated directly or indirectly with wastewater revenue streams.

The Statements of Cash Flows have been prepared using the direct method. The statements provide an analysis of the Authority’s cash by operating, investing, and capital and related financing activities over the respective fiscal year.

### **Financial Highlights 2018 and 2017**

In 2018, operating income increased by 108.3% or \$32.1 million to \$61.7 million. The Authority realized an overall net income of \$39.5 million due to increases in operating revenues, decreases in operating expenses and decreases in non-operating expenses, up from a \$6.3 million net loss in 2017.

Below are the 2018 financial highlights:

Total operating revenues in 2018 were up \$28.7 million or 14.1% to \$231.7 million when compared to 2017. Wastewater treatment revenues decreased by \$1.7 million, attributable to ALCOSAN’s rate increase being offset by decreases in consumption and adjustments. Water and sewer conveyance revenues increased \$31.0 million from 2017, attributable to rate increases by the Authority. Other operating income decreased by \$0.6 million from 2017, attributable to the sum of various miscellaneous payments.

Total non-operating revenues (expenses) decreased by \$18.2 million from 2017, largely impacted by \$13.6 million in donated property revenue as well as bond issuance costs dropping to zero in 2018 compared to \$3.9 million in 2017, from \$35.9 million in 2017 to \$17.7 million in 2018.

Total operating expenses decreased in 2018 to \$170.1 million compared to \$173.4 million in 2017. Significant operating expenses included the following factors:

- Salary and employee benefit expenses were up \$3.1 million or 14.3%. The increase is attributed to an average salary rate increase of 2%, and increased employee headcount in 2018. Part of this increase is offset by a decrease in professional service expense.

The majority of Authority employees are represented by one of three labor unions. The Pittsburgh Joint Collective Bargaining Committee (PJCBC) represents blue-collar employees. The American Federation of State, County and Municipal Employees (AFSCME) represents Local 2719 employees and Local 2037. A new four-year agreement with AFSCME became effective January 1, 2017 and will expire December 31, 2020. A new four-year agreement with the PJCBC became effective January 1, 2017 and expires December 31, 2020.

- Expenses stayed relatively flat from 2017 to 2018 for multiple cost categories, including chemicals, equipment, materials, inventory, utilities, and overall administrative expenses.
- There were cost categories that decreased significantly from 2017 to 2018, in many cases due to one-time expenses that occurred in 2017. The sewage treatment expense (paid to ALCOSAN) dropped by \$3.3 million from \$75.1 million in 2017 to \$71.8 million in 2018. In addition to net changes in consumption, this is also attributable to the net of catch up billings in 2017 and adjustment made in 2018. Equipment rentals dropped by \$0.8 million from 2017, when there was a one-time emergency rental. Engineering related professional services decreased \$1.7 million from 2017, as positions once filled by consultants in 2017 became filled by Authority employees in 2018. Bad debt expense decreased by \$7.7 million from \$4.2 million in 2017 to a \$3.5 million credit in 2018. The large swing in bad debt expense is attributable to a conservative approach to calculating necessary uncollectible reserves in 2017 for customer accounts with significant balances. Efforts of the collection team in 2018 resulted in these accounts either being paid down or adjusted, which ultimately resulted in a lower allowance for uncollectible accounts and a credit to bad debt expense.
- In 2018, large inventory adjustments and write-offs totaling \$3.1 million were booked as a result of procedural reviews and reconciliations to ensure that inventory reporting was accurate. Other significant non-salary direct operating expense increases from 2017 to 2018 include surface restoration costs, which increased by \$1.9 million, and urgent water and sewer repairs, which increased by \$1.0 million. Administrative expenses that increased from 2017 to 2018 include legal expenses, which increased by \$1.0 million, a result of regulatory costs, and claims, which increased by \$0.6 million, mainly attributable to accrued contingencies for legal settlements.
- Reimbursements for City of Pittsburgh services dropped by 8.4% or \$0.5 million from \$5.4 million in 2017 to \$4.9 million in 2018, as the calculation for this payment switched from a lump sum basis to a transactional basis. The expense of water provided to other entities, mainly comprised of subsidy payments to Pennsylvania American Water Company (PAWC) decreased by 31.8% or \$1.8 million to \$3.8 million in 2018 compared to \$5.6 million in 2017.

Interest expense decreased 1.6% or \$0.5 million to \$34.4 million in 2018 compared to \$34.9 million in 2017. This drop is attributable to the net effect of increased interest payments on borrowings to fund capital projects offset by the Authority no longer having costs associated with credit and remarketing of variable rate debt, a result of the December 2017 refunding, which changed the debt structure.

In 2018, the Authority expended \$4.5 million replacing private lead lines.

In 2018, cash collections increased by \$43.0 million, with \$233.1 million collected from billings compared to \$190.1 million in 2017 due to rate increases by both the Authority and ALCOSAN.

Other 2018 highlights include:

- The Authority continued its relationship with Jordan Tax Service, Inc. (JTS) as its Collector and the law firm of Goehring, Rutter & Boehm, P.C. as Special Legal Counsel for the collection of delinquent water, sewer, and sewage treatment charges. The agreement calls for a collection commission, plus other administrative and legal proceeding costs, to be added to all Authority delinquent claims not paid within 90 days of the initial billing date. If fully collected, the Authority stands to collect 100% of delinquent balances without incurring a collection agency fee. JTS collected for the Authority \$1.5 million during 2018.
- Debt service coverage was 1.71 in 2018 and 1.29 in 2017. These coverage factors exceed the 1.2 coverage ratio required under the bond indenture.
- The Authority expended \$69.2 million on capital projects in 2018, an increase of \$37.2 million or approximately 116% over the \$32.0 million expended in 2017. All capital expenditures in 2018 were funded by the revolving line of credit, which was put in place in July 2016. Pennvest funding was not utilized in 2018. However, in October 2018, the PENNVEST Board approved a funding award of \$49.1 million to be used for the replacement of both public and private lead service lines. The award is made up of a \$13.6 million grant and \$35.4 million one percent interest loan. The state funding award, the largest ever granted to the Authority, will fund the replacement of approximately 3,400 public lead service lines and 3,400 associated private lead lines in 2019. Replacement locations will be focused in neighborhoods with a likelihood of at-risk populations, like pregnant mothers and young children. The Authority will close on this funding award in 2019.
- In July 2016, the Authority entered into a drawdown, revolving line of credit financing with JPMorgan Chase Bank N.A. The maximum amount that could be drawn and outstanding at any one time was \$80,000,000 and has an initial term of four years. In September 2018, the maximum draw amount was increased from \$80,000,000 to \$150,000,000. The Authority utilizes funds borrowed under this vehicle to finance capital projects. As of December 31, 2018, the Authority has drawn \$113.0 million on this facility.
- In August 2018, the Authority entered into a drawdown, revolving line of credit with PNC Bank, National Association. The maximum amount that can be drawn and outstanding at any one time is \$20,000,000 and has a term of one year. The line of credit provides additional liquidity that can be used for operating expenses. No drawdowns have ever occurred on this facility. As of December 31, 2018, the Authority has drawn \$0.0 million on this facility.
- As a result of December 2017 bond refunding activity, a modernized bond indenture sprung into effect on December 28, 2017. The new indenture establishes an improved rate covenant calculation applicable to the 2019 financials, which will be viewed more favorably by rating agencies and credit providers. The modernized indenture and rate covenant will allow the Authority additional financing opportunities and a lower cost of capital, supporting a larger capital spending plan.
- HB 1490 was passed into law in December 2017. HB 1490 establishes the Authority as a "Utility" as defined by the Public Utility Code, resulting in Public Utility Commission (PUC) regulation of the Authority's rate making, its operating effectiveness, debt issuances, and other aspects of conducting its business similar to the way the PUC regulates investor-owned utilities. Effective April 1, 2018, the PUC began oversight of the Authority. PUC oversight requires compliance and conformity with their established regulations regarding administration, finances, operations,



reporting, capital expenditures, and customer service for water and wastewater utilities. The PUC now approves all PWSA rates and fees through tariff filings.

- The City of Pittsburgh is the largest of the 83 municipalities that convey raw sewage to ALCOSAN for treatment. In January 2004, the Authority and the City of Pittsburgh executed a Consent Order and Agreement (Order) regarding sanitary and combined sewer overflows within the City of Pittsburgh. The other signatories to the Order are the Pennsylvania Department of Environmental Protection (DEP) and Allegheny County Health Department, which executed the Order on April 21, 2004. The Long-Term Control Plan to address combined and sanitary sewer overflows required under the order was submitted on schedule on July 31, 2013. Due to the complexities of regional governance, the Authority's regulatory body was switched from the DEP to the US Environmental Protection Agency (EPA). On January 21, 2016, the EPA issued a Clean Water Act Section 308 Information Request (308 Request) to the Authority. The request is meant to provide a jurisdictional basis for EPA to engage the Authority and the City of Pittsburgh in an enforcement action by consent. The Authority intends that through such an action, it can more fully participate in the implementation of interim regional wet weather activities, controls, and improvements. The action will also permit the Authority and the City of Pittsburgh to participate more fully in the identification and implementation of any final wet weather control measures for the region. The Authority has fulfilled the first portion of the 308 Request, which was due on March 31, 2016. The second phase of the 308 Request supplied a source reduction study, which was submitted December 1, 2016 and GI Demonstration projects must be constructed and performance evaluations completed by December 1, 2017. The demonstration project evaluations were submitted on time on December 1, 2017.

The 308 Request does not contain fines or penalties for past non-compliance, but does propose binding obligations for work on a going forward basis. The Authority continues to meet the requirements of the 308 Request. The Final Consent Order will be adjudicated between the City, the Authority, and the USEPA to establish the extent of improvements that will be required to be complete within a specified time frame. Based upon initial discussions with the regulators, the Authority anticipates that the final recommendations implementation plan will be modified to assure its affordability to the Authority's rate payers. See Note 13 – Consent Agreement for additional details.

### **Financial Highlights 2017 and 2016**

In 2017, operating income decreased by 7.9% or \$2.5 million to \$29.6 million. The Authority experienced an overall net loss of \$6.3 million due to increases in operating expenses and in non-operating expenses, down from a \$1.8 million net loss in 2016.

Below are the 2017 financial highlights:

Total operating revenues in 2017 were up \$22.3 million or 12.3% to \$203.0 million when compared to 2016. Wastewater treatment revenues increased by \$6.8 million. Water and sewer conveyance revenues increased \$14.7 million from 2016. Both of these increases are attributable to rate increases by the Authority and ALCOSAN. Other operating income increased by \$0.8 million from 2016, attributable to the sum of various miscellaneous payments.

Total non-operating revenues (expenses) increased by \$2.0 million from 2016, largely impacted by \$3.9 million in bond issuance costs offset by a \$2.0 million decrease in interest and amortization, from \$36.9 million in 2016 to \$34.9 million in 2017.

Total operating expenses increased in 2017 to \$173.4 million compared to \$148.6 million in 2016. Significant operating expenses included the following factors:

- Salary and employee benefit expenses were up \$0.7 million or 3.6%. The increase is attributed to an average salary rate increase of 2%, and increased employee headcount in 2017.

The majority of Authority employees are represented by one of three labor unions. The Pittsburgh Joint Collective Bargaining Committee (PJCBC) represents blue-collar employees. The American Federation of State, County and Municipal Employees (AFSCME) represents Local 2719 employees and Local 2037. A new four-year agreement with AFSCME became effective January 1, 2017 and will expire December 31, 2020. A new four-year agreement with the PJCBC became effective January 1, 2017 and expires December 31, 2020.

- Overall direct operating expenses, excluding salaries and benefits, increased by \$15.9 million or 19.4% to \$97.9 million in 2017 from \$82.0 million in 2016. Operating contracts increased by \$13.9 million; the bulk of this increase is attributable to the wastewater treatment expense, which increased by \$13.0 million or 20.9% to \$75.1 million when compared to \$62.1 million in 2016, due to a combination of ALCOSAN's rate increase and timing. Other significant changes in operating contracts include temporary help decreasing by \$1.3 million, to \$1.2 million in 2017 compared to \$2.5 million in 2016 (increased temporary employees were required to support billing issues that arose in 2015), water and sewer repairs and maintenance increased by \$2.1 million in total, due to an overall increase in line repair. Chemicals expenses decreased by \$0.04 million from 2016. Equipment expenses decreased from 2016 by \$0.8 million, to \$0.4 million in 2017. Repairs and maintenance increased by \$1.4 million from 2016, the main driver being surface restoration costs. Testing increased by \$0.8 million from 2016 due to increased lead testing.
- Overall general and administrative expenses increased 29.0% or \$3.9 million, to \$24.8 million in 2017 from \$20.9 million in 2016. Fees increased by \$0.2 million from 2016, largely driven by increased credit card fee. Freight and postage increased by \$0.1 million from 2016. Lease and rents increased by \$0.7 million from 2016 due to increased heavy equipment rental. Professional services increased overall by \$1.4 million; contributing factors include a \$0.4 million increase in consultant costs, a \$0.4 million increase in legal costs, and various smaller increases in other categories. Utility expense increased by \$0.1 million from 2016. Miscellaneous administrative costs increased by \$3.6 million from the previous year, the biggest factor being a \$3.4 million increase to bad debt reserve after a conservative review of customer accounts.
- Overall other expenses decreased 3.9% or \$2.5 million to \$60.3 million in 2017 from \$62.8 million in 2016. Non-city water subsidy to Pennsylvania American Water Company (PAWC) increased by 183% or \$3.6 million to \$5.6 million in 2017 compared to \$2.0 million in 2016. Interest expense decreased 10.2% or \$3.8 million to \$33.2 million in 2017 compared to \$37.0 million in 2016. Interest on long-term debt decreased by \$4.5 million from 2016, attributable to bond refunding activity which was slightly offset by smaller increases in counter-party payments, liquidity, and remarketing fees, Pennvest interest, and revolver interest.
- In 2017, cash collections increased by \$15.8 million, with \$190.1 million collected from billings compared to \$174.3 million in 2016 due to rate increases by both the Authority and ALCOSAN.

Other 2017 highlights include:

- The Authority continued its relationship with Jordan Tax Service, Inc. (JTS) as its Collector and the law firm of Goehring, Rutter & Boehm, P.C. as Special Legal Counsel for the collection of delinquent water, sewer, and sewage treatment charges. The agreement calls for a collection commission, plus other administrative and legal proceeding costs, to be added to all Authority delinquent claims not paid within 90 days of the initial billing date. If fully collected, the Authority stands to collect 100% of delinquent balances without incurring a collection agency fee. JTS collected for the Authority \$1.6 million during 2017.
- Debt service coverage was 1.29 in 2017 and 1.21 in 2016. These coverage factors exceed the 1.2 coverage ratio required under the bond indenture.

- The Authority expended \$32.0 million on capital projects in 2017, a decrease of \$0.3 million over the \$32.3 million expended in 2016. Of \$50.4 million budgeted in Pennvest loans, \$38.1 million was spent in prior years, \$0.2 million was spent in 2017, and \$10.75 million of approved funding remained available. The balance of capital expenditures in 2017 was funded by the revolving line of credit, which was put in place in July 2016.
- In July 2016, the Authority entered into a drawdown, revolving line of credit financing with JPMorgan Chase Bank N.A. The maximum amount that can be drawn and outstanding at any one time is \$80,000,000 and has an initial term of four years. The Authority will use funds borrowed under this vehicle to finance capital projects. As of December 31, 2017, the Authority has drawn \$43.8 million on this facility.
- In December of 2017, the Authority closed on three different revenue refunding bond series: \$159,795,000 Tax-Exempt Series A of 2017, \$5,595,000 Taxable Series B of 2017 and \$218,805,000 Tax-Exempt Series C of 2017. Series A and B of 2017 are fixed rate tax-exempt bonds that were issued to refund all of Series A of 2008 and Series D1 of 2008, as well as a portion of Series B of 1998, and a portion of Series B of 2013. Series C of 2017 are floating rate notes that were issued to refund Series B1 of 2008, Series B2 of 2008 and Series D2 of 2008, all variable-rate debt. In addition to providing savings to the Authority, these issuances resulted in the Authority achieving 67.32% total bondholder consent to the installation of a new, modernized indenture which sprung into effect on December 28, 2017. The new indenture establishes an improved rate covenant calculation applicable to the 2019 financials, which will be viewed more favorably by rating agencies and credit providers. The modernized indenture and rate covenant will allow the Authority additional financing opportunities and a lower cost of capital, supporting a larger capital spending plan. The issuance of the Series A and B of 2017 bonds resulted in a \$5,534,870 NPV savings to the Authority and the issuance of the Series C of 2017 notes resulted in a \$7,858,340 NPV savings to the Authority.
- HB 1490 was passed into law in December 2017. HB 1490 establishes the Authority as a “Utility” as defined by the Public Utility Code, resulting in regulation of the Authority’s rate making, its operating effectiveness, debt issuances, and other aspects of conducting its business similar to the way the PUC regulates investor-owned utilities. HB 1490 includes provisions that allow the Authority to impose, charge, or collect rates or charges as necessary to permit the Authority to comply with its covenants with the holders of any bonds or other financial obligations of the Authority, and prohibits the PUC from requiring the Authority to take any action that would cause the interest on the Authority’s financial obligations to be includible in gross income of the holders of such obligations for federal income tax purposes. HB 1490 also requires the Authority to file a compliance plan related to information technology, accounting, billing, collections, and other operating systems and procedures as well as a long-term infrastructure improvement plan. The Authority is pursuing development of rate actions and performance compliance plans to meet the requirements of HB 1490.
- The City of Pittsburgh is the largest of the 83 municipalities that convey raw sewage to ALCOSAN for treatment. In January 2004, the Authority and the City of Pittsburgh executed a Consent Order and Agreement (Order) regarding sanitary and combined sewer overflows within the City of Pittsburgh. The other signatories to the Order are the Pennsylvania Department of Environmental Protection (DEP) and Allegheny County Health Department, which executed the Order on April 21, 2004. The Long-Term Control Plan to address combined and sanitary sewer overflows required under the order was submitted on schedule on July 31, 2013. Due to the complexities of regional governance, the Authority’s regulatory body was switched from the DEP to the US Environmental Protection Agency (EPA). On January 21, 2016, the EPA issued a Clean Water Act Section 308 Information Request (308 Request) to the Authority. We understand the nature of the request is to provide a jurisdictional basis for EPA to engage the Authority and the City of Pittsburgh in an enforcement action by consent. We intend that through such an action, we can more fully participate in the implementation of interim regional wet weather activities,

controls, and improvements. We further understand that such an action will also permit the Authority and the City of Pittsburgh to participate more fully in the identification and implementation of any final wet weather control measures for the region. We have fulfilled the first portion of the 308 Request, which was due on March 31, 2016. The second phase of the 308 Request supplied a source reduction study, which was submitted December 1, 2016 and GI Demonstration projects must be constructed and performance evaluations completed by December 1, 2017. The demonstration project evaluations were submitted on time on December 1, 2017.

The 308 Request does not contain fines or penalties for past non-compliance, but does propose binding obligations for work on a going forward basis. The Authority continues to meet the requirements of the 308 Request. The Final Consent Order will be adjudicated between the City, the Authority, and the USEPA to establish the extent of improvements that will be required to be complete within a specified time frame. Based upon initial discussions with the regulators, the Authority anticipates that the final recommendations implementation plan will be modified to assure its affordability to the Authority's rate payers. See Note 13 – Consent Agreement for additional details.

### CONDENSED FINANCIAL STATEMENTS

#### CONDENSED STATEMENTS OF NET POSITION

(Dollars expressed in thousands)

	December 31,		Variance	
	2018	2017	Dollars	%
Capital assets:				
Producing assets	\$ 618,177	\$ 589,567	\$ 28,610	4.85%
Construction in progress	139,303	100,240	39,063	38.97%
Hedging derivative - interest rate swap	4,750	-	4,750	0.00%
Restricted assets	23,326	29,948	(6,622)	-22.11%
Current assets	78,787	46,417	32,370	69.74%
<b>Total Assets</b>	<b>864,343</b>	<b>766,172</b>	<b>98,171</b>	<b>12.81%</b>
<b>Deferred Outflows of Resources</b>	103,291	113,605	(10,314)	-9.08%
Liabilities:				
Current liabilities	69,662	62,962	6,700	10.64%
Long-term liabilities	897,581	860,651	36,930	4.29%
<b>Total Liabilities</b>	<b>967,243</b>	<b>923,613</b>	<b>43,630</b>	<b>4.72%</b>
<b>Deferred Inflows of Resources</b>	4,750	-	4,750	0.00%
Net Position:				
Net investment in capital assets	(14,892)	(29,609)	14,717	-49.70%
Restricted	16,388	13,240	3,148	23.78%
Unrestricted	(5,855)	(27,467)	21,612	-78.68%
<b>Total Net Position</b>	<b>\$ (4,359)</b>	<b>\$ (43,836)</b>	<b>\$ 39,477</b>	<b>-90.06%</b>

**CONDENSED STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION**  
(Dollars expressed in thousands)

	Year Ended December 31,		Variance	
	2018	2017	Dollars	%
			Increase (Decrease)	
Operating revenues	\$ 231,734	\$ 202,996	\$ 28,738	14.16%
Operating expenses:				
Direct operating	72,633	71,156	1,477	2.08%
Wastewater treatment	71,822	75,107	(3,285)	-4.37%
Reimbursement for City of Pittsburgh services	4,911	5,363	(452)	-8.43%
Subsidy of non-customer City residents	3,814	5,594	(1,780)	-31.82%
Depreciation	16,894	16,172	722	4.46%
<b>Total Operating Expenses</b>	<b>170,074</b>	<b>173,392</b>	<b>(3,318)</b>	<b>-1.91%</b>
Operating income	61,660	29,604	32,056	108.28%
Non-operating revenues (expenses):				
Donated property	13,649	1,595	12,054	755.74%
Interest revenue	469	460	9	1.96%
Interest expense and other	(31,823)	(37,972)	6,149	-16.19%
<b>Total Non-operating Revenues (Expenses)</b>	<b>(17,705)</b>	<b>(35,917)</b>	<b>18,212</b>	<b>-50.71%</b>
Special item: private lead line replacement	(4,478)	-	(4,478)	0.00%
<b>Total Special Items</b>	<b>(4,478)</b>	<b>-</b>	<b>(4,478)</b>	<b>0.00%</b>
<b>Net Income/(Loss)</b>	<b>\$ 39,477</b>	<b>\$ (6,313)</b>	<b>\$ 45,790</b>	<b>-725.33%</b>

**Financial Condition 2018 and 2017**

The Authority's financial condition in 2018 remained stable for a sixteenth consecutive year. Water utility revenues increased to \$159.5 million from \$128.5 million. The rate increase effective March 1, 2019 should have a positive impact on utility revenue and unrestricted cash. Total cash and cash equivalents stood at \$46.9 million at year-end 2018. Investment interest rates remain near historic lows, impacting the return on reserves invested.

**CONDENSED FINANCIAL STATEMENTS**

**CONDENSED STATEMENTS OF NET POSITION**

(Dollars expressed in thousands)

	December 31,		Variance	
	2017	2016	Dollars	%
Capital assets:				
Producing assets	\$ 589,567	\$ 587,937	\$ 1,630	0.28%
Construction in progress	100,240	88,861	11,379	12.81%
Restricted assets	29,948	26,337	3,611	13.71%
Current assets	46,417	51,537	(5,120)	-9.93%
<b>Total Assets</b>	<b>766,172</b>	<b>754,672</b>	<b>11,500</b>	<b>1.52%</b>
<b>Deferred Outflows of Resources</b>	<b>113,605</b>	<b>95,905</b>	<b>17,700</b>	<b>18.46%</b>
Liabilities:				
Current liabilities	62,962	67,285	(4,323)	-6.42%
Long-term liabilities	860,651	820,815	39,836	4.85%
<b>Total Liabilities</b>	<b>923,613</b>	<b>888,100</b>	<b>35,513</b>	<b>4.00%</b>
Net Position:				
Net investment in capital assets	(29,609)	(5,395)	(24,214)	448.82%
Restricted	13,240	9,999	3,241	32.41%
Unrestricted	(27,467)	(42,127)	14,660	-34.80%
<b>Total Net Position</b>	<b>\$ (43,836)</b>	<b>\$ (37,523)</b>	<b>\$ (6,313)</b>	<b>16.82%</b>

**CONDENSED STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION**

(Dollars expressed in thousands)

	Year Ended December 31,		Variance	
	2017	2016	Dollars	%
Operating revenues	\$ 202,996	\$ 180,727	\$ 22,269	12.32%
Operating expenses:			Increase (Decrease)	
Direct operating	71,156	60,687	10,469	17.25%
Wastewater treatment	75,107	62,125	12,982	20.90%
Reimbursement for City of Pittsburgh services	5,363	7,150	(1,787)	-24.99%
Subsidy of non-customer City residents	5,594	1,974	3,620	183.38%
Depreciation	16,172	16,657	(485)	-2.91%
<b>Total Operating Expenses</b>	<b>173,392</b>	<b>148,593</b>	<b>24,799</b>	<b>16.69%</b>
Operating income	29,604	32,134	(2,530)	-7.87%
Non-operating revenues (expenses):				
Donated property	1,595	981	614	62.59%
Interest revenue	460	383	77	20.10%
Interest expense and other	(37,972)	(35,276)	(2,696)	7.64%
<b>Total Non-operating Revenues (Expenses)</b>	<b>(35,917)</b>	<b>(33,912)</b>	<b>(2,005)</b>	<b>5.91%</b>
<b>Net Income/(Loss)</b>	<b>\$ (6,313)</b>	<b>\$ (1,778)</b>	<b>\$ (4,535)</b>	<b>255.06%</b>

**Financial Condition 2017 and 2016**

The Authority's financial condition in 2017 remained stable for a fifteenth consecutive year. Water utility revenues increased to \$128.5 million from \$113.8 million. The rate increase effective January 2018 as implemented in 2017 should have a positive impact on utility revenue and unrestricted cash. Total cash and cash equivalents stood at \$11.1 million at year-end 2017. Investment interest rates remain historically low, impacting return on reserves invested.

**Requests for Information**

This financial report is designed to provide a general overview of the Authority's finances for all those with an interest in its finances. Questions concerning any of the information provided in this report or requests for additional financial information should be addressed to the Executive Director, Penn Liberty Plaza I, 1200 Penn Ave., Pittsburgh, PA 15222.

# PITTSBURGH WATER AND SEWER AUTHORITY

## STATEMENTS OF NET POSITION

*(Dollars expressed in thousands)*

DECEMBER 31, 2018 AND 2017

	2018	2017
<b>Assets</b>		
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
<b>Total Assets</b>	<b>864,343</b>	<b>766,172</b>
<b>Deferred Outflows of Resources</b>		
Deferred charge on refunding	102,534	110,326
Accumulated decrease in fair value of hedging derivatives	757	3,279
<b>Total Deferred Outflows of Resources</b>	<b>103,291</b>	<b>113,605</b>

(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

(Continued)

	2018	2017
<b>Liabilities</b>		
<hr/>		
Current liabilities:		
Bonds and loans payable	23,400	24,603
Accrued payroll and related obligations	1,373	1,217
Accounts payable wastewater treatment	19,349	17,863
Accounts payable and other accrued expenses	20,911	15,506
Accrued interest payable from restricted assets	4,629	3,773
Total current liabilities	69,662	62,962
Noncurrent liabilities:		
Unearned revenue	143	164
Accrued payroll and related obligations	558	594
Swap liability	13,254	18,319
Bonds and loans payable, net	883,626	841,574
Total noncurrent liabilities	897,581	860,651
<b>Total Liabilities</b>	<b>967,243</b>	<b>923,613</b>
<b>Deferred Inflows of Resources</b>		
<hr/>		
Accumulated increase in fair value of hedging derivatives	4,750	-
<b>Net Position</b>		
<hr/>		
Net investment in capital assets	(14,892)	(29,609)
Restricted	16,388	13,240
Unrestricted	(5,855)	(27,467)
<b>Total Net Position</b>	<b>\$ (4,359)</b>	<b>\$ (43,836)</b>

(Concluded)

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
<b>Operating Revenues:</b>		
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
<b>Operating Expenses:</b>		
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
<b>Operating Income</b>	61,660	29,604
<b>Non-operating Revenues (Expenses):</b>		
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)
<b>Special Item:</b>		
Private lead line replacement	(4,478)	-
<b>Net Income (Loss)</b>	39,477	(6,313)
<b>Net Position:</b>		
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 CASH FLOWS

(Dollars expressed in thousands)

YEARS ENDED DECEMBER 31, 2018 AND 2017

	2018	2017
<b>Cash Flows From Operating Activities:</b>		
Cash received from customers	\$ 236,767	\$ 195,504
Cash paid to suppliers and employees and customer refunds	(68,688)	(71,227)
Cash paid to City of Pittsburgh for reimbursement of services	(4,911)	(5,363)
Cash paid to other water companies for subsidy of customers located in the City of Pittsburgh	(3,814)	(5,594)
Cash paid to ALCOSAN for wastewater treatment	<u>(70,336)</u>	<u>(72,527)</u>
Net cash provided by (used in) operating activities	<u>89,018</u>	<u>40,793</u>
<b>Cash Flows From Investing Activities:</b>		
Purchase of investment securities	(92,905)	(96,126)
Proceeds from sale and maturities of investment securities	94,036	93,117
Interest income	<u>469</u>	<u>460</u>
Net cash provided by (used in) investing activities	<u>1,600</u>	<u>(2,549)</u>
<b>Cash Flows From Capital and Related Financing Activities:</b>		
Purchase/construction of property, plant, and equipment	(70,918)	(27,586)
Private lead line replacements	(4,478)	-
Proceeds from issuance of revenue bonds	-	407,569
Proceeds from revolving line of credit	69,200	32,000
Proceeds from Pennvest Loans	-	988
Payment to refunding bond escrow agent	-	(397,742)
Payment made for bond issuance costs	-	(3,894)
Principal payments on debt	(24,603)	(22,481)
Principal payments on capital lease	(438)	(424)
SWAP receipts	4,430	2,467
SWAP payments	(10,564)	(12,512)
Liquidity and remarketing fees	(307)	(1,456)
Interest paid on borrowings	<u>(21,390)</u>	<u>(19,353)</u>
Net cash provided by (used in) capital and related financing activities	<u>(59,068)</u>	<u>(42,424)</u>
<b>Increase (Decrease) in Cash and Cash Equivalents</b>	<b>31,550</b>	<b>(4,180)</b>
<b>Cash and Cash Equivalents:</b>		
Beginning of year	<u>29,340</u>	<u>33,520</u>
End of year	<u>\$ 60,890</u>	<u>\$ 29,340</u>
Consists of:		
Restricted cash and cash equivalents	\$ 13,970	\$ 18,264
Unrestricted cash and cash equivalents	<u>46,920</u>	<u>11,076</u>
	<u>\$ 60,890</u>	<u>\$ 29,340</u>
<b>Reconciliation of Operating Income to Net Cash Provided by (Used in) Operating Activities:</b>		
Operating income	\$ 61,660	\$ 29,604
Adjustments to reconcile operating income to net cash provided by (used in) operating activities:		
Depreciation	16,894	16,172
Reserve for uncollectible amounts	3,506	(4,236)
Change in:		
Accounts receivable - water and wastewater	(1,543)	1,257
Other accounts receivable	(436)	(277)
Prepaid expenses	154	(609)
Inventory	1,793	(1,559)
Accounts payable wastewater treatment	1,486	2,580
Accounts payable and other accrued expenses	5,405	(2,430)
Accrued payroll and related obligations	120	312
Unearned revenue	<u>(21)</u>	<u>(21)</u>
Net cash provided by (used in) operating activities	<u>\$ 89,018</u>	<u>\$ 40,793</u>
<b>Schedule of Non-Cash Capital and Related Financing Activities:</b>		
Donated property	<u>\$ 13,649</u>	<u>\$ 1,595</u>

The notes to financial statements are an integral part of this statement.

# PITTSBURGH WATER AND SEWER AUTHORITY

## NOTES TO FINANCIAL STATEMENTS

(DOLLARS EXPRESSED IN THOUSANDS UNLESS OTHERWISE INDICATED)

YEARS ENDED DECEMBER 31, 2018 AND 2017

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### 1. Organization

The Pittsburgh Water and Sewer Authority (Authority) provides water to approximately 80,000 residential, commercial, and industrial customers located in the City of Pittsburgh (City), Pennsylvania, and collects wastewater throughout the City.

A Board of Directors (Board) appointed by the Mayor of the City governs the Authority.

The Authority is a body politic and corporate, organized and existing under the Pennsylvania Municipalities Authorities Act. The Authority was established by the City in 1984 to assume responsibility from the City for management, operation, maintenance, and improvement of virtually the entire City water supply, distribution, and wastewater collection systems (the "Water and Wastewater System" or "System"). The Authority's term of existence is through 2045. At inception, the City contributed \$5.3 million to the Authority in the form of customer accounts receivable. The Authority is authorized to issue bonds and notes payable solely from the Authority's revenues.

Prior to April 1, 2018, the Authority had the right to establish user fees and charges without being subject to the approval of any department, board, or agency of Pennsylvania or the City. Effective April 1, 2018, the Public Utility Commission (PUC) began oversight of the Authority. PUC oversight requires compliance and conformity with their established regulations regarding administration, finances, operations, reporting, capital expenditures, and customer service for water and wastewater utilities. The PUC now approves all Authority rates and fees through tariff filings.

### 2. Summary of Significant Accounting Policies

#### Reporting Entity

These financial statements present the financial position, changes in net position, and cash flows of the Authority. The Authority is a component unit of the City in accordance with applicable guidance. The Authority's financial statements are not intended to present the financial position or results of operations of the City taken as a whole.

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# PITTSBURGH WATER AND SEWER AUTHORITY

## NOTES TO FINANCIAL STATEMENTS

(DOLLARS EXPRESSED IN THOUSANDS UNLESS OTHERWISE INDICATED)

YEARS ENDED DECEMBER 31, 2018 AND 2017

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### Basis of Accounting and Measurement Focus

The accompanying financial statements have been prepared using the economic resources measurement focus and the accrual basis of accounting in accordance with accounting principles generally accepted in the United States of America, as prescribed by the Governmental Accounting Standards Board (GASB). Revenues are recorded when earned and expenses are recorded when a liability is incurred, regardless of the timing of related cash flows.

The Authority functions as a Business-Type Activity, as defined by GASB.

### Classification of Net Position

The Authority's net position is classified into three components – net investment in capital assets; restricted; and unrestricted. These classifications are defined as follows:

- Net investment in capital assets – This component of net position consists of capital assets, net of accumulated depreciation, reduced by the outstanding balances of bonds, mortgages, notes, or other borrowings that are attributable to the acquisition, construction, or improvement of those assets. Deferred outflows of resources and deferred inflows of resources that are attributable to the acquisition, construction, or improvement of those assets or related debt are also included in this component of net position. If there are significant unspent related debt proceeds or deferred inflows of resources at the end of the reporting period, the portion of the debt or deferred inflows of resources attributable to the unspent amount is not included in the calculation of net investment in capital assets. Instead, that portion of the debt or deferred inflow of resources is included in the same net position component (restricted or unrestricted) as the unspent amount.
- Restricted – This component of net position consists of restricted assets reduced by liabilities and deferred inflows of resources related to those assets. Generally, a liability relates to restricted assets if the asset results from a resource flow that also results in the recognition of a liability or if the liability will be liquidated with the restricted assets reported.

# PITTSBURGH WATER AND SEWER AUTHORITY

## NOTES TO FINANCIAL STATEMENTS

(DOLLARS EXPRESSED IN THOUSANDS UNLESS OTHERWISE INDICATED)

YEARS ENDED DECEMBER 31, 2018 AND 2017

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- Unrestricted – This component of net position is the net amount of the assets, deferred outflows of resources, liabilities, and deferred inflows of resources that are not included in the determination of net investment in capital assets or the restricted components of net position.

When an expense is incurred that can be paid using either restricted or unrestricted resources, the Authority's policy is to first apply the expense towards restricted resources and then towards unrestricted resources.

### Deposits and Investments

The Authority's cash and cash equivalents are considered to be cash on hand, demand deposits, and all highly liquid investments, both restricted and unrestricted, with maturity of three months or less at date of purchase.

Investments are recorded at fair value. Accordingly, the change in fair value of investments is recognized as an increase or decrease to investment assets and investment income.

### Fair Value Measurements

The Authority categorizes its fair value measurements within the fair value hierarchy established by accounting principles generally accepted in the United States of America. The hierarchy is based on the valuation inputs used to measure the fair value of the asset. Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs; Level 3 inputs are significant unobservable inputs.

### Premiums and Discounts

Original issue bond premiums and discounts are amortized over the life of the related bonds using the straight-line method of amortization, which is materially comparable to the effective interest method. The unamortized balance of premiums and discounts is presented net on the statements of net position as a decrease or increase to bonds payable.

# PITTSBURGH WATER AND SEWER AUTHORITY

## NOTES TO FINANCIAL STATEMENTS

(DOLLARS EXPRESSED IN THOUSANDS UNLESS OTHERWISE INDICATED)

YEARS ENDED DECEMBER 31, 2018 AND 2017

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### Deferred Charge on Refunding

In accordance with applicable guidance, the excess of the reacquisition price over the net carrying amount of refunded debt is recorded as a deferred outflow of resources on the statements of net position and amortized as a component of interest expense over the shorter of the term of the refunding issue or refunded bonds.

### Remarketing, Liquidity, and Letter of Credit Fees

Associated with the Authority's variable rate bonds, the Authority pays various fees to periodically remarket the bonds and to third parties to provide liquidity in the event that the Authority is unable to remarket the variable rate bonds and needs to repurchase the bonds on a temporary basis until they can be later remarketed. These fees are generally paid quarterly and are calculated as a percentage of the outstanding par amount of the variable rate bonds. In December 2017, these fees were eliminated with the Authority's bond refunding structures.

### Capital Assets

Capital assets owned by the Authority are recorded at cost including that portion of deferred interest that is ultimately capitalized. Depreciation of capital assets owned by the Authority is provided on the straight-line method based on the estimated useful lives of the various classes of assets. Utility assets have estimated useful lives ranging from 30 to 70 years. Non-utility assets have estimated useful lives ranging from five to 10 years.

The Authority also receives donated property relating mostly to dedicated water and sewer lines. These assets are capitalized at acquisition value at the date of the donation and depreciated in accordance with the estimated useful lives noted above.

The water and sewer system represents assets leased from the City. Amortization of capital lease assets is provided on the straight-line basis applying an estimated average remaining useful life from the inception of the lease.

Maintenance and repairs are charged to expense as incurred.

# PITTSBURGH WATER AND SEWER AUTHORITY

## NOTES TO FINANCIAL STATEMENTS

(DOLLARS EXPRESSED IN THOUSANDS UNLESS OTHERWISE INDICATED)

YEARS ENDED DECEMBER 31, 2018 AND 2017

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### Deferred Outflows/Inflows of Resources

In addition to assets, the statement of financial position reports a separate section for deferred outflows of resources. This separate financial statement element, deferred outflows of resources, represents a consumption of net position that applies to a future period(s) and so will not be recognized as an outflow of resources (expense) until then.

In addition to liabilities, the statement of financial position will sometimes report a separate section for deferred inflows of resources. This separate financial statement element, deferred inflow of resources, represents an acquisition of net position that applies to a future period(s) and so will not be recognized as an inflow of resources (revenue) until that time.

### Classification of Revenues

The Authority has classified its revenues as either operating or non-operating revenues according to the following criteria:

- Operating revenues – Operating revenues include activities that have the characteristics of exchange transactions, such as residential, commercial, and industrial water sales and wastewater treatment.
- Non-operating revenues – Non-operating revenues include activities that have the characteristics of non-exchange transactions, such as interest income and other revenue sources.

### Compensated Absences

A liability for vacation, personal, and sick days is accrued when related benefits are attributable to services rendered and to the extent it is probable that the Authority will ultimately compensate employees.

### Inventory

Inventory is stated at cost, on a moving average price basis.

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# PITTSBURGH WATER AND SEWER AUTHORITY

## NOTES TO FINANCIAL STATEMENTS

(DOLLARS EXPRESSED IN THOUSANDS UNLESS OTHERWISE INDICATED)

YEARS ENDED DECEMBER 31, 2018 AND 2017

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### Accounts Payable Wastewater Treatment

The Authority has adopted a methodology for recording estimated wastewater treatment accounts payable that assumes a uniform meter reading date for all customers in each cycle. The estimate is based on the portion of wastewater treatment invoices paid after year-end with usage estimated to have occurred during the previous fiscal year. Generally, the methodology assumes either 33%, 66%, or 100% of a cycle remains unbilled at year-end.

### Special Item

The Authority has recorded a special item for private line lead replacements. In accordance with GASB Statement No. 34, a special item is defined as an expenditure within control of management and either unusual or infrequent in occurrence. The Authority has determined that private lead line replacements qualify as a special item.

### Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets, deferred outflows of resources, liabilities, deferred inflows of resources, and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

### Adoption of Accounting Pronouncements

The requirements of the following GASB Statements were adopted for the Authority's 2018 financial statements. The adoption of these pronouncements did not have a significant impact to the Authority's financial statements.

GASB Statement No. 75, *"Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions,"* improves accounting and financial reporting by state and local governments for postemployment benefits other than pensions (other postemployment benefits or OPEB). It also improves information provided by state and local governmental employers about financial support for OPEB that is provided by other entities. The Authority has no OPEBs.

# PITTSBURGH WATER AND SEWER AUTHORITY

## NOTES TO FINANCIAL STATEMENTS

(DOLLARS EXPRESSED IN THOUSANDS UNLESS OTHERWISE INDICATED)

YEARS ENDED DECEMBER 31, 2018 AND 2017

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GASB Statement No. 85, "*Omnibus 2017*," addresses practice issues that have been identified during implementation and application of certain GASB Statements. This Statement addresses a variety of topics including issues related to blending component units, goodwill, fair value measurements and application, and postemployment benefits (pensions and other postemployment benefits (OPEB)).

GASB Statement No. 86, "*Certain Debt Extinguishment Issues*," improves consistency in accounting and financial reporting for in-substance defeasance of debt by providing guidance for transactions in which cash and other monetary assets acquired with only existing resources – resources other than the proceeds of refunding debt – are placed in an irrevocable trust for the sole purpose of extinguishing debt.

### Pending Pronouncements

GASB has issued statements that will become effective in future years, including Statement Nos. 83 (Certain Asset Retirement Obligations), 84 (Fiduciary Activities), 87 (Leases), 88 (Certain Disclosures Related to Debt, including Direct Borrowings and Direct Placements), 89 (Accounting for Interest Cost Incurred before the End of a Construction Period), and 90 (Majority Equity Interest – an amendment of GASB Statements No. 14 and No. 61). Management has not yet determined the impact of these statements on the financial statements.

### **3. Transactions with the City of Pittsburgh**

During July 1995, the City and the Authority entered into a Capital Lease Agreement and a Cooperation Agreement (collectively referred to as the "Agreements").

#### Cooperation Agreement

Under the terms of the Cooperation Agreement, City Water Department employees became employees of the Authority. As a result, the Authority assumed various obligations from the City. The City and the Authority provide various services to each other in accordance with the Cooperation Agreement, and the Authority reimburses the City for direct and indirect costs attributed by the City to the operation and maintenance of the System.

# PITTSBURGH WATER AND SEWER AUTHORITY

## NOTES TO FINANCIAL STATEMENTS

(DOLLARS EXPRESSED IN THOUSANDS UNLESS OTHERWISE INDICATED)

YEARS ENDED DECEMBER 31, 2018 AND 2017

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Under the Agreement, the Authority provides up to 600 million gallons of water annually for the City's use without charge. Also, the Authority assumes the City's obligation for the cost of subsidizing water service to residents of the City situated beyond the Authority's service area so that those water users pay charges that mirror the rates of the Authority.

On February 4, 2019, the Authority's Board issued a resolution that the existing Cooperation Agreement shall be terminated in accordance with the terms of the agreement, 90 days after the approval of the resolution. City and Authority officials are collaborating on a New Cooperation Agreement to further implement efficiencies and improvements, including: permitting the Authority to reimburse the City for pension costs for Authority employees covered by the City's pension plans, allowing the City to charge the Authority the usual rates that other utilities pay for permit fees, and charging the City for water usage, with a five-year phase-in starting in 2020.

### System Leases

The Capital Lease Agreement stipulates minimum lease payments of approximately \$101 million, all of which were satisfied during the initial three years of the capital lease.

The Capital Lease Agreement has a term of thirty years and provides the Authority with the option to purchase the System for one dollar in 2025.

### Pension

Employees of the Authority participate in the City's Municipal Pension Fund Plan (Plan). Employees who became members of the Plan prior to January 1, 1988 are required to contribute 5% of pre-tax pay. Those joining thereafter are required to contribute 4%. The Authority's 2018 and 2017 payroll covered by the Plan was approximately \$15,883 and \$13,800, respectively. Employee contributions for the years 2018 and 2017 amounted to \$614 and \$543, respectively.

The City's obligations relative to the Plan are determined in accordance with various Pennsylvania statutes. The extent of the Authority's participation in such obligations with respect to those former City employees whose membership continued upon becoming employees of the Authority, as well as new members, is determined by the shared interpretation of the City and Authority of the intent of the Cooperation Agreement.

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# PITTSBURGH WATER AND SEWER AUTHORITY

## NOTES TO FINANCIAL STATEMENTS

(DOLLARS EXPRESSED IN THOUSANDS UNLESS OTHERWISE INDICATED)

YEARS ENDED DECEMBER 31, 2018 AND 2017

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During negotiations regarding the New Cooperation Agreement, the City and Authority determined upon a payment of approximately \$3,900 for the Authority's share of the City's pension costs for the year-ended December 31, 2018. The Authority's payment was calculated based on the percentage of its covered payroll to the total covered payroll, which approximates 15.4%. No similar payment to the City was made for the year ended December 31, 2017. However, the 2017 Minimum Municipal Obligation calculated for the City's Plan indicated a 2017 normal cost of \$975 associated with Authority employees that participate in the City's Plan. The Authority estimates that the normal cost for 2017, together with other elements of expense for employee service during 2017, would not exceed the sum of the 2017 contributions made by the Authority and employees.

Normal retirement benefits are available upon attainment of age sixty and completion of twenty service years. Early retirement benefits are available upon attainment of age fifty and completion of eight service years. Early retirement benefits may be deferred until age sixty or may be obtained upon retirement at a reduced level. A member who terminates employment after attaining age forty and completing eight service years can sustain eligibility for benefits by continuing contributions through age fifty. A member who terminates employment after attaining fifteen service years, but has been a member since before January 1, 1975, can be vested by continuing contributions through age fifty.

Retirement benefits for employees who were members of the Plan are based upon a percentage of either three-year or four-year average pay, depending on date of hire, subject to certain specified minimum monthly benefit amounts. Special membership and benefit rules apply to those experiencing disability.

The "net pension liability" is an actuarial present value of credited projected benefits (a standardized measure for financial statement disclosure of the present value of pension benefits, adjusted for the effects of projected salary increases, estimated to be payable in the future by the Plan as a result of members' service to date) less the pension plan's net position available for paying such benefits. The measure is intended to help users assess the Plan's funding status on a going concern basis, assess progress made in accumulating sufficient assets to pay benefits when due, and make comparisons among public employee retirement systems. The Plan has not reported or attributed measurements of assets or the net pension liability on the basis of the group of members who are Authority employees. The City's net pension liability at December 31, 2018 and 2017 is \$233,514 and \$218,567, respectively.

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# PITTSBURGH WATER AND SEWER AUTHORITY

## NOTES TO FINANCIAL STATEMENTS

(DOLLARS EXPRESSED IN THOUSANDS UNLESS OTHERWISE INDICATED)

YEARS ENDED DECEMBER 31, 2018 AND 2017

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Additional information about the Plan and required supplementary information showing the Plan's progress in accumulating sufficient assets to pay benefits when due is presented in the City's Comprehensive Annual Financial Report.

#### **4. Revenue and Accounts Receivable**

##### Water

Water sales revenue is recognized as earned during the period when water is supplied to customers. Customers are billed on a monthly billing cycle by the Authority based on actual or estimated meter readings. The Authority recognizes unbilled accounts receivable for water service provided prior to year-end that is billed during the following year.

Water accounts receivable are presented net of a reserve for uncollectible amounts. This reserve, based on an analytical review of outstanding accounts and historical collection data, is recognized coincident with recognition of revenue. At December 31, 2018 and 2017, the reserve for uncollectible water accounts was approximately \$19.75 million and \$22.01 million, respectively. The Authority has rights to utilize collection agencies, service terminations, liens, and real property sales to protect its interests, limit further losses, and motivate payments from delinquent customers.

##### Wastewater Treatment

Although the Authority does not provide wastewater treatment, it assumed responsibility for certain wastewater treatment revenue and expenses beginning in 1996. Effective May 2004, the Authority began direct billing City residents for current and delinquent wastewater treatment charges and remitting to ALCOSAN the aggregate amount of service charges billed. Wastewater treatment activity and the related assets and liabilities appear on the statements of revenue, expenses and changes in net position and the statements of net position, respectively. The related estimated amount of unbilled accounts receivable at year-end has been recorded on the statement of net position. At December 31, 2018 and 2017, the reserve for uncollectible wastewater accounts was approximately \$10.61 million and \$11.85 million, respectively.

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### Bad Debt Recovery/Expense

For the year ended December 31, 2018, bad debt recoveries of \$3.5 million included in direct operating expenses on the statement of revenues, expenses, and changes in net position relate in part to collection on City-owned accounts negotiated to be payable and the resolution of large outstanding balances from other local government entities. Bad debt expense for the year ended December 31, 2017 was \$4.2 million.

## 5. Capital Assets

Capital assets consisted of the following at December 31, 2018 and 2017:

	Balance at January 1, 2018	Additions	Reclassifications/ Transfers	Balance at December 31, 2018
Capital assets, not being depreciated:				
Construction in progress	\$ 100,240	\$ 84,567	\$ (45,504)	\$ 139,303
Capital assets, being depreciated:				
Utility assets	875,597	44,402	-	919,999
Non-utility assets	22,717	1,102	-	23,819
Total capital assets, being depreciated	898,314	45,504	-	943,818
Less accumulated depreciation	(308,747)	(16,894)	-	(325,641)
Total capital assets, being depreciated, net	589,567	28,610	-	618,177
Total capital assets	\$ 689,807	\$ 113,177	\$ (45,504)	\$ 757,480

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	Balance at January 1, 2017	Additions	Reclassifications/ Transfers	Balance at December 31, 2017
Capital assets, not being depreciated:				
Construction in progress	\$ 88,861	\$ 29,181	\$ (17,802)	\$ 100,240
Capital assets, being depreciated:				
Utility assets	858,169	17,428	-	875,597
Non-utility assets	22,343	374	-	22,717
Total capital assets, being depreciated	880,512	17,802	-	898,314
Less accumulated depreciation	(292,575)	(16,172)	-	(308,747)
Total capital assets, being depreciated, net	587,937	1,630	-	589,567
Total capital assets	<u>\$ 676,798</u>	<u>\$ 30,811</u>	<u>\$ (17,802)</u>	<u>\$ 689,807</u>

During 2018 and 2017, the Authority received donated utility assets of \$13,649 and \$1,595, respectively, related to various development projects.

## 6. Payroll and Related Obligations

Payroll and related obligations presented on the statements of net position are comprised of:

	Balance at December 31, 2017	Change	Balance at December 31, 2018	Current Portion
Compensated absences	\$ 462	\$ (6)	\$ 456	\$ 55
Workers' compensation	200	(33)	167	10
Payroll, withholdings, and taxes	1,149	159	1,308	1,308
	<u>\$ 1,811</u>	<u>\$ 120</u>	<u>\$ 1,931</u>	<u>\$ 1,373</u>

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	Balance at December 31, 2016	Change	Balance at December 31, 2017	Current Portion
Compensated absences	\$ 429	\$ 33	\$ 462	\$ 58
Workers' compensation	219	(19)	200	10
Payroll, withholdings, and taxes	851	298	1,149	1,149
	<u>\$ 1,499</u>	<u>\$ 312</u>	<u>\$ 1,811</u>	<u>\$ 1,217</u>

## 7. Bonds and Loans Payable

### Series 1998

In March 1998, the Authority issued \$36,440 Series B First Lien Revenue Bonds ("1998 Series B Bonds"), the proceeds of which are dedicated to a capital improvements program.

The 1998 Series B Bonds are capital appreciation bonds with an original issuance amount of \$36,440. During 2017, \$12,406 (par) of the 1998 Series B Bonds with an accreted value of \$34,625 were refunded with the Series 2017 A bonds. The remaining 1998 Series B Bonds have maturity values ranging from \$14.6 million to \$26.9 million from 2027 to 2030. The bonds were issued to yield rates from 5.18% to 5.3%. The 1998 Series B Bonds accrue and compound interest on a semi-annual basis and are carried at cost plus accrued interest. Total maturity value of the 1998 Series B Bonds is \$95.45 million.

The 1998B Bonds at December 31, 2018 and 2017 have carrying amounts of approximately \$56.8 million and \$53.9 million, respectively.

### Series 2008

During June 2008, the Authority issued \$320,515 Series 2008 Water and Sewer System First Lien Revenue Bonds ("2008 Variable Rate Demand Bonds"): \$145,495 Series B of 2008 (variable rate demand), \$51,910 Series C-1 of 2008 (variable rate demand), \$51,885 Series C-2 of 2008 (variable rate demand), and \$71,225 Series D-2 of 2008 (variable rate demand). The purpose of this bond issue was to currently refund the Series 1998A and Series 1998C, to currently refund certain maturities of the Series 2007 B-1 and Series 2007 B-2 Bonds, to



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advance refund certain maturities of the Series 1998B Bonds, to fund approximately \$98 million of certain capital additions, to fund the premium for the Bond Insurance Policy securing payments on 2008 Variable Rate Demand Bonds, and to fund termination payments on certain interest rate swaps. During 2017, the 2008 Series B Bonds were currently refunded and the 2008 Series D-1 Bonds were advance refunded with the Series 2017 Bonds.

In connection with these advance refundings, portions of the proceeds of the 2008 Bonds were deposited into irrevocable trusts with an escrow agent to provide for certain debt service payments on the refunded bonds.

The maturity value of defeased 1998B compound interest bonds outstanding at December 31, 2018 and 2017 was \$19,800.

The 2008 Series C Bonds (2008 Variable Rate Bonds) as originally offered bear interest at a variable rate with interest payments due on the first business day of each month. Interest rates are reset weekly; the fluctuating rate per annum to be determined by the respective remarketing agents. The weekly rate is subject to a cap of 12% per annum.

As of September 1, 2015, the C-1-D bonds were converted to the LIBOR-based interest rate mode. At December 31, 2018 and 2017, the interest rate was 2.87% and 1.56%, respectively.

During September 2013, the 2008 Series C-1A, B and C bonds were converted and reoffered. The bonds were converted to index interest rate mode. The reoffered bonds are as follows: Series C1-A \$10,000,000; Series C1-B \$10,000,000; and Series C1-C \$5,000,000.

During November 2014, the 2008 Series C-1A, B, C, and C-2 were reissued and restructured to bear interest based upon 70% of one-month LIBOR. The fixed rate paid on the swaps by the Authority was amended from 3.998% to 3.50%.

Variable Rate Bonds are subject to optional redemption, in whole or in part, on any date, at the option of the Authority. The 2008 Series C Bonds that mature on September 1 of 2035 are subject to mandatory sinking fund redemption.

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The 2008 Series Bonds are subject to extraordinary redemption prior to maturity at the option of the Authority in the event of a condemnation, damage, or destruction of the water and sewer system.

The 2008 Series C-1 and C-2 Bonds at December 31, 2018 and 2017 have carrying amounts of approximately \$104 million.

In conjunction with the issuance of the 2008 Variable Rate Bonds, the Authority entered into various pay fixed/receive variable interest rate swaps to effectively change the Bonds' variable interest rates to synthetic fixed rates. These swap transactions are discussed in Note 8: Interest Rate Swaps.

### Series 2013

During December 2013, the Authority issued \$130,215 Series A First Lien Revenue Refunding Bonds ("2013 Series A Bonds"), the proceeds of which were used to defease through current refunding the entire balance of the Series 2003, Series 2007 B-1, and Series 2007 B-2 and pay certain amounts in respect of termination of certain interest rate swap agreement related to the Series 2007 B-1 and B-2 bonds; \$86,695 Series B First Lien Revenue Bonds ("2013 Series B Bonds"), the proceeds of which are to fund certain water and sewer system capital improvement projects and reimburse the Authority for certain capital expenditures paid for by the Authority.

The 2013 Bonds were issued at a bond premium of \$14,828, which is being amortized as an adjustment to interest expense over the life of the bonds.

During 2017, \$42,340 of Series 2013 B bonds outstanding were currently refunded with Series 2017 A bonds.

The 2013 Bonds at December 31, 2018 and 2017 have carrying amounts of approximately \$125 million and \$133 million, respectively.

### Series 2017

During December 2017, the Authority issued \$165,390 First Lien Revenue Refunding Bonds composed of Series A (159,795) and Series B (taxable) (\$5,595). The proceeds of the bonds were used to fund the costs of the refunding of all or a portion of the Authority's

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outstanding Series of 1998B, 2008A, 2008D-1, and 2013B water and sewer system revenue bonds.

The 2017 A and B Bonds were issued at a bond premium of \$23,374, which is being amortized as an adjustment to interest expense over the life of the bonds.

The 2017 A Bonds at December 31, 2018 and 2017 have carrying amounts of approximately \$152 million and \$160 million, respectively. The 2017 B Bonds were paid off during 2018; the carrying amount at December 31, 2017 was approximately \$5 million. The maturity value of defeased 2008-D1 bonds outstanding at December 31, 2017 was \$24,665.

During December 2017, the Authority issued \$218,805 Series C First Lien Revenue Refunding Bonds, the proceeds of which were used to fund the costs of refunding the Authority's outstanding Series 2008 B-1, B-2, and D-2 water and sewer system revenue bonds.

The 2017 C Bonds at December 31, 2018 and 2017 have a carrying amount of approximately \$219 million.

### Deferred Charge on Refunding

In conjunction with the debt refundings described above, the Authority has recorded a deferred charge on refunding, which is shown as a deferred outflow of resources on the statements of net position. The deferred charge on refunding at December 31, 2018 and 2017 is as follows:

	Balance at December 31, 2017	Additions	Amortization	Balance at December 31, 2018
Deferred charge on refunding	\$ 110,326	\$ -	\$ 7,792	\$ 102,534

  

	Balance at December 31, 2016	Additions	Amortization	Balance at December 31, 2017
Deferred charge on refunding	\$ 25,008	\$ 98,931	\$ 13,613	\$ 110,326

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### Capital Revolving Line of Credit

In July 2016, the Authority obtained an \$80 million revolving line of credit to finance certain capital projects. In October 2018, the capital revolving line of credit was amended to increase the maximum amount that can be drawn and outstanding at any one time to \$150 million. The capital revolving line of credit is secured by the revenues of the Authority. The Authority has until July 1, 2020 to request revolving advances on the line of credit, at which time the Authority has the option to convert the unpaid principal amount of the outstanding revolving advances to a term loan advance. Each revolving advance bears interest at the LIBOR Index Rate, which ranged from 2.04% to 3.429% and 1.4958% to 2.04% for the years ended December 31, 2018 and 2017, respectively. At December 31, 2018 and 2017, the interest rate was 3.429% and 2.04%, respectively. At December 31, 2018 and 2017, the Authority had drawn \$113 million and \$43.8 million, respectively, in revolving advances.

### Operating Line of Credit

In August 2018, the Authority obtained a \$20 million revolving line of credit for operating expenses. The operating line of credit expires August 30, 2019 and is secured by the revenues of the Authority. Amounts outstanding under the operating line of credit will bear interest at a rate per annum equal to the daily LIBOR rate plus 0.65%. No draws were made on the operating line of credit during 2018.

### State Loans

The Authority has several loans outstanding from PENNVEST for various capital projects and water and sewer improvement projects, with carrying amounts of approximately \$28 million and \$31 million at December 31, 2018 and 2017, respectively. Interest rates vary from 1.00% to 3.25%.

### Capital Lease

During 2015, the Authority entered into a lease agreement as lessee for financing the acquisition of a utility assets valued at \$7,445. The utility assets have a ten-year estimated useful life. Depreciation on the utility assets began in 2016, with accumulated depreciation totaling \$2,234 and \$1,489 for the years ended December 31, 2018 and 2017, respectively. This lease agreement qualifies as a capital lease for accounting purposes and, therefore, has

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been recorded at the value of future minimum lease payments as of the inception date. At December 31, 2018 and 2017, the outstanding balance of the capital lease was \$5,893 and \$6,331, respectively.

### Swap Borrowing

During November 2014, the Authority terminated the original 2008 Series 2008 C-1A, C-1B, C-1C, and C-2 swaps and reissued and restructured the swaps to bear interest based upon 70% of one-month LIBOR. At termination, those derivative instruments had an aggregate fair value of (\$9,471), which is considered a swap borrowing from the counterparty. The swap borrowing is being amortized over the remaining life of the bond. At December 31, 2018 and 2017, the unamortized balance is \$7,587 and \$8,038, respectively.

During December 2017, the Authority terminated the original 2008 Series B-1, B-2, and D swaps and reissued and restructured the swaps to bear interest based upon 70% of one-month LIBOR. At termination, those derivative instruments had an aggregate fair value of (\$70,869), which is considered a swap borrowing from the counterparty. The swap borrowing is being amortized over the remaining life of the bond. At December 31, 2018 and 2017, the unamortized balance is \$67,649 and \$70,393, respectively.

Bonds, state loans payable, revolving line of credit, capital lease, and swap borrowing consisted of the following at December 31, 2018 and 2017:

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	Balance at December 31, 2017	Additions	Accretion	Reductions	Balance at December 31, 2018
Bonds and loans payable:					
Revenue bonds:					
1998 Series B	\$ 53,911	\$ -	\$ 2,912	\$ -	\$ 56,823
2008 Series C-2	51,820	-	-	-	51,820
2008 Series C-1A	10,000	-	-	-	10,000
2008 Series C-1B	10,000	-	-	-	10,000
2008 Series C-1C	5,000	-	-	-	5,000
2008 series C-1D	26,840	-	-	-	26,840
2013 Series A	93,825	-	-	(7,705)	86,120
2013 Series B	38,760	-	-	-	38,760
2017 Series A	159,795	-	-	(7,925)	151,870
2017 Series B	5,595	-	-	(5,595)	-
2017 Series C	218,805	-	-	-	218,805
	<u>674,351</u>	<u>-</u>	<u>2,912</u>	<u>(21,225)</u>	<u>656,038</u>
State loans (PENNVEST)	31,188	-	-	(3,378)	27,810
Revolving line of credit	43,800	69,200	-	-	113,000
Capital lease	6,331	-	-	(438)	5,893
Swap borrowing	78,431	-	-	(3,195)	75,236
	<u>834,101</u>	<u>69,200</u>	<u>2,912</u>	<u>(28,236)</u>	<u>877,977</u>
Unamortized bond (discount) premium	32,076	-	-	(3,027)	29,049
Total bonds and loans, net	<u>\$ 866,177</u>	<u>\$ 69,200</u>	<u>\$ 2,912</u>	<u>\$ (31,263)</u>	<u>\$ 907,026</u>

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	Balance at December 31, 2016	Additions	Accretion	Reductions	Balance at December 31, 2017
Bonds and loans payable:					
Revenue bonds:					
1998 Series B	\$ 85,513	\$ -	\$ 4,150	\$ (35,752)	\$ 53,911
2007 Series A	5,480	-	-	(5,480)	-
2008 Series A	68,970	-	-	(68,970)	-
2008 Series B-1	72,750	-	-	(72,750)	-
2008 Series B-2	72,745	-	-	(72,745)	-
2008 Series D-1	24,665	-	-	(24,665)	-
2008 Series D-2	71,225	-	-	(71,225)	-
2008 Series C-2	51,820	-	-	-	51,820
2008 Series C-1A	10,000	-	-	-	10,000
2008 Series C-1B	10,000	-	-	-	10,000
2008 Series C-1C	5,000	-	-	-	5,000
2008 Series C-1D	26,840	-	-	-	26,840
2013 Series A	95,285	-	-	(1,460)	93,825
2013 Series B	83,020	-	-	(44,260)	38,760
2017 Series A	-	159,795	-	-	159,795
2017 Series B	-	5,595	-	-	5,595
2017 Series C	-	218,805	-	-	218,805
	<u>683,313</u>	<u>384,195</u>	<u>4,150</u>	<u>(397,307)</u>	<u>674,351</u>
State loans (PENNVEST)	33,516	988	-	(3,316)	31,188
Revolving line of credit	11,800	32,000	-	-	43,800
Capital lease	6,755	-	-	(424)	6,331
Swap borrowing	8,479	70,869	-	(917)	78,431
	<u>743,863</u>	<u>488,052</u>	<u>4,150</u>	<u>(401,964)</u>	<u>834,101</u>
Unamortized bond (discount) premium	11,912	23,374	-	(3,210)	32,076
Total bonds and loans, net	<u>\$ 755,775</u>	<u>\$ 511,426</u>	<u>\$ 4,150</u>	<u>\$ (405,174)</u>	<u>\$ 866,177</u>

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Debt service payments on the Revenue Bonds at December 31, 2018 are as follows:

	Revenue Bonds		
	Principal	Interest	Total
2019	\$ 19,955	\$ 26,471	\$ 46,426
2020	21,005	25,507	46,512
2021	21,840	24,455	46,295
2022	22,890	23,358	46,248
2023	24,110	22,209	46,319
2024-2028	98,068	136,085	234,153
2029-2033	125,222	109,233	234,455
2034-2038	194,930	41,622	236,552
2039-2040	90,341	5,459	95,800
	618,361	414,399	1,032,760
Accretion	37,677	(37,677)	-
Total	<u>\$ 656,038</u>	<u>\$ 376,722</u>	<u>\$ 1,032,760</u>

Debt service payments of the State Loans at December 31, 2018 are as follows:

	State Loans		
	Principal	Interest	Total
2019	\$ 3,443	\$ 514	\$ 3,957
2020	3,509	447	3,956
2021	3,578	379	3,957
2022	3,607	309	3,916
2023	2,980	244	3,224
2024-2028	8,366	656	9,022
2029-2033	2,327	62	2,389
	<u>\$ 27,810</u>	<u>\$ 2,611</u>	<u>\$ 30,421</u>

Repayment of the revolving line of credit will begin once the Authority has drawn all available advances from the line, but no later than July 2020.



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Minimum lease payments of the capital lease at December 31, 2018 are as follows:

	Capital Lease		Total
	Principal	Interest	
2019	\$ 454	\$ 193	\$ 647
2020	469	178	647
2021	485	161	646
2022	502	145	647
2023	520	127	647
2024-2028	2,880	355	3,235
2029	583	10	593
	<u>\$ 5,893</u>	<u>\$ 1,169</u>	<u>\$ 7,062</u>

Amortization on the swap borrowing is as follows:

Year Ending December 31,	Principal	Interest
2019	\$ 3,273	\$ 1,813
2020	3,353	1,733
2021	3,435	1,652
2022	3,518	1,568
2023	3,604	1,482
2024-2028	19,381	6,049
2029-2033	21,240	3,577
2034-2038	15,800	1,130
2039-2040	1,632	36
	<u>\$ 75,236</u>	<u>\$ 19,040</u>

Interest payments were calculated for the Variable Rate Bonds using the synthetic fixed rate interest rates as described in Note 8.

# PITTSBURGH WATER AND SEWER AUTHORITY

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Interest and amortization expense for the years ended December 31 is as follows:

	<u>2018</u>	<u>2017</u>
Bond, loan and swap interest	\$ 24,327	\$ 27,243
Accretion	2,912	4,150
Amortization of deferred refunding loss, discounts and premiums	4,765	1,065
Liquidity and remarketing fees	-	1,483
Other	2,361	972
	<u>\$ 34,365</u>	<u>\$ 34,913</u>

In accordance with the provisions of the trust indentures for the 1998, 2007A, 2008, 2013, and 2017 Bonds, the Authority has created a number of funds that are restricted for specific purposes. The complement of these restricted funds, collectively referred to on the statements of net position as "Restricted Assets," at December 31, 2018 and 2017 was:

	<u>2018</u>	<u>2017</u>
Capital project funds	\$ 1	\$ 1
Debt service and reserve funds	6,937	16,707
Operating reserve account	15,792	12,654
Other funds	596	586
	<u>\$ 23,326</u>	<u>\$ 29,948</u>

Among the Authority's debt covenants is one which requires that rates charged by the Authority will be sufficient to satisfy a formula which is intended to ensure that the Authority will be able to satisfy debt service requirements. The trust indenture also requires that revenue collections be deposited into a Revenue Fund and disbursed therefrom as provided for in the trust indenture. This Revenue Fund constitutes the vast majority of unrestricted funds cash and cash equivalents. At December 31, 2018 and 2017, the Authority was in compliance with these covenants.

# PITTSBURGH WATER AND SEWER AUTHORITY

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### 8. Interest Rate Swaps

Interest rate swaps disclosures (not in thousands) as of December 31, 2018 and 2017 are presented below.

Interest rate swaps at December 31, 2018:

Current Notional Amount	Effective Date	Maturity Date	Interest Rate Paid	Interest Rate Received	Counterparty Credit Rating	Underlying Bonds
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#### Hedging Derivatives, Cash Flow Hedges, Receive Variable - Pay Fixed, Interest Rate Swaps:

\$ 72,747,500	12/28/2017	9/1/2039	1.732%	70% 1mo LIBOR	A-	Series 2017 C *
41,464,000	11/3/2014	9/1/2035	2.000%	70% 1mo LIBOR	A-	Series 2008 C *
72,747,500	12/28/2017	9/1/2039	1.732%	70% 1mo LIBOR	A+	Series 2017 C *
71,225,000	12/28/2017	9/1/2040	1.735%	70% 1mo LIBOR	A+	Series 2017 C *

#### Investment Derivatives, Receive Variable - Pay Fixed, Interest Rate Swap:

62,196,000	11/3/2014	9/1/2035	3.500%	70% 1mo LIBOR	A+	Series 2008 C
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\* - Represents a hybrid instrument comprised of an on-market swap and a borrowing. The information above reflects the on-market rate as of the date on which the swap was associated with the underlying bonds.

# PITTSBURGH WATER AND SEWER AUTHORITY

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### Interest Rate Swap – Fair Value Information:

Notional Amount	12/31/2016 Fair Value *	Change in Fair Value	Swap Termination Loss	12/31/2017 Fair Value *	Change in Fair Value	12/31/2018 Fair Value *	Underlying Bonds
<b>Hedging Derivatives, Cash Flow Hedges, Receive Variable - Pay Fixed, Interest Rate Swaps:</b>							
\$ 72,747,500	\$ (22,398,125)	\$ (586,521)	\$ (22,984,646)	\$ -	\$ -	\$ -	Series 2008 B-1
72,747,500	-	(484,501)	-	(484,501) ***	2,021,053	1,536,552 **	Series 2017 C
41,464,000	(1,935,072)	100,932	-	(1,834,140) ***	1,077,156	(756,984) ***	Series 2008 C
72,747,500	(22,398,125)	(435,294)	(22,833,419)	-	-	-	Series 2008 B-2
72,747,500	-	(484,501)	-	(484,501) ***	2,020,053	1,535,552 **	Series 2017 C
71,225,000	(24,165,415)	(885,464)	(25,050,879)	-	-	-	Series 2008 D
71,225,000	-	(475,904)	-	(475,904) ***	2,154,251	1,678,347 **	Series 2017 C
	(70,896,737)	(3,251,253)	(70,868,944)	(3,279,046)	7,272,513	3,993,467	
<b>Investment Derivatives, Receive Variable - Pay Fixed, Interest Rate Swap:</b>							
62,196,000	(15,874,882)	835,346	-	(15,039,536) ***	2,542,135	(12,497,401) ***	Series 2008 C
Total	\$ (86,771,619)	\$ (2,415,907)	\$ (70,868,944)	\$ (18,318,582)	\$ 9,814,648	\$ (8,503,934)	

\* The fair value is an estimated net present value of the expected cash flows calculated using relevant mid-market data inputs and based on the assumption of no unusual market conditions or forced liquidation.

\*\* Reported as hedging derivative - interest rate swap on the Statement of Net Position.

\*\*\* Reported as swap liability on the Statement of Net Position.

### Description of the Swaps

During fiscal year 2008, the Authority entered into five pay-fixed, receive-variable interest rate swap contracts. The 2008 C interest rate swaps were effective June 12, 2008. Beginning September 1, 2008, the Authority began to make semi-annual interest payments on the 1<sup>st</sup> of each March and September through September 1, 2035 (two swaps); September 1, 2039 (two swaps); and, September 1, 2040 (for one swap), respectively. The Counterparties make monthly interest payments on the 1<sup>st</sup> of each calendar month, which began July 1, 2008 through September 1, 2035 for two of the swaps; September 1, 2039 for two of the swaps; and September 1, 2040 for one swap.

# PITTSBURGH WATER AND SEWER AUTHORITY

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The intention of the 2008 swaps was to effectively change the Authority's variable interest rate on the \$145,495 Water and Sewer System (Variable Rate Demand) First Lien Revenue Refunding Bonds Series B of 2008, on the \$71,225 Water and Sewer System (Variable Rate Demand) First Lien Revenue Bonds Series D-2 of 2008, and on the \$103,795 Water and Sewer System (Variable Rate Demand) Subordinate Revenue Refunding Bonds Series C of 2008 (the bonds) to synthetic fixed rates of 4.038%, 4.103%, and 3.998%, respectively.

During November 2014, the 2008 Series C Bonds were reissued and restructured to bear interest based upon 70% of one-month LIBOR. In conjunction with this reissuance/restructuring, the floating rate on the Series 2008 C swaps was converted from SIFMA to 70% of one-month LIBOR and the fixed rate was amended from 3.998% to 3.50%. With respect to the Series 2008 C swap treated as an effective hedge, this "off-market" swap is considered to be a hybrid instrument consisting of an on-market swap and a borrowing. The on-market swap rate is calculated as of the date of reissuance. The borrowing will be amortized over the remaining life of the swap and is included in bonds and loans payable on the statement of net position. See Note 7: Bonds and Loans Payable for detail on the borrowing.

The bonds will accrue interest at a weekly rate that is determined by a remarketing agent on each effective rate date. The interest rate on the bonds may not exceed 12%. Per the interest rate swap agreements, the Authority will receive SIFMA Municipal Swap Index while paying fixed rates as noted in the chart above.

The interest payments on the 2008 interest rate swaps are calculated based on notional amounts, all of which reduce, beginning on September 1, 2012 for the 2008 C Bonds, September 1, 2032 for the 2008 D2 Bonds and September 1, 2035 for the 2008 B Bonds, so that the notional amounts approximate the principal outstanding on the respective bonds. The interest rate swaps expire consistent with the final maturity of the respective bonds.

During December 2017, the swaps that were previously associated with the 2008 B-1, 2008 B-2 and 2008D bonds were newly associated with the 2017C refunding Bonds.

### Description of 2017 C Swaps

During fiscal year 2017, the Authority restructured three pay-fixed, receive-variable interest rate swap contracts. The original interest rate swaps were effective June 12, 2008. Beginning December 28, 2017, the Authority will make semi-annual interest payments on

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the 1<sup>st</sup> of each March and September through September 1, 2039 (two swaps); and, September 1, 2040 (for one swap), respectively. The Counterparties make monthly interest payments on the 1<sup>st</sup> of each calendar month, which begin February 2018 through September 1, 2039 for two of the swaps; and, September 1, 2040 for one swap.

The intention of the 2017 swaps restructuring is to effectively change the Authority's variable interest rate on the \$216,720,000, Water and Sewer System First Lien Revenue Refunding Bonds Series C of 2017 with notional amounts of \$71,225,000, \$72,747,500, and \$72,747,500 to fixed rates of 3.8255%, 3.770%, and 3.7835%, respectively.

The bonds will accrue interest at a weekly rate that is determined by a remarketing agent on each effective rate date. The interest rate on the bonds may not exceed 12%. Per the interest rate swap agreements, the Authority will receive 70% of one-month LIBOR.

The interest payments on the interest rate swaps are calculated based on notional amounts, all of which reduce beginning on September 2032, so that the notional amounts approximate the principal outstanding on the respective bonds. The interest rate swaps expire consistent with the final maturity of the respective bonds.

### Accounting and Risk Disclosures

During the years ended December 31, 2018 and 2017, the Authority paid \$10,564 and \$12,512, respectively, fixed and received \$4,430 and \$2,467, respectively, variable related to their outstanding swap agreements.

As noted in the tables above, current period changes in fair value for the interest rate swaps that are accounted for as hedges are recorded on the statements of net position as an adjustment to hedging derivative – interest rate swap, deferred outflows or deferred inflows. Additionally, current period changes in fair value for the interest rate swap accounted for as an investment is recorded on the statements of revenues, expenses, and changes in net position as a component of investment income. The fair value of the outstanding interest rate swaps as of December 31, 2018 and 2017 is reported on the statements of net position as a swap liability. The swaps are valued using significant other observable inputs (Level 2 inputs).

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The Authority has the ability to early terminate the interest rate swaps and to cash settle the transaction on any business day by providing at least two business days' written notice to the counterparty. Evidence that the Authority has sufficient funds available to pay any amount payable to the counterparty must be provided at the time notice is given. At early termination, the Authority will be required to pay or receive a settlement amount which is comprised of the fair value of the terminated transaction(s) based on market quotations and any amounts accrued under the contract(s).

Through the use of derivative instruments such as interest rate swaps, the Authority is exposed to a variety of risks, including credit risk, interest rate risk, termination risk, basis risk, and rollover risk.

- Credit risk is the risk that a counterparty will not fulfill its obligations. The credit ratings by Moody's Investors Service, Inc., a nationally recognized statistical rating organization for the respective counterparties are listed in the table above. If a counterparty failed to perform according to the terms of the interest rate swap agreement, there is some risk of loss to the Authority, up to the fair value of the swaps.

The Authority currently does not enter into master netting arrangements with its counterparties. As such, each derivative instrument should be evaluated on an individual basis for credit risk. As of December 31, 2018, the Series 2008 C derivative instruments currently have a negative fair value position to the Authority; therefore, the Authority is not exposed to credit risk. However, the Series 2017 C derivative instruments were subject to credit risk, as they had a positive fair market value.

Concentration of credit risk: The Authority currently has two counterparties, with three and two outstanding interest rate swaps, respectively. The Authority's outstanding market value as of December 31, 2018 and 2017, respectively, is \$(9,283,582) and \$(15,999,941) with one counterparty and \$779,568 and \$(2,318,641) with the second counterparty. Both counterparties operate in the same markets and could be similarly impacted by changes in economic or other conditions.

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It is the Authority's policy to require counterparty collateral posting provisions in its non-exchange traded derivative instruments. Their terms require collateral to be posted if the respective counterparty's credit rating falls below BBB+ by Standard & Poor's and the swap insurer becomes bankrupt. The amount of collateral to be posted is calculated based on derivatives in asset positions to the Authority. As of year-end, the counterparties had not and were not required to post collateral for these transactions.

- Termination risk is the risk that a derivative's unscheduled end will affect the Authority's asset/liability strategy or will present the Authority with potentially significant unscheduled termination payments to the counterparty. The counterparties to the interest rate swaps do not have the ability to voluntarily terminate the interest rate swap; however, the Authority is exposed to termination risk in the event that one or more of the counterparties default. During 2014, 2008 C swaps were terminated and reissued. During 2017, the 2008 B-1, B-2, and D swaps were terminated and reissued.
- Interest rate risk is the risk that changes in interest rates will adversely affect the fair values of a government's financial instruments or cash flows. The interest rate swap that is accounted for as an investment exposes the Authority to interest rate risk. The interest rate swap is highly sensitive to changes in interest rates; changes in the variable rate will have a material effect on the swap's fair value. The interest rate swap will terminate on September 4, 2035.
- Basis risk is the risk that arises when variable interest rates on a derivative and an associated bond or other interest-paying financial instrument are based on different indexes. The Authority is subject to basis risk on the 2008 C swaps as the interest index on the variable rate arm of the swaps is based on the 70% of one-month LIBOR and the variable interest rate on the bonds is based on a different index, a weekly rate that is determined by a remarketing agent. Although expected to correlate, the relationships between different indexes vary and that variance could adversely affect the Authority's calculated payments, and as a result cost savings or synthetic interest rates may not be realized.



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The Authority is further subject to basis risk in the event that the underlying bonds become fixed rate Bank Bonds or that the maturity of the underlying bonds is accelerated as discussed in Note 7: Bonds and Loans Payable.

- Rollover risk is the risk that a derivative associated with the Authority's debt does not extend to the maturity of that debt. When the derivative terminates, the associated debt will no longer have the benefit of the derivative. The Authority is not exposed to rollover risk as the swap agreements terminate on the same day the last payment is due on the respective bonds.

### Contingencies

All of the Authority's derivative instruments include provisions that require the Authority to post collateral in the event that the credit ratings of its credit support provider's senior long term, unsecured debt credit rating falls below BBB+ by Standard & Poor's and FSA, the swap insurer, becomes bankrupt. The amount of collateral to be posted is calculated based on derivatives in negative fair value positions to the Authority. The collateral is to be posted in the form of cash, U.S. Treasuries or other approved securities. As of year-end, the Authority had not and was not required to post collateral for these transactions.

## **9. Deposits and Investments with Financial Institutions**

The Authority is authorized to invest in: obligations of the U.S. Government and government-sponsored agencies and instrumentalities; fully insured or collateralized certificates of deposits; commercial paper of the highest rating; repurchase agreements collateralized by government obligations or securities; highly rated bank promissory notes or investment funds or trusts; and, as to trustee assets, as otherwise permitted by the trust indenture as supplemented and amended in 1998. Throughout the years ended December 31, 2018 and 2017, the Authority invested its funds in such authorized investments. The Authority does not have a formal investment policy which addresses custodial credit risk, interest rate risk, credit risk, or concentration of credit risk.

GASB Statement No. 40, "*Deposit and Investment Risk Disclosures*," requires disclosures related to the following deposit and investment risks: credit risk (including custodial credit risk and concentration of credit risk), interest rate risk, and foreign currency risk. The following is a description of the Authority's deposit and investment risks:

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Custodial Credit Risk – Custodial credit risk is the risk that in the event of a bank failure, the Authority’s deposits may not be returned to it. As of December 31, 2018 and 2017, \$51,969 and \$17,874, respectively, of the Authority’s bank balance of \$52,219 and \$18,124, respectively, was exposed to custodial credit risk; \$51,969 and \$17,874 of these amounts exposed to custodial credit risk are collateralized in accordance with Act 72 of the Pennsylvania state legislature, which requires the institution to pool collateral for all governmental deposits and have the collateral held by an approved custodian in the institution’s name. These deposits have carrying amounts of \$46,920 and \$11,076 as of December 31, 2018 and 2017, respectively, all of which is reported as current assets in the statements of net position.

At December 31, 2018, the Authority held the following investment balances:

	Carrying value	Maturity in years Less than 1 year
PA INVEST	\$ 8,761	\$ 8,761
Money market	13,970	13,970
U.S. Treasury bills	595	595
Total Investments	\$ 23,326	\$ 23,326

At December 31, 2017, the Authority held the following investment balances:

	Carrying value	Maturity in years Less than 1 year
PA INVEST	\$ 8,649	\$ 8,649
Money market	18,264	18,264
U.S. Treasury bills	3,035	3,035
Total Investments	\$ 29,948	\$ 29,948

Money market funds are included in cash and cash equivalents as non-current restricted assets on the statements of net position.

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The carrying value of the Authority's investments is the same as their fair value amount. U.S. Treasury bills are valued using quoted market prices (Level 1 inputs).

The Authority's investments in money markets and PA INVEST (external investment pool) are the same as the value of the pool shares and are reported at amortized cost, which approximates market. All investments in an external investment pool that are not SEC-registered are subject to oversight by the Commonwealth. The Authority can withdraw funds from INVEST without limitations or fees.

Interest Rate Risk – Interest rate risk is the risk that changes in the interest rates will adversely affect the fair value of the Authority's investments. The Authority is not subject to interest rate risk, as all of its investments at December 31, 2018 and 2017 had maturities of less than one year.

Credit Risk – Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligation. As of December 31, 2018, the Authority's investments in PA INVEST were rated AAAm by Standard & Poor's. The Authority's investments in U.S. Treasury bills at December 31, 2018 were rated AA+ by Standard & Poor's.

Concentration of Credit Risk – Concentration of credit risk is the risk of loss attributed to the magnitude of a government's investments in a single issuer. The Authority places no limit on the amount it may invest in any one issuer. The Authority has no investments of greater than 5% with one issuer.

As further described in Note 8, the Authority has a derivative instrument that is accounted for as an investment. Credit and interest rate risks related to this investment are described in Note 8.

# PITTSBURGH WATER AND SEWER AUTHORITY

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### 10. Net Position

Net position represents the difference between assets, deferred outflows of resources, and liabilities. An analysis of net position amounts is as follows:

	December 31,	
	2018	2017
Net investment in capital assets:		
Net property, plant, and equipment	\$ 757,480	\$ 689,807
Debt subject to capital improvements	(794,111)	(752,979)
Swap liability net of deferred outflow and inflow	(12,497)	(15,040)
Swap borrowing	(75,236)	(78,431)
Deferred charge on refunding	102,534	110,326
Restricted for capital activity and debt service:		
Capital projects	1	1
Debt service and reserve funds	6,937	16,707
	<u>(14,892)</u>	<u>(29,609)</u>
Restricted assets:		
Operating reserve account	15,792	12,654
Other funds	596	586
	<u>16,388</u>	<u>13,240</u>
Unrestricted	<u>(5,855)</u>	<u>(27,467)</u>
Total net position	<u>\$ (4,359)</u>	<u>\$ (43,836)</u>

### 11. Operating Lease

#### Operating Lease

The Authority leases office space. The term of the lease is for twenty years commencing on August 1, 2007 and ending on July 31, 2027. The lease is subject to an automatic roll-over for five years, if the Authority does not communicate in writing one year prior to expiration that it desires not to extend the lease. The general terms of the lease require the lessor to provide for utilities, building repairs, maintenance, and real estate taxes.

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The total minimum future commitments under the lease for year ended December 31, 2018 are as follows:

2019	\$	815
2020		815
2021		815
2022		823
2023		844
2024-2027		<u>3,164</u>
	\$	<u>7,276</u>

The total annual rental for office space was approximately \$707 and \$660 for 2018 and 2017, respectively.

## 12. Commitments and Contingencies

The Authority is proceeding with a capital improvement program which the Authority's independent engineer has estimated will entail expenditure of the existing construction funds and potential future bond issues.

The Authority was insured for general liability coverage through 2001; however, effective January 1, 2002, it became self-insured. In previous years, the Authority established a fund to pay for deductibles, small claims, and other litigation costs. At year-end, the balance in this fund was approximately \$596. This fund is grouped with "Restricted Assets" on the statements of net position. During 2018 and 2017, the Authority paid \$0 from this fund for claims.

In addition to the matters discussed below and in Note 13, Consent Agreement, various other claims and lawsuits are pending against the Authority.

### Attorney General Criminal Complaint

On September 6, 2017, the Authority self-reported violations of the Safe Drinking Water Act, dating back to July of 2016, to the Pennsylvania Department of Environmental Protection (PADEP). The Authority failed to provide at least 45-day notice prior to

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# PITTSBURGH WATER AND SEWER AUTHORITY

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commencing partial water line replacements to affected residents and failed to collect representative water samples from residences within 72 hours of completion of the partial water line replacements.

On November 17, 2017, the Authority and the PADEP entered into a voluntary Consent Order and Agreement in full satisfaction of these violations whereby the Authority paid the PADEP a fine of \$2,400,000, with \$1,800,000 of the fine designated for the Authority to perform a Community Environmental Project acceptable to the PADEP. The fine was paid, and the Community Environmental Project was designated and approved by the PADEP as a grant to assist low income homeowners in the Authority's service system in their replacement of privately-owned lead service lines on their property.

At some point after the Authority self-reported these violations to the PADEP, the PADEP referred the matter to the PA Attorney General's Office for investigation of potential criminal liability. After investigation, the PA Attorney General's Office concluded that no individuals were criminally liable for any of the violations of the Safe Drinking Water Act.

However, on February 1, 2019, the PA Attorney General's Office filed a criminal complaint against the Authority as a corporation. The complaint alleged the same self-reported violations, the same type of monetary penalties, and the same suggested type of Community Environmental Project as the Authority already paid under the voluntary Consent Order and Agreement dated November 17, 2017.

The Authority is contesting these duplicative charges and penalties.

### Lead Mitigation

The Authority has implemented a number of critical initiatives to comply with the lead service line replacement consent order, and other requirements mandated by the PADEP. These initiatives include: (1) a lead service line identification program to be completed by 2020 for residential properties and 2022 for commercial properties, (2) a water treatment program to mitigate lead corrosion so as to comply with current water quality standards, and (3) a lead service line replacement program. These requirements are stipulated in the PADEP consent order with the City of Pittsburgh and the Authority dated November 2017.

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# PITTSBURGH WATER AND SEWER AUTHORITY

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*Lead Service Line Identification Program:* The lead service line identification program determines the materials of manufacture for each existing water service line in the Authority's system. The first phase of that program was completed with the digitization of existing records, which is currently available to the public via the Authority's website. The second phase has been a video inspection of accessible service lines to evaluate the materials of manufacture. This phase requires intensive field inspections which are catalogued and stored in a geographical information system. These records are made publicly available on the Authority's website as soon as possible, but no more than 120 days after the inspection is completed and accepted by the Authority. The Authority is currently evaluating the feasibility of continuing the video inspection process give the value of the data obtained and will be working with PADEP to reach an alternative solution. The third phase includes identifying service line locations that were unable to be confidently determined using the above methods. The identification program will culminate in a complete digital file and mapping of all service lines within the Authority's service territory.

*Water Treatment:* Chemical treatment testing of orthophosphate application to the Authority's finished water demonstrates rapid mitigation of lead and copper corrosion to levels well below any current federal drinking water standard. This chemical treatment proposal has received final approval from the PADEP; this same chemical treatment has been approved for use in numerous other public water supplies in the United States. On March 29, 2019, the Authority received the necessary PADEP Operating Permit for the recently completed four Orthophosphate Addition and Storage Facilities and commenced the addition of Orthophosphate in 1/3 of the treatment system (Highland No. 2 Distribution Supersystem) on April 1, 2019. The second 1/3 of the system will begin receiving Orthophosphate on April 15, 2019 (Lanpher Distribution Supersystem) and the final 1/3 of the system will begin receiving Orthophosphate on April 29, 2019 (Highland No. 1 Distribution Supersystem). The Authority anticipates that the lead corrosion control treatment will be fully effective in 3 to 6 months, so as to lower lead levels in the Authority's customer lead service lines to acceptable drinking water standards.

*Lead Service Line Replacement:* The Authority was ordered by PADEP to replace 1,341 public owned lead service lines by June 30, 2018 and an additional 7 percent of the public owned lead service lines by December 31, 2018 (a total of about 2,200). By the end of 2018 a total of 2,765 public lead service lines had been replaced. In addition, the Authority is required to continue to replace 7 percent of the initial number of lead service lines in the system (855) until two consecutive 6-month monitoring period sampling events are below the lead action level.

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The Authority closed on a combination of grants and loans through PENNVEST in March 2019 that provides approximately \$49.1 million in funding to continue replacing lead service lines. Construction for the replacement of 3,400 public lead service lines (and corresponding private line and ancillary work) was bid in early 2019 and a total of \$36.3 million in construction and consulting contracts have been awarded to date. Additional construction will be awarded as the project, which started in late March 2019 and is scheduled to be complete in June 2020, progresses. The Authority estimates that there are about 10,000 lead service lines remaining in its water system as of early 2019. Once the chemical treatment has become fully effective, the Authority will begin replacing lead service lines in concert with a water main replacement program. In this manner, the Authority can minimize the overall cost for water main and service line replacements. Most of the remaining lead service lines are connected to the oldest water mains in the system. The Authority intends to implement a small diameter water main program throughout the city to replace the oldest pipes and services at the same time. The Authority will strive to implement this program at the lowest possible cost to the Authority, while addressing those water mains that have the highest likelihood of failure. The Authority's investment in water main replacement will continue unabated to ensure that the Authority can mitigate the amount of annual pipe breaks and minimize the risk of service disruption to its customers.

### Environmental Protection Agency

The Authority has been cooperating with the Environmental Protection Agency ("EPA") in an investigation related to The Authority's Aspinwall Water Treatment Plant. The investigation is ongoing and involves potential violations of the Clean Water Act, Sections 1319(c)(2) and (4) in 2016 and prior years, which could result in penalties.

### Construction Commitments

In January 2019, the Authority awarded \$35.9 million in contracts for lead line replacements.

## **13. Consent Agreement**

The Authority is subject to federal regulation under the Clean Water Act (1977) and regulations adopted under that Act. Among the specific requirements applicable to the Authority's system are those imposed by the United States Environmental Protection

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# PITTSBURGH WATER AND SEWER AUTHORITY

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Agency's Combined Sewer Overflow (CSO) Policy (1994). On January 29, 2004, the Authority and the City of Pittsburgh executed a Consent Order and Agreement (COA) regarding wet weather sewer overflows within the City. The other signatories to the COA are the Pennsylvania Department of Environmental Protection (DEP) and the Allegheny County Health Department (ACHD).

Generally, the COA requires the Authority and the City to assess the City sewers to develop a plan with ALCOSAN to address wet weather sewer overflows within the City. The COA is part of a sewer assessment program for all municipalities served by ALCOSAN. To date, assessment activities have been completed for all accessible critical sewers and separate sanitary sewers with the exception of any additional sewers discovered through continued research and investigation. Ongoing pipe and manhole repairs are being completed to provide CCTV access to remaining inaccessible critical/sanitary sewer pipes. Assessment activities for non-critical sewers are to be completed on a longer schedule. The majority of accessible non-critical manholes have been inspected with ongoing efforts to complete any remaining or newly identified. The required Wet Weather Feasibility Study (WWFS) was submitted to the DEP and ACHD on time in July of 2013. This long-term control plan outlined system-wide improvements, including Green Infrastructure (GI) that the Authority would implement over the next 20 years.

As this COA with the DEP expired in March 2015, the U.S. Environmental Protection Agency (USEPA) became the main regulatory body to which the Authority is responsible. On January 21, 2016 the USEPA issued a Clean Water Act Section 308 Information Request to the Authority. The nature of the request is to provide a jurisdictional basis for USEPA to engage the Authority/City in an enforcement action by consent, or a Consent Decree (CD). The Authority intends that through such an action, it can more fully participate in the implementation of interim regional wet weather activities, controls, and improvements. The Authority further understands that such an action will also permit the Authority/City to participate more fully in the identification and implementation of any final wet weather control measures for the region. The USEPA 308 request requires the Authority to submit detailed information on past CSO performance and activities. It also requires the Authority to conduct a source reduction analysis for the entire service area, followed by GI demonstration projects completed in December 2017. The results of the analysis and demonstration projects will be used to determine the details in the final consent decree.

In addition to the assessment, the USEPA 308 request requires the Authority and the City to continue implementing the Nine Minimum Controls to reduce combined sewer overflows,

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# PITTSBURGH WATER AND SEWER AUTHORITY

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and to perform repairs and maintenance of deficiencies revealed by the assessment. The Authority maintains an expedited response to significant structural failures of the sewer system where imminent structural failures are determined by a professional engineer and prioritized for repair. Ongoing sewer line replacement, point repair, lining, point lining, and gunite projects have been implemented to address structural deficiencies. The USEPA 308 request also requires the submission of monthly reports updating the progress of the evaluations and improvements, as well as water quality impacts.

Given the broad scope of a potential CD, the size of the City sewer system, and the various conditions and/or deficiencies that may be discovered by the assessment, it is difficult to predict the total cost of compliance with the CD. Moreover, it is difficult to predict what, if any, largescale and/or regional capital improvements may be required after the completion of the assessment to address wet weather sewer overflows in the City and in the ALCOSAN service area. The Authority hired two engineering firms to assess and model the sewer system, and has fulfilled the first portion of the USEPA 308 request due by March 31, 2016. The second phase of the request supplied a source reduction study which was submitted December 1, 2016 and GI Demonstration projects must be constructed and performance evaluations completed by December 1, 2017. An additional 308 request from EPA was received in October of 2016 seeking more detailed information and further actions regarding the assessment of the Authority's sewer system. This response was delivered on time in January 2017 and continues to require additional monthly reporting. The demonstration project evaluations were submitted on time on December 1, 2017.

The Authority, along with the other impacted local municipalities, is awaiting a response from the USEPA and the DEP on its proposed regional plan. Costs associated with CD and COA compliance will be reflected in the capital improvement program and funded by proceeds of potential future bond issuances.

### **14. Subsequent Event**

In March 2019, the Authority entered into a new PENNVEST loan totaling \$35.4 million for various capital projects and water and sewer improvement projects.

## **SUPPLEMENTARY INFORMATION**

# PITTSBURGH WATER AND SEWER AUTHORITY

## COMBINING STATEMENT OF NET POSITION

(Dollars expressed in thousands)

DECEMBER 31, 2018

	Water	Sewer	Sewer Treatment	Total
<b>Assets</b>				
Current assets	\$ 52,787	\$ 26,000	\$ -	\$ 78,787
Noncurrent assets	526,323	259,233	-	785,556
<b>Total Assets</b>	579,110	285,233	-	864,343
<b>Deferred Outflows of Resources</b>				
Deferred charge on refunding	68,698	33,836	-	102,534
Accumulated decrease in fair value of hedging derivatives	507	250	-	757
<b>Total Deferred Outflows of Resources</b>	69,205	34,086	-	103,291
<b>Liabilities</b>				
Current liabilities	57,260	1,669	10,733	69,662
Noncurrent liabilities	601,379	296,202	-	897,581
<b>Total Liabilities</b>	658,639	297,871	10,733	967,243
<b>Deferred Inflows of Resources</b>				
Accumulated increase in fair value of hedging derivatives	3,182	1,568	-	4,750
<b>Net Position</b>				
Net investment in capital assets	(9,978)	(4,914)	-	(14,892)
Restricted	10,980	5,408	-	16,388
Unrestricted	(14,508)	19,386	(10,733)	(5,855)
<b>Total Net Position</b>	\$ (13,506)	\$ 19,880	\$ (10,733)	\$ (4,359)

# PITTSBURGH WATER AND SEWER AUTHORITY

## COMBINING STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

(Dollars expressed in thousands)

YEAR ENDED DECEMBER 31, 2018

	Water	Sewer	Sewer Treatment	Total
<b>Operating Revenues</b>	\$ 98,906	\$ 65,567	\$ 67,261	\$ 231,734
<b>Operating Expenses:</b>				
Direct operating expenses	48,664	23,969	-	72,633
Wastewater treatment	-	-	71,822	71,822
Reimbursement for City of Pittsburgh services	4,911	-	-	4,911
Expense of water provided by other entities:				
Subsidy of customers located in the City	3,814	-	-	3,814
Depreciation	11,319	5,575	-	16,894
Total operating expenses	68,708	29,544	71,822	170,074
<b>Operating Income (Loss)</b>	30,198	36,023	(4,561)	61,660
<b>Non-operating Revenues (Expenses):</b>				
Donated property	9,145	4,504	-	13,649
Interest revenue	314	155	-	469
Investment income - change in fair value of swap	1,703	839	-	2,542
Interest and amortization	(23,025)	(11,340)	-	(34,365)
Total non-operating revenues (expenses)	(11,863)	(5,842)	-	(17,705)
<b>Special Item:</b>				
Private lead line replacement	(4,478)	-	-	(4,478)
<b>Net Income (Loss)</b>	13,857	30,181	(4,561)	39,477
<b>Net Position:</b>				
Beginning of year	(27,363)	(10,301)	(6,172)	(43,836)
End of year	\$ (13,506)	\$ 19,880	\$ (10,733)	\$ (4,359)