Received by SEC BUR 8/29/2025

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August 29, 2025

Via Electronic Filing
Matthew Homsher, Secretary
PA Public Utility Commission
P.O. Box 3265
Harrisburg, PA 17105-3265

RE: The Pittsburgh Water and Sewer Authority d/b/a Pittsburgh Water – Water – R-2025-3055010;
The Pittsburgh Water and Sewer Authority d/b/a Pittsburgh Water – Wastewater – R-2025-3055011;
The Pittsburgh Water and Sewer Authority d/b/a Pittsburgh Water – Stormwater – R-2025-3055012

Dear Secretary Homsher:

Enclosed please find Pittsburgh Water and Sewer Authority's d/b/a Pittsburgh Water's **revised** Volume II Testimony and Exhibits, to its 2025 Base Rate Case supporting documentation that was filed on June 4, 2025. The filing: (1) corrects the cover page; and, (2) removes Figure 3 on pdf page 237 of Volume II (which is page 8 of the Direct Testimony of Barry King, St. No. 3). The figure is being removed due to confidential security information concerns raised by the statutory advocates.

Please replace the cover page and page 8 of St. No. 3 with these enclosed revised pages **and discard the previously filed pdf page 8**. Please note the complete revised Volume II will be submitted via the PUC's SharePoint filing system and made available to the parties of record via Eckert's ShareFile site. If you have any questions, please do not hesitate to contact me.

Sincerely,

Deanne M. O'Dell

Deanne M. O'Dell
DMO/lww

cc: Hon. Emily DeVoe w/enc.
Hon. Ann Quimby w/enc.
Cert. of Service w/enc.

CERTIFICATE OF SERVICE

I hereby certify that this day I served a copy of Pittsburgh Water's **Revised Volume II Testimony and Exhibits corrected pages** upon the persons listed below in the manner indicated in accordance with the requirements of 52 Pa. Code Section 1.54.

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Dated: August 29, 2025

Deanne M. O'Dell

Deanne M. O'Dell, Esq.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

VOLUME II

TESTIMONY AND EXHIBITS

ON BEHALF OF
THE PITTSBURGH WATER AND SEWER AUTHORITY
D/B/A PITTSBURGH WATER

Docket Nos.

R-2025-3055010 (WATER)

R-2025-3055011 (WASTEWATER)

R-2025-3055012 (STORMWATER)

JUNE 4, 2025
as revised August 29, 2025

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THE PITTSBURGH WATER AND SEWER AUTHORITY
D/B/A PITTSBURGH WATER

Docket Nos. R-2025-3055010 (Water); R-2025-3055011(Wastewater);
R-2025-3055012 (Stormwater)

INDEX TO RATE FILING PACKAGE

Filings Simultaneous With This Filing Package:

Petition	Consolidation Of Rate Proceedings And For Authorization To Use Combined Revenue Requirements
Petition	For Wavier Fully Projected Future Test Year

Included With This Filing Package:

Volume I Responses to Filing Requirements

Tab 1	Statement of Reasons
Tab 2	Customer Notice of Proposed Rate Changes
Tab 3	Filing Requirements – 52 Pa Code § 53.52
Tab 4	Filing Requirements I – Statement of Income
Tab 5	Filing Requirements II – Operating Revenues
Tab 6	Filing Requirements III – Operating Expense
Tab 7	Filing Requirements IV – Taxes
Tab 8	Filing Requirements V – Rate Base
Tab 9	Filing Requirements VI – Depreciation
Tab 10	Filing Requirements VII – Rate of Return
Tab 11	Filing Requirements VIII– Rate Structure & Cost of Service
Tab 12	Filing Requirements IX – Quality of Service
Tab13	Filing Requirements X – Balance Sheet
Tab 14	Filing Requirements XI– Other Data

Volume II Pittsburgh Water Direct Testimony and Exhibits in Support of Filing

St. No. 1	William J. Pickering	Exh. WJP-1
St. No. 2	Edward Barca	Exhs. EB-1 to EB-10
St. No. 3	Barry King	Exhs. BK-1 to BK-6
St. No. 4	Katherine “Kate” Mechler	Exh. KM-1
St. No. 5	William J McFaddin	Exh. WM-1
St. No. 6	Julie A. Mechling	Exhs JAM-1 to JAM-13
		Exh. JAM-14 Proposed Water Tariff Supp. No. 16 (clean)
		Exh. JAM-15 Proposed Water Tariff Supp. No. 16 (red-lined)
		Exh. JAM-16 Proposed Wastewater Tariff Supp No. 15 (clean)
		Exh. JAM-17 Proposed Wastewater Tariff Supp No. 15 (red-lined)
		Exh. JAM-18 Proposed Storm Water Tariff Supp. No 1 (clean)
		Exh. JAM-19 Proposed Storm Water Tariff Supp. No 1 (red-lined)
St. No. 7	Christine Fay	Exhs. CF-1 to CF-13
St. No. 8	Harold J. Smith	Exhs. HJS-1 to HJS-2
		Exhs. HJS-1W to HJS-25W
		Exhs. HJS-1WW to HJS-24WW
		Exhs. HJS-1SW to HJS-13SW

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

DIRECT TESTIMONY OF

WILLIAM J. PICKERING

ON BEHALF OF
THE PITTSBURGH WATER AND SEWER
AUTHORITY D/B/A PITTSBURGH WATER

Docket Nos.
R-2025-3055010 (Water)
R-2025-3055011 (Wastewater)
R-2025-3055012 (Stormwater)

TOPICS:
Overview of Filing
Description of Pittsburgh Water
Organizational Structure and Management Quality
Rate Case Tables

June 4, 2025

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TABLE OF EXHIBITS

WJP-1	Rate Case Tables

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND CURRENT POSITION.

A. My name is William J. Pickering. My position with The Pittsburgh Water and Sewer Authority d/b/a Pittsburgh Water ("Pittsburgh Water") is Chief Executive Officer.

Q. HOW LONG HAVE YOU HELD THIS POSITION?

A. I assumed the position of Executive Director for Pittsburgh Water on June 1, 2020. On November 13, 2020, my title changed to Chief Executive Officer, through modifications made by the Board to the Bylaws.

Q. WHAT ARE YOUR VARIOUS JOB RESPONSIBILITIES?

A. In my present position, my responsibilities include executing policy goals and objectives established by the Board of Directors; preparing an annual business plan and budget; developing, supervising and administering Pittsburgh Water's staff and programs; directing the operation of the water system; overseeing the operation of the sewer system and related stormwater system; developing and implementing a capital improvement and maintenance plan; directing water Customer Assistance Program efforts; and interacting with customers, elected officials, consumer groups, governmental entities and the media.

Q. PLEASE SUMMARIZE YOUR BACKGROUND AND EXPERIENCE.

A. Prior to assuming the role of CEO, I held the position of Deputy Executive Director and Director of Public Affairs at Pittsburgh Water. Prior to joining Pittsburgh Water in fall 2016, I was Manager of Communications and Government Relations at DC Water. There, I managed the communications program and spearheaded DC Water's interactions with the federal, District and neighboring local governments. I have also held several positions in the local and federal government. I have a Bachelor of Science in Political

Science from Santa Clara University and received my Certificate in Public Management from George Washington University.

Q. HAVE YOU EVER PROVIDED TESTIMONY BEFORE THIS COMMISSION?

A. Yes, below is a list of the written testimony I have presented in proceedings before the Pennsylvania Public Utility Commission ("Commission"):

- In Pittsburgh Water's 2023 base rate proceeding, I submitted direct testimony on May 9, 2023 and rebuttal testimony on September 8, 2023.[1]
- In Pittsburgh Water's 2021 base rate proceeding, I submitted direct testimony on April 13, 2021 and rebuttal testimony on July 29, 2021.[2]
- In Pittsburgh Water's 2020 rate case, I submitted rebuttal testimony and adopted the direct testimony of Robert A. Weimar, Pittsburgh Water's former Executive Director, in that rate proceeding.[3]

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to offer a high-level synopsis of this rate filing while introducing the other Pittsburgh Water witnesses presenting testimony and explaining the scope of their testimony. I will also provide an overview of Pittsburgh Water and the current status of various projects and initiatives that have occurred since Pittsburgh Water's last rate case in 2023.

Q. ARE YOU SPONSORING ANY EXHIBITS?

A. Yes. The exhibits I am sponsoring are set forth in the Table of Exhibits following the Table of Contents of this testimony.

Q. WHO ARE THE OTHER WITNESSES PROVIDING TESTIMONY ON BEHALF OF PITTSBURGH WATER?

A. The other witnesses providing testimony on behalf of Pittsburgh Water are:

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1 Docket Nos. R-2023-3039920, R-2023-3039921 and R-2023-3039919.

2 Docket Nos. R-2021-3024773, R-2021-3024774 and R-2021-3024779.

3 Docket Nos. R-2020-3017951, R-2020-3017970 and P-2020-3019019.

Witness	St. No.	Topics
Ed Barca	2	Support for Proposed Rate Increase, Distribution System Improvement Charge ("DSIC") Cap Increase, Pennsylvania Infrastructure Investment Authority ("PENNVEST") Surcharge Expansion; *Pro Forma* Financial Results; Rate Structure Changes & New Charges; Calculation of Revenue Requirements; Development of Operating Budget and Capital Needs
Barry King	3	Capital Projects – Water Programs
Kate Mechler	4	Overview of Wastewater and Stormwater Conveyance; Capital Projects; Utility Coordination and Surface Restoration
William "BJ" McFaddin	5	Customer Complaint Logs and Work Order Logs; Valve Maintenance; Meter Replacements; Flushing of Distribution System; Break-In Connections
Julie Mechling	6	Customer Service Accomplishments, Surveys and Projects; Impact of Rate Request on Future Affordability; Enhancements to Low-Income Customer Assistance Programs; Prior Commission-Approved Settlement Commitments; Water and Wastewater Tariff Revisions; Public Notice of Rate Filing
Christine Fay	7	Support for Proposed Rate Increase; Financial Policies and Goals; Capital Markets and Rating Consideration; Peer Review of Financial Metrics
Harold Smith	8	Allocation of System Revenue Requirements; Cost Allocation; Rate Design; Gradualism

II. OVERVIEW OF NEED FOR RATE INCREASE AND PROPOSALS INCLUDED WITH THIS FILING

Q. PLEASE PROVIDE AN OVERVIEW OF THIS FILING.

A. In this filing, Pittsburgh Water is requesting a multi-year overall rate increase of $84.4 million, inclusive of an increase in the DSIC cap to 7.5% and expansion of the PENNVEST charge. This includes a $63.7 million or 25.9% increase in the Fully Projected Future Test Year ("FPFTY") (FY 2026) and $20.7 million or 6.7% in FY 2027.

Pittsburgh Water is also proposing to remove the minimum water and wastewater charge to be effective January 1, 2027, and to expand the PENNVEST Surcharge starting in FY 2026.

Q. ARE THERE ANY SPECIFIC PROPOSALS INCLUDED WITH THIS FILING THAT YOU WOULD LIKE TO POINT OUT?

A. Pittsburgh Water recognizes the impact that a rate increase may have on customers. As discussed in Pittsburgh Water witness Julie Mechling's testimony, Pittsburgh Water is proposing enhancements to its customer assistance programs, including: extending the Bill Discount Program recertification requirement from two (2) years to five (5) years for customers on fixed incomes of Social Security and/or retirement benefits; automatically enrolling customers into the Bill Discount Program who apply for and are granted a Hardship Grant through one of the community-based organizations partnering with Dollar Energy Fund; converting the Line Repair and Water Conservation Pilot Program into a permanent low-income assistance program; making enhancements to the Arrearage Forgiveness Program; and proposing to reduce usage charges related to undetected water leaks.

Q. IS THERE A MAJOR FACTOR DRIVING THE NEED FOR THIS RATE INCREASE?

A. As discussed in Mr. Barca's direct testimony, Pittsburgh Water is continuing its once in a generation effort to replace its antiquated water, wastewater, and stormwater systems. Pittsburgh Water needs sufficient capital to finance these large capital expenditures, and an operating budget sufficient to pay the costs for much needed upgrades and maintenance to these facilities. Additional funds are needed to cover increased costs of these projects and to continue meeting financial and regulatory obligations. As a cash

flow entity, the rate increase is also necessary for Pittsburgh Water to maintain or improve its bond rating, which keeps borrowing costs down.

Q. PLEASE DISCUSS OTHER IMPORTANT FACTORS FOR THE COMMISSION TO CONSIDER.

A. I submit that it is important for the Commission to keep in mind that Pittsburgh Water is a municipal utility with no shareholders. It is not seeking a profit or rate of return to be included in its rates. Accordingly, it has no incentive to add plant in service to a rate base in order to enhance its revenue requirement. In fact, its request represents the minimum amount we need to be able to fund our operating budget and continue our capital improvement plan, much of which is mandated by the Pennsylvania Department of Environmental Protection ("DEP") via consent decree. A failure to meet the deadlines included in the consent decree would result in penalties levied by DEP. Also, Pittsburgh Water has worked hard to try to hold the rate increase to only the minimum amount needed to allow Pittsburgh Water to continue its efforts to maintain and improve the service it provides to its customers. For these reasons, I respectfully submit that Pittsburgh Water's rate increase request should be approved in its entirety.

A. <u>Rate Case Tables</u>

Q. PLEASE EXPLAIN THE RATE CASE TABLES YOU ARE PRESENTING AS AN EXHIBIT WITH THIS TESTIMONY.

A. Pittsburgh Water Exhibit WJP-1 includes the Rate Case Tables. Support for the figures in this exhibit is provided in the testimony of Pittsburgh Water witnesses Edward Barca and Harold Smith (Pittsburgh Water St. Nos. 2 and 8, respectively).

Q. PLEASE EXPLAIN THE ORIGIN AND PURPOSE OF THE RATE CASE TABLES.

A. The Rate Case Tables were developed in collaboration with the parties in previous Pittsburgh Water base rate cases as directed by the Administrative Law Judges ("ALJs"). Because the Commission's existing template for this information was developed for traditional regulated utilities, the ALJs granted Pittsburgh Water leave to develop Rate Case Tables consistent with the cash flow method for calculating the revenue requirement. Pursuant to this directive, Pittsburgh Water developed an initial version of the Rate Case Tables and then worked collaboratively with the parties to further adjust and refine the initial version. Pittsburgh Water received helpful feedback from the parties during this process and the final, agreed-to version of the Rate Case Tables were shared with the ALJs on July 24, 2020 and again in the 2021 and 2023 rate cases, which would be helpful to the parties in the event of a fully litigated proceeding. Pittsburgh Water Exhibit WJP-1 presents Pittsburgh Water's proposals in this case using this template.

B. <u>News and Accomplishments</u>

Q. PLEASE HIGHLIGHT SOME OF THE ACCOMPLISHMENTS OF PITTSBURGH WATER SINCE ITS LAST COMMISSION APPROVED RATES WENT INTO EFFECT ON MARCH 6, 2023.

A. As highlighted throughout the testimony of the Pittsburgh Water witnesses, Pittsburgh Water has continued to make significant strides regarding customer service and capital investment. Specifically, we have continued to replace thousands of residential lead service lines and are on track to reach our goal of replacing all residential lead in 2027. In addition, our Highland Reservoir Pump Station project is nearing substantial completion and is our first new facility constructed in several decades. Moreover, Pittsburgh Water achieved a significant milestone by awarding the construction contracts

associated with the Aspinwall, Bruecken, and Clearwell Bypass project which are required under a consent decree with DEP. The leading trade association for large municipal water systems, the Association of Metropolitan Water Agencies ("AMWA"), took note of our continued progress by awarding Pittsburgh Water its prestigious Gold Award for excellence in effective utility management.

Importantly, our progress is registering with our customers as well. Our 2024 Customer Satisfaction Survey shows: (1) a 12% improvement since 2022 in the percentage of customers indicating a high or moderate level of satisfaction with the water services we provide; (2) that 72% have noted improvements in Pittsburgh Water since 2018; and (3) 70% of those surveyed trust that we are providing transparent information about the safety and quality of their drinking water.

III. DESCRIPTION OF PITTSBURGH WATER

Q. PLEASE DESCRIBE PITTSBURGH WATER.

A. Created by the City of Pittsburgh ("City") in 1984 pursuant to the Municipality Authorities Act,[4] Pittsburgh Water operates the largest combined water, wastewater, and stormwater authority in Pennsylvania—producing an average of 70 million gallons of treated water daily and providing service to more than 300,000 residents, as well as up to 520,000 people during working hours in total, throughout the City of Pittsburgh and surrounding communities. Pittsburgh Water's employees have expertise in engineering, operations, maintenance, water quality, environmental compliance, customer service, safety, green infrastructure, and many other disciplines. Pittsburgh Water is committed

[4] 52 Pa.C.S. §§ 5601-5632.

to continuing to enhance its operations to provide service in a safe, sustainable, and customer-friendly manner at just and reasonable rates.

Q. WHAT IS PITTSBURGH WATER'S MISSION?

A. Pittsburgh Water's mission is to support the region by protecting public health and the environment through the delivery of safe and reliable water services with a commitment to future generations. The vision of Pittsburgh Water is to transform Pittsburgh's water system while being recognized by customers as a trusted service provider and a steadfast steward of a vital public asset. Pittsburgh Water focuses on the core values of stewardship, ethics and integrity, accountability, safety, and equity.

Q. PLEASE EXPLAIN THE RECENT REBRANDING OF PITTSBURGH WATER.

A. Effective November 7, 2024, Pittsburgh Water began doing business as "Pittsburgh Water" (rather than Pittsburgh Water and Sewer Authority or PWSA). While our legal and incorporated name of "Pittsburgh Water and Sewer Authority" remains, the added DBA and public facing usage of "Pittsburgh Water" represents the culmination of the hard work and improvements made over the past several years. Customer surveys indicated confusion about the previous brand and the services provided by Pittsburgh Water. The DBA also brings clarity to the name and is inspired by Pittsburgh Water's "One Water" approach. This approach unites all water management—from drinking water, to stormwater and wastewater conveyance—in a collaborative, integrated, inclusive and holistic manner. Pittsburgh Water's three tariffs were updated effective December 14, 2024, and the Commission issued new Certificates of Public Convenience at that time reflecting the new name and the effective date.[5]

[5] *See* PaPUC Docket Numbers R-2024-3052247 (water), R-2024-3052248 (wastewater), R-2024-3052249 (stormwater).

A. Infrastructure and Services

Q. PLEASE DESCRIBE THE INFRASTRUCTURE THAT PITTSBURGH WATER CURRENTLY MANAGES AND WILL OWN LATER THIS YEAR.

A. Currently, Pittsburgh Water is responsible for the day-to-day management, operation, maintenance, and improvement of virtually the entire City water supply, distribution, and wastewater collection systems. Below is an overview of these systems.

- The **water** supply and distribution system consists of: (1) a 100 million gallon per day conventional flocculation, sedimentation, and rapid sand process treatment plant which was placed in service in 1969; (2) 965 miles of water mains plus more than 80,500 service lines; (3) more than 25,900 line valves; (4) more than 7,300 fire hydrants; (5) one raw water pump station; (6) ten finished water pump stations; (7) four reservoirs; and (8) eleven storage tanks. The total storage capacity of the reservoirs and tanks is approximately 455 million gallons.

- The **wastewater** collection and conveyance system consists of: (1) approximately 1,242 miles of sanitary, storm and combined sewer lines; (2) 30,297 manholes; (3) 24,993 stormwater catch basins and inlets; (4) 35 combined sewer overflow outfalls; (5) 254 separate storm outfalls; and (6) four pump stations which are designed to carry both storm and sanitary flows. About 75% of the system is serviced by combined sewers (both wastewater and stormwater are collected in one pipe) and the remaining 25% are designed as separate sewage and stormwater piped systems. The average age of the sewer lines is between 60 and 70 years old, with some portions reaching nearly 150 years in age. The wastewater collection and conveyance system discharges to a regional system that conveys sewer flows through trunk sewers to deliver to a wastewater treatment which services eighty-three cities, towns and boroughs in Allegheny County. The regional system is owned and operated by the Allegheny County Sanitary Authority ("ALCOSAN")[6] which maintains interceptors along the rivers to deliver sewage to its Woods Run Wastewater treatment plant prior to discharge in the Ohio River. Because the current combined sewer systems contribute to the Allegheny Region's Combined Sewer Overflow volume, state and federal water quality regulations apply, including a regional Consent Decree

[6] ALCOSAN is a municipal authority (created by the City of Pittsburgh to comply with the Pennsylvania Clean Streams Law enacted in 1937) that serves as the regional sewage treatment facility. 35 Penn. Cons. Stat. §§ 691.1–691.1001. ALCOSAN provides wastewater treatment for 83 communities, including the City of Pittsburgh and maintains the facility pursuant to its National Pollutant Discharge Elimination System ("NPDES") permit. Pittsburgh Water does not own any sewage treatment facilities or provide consumers sewage treatment services. ALCOSAN is not regulated by the Commission.

involving ALCOSAN and the DEP mandating a $2 billion Combined Sewer Overflow reduction program.[7]

Q. HOW DOES STORMWATER FIT WITHIN THE WATER/WASTEWATER CONVEYANCE SYSTEM?

A. Stormwater issues arise in two contexts: (1) the combined wastewater system's Combined Sewer Overflows ("CSOs"); and (2) the municipal separate storm sewer system (known as "MS4s").[8] The federal Environmental Protection Agency ("EPA") develops and implements federal stormwater regulations to require compliance with water quality standards, which are implemented by EPA and the DEP. Regarding the sewer system, 75% of the wastewater conveyance infrastructure is designed as a "combined" sewer system to capture both wastewater and stormwater in one pipe network. In addition to the combined system, one quarter of the current infrastructure managed by Pittsburgh Water includes separate sewer and stormwater systems, which require compliance with stormwater management regulations (*i.e.*, MS4) and are subject to National Pollutant Discharge Elimination System ("NPDES") Permits issued by DEP pursuant to EPA requirements.

Q. PLEASE DESCRIBE PITTSBURGH WATER'S SERVICE AREA.

A. The population of Pittsburgh Water's service area is approximately 520,000 and the total customer accounts of Pittsburgh water is 116,247. Of this number, 81,049 are water and wastewater conveyance customers; 29,285 are wastewater conveyance only customers; and 4,348 are stormwater only customers.

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[7] ALCOSAN entered into a modified consent decree agreement with the DEP, which approved a comprehensive, $2 billion, long-term plan to significantly reduce the overflow of diluted, untreated wastewater into the region's rivers. Details of ALCOSAN's Clean Water Plan are available at: https://www.alcosan.org/our-plan/plan-documents

[8] MS4 refers to a conveyance that is owned by a public entity that discharges to waters, is designed or used to collect or convey stormwater, is not a combined sewer system and is not part of a sewage treatment plan.

B. Ownership of the Assets

Q. WHAT IS THE RELATIONSHIP BETWEEN PITTSBURGH WATER AND THE CITY OF PITTSBURGH?

A. The water, wastewater conveyance, and stormwater infrastructure operated by Pittsburgh Water is currently owned by the City. Pittsburgh Water first assumed responsibility for the system operation and maintenance from the City pursuant to an agreement effective January 1, 1995 between the City and Pittsburgh Water (the "1995 Cooperation Agreement"). Consistent with a Memorandum of Lease dated July 27, 1995, Pittsburgh Water is on the path to becoming the official owner of the City's assets and, on September 1, 2025, this transfer will be effectuated. The evolution of the relationship between the City and Pittsburgh Water has included a transition to conducting interactions on a business-like, transactional basis pursuant to a 2019 Cooperation Agreement which had the force and effect of law under Act 70 of 2020.[9] Consistent with the 2019 Cooperation Agreement, the rates charged by Pittsburgh Water to the City have been gradually increased over the years and are currently the same rates as Pittsburgh Water charges to other commercial customers. Pittsburgh Water and the City are in the process of renegotiating a new cooperation agreement due to the expiration of the prior one. Once completed it will be filed with the Commission pursuant to 66 Pa C.S. § 508. The new agreement will not include any rate adjustments, as the City is required to pay tariffed rates on a going forward basis.

[9] Act of July 23, 2020, P.L. 677, No. 70.

Q. WHAT ISSUES ARE FACING PITTSBURGH WATER AS IT OPERATES THE WATER, WASTEWATER, AND STORMWATER SYSTEMS OF THE CITY OF PITTSBURGH?

A. As the City's current water, sewer, and stormwater systems date back to the 1850s, Pittsburgh Water continues to face challenges caused by the dated infrastructure, the presence of lead service lines, extreme storm events that impact stormwater and sewer systems, historical contractual relationships, complex organizational and management structures, and numerous regulatory requirements and obligations. As explained in the testimony of other Pittsburgh Water witnesses, including Mr. Barca and Mr. King, Pittsburgh Water continues to experience and foresee significant rising costs and the need to complete significant projects as set forth in its Capital Improvement Plan.

C. <u>Regulation by the Commission</u>

Q. HOW DID PITTSBURGH WATER – A MUNICIPAL AUTHORITY – COME TO BE SUBJECT TO THE COMMISSION'S JURISDICTION?

A. In December 2017, Act 65 was passed which added Sections 3201–3209 to the Public Utility Code subjecting Pittsburgh Water to the Commission's jurisdiction. Shortly after the passage of Act 65, the Commission issued a Tentative Implementation Order to guide the process for Pittsburgh Water's transition to Commission jurisdiction.[10] After review of comments from interested stakeholders, the Commission entered its Final Implementation Order on March 15, 2018, which is the roadmap Pittsburgh Water has been following to transition to Commission jurisdiction.[11] The Commission entered

[10] *Implementation of Chapter 32 of the Public Utility Code Re Pittsburgh Water and Sewer Authority,* Docket Numbers M-2018-2640802 (water) and M-2018-2640803 (wastewater), Tentative Implementation Order entered January 18, 2018.

[11] *Implementation of Chapter 32 of the Public Utility Code Re Pittsburgh Water and Sewer Authority,* Docket Numbers M-2018-2640802 (water) and M-2018-2640803 (wastewater), Final Implementation Order entered March 15, 2018.

Orders on July 14, 2022 and August 25, 2022 approving Pittsburgh Water's Compliance Plans, and Pittsburgh Water has since been fully implementing those plans.[12]

IV. PITTSBURGH WATER'S ORGANIZATIONAL STRUCTURE AND MANAGEMENT QUALITY UPDATES

Q. PLEASE DESCRIBE PITTSBURGH WATER'S GOVERNING BODY.

A. Pittsburgh Water is governed by a nine-member Board of Directors ("Board") whose members are appointed by the Mayor of the City and confirmed by the City Council. Although previously the Board had seven members, it voted on March 26, 2020 to amend the Articles of Incorporation to expand to nine members. The Board is responsible for providing strategic direction and oversight to the Pittsburgh Water management team, as well as adopting Pittsburgh Water's annual operating and capital budgets, approving contracts, and approving rate requests subject to Commission approval.

Q. PLEASE DESCRIBE PITTSBURGH WATER'S EXECUTIVE MANAGEMENT AND ORGANIZATIONAL STRUCTURE.

A. Pittsburgh Water is managed by an Executive Leadership Team under the Chief Executive Officer, including the Chief Legal Officer, Chief Financial Officer, Chief Operations & Environmental Compliance Officer, Chief Information & Performance Officer, Chief People & Culture Officer, and Chief Engineering Officer. Departments within Pittsburgh Water include the Chief Executive Office, Water Operations, Sewer Operations, Water Treatment Plant, Laboratory, Warehouse, Environmental Compliance, Safety and Security, Engineering and Construction, Customer Service, Finance, Technology Services, Public Affairs, Legal, and Human Resources.

[12] *Implementation of Chapter 32 of the Public Utility Code Regarding Pittsburgh Water and Sewar Authority – Stage 2*, Docket Nos. M-2018-2640802 and M-2018-2640803 (Orders entered July 14, 2022 and August 25, 2022).

Q. HOW DOES PITTSBURGH WATER STAFF ITS OPERATIONS?

A. As of May 2025, Pittsburgh Water has 423 employees. The majority of Pittsburgh Water employees are represented by one of three labor unions: (1) the Pittsburgh Joint Collective Bargaining Committee, which represents blue-collar employees (plumber, electrician, truck driver, etc.); and (2) the American Federation of State, County and Municipal Employees, which represents Local 2719 (customer service, dispatch, field service technicians, chemists) and Local 2037 (union foremen). Management and professional staff are "at will" employees with no Union affiliation. Pittsburgh Water engages the services of professional consultants to support staff categories as necessary to meet its goals and objectives. These consultants assist with permitting, design, and construction of facilities/infrastructure upgrades and replacements. Pittsburgh Water engages engineering consultants to support all capital project implementation, including planning, design, and construction under the supervision of Pittsburgh Water Project Managers. Pittsburgh Water also supplements its core staff with a financial consulting services firm to support tariff and fee analyses. Additional experts in finance, legal, and administration are engaged as needed or required to fulfill state, federal, and local regulatory and administrative requirements.

Q. IS PITTSBURGH WATER WELL-POSITIONED TO CONTINUE ITS FORWARD PROGRESS?

A. Provided that Pittsburgh Water obtains approval for the necessary rate relief, Pittsburgh Water will be in a solid position to continue making progress toward enhancing the quality and effectiveness of customer service, providing responsible and responsive operations service, improving infrastructure reliability, and maintaining regulatory compliance. Progress in these areas has been recognized by customers participating in

recent survey efforts. Pittsburgh Water is continuing its significant efforts to provide more reliable service to customers, meet stricter water quality standards, and improve stormwater management. The requested rate relief will provide the revenue necessary to continue these efforts so that we are a utility of the future that delivers the highest possible quality of services to our customers. Continued support from the Commission in the form of rate relief as well as collaborative efforts to improve the safety, quality, and reliability of Pittsburgh Water's water, wastewater, and stormwater services are absolutely essential.

V. CONCLUSION

Q. DOES THAT COMPLETE YOUR DIRECT TESTIMONY?

A. Yes; however, I do reserve the right to supplement this testimony as may be appropriate.

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VERIFICATION

I, William J. Pickering, hereby state that: (1) I am the Chief Executive Officer for The Pittsburgh Water and Sewer Authority d/b/a Pittsburgh Water; (2) the facts set forth in my testimony are true and correct (or are true and correct to the best of my knowledge, information and belief); and, (3) I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa. C.S. § 4904 (relating to unsworn falsification to authorities).

Date: 6/4/25

DocuSigned by:
William J. Pickering
6C8AA5A5F44147A...

William J. Pickering
Chief Executive Officer
The Pittsburgh Water and Sewer Authority d/b/a Pittsburgh Water

Exhibit WJP-1

TABLE I
Pittsburgh Water and Sewer Authority
FPFTY 2026-2027 INCOME SUMMARY
Docket Nos.:R-2025-3055010; R-2025-3055011; R-2025-3055012

	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)
	FPFTY 2026					2027 Rate Year			
	PWSA	PWSA	PWSA	ALJ / Parties	ALJ / Parties	PWSA	PWSA	ALJ / Parties	ALJ / Parties
	Revenue at Current Rates	Rate Increase to Meet Revenue Requirements	Revenue At Proposed Rates	Adjustments	Revenue At Adjusted Rates	Rate Increase to Meet Revenue Requirements	Revenue At Proposed Rates	Adjustments	Revenue At Adjusted Rates
INCOME SUMMARY	$	$	$	$	$	$	$	$	$
Beginning Unrestricted Cash	**83,729,892**		**83,729,892**	**0**	**83,729,892**		**83,791,941**	**0**	**83,791,941**
Revenues:									
User Charge Revenues	235,552,228	37,386,548	272,938,776	0	272,938,776	13,396,199	286,334,975	0	286,334,975
Pennvest Surcharge	0	17,579,103	17,579,103	0	17,579,103	5,937,798	23,516,901	0	23,516,901
DSIC Revenues	10,128,474	8,770,070	18,898,544	(0)	18,898,544	1,372,536	20,271,080	(0)	20,271,080
Other Misc. Revenues	2,541,190	1,786,497	4,327,687	0	4,327,687	92,275	4,419,962	0	4,419,962
Subtotal: Total Revenues	248,221,892		313,744,110		313,744,110		334,542,917		334,542,917
Less: Uncollectible Revenues	(6,199,010)	0	(6,199,010)	0	(6,199,010)	0	(6,199,010)	0	(6,199,010)
Less: Stormwater Credit Program Cost	(288,016)	0	(288,016)	0	(288,016)	0	(288,016)	0	(288,016)
Total Revenues Net of Uncollectible	241,734,866	65,522,218	307,257,084	(0)	307,257,084	20,798,808	328,055,892	(0)	328,055,892
Revenue Requirements:									
O & M Expense	152,096,214		152,096,214	0	152,096,214	0	152,096,214	0	152,096,214
Senior Lien Debt Service (2)	84,927,686		84,927,686	0	84,927,686	10,343,489	95,271,175	0	95,271,175
All Other Debt Service (2)	26,098,253		26,098,253	0	26,098,253	6,432,798	32,531,051	0	32,531,051
Debt Coverage Capital (5)	21,231,922		21,231,922	0	21,231,922	2,585,872	23,817,794	0	23,817,794
Cash-Financed Capital (DSIC)	18,898,544		18,898,544	(0)	18,898,544	1,372,590	20,271,134	(0)	20,271,134
Restricted Reserve Contributions	3,000,000		3,000,000	0	3,000,000	0	3,000,000	0	3,000,000
Operating Reserve Contribution	0		0	0	0	0	0	0	0
Other Expenses (3)									
Water and Wastewater Leak Credit	662,322		662,322	0	662,322	0	662,322	0	662,322
Arrearage Funding	280,094		280,094	0	280,094	0	280,094	0	280,094
Total Revenue Requirements	307,195,035		307,195,035	(0)	307,195,035	20,734,749	327,929,784	(0)	327,929,784
Revenue Surplus / (Deficit)	**(65,460,169)**		**62,049**	**0**	**62,049**		**126,108**		**126,108**
Fund Balance Transactions from Surplus									
Contributions (to)/from Operations	0		62,049	0	62,049		126,108	0	126,108
Contributions (to)/from Rate Stabilization Fund	0		0	0	0		0	0	0
Contributions (to)/from Operating Reserve	0		0	0	0		0	0	0
Ending Unrestricted Cash Balance	**18,269,723**		**83,791,941**		**83,791,941**		**83,918,049**		**83,918,049**
KEY FINANCIAL METRICS									
			PWSA Filing		PWSA Filing		PWSA Filing		ALJ Adjusted
Debt Service Coverage									
Senior (1.25 Requirement)	**1.08**		**1.85**		**1.85**		**1.87**		**1.87**
Total (1.10 Requirement)	**0.83**		**1.42**		**1.42**		**1.39**		**1.39**
Days Cash on Hand (4)	**44.5**		**204.3**		**204.3**		**204.6**		**204.6**
Days Cash on Hand with ALCOSAN (4)	**25.76**		**118.1**		**118.1**		**115.9**		**115.9**

(1) Company Main Brief
(2) Includes Principal and Interest payments on existing and proposed debt.
(3) Several programs funded, including assistance with sewer laterals and components of the customer assistance program.
(4) Calculated using Operating & Maintenance Expenses (excludes non-operating expenses).

TABLE I(A)
Pittsburgh Water and Sewer Authority
FPFTY 2026-2027 KEY RATIOS
Docket Nos.:R-2025-3055010; R-2025-3055011; R-2025-3055012

Key Ratio Breakdown	(A) FPFTY 2026 PWSA Revenue at Current Rates $	(B) FPFTY 2026 PWSA Revenue At Proposed Rates $	(C) FPFTY 2026 ALJ Revenue At Adjusted Rates $	(D) 2027 Rate Year PWSA Revenue At Proposed Rates $	(E) 2027 Rate Year PWSA Revenue At Adjusted Rates $
Debt Service Coverage					
Operating Revenues	248,221,892	313,744,110	313,744,110	334,542,917	334,542,917
Less:					
Bad Debt Expenses	(6,487,025)	(6,487,025)	(6,487,025)	(6,487,025)	(6,487,025)
Net Collected Revenues	241,734,866	307,257,084	307,257,084	328,055,892	328,055,892
Less:					
Current Expenses	(152,096,214)	(152,096,214)	(152,096,214)	(152,096,214)	(152,096,214)
Adjustments:					
City Services	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000
Other Transfers to Reserves	(3,000,000)	(3,000,000)	(3,000,000)	(3,000,000)	(3,000,000)
Water and Wastewater Leak Credit	(662,322)	(662,322)	(662,322)	(662,322)	(662,322)
Arrearage Funding	(280,094)	(280,094)	(280,094)	(280,094)	(280,094)
Revenues Available for Debt Service	91,696,236	157,218,454	157,218,454	178,017,262	178,017,262
Senior Lien Debt Service	84,927,686	84,927,686	84,927,686	95,271,175	95,271,175
All Other Debt Service	26,098,253	26,098,253	26,098,253	32,531,051	32,531,051
Total Debt Service	111,025,939	111,025,939	111,025,939	127,802,226	127,802,226
Senior Lien Debt Service Coverage	**1.08**	**1.85**	**1.85**	**1.87**	**1.87**
Total Debt Service Coverage	**0.83**	**1.42**	**1.42**	**1.39**	**1.39**
Days Cash on Hand					
Ending Cash Balance	18,269,723	83,791,941	83,791,941	83,918,049	83,918,049
Operating Expenses	152,096,214	152,096,214	152,096,214	152,096,214	152,096,214
Adjustments:					
(Loss) / Gain on ALCOSAN Billings	(2,383,047)	(2,383,047)	(2,383,047)	(2,383,047)	(2,383,047)
Add: Adjustments to ALCOSAN Placeholder	0	0	0	0	0
Net Operating Expenses	149,713,166	149,713,166	149,713,166	149,713,166	149,713,166
Days Cash on Hand (x 365)	**45**	**204**	**204**	**205**	**205**
Including ALCOSAN					
Add: ALCOSAN Charges	109,172,088	109,172,088	109,172,088	114,630,692	114,630,692
Days Cash on Hand (x 365)	**26**	**118**	**118**	**116**	**116**

(1) Company Main Brief
(2) Revenue adjusted to meet to Revenue Requirements.

TABLE II
Pittsburgh Water and Sewer Authority
RATE FILING REVENUE DETAIL
Docket Nos.:R-2025-3055010; R-2025-3055011; R-2025-3055012

	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)
	FPFTY 2026					2027 Rate Year			
	PWSA	PWSA	PWSA	ALJ / Parties	ALJ / Parties	PWSA	PWSA	ALJ / Parties	ALJ / Parties
Description	Revenue at Current Rates	Rate Increase to Meet Revenue Requirements	Revenue At Proposed Rates	Adjustments	Revenue At Adjusted Rates	Rate Increase to Meet Revenue Requirements	Revenue At Proposed Rates	Adjustments	Revenue At Adjusted Rates
	$	$	$	$	$	$	$	$	$
Retail User Charge Revenues									
Water	146,412,253	22,080,553	168,492,806	0	168,492,806	7,007,647	175,500,452	0	175,500,452
Water - Public Hydrants	1,875,259	784,001	2,659,260	0	2,659,260	190,336	2,849,596	0	2,849,596
Wholesale/Contract Revenues	1,016,048	103,434	1,119,482	0	1,119,482	54,612	1,174,094	0	1,174,094
Converted Wholesale Customer	3,510,055	1,067,493	4,577,548	0	4,577,548	1,983,235	6,560,783	0	6,560,783
Sewer	54,402,195	6,928,936	61,331,131	0	61,331,131	3,371,795	64,702,926	0	64,702,926
Stormwater	25,041,365	5,675,340	30,716,706	0	30,716,706	696,863	31,413,569	0	31,413,569
Stormwater Only	3,295,052	746,791	4,041,844	0	4,041,844	91,711	4,133,555	0	4,133,555
Subtotal: Retail User Charge Revenues	235,552,228	37,386,548	272,938,776	0	272,938,776	13,396,199	286,334,975	0	286,334,975
Pennvest Surcharge									
Water	0	12,305,372	12,305,372	0	12,305,372	4,156,458	16,461,831	0	16,461,831
Sewer	0	5,273,731	5,273,731	0	5,273,731	1,781,339	7,055,070	0	7,055,070
Stormwater	0	0	0	0	0	0	0	0	0
Subtotal: Pennvest Surcharge	0	17,579,103	17,579,103	0	17,579,103	5,937,798	23,516,901	0	23,516,901
DSIC Revenues	PWSA		PWSA		ALJ		PWSA		ALJ
Water	5.0%		7.5%		7.5%		7.5%		7.5%
Sewer	5.0%		7.5%		7.5%		7.5%		7.5%
Stormwater (NSWO)	0.0%		0.0%		0.0%		0.0%		0.0%
Stormwater Only	0.0%		0.0%		0.0%		0.0%		0.0%
Water	7,408,364	6,494,815	13,903,179	(0)	13,903,179	986,051	14,889,230	(0)	14,889,230
Sewer	2,720,110	2,275,255	4,995,365	0	4,995,365	386,485	5,381,850	0	5,381,850
Stormwater (NSWO)	0	0	0	0	0	0	0	0	0
Stormwater Only	0	0	0	0	0	0	0	0	0
Subtotal: DSIC Revenues	10,128,474	8,770,070	18,898,544	(0)	18,898,544	1,372,536	20,271,080	(0)	20,271,080
Other System Revenues									
Other Operating & Non-Operating Revenues	2,541,190	1,786,497	4,327,687	0	4,327,687	92,275	4,419,962	0	4,419,962
Subtotal: Other System Revenues	2,541,190	1,786,497	4,327,687	0	4,327,687	92,275	4,419,962	0	4,419,962
Subtotal: Total Revenues before Uncollectible	248,221,892		313,744,110		313,744,110		334,542,917		334,542,917
Less: Uncollectible Revenues	(5,319,721)	0	(5,319,721)	0	(5,319,721)	0	(5,319,721)	0	(5,319,721)
Less: Uncollectible Revenues (SW Only)	(879,289)	0	(879,289)	0	(879,289)	0	(879,289)	0	(879,289)
Less: Stormwater Credit Program	(288,016)	0	(288,016)	0	(288,016)	0	(288,016)	0	(288,016)
Subtotal: Less: Uncollectible Revenues	(6,487,025)	0	(6,487,025)	0	(6,487,025)	0	(6,487,025)	0	(6,487,025)
Total Revenues Net of Uncollectible	241,734,866	65,522,218	307,257,084	(0)	307,257,084	20,798,808	328,055,892	(0)	328,055,892
Summary									
Revenue from Base Rates			37,386,548		37,386,548		13,396,199		13,396,199
Revenue from New Reconcilable Charges			17,579,103		17,579,103		5,937,798		5,937,798
Revenue from DSIC			8,770,070		8,770,070		1,372,536		1,372,536
Revenue from Other System Revenues			1,786,497		1,786,497		92,275		92,275
Total Revenue Increase before Uncollectible			65,522,218		65,522,218		20,798,808		20,798,808
Change in Uncollectible Revenues			0		0		0		0
Total Revenue Increase with Uncollectible			65,522,218		65,522,218		20,798,808		20,798,808

(1) Company Main Brief

;

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

DIRECT TESTIMONY OF

EDWARD BARCA

ON BEHALF OF
THE PITTSBURGH WATER
AND SEWER AUTHORITY d/b/a Pittsburgh Water

Docket Nos.
R-2025-3055010 (Water)
R-2025-3055011 (Wastewater)
R-2025-3055012 (Stormwater)

TOPICS:
Support for Proposed Rate Increase
Support for DSIC Cap Increase
Support of PENNVEST Charge Expansion
Pro Forma Financial Results
Rate Structure Changes & New Charges
Calculation of Revenue Requirements
Development of Operating Budget & Capital Needs

June 4, 2025

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TABLE OF EXHIBITS

Exhibit EB-1	Schedules showing Pittsburgh Water's Income Statement, Cash Flow Statement, and Debt Service Coverage Statement at present rates for the HTY (FY 2024), FTY (FY 2025), FPFTY (FY 2026), and the Forecast Period (FY 2027)
Exhibit EB-2	Schedules showing Pittsburgh Water's Income Statement, Cash Flow Statement, and Debt Service Coverage Statement at proposed rates for the HTY, FTY, FPFTY, and Forecast Period 2027.
Exhibit EB-3	Additional budget information for HTY, FTY, FPFTY, and Forecast Period 2027
Exhibit EB-4	Pittsburgh Water's 2025–2029 Capital Improvement Plan
Exhibit EB-5	Pittsburgh Water's Financial Management Policy
Exhibit EB-6	Pittsburgh Water's Debt and Swap Portfolio Summary
Exhibit EB-7	Pittsburgh Water's Additional Bonds Test at Existing Rates
Exhibit EB-8	Pittsburgh Water's Additional Bonds Test at Proposed Rates
Exhibit EB-9	Pittsburgh Water's Rate Stabilization Fund Policy
Exhibit EB-10	Pittsburgh Water's Section 1330 Multi-Year Q&A

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND POSITION FOR THE RECORD.

A. My name is Edward Barca and I am the Director of Finance for the Pittsburgh Water and Sewer Authority d/b/a Pittsburgh Water.

Q. WHEN DID YOU TAKE ON THE POSITION OF TREASURER?

A. I was appointed as Pittsburgh Water's Treasurer in June 2018 and assumed my duties with Pittsburgh Water during August 2018. I was promoted to the Deputy Director of Finance/Treasurer in July 2019 and ultimately became the Director of Finance in June 2020, which is my current position.

Q. PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND.

A. I have a master's degree in finance from the Colorado State University-Global Campus and a bachelor's degree in finance from Mercyhurst University. I am also a licensed Certified Public Accountant in the Commonwealth of Pennsylvania.

Q. PLEASE PROVIDE A SUMMARY OF YOUR RELEVANT EXPERIENCE.

A. I have been at Pittsburgh Water since August 2018. As I stated, I started as Pittsburgh Water's Treasurer in August 2018. I remained in that position until I became Pittsburgh Water's Deputy Director of Finance/Treasurer in July 2019 and then the Director of Finance, which is the position I currently hold.

Prior to working at Pittsburgh Water, I worked for the City of Pittsburgh ("City"). I joined the City in 2015 and was promoted to the Assistant Director of Finance in 2017. While at the City, I served as a Business Intelligence Analyst, Senior Financial Analyst, Revenue Manager, and, finally, Assistant Director of Finance.

Before starting with the City, I had prior work experience at a boutique financial planning firm called Allegheny Financial Group as well as E*TRADE Financial. In addition,

since November 2015, I have owned and operated a business—Barca Tax Services, LLC—that provides tax preparation services.

Q. MR. BARCA, WHAT ARE YOUR VARIOUS JOB RESPONSIBILITIES WITH PITTSBURGH WATER?

A. In my present position, I am responsible for the financial affairs of Pittsburgh Water along with overseeing the Finance Department, which includes fleet management, budgeting, financial controls, procurement, and grants management. I also manage Pittsburgh Water's: (a) cash and liquidity to ensure that sufficient funds are available to process payments, invest in infrastructure, and service debt while preserving principal and thereafter maximizing return on cash and investments; and (b) debt portfolio, which includes assessing opportunities for financing and refinancing, securing additional debt capital from both bank and capital markets, managing the interest rate swap portfolio, and maintaining all credit support vehicles. I further help to ensure compliance with all trust indentures, loan agreements, bond covenants, and filing deadlines.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION?

A. Yes. I presented written Direct, Supplemental Direct, Rebuttal and Rejoinder testimony in support of Pittsburgh Water's most recent rate case at Docket Numbers R-2023-3039920 (water), R-2023-3039921 (wastewater), and R-2023-3039919 (stormwater). In addition, I have been directly involved in various financial proceedings before the Pennsylvania Public Utility Commission ("PUC" or "Commission") regarding the issuance of securities certificates. In 2023, 2024, and 2025, these proceedings included:

Docket No.	Initial Registration Amount	Issuance Amount/Balance	Issue Date
S-2023-3038462	$3,707,279	$2,918,874	July 6, 2023
S-2023-3039817	$260,000,000	$218,805,001	July 3, 2023
S-2023-3039894	$110,000,000	$106,075,000	July 3, 2023
S-2023-3039890	$100,000,000	$81,902,891	July 3, 2023
S-2023-3041861	$4,599,382	-	-
S-2023-3044106	$14,605,000	$2,906,924	February 21, 2024
S-2023-3044112	$3,160,825	$496,978	July 16, 2024
S-2023-3044113	$34,159,707	$29,995,713	July 16, 2024
S-2024-3049914	$18,278,381	$18,278,381	July 30, 2024
S-2024-3051512	$150,000,000	$129,220,000	January 25, 2025
S-2024-3051513	$25,000,000	$12,825,000	January 25, 2025
S-2025-3053151	$150,000,000	TBD	TBD
S-2025-3053864	$59,136,000	$59,136,000	April 16, 2025
S-2025-3053935	$62,672,221	TBD	TBD
S-2025-3053937	$1,715,938	TBD	TBD
S-2025-3053958	$12,962,589	TBD	TBD

Q. PLEASE EXPLAIN THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to:

1) Provide the documentation and supporting methodology for the schedules and exhibits that are included in Pittsburgh Water's rate filing;

2) Describe Pittsburgh Water's financial results for the proposed muti-year rate increase, which includes the fully projected future test year ("FPFTY") comprised of the period from January 1, 2026 through December 31, 2026, as well as period from January 1, 2027 through December 31, 2027;

3) Provide support for Pittsburgh Water's total requested overall rate increase of $84.4 million, which is inclusive of an increase to the Distribution System Improvement Charge ("DSIC") cap to 7.5% and expansion of the PENNVEST Charge starting March 3, 2026;

4) Explain the proposed removal of Pittsburgh Water's minimum water and wastewater charge, proposed to be effective on January 1, 2027; and,

5) Explain how Pittsburgh Water's capital budget spending will be recovered from ratepayers.

Q. ARE YOU SPONSORING ANY EXHIBITS?

A. Yes. I am sponsoring the following exhibits:

- **Exh. EB-1:** Exhibit EB-1 provides schedules showing Pittsburgh Water's Income Statement, Cash Flow Statement, and Debt Service Coverage Statement at present rates for the Historical Test Year ("HTY") (FY 2024), Future Test Year ("FTY") (FY 2025), FPFTY (FY 2026), and the Forecast Period (FY 2027).
- **Exh. EB-2:** Exhibit EB-2 provides schedules showing Pittsburgh Water's Income Statement, Cash Flow Statement, and Debt Service Coverage Statement at proposed rates for the HTY, FTY, FPFTY, and Forecast Period 2027.
- **Exh. EB-3:** Exhibit EB-3 contains additional budget information for HTY, FTY, FPFTY, and Forecast Period 2027.
- **Exh. EB-4:** Exhibit EB-5 contains Pittsburgh Water's 2025–2029 Capital Improvement Plan.
- **Exh. EB-5:** Exhibit EB-5 contains Pittsburgh Water's Financial Management Policy.
- **Exh. EB-6:** Exhibit EB-6 contains Pittsburgh Water's Debt and Swap Portfolio Summary.
- **Exh. EB-7:** Exhibit EB-7 contains Pittsburgh Water's Additional Bonds Test at Existing Rates.
- **Exh. EB-8:** Exhibit EB-8 contains Pittsburgh Water's Additional Bonds Test at Proposed Rates.
- **Exh. EB-9:** Exhibit EB-9 contains Pittsburgh Water's Rate Stabilization Policy
- **Exh. EB-10:** Exhibit EB-10 contains Pittsburgh Water's Section 1330 Multi-Year Q&A

II. PROPOSED RATE INCREASE

Q. PLEASE SUMMARIZE THE RATE INCREASE SOUGHT BY PITTSBURGH WATER IN THIS PROCEEDING.

A. The following points below summarize the requested increase and other proposed changes in this proceeding.

- Pittsburgh Water seeks a multi-year total overall rate increase of $84.4 million, which is inclusive of the increase to the DSIC cap to 7.5% and expansion of the PENNVEST Charge in March 3, 2026. This includes a $63.7 million or 25.9% increase in the FPFTY (FY 2026) and $20.7 million or 6.7% in FY 2027.
- Pittsburgh Water is proposing amendments to the current arrearage forgiveness program with cost recovery in the of amount of $280,094 in the FPFTY (FY 2026) and $280,094 in FY 2027 being claimed in this rate case as a result of the amendments.
- Pittsburgh Water is proposing to take ownership of water service lines two inches and smaller from the main to the curb stop within the right-of-way.

- Pittsburgh Water is proposing to remove the minimum water and wastewater charge starting in FY 2027.
- Pittsburgh Water is proposing the expansion of the current PENNVEST Charge to recover all current and future PENNVEST loan costs through the PENNVEST Charge starting March 3, 2026 (FPFTY).

Q. CAN YOU DESCRIBE THE NEED FOR THIS RATE INCREASE?

A. Pittsburgh Water is in the midst of a massive effort to replace antiquated water, wastewater, and stormwater facilities, including remaining lead service lines, and continuing to improve service to customers. To do this, Pittsburgh Water needs sufficient capital to finance these large capital expenditures, and an adequate operating budget to pay for costs associated with these facilities upgrades. Accordingly, the main factors driving the need to file this rate case include capital costs (which includes debt service, debt service coverage, and DSIC costs), surface restoration (paving), vehicle purchases, manhole repairs, emergency water line and sewer lateral repair, expansion of operations, and continued compliance to meet financial obligations. Pittsburgh Water must also improve its financial metrics that impact its bond rating, which, in turn keeps borrowing costs down.

The details that justify the need for the additional revenues in this rate case, along with the rate structure changes proposed in this proceeding, will be fully described later in my testimony.

III. CALCULATION OF REVENUE REQUIREMENT

A. Cash Flow Ratemaking

Q. PLEASE EXPLAIN THE BASIS ON WHICH PITTSBURGH WATER HAS CALCULATED ITS REVENUE REQUIREMENT FOR THE FPFTY.

A. Pittsburgh Water is not regulated on the basis of a fair rate of return on a used and useful rate base as are investor-owned utilities; instead, its revenue requirement is established by the "Cash Flow" method.

The Commission has directed that Pittsburgh Water's revenue requirement be determined using the "Cash Flow" method, the traditional method of determining just and reasonable rates for municipal utilities such as Pittsburgh Water.[1] In Pittsburgh Water's first four rate cases,[2] Pittsburgh Water and the other parties determined its revenue requirement using the "Cash Flow" method.

It is appropriate to continue to use the "Cash Flow" method for Pittsburgh Water, since Pittsburgh Water has no shareholders and does not pay a dividend or a rate of return to its owner. With that in mind, rather than having its revenue requirement determined on the basis of a fair rate of return on a used and useful rate base, Pittsburgh Water's rates should be set by determining the levels of cash necessary to fund an operating budget that enables Pittsburgh Water to maintain the system, pay for needed capital improvements, and maintain the level of debt service coverage that meets Pittsburgh Water's bond covenant requirements, meets the additional bonds test, and also produces sufficient cash to fund all obligations and maintain access to the capital markets at reasonable rates.

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[1] *Implementation of Chapter 32 of the Public Utility Code Re Pittsburgh Water and Sewer Auth.*, Docket Nos. M-2018-2640802 and M-2018-2640803, Final Implementation Order entered March 15, 2018 at 27–28.

[2] *Pa. Pub. Util. Comm'n v. Pittsburgh Water and Sewer Auth.*, Docket Nos. R-2018-3002645 (water) and R-2018-3002647 (wastewater), Opinion and Order entered February 27, 2019.

In a 2010 Policy Statement, the Commission described the requirements of the Cash Flow Method as follows:

> (b) … Included in that requirement [of establishing just and reasonable rates] is the subsidiary obligation to provide revenue allowances from rates adequate to cover [the utility's] reasonable and prudent operating expenses, depreciation allowances and debt service, as well as sufficient margins to meet bond coverage requirements and other internally generated funds over and above its bond coverage requirements, as the Commission deems appropriate and in the public interest for purposes such as capital improvements, retirement of debt and working capital.[3]

The Commission also stated that, in determining just and reasonable rate levels under the Cash Flow method, it would consider, among other relevant factors, the following financial factors:

- Test year-end and (as a check) projected future levels of non-borrowed year-end cash;
- Available short term borrowing capacity and internal generation of funds to fund construction;
- Debt to equity ratios and financial performance of similarly situated utility enterprises; and
- Level of financial performance needed to maintain or improve the utility's bond rating thereby permitting the utility to access the capital markets at the lowest reasonable costs to customers over time.[4]

Q. PLEASE EXPLAIN HOW PITTSBURGH WATER DETERMINED ITS REVENUE REQUIREMENT IN THE FPFTY?

A. Pittsburgh Water's revenue requirement in this case was determined by calculating the level of additional revenues Pittsburgh Water needs in order to fund its capital and operating budgets and maintain financial metrics at least at (or above) its minimum requirements, considering the levels needed to maintain Pittsburgh Water's current bond rating.

[3] 52 Pa. Code § 69.2702.
[4] 52 Pa. Code § 69.2703.

IV. *PRO FORMA* FINANCIAL RESULTS

Q. HAVE YOU PREPARED A PROFORMA TEST YEAR INCOME STATEMENT, CASH FLOW, DEBT SERVICE COVERAGE STATEMENT THAT PROJECTS PITTSBURGH WATER'S STATUS IN THE CURRENT YEAR, AS WELL AS ON A PROJECTED BASIS?

A. Yes. Please see Exhibits EB-1 and EB-2.

Q. FIRST, PLEASE EXPLAIN THE TEST YEAR ON WHICH PITTSBURGH WATER'S CLAIMED REVENUE REQUIREMENT IS BASED.

A. As permitted by Act 11 of 2012, Pittsburgh Water has based its claimed revenue requirement on the fully forecasted 12 months ending December 31, 2026, referred to as the FPFTY. The FTY is calendar year 2025 (January 1, 2025 to December 31, 2025) and the HTY is calendar year 2024 (January 1, 2024 to December 31, 2024). The results at current rates is displayed in Exhibit EB-1 with proposed rates displayed in EB-2. Each page of these exhibits show data for: (1) the HTY, the 12 months ended December 31, 2024 or FY 2024; (2) the FTY, the 12 months ended December 31, 2025 or FY 2025; (3) the FPFTY, the 12 months ended December 31, 2026 or FY 2026; and (4) the Forecast Period, the 12 months ended December 31, 2027 or FY 2027.

Q. HAS PITTSBURGH WATER RELIED UPON OTHER PROVISIONS OF ACT 11 IN DEVELOPING THIS CASE?

A. Yes, as addressed in two petitions which are being filed simultaneously with the filing of its rate case package. First, Pittsburgh Water is filing a petition for consolidation of the three dockets (water, wastewater, stormwater) and for authorization to use combined water, wastewater and stormwater revenue requirements as authorized by 66 Pa. C.S. § 1311(c).[5] Granting of that petition will continue the prior accounting and ratemaking practice of Pittsburgh Water and recognize that Pittsburgh Water operates as a

[5] Alternatively, Pittsburgh Water requests a waiver pursuant to 66 Pa. C.S. § 3203(b) which permits the Commission to suspend or waive the applicability of any provision of the Public Utility Code to Pittsburgh Water.

consolidated, single entity. Second, Pittsburgh Water is simultaneously filing a Petition for Waiver of Statutory Definition of FPFTY to enable it to use a FPFTY beginning on January 1, 2026. Due to the June 4, 2025 filing date of this rate package, the application of the full suspension period will end on March 3, 2026. The purpose of Pittsburgh Water's petition is to enable it to utilize a FPFTY beginning on January 1, 2026 (rather than March 3, 2026 as would be required by the statute), which is consistent with Pittsburgh Water's budgeting processes.

Q. PLEASE DESCRIBE HOW THE DATA FOR THE HISTORIC TEST YEAR WERE DERIVED.

A. The HTY is the cash-basis results for FY 2024.

Q. PLEASE DESCRIBE HOW THE FUTURE TEST YEAR AND FULLY PROJECTED FUTURE TEST YEAR RESULTS WERE DERIVED.

A. The FTY (FY 2025) and FPFTY (FY 2026) results were derived through a comprehensive Pittsburgh Water-wide budgeting process. Pittsburgh Water uses a zero-based budgeting method to develop annual budgets. The previous year's budgets are referenced when developing the FPFTY budget, but each cost is individually considered when developing the budget. This is contrary to a traditional budgeting approach in which an escalation factor is applied for an anticipated increase in a specific type of cost. On Exhibit EB-3, I have provided additional information concerning actual and budget financial information. This Exhibit shows the Operating Budgets for FTY (FY 2025), FPFTY (FY 2026), and FY 2027.

Exhibit EB-3 provides information regarding changes in budgeted levels from the HTY (FY 2024) to the FTY (FY 2025), from the FTY (FY 2025) to the FPFTY (FY 2026), and FY 2027.

A. Impact of Inflation and Tariffs

Q. CAN YOU ELABORATE ON THE CURRENT INFLATION RATE?

A. The pace of inflation continues to be above historical norms. As demonstrated by the chart below, the average annual inflation rate has more than doubled over the past four years (FY 2021–FY 2024) by averaging 4.93%, as compared to 1.92% between FY 2017–FY 2020. Increased costs have put extreme pressure on Pittsburgh Water's operating and capital budgets, jeopardizing the ability to maintain and renew the system. Furthermore, as a not-for-profit cash-basis utility almost solely reliant on ratepayers to fund operations, the impact of increased costs on Pittsburgh Water is amplified as compared to an investor-owned utility, which can rely on profits and other cost recovery mechanisms.

Annual Inflation: 2017–2024[6]	
Year	Percentage Increase
2017	2.11%
2018	1.91%
2019	2.29%
2020	1.36%
2021	7.04%
2022	6.45%
2023	3.35%
2024	2.89%

Q. ANNUAL INFLATIONARY INCREASES SEEMS TO BE TRENDING DOWNWARD FROM THEIR HEIGHT IN 2021. IF THIS IS TRUE, CAN YOU EXPLAIN WHY INFLATION IS RELEVANT TO THIS RATE CASE?

A. Certainly. The spike in inflation during 2021 and the uncertainty that followed has continued to increase cost for Pittsburgh Water regardless of what the current inflationary rate is.

[6] U.S. Bureau of Labor Statistics (BLS Data Viewer).

The market for employee benefits continues to harden with medical rates increasing 4% in FY 2025. As it relates to salaries, the recently executed Pittsburgh Joint Collective Bargaining Committee ("PJCBC"), which makes up over 30% of the employee count, approved a 6% cost of living increase in FY 2025—further compounding the 3% increase approved within the contract agreement in FY 2026 and FY 2027. It has been well over a decade since the cost of living increase was over 3%, with the most recent large increase attributable to the inflationary environment.

Pittsburgh Water is also experiencing annual operating costs renewing well above historical patterns. From FY 2023 to FY 2024, the annual PUC assessment charge increased 18%, print and mail services for customer bills increased 7–10% (depending on the type of mailer), and external legal services have increased 5% on average. FY 2025 renewal costs are not available for these items, but large increases are expected. In addition, specific to FY 2025, electric and natural gas supply costs have increased over 20%, and auto, property, general liability, workers compensation, and cyber insurance combined premium costs increased 5%.

The point of outlining these increases, many of which are fixed costs, is not to show an exhaustive list of all increases, but rather to show that inflationary pressures have not cooled. The rate request that Pittsburgh Water is requesting for the FPFTY and FY 2027 is the minimum level that is required to pay for these increases while **also** allowing the proactive renewal of the water, wastewater, and stormwater systems.

Q. CAN YOU ELBORATE ON THE TARIFFS THAT HAVE RECENTLY BEEN IMPLEMENTED?

A. Yes. The inauguration of President Donald Trump on January 20, 2025 has ushered in a new era of trade policies that involve the use of tariffs. A wide range of tariffs have been

implemented on virtually every U.S. trading partner and triggered a worldwide trade war. Below is a list of the major U.S. tariffs that have been impacted since May 23, 2025. Note that the list excludes reciprocal tariffs against the U.S. from other countries. The point of this list is not meant to document every tariff announcement; rather, it is included to demonstrate that the current economic landscape is very uncertain, which is having a negative impact on Pittsburgh Water's budgets.

U.S. Tariffs
25% tariff on all Mexican imports and other Canadian imports* (effective March 4) *USMCA-compliant trade remains duty-free
25% tariff on all steel and aluminum imports (effective March 12); 50% announced
10% tariff on Canadian potash and energy (effective April 2)
25% tariff on all automobiles, with an exemption for US content (effective April 3)
10% minimum tariff + special "reciprocal" rates on 60 countries (effective April 2) **Reciprocal rates have been paused for 90 days (effective April 9)
US and UK reach trade deal (effective May 8) ***US reciprocal tariff rate of 10% remains in effect
145% tariff on all Chinese imports*** (various announcements) ****Phones and computers are exempt from tariffs (effective April 12, 2025) *****Temporary 90-day pause on portion of Chinese tariffs (effective May 14, 2025)

Q. WHAT CAN BE THE EXPECTED OUTCOME OF THIS TRADE WAR?

A. The U.S. tariffs will act as a tax on imports, which will be largely passed through to consumers. The resulting price increases will drive up inflation and create a supply chain shock, reminiscent of post-COVID supply-chain disruption. Many of the materials targeted by the tariffs, such as automobiles, steel, and aluminum, are necessary to execute Pittsburgh Water's Capital Improvement Plan ("CIP") and maintain operations. Any price increases resulting for the tariffs will certainly have a negative budgetary impact.

Q. DO YOU HAVE ANYTHING ELSE TO MENTION AS IT RELATES TO TARIFFS AND THE RELATED ISSUE OF INFLATION?

A. Yes. I want to be clear that inflation is currently impacting the revenue requirements with the anticipation that tariff-related inflation will exacerbate this issue. My testimony

will describe specific cost increases that justify the proposed increase. However, to some degree, inflation is the primary or secondary factor for all increases.

B. Pittsburgh Water's Budgeting Process

Q. PLEASE DESCRIBE HOW PITTSBURGH WATER'S OPERATING BUDGETS ARE CREATED.

A. Each of the fifteen departments within Pittsburgh Water prepares budget requests for the upcoming fiscal year. Those requests are reviewed by the Finance Department for accuracy and adherence to realistic expectations and/or projections. The Finance Department prepares a "roll-up" of initial funding and expense recommendations for the Chief Executive Officer and Chief Financial Officer. The Chief Executive Officer and Chief Financial Officer then may make recommendations on the initial budget requests. Any recommendations are discussed with the applicable department and, if accepted, results in a revised set of budget requests. Once satisfied, the Chief Executive Officer and Chief Financial Officer (with the assistance of the Finance Department) prepare an operating budget for review by the Board. The Board may accept or modify the operating budget. The final operating budget is approved by the Board. Typically, approval is received in November or December for the fiscal year commencing on January 1.

Q. PLEASE DESCRIBE HOW PITTSBURGH WATER'S CAPITAL IMPROVEMENT PLAN IS CREATED.

A. Pittsburgh Water updates its 5-year CIP annually by soliciting budget requests from subject matters experts within the main functional areas (water, wastewater, and stormwater). The Finance Department prepares a "roll-up" of all budget requests for the purposes of being reviewed by the CIP Committee. The CIP Committee is made up of 14 representatives from the Water Treatment Plant, Operations, Environmental Compliance,

Safety and Security, Laboratory, Engineering & Construction, Technology Services, and Finance. These 14 representatives score new projects based on weighted categories consistent with Pittsburgh Water's strategic plan to generate funding recommendations. The purpose of the CIP Committee is to ensure capital funds are invested efficiently given the needs of Pittsburgh Water, with funding recommendations ultimately being sent to the Chief Executive Officer and Chief Financial Officer for review. The Chief Executive Officer and Chief Financial Officer then may make recommendations on the initial budget requests. Any recommendations are discussed with the CIP Committee and, if accepted, results in a revised set of budget requests. Once satisfied, the Chief Executive Officer and Chief Financial Officer (with the assistance of the Finance Department) prepare a CIP for review by the Board. The Board may accept or modify the CIP. The final budget is approved by the Board. Typically, approval is received in the last quarter of the year for the fiscal year commencing on January 1.

Q. WHAT IS THE REVIEW AND APPROVAL PROCESS ASSOCIATED WITH THE OPERATING BUDGET?

A. Similar to the capital budget process, in addition to an internal review and approval process by the Pittsburgh Water executive team, Pittsburgh Water is required to obtain final approval by Pittsburgh Water's Board of Directors. The Board is the governing body of Pittsburgh Water and is responsible for providing strategic direction and oversight to the Pittsburgh Water management team, as well as adopting Pittsburgh Water's annual operating and capital budgets, approving contracts, and approving proposed rate increases (that are subject to final review and approval by the Commission). Once final, Pittsburgh Water makes its annual operating budget and CIP available to the public on its website.

Q. DOES PITTSBURGH WATER ALSO PREPARE A ONE-YEAR FORECAST OF FINANCIAL OPERATIONS (HERE REFERRED TO AS THE FORECAST PERIOD)?

A. Yes. Pittsburgh Water rolls forward its budgeted operating results using the budget year, which is the FPFTY in this case, as the base year to create a one-year forecast, taking account of any known rate or other changes that might affect the results in a particular year. For this filing, Pittsburgh Water accelerated its budgeting process for FY 2025 to establish a fully developed FPFTY as the test year in this proceeding and as a base year of its one-year forecast. Note that in this rate case, Pittsburgh Water is only requesting an increase principally for annual debt service, debt service coverage costs, and the associated DSIC increase in FY 2027. The Forecast Period results are shown on Exhibit EB-2.

C. Pittsburgh Water's Operating Needs

Q. WHAT ARE THE OPERATING REVENE REQUIREMENTS IN THE FPFTY 2026 AND FY 2027?

A. Pittsburgh Water is proposing operating (i.e., non-capital) revenue requirements of $152.1 million, or an increase of $16.6 million, in the FPFTY and no increase in FY 2027, making up about 24% of the total revenue requirement increase in the FPFTY and 19% of the total revenue requirement increase in this rate case. The expense categories of Direct Operating, Salaries, General & Administrative, and Employee Benefits are main drivers of the increase in the FPFTY given Pittsburgh Water's continued efforts to right size its operations to fit the size of the system. As explained later in my testimony, the revenue requirement increase in FY 2027 is associated with annual debt service, debt service coverage costs, and the associated DSIC increase only. The table below summarizes this request by the expense categories within the operating budget.

Expense Category	FY 2024	FY 2025	FY 2026	FY 2027
Direct Operating	$51,923,709	$58,020,421	63,784,191	63,784,191
Salaries	34,914,135	39,448,726	42,767,628	42,767,628
General & Administrative	20,915,296	21,991,916	27,809,908	27,809,908
Employee Benefits	10,201,149	11,830,581	13,100,420	13,100,420
Inventory	2,252,147	2,176,740	2,251,020	2,251,020
Net ALCOSAN	(2,521,199)	2,036,793	2,383,047	2,383,047
Total	**$117,685,237**	**135,526,742**	**152,096,214**	**152,096,214**
Difference	**-**	**17,841,504**	**16,569,472**	**-**

Q. CAN YOU EXPLAIN WHAT EXPENSES ARE INCLUDED IN THE DIRECT OPERATING EXPENSE CATEGORY?

A. Yes, as the name implies, the direct operating expense category includes expenses that are required to keep Pittsburgh Water running on a day-to-day basis, such as material purchases, surface restoration (paving), water and sewer repairs, vehicles purchases, catch basin cleaning, maintenance contracts, and water treatment chemical purchases. The direct operating expense category represents the largest of all the operating budget categories. This is a result of Pittsburgh Water's continued need to modernize and maintain its large water, sewer, and stormwater systems. Not providing Pittsburgh Water with the requested amount of funds for this expense category will put even more pressure on the already massive CIP as improvements will only be made when failures occur.

Q. WHAT ARE THE MAIN DRIVERS IN THE DIRECT OPERATING EXPENSE CATEGORY?

A. The main drivers of this category are the rapid increase in surface restoration, new vehicle purchases, manhole repair, line locating services, emergency sewer repair, emergency water line repair, and field inspection. These expenses make up over 64% of the FPFTY cost in this expense category with the total FPFTY expenses in this category

increasing $12.0 million, or 23% as compared to FY 2024, the most recent year Pittsburgh Water had a rate increase.

Q. CAN YOU ELABORATE ON THE FPFTY REVENUE REQUIREMENT FOR SURFACE RESTORATION?

A. Yes. As of April 9, 2025, Pittsburgh Water currently has a backlog of 1,022 open sites that need to be paved. This is the result of Pittsburgh Water's operations crews being proactive to replace lead lines as they are identified, as well as aged infrastructure. The rate of these replacements has outpaced the paving contractor's ability to keep up with all sites, resulting in temporary patches or fillings. The FPFTY revenue requirement of $15.0 million is enough funding to allow Pittsburgh Water to eliminate the backlog, as well as manage new sites in the future. The chart below shows this cost increase in more detail.

	FY 2024	FY 2025	FY 2026	$ Increase (FY26-FY24)	% Increase
Surface Restoration	$12,236,064	$11,629,828	$15,000,000	$2,763,936	23%

As explained in Ms. Mechler's testimony, failure to fund the full FPFTY revenue requirement will result in reputational issues for Pittsburgh Water, potentially hazardous road conditions, and a poor level of service.

Q. CAN YOU PROVIDE THE FPFTY REVENUE REQUIREMENTS FOR NEW VEHICLES?

A. Certainly. The new vehicle purchases revenue requirement for the FPFTY is $3 million. As shown below, Pittsburgh Water has neglected to invest in its fleet over the past few years due to a lack of funding. Currently, 78% of Pittsburgh Water's fleet is over 5 years of age, with 32% over 7 years of age.

	FY 2024	FY 2025	FY 2026	$ Increase (FY26–FY24)	% Increase
Vehicle Purchases	$762,342	$930,000	$3,000,000	$2,237,658	294%

Approximately $2–3 million should be the minimum amount invested annually to keep up with replacement cycles and account for the expansion of operations. The historic lack of funding has, and will continue to cause, operational issues and increase repair costs because older vehicles cost more to maintain—which is the reason it must be addressed in this rate case.

Pittsburgh Water plans to purchase 25 new vehicles in the FPFTY with this funding. The list below displays the specific vehicles that will be purchased. These new vehicles will replace older models with an average age of 10 years.

Vehicle Type	Number of Units to be Purchased
Pickup Trucks	5
¾ Ton Service Body Compressor Trucks	2
Dump Truck	1
Plumber Vans	8
F-550 Dump Truck	1
Small SUVs	5
CCTV Vans	2
Pickup with Manhole Lifter	1

Q. CAN YOU PROVIDE THE FPFTY REVENUE REQUIREMENTS FOR THE LINE LOCATING SERVICES?

A. The FPFTY revenue requirement is $1.8 million. Pittsburgh Water outsources line locating services required for PA One Call responses. This contract must be funded to respond to One Call inquiries and mark infrastructure. Failure to do so could result in fines or damaged infrastructure, creating unnecessary service interruptions for customers.

	FY 2024	FY 2025	FY 2026	$ Increase (FY26–FY24)	% Increase
Line Locating	$480,313	$1,300,000	$1,839,000	$1,358,687	283%

In FY 2024, Pittsburgh Water terminated its contract with the vendor who was providing these services due to poor performance and switched to a more qualified vendor that has adequate capacity to manage the line locating requirements. However, this switch also resulted in a more than 100% cost increase as compared to the prior vendor. Pittsburgh Water does not have the capacity to handle this function internally and will continue to utilize the new contractor given their improved performance.

Q. CAN YOU PROVIDE THE FPFTY REVENUE REQUIREMENTS FOR THE MANHOLE REPAIR CONTRACT?

A. The FPFTY revenue requirement is $3.0 million. Pittsburgh Water utilizes its manhole repair contract to outsource the repair of existing sewers, manholes, and catch basins. This contract has historically been underfunded due to a lack of funding. Pittsburgh Water has, when available, increased the funding for this contract to help right-size the maintenance of the large sewer and stormwater system. It is also anticipated that the forthcoming Wet Weather Consent Decree will require a certain level of annual funding for this contract.

	FY 2024	FY 2025	FY 2026	$ Increase (FY26–FY24)	% Increase
Manhole & Point Repair Contract	$1,615,548	$2,500,000	$3,000,000	$1,384,452	86%

Q. CAN YOU PROVIDE THE FPFTY REVENUE REQUIREMENTS FOR THE EMERGENCY WATER LINE AND SEWER MAIN REPAIR CONTRACT?

A. As shown below, the combined FPFTY revenue requirement for these emergency services is $14.8 million. Pittsburgh Water utilizes on-call contractors to address urgent water line breaks and sewer main collapses. These contracts are critical to maintaining an adequate level of service to customers. While the number of repairs can vary, urgent repairs are frequent and result from aged infrastructure that has not been addressed until

recently. It will take decades for the current aggressive infrastructure replacement cycles to reduce the number of repairs.

	FY 2024	FY 2025	FY 2026	$ Increase (FY26–FY24)	% Increase
Emergency Water	$6,022,594	$8,727,687	$7,000,000	$977,406	16%
Emergency Sewer	$6,637,545	$8,357,510	$7,800,000	$1,162,455	18%

Q. CAN YOU PROVIDE THE FPFTY REVENUE REQUIREMENTS FOR FIELD INSPECTION SERVICES?

A. The FPFTY revenue requirement is $3.1 million. Field inspections services are outsourced by Pittsburgh Water and are necessary to ensure the work being performed under the surface restoration, manhole and point repair, emergency water and sewer repair, and other like contracts are completed within all required specifications. The cost for field inspection services has dramatically increased because of inflation as well as additional demand as Pittsburgh Water completes more work under the aforementioned contracts.

	FY 2024	FY 2025	FY 2026	$ Increase (FY26–FY24)	% Increase
Field Inspection	$2,125,554	$2,806,337	$3,094,282	$968,728	46%

Q. WHY IS PITTSBURGH WATER REQUESTING A LARGE INCREASE IN THE SALARY AND EMPLOYEE BENEFITS EXPENSE CATEGORY?

A. The combined salary and benefits FPFTY revenue requirement is $55.9 million. This will support Pittsburgh Water's plan to continue to expand its workforce and to fund increases to benefits and salary costs. As of May 2025, Pittsburgh Water employed over 423 employees, with a plan to add 16 new positions in FPFTY. This staffing increase is necessary to support Pittsburgh Water's over $1.2 billion CIP, forthcoming compliance activities, and expansion of operations.

Q. CAN YOU EXPLAIN WHAT EXPENSES ARE INCLUDED IN THE GENERAL AND ADMINISTRATIVE EXPENSE CATEGORY?

A. Yes, this category includes administrative expenses such as cell phones, internet, insurance, supplies, utilities, legal services, and other consulting costs required to maintain operations. This expenses category will continue to increase as the general operations, such as the number of employees of the organization, grow.

Q. WHAT ARE THE MAIN DRIVERS IN THE GENERAL AND ADMINISTRATIVE EXPENSE CATEGORY?

A. The main drivers of this category are increases to consultants, office rent, and electricity costs.

Q. CAN YOU PROVIDE THE FPFTY REVENUE REQUIREMENT FOR CONSULTANTS?

A. The FPFTY revenue requirement is $7.3 million, excluding consulting costs for this rate case, which I will discuss later in my testimony. Consultants are utilized at Pittsburgh Water on an as-needed basis to support certain functions of the organization. The majority of the costs (about $5.4 million) are allocated to the Engineering and Construction department to for modeling and program support related to the Wet Weather Consent Decree, hydraulic modeling support, and stormwater master plan costs.

	FY 2024	FY 2025	FY 2026	$ Increase (FY26–FY24)	% Increase
Consultants	$4,584,954	$5,899,525	$7,341,919	$2,756,965	60%

Q. CAN YOU PROVIDE THE FPFTY REVENUE REQUIREMENT FOR OFFICE RENT?

A. Yes. The FPFTY revenue requirement is $2.9 million. Pittsburgh Water recently executed a lease agreement for a new operations facility that is centrally located in the City of Pittsburgh. Below is the FPFTY revenue requirement for this lease.

	FY 2026
New Operations Facility Lease	$1,778,559

The current operations facilities or "yards" do not have the space or capacity to handle the growing needs of the system. It is posing major issues as Pittsburgh Water embarks on its large CIP that requires additional staff, equipment, and vehicles. It is also becoming a safety issue. For example, due to limited space, Pittsburgh Water is forced to park many of its vehicles and equipment on the street or directly outside of its yards without any security. This has resulted in multiple overnight vehicle break-ins where bad actors have stolen equipment and caused damage. The new facility can house Pittsburgh Water's entire fleet indoors and includes a lay down yard, with ample office and meeting space for field operations employees. The FPFTY costs below reflect both the lease cost for Pittsburgh Water's headquarters location at 1200 Penn Avenue, as well as the new operations facility lease.

	FY 2024	FY 2025	FY 2026	$ Increase (FY26–FY24)	% Increase
Office Rent	$1,077,179	$1,064,122	$2,851,821	$1,774,642	165%

Q. CAN YOU PROVIDE THE FPFTY REVENUE REQUIREMENT FOR ELECTRICITY?

A. The FPFTY revenue requirement is $6.7 million. Electricity is critical to the process of treating water and pumping it throughout the distribution system. Unfortunately, there has been a substantial increase in the costs of electricity over the past few years, with electric supply costs increasing over 20% in FY 2025. In addition, starting June 2025, PJM Interconnection[7] ("PJM") capacity charges will increase 833% to $269.92/MW-day,

[7] PJM Interconnection is the independent system operator and regional transmission organization for a large portion of the eastern United States.

up from $28.92/MW-day.[8] The cost for electricity in this rate case must be recovered in full to be able to continue to provide services to customers.

	FY 2024	FY 2025	FY 2026	$ Increase (FY26–FY24)	% Increase
Electricity	$5,394,094	$6,190,000	$6,727,000	$1,332,906	25%

Q. CAN YOU DISCUSS PITTSBURGH WATER'S WATER RELIABILITY PLAN AND ITS TRANSITION FROM A CONSENT ORDER AND AGREEMENT TO CONSENT DECREE?

A. Yes, Pittsburgh Water is currently undertaking a series of large infrastructure improvements, known as the Water Reliability Plan ("WRP") projects, that will commence with the replacement of the clearwell at the water treatment plan. The WRP was previously under a Pennsylvania Department of Environmental Protection Consent Order and Agreement but has recently been transitioned to a Consent Decree. As I will explain later in my testimony, the WRP costs make up a large portion of the FPFTY and FY 2027 total capital requirements being claimed in this case. Please refer to Mr. King's testimony for more information on these projects and the recent regulatory actions.

Q. CAN YOU DISCUSS PITTSBURGH WATER'S WET WEATHER CONSENT DECREE?

A. As discussed in the testimony of Ms. Mechler, negotiations are currently ongoing between Pittsburgh Water and the United States Environmental Protection Agency for the purpose of entering into a Wet Weather Consent Decree. The goal of the decree will be to significantly reduce sanitary sewer and combined sewer overflows.

[8] https://electricityplans.com/pennsylvania-capacity-cost-increase-2025/#:~:text=In%20June%202024%2C%20the%20PJM,electricity%20supply%20bill%20in%20Pennsylvania.

Given uncertain timing, Pittsburgh Water is not requesting funds in this rate case to act on the future regulatory requirements resulting from this Consent Decree. However, once final, these costs will be included in future rate cases filed by Pittsburgh Water.

Q. WHAT IS THE ALLEGHENY COUNTY SANITARY SEWER AUTHORITY AND WHAT RELATIONSHIP DOES IT HAVE WITH PITTSBURGH WATER?

A. The Allegheny County Sanitary Sewer Authority ("ALCOSAN") is the region's wastewater treatment provider that is a separate and independent legal entity from Pittsburgh Water. All of the wastewater collected and conveyed by Pittsburgh Water's wastewater conveyance system is treated at the wastewater treatment facilities of ALCOSAN. Pittsburgh Water bills customers on behalf of ALCOSAN for wastewater treatment service via a pass-through charge on Pittsburgh Water bills. ALCOSAN rates are established by ALCOSAN, not Pittsburgh Water.

Pittsburgh Water makes ALCOSAN whole for all charges billed on their behalf, regardless of what is collected. It is for this reason that Pittsburgh Water typically carries bad debt expenses for collections related to this pass-through engagement within Pittsburgh Water's budget. Pittsburgh Water is budgeting for ALCOSAN bad debt expenses of $2.4 million in FPFTY and $2.4 million in FY 2027. It is important to note that, while ALCOSAN is increasing its rate in FY 2027, Pittsburgh Water is not increasing the ALCOSAN bad debt expense in order to only reflect increased FY 2027 cost related to debt service, debt service coverage, and the percentage increase from the DSIC.

Q. CAN YOU EXPLAIN THE RECENT IMPLEMENTATION OF THE PRIVATE WATER LINE AND SEWER LATERAL INSURANCE PROGRAM AND THE ASSOCIATED REVNEUES INCLUDED IN THIS RATE CASE?

A. Yes, Pittsburgh Water recently executed a contract with a third party to administer a private water line and sewer lateral insurance program whereby Pittsburgh Water

receives a 15% royalty on all premiums paid. This is an optional program that customers can enroll into that provides coverages for large water line or sewer lateral breaks. Pittsburgh Water anticipates receiving royalty payments of $21,728 in the FPFTY and $27,884 in FY 2027, which are included in pro forma FPFTY revenues in this rate case. Pittsburgh Water is proposing that all current and future royalty payments from this program will be a dedicated source of funding for the hardship grant fund.

Q. PITTSBURGH WATER IS CURRENTLY NEGOTIATING A NEW BULK WATER SALES AGREEMENT WITH FOX CHAPEL WATER AUTHORITY. CAN YOU EXPLAIN THE IMPACT OF THAT IN THIS RATE CASE?

A. The current bulk water sales agreement with Fox Chapel Water Authority ("Fox Chapel") expires in July 2025. In anticipation of that, Pittsburgh Water has begun negotiations for a new agreement that would graduate Fox Chapel into the wholesale tariff rate of $13.34 over a 3-year period. This equates to total estimated annual revenue of $4.6 million in FPFTY and $6.6 million in FY 2027, which have historically been about $2.8 million per year.

Q. IS THE COST OF THIS RATE CASE AND THE ANNUAL PUC ASSESSMENT FEE INCLUDED IN THE FPFTY?

A. Yes, Pittsburgh Water has budgeted approximately $1.4 million for this rate case and $1.8 million for the annual PUC assessment fee in FPFTY. With respect to rate case expenses, Pittsburgh Water is proposing to include these expenditures as projected in its revenue requirement, rather than amortizing or "normalizing" these expenditures over some period of time. As a cash flow-regulated municipal entity, Pittsburgh Water's rates reflect what it actually incurs in a year, and collecting those costs in rates over two or three years is not reasonable. Also, Pittsburgh Water has been involved in rate-related activity on an annual or semi-annual basis since coming under the jurisdiction of the Commission.

Q. ARE THERE ANY OTHER OPERATING EXPENSES THAT YOU WOULD LIKE TO DISCUSS?

A. Yes, Pittsburgh Water is proposing to pass credit card payment convenience fees on to all customer classes and to provide a credit to customers who switch to electronic billing.

Q. DID PITTSBURGH WATER PREVIOUSLY AGREE TO ELIMINATE THE ADDITIONAL FEES FOR CUSTOMERS TO MAKE INTERACTIVE VOICE RESPONSE AND ON-LINE PAYMENTS?

A. Yes. Pittsburgh Water agreed to do this as part of its 2019 rate case settlement which was negotiated during the fall of 2020 during the COVID-19 pandemic. Since then, the costs of credit card convenience fees are covered by rates for residential customers, while these same costs are paid directly by commercial customers who incur them.

Q. IS PITTSBURGH WATER PROPOSING TO REINSTITUTE THE REQUIREMENT THAT CUSTOMERS INCURRING THESE THIRD-PARTY FEES PAY FOR THEM RATHER THAN PASSING ON THE COSTS TO ALL RATEPAYERS?

A. Yes. Pittsburgh Water has decided to return to its historical policy of requiring customers incurring third-party fees to pay for them for several reasons. Requiring all customer classes to pay third-party fees is justified since it treats all customer classes the same. Also, as explained by Ms. Mechling, we also consider the return to our prior policy as a rate mitigation effort because it ensures the customers electing to incur the third-party costs pay for them rather than spreading that cost to all ratepayers and, therefore, increasing the rates to be paid by everyone and avoiding the subsidization of the convenience fees by other ratepayers. The cost to subsidize these convenience fees is approximately $500,000 per year and are not included in the FPFTY or FY 2027 revenue requirements due to the proposal to eliminate this subsidy. Returning to our historical practice of charging the ratepayer for the costs associated with paying their specific bill ensures that costs are recovered in a fair manner.

Q. PLEASE EXPLAIN THE ELECTRONIC BILL CREDIT PROPOSED IN RATE CASE?

A. Yes, to reduce postage and billings costs, Pittsburgh Water is proposing to offer a one-time $15 credit per account at the time of enrollment to incentivize customers to switch from paper billing to electronic billing. The credit would be applied to the customer's next bill after enrollment. Enrolled customers would also be prohibited from switching back to paper billing for 6 months. This would stop customers from taking advantage of the credit who would otherwise prefer to continue receiving paper bills.

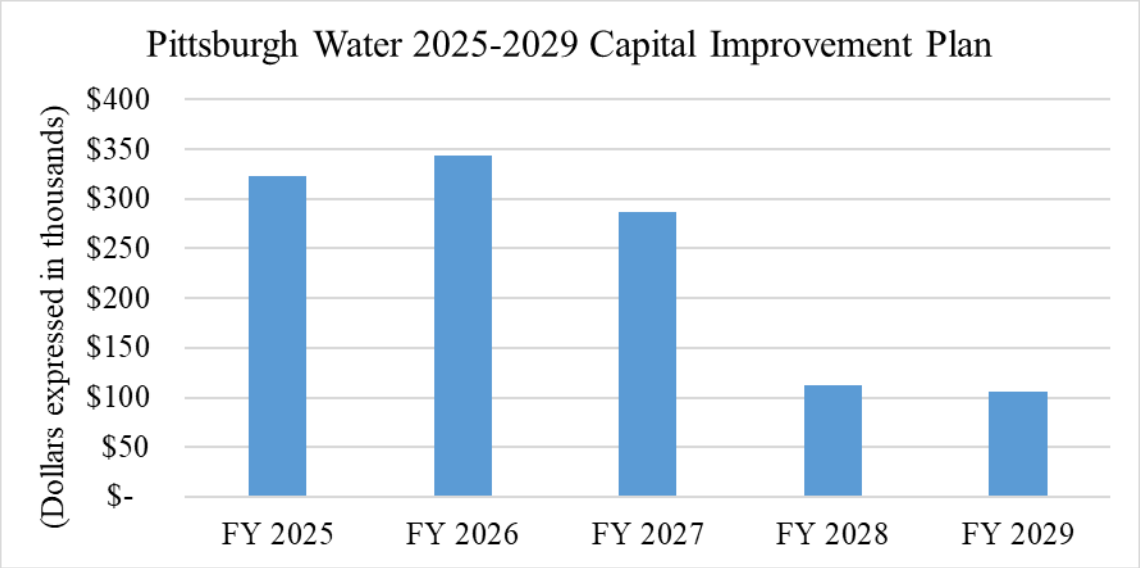
Q. IS THERE A REVENUE REQUIREMENT CLAIMED FOR THE ELECTRONIC BILL CREDIT?

A. No. It costs $2.82 on average to print and mail a single customer bill. Offering a one-time $15 credit would be paid for from the print and mail savings ($2.82 * 6 = $16.92) because customers would not be allowed to switch to paper billing for 6 months after enrollment. Additional savings would accrue if, as expected, most customers stayed on electronic billing after the initial six-month period.

D. Pittsburgh Water's Capital Needs

Q. PLEASE EXPLAIN PITTSBURGH WATER'S CAPITAL IMPROVEMENT PLAN.

A. The Pittsburgh Water Board of Directors approved the 2025–2029 CIP on December 20, 2024. Please see Exhibit EB-4 for a copy of the CIP. The CIP, which includes over $1.2 billion in capital improvements, is, in large part, an effort to make up for multiple decades of deferred maintenance that has resulted in regulatory mandates that must be addressed.



The CIP includes detailed information about Pittsburgh Water's construction projects related to the Water Treatment Plant, Water Pumping and Storage, Water Distribution, Wastewater, Stormwater, and Miscellaneous Projects. As discussed in Mr. King's and Ms. Mechler's testimony, the projects within the CIP must be completed in order to maintain adequate and reasonable levels of service. Delays in completing these projects could result in poor water quality, a complete failure to deliver water, or an inability to meet regulatory requirements of the consent order and agreement.

As can be observed, Pittsburgh Water's CIP drops significantly in FY 2028 and FY 2029. That is not due to a lack of capital needs. Rather, Pittsburgh Water had no choice but to significantly cut its CIP due to the unknowns of future rate increases that are needed to obtain the revenues needed to pay the debt service associated with future capital work. That has and will continue to inhibit Pittsburgh Water's ability to fund design for future projects, which ultimately slows down the rate of capital improvements and negatively impacts ratepayers. Multi-year increases would solve this issue, but the parties to our rate cases have opposed this option in Pittsburgh Water's prior rate cases. As I will describe later in my testimony, Pittsburgh Water is again proposing a multi-year increase but with:

1) the second-year increase in FY 2027 only attributable to debt service, debt service coverage costs, and associated DSIC percentage increases; and 2) a review process that will verify the requested debt service costs. If the multi-year increase requested in this rate case is not approved, Pittsburgh Water will be forced to make significant reductions to its FY 2027 CIP budget. Such a cut would be unacceptable for an entity of Pittsburgh Water's scale and would ultimately harm the same ratepayers the Commission seeks to protect.

Q. WHAT IS PITTSBURGH WATER'S FY 2025, FPFTY 2026 AND FY 2027 CAPITAL BUDGET?

A. Below is a summary of the FY 2025, FPFTY 2026 and FY 2027 capital budgets.

Capital Requirements	FY 2025	FY 2026	FY 2027	Total
Water Reliability Plan	$ 71,672,529	$ 98,867,033	$ 103,572,979	$ 274,112,541
Small Diameter Water Main Replacement	74,188,361	60,800,003	76,205,405	211,193,769
Lead Service Line Replacement	53,160,577	61,953,727	65,421,342	180,535,646
Small Diameter Sewer Rehabilitation	26,700,697	29,030,812	3,360,000	59,091,509
Wastewater	22,700,454	19,538,459	15,485,643	57,724,556
Water Distribution	17,128,301	29,387,613	10,483,065	56,998,979
Water Treatment Plant	14,090,014	20,791,716	4,559,256	39,440,986
Stormwater	29,489,958	7,580,760	1,999,779	39,070,497
Miscellaneous	12,558,165	16,250,000	6,265,500	35,073,665
Water Pumping and Storage	1,740,281	-	-	1,740,281
Total Capital Requirements	$ 323,429,337	344,200,123	287,352,969	$ 954,982,429

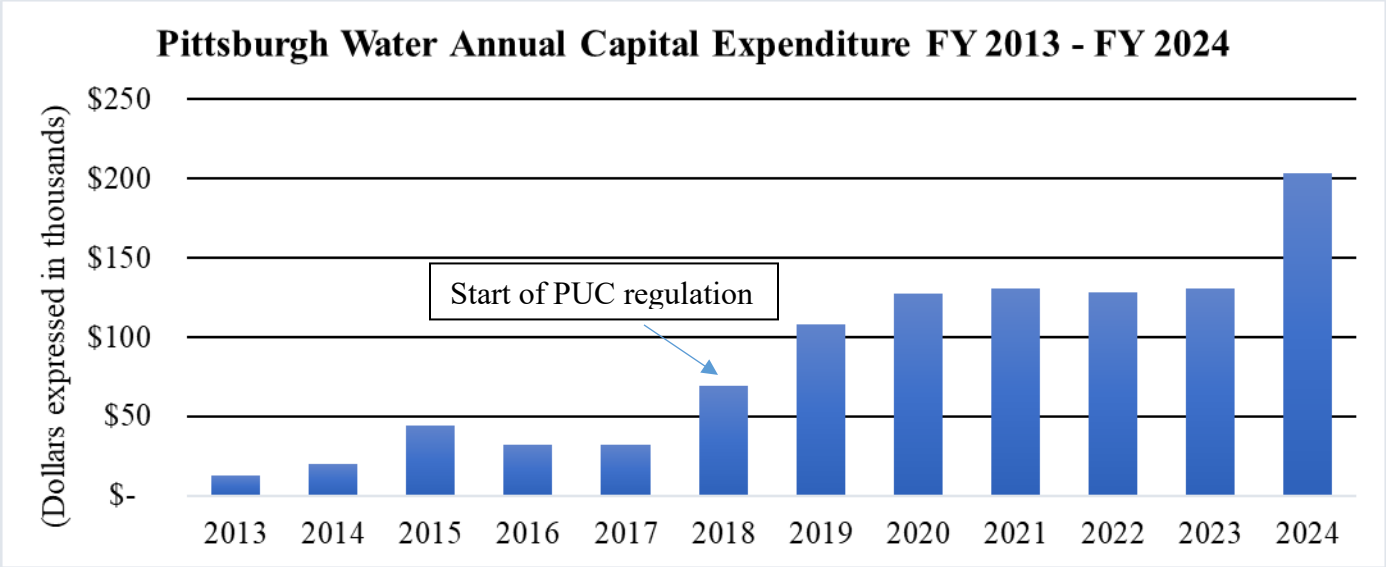
Included in the amounts above are: (1) the costs associated with the previously mentioned WRP Consent Decree projects, and unrelated water main replacement program and lead service line replacement program representing approximately $221.6 million (or 64%) of the capital requirements in FPFTY 2026; and (2) $245.2 million (or 85%) of the capital requirements in FY 2027 Forecast Period, further demonstrating the need for a multi-year rate increase. This funding must be available to comply with the Consent Decree and to continue replacing lead service lines. Failure to do so increases the risk of public health

issues as well as non-compliance with orders that could lead to fines or other disciplinary actions.

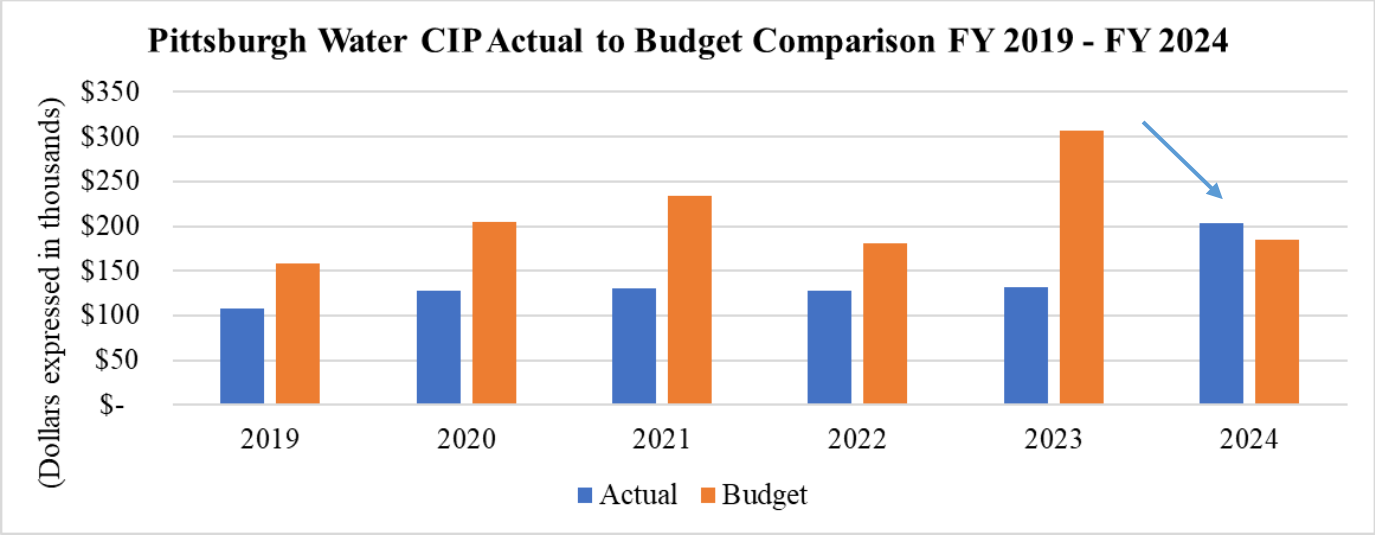
The majority of the remaining capital requirements in FPFTY 2026 and FY 2027 are barely sufficient and include minimal funding for annual replacement costs associated with meters, sewer lines, valves, hydrants, catch basins, and stormwater improvements. These projects must also be funded in order to replace aged infrastructure and implement annual asset replacement cycles.

Q. IS PITTSBURGH WATER CAPABLE OF COMPLETING THE CAPITAL BUDGET LEVEL OF INVESTMENT IN FPFTY 2026 AND FY 2027?

A. Yes, Pittsburgh Water can meet the capital budget in FPFTY 2026 and FY 2027. The ramp up in Pittsburgh Water's CIP started in FY 2018 and was the result of regulatory mandates and system failures. This required the entire organization to mature at a rapid pace by hiring qualified employees, implementing new processes and standard operating procedures, and obtaining the necessary funds to pay for the plan. The historical capital expenditure chart below shows Pittsburgh Water's recent success in this effort.



The chart above displays that Pittsburgh Water's CIP is now in full force by highlighting these facts: (1) Over $100 million in annual capital improvements have been achieved every year since FY 2019; (2) FY 2024 marked both the largest annual increase in capital improvements as well as the most ever completed in a year; and (3) the first time in recent history that Pittsburgh Water met its annual CIP budget, as displayed by the chart below. Accordingly, it would not be accurate to suggest that Pittsburgh Water's budgeted capital requirements are unrealistic.



Q. BUT WHAT IF FY 2024 WAS AN ANOMALY? HOW CAN FUTURE CAPITAL PROJECTIONS BE TRUSTED BASED OFF OF ONE YEAR OF MEETING THE ANNUAL BUDGET?

A. The momentum from FY 2024 has carried into FY 2025 with current projections showing Pittsburgh Water meeting its FY 2025 annual budget. Through May 12, 2025, $50.2 million have been spent on capital improvements, which is a $6.9 million or 16% increase over the prior year. Pittsburgh Water also recently completed the procurement process for the next phase of the WRP to construct the Aspinwall Pump Station, Bruecken Pump Station, and Clearwell By-Pass projects. These projects are the largest capital improvements in Pittsburgh Water's history to date. The construction of these

three projects will commence in August 2025 and will cost a total of $259.0 million, of which $78.4 million is projected to be spent in FPFTY and $91.5 million in FY 2027. In addition, there is also over $185 million budgeted in the CIP to replace lead service lines, of which approximately $60.8 million is budgeted in the FPFTY and $64.7 million is budgeted in FY 2027.

Q. WHAT IS THE CAPITAL REVENUE REQUIREMENTS IN THE FPFTY 2026 AND FY 2027?

A. Pittsburgh Water capital revenue requirements are made up of the DSIC, annual debt service costs, and the additional amount of revenue, as referred to as Debt Coverage Capital, needed to meet the debt service coverage ratio. The FPFTY capital revenue requirement is $151.1 million in the FPFTY and $171.9 million in FY 2027, making up about 76% of the total revenue requirement increase within this rate case.

Capital Revenue Requirements ($M) FY 2026 & FY 2027			
Description	2026 Budget	2027 Budget	Total
Annual Debt Service	$111.0	$127.8	$238.8
Debt Service Capital	$21.2	$23.8	$45.0
Internally Generated Funds (DSIC)	$18.9	$20.3	$39.2
Total	**$151.1**	**$171.9**	**$323.0**

Q. CAN YOU EXPLAIN WHAT SPECIFIC COSTS ARE INCLUDED IN THE REQUESTED CAPITAL REVENUE REQUIREMENT?

A. Yes. As a municipal authority, Pittsburgh Water has a different capital structure than investor-owned utilities, whereby the main sources available to fund capital improvements for Pittsburgh Water are debt and internally generated funds. These sources are detailed below to show the incremental costs associated with each within the overall revenue requirements of this rate case. Note that any grants received are substituted for a portion of the planned future debt issuances and therefore reduce the revenue requirement for capital costs. To be conservative, Pittsburgh Water typically

does not include grants in its financial plans unless the award is final. Pittsburgh Water is also including Debt Service Capital, which is the additional revenue required to meet the required debt service coverage ratio associated with issuing bonds. The debt service coverage subject will be covered later in my testimony.

Incremental Capital Costs ($M) FY 2026 & FY 2027			
Description	2026 Budget	2027 Budget	Total
Annual Debt Service	$17.4	$16.8	$34.2
Debt Service Capital	$21.2	$2.6	$23.8
Internally Generated Funds (DSIC)	$8.8	$1.4	$10.2
Total	**$47.4**	**$20.8**	**$68.2**

Q. CAN YOU FURTHER ELABORATE ON THE $34.2 MILLION DEBT SERVICE REVENUE REQUIREMENT INCLUDED IN THIS RATE REQUEST?

A. Yes, the chart below shows the detail of what is included within the total $34.2 million debt service revenue requirement.

Incremental Debt Service Costs Detail ($M) FY 2026 & FY 2027			
Description	2026 Budget	2027 Budget	Total
New Bond Annual Debt Service	$12.2	$10.9	$23.1
PENNVEST	$4.2	$5.9	$10.1
Capital Line of Credit	$1.0	$0.0	$1.0
Total	**$17.4**	**$16.8**	**$34.2**

The public debt service revenue requirement of $23.1 million is made up of the new debt issuances below.

Estimated Public Debt Issuance ($M) FY 2026 & FY 2027		
Description	Loan Amount ($M)	Estimated Issuance Date
Series 2026	$150.0	Spring, 2026
Series 2027	$110.0	Spring, 2027
Total	**$260.0**	

These debt issuances will be utilized to fund the capital projects within the capital improvement plan that are not funded by PENNVEST and internally generated funds (requested to be funded with the DSIC in this rate case, as explained below).

The incremental PENNVEST debt service increase of $10.1 million covers all outstanding PENNVEST loans. These debt service costs are expected to increase over the next 3–4 years as loans are drawn down, ultimately leading to full amortization. As discussed later in my testimony, Pittsburgh Water is proposing to expand the PENNVEST Charge to cover all loans, not just loans closed on and after January 1, 2025, which was the settlement terms of the last base rate case.

The capital line of credit is used to provide interim fund capital expenditures. New public debt is issued to reduce the balance when the line of credit nears capacity. Interest payments on the capital line of credit are variable, with the current interest rate environment increasing the interest costs associated with this facility, driving the need for the additional $1.0 million revenue requirement in the FPFTY. In addition to these various borrowing vehicles, Pittsburgh Water's construction funding is supplemented by internally generated funds, which is funded through the DSIC.

Q. DO YOU ANTICIPATE THE RECENT FEDERAL BUDGET CUTS TO IMPACT THE LENDING CAPACITY AT PENNVEST?

A. No. PENNVEST, like other state revolving funds, received the largest federal funding allocation in decades through the Bipartisan Infrastructure Bill that was passed in 2021. As entities around the Commonwealth repay the loans awarded from this funding, PENNVEST will be able to leverage those repayments to award future funding. Thus, providing a sustainable funding source for the near future. While at a much lower amount, it is also anticipated that the federal government will continue to provide annual

allocations to the Drinking Water State Revolving Fund and Clean Water State Revolving Fund, which will provide additional funding for PENNVEST.

However, I do anticipate federal grant funding and principal forgiveness opportunities to become limited once the Bipartisan Infrastructure Bill sunsets in FY 2026. Pittsburgh Water has, and will continue to, pursue this grant funding while it is available, specifically for lead service line replacements. Pittsburgh Water has a goal of replacing all lead in its system by FY 2027 which aligns nicely with the sunset of the Bipartisan Infrastructure Bill.

Q. PLEASE EXPLAIN INTERNALLY GENERATED FUNDING

A. Internally generated funding is a mechanism that finances capital assets with current year's revenues. Internally generated funding is often utilized in the place of long-term debt to fund capital assets that have a short useful life (less than 10 years). Capital assets financed through long term debt should have a minimum useful life no shorter than the average maturity of the debt being issued. Failure to do so would result in an "overleveraged" debt position, which would limit the ability and increase the cost to borrow and fund capital projects.

Internally generated funding should also be considered when funding capital assets with a longer useful life, as it reduces financial risks (such as default), lowers financing costs, makes Pittsburgh Water less susceptible to market vagaries, as well as providing financial flexibility within the capital program. In addition, internally generated funding is cheaper compared to debt service and required debt service coverage costs associated with long term debt when the cost of long-term borrowing is computed.

Q. WHAT SOURCE OF INTERNALLY GENERATED FUNDS ARE INCLUDED IN THIS RATE CASE?

A. Pittsburgh Water's current water and wastewater DSIC is the only source of internally generated funds in this rate case. Pittsburgh Water is requesting to increase the water and wastewater DSIC percentage from 5% to 7.5% for the purpose of generating additional revenue to fund Pittsburgh Water's long-term infrastructure improvement plan ("LTIIP"). This will help Pittsburgh Water address a massive backlog of capital improvements in the most cost-efficient manner. The expansion of the DSIC will result in approximately $10.1 million in additional revenue over two years.

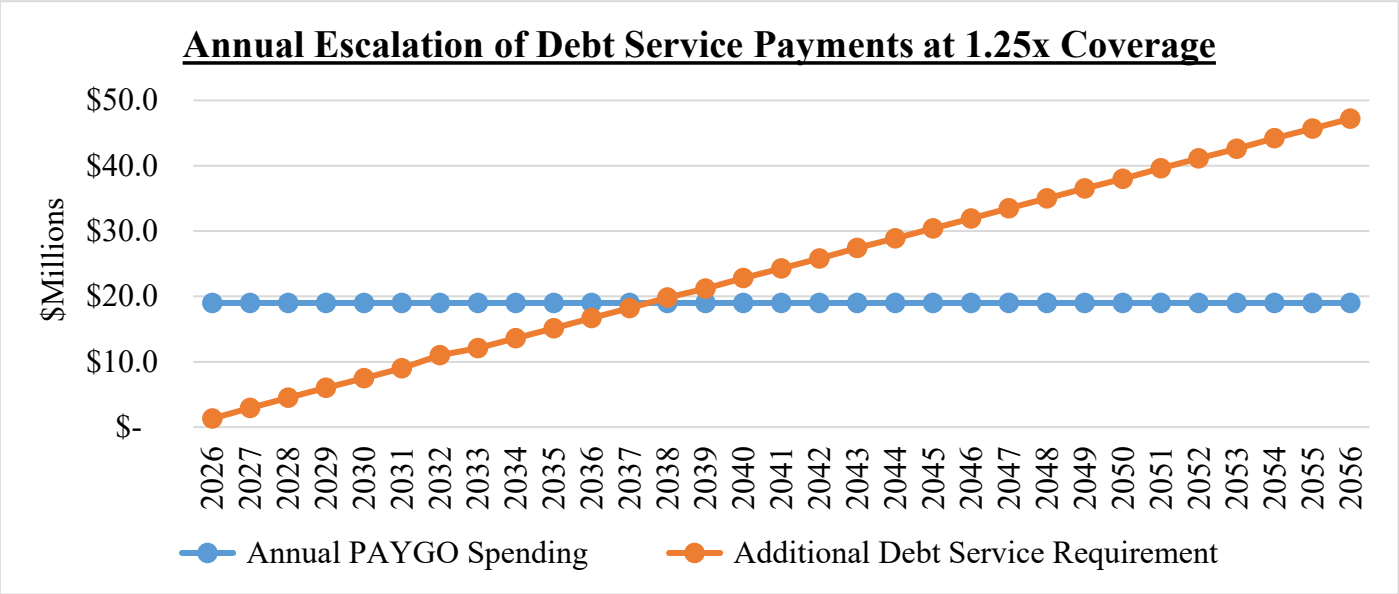
Pittsburgh Water's justification for this increase of internally generated funds is the following. First, Pittsburgh Water seeks to accelerate the rate of which projects within the LTIIP are completed. Second, the rate of inflation over the past five years has resulted in a loss of purchasing power at the current DSIC rate of 5%. Increasing the rate to 7.5% will provide the necessary infusion of cash to make up for this loss. Third, Pittsburgh Water also seeks to increase its level of internally generated funds in an effort to reduce its financial leverage or debt ratio. Pittsburgh Water's financial leverage (total liabilities divided by total assets) continues to remain high but has decreased by 12% because of the DSIC. In fact, if the DSIC increase is granted, Pittsburgh Water estimates that the debt ratio will fall below 90% by the end of FY 2026.

Debt Ratio Percentage FY 2018–2027			
Fiscal Year	Total Assets	Total Liabilities	Debt Ratio
2018	864,343	967,243	112%
2019	947,934	1,058,762	112%
2020	1,035,990	1,160,406	112%
2021[9]	1,148,020	1,228,601	107%
2022	1,283,404	1,274,911	99%
2023	1,364,660	1,331,157	98%
2024	1,525,977	1,443,762	95%
2025*	1,620,466	1,497,552	92%
2026*	1,697,064	1,465,709	86%
2027*	1,788,571	1,505,227	84%

**** Estimate***

Finally, using the DSIC as a source of internally generated funds, rather than long-term debt, is also less expensive to ratepayers over time. This is because, when Pittsburgh Water finances construction through long-term debt, it must recover in its rates both the debt service associated with the long term debt issuance together with the debt service coverage required to be maintained by Pittsburgh Water's bond indenture. The combination of the debt service and debt service coverage and the fact that Pittsburgh Water must regularly issue new debt to fund construction projects results in internally generated funds being cheaper for customers after the first several bond issuances (Pittsburgh Water is planning to use borrowed funds, either PENNVEST/WIFIA loans or publicly issued Revenue Bonds each year for the foreseeable future). This is demonstrated in the following chart (included on the next page):

[9] Implementation of the DSIC.



Q. CAN YOU EXPLAIN WHAT DEBT SERVICE CAPITAL IS?

A. Certainly. First, I need to briefly explain the concept of debt service coverage. I cover debt service coverage more in depth later in my testimony. Pittsburgh Water is required under its bond indenture to have sufficient net revenues (operating revenue minus operating expenses) available in each fiscal year equal to no less than 125% of annual senior debt service plus 110% of aggregate debt service.

Pittsburgh Water's Debt Service Capital revenue requirement in the FPFTY is $21.2 million and $23.8 million in FY 2027. The purpose of Debt Service Capital is to ensure that enough revenue is generated so that Pittsburgh Water can meet and continue to improve its debt service coverage requirements. As mentioned in Ms. Fay's testimony, simply meeting the coverage requirements is not acceptable. Pittsburgh Water's debt service coverage ratios are weak compared to other peer utilities. Improvements must be made in order to maintain financial solvency and support future bond rating upgrades. Below is more detail on the Debt Service Capital revenue requirement calculation that is claimed in this rate case.

Debt Service Capital Detail ($M) FY 2026 & FY 2027		
Description	2026 Budget	2027 Budget
Senior Debt Service	$84.9	$95.3
Debt Service Capital Requirement	25%	25%
Total	**$21.2 ($84.9 *.25)**	**$23.8 ($95.3*.25)**

Q. PLEASE SHOW THE IMPACT OF PITTSBURGH WATER'S FPFTY AND FY 2027 DEBT SERVICE COVERAGE RATIOS WITH AND WITHOUT THE DEBT SERVICE CAPITAL CLAIM.

A. As shown below, Pittsburgh Water's debt service coverage levels drop dramatically without the Debt Service Coverage claim, with the total debt service coverage level dangerously close to the minimum required level. It should be noted that the calculation without the Debt Service Capital claim assumes the remaining revenue requirements in this case are approved without any reductions. This has historically never happened. Additional reductions would decrease the debt service coverage levels beneath what is shown below almost guarantees a violation of the minimum required levels. Again, simply meeting the minimum required levels is not acceptable. Pittsburgh Water must continually improve its debt service coverage levels or risk receiving a credit rating downgrade.

Debt Service Coverage with Debt Service Capital ($M) FY 2026 & FY 2027		
Debt Service Coverage	2026 Budget	2027 Budget
Senior (1.25x minimum required)	1.85x	1.87x
Total (1.10x minimum required)	1.42x	1.39x

Debt Service Coverage without Debt Service Capital ($M) FY 2026 & FY 2027		
Debt Service Coverage	2026 Budget	2027 Budget
Senior (1.25x minimum required)	1.60x	1.62x
Total (1.10x minimum required)	1.22x	1.21x

Q. DOES PITTSBURGH WATER HAVE A BOARD APPROVED FINANCIAL POLICY WHICH ESTABLISHES AN INTERNALLY GENERATED FUNDING GOAL?

A. Yes. The Financial Management Policy included in Exhibit EB-5 requires financial performance to be evaluated on an annual basis with the goal of funding at least 10% of capital expenditures not supported by grants or intergovernmental aid from internally generated funds as measured on a five-year basis. At present rates, the internally generated funding percentage as measured on a five-year basis is 4.2%, which falls short of the Board's 10% target. However, approving the DSIC cap increase to 7.5% would increase this percentage to 8.5%, bringing Pittsburgh Water much closer to the 10% goal.

Q. CAN YOU EXPLAIN PITTSBURGH WATER'S PROPOSAL TO TAKE OWNERSHIP OF WATER SERVICE LINES TWO INCHES OR SMALLER WITHIN THE RIGHT-OF-WAY?

A. Certainly. As explained in Mr. McFaddin's testimony, Pittsburgh Water is proposing to take ownership of water service lines two inches and smaller from the main to the curb stop within the right-of-way. The average cost to replace and take ownership of these lines is approximately $18,400 per line. It is assumed that Pittsburgh Water would take ownership of roughly 15 lines per year with a total of $276,000 being claimed in both the FPFTY and FY 2027.

E. Pittsburgh Water's Debt Structure

Q. WHAT IS THE STRUCTURE OF PITTSBURGH WATER'S CURRENT DEBT PROFILE?

A. As of January 31, 2025, Pittsburgh Water currently has $1.3 billion of bonds outstanding, comprised of approximately $894.1 million (70%) issued under the Senior Lien, $137.2 million (11%) issued as Subordinate Bonds, and $240.2 million (19%) issued as Secondary Subordinate Lien. Of the bonds outstanding, $146.1 million (12%) were issued as variable rate bonds, hedged with a 70% of SOFR + 0.8014% receiver and fixed

payer interest rate swap (with the exception of $2.1 million of the Senior Lien which is unhedged). All of the outstanding variable rate debt was remarketed as a private placement with the rate of 70% of SOFR + 0.80% and a mandatory purchase date of September 1, 2028. The Debt and Swap Portfolio Summary is attached in Exhibit EB-6. In addition to the financial and other covenants required in the governing Amended and Restated Senior Indenture ("Senior Indenture"), Pittsburgh Water has a bank agreement and two swap agreements, all with separate events of default and termination events. The majority of the outstanding bonds are secured with a Surety Policy with Assured Guaranty Municipal Corp. ("AGM") to meet the debt service reserve requirement of the Senior Indenture, which is the lesser of: (1) 10% of par; (2) maximum annual debt service; or (3) 125% of average annual debt service. Pittsburgh Water has also purchased bond insurance through AGM on the majority of its outstanding issues with the Series 1998 Series B Bonds being partially insured by National Public Finance Guaranty Corporation ("NPFGC"), which has placed additional restrictions on interim borrowings against the Senior Lien. Lastly, Pittsburgh Water has also purchased swap insurance on its outstanding interest rate swap agreements, also insured by AGM, with regard to certain termination events.

Q. WHAT ARE THE RISKS AND/OR BURDENS ASSOCIATED WITH PITTSBURGH WATER'S CURRENT DEBT PROFILE?

A. Many of Pittsburgh Water's swap transactions were entered into before the late 2000's fiscal crisis and the related bank and bond insurer credit downgrades and, at that time, were viewed as cost effective. Since that time, Pittsburgh Water has had to spend significant resources in replacing bank agreements, restructuring and/or terminating swap agreements, and reaching certain side agreements with the bond insurers. The risks

inherent to the debt and swap portfolio are still significant even after these changes, especially since Pittsburgh Water has lower credit ratings compared to most large municipal utility systems and Pittsburgh Water will need to continue mitigating these risks in the future.

Since being under PUC oversight, Pittsburgh Water has made progress "de-risking" its debt and related swap portfolio. Pittsburgh Water was able to refund $103.7 million in 2019 and $72.3 million in 2023 of variable rate debt and terminated the related hedged swap agreements replacing the floating rate debt and swaps with low-cost, fixed rate bonds. Pittsburgh Water has concluded that current financial conditions and other factors make additional "de-risking" inadvisable at the present time. In addition, Pittsburgh Water's outstanding debt also has several associated rating triggers that could increase costs and/or cause a termination event. For example, all of the swap agreements have rating triggers related to the bond insurer, as well as Pittsburgh Water, that, if violated, could result in a forced termination event. As a result of Pittsburgh Water's debt being secured by Surety Policies, any refunding or restructuring requires bond insurer approval, or Pittsburgh Water would need to fund these debt service reserve funds with cash. Furthermore, the capital draw-down line of credit agreement includes automatic increased spreads (higher interest costs) if Pittsburgh Water is downgraded to certain rating levels.

Q. CAN YOU DESCRIBE THE DEBT ISSUANCE PHILOSOPHY FOR FUTURE ISSUANCES?

A. Yes. Current Pittsburgh Water management plans to be prudent with future debt issuances, with the goal of minimizing risks and keeping debt costs as low as possible for ratepayers. This is being achieved through the continued pursuit of low-cost financing

from PENNVEST. The expansion of the PENNVEST Charge as is being requested in this rate case will further support this effort.

Q. CAN YOU DISCUSS THE SUCCESS THAT PITTSBURGH WATER HAS HAD OBTAINING PENNVEST FUNDING?

A. Yes, Pittsburgh Water has obtained $714.0 million in low-interest loans and $94.5 million in grants for a total of $808.5 million from PENNVEST since 2018.

Q. IS PITTSBURGH WATER IN PROCESS OF APPLYING FOR ADDITIONAL PENNVEST FUNDING?

A. Yes, Pittsburgh Water has submitted an application for the 2025 Neighborhood Lead Service Line (B) project in the total amount of $25.5 million prior to the May 7, 2025 deadline. The estimated award date is July 16, 2025. Pittsburgh Water will also submit an application for the 2024 Small Diameter Water Main Replacement Program in the total amount of $77.7 million on or before the July 30, 2025 deadline. The estimated award date is October 15, 2025.

Q. ARE THE COSTS FOR EITHER OF THESE APPLICATIONS INCLUDED IN THE DEBT SERVICE REVENUE REQUIREMENT?

A. Yes, they are included under the PENNVEST debt service revenue requirement with the associated revenues being recovered through the PENNVEST Charge.

Q. IF ADDITIONAL PENNVEST LOANS ARE RECEIVED, WILL THE REVENUE REQUIREMENTS IN THIS RATE CASE NEED TO BE LOWERED?

A. No, because these costs will be covered under the PENNVEST Charge and therefore will be reflected in that mechanism.

F. Pittsburgh Water's Financial Metrics

Q. PLEASE EXPLAIN THE KEY FINANCIAL METRICS FOR PITTSBURGH WATER ON WHICH THIS RATE REQUEST SHOULD BE EVALUATED.

A. As a "cash flow" regulated municipal entity, Pittsburgh Water's operations are entirely funded from rates, either indirectly as a result of short-term or long-term borrowing

(which then must be paid back by ratepayers) or directly through charges to customers. Accordingly, Pittsburgh Water's most important financial metrics are:

1) Debt service coverage ratios;
2) Additional bonds test;
3) Reserves and liquidity; and
4) Bond ratings

Q. EXPLAIN THE REQUIREMENTS OF PITTSBURGH WATER'S RATE COVENANTS?

A. Pittsburgh Water is obligated to conduct an annual assessment to determine compliance with the Rate Covenant for the preceding fiscal year. The Senior Indenture states, "[Pittsburgh Water] shall fix, charge and collect such rates, fees and other charges for the use of and the services furnished by the System and shall, from time to time and as often as shall appear necessary, revise such rates, fees and other charges so as to satisfy all of the three following independent requirements:

1. Net revenues shall be sufficient in each fiscal year to pay annual senior debt service, annual total debt service, all deposits to satisfy the reserve requirement and any additional indebtedness in that fiscal year.

2. Net revenues shall not be less than 125% of annual senior debt service plus 110% of aggregate annual debt service in that fiscal year.

3. Rate covenant net revenues, excluding transfers from the rate stabilization fund, shall equal not less than 100% of aggregate annual debt service."

Pursuant to the Senior Indenture, if Pittsburgh Water "fails to comply with the Rate Covenant, [Pittsburgh Water] shall promptly request a Qualified Independent Consultant to submit a written report and recommendations with respect to increases in [Pittsburgh Water]'s rates, fees and other charges and improvements to bring the [Pittsburgh Water] into compliance with the Rate covenant." The explicit legal language identifies that Pittsburgh Water would need to file a petition to the regulatory body (i.e., the Commission) for the increases. The Senior Indenture specifies that if Pittsburgh Water

cannot establish proper rates, fees, and charges to comply with the Rate Covenant within 180 days of the filed petition to the Commission, then an event of default occurs. An event of default could lead to an acceleration of bond payments by request of bondholders where principal and interest on outstanding bonds become immediately due and payable. In addition, the event of default would cause negative impacts regarding Pittsburgh Water's current bond ratings and access to liquidity and capital markets to continue to finance the necessary improvements outlined in the CIP for the benefit of ratepayers. It is very rare that a large municipal water and sewer utility would violate its respective rate covenant. The consequences of Pittsburgh Water not meeting the annual Rate Covenant could be devastating. This is one reason why Pittsburgh Water seeks to establish consistent, higher debt service coverage levels. The negative financial consequences of lower coverage levels and/or the risk of not meeting the Rate Covenant is discussed in more detail within my testimony, as well as within Ms. Fay's testimony.

Q. WHY IS IT IMPORTANT TO MAINTAIN OR IMPROVE DEBT SERVICE COVERAGE?

A. The fundamental ratemaking philosophy for most financially stable municipal utilities is to provide safe and reliable service at rates that recover all current costs, plus a margin in excess of current costs. This margin, also referred to as coverage, is a municipal utility's only real source of cash. Coverage also provides assurance to investors that the utility will have the cash available to make timely debt service payments.

Q. PLEASE DISCUSS, AT PRESENT RATES, PITTSBURGH WATER'S DEBT SERVICE COVERAGE RATIOS IN THE FPFTY AND IN THE FORECAST PERIOD.

A. At current rates, the debt service coverage ratios decrease to 1.22x for senior debt and 0.94x for total debt in the FPFTY. For the Forecast Year 2027, coverages decline to 1.09x for senior debt and 0.81x for total debt. The debt service coverage ratios shown

below are well below the 1.25x senior and 1.10x total minimum requirement and show that Pittsburgh Water would not be able to fully pay its senior debt obligations and other financial obligations.

	FY 2026	*FY 2027*
Senior Debt Service Coverage Ratio	*1.22x*	*1.09x*
Total Debt Service Coverage	*0.94x*	*0.81x*

Q. PLEASE EXPLAIN PITTSBURGH WATER'S USE OF THE CASH GENERATED BY THE DEBT SERVICE COVERAGE RATIO REQUIREMENT IN EXCESS OF MINIMUM REQUIRED DEBT SERVICE COVERAGE.

A. As noted, Pittsburgh Water is a "cash flow" regulated municipal utility, which means that there are no profit margin goals within the organization. Any "profit" or excess of revenues over expenses is invested back into the system. This benefits the ratepayers of Pittsburgh Water because it offsets future revenue requirements that would otherwise be recovered through rates.

Specifically, Pittsburgh Water would use cash generated in excess of minimum required debt service coverage in the following ways: (1) increase funding into the Rate Stabilization Fund; (2) pay the costs associated of terminating swaps in favor of refunding current debt with long-term municipal fixed rate debt; (3) expedite material and equipment purchases; and (4) cover unexpected capital and operating budget overages.

Q. WHAT IS THE "ADDITIONAL BONDS TEST" AND WHAT IMPACT DOES THAT HAVE AN ISSUING BONDS?

A. As stated in Section 3.02 of the Senior Indenture, Pittsburgh Water must satisfy the additional bonds test prior to issuing additional bonds as outlined below:

> A certificate of an independent consultant stating [Pittsburgh Water] would have been able to meet the Rate Covenant requirements for any twelve consecutive months within the past twenty-four months taking into account:

> (i) The Maximum Annual Debt Service on the proposed series of additional bonds in the current or any future fiscal year;
>
> (ii) the additional net revenue from the rates, fees and other charges adjusted to reflect any rate increases that had not been in effect throughout the consecutive twelve months but that have been approved by and can be implemented by [Pittsburgh Water] at the time of delivery of the proposed series of additional bonds to go into effect within the following five years; and
>
> (iii) additional net revenues that [Pittsburgh Water] may realize from the addition of assets it proposes to finance through the issuance of the proposed series of additional bonds or other funding sources within the following five years or [Pittsburgh Water] has met the rate covenant, taking into account the maximum annual debt service on the proposed series of additional bonds.

In summary, the Additional Bonds Test requires Pittsburgh Water to meet its required Rate Covenant debt service coverage ratios taking into account existing and authorized rates and the maximum annual debt service of a proposed series of bonds prior to issuing additional bonds. The Senior Indenture does not allow Pittsburgh Water to factor in unauthorized future rate increases when calculating the additional bonds test. Failure to satisfy the additional bonds test would prohibit Pittsburgh Water from issuing bonds and thus would create obstacles to fund necessary improvements and new projects for ratepayers.

Q. WHY IS IT IMPORTANT THAT PITTSBURGH WATER HAVE SUFFICIENT REVENUES TO PASS THE ADDITIONAL BONDS TEST?

A. Failure to meet this test will stop the issuance of debt, and concurrently, Pittsburgh Water's capital program.

Q. DOES PITTSBURGH WATER SATISFY THE ADDITIONAL BONDS TEST FOR THE FPFTY IF NO RATE INCREASE IS GRANTED?

A. As shown in Exhibit EB-7, Pittsburgh Water fails the additional bonds test at present rates in the FPFTY, with the impact getting worse in the 2027 forecast. To be clear, this means that Pittsburgh Water cannot issue additional debt to fund its capital program

starting in FY 2026 unless the requested rate increase is approved. Ms. Fay's testimony further describes the devasting impact that this would have on Pittsburgh Water.

Q. DOES PITTSBURGH WATER SATISFY THE ADDITIONAL BONDS TEST FOR THE FPFTY AT THE REQUEST LEVEL OF THE RATE INCREASE?

A. Yes, as shown in Exhibit EB-8, Pittsburgh Water passes the additional bonds test for the FPFTY at requested rates.

Q. WHAT IS THE DAYS CASH ON HAND CALCUALTION?

A. The Days Cash on Hand ("DCOH") calculation is a liquidity measurement that estimates how much cash is on hand to pay for operations only using cash. The calculation is typically performed on an annual basis by dividing the year ending cash balance by operating expenditures, then multiplying by 365.

Q. HOW IMPORTANT IS IT FOR PITTSBURGH WATER TO CONTINUE THE PROGRESS OF INCREASING ITS DAYS CASH ON HAND?

A. It is very important. As described in Ms. Fay's testimony, the DCOH metric is heavily used by rating agencies to determine the ratings of municipal authorities.

Q. AT PRESENT RATES, WHAT LEVELS OF YEAR END CASH IS PITTSBURGH WATER PROJECTING IT WILL EXPERIENCE IN THE FPFTY?

A. At present rates, Pittsburgh Water's DCOH in the FPFTY (FY 2026) is projected to be 118 days with the DCOH metric dropping to 42 days in FY 2027.

	FY 2026	*FY 2027*
Days Cash on Hand ("DCOH")	*118 DCOH*	*42 DCOH*

The substantial drop in DCOH, which is a result of required increases to operations and capital spending without rate relief to keep up with these additional obligations, demonstrates the imperative need for a substantial increase in rates to repair these cash levels. As described in EB-5, it also falls short of Pittsburgh Water's goal of maintaining

100 DCOH with the target of 300 DCOH over the next 5 years. Also, as mentioned in Ms. Fay's testimony, these levels are significantly below other peer utilities.

Q. DOES PITTSBURGH WATER HAVE ACCESS TO SHORT TERM BORROWING THAT IT COULD USE TO OFFSET NEGATIVE CASH BALANCES?

A. No. Pittsburgh Water does not have an Operating Cashflow Line of Credit. That being said, borrowed funds are excluded from the calculation of DCOH at year end. It is for this reason that Pittsburgh Water must focus on continuing to improve the cash balance, which will also improve the DCOH.

Q. DOES PITTSBURGH WATER HAVE ANY MONEY AVAILABLE THAT COULD PROVIDE AN ADDITIONAL SOURCE OF FUNDS TO PAY FOR UNFORESEEN CIRCUMSTANCES TO MEET THE REQUIRED DEBT SERVICE COVERAGE RATIO?

A. Yes. It has a Rate Stabilization Fund ("RSF"), which is currently funded at approximately $24.7 million. Pittsburgh Water's Rate Stabilization Fund Policy (Exhibit EB-9) calls for the balance to be evaluated annually with the goal of increasing the balance to not less than 10%, with a goal of 15%, of operating revenues (excluding ALCOSAN revenues). The minimum percentage of 10% and goal of 15% were decided upon after reviewing the negative revenue impacts of the COVID-19 pandemic. Pittsburgh Water feels that these levels are adequate to maintain financial solvency during an unforeseen event like the recent pandemic. At proposed rates, the balance is projected to be 8.9% in the FPFTY and 9.2% in FY 2027, both years still falling short of the policy goals. The RSF is a standard feature of municipal ratemaking. It is designed to provide flexibility to a municipal utility to meet minimum debt service coverage ratios as well as to demonstrate to the financial community that it is financially stable.

Q. IS PITTSBURGH WATER PROPOSING TO PROVIDE ADDITIONAL RESOURCES FOR THE RSF AS PART OF THIS RATE REQUEST?

A. Yes. We are proposing to allocate $6.0 million in total, $3.0 million in the FPFTY, and $3.0 million in FY 2027—which is only 6.7% of the total revenue requirement increase in this rate case.

Q. PLEASE DESCRIBE PITTSBURGH WATER'S CURRENT BOND RATINGS?

A. The ratings from the two rating agencies that rate Pittsburgh Water's Revenue Bonds are listed below. The credit rating reports are included as exhibits in Ms. Fay's testimony.

S&P A+ (Stable Outlook)
Moody's A2 (Stable Outlook)

Q. WHY IS IT IMPORTANT FOR PITTSBURGH WATER TO MAINTAIN ITS CURRENT BOND RATINGS?

A. Credit ratings are important because Pittsburgh Water, like most utilities, is required to make significant capital infrastructure improvements each year for new and replacement assets. Credit ratings are a critical component in determining the cost of debt as the ratings signal Pittsburgh Water's ability and willingness to meet financial obligations in full and on time. A downgrade of the credit ratings for Pittsburgh Water's Bonds would result in an increase in Pittsburgh Water's borrowing costs and necessitate higher rate increases over time.

Q. WHAT EVENTS, OTHER THAN DEFAULTING ON THE BOND COVENANTS, COULD RESULT IN A DOWNGRADING OF THESE BOND RATINGS?

A. The downgrading of Pittsburgh Water's bond ratings is something that should be strongly avoided. Ultimately, it increases costs to the ratepayer because it increases the cost of financing due to the perception of increased borrowing risk. In addition, the downgrade of bond ratings can limit the number of investors willing to lend to Pittsburgh Water within the capital markets, which will result in: (1) the reduction of funds needed to fund

capital project; (2) a reduction in the level of service due to a lack of capital investments; (3) decreased financial flexibility; and (4) decreased public trust.

G. Financial Results at Present Rates for FPFTY and Forecast Period

Q. WHAT ARE YOUR CONCLUSIONS BASED ON THE FINANCIAL RESULTS AT PRESENT RATES FOR THE FPFTY AND THE FORECAST PERIOD?

A. The operating results at present rates show that it is crucially important that Pittsburgh Water obtain rate relief in order to repair these financial indicators to meet the minimums required by the bond covenant, as well as to have sufficient cash in order to prudently operate Pittsburgh Water at the budgeted levels. A failure to improve these results with additional revenues would prevent Pittsburgh Water from issuing additional bonds in FY 2026, for failure to meet the Additional Bonds Test, and almost certainly result in a bond rating downgrade. It could also result in a default, which would raise the costs of borrowing and limit Pittsburgh Water's access to capital markets, probably for many years. Moreover, a failure to approve the level of rate relief requested would threaten Pittsburgh Water's ability to pay its bills when due.

Q. WHAT LEVEL OF RATE RELIEF DOES PITTSBURGH WATER REQUIRE TO MAINTAIN ITS FINANCIAL INDICATORS AT THE APPROPRIATE LEVELS AND HAVE SUFFICIENT CASH TO PRUDENTLY OPERATE?

A. Pittsburgh Water has determined that an increase of $84.4 million over two years, $63.7 million in the FPFTY and $20.7 million in FY 2027, would barely be sufficient additional revenues to enable it to maintain its financial metrics at adequate levels and would likely maintain its existing bond rating. Without any rate increase, Pittsburgh Water would be forced to stop all operations in the hopes that enough money would be remaining to stay solvent. This most certainly would result in a poor level of service for ratepayers.

Q. HAVE YOU CALCULATED PITTSBURGH WATER'S FINANCIAL RESULTS IN THE FPFTY AS WELL AS IN THE FORECAST PERIOD IF ITS PROPOSED $85.0 MILLION RATE INCREASE IS GRANTED?

A. Yes, those results are shown on Exhibit EB-2. Pittsburgh Water's total rate request of $84.4 million, with $63.7 million in the FPFTY and $20.7 million in FY 2027, would result in the following debt service coverage ratios.

	FY 2026	*FY 2027*
Senior Debt Service Coverage Ratio	*1.85x*	*1.87x*
Total Debt Service Coverage	*1.42x*	*1.39x*

As Pittsburgh Water's financial advisor, Ms. Fay, testifies that these coverage levels at proposed rates are just minimally adequate and well below the levels that bond rating agencies expect for a credit such as Pittsburgh Water. Even though our financial metrics following the requested rate increase are barely sufficient to meet the legally required coverage levels we hope to maintain our existing credit ratings based on the plan to improve our financial performance in future years.

The proposed rate increase would also result in 118 DCOH, in the FPFTY (FY 2026) and 116 DCOH in FY 2027. As explained by Ms. Fay, the levels produced by the requested rate increase are below the median levels of similarly rated municipal utilities as calculated by rating agencies.

V. <u>RATE STRUCTURE CHANGES AND NEW CHARGES</u>

Q. IS PITTSBURGH WATER PROPOSING A MULTI-YEAR RATE INCREASE WITHIN THIS RATE CASE?

A. Yes, as noted above, Pittsburgh Water is proposing a two-year rate increase which would increase revenues by $63.7 million in FPFTY (FY 2026) and $20.7 million in FY 2027.

The 2027 increase is for annual debt service, debt service coverage costs, and the incremental DSIC percentage increase only.

Q. PLEASE DISCUSS THE LEGAL AND POLICY SUPPORT FOR PITTSBURGH WATER'S MULTI-YEAR RATE INCREASE REQUEST.

A. It is well established that the Commission is authorized to approve an application by a utility to establish alternative rate mechanisms in the context of a base rate case. Section 1330 of the Public Utility Code, added to the Code in 2018, authorizes the Commission to approve an application by a utility to establish alterative rate mechanisms in the context of a base rate case. Section 1330(b) specifically states that:

> [T]he commission may approve an application by a utility in a base rate proceeding to establish alternative rates and rate mechanisms, including, but not limited to, the following mechanisms:
>
> (i) decoupling mechanisms;
>
> (ii) performance-based rates;
>
> (iii) formula rates;
>
> (iv) multiyear rate plans; or
>
> (v) rates based on a combination of more than one of the mechanisms.[10]

Therefore, Pittsburgh Water's request for a multi-year rate plan is specifically authorized by Section 1330.

Subsequent to the addition of Section 1330 to the Public Utility Code, the Commission issued a Policy Statement that set out issues the Commission will consider when judging whether an alternative ratemaking proposal is just, reasonable, and in the public interest. The answers to those questions, to the extent they are relevant to a multi-year rate plan such as that which Pittsburgh Water is proposing, support the approval of the multi-year request. These questions and answers are set forth in Exhibit EB-10.

[10] 66 Pa. C.S. § 1330(b).

Q. WHY IS PITTSBURGH WATER PROPOSING A MULTI-YEAR RATE INCREASE?

A. As I have set out in other parts of this Testimony, Pittsburgh Water is a municipal water/wastewater/stormwater utility that has no shareholders and is regulated using the "cash flow" method, which, generally, sets Pittsburgh Water's rates to allow it to recover its operating expenses, debt costs, and capital expenditures funded by cash—and nothing more. Also, Pittsburgh Water is in the midst of a massive CIP, spending tens of millions of dollars every year to modernize Pittsburgh Water's facilities to keep its water and wastewater services safe and adequate, as well as to take steps to mitigate the effects of stormwater runoff. Consequently, Pittsburgh Water's cost of service increases every year. For this reason, setting rates using a "test year" concept—with the assumption that the revenue requirement in the test year will reflect what Pittsburgh Water will experience not only in that year but in subsequent years to give an investor-owned utility just the "opportunity," not a guarantee, of earning its Commission-allowed rate of return—is just not valid for a cash flow-regulated utility. Moreover, Pittsburgh Water is very much in a "building" mode, in which Pittsburgh Water's operating expenses, total debt, and debt service costs have and will continue to go up every year. Therefore, it is a certainty that the revenue requirement determined from FPFTY data will be deficient in the years after the FPFTY. Using a multi-year concept would help to address this issue.

Q. PLEASE DESCRIBE THE ADMINISTRATIVE EFFICIENCIES OF A MULTI-YEAR RATE INCREASE.

A. The main reason for proposing a multi-year rate plan is to provide the ability of Pittsburgh Water to break the cycle of having to file a rate increase every 2–3 years in order to recover increased costs. Because of the many and varied commitments to which Pittsburgh Water is subject, its planned capital budget increases are a certainty. Also

certain is that Pittsburgh Water will have to issue additional debt to pay for this additional construction. Unlike investor-owned utilities, Pittsburgh Water does not have alternative sources of funding, such as shareholder equity on which it can rely to cover the increases in debt and debt costs in between rate cases.

Moreover, the approval of rate increases to cover future debt costs will give Pittsburgh Water the assurance to fully commit to undertake their planned construction. Many of Pittsburgh Water's most important capital improvements are multi-year. Currently, Pittsburgh Water must carefully stage the project so that it does not overcommit its approved revenues, since it cannot be certain that it will be able to obtain the rate levels it needs to support future debt issuances. To the extent that this causes delays in construction, this only leads to additional costs for ratepayers. In today's environment, prices for materials and equipment are only going up. It is in everyone's best interest to complete capital projects as expeditiously as possible.

Q. IS THERE ANYTHING ELSE THAT SUPPORTS THE APPROVAL OF A MULTI-YEAR INCREASE FOR PITTSBURGH WATER?

A. Yes. As Pittsburgh Water witness Harold Smith explains in more detail, multi-year increases are a standard tool for municipal utilities in other jurisdictions. And, prior to Pittsburgh Water coming under the jurisdiction of the Commission, it was a common practice for Pittsburgh Water as well. The common use of multi-year rate increases by municipal utilities is likely for the reasons I have articulated: (1) their revenue requirement is made up of an operating budget and the cost of borrowing and an increase in these factors from year to year is almost a certainly; (2) there are no other sources of funds to offset these certain rate increases; and (3) to fail to accommodate these future

year rate increases simply condemns the municipality to always having less revenue than it needs to fund its operating and capital budgets.

Q. HAS THE COMMISSION APPROVED A MULTI-YEAR INCREASE FOR PITTSBURGH WATER IN PRIOR RATE CASES?

A. Pittsburgh Water has requested multi-year rate increases in two prior rate cases, but the request was withdrawn as part of the settlement of those cases. Specifically, in Pittsburgh Water's last rate case filed in 2023, the arguments that the opposing parties made against approving a multi-year increase included the inability to fully expend the requested funds beyond the FPFTY, unreliable budget projections, no customer benefits, uncertainty of future events, the need for more regulatory oversight, and the lack of an annual reconciliation mechanism.

Q. CAN YOU PROVIDE RESPONSES TO THOSE CONCERNS?

A. Yes. I submit that the concern that Pittsburgh Water's budget projections and the observation that, in the past, Pittsburgh Water has not been able to expend its entire budget in some limited cases, is addressed by limiting the second-year rate increase solely to increased debt costs. Debt costs are related to Pittsburgh Water's Capital Budget, which is known and certain. However, I am also recommending that a review be conducted prior to the second-year increase going into effect where the justification for the year two increase can be demonstrated.

Q. HOW DO YOU ADDRESS THE CRITICISM THAT THE MULTI-YEAR RATE INCREASE ALLEGEDLY DOES NOT BENEFIT CONSUMERS?

A. Actually, it does. As a municipal utility, Pittsburgh Water has no shareholders and earns no profit margin. Therefore, if Pittsburgh Water fails to recover all of the costs it incurs to provide reasonable and adequate service, it will be forced to reduce needed expenditures, file for yet another rate increase, or both. Either of these possibilities hurt

customers because they result in diminished or reduced levels of service or additional costs. On the other hand, if the actual level of debt costs turn out to be lower than that used for the multi-year increase, 100% of that excess will benefit customers in the form of higher DCOH and debt service coverage, which, in turn will reduce the need and level of future rate increases.

Q. ARE THERE EVENTS IN THE FUTURE THAT COULD AFFECT PITTSBURGH WATER'S OPERATIONS BUT THE EFFECTS OF WHICH ARE UNCERTAIN?

A. While I cannot specify any at the moment, I'm sure there could be some. But that is not a basis for opposing a multi-year rate increase. It is the very nature of a multi-year rate increase that rates are being set for a future period. If this were a valid criticism, multi-year rate increases would always be inappropriate, and the General Assembly would not have so clearly authorized them. Here, this concern should be minimized since Pittsburgh Water has limited its increase to debt costs only, a cost item that can be reasonably initially projected and the costs can be revised closer to the time that the second-year increase will go into effect.

Q. WHAT ABOUT THE CONCERN THAT THE MULTI-YEAR INCREASE IS NOT "RECONCILABLE"?

A. I would point out that if the General Assembly believed that a multi-year rate increase was only reasonable if it had a reconciliation mechanism as part of the plan, it would have required such a mechanism. This is a mechanism to restate <u>base rates</u> to reflect additional costs that a utility incurs beyond the FPFTY. Base rates, by their nature are not reconcilable. However, the mechanism could be structured to refund to customers any excess collected (verses actual debt costs). If so, however, the clause would have to be modified so that Pittsburgh Water could also collect any under collection.

Q. CAN YOU EXPLAIN THE DETAILS OF THE MULTI-YEAR INCREASE REQUESTED IN THIS RATE CASE?

A. Yes. While I do not agree with the previous arguments against a multi-year increase, I am willing to find a solution that works for both Pittsburgh Water and the Commission. Pittsburgh Water is requesting additional rates in FY 2027 to solely fund additional debt service costs. This will bring more certainty to the capital budgeting process, expediting the ability to complete needed infrastructure improvements. Pittsburgh Water is also proposing a pre-rate increase "mini-proceeding" that will allow the Commission to review and comment on the FY 2027 rate increase before it is becomes effective. By taking this approach, Pittsburgh Water is simplifying the multi-year request by only requesting debt service and debt service costs in the second year (FY 2027).

Q. CAN YOU EXPLAIN THE PROPOSED REVIEW PROCESS FOR THE INCREASE IN FY 2027?

A. Yes. At the time Pittsburgh Water submits the Securities Certificate for the new debt issuance, the "mini review proceeding" will also be filed separately with the Commission. The "mini review proceeding" will include a copy of the Cost-of-Service Model with the estimated debt service, debt service coverage costs, and the not-to-exceed revenue amount that is approved in this rate case for FY 2027. The Commission will have 60 days upon receipt of the reconciliation to review and ask questions about the proposed debt issuance. Pittsburgh Water will be authorized to proceed with the debt issuance after the 60-day period is over (and the Securities Certificate is received). Within 30 days after closing on the new debt issuance, Pittsburgh Water will be required to submit the Cost-of-Service Model to the Commission that includes both the final debt costs and rate increase amounts needed to support the debt. Note that Pittsburgh Water is proposing that it would have the ability to increase rates in FY 2027 up to, but not above,

the level approved in this rate case. In his testimony, Mr. Smith provides additional support for and details regarding Pittsburgh Water's proposal and describes how the multi-year rate change process I am recommending is modeled after that which is used in Rhode Island.

Q. ARE YOU SUBMITTING ANYTHING ELSE IN SUPPORT OF PITTSBURGH WATER'S REQUESTED MULTI-YEAR INCREASE?

A. Yes. The Commission directed that when a utility requests approval of an alternative ratemaking mechanism, it submits responses to a series of questions. Attached as Exhibit EB-10 to my testimony are Pittsburgh Water's responses to those questions providing additional support to the reasonableness of Pittsburgh Water's multi-year request.

VI. PENNVEST Charge

Q. WOULD YOU PLEASE EXPLAIN PITTSBURGH WATER'S EXISTING PENNVEST CHARGE.

A. As part of the settlement of Pittsburgh Water's last base rate case, the Parties agreed that Pittsburgh Water could implement a PENNVEST Charge pursuant to the Commission's Policy Statement at 52 Pa Code § 69.363. In accordance with that provision of the settlement, Pittsburgh Water included a provision setting forth a PENNVEST Surcharge in its Water and Wastewater Tariff (Water - Page 8B; Wastewater – Page 9B). While the Tariff provision is currently in effect, Pittsburgh Water has not, as of this submission, requested that any amounts be collected through the existing Charge.

Q. IS PITTSBURGH WATER PROPOSING MODIFICATIONS TO EXISTING PENNVEST CHARGE?

A. Yes, Pittsburgh Water is proposing to expand its existing Charge to include both existing and new PENNVEST loans effective March 3, 2026. It also proposes to revise the current tariff language so that it is clear that the surcharge permits the recovery of interest

and/or interest and principal that is charged by PENNVEST prior to the completion of a PENNVEST-loan financed project.

Q. PLEASE EXPLAIN WHY PITTSBURGH WATER IS REQUESTING THAT THE PENNVEST CHARGE COVER EXISTING AS WELL AS NEW PENNVEST LOANS?

A. The Commission have endorsed the concept of a PENNVEST Charge as a reasonable means of permitting a utility to recover in rates the costs of its PENNVEST loans. In accordance with that policy, the parties to Pittsburgh Water's prior rate case agreed, and the Commission approved the creation of a PENNVEST Charge by which Pittsburgh Water can recover the debt service of new PENNVEST loans. But Pittsburgh Water has a significant amount of existing PENNVEST loans, the costs (debt service) of which are currently being recovered in base rates. Currently, Pittsburgh Water's revenue requirement contains $14.3 million in the FPFTY and $14.8 million in FY 2027 for the payment of principal and/or interest associated with PENNVEST loans. Pittsburgh Water believes it would be better to recover these amounts in the PENNVEST Charge as well.

Q. WHAT DOES THE COMMISSION'S CURRENT POLICY STATEMENT REGARDING THE PENNVEST CHARGE SAY ABOUT RECOVERING THE COSTS OF EXISTING PENNVEST LOANS (IN ADDITION TO ANY FUTURE LOANS) IN THE PVC?

A. The current Policy Statement states that a PENNVEST Charge can include "outstanding PENNVEST obligations that have not been reflected in rates."[11] However, the Policy Statement does not preclude including existing loans and Pittsburgh Water believes that including all PENNVEST existing obligations (as well as its present authority to include new loans) would be better for Pittsburgh Water and its customers. Notably, if this proposal is approved, Pittsburgh Water would remove from existing rates the revenue

[11] 52 Pa. Code § 69.363(a).

requirement associated with existing PENNVEST loans and proceed to recover that revenue requirement in the PENNVEST Charge.

Q. WHY WOULD IT BE BETTER FOR PITTSBURGH WATER CUSTOMER'S AND PITTSBURGH WATER TO RECOVER ITS EXISTING PENNVEST CHARGE AMOUNTS IN THE PENNVEST CHARGE?

A. Transferring these costs to the PENNVEST Charge will provide assurance that Pittsburgh Water will always have the funds to make the payment on these government obligations. Currently, if Pittsburgh Water suffered a real reduction in revenues as a result of economic conditions or for other reasons, Pittsburgh Water would have to use its revenues reserved to cover operating expenses to continue to meet its PENNVEST obligations. Missing a payment or defaulting on these loans is not an option. PENNVEST is an extremely low-cost financing mechanism. If Pittsburgh Water lost the ability to use PENNVEST as a financing mechanism, it would result in Pittsburgh Water ratepayers paying millions of dollars in additional financing costs because it would have to try to replace that financing by issuing general obligation bonds, with much higher costs. This would also put additional pressure on its ability to use the private bond market. For these reasons, expanding the PVC mechanism to include existing PENNVEST loans is very reasonable.

Q. CAN YOU EXPLAIN THE MECHANICS OF MOVING PITTSBURGH WATER'S EXISTING PENNVEST LOANS INTO THE CHARGE?

A. Yes. Pittsburgh Water's current revenue requirement contains $14.3 million in the FPFTY and $14.8 million in FY 2027 representing the payment of interest and/or principal on its current PENNVEST loans. As required for PENNVEST loans closed on or after January 1, 2025 that are covered under the PVC, Pittsburgh Water would also submit quarterly and semi-annual reconciliation reports for current PENNVEST loans

closed prior to January 1, 2025. Pittsburgh Water proposes that, on March 3, 2026, it will transfer this existing PENNVEST loan revenue requirement from base rates to the Charge. PENNVEST's Charge would increase by that amount and Pittsburgh Water's base rates would be reduced, which is reflect in this rate case as well as the Cost-of-Service Model.

Q. PLEASE EXPLAIN THE CHANGE TO THE PENNVEST SURCHARGE TARIFF LANGUAGE THAT PITTSBURGH WATER IS PROPOSING.

A. PENNVEST does not require a borrower to start paying back the principal and interest on the loan until the facilities that are being financed by the loan are in service or after 36 months (typically). Payments made after the PENNVEST-financed project is completed are clearly recoverable in the existing Surcharge. However, prior to the facilities being placed into service, PENNVEST requires the borrower to pay interest on the borrowed amount. Moreover, PENNVEST's current loan provisions require a borrower to begin repayment of both principal and interest after a period of time set out in the loan agreement, usually 36 months. Pittsburgh Water intends to recover those payments in the Surcharge as well.

Q. IS THERE A PROVISION IN THE CURRENT PENNVEST SURCHARGE TARIFF THAT WOULD PREVENT RECOVERY OF PENNVEST CHARGES PRIOR TO THE PROJECT GOING INTO SERVICE?

A. Yes. There is a provision that currently states that the PENNVEST loan may not be included in the Surcharge until the facilities financed by the loan are "used and useful."

Q. IS IT REASONABLE TO REMOVE THE "USED AND USEFUL" REQUIREMENT AS THE TRIGGER FOR WHEN PENNVEST CHARGES CAN BEGIN TO BE RECOVERED IN THE SURCHARGE?

A. Yes. As I understand it, the requirement that a facility cannot be included in a utility's rates until it is used and useful is a product of the rate of return/rate base model used by investor-owned utilities. It prevents an investor-owned utility from beginning to earn a

profit on an investment until the investment is actually serving customers. As the Commission is aware, however, Pittsburgh Water is a cash flow-regulated company and has no "used and useful" requirement. It receives no profit allowance and its revenue requirement is based in part on the debt service and coverage associated with long term bonds, whether or not the construction being funded by the bonds has actually gone into service. The recovery of PENNVEST costs in the Surcharge should be treated no differently. Accordingly, we are proposing that we make a slight modification in the Tariff language to remove the "used and useful" requirement.

VII. INCREASE DSIC CAP TO 7.5%

Q. PLEASE EXPLAIN PITTSBURGH WATER'S PROPOSAL TO INCREASE ITS EXISTING 5% DSIC CAP TO 7.5%.

A. Pittsburgh Water is proposing to increase its existing 5% DSIC cap to 7.5% for both the water DSIC and wastewater DSIC. This would result in water DSIC revenues of $13.9 million in the FPFTY and $14.9 million in FY 2027 and, for the wastewater DSIC revenues, $5.0 million in FPFTY and $5.4 million in FY 2027. DSIC revenues in the FPFTY at present rates are projected to be $7.4 million for water and $2.7 million for wastewater.

Q. WHY IS PITTSBURGH WATER REQUESTING THIS INCREASE?

A. The main reason is to increase the pace at which infrastructure is replaced for projects that are identified within the LTIIP. This increase would provide Pittsburgh Water with additional revenue of $8.8 million in the FPFTY and $1.4 million in FY 2027 which would be used to support capital improvements. The increase in the DSIC cap would also provide cost savings to ratepayers as well as get Pittsburgh Water closer to its goal of funding at least 10% of capital improvements with internally generated funds, as measured on a five-year basis.

Q. WHY IS IT NECESSARY TO INCREASE THE AMOUNT BILLED THROUGH THE DSIC TO ACHIEVE THIS ACCELERATION?

A. This increase is necessary to ensure Pittsburgh Water can provide adequate, efficient, safe, and reliable services to its customers. This will be achieved by using the additional DSIC revenues to expedite the rate of infrastructure replacement.

Q. WHAT SUPPORTS PITTSBURGH WATER'S REQUEST FOR A DSIC CAP INCREASE?

A. As set forth in our separate Petition that is being filed along with this rate case, there are several justifications for increasing the DSIC cap.

First, as I have noted above, the increase will permit Pittsburgh Water to accelerate the replacement of antiquated distribution facilities. Increasing the water DSIC cap to 7.5% will generate an additional $6.5 million in the FPFTY and $986,051 in FY 2027 that can be used to increase the amount of work completed under it currently planned projects. This could result in an additional 5,400 linear feet of small diameter water main replaced in FPFTY and 820 linear feet of small diameter water main replaced in FY2027.

Increasing the DSIC cap to 7.5% for the sewer utility will generate an additional $2.3 million in the FPFTY and $386,485 in FY 2027 of internally generated funds that can be used to increase the amount of work completed under these projects. This could result in an additional 13,300 of linear feet of sewer main rehabilitated in FPFTY and 2,250 linear feet of sewer main rehabilitated in FY2027.

Second, The increase in the DSIC cap would also provide cost savings to ratepayers since, as I have previously demonstrated, it is actually cheaper for ratepayers to fund capital improvements from PAY-GO (i.e., cash from rates) than from long-term bonds.[12]

[12] See, pgs 16-17, supra..

This will also move Pittsburgh Water closer to its goal of funding at least 10% of capital improvements with internally generated funds, as measured on a five-year basis.

Third, the rate of inflation over the past several years has resulted in the loss of purchasing power at the current DSIC rate of 5%. Increasing the rate to 7.5% will provide the necessary infusion of cash to make up for this loss.

Fourth, Pittsburgh Water also seeks to increase its level of internally generated funds in an effort to reduce its financial leverage or debt ratio. Pittsburgh Water's financial leverage (liabilities divided by assets) continues to remain high with the percentage being 86% at the end of 2026. However, the chart that I presented above shows the implementation of the DSIC starting in 2021 has helped to reduce this ratio by 12%. In fact, if the DSIC increase is granted, Pittsburgh Water estimates that the debt ratio will fall below 85% by the end of FY 2027.

Fifth, increasing the DSIC cap will result in a greater percentage of dollars being recovered through the DSIC—a reconcilable surcharge. Because the DSIC is reconcilable, it assures that Pittsburgh Water will collect in rates only those amounts that it actually expends for the portions of its DSIC-eligible projects set forth in the LTIIP. To the extent that Pittsburgh Water does not actually expend the dollars billed in the DSIC, it will refund the unexpended amounts in the next year. This is fair and reasonable to both Pittsburgh Water and its ratepayers.

Finally, permitting Pittsburgh Water to slightly increase its DSIC billings will mean that more of its capital improvement program will be covered by its LTIIP. This will give the Commission and the Parties more insight and more opportunities to review and comment

upon Pittsburgh Water's capital addition plans, something that some parties have raised as a positive development in the past.

VIII. ELIMINATION OF THE MINIMUM CHARGE

Q. CAN YOU EXPLAIN PITTSBURGH WATER'S PROPOSAL TO ELIMINATE THE MINIMUM WATER AND WASTEWATER CHARGE STARTING IN FY 2027?

A. As previously stated, Pittsburgh Water is proposing to eliminate the minimum water and wastewater charges and shift the recovery of those costs to volumetric rates starting in FY 2027. Pittsburgh Water is making this proposal in order to comply with a settlement item from the prior rate case.

Q. WHAT ARE PITTSBURGH WATER'S REQUIREMENTS IN ORDER TO REMOVE THE WATER AND WASTEWATER MINIMUM CHARGES?

A. Pittsburgh Water will agree to remove the minimum water and wastewater charges if it can do so in FY 2027. Removing the water and wastewater minimum charges will overhaul Pittsburgh Water's entire rate structure. A change of this magnitude will require Pittsburgh Water to perform public outreach in FY 2026 to inform customers of what the change is, when it will become effective, why it is being implemented, and the potential benefits (such as water conservation and improved customer control over the bill). Forcing Pittsburgh Water to eliminate the minimum charges effective in FY 2026 will leave virtually no time for any outreach and will cause unnecessary confusion from the customer base.

In addition, removing the minimum charges in FY 2027 will provide Pittsburgh Water with time to implement the change correctly by doing additional testing within its billing system. Forcing these changes to take effect in FY 2026 greatly increases the risk of a billing failure, which would negatively impact Pittsburgh Water's reputation, increases customer frustration, and disrupt financial performance for absolutely no reason.

Pittsburgh Water is committed to removing the minimum charges in this rate case so long as the Commission understands the level of effort necessary to make this change.

IX. PRIOR SETTLEMENT COMMITMENTS

A. Arrearage Forgiveness Program

Q. WHAT CHANGES DID PITTSBURGH WATER AGREE TO PROPOSE REGARDING ITS ARREARAGE FORGIVENESS PROGRAM ("AFP") AS PART OF THE LAST RATE CASE SETTLEMENT?

A. Pittsburgh Water agreed to propose to implement a change to the AFP that would allow then existing and all future participants to receive arrearage forgiveness over no longer than a 36-month period and will not require AFP participants to make a co-payment towards the pre-program frozen arrears.

Q. CAN YOU EXPLAIN PITTSBURGH WATER'S PROPOSED AMENDMENT TO THE AFP AND THE REVENUE REQUIREMENTS RELATED TO IT?

A. Yes. Pittsburgh Water is proposing an amendment to the AFP that would allow all existing and future participants to receive arrearage forgiveness over a period of 24 months. Participants are not required to make a co-payment towards the pre-program frozen arrears, but they are required to stay current on future bills or payment plans. The failure to remain current would pause any forgiveness of past due balances. These amendments would cost Pittsburgh Water $280,094 in the FPFTY and $291,828 in FY 2027. However, in an effort to only recover debt service, debt service coverage costs, and associated DSIC percentage increase in FY 2027, Pittsburgh Water is claiming an annual revenue requirement of $280,094 in both the FPFTY and FY 2027.

Pittsburgh Water calculated this revenue requirement by first analyzing the total arrearage balances in the current AFP program and assuming those balances would be forgiven over a period of 24 months. Next, Pittsburgh Water analyzed the customer

balances who were enrolled in the bill discount program, but not in the AFP, to estimate the impact of future enrollments into the amended AFP program.

X. CONCLUSION

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes. I do reserve the right to supplement this testimony as may be appropriate.

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VERIFICATION

I, Edward Barca, hereby state that: (1) I am the Director of Finance for The Pittsburgh Water and Sewer Authority d/b/a Pittsburgh Water; (2) the facts set forth in my testimony are true and correct (or are true and correct to the best of my knowledge, information and belief); and, (3) I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa. C.S. § 4904 (relating to unsworn falsification to authorities).

Date: 6/4/25

DocuSigned by:
Edward Barca
415E545AD9514E4...

Edward Barca
Director of Finance
The Pittsburgh Water and Sewer Authority d/b/a Pittsburgh Water

Exhibit EB-1

Pittsburgh Water **Pittsburgh Water Exhibit EB-1**

Statement of Income - Existing Rates

	FY 2024 *HTY*	FY 2025 *FTY*	FY 2026 *FPFTY*	FY 2027 *Forecast*
System Operating Statement				
Operating Revenues				
Water Sales	$ 151,896,667	$ 148,287,512	$ 155,783,628	$ 155,783,628
Wastewater Sales	55,573,997	54,402,195	57,122,305	57,122,305
Stormwater	28,985,420	28,336,323	28,336,418	28,336,418
Sale for Resale & Contract Sales	3,517,719	4,526,103	4,526,103	4,526,103
DSIC - Water	7,501,070	7,408,364	7,408,364	7,408,364
DSIC - Wastewater	2,778,700	2,720,110	2,720,110	2,720,110
Other Revenues	4,384,472	2,541,190	4,327,687	4,327,687
Total: System Operating Revenues	**$ 254,638,045**	**$ 248,221,796**	**$ 260,224,613**	**$ 260,224,613**
Operating Expenses				
Direct Operating	$ 120,206,437	$ 133,489,949	$ 149,713,166	$ 149,713,166
Loss / (Gain) on ALCOSAN Billings	$ (2,521,199)	$ 2,036,793	$ 2,383,047	$ 2,383,047
Subtotal: Operating Expenses	$ 117,685,238	$ 135,526,742	$ 152,096,214	$ 152,096,214
Operating Income	**$ 136,952,807**	**$ 112,695,055**	**$ 108,128,400**	**$ 108,128,400**
Debt Service				
Existing Debt	$ 80,112,081	$ 91,663,251	$ 96,351,752	$ 104,217,880
Proposed Debt	$ 3,438,591	$ 2,011,924	$ 14,674,187	$ 23,584,346
Subtotal: Debt Service	$ 83,550,672	$ 93,675,175	$ 111,025,939	$ 127,802,226
Other Expenditures & Transfers				
Debt Coverage Capital	$ -	$ -	$ 21,231,922	$ 23,817,794
Internally Generated Funds / PAYGO (DSIC)	$ 10,071,393	$ 10,071,004	$ 18,898,544	$ 20,271,134
Other Transfers to Reserves	$ 20,000,000	$ -	$ 3,000,000	$ 3,000,000
Bad Debt Expense	$ 4,934,717	$ 4,823,090	$ 6,199,010	$ 6,199,090
Water and Wastewater Leak Credit	$ -	$ -	$ 662,322	$ 662,322
Rider AFP	$ -	$ 280,094	$ 280,094	$ 280,094
Stormwater Credits	$ -	$ 234,800	$ 288,016	$ 288,016
Subtotal: Other Expenditures & Transfers	$ 35,006,110	$ 15,408,988	$ 50,559,907	$ 54,518,450
Total: Revenue Requirements	**$ 236,242,020**	**$ 244,610,905**	**$ 313,682,060**	**$ 334,416,890**
Revenue Surplus/(Deficit)	**$ 18,396,025**	**$ 3,610,892**	**$ (53,457,447)**	**$ (74,192,277)**
Senior Debt Service Coverage	**1.82**	**1.57**	**1.22**	**1.09**
Minimum Requirement	*1.25*	*1.25*	*1.25*	*1.25*
Total Debt Service Coverage	**1.40**	**1.22**	**0.94**	**0.81**
Minimum Requirement	*1.10*	*1.10*	*1.10*	*1.10*
Days Cash on Hand	**115**	**124**	**118**	**42**

Exhibit EB-2

Pittsburgh Water **Pittsburgh Water Exhibit EB-2**

Statement of Income - Proposed Rates

	FY 2024 *HTY*	FY 2025 *FTY*	FY 2026 *FPFTY*	FY 2027 *Forecast*
System Operating Statement				
Operating Revenues				
Water Sales	$ 151,896,667	$ 148,287,512	$ 183,457,438	$ 194,811,879
Wastewater Sales	55,573,997	54,402,195	66,604,861	71,757,996
Stormwater	28,985,420	28,336,323	34,758,549	35,547,124
Sale for Resale & Contract Sales	3,517,719	4,526,103	5,697,030	7,734,877
DSIC - Water	7,501,070	7,408,364	13,903,179	14,889,230
DSIC - Wastewater	2,778,700	2,720,110	4,995,365	5,381,850
Other Revenues	4,384,472	2,541,190	4,327,687	4,419,962
Total: System Operating Revenues	**$254,638,045**	**$ 248,221,796**	**$ 313,744,110**	**$ 334,542,917**
Operating Expenses				
Direct Operating	$ 120,206,437	$ 133,489,949	$ 149,713,166	$ 149,713,166
Loss / (Gain) on ALCOSAN Billings	$ (2,521,199)	$ 2,036,793	$ 2,383,047	$ 2,383,047
Subtotal: Operating Expenses	$ 117,685,238	$ 135,526,742	$ 152,096,214	$ 152,096,214
Operating Income	**$136,952,807**	**$ 112,695,055**	**$ 161,647,896**	**$ 182,446,704**
Debt Service				
Existing Debt	$ 80,112,081	$ 91,663,251	$ 96,351,752	$ 104,217,880
Proposed Debt	$ 3,438,591	$ 2,011,924	$ 14,674,187	$ 23,584,346
Subtotal: Debt Service	$ 83,550,672	$ 93,675,175	$ 111,025,939	$ 127,802,226
Other Expenditures & Transfers				
Debt Coverage Capital	$ -	$ -	$ 21,231,922	$ 23,817,794
Internally Generated Funds / PAYGO (DSIC)	$ 10,071,393	$ 10,071,004	$ 18,898,544	$ 20,271,134
Other Transfers to Reserves	$ 20,000,000	$ -	$ 3,000,000	$ 3,000,000
Bad Debt Expense	$ 4,934,717	$ 4,823,090	$ 6,199,010	$ 6,199,090
Water and Wastewater Leak Credit	$ -	$ -	$ 662,322	$ 662,322
Rider AFP	$ -	$ 280,094	$ 280,094	$ 280,094
Stormwater Credits	$ -	$ 234,800	$ 288,016	$ 288,016
Subtotal: Other Expenditures & Transfers	$ 35,006,110	$ 15,408,988	$ 50,559,907	$ 54,518,450
Total: Revenue Requirements	**$236,242,020**	**$ 244,610,905**	**$ 313,682,060**	**$ 334,416,890**
Revenue Surplus/(Deficit)	**$ 18,396,025**	**$ 3,610,892**	**$ 62,049**	**$ 126,027**
Senior Debt Service Coverage	**1.82**	**1.57**	**1.85**	**1.87**
Minimum Requirement	*1.25*	*1.25*	*1.25*	*1.25*
Total Debt Service Coverage	**1.40**	**1.22**	**1.42**	**1.39**
Minimum Requirement	*1.10*	*1.10*	*1.10*	*1.10*
Days Cash on Hand	**115**	**124**	**118**	**116**

Exhibit EB-3

Exhibit EB-3

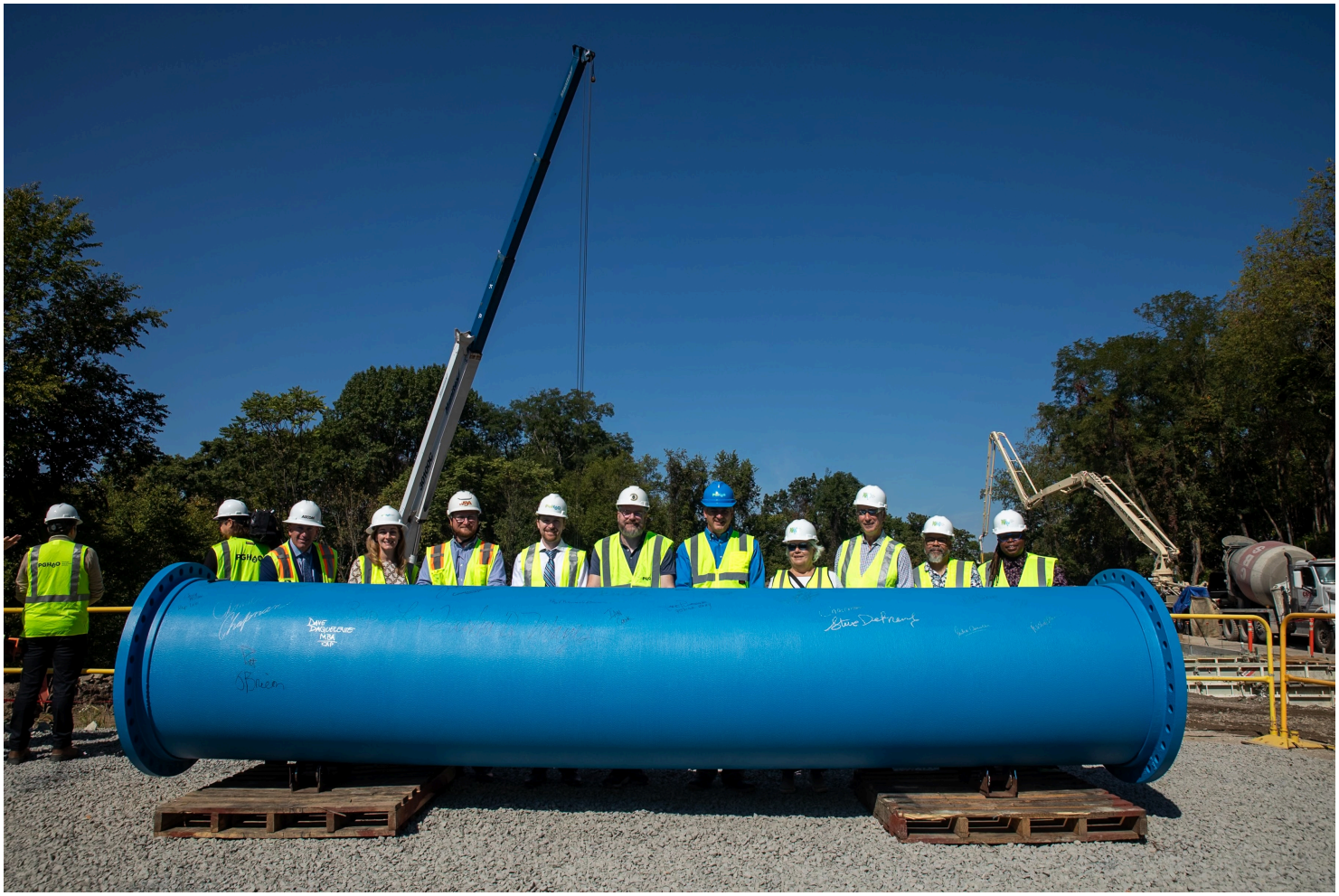
Pittsburgh Water Actual and Budget Information 2024-2027

		HTY **2024 Actual**	*FTY* **2025 Budget**	*FPFTY* **2026 Budget**	*Forecast Period* **2027 Budget**
Receipts					
	Water	155,414,386	152,813,615	189,154,468	202,546,756
	Sewage Conveyance	55,573,997	54,402,195	66,604,861	71,757,996
	Stormwater	28,985,420	28,336,323	34,758,549	35,547,124
	DSIC	10,279,770	10,128,474	18,898,544	20,271,080
	Miscellaneous Revenue	4,384,472	2,541,190	4,327,687	4,419,962
Total Receipts		254,638,045	248,221,797	313,744,109	334,542,918
Operating Expenses					
	Salaries	34,914,135	39,448,726	42,767,628	42,767,628
	Benefits	10,201,149	11,830,581	13,100,420	13,100,420
	Direct Operating	51,923,132	58,020,421	63,784,191	63,784,191
	Inventory	2,227,361	2,176,740	2,251,020	2,251,020
	General & Administrative	20,940,659	22,013,481	27,809,908	27,809,908
	Net ALCOSAN	(2,521,199)	2,036,793	2,383,047	2,383,047
Total Operating Expenses		117,685,237	135,526,742	152,096,214	152,096,214
Net Operating Income		**136,952,808**	**112,695,055**	**161,647,895**	**182,446,704**
Debt Service					
	Debt Service - Existing	80,112,081	91,663,251	96,351,752	104,217,880
	Debt Service - Future	3,438,591	2,011,924	14,674,187	23,584,346
Total Debt Service		83,550,672	93,675,175	111,025,939	127,802,226
Total Costs		201,235,909	229,201,917	263,122,153	279,898,440
Net Cash Flow		**53,402,136**	**19,019,880**	**50,621,956**	**54,644,478**
	Debt Coverage Capital	-	-	21,231,922	23,817,794
	Internally Generated Funds (DSIC)	10,071,393	10,071,004	18,898,544	20,271,134
	Other Transfers to Reserves	20,000,000	-	3,000,000	3,000,000
	Bad Debt Expense	4,934,717	4,823,090	6,199,010	6,199,090
	Water and Wastewater Leak Credit	-	-	662,322	662,322
	Rider AFP	-	280,094	280,094	280,094
	Stormwater Credit	-	234,800	288,016	288,016
Revenue Surplus / (Deficit)		**18,396,025**	**3,610,892**	**62,049**	**126,027**

Exhibit EB-4

Pittsburgh Water

2025 - 2029 Capital Improvement Plan



Approved On December 20, 2024

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PGH2O | PITTSBURGH WATER

CEO Message



With lead levels at historic lows, increased investment in our infrastructure, and an organizational culture committed to protecting the health and well-being of the communities we serve, Pittsburgh Water delivers clean, safe, reliable water services to the half-million people we serve every day.

The water services you rely on also bolster the economic activities that support our region. We create meaningful jobs, contract with diverse minority-owned businesses, and are establishing job-shadowing opportunities to build our growing workforce and train the next generation of water professionals.

This budget addresses essential operational needs, continued capital investments and revenues crucial to sustaining and growing our organization.

12,000 Lead Service Lines Replaced (and counting)

Block-by-block, neighborhood-by-neighborhood, we are working steadily towards our goal to remove all lead from our drinking water system at no direct cost to customers. Last year, we removed the 12,000th lead service line and we won't stop until we get to every residence.

Our award winning, nationally recognized Community Lead Response prioritizes free lead service line replacements in our most vulnerable communities. Paired with free lead testing, transparent data available on our website, and a Community Lead Response Advisory Committee, Pittsburgh Water is a national leader in lead line removal efforts.

We are well positioned, and ahead of many communities across the country, to meet the requirements of the new Lead and Copper Rule announced by the EPA last October. This includes lowering the lead action level to 10 parts per billion – our lead levels are well below the new action level thanks to the addition of orthophosphate to our treatment process.

Serving Current and Future Generations of Customers

Since 2022, we've made continuous progress on our Water Reliability Plan – our once-in-a-generation set of projects to transform Pittsburgh's water infrastructure. In 2024, we broke ground on the new Highland Reservoir Pump Station. The first new, major building in our service area in 20 years, marks the continuation of a new era of investing in our water infrastructure. This new station will add a redundant supply of drinking water for approximately two-thirds of our drinking water customers and will reduce the likelihood of service interruptions that have led to power outages or boil water advisories in the past.

As the Water Reliability Plan projects are completed, our customers – residents and businesses alike – will experience a more resilient water system and as businesses look to Pittsburgh for opportunities, we can have confidence that our renewed system will support its future economic development.

Leveraging State and Federal Funding

To accelerate these critical projects while reducing the cost to ratepayers, Pittsburgh Water pursues external funding from state and federal sources. Since 2018, we received $701 million in new low-interest loans and $99 million in grant funding, helping us stretch ratepayer dollars and keep rates as low as possible. This is especially important considering the investment we're making today will protect water quality and provide reliable services for generations to come.

As a non-profit, publicly owned and operated water authority, every dollar we receive is reinvested back into our water system. At Pittsburgh Water, it's about service, not profit – we don't have shareholders and we don't generate a profit. Our fiscal year 2025 budget reflects our mission to protect public health through the delivery of safe, reliable water services for customers now and in the future.

William J. Pickering

Will Pickering
CEO Pittsburgh Water

Introduction and Overview

Introduction

Pittsburgh Water is a corporate and political entity established under the Act, in accordance with Resolution No. 36 adopted by the Pittsburgh City Council ("**the City**") on February 6, 1984, approved by the Mayor on February 8, 1984, and becoming effective on February 16, 1984. The Secretary of the Commonwealth of Pennsylvania approved Pittsburgh Water's Articles of Incorporation and issued a Certificate of Incorporation on February 17, 1984. Articles of Amendment were approved and a Certificate of Amendment was issued by the Pennsylvania Department of State on December 11, 1989, to include, among authorized projects, low head dams and facilities for generating surplus electric power. Articles of Amendment were approved and a Certificate of Amendment was issued by the Pennsylvania Department of State on May 9, 2008, to extend the term of existence of Pittsburgh Water to May 21, 2045. Articles of Amendment were approved and a Certificate of Amendment was issued by the Pennsylvania Department of State on March 19, 2020, to extend the term of existence of the organization to March 13, 2070 and to include stormwater systems.

Under its Articles of Incorporation, Pittsburgh Water is specifically authorized to acquire, hold, construct, finance improve, maintain, operate, own and lease, either as a lessor or lessee, projects of the following kinds and character: sewers, sewer systems or parts thereof, waterworks, water supply works, water distribution systems, low head dams, facilities for generating surplus power, and stormwater systems.

Pittsburgh Water serves a population of 500,000 through its water, wastewater conveyance, and stormwater services. The system provides water to approximately 84% of the total population in the geographic boundaries of the City and the entire Borough of Millvale. The organization provides wastewater conveyance and stormwater services to the entire City. The system does not include wastewater treatment facilities; such facilities are the responsibility of the Allegheny County Sanitary Authority ("ALCOSAN"), a separate and distinct entity.

Pittsburgh Water operates and maintains 100 million gallon per day (MGD) rapid sand type water treatment plant, approximately 965 miles of water mains, over 32,000 valves and fire hydrants, 1 raw water pump station, 10 finished water pump stations, 4 finished water reservoirs, 1 source water reservoir, 11 storage tanks, approximately 1,242 miles of sanitary, storm, and combined sewers, 30,297 manholes, 24,993 catch basins and inlets, 98 combined sewer overflow outfalls, 3 sanitary sewer overflow structures maintained by Pittsburgh Water, 146 combined sewer overflow outfall structures that are co-permitted with several other authorities, 35 solely owned combined sewer overflow outfall structures, 46 combined sewer overflow outfall structures co-permitted with ALCOSAN, 254 separate storm sewer outfalls in the Municipal Separate Storm Sewer System, and 4 wastewater pump stations.

Pennsylvania Utility Commission (PUC) Oversight

On December 21, 2017, the Pennsylvania legislature enacted Act 65 of 2017 ("Act 65") placing Pittsburgh Water under the jurisdiction of the Pennsylvania Public Utility Commission ("PUC") pursuant to the Pennsylvania Public Utility Code (the "Public Utility Code"). Act 65 applies most of the provisions of the Public Utility Code to the organization in the same manner as a "public entity", resulting in regulation of the organization'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. Act 65 includes provisions that allow Pittsburgh Water to impose, charge, or collect rates or charges as necessary to permit the organization to comply with its covenants with holders of any bonds or other financial obligations, and prohibits the PUC from requiring the organization to take any action that would cause the interest of the organization's financial obligations to be included in gross income of the holders of such obligations for federal income tax purposes.

Mission, Vision, And Core Values

Mission Statement

To support our region by protecting public health and the environment through the delivery of safe and reliable water services with a commitment to future generations.

Vision Statement

To transform Pittsburgh's water system while being recognized by our customers as a trusted service provider and a steadfast steward of a vital public asset.

Core Values

- **Stewardship:** As a public utility, we are responsible for serving as mindful stewards of our water system and continuing to provide essential and dependable water services now and for generations to come. Right now, we're making decisions that will impact Pittsburgh for the next 100 years.
- **Ethics & Integrity:** We act ethically and with integrity in all instances, both as individuals and as an organization. This means modeling honesty, transparency, and professionalism in everything we do.
- **Accountability:** We are all held accountable, both individually in our everyday roles and as one organization. Only by doing what we promised can we rebuild trust with the community.
- **Safety:** We ensure a safe working environment for employees, the safety of our infrastructure assets, and the safety of the millions of gallons of water delivered to customers every day.
- **Equity:** We strive to deliver quality and affordable water services to every community in our service area, and to create a workplace that reflects the diversity of those communities.

Board Of Directors

Alex Sciulli, Chair

Erika Strassburger, Vice Chair

BJ Leber, Secretary and Treasurer

Michael Domach, Assistant Secretary and Treasurer

Margaret (Peg) McCormick Barron, Board Member

Jamil Bey, Board Member

Executive Leadership

William J. Pickering, Chief Executive Officer

Jennifer Presutti, Chief Operating Officer and Chief Financial Officer

Frank P. Sidari III, PE, BCEE, Chief Environmental Compliance and Ethics Officer

Logan Carmichael, PHR, SHRM-CP, Chief People and Culture Officer

Lee Haller, Chief Information and Performance Officer

Monica Walaan, Esquire, Chief Legal Officer

Rachael Beam, PE, Chief Engineering Officer

Pittsburgh Water Departmental Leadership

Edward Barca, CPA, Director of Finance

Kevin Pawlos, Deputy Director, Finance

Julie Mechling, Director of Customer Service

Brittany Schacht, Deputy Director, Customer Service

Barry King, PE, PMP, Director of Engineering and Construction

Kate Mechler, PE, Director of Engineering and Construction

Terri Testa, Director of Human Resources

Jason Felser, Director of Technology Services

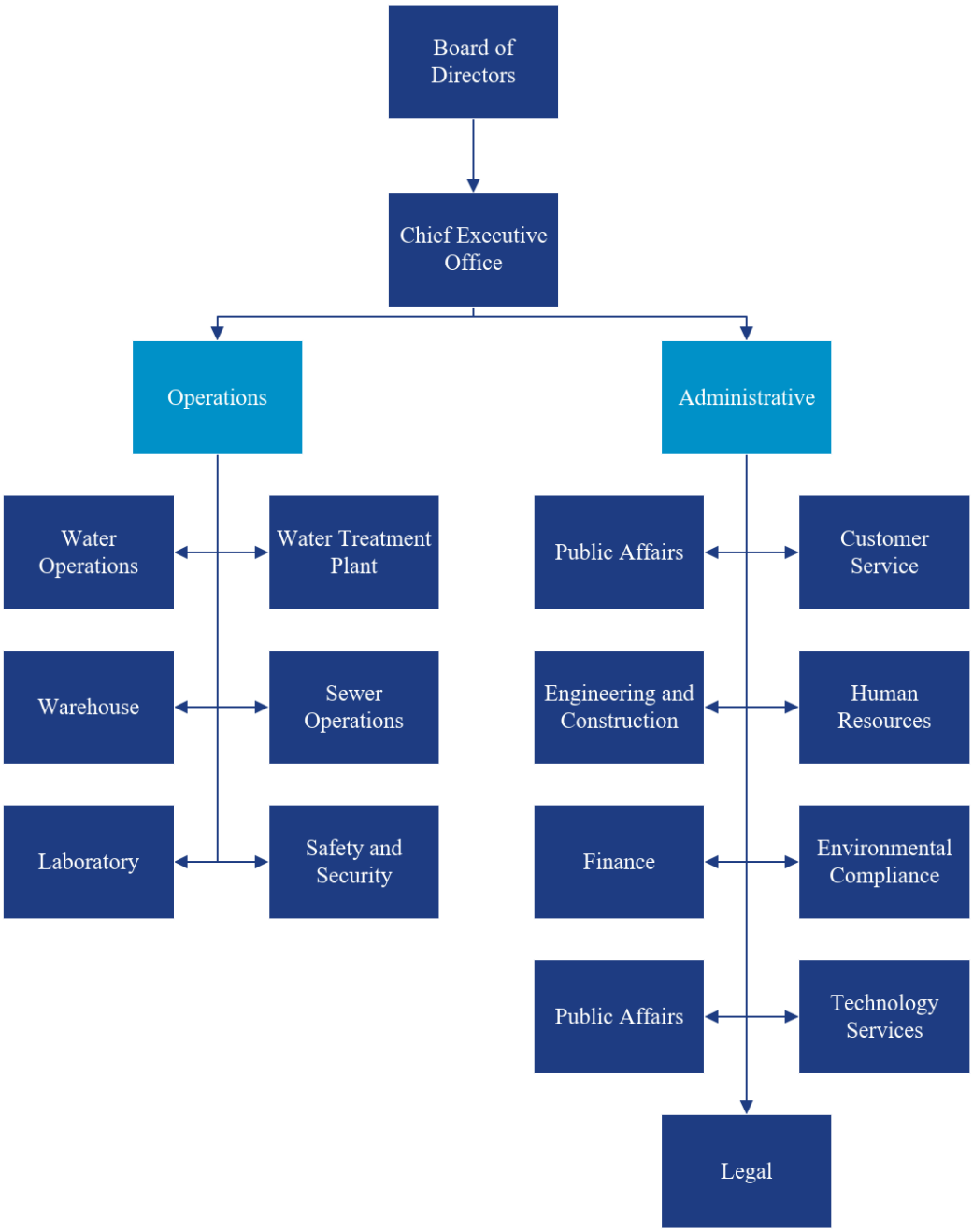
Rebecca Zito, Senior Manager, Public Affairs

Kasey Stewart, APP, CSP, Director of Safety and Security

William McFaddin, Director of Operations

Joe Tewell, Deputy Director, Operations

Organizational Chart



Strategic Plan

Pittsburgh Water's Strategic Plan is made up of three strategic priority areas that were developed in 2023 through a series of planning meetings that involved senior staff and a strategic planning partner. Having input from Pittsburgh Water staff was critical to ensure the plan clearly identifies the key areas where resources will be invested in the years to come. Pittsburgh Water's strategic priority areas include:

Organizational Capacity

Optimize our organizational capacity to position Pittsburgh Water as a best-in-class utility.

- Confer with nationally recognized utilities to identify best practices, organizational structures, processes, and metrics for Pittsburgh Water to evaluate and consider for adoption.
- Leverage technology and shared data to optimize performance, ensure compliance, and support proactive decision making.
- Attract, develop, and retain a diverse, high-performing workforce that will meet Pittsburgh Water's current and future needs and reflect to diversity of the communities we serve.

Trust

Build Pittsburgh Water's reputation as a trusted service provider.

- Educate the public about the safety, quality, and value of the water, sewer, and stormwater services provided by Pittsburgh Water.
- Improve the customer experience through enhanced responsiveness, transparency, and advanced technology. This also means conducting customer satisfaction surveys and drawing actionable opportunities for improvement.
- Advance our visibility through relationships and collaborative efforts with community groups, local, regional, and national organizations, legislators, and policy makers.

Infrastructure Investment

Invest in infrastructure, preventative maintenance, and innovation technology to assure high quality water, sewer, and stormwater service for future generations.

- Commit diversified financial resources, ensure adequate staffing, and optimize internal processes to support investment in our system.
- Assure the safety and resiliency of physical and information assets through security and emergency preparedness.
- Establish process and tools to collaboratively evaluate and prioritize capital projects based on community and environmental impact and regulatory compliance.

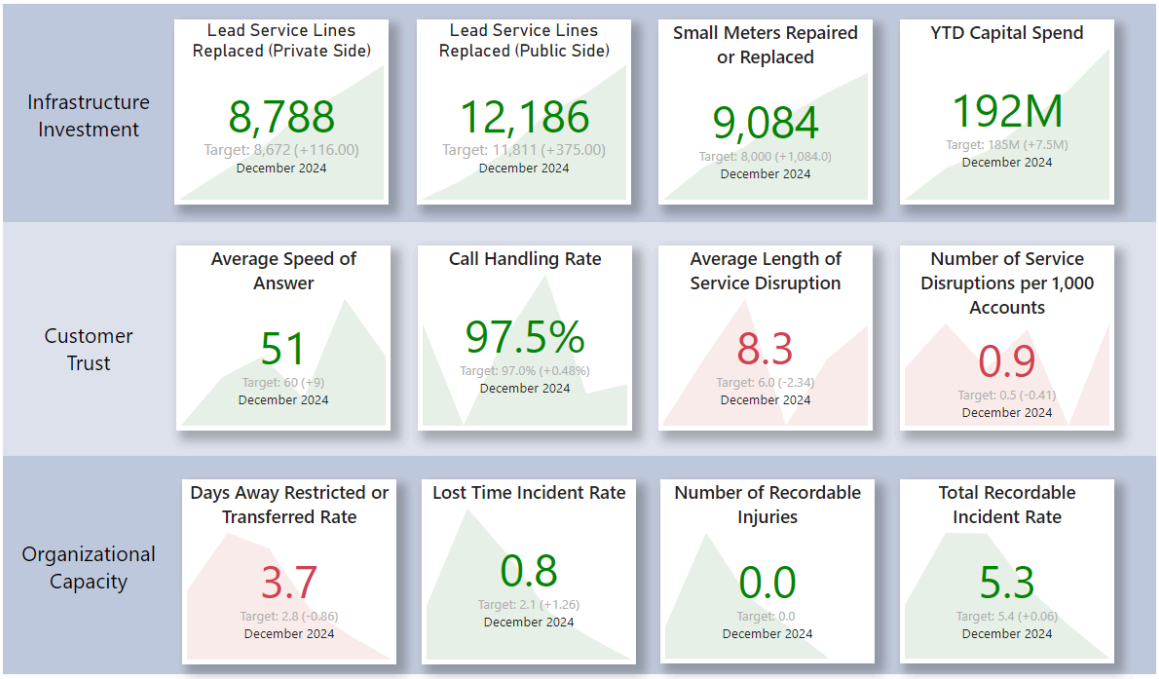
Pittsburgh Water senior staff reviews the Strategic Plan quarterly to ensure the plans outlined are being completed.





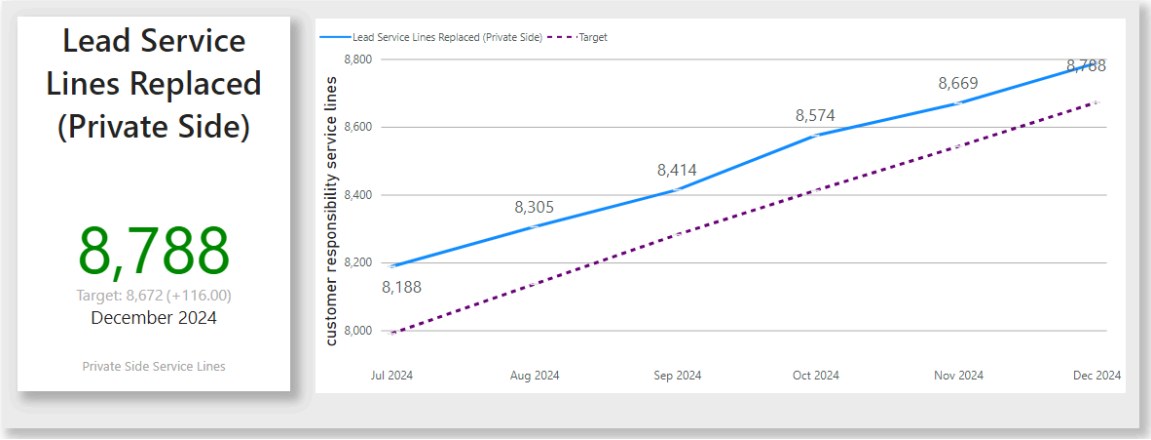
Performance Measures

Below is a summary of Performance Metrics by Category for 2024 which have been provided to the Pittsburgh Water Board of Directors monthly. These can be found at **Performance Metrics Dashboard (pgh2o.com).**



The sections below will show more detailed information for Fiscal Year 2024 by category.

Infrastructure Investment

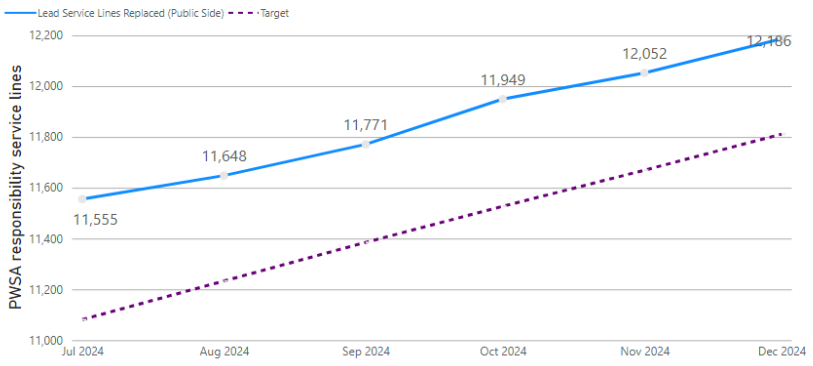


Lead Service Lines Replaced (Public Side)

12,186

Target: 11,811 (+375.00)
December 2024

Public Side Service Lines

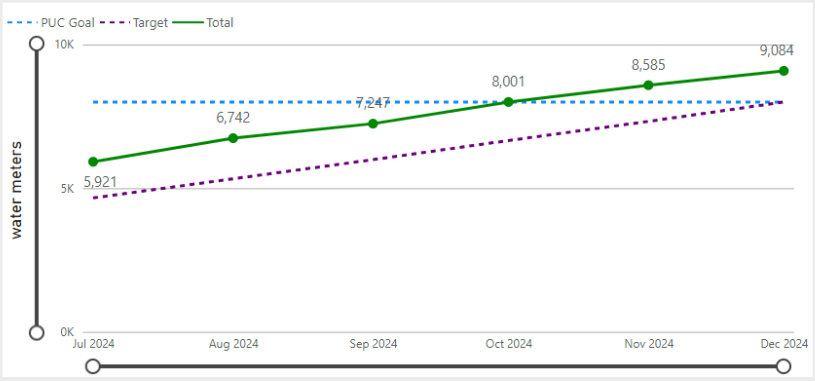


Small Meters Repaired or Replaced

9,084

Target: 8,000 (+1,084.00)
December 2024

Water Meters

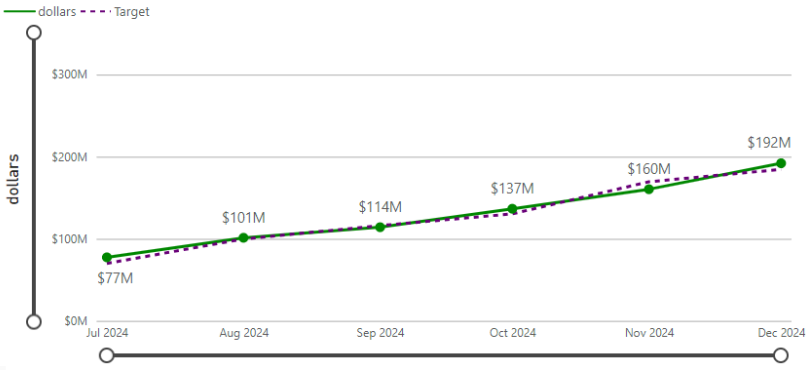


YTD Capital Spend

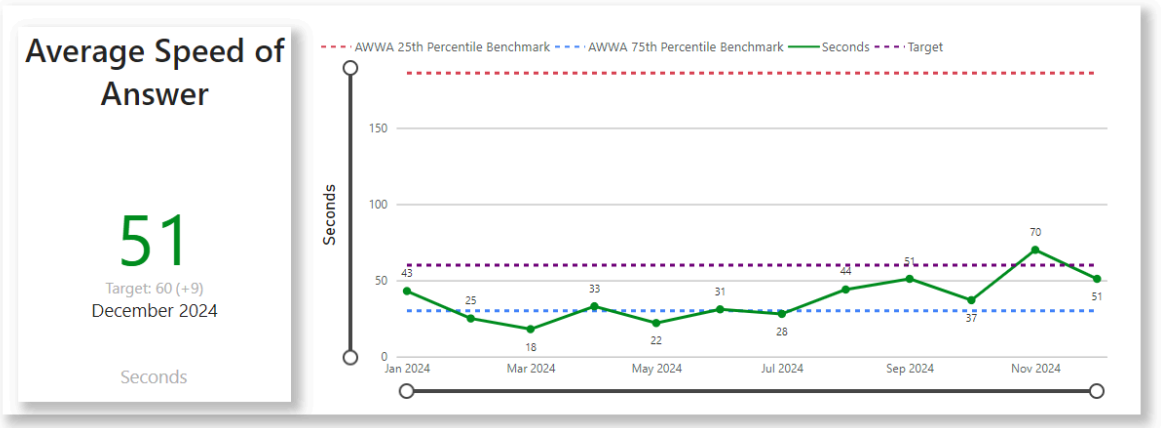
192M

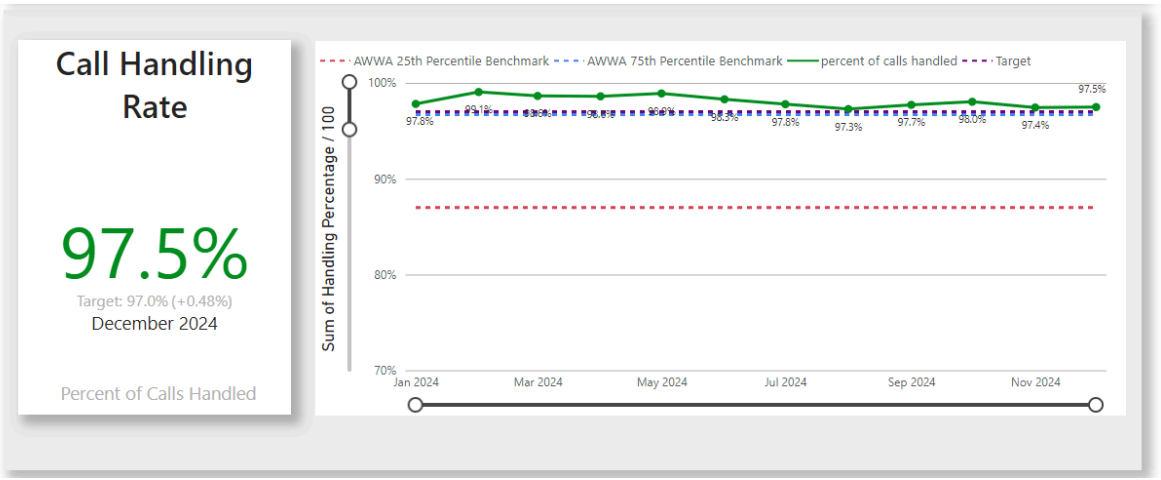
Target: 185M (+7.45M)
December 2024

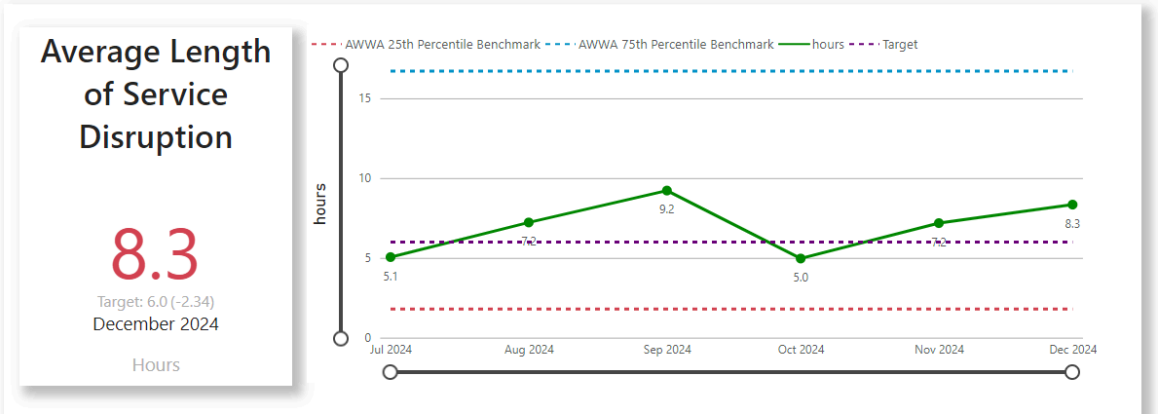
Dollars



Customer Trust





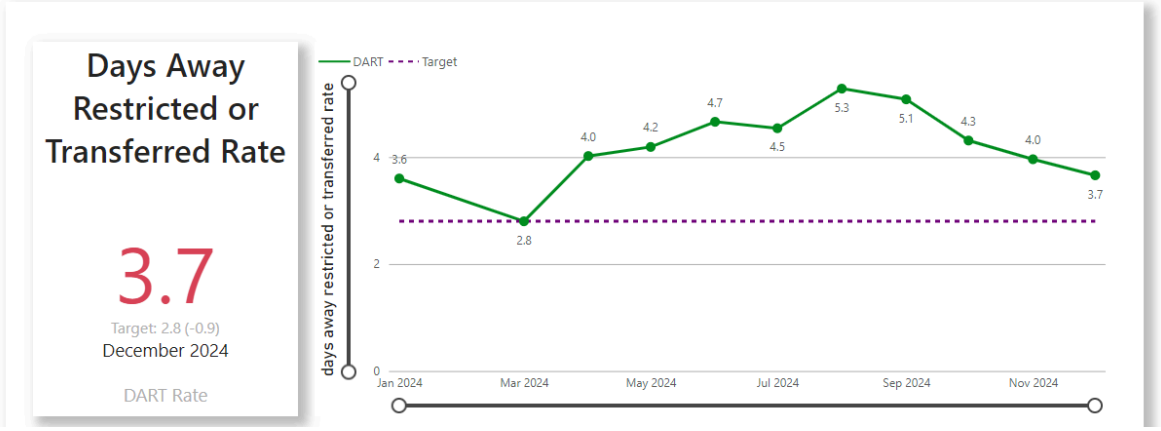


This metric evaluates the average length of service disruption for water customers due to main breaks, system repairs, low pressure, boil water advisories, and other operational needs.

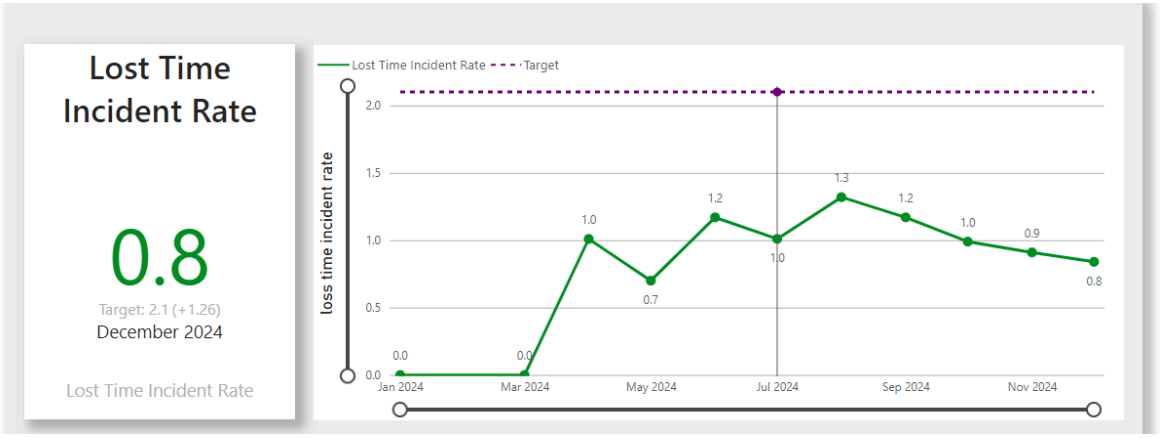


This metric tracks the number of water service disruptions due to main breaks, system repairs, low pressure, boil water advisories, and other operational needs per thousand accounts. Evaluating this measure on a per 1,000 accounts basis allows for equitable comparison to other utilities.

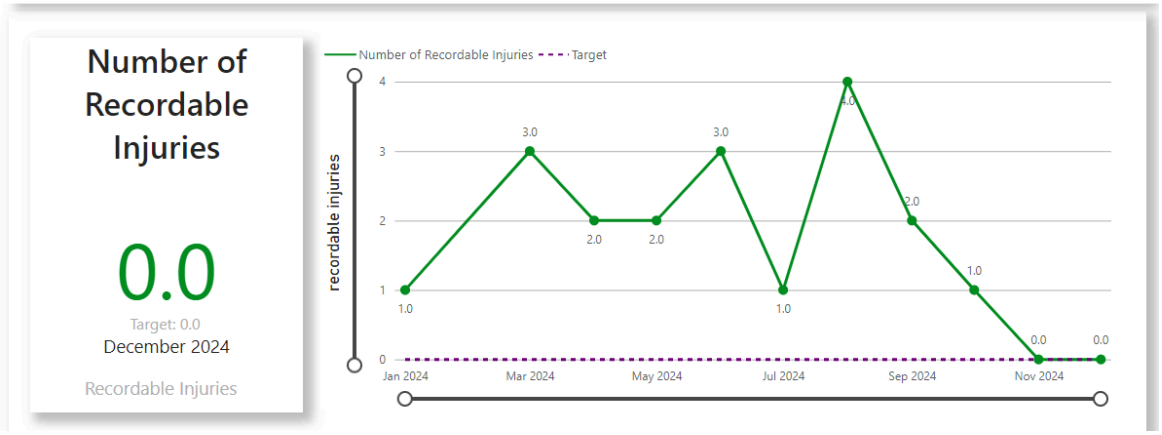
Organizational Capacity



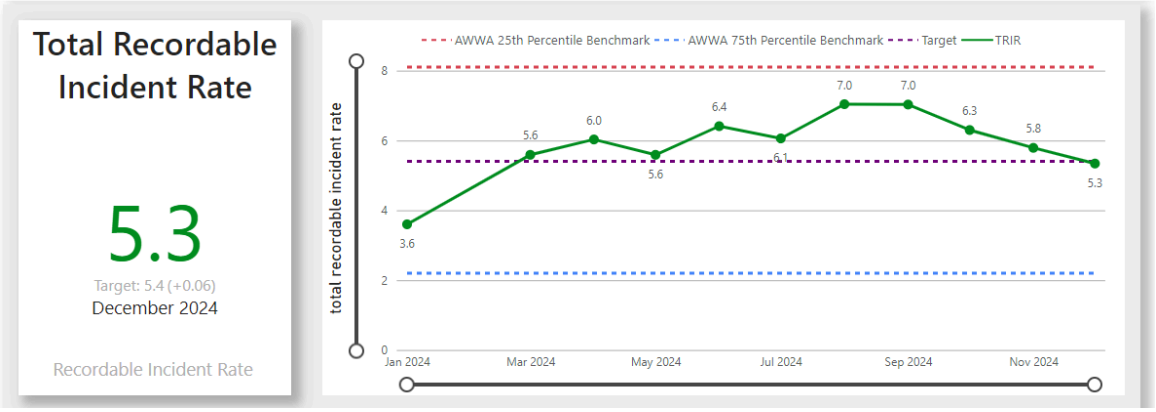
The DART rate includes OSHA recordable injuries or illness that resulted in loss time, restricted duty, or transfer of duties. It is calculated by the number of loss time injuries divided by modified duty injuries multiplied by 200,000 (100 workers at 40 hours per week for 50 work weeks) divided by the total hours worked.



The Incident Rate calculates the number of incidents that result in time away from work. The rate is calculated by the number of loss time injuries multiplied by 200,000 (100 workers at 40 hours per week for 50 work weeks) divided by the total hours worked.



This metric tracks the number of recordable injuries as defined by the Occupational Safety and Health Administration (OSHA). Pittsburgh Water conducts Root Cause Analysis (RCA's) and safety evaluations on all reported injuries, which in turn helps to protect personnel and equipment. Reducing injuries keeps our employees safe, reduces loss, and minimizes liability exposure.



The Total Recordable Incident Rate is the number of work-related injuries per 100 full-time workers during a one year period. The rate is calculated by the number of recordable injuries multiplied by 200,000 (100 workers at 40 hours per week for 50 work weeks) divided by the total hours worked.

Budget Guide

Fund Structure

Pittsburgh Water currently operates using five different bank accounts or funds. Those include the general bank account, capital projects account, rate stabilization fund, operating reserve fund, and debt service reserve fund.

The **General Fund** is the main operating fund for the organization. It includes all revenue generated by charges for service and fees and is used to sustain the organization's day-to-day activities, including engineering and construction, water and wastewater conveyance operations, environmental compliance and ethics, safety and security, and other general administration.

The **Capital Projects Fund** utilizes bond proceeds to fund design, construction management, and construction that is expected to provide a long-term benefit to Pittsburgh Water's system within the annual Capital Improvement Plan (CIP). All projects funded by debt should meet two requirements: a minimum value of $10,000 and a minimum useful life of at least one year.

The **Rate Stabilization Fund** was created in 2020 as a financial best practice and is used to house excess operating revenues when revenues are higher than expected within a fiscal year. The rate stabilization fund is intended to smooth forecasted revenues over several years to help meet debt service coverage requirements during times of unexpected shortfalls. Any revenue transferred into the Fund will not be counted as net revenues for calculating debt service coverage ratios in the year they are generated. Alternatively, monies transferred out of the fund and into the General Fund within a given year would be counted as net revenues for calculating the debt service coverage ratios.

The **Operating Reserve Fund** is a restricted fund that receives an annual allocation equal to one-sixth of the previous year's audited operating budget expenditures. The fund can only be utilized if the organization is in default and cover any operating expenditure need including, but not limited to, existing debt obligations, employee salaries, employee benefits, operating and maintenance expenses, and general administrative expenses.

The **Debt Service Reserve Fund (DSRF)** serves as a protective measure for lenders, mitigating the risk of default by the borrowing entity. By establishing a DSRF, lenders are reassured of the availability of funds to cover debt payments during unforeseen financial challenges. This reduces lending risk and enhances the attractiveness of lending, potentially resulting in more favorable terms of lower interest rates for the borrower. Additionally, the presence of a DSRF bolsters the borrower's creditworthiness in the eyes of lending and credit rating agencies.

Capital Improvement Plan (CIP)

A Capital Improvement Plan, or CIP, is a mid-range plan, usually four to ten years, which identifies capital projects and equipment purchases, provides a planning schedule, and identifies options for financing the plan. The Pittsburgh Water Capital Improvement Plan allocates funds for long-term investments in assets or projects of a nonrecurring nature that are expected to have an estimated service life of at least one year and exceed $10,000 in cost. The CIP guides Pittsburgh Water's capital investment in infrastructure and facilities over a period of five years and provides a schedule of funding for each project. The CIP is funded through several primary sources to which specific programs and projects are allocated. These funding sources include, but are not limited to:

Debt (Revenue Bonds) – Funding secured by municipal bond issuances for specific projects. Revenue bonds, unlike general obligation bonds, are backed by the revenue generated by the project of the facility Pittsburgh Water is financing and are typically repaid over a 30 year repayment period.

Debt (Project Fund) – Funding secured by issuing debt instruments, such as revenue bonds or loans. This method of financing

allows Pittsburgh Water to secure the necessary capital earmarked for the expenses related to planning, implementing, and completing capital projects.

Distribution System Improvement Charge (DSIC) – Funding secured directly from DSIC collections via customer water and wastewater conveyance bills. Pittsburgh Water is required to report on both collections and expenses of DSIC charges to the PUC quarterly to ensure transparency and accountability are maintained. Pittsburgh Water must spend an amount equal to, or greater than the DSIC revenue collected annually.

Pennsylvania Infrastructure Investment Authority (PENNVEST) – Funding secured through an independent state agency that addresses funding needs for clean water and drinking water improvements. PENNVEST provides low-interest loans and grants to municipalities and other eligible entities to finance the construction, improvement, or expansion of water and wastewater treatment facilities, stormwater management projects, and drinking water distribution systems.

Water Infrastructure Finance and Innovation Act (WIFIA) – Funding secured through a federal loan and guarantee program administered by the United States Environmental Protection Agency (EPA). The program provides long-term, low-cost loans for eligible water, wastewater, and stormwater infrastructure projects. WIFIA loans offer favorable terms, including extended repayment periods and low interest rates and is designed to accelerate investment in water infrastructure.

American Rescue Plan Act (ARPA) – The City of Pittsburgh allocated $17 million and $500 thousand of their State and Local Fiscal recovery Funds (SLFRF) authorized by the American Rescue Plan Act to Pittsburgh Water for neighborhood lead service line replacement and a wastewater lateral replacement and repair pilot program respectively. During 2024, the City of Pittsburgh re-allocated the $500 thousand originally intended for the wastewater lateral replacement and repair program for non-Pittsburgh Water initiatives. This funding must be obligated no later than December 31, 2024, and spent by December 31, 2026.

City of Pittsburgh – Funding secured by existing cost-share agreements where the City of Pittsburgh has agreed to pay for a portion of project costs.

Private Grants – Funding from any other external funding source not listed above. This can include but is not limited to ALCOSAN Green Revitalization of Our Waterways (GROW) grants, Department of Community and Economic Development (DCED) funds, The Heinz Endowments, R.K. Mellon Foundation, etc.

Costs and budget allocations are then assigned to individual projects within six major project classes:

Water Treatment Plant – Projects within this category are required to rehabilitate, upgrade, or provide new facilities at the Pittsburgh Water Water Treatment Plant.

Water Pumping and Storage – Projects within this category improve, maintain, or replace assets within the distribution system that transports and store water that is utilized by Pittsburgh Water customers.

Water Distribution – Projects within this category improve, maintain, or replace various aspects of the distribution system responsible for providing safe and clean drinking water to Pittsburgh Water customers.

Wastewater System – Projects within this category address the rehabilitation, replacement, or improvement to the system that conveys wastewater and stormwater to the ALCOSAN wastewater treatment facility.

Stormwater – Projects within this category manage stormwater during heavy rain events and use a combination of infrastructure to help reduce stormwater pollution and mitigate flooding.

Miscellaneous – Projects within this category do not qualify for any of the five categories listed above but could include projects such as the construction of a new headquarters building, annual capital project reclassification originally expensed through the operating budget, and utility cost shares.

More information on individual projects, including project descriptions, project phase, identified risks, consequence of asset failure, level of service benefits, and applicable funding sources can be found within each individual project page included in the annual Capital Improvement Plan document.

Capital Improvement Plan Process Overview

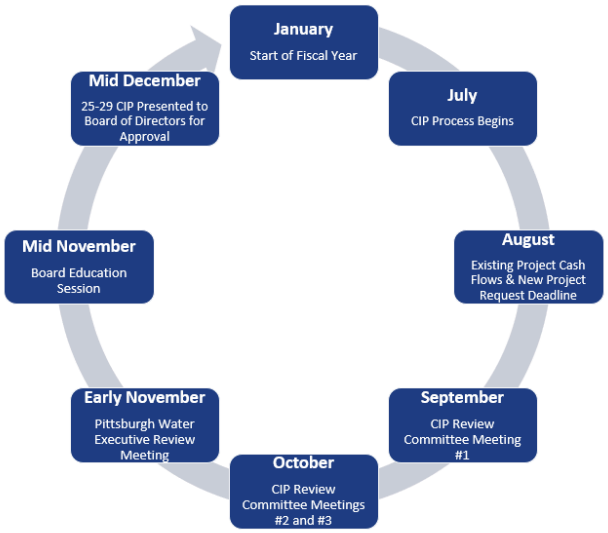
Capital Improvement Plan Development And Process

The Capital Improvement Plan (CIP) process begins each year in July when existing project cash flows for the upcoming year and new projects are solicited from the entire organization. At the completion of the request period, the CIP Review Committee screens, evaluates, and prioritizes the projects that should be included in the upcoming CIP. The review committee is made up 17 scoring and advisory members from other Pittsburgh Water departments such as Finance, Engineering and Construction, Technology Services, Compliance and Ethics, Safety and Security, Laboratory, and Operations. Further planning efforts consist of the preparation of a project sheet, which provides more detailed information on a project's potential scope options, risks, schedule, and cost estimate. This process lasts several months and culminates with the presentation of the updated Capital Improvement Plan to Pittsburgh Water's Board of Directors. Projects not selected for execution at any stage will be re-assessed during next year's CIP development process.

The Pittsburgh Water CIP is organized into six project classes (types):

- Water Treatment Plant
- Water Pumping and Storage
- Water Distribution
- Wastewater System
- Stormwater
- Miscellaneous

Each project class is then made up of individual projects. Projects are defined based upon current information, which range from annual allowances for asset renewal and/or replacement activities, to major, multiple phase facility renewal projects.



Project Prioritization

Due to funding limitations and the need to renew/replace a significant amount of aging infrastructure, the following criteria are used by the CIP Review Committee to evaluate and prioritize capital projects. Each new project proposal is reviewed and scored on how well it meets the following criteria:

- **Regulatory Compliance -** Ranks a project's relative importance for maintaining current compliance levels or mitigating future compliance impacts.
- **Quality of Service -** Ranks a project's role in maintaining or improving current quality of services.
- **Safety -** Ranks a project's relative importance in maintaining or improving employee or public heath and safety.
- **Risk of Failure -** Ranks the project's probability of failing if not replaced or improved.
- **Security -** Ranks a project's relative impact on physical security measures to protect or fortify infrastructure.
- **Social Impact -** Ranks a project's relative importance to customer quality of life, environmental justice areas, and number of customers impacted.

The scores submitted by the CIP Review Committee are then used to generate a prioritized list for the Pittsburgh Water Executive team to use when making funding decisions. Ultimately, this list is incorporated into the proposed Capital Improvement Plan, which is presented to the Board of Directors and adopted upon approval.

Criteria	Degree					Weight
	1	2	3	4	5	
Regulatory Compliance	Little to no impact	Minor severity non-compliance and/or regulatory impact expected in next 10 years	Moderate severity non-compliance and/or regulatory impact likely in next 6-10 years	Severe non-compliance and/or regulatory impact likely in next 1-5 years. Addresses a finding or recommendation from a regulator, monitor, or auditor.	Currently in major non-compliance; resulting in moratoriums, fines, orders, etc. Addresses a finding or requirement from a regulatory agency.	**25%**
Quality of Service	No change to QOS and assuming limited resource requirements	Minor change to QOS and/or minor impact on resource requirements	Moderate change to QOS and/or moderate impact on resource requirements, including emerging containment(s) of concern.	Significant change to QOS and/or significant impact on resource requirements, including emerging containment(s) of concern.	Major change to QOS and/or major impact on resource requirements, including emerging containment(s) of concern.	**20%**
Safety	No impacts on customers or employees	Minor risk of illness or possible injury	Moderate risk of illness or injury; may require hospitalization	Significant risk of serious illness or injury; may result in significant injury	Expectation of life threatening illness and/or injury to one or more customers or employees	**15%**
Risk of Failure	No risk of failure	Minor risk of failure	Moderate risk of failure	Significant risk of failure	Severe risk of failure	**15%**
Security	Little to no impact	Minor improvements to existing phyiscal security measures	Moderate improvements to existing phyiscal security measures	Significant impact on existing physical security measures	High impact on existing physical security measures. Addresses a recommendation from Homeland Security or regulatory requirement	**15%**
Social Impact	Limited or negative social impact	Minor social impact	Moderate social impact	Significant social impact	High social impact	**10%**

Project Page Definitions

Project Description - A basic understanding of the project's intent and scope of work

Phase - Phase in the project life-cycle (i.e. design, construction)

Priority - Determines the applicable prioritization criteria categories

Project Justification - A detailed explanation to why the project is needed

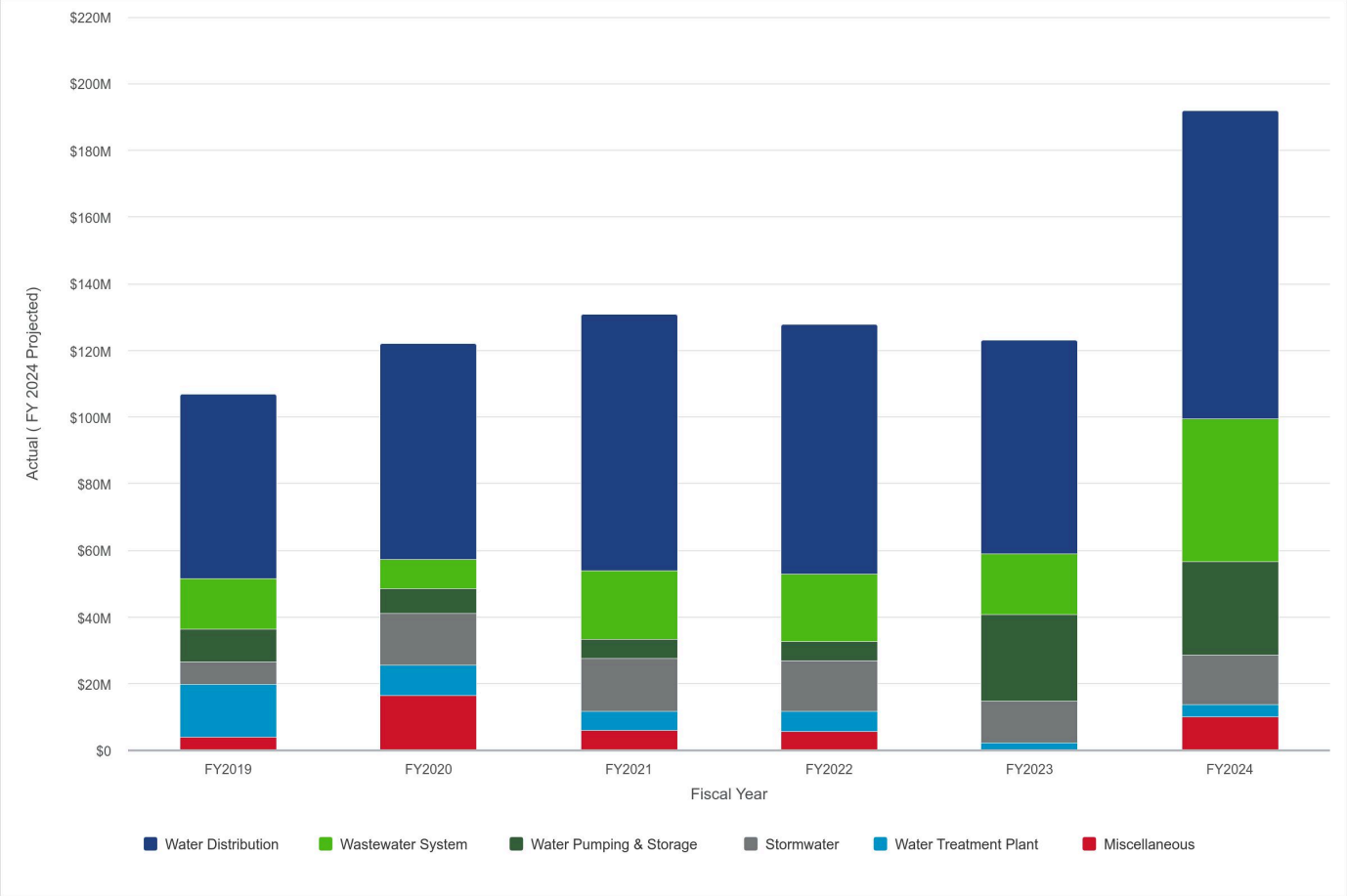
Risk(s) - Outlines the risk(s) to Pittsburgh Water if the project is delayed or is not funded

Impact on Operations - Describes the anticipated impact to Pittsburgh Water's operations when the project is completed

DSIC Eligibility - Determination of whether costs qualify under the Distribution System Improvement Charge

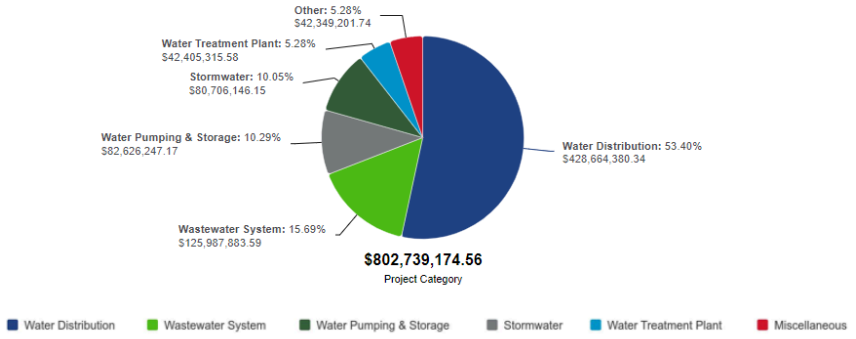
Capital Improvement Plan Summary

Annual Historical And Projected Capital Spend



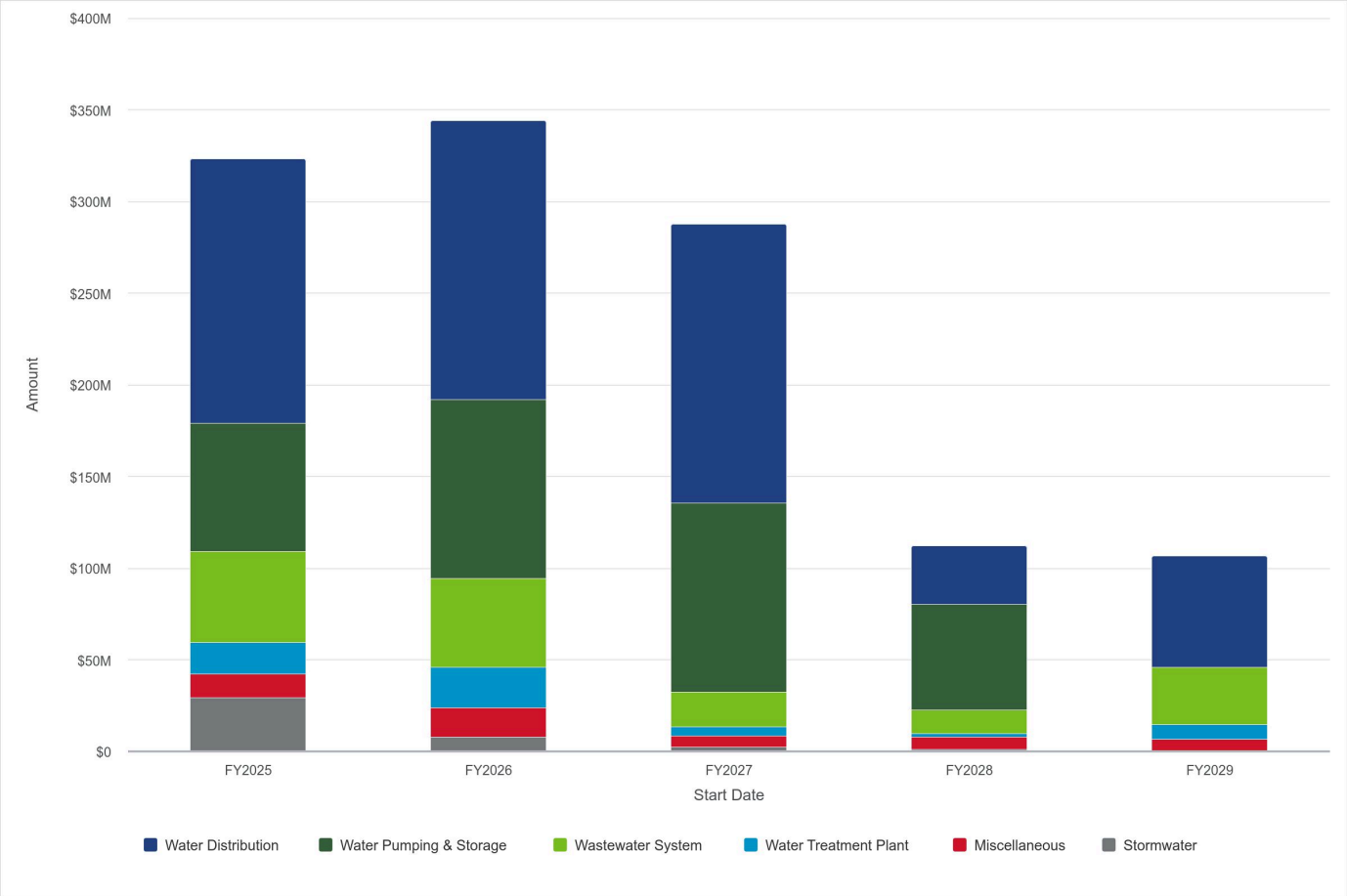
Historical Capital Budget Spend By Project Class

Project Category	2019	2020	2021	2022	2023	2024	Total
Water Treatment Plant	$15,665,185	$8,959,256	$5,946,283	$5,816,207	$2,328,712	$3,689,673	$42,405,316
Water Pumping & Storage	$9,667,165	$7,304,722	$5,941,184	$5,811,219	$26,141,063	$27,760,894	$82,626,247
Water Distribution	$55,588,889	$64,838,953	$76,722,470	$75,044,147	$64,054,495	$92,415,427	$428,664,380
Wastewater System	$15,152,656	$8,767,047	$20,632,500	$20,181,159	$18,088,222	$43,166,301	$125,987,884
Stormwater	$6,901,255	$15,791,622	$15,614,923	$15,273,343	$12,291,912	$14,833,091	$80,706,146
Miscellaneous	$4,023,798	$16,446,590	$5,875,126	$5,746,606	$104,740	$10,152,342	$42,349,202
TOTAL	**$106,998,948**	**$122,108,190**	**$130,732,485**	**$127,872,680**	**$123,009,144**	**$192,017,728**	**$802,739,175**



2025 - 2029 Capital Improvement Plan By Project Class

2025-2029 CAPITAL PLAN						5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Category						
Water Treatment Plant	$17,534,390	$22,116,205	$5,059,256	$2,084,190	$7,960,735	$54,754,776
Water Pumping & Storage	$69,968,434	$97,542,544	$103,072,979	$57,549,081	$0	$328,133,038
Water Distribution	$144,477,239	$152,141,343	$152,109,812	$31,934,822	$60,749,512	$541,412,728
Wastewater System	$49,401,152	$48,569,270	$18,845,643	$12,956,679	$31,296,112	$161,068,856
Stormwater	$29,489,958	$7,580,760	$1,999,779	$1,333,333	$169,014	$40,572,844
Miscellaneous	$12,558,165	$16,250,000	$6,265,500	$6,250,000	$6,250,000	$47,573,665
PROJECT CATEGORY TOTAL	**$323,429,338**	**$344,200,122**	**$287,352,969**	**$112,108,105**	**$106,425,373**	**$1,173,515,907**



2025 - 2029 Funding Source Summary

2025-2029 CAPITAL PLAN						5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
PENNVEST	$187,711,801	$222,984,845	$179,459,511	$42,844,474	$0	$633,000,631
Debt (Revenue Bonds)	$105,063,460	$105,667,373	$66,857,059	$58,884,715	$96,046,457	$432,519,064
WIFIA	$3,983,576	$4,606,508	$31,157,483	$500,000	$500,000	$40,747,567
Debt (Project Fund)	$14,787,331	$0	$0	$0	$0	$14,787,331
ARPA	$471,677	$0	$0	$0	$0	$471,677
Private Grant	$1,532,577	$1,062,480	$0	$0	$0	$2,595,057
DSIC - Water	$7,164,504	$7,164,504	$7,164,504	$7,164,504	$7,164,504	$35,822,520
DSIC - Wastewater	$2,714,412	$2,714,412	$2,714,412	$2,714,412	$2,714,412	$13,572,060
PROJECT FUNDING TOTAL	**$323,429,338**	**$344,200,122**	**$287,352,969**	**$112,108,105**	**$106,425,373**	**$1,173,515,907**

2025 - 2029 Project Summary

2025-2029 CAPITAL PLAN						5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Water Treatment Plant						
Aspinwall Water Treat Plant Filter Building Sodium Hypochlorite Improvements	$416,397	$0	$0	$0	$0	$416,397
Aspinwall Water Treatment Plant Raw Water Intakes	$516,484	$539,697	$0	$343,890	$7,460,735	$8,860,806
Clearwell Improvements	$3,444,376	$1,324,489	$500,000	$500,000	$500,000	$6,268,865
Ferric Chloride Feed System Rehabilitation	$186,250	$2,313,750	$0	$0	$0	$2,500,000
Hydraulic Valve Replacement Program	$836,325	$3,459,761	$1,729,881	$0	$0	$6,025,967
Lime Slurry System Improvements	$6,156,738	$0	$0	$0	$0	$6,156,738
Overhead Crane Modernization	$375,000	$500,000	$0	$0	$0	$875,000
Powdered Activated Carbon System Replacement	$202,750	$1,769,625	$1,510,875	$0	$0	$3,483,250
Sedimentation Basin Rehabilitation Project	$2,267,800	$4,770,200	$391,000	$312,800	$0	$7,741,800
Sludge Chamber Project	$1,332,472	$0	$0	$0	$0	$1,332,472
Vactor Pit Decant Facility Renovation/ Replacement	$175,000	$285,000	$927,500	$927,500	$0	$2,315,000
Water Treatment Plant 84-Inch Diameter Line Rehabilitation	$1,234,798	$3,653,683	$0	$0	$0	$4,888,481
Water Treatment Plant Chemical Building Storage Tank Improvements	$125,000	$0	$0	$0	$0	$125,000
Water Treatment Plant Entrance Improvements	$265,000	$0	$0	$0	$0	$265,000
Water Treatment Plant Filter Building Roof	$0	$3,500,000	$0	$0	$0	$3,500,000
Water Treatment Plant Contingency	$0	$0	$0	$0	$0	$0
WATER TREATMENT PLANT TOTAL	**$17,534,390**	**$22,116,205**	**$5,059,256**	**$2,084,190**	**$7,960,735**	**$54,754,776**
Water Pumping & Storage						
Aspinwall and Fox Chapel Interim Feed	$539,200	$4,862,604	$1,711,721	$454,581	$0	$7,568,106
Aspinwall Pump Station Improvements, Bruecken Pump Station Improvements, and Clearwell Bypass	$34,368,736	$78,419,004	$91,447,113	$46,897,050	$0	$251,131,903
Bruecken Pumps No. 4, 5, and 7 Starter Replacements	$731,028	$0	$0	$0	$0	$731,028
Chlorine Booster Station Improvements	$353,823	$0	$0	$0	$0	$353,823
Herron Hill Reservoir Improvements	$10,000	$0	$0	$0	$0	$10,000
Herron Hill Reservoir Improvements - Sodium Hypochlorite Building	$414,780	$0	$0	$0	$0	$414,780
Highland No. 2 Reservoir Liner and Cover Replacements	$810,916	$352,488	$9,914,145	$10,197,450	$0	$21,274,999
Highland Reservoir Pump Station and Rising Main	$24,908,444	$13,908,448	$0	$0	$0	$38,816,892
Lanpher Reservoir Improvements	$7,600,857	$0	$0	$0	$0	$7,600,857
Lincoln Pump Station: Bypass Pump Station Project	$230,650	$0	$0	$0	$0	$230,650
Water Pumping & Storage Contingency	$0	$0	$0	$0	$0	$0
WATER PUMPING & STORAGE TOTAL	**$69,968,434**	**$97,542,544**	**$103,072,979**	**$57,549,081**	**$0**	**$328,133,038**
Water Distribution						
Interconnection Vault Stormwater Removal	$902,260	$0	$0	$0	$0	$902,260
Intermediate Meter Replacement Program	$205,000	$221,500	$238,825	$257,016	$276,117	$1,198,458
Large Diameter Water Main Program	$2,192,936	$19,733,691	$0	$0	$0	$21,926,627
Large Meter Replacement Program	$200,120	$222,626	$246,257	$271,070	$297,123	$1,237,196
Neighborhood Lead Service Line Replacement Program	$50,931,646	$60,770,404	$64,693,568	$8,552,963	$0	$184,948,581
Private Lead Service Line Reimbursement	$500,000	$500,000	$500,000	$300,000	$0	$1,800,000
Small Diameter Water Main Replacement Program	$74,188,361	$60,800,003	$76,205,405	$12,883,159	$51,810,000	$275,886,928
Small Meter Replacement Program	$990,000	$1,039,500	$1,091,475	$396,049	$453,351	$3,970,375

2025-2029 CAPITAL PLAN						5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Urgent Lead Service Line Replacement Program	$1,728,931	$683,323	$227,774	$0	$0	$2,640,028
Valve Replacement Program	$3,250,509	$3,109,019	$3,188,361	$3,170,353	$3,170,000	$15,888,242
Water and Wastewater Safety and Security Improvements (PENNVEST)	$5,381,580	$0	$0	$0	$0	$5,381,580
Water Relay Program	$4,005,896	$5,061,277	$5,718,147	$6,104,212	$4,742,921	$25,632,453
Water Distribution Contingency	$0	$0	$0	$0	$0	$0
WATER DISTRIBUTION TOTAL	**$144,477,239**	**$152,141,343**	**$152,109,812**	**$31,934,822**	**$60,749,512**	**$541,412,728**
Wastewater System						
31st Ward Pump Station and Appurtenances - Phase 2	$746,447	$7,248,809	$9,507,797	$0	$0	$17,503,053
Browns Hill Road Sewer Pump Station Replacement	$2,221,215	$1,297,058	$0	$0	$0	$3,518,273
Large Diameter Sewer Rehabilitation Program	$8,766,419	$7,715,321	$2,300,000	$660,000	$5,720,000	$25,161,740
Ruthven Cost Share	$1,225,766	$0	$0	$0	$0	$1,225,766
Sewer Reconstruction Program	$3,131,514	$3,277,271	$3,677,846	$4,496,679	$2,714,412	$17,297,722
Sewers Under Structures Program	$6,609,093	$0	$0	$0	$0	$6,609,093
Small Diameter Sewer Rehabilitation Program	$26,700,698	$29,030,811	$3,360,000	$7,800,000	$22,861,700	$89,753,209
Wastewater Contingency	$0	$0	$0	$0	$0	$0
WASTEWATER SYSTEM TOTAL	**$49,401,152**	**$48,569,270**	**$18,845,643**	**$12,956,679**	**$31,296,112**	**$161,068,856**
Stormwater						
Braywood Stormwater Improvements	$1,142,826	$0	$0	$0	$0	$1,142,826
Bus Rapit Transit Stormwater Infrastructure Improvements	$2,210,806	$3,418,543	$666,446	$0	$0	$6,295,795
Catch Basin and Inlet Replacement Program	$9,111,007	$1,964,319	$1,333,333	$1,333,333	$169,014	$13,911,006
Four Mile Run Stormwater Infrastructure Improvements	$432,323	$0	$0	$0	$0	$432,323
Fowler Park Stormwater Improvements	$361,868	$48,693	$0	$0	$0	$410,561
Oakridge Stormwater Separation	$155,168	$0	$0	$0	$0	$155,168
Saw Mill Run Watershed Improvements	$900,000	$100,000	$0	$0	$0	$1,000,000
Southside Flats Sewer Separation	$12,926,946	$1,062,480	$0	$0	$0	$13,989,426
Woods Run Stream Removal Stormwater Infrastructure Improvemements	$2,249,014	$986,725	$0	$0	$0	$3,235,739
Stormwater Improvements Contingency	$0	$0	$0	$0	$0	$0
STORMWATER TOTAL	**$29,489,958**	**$7,580,760**	**$1,999,779**	**$1,333,333**	**$169,014**	**$40,572,844**
Miscellaneous						
Annual Capital Project Reclassification	$10,958,354	$6,000,000	$6,000,000	$6,000,000	$6,000,000	$34,958,354
New Headquarters and Operations Facility	$1,000,000	$10,000,000	$0	$0	$0	$11,000,000
Utility Cost Shares	$599,811	$250,000	$265,500	$250,000	$250,000	$1,615,311
Miscellaneous Contingency	$0	$0	$0	$0	$0	$0
MISCELLANEOUS TOTAL	**$12,558,165**	**$16,250,000**	**$6,265,500**	**$6,250,000**	**$6,250,000**	**$47,573,665**
PROJECT FUNDING TOTAL	**$323,429,338**	**$344,200,122**	**$287,352,969**	**$112,108,105**	**$106,425,373**	**$1,173,515,907**

Water Treatment Plant

Project Class Summary

Projects within this category are required to rehabilitate, upgrade, or provide new facilities at the Pittsburgh Water Treatment Plant location. Projects can include, but are not limited to, improvements to pump stations, water intakes, chemical storage areas, sedimentation basins, and the Clearwell, which is a large, century-old water storage facility that is used to treat water with chlorine to kill any harmful bacteria or pathogens. The Pittsburgh Water Treatment Plant produces an average of 70 million gallons of water daily and provides drinking water to the majority of the Pittsburgh area.

Project Summary Table

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Aspinwall Water Treat Plant Filter Building Sodium Hypochlorite Improvements	$416,397	$0	$0	$0	$0	$416,397
Aspinwall Water Treatment Plant Raw Water Intakes	$516,484	$539,697	$0	$343,890	$7,460,735	$8,860,806
Clearwell Improvements	$3,444,376	$1,324,489	$500,000	$500,000	$500,000	$6,268,865
Ferric Chloride Feed System Rehabilitation	$186,250	$2,313,750	$0	$0	$0	$2,500,000
Hydraulic Valve Replacement Program	$836,325	$3,459,761	$1,729,881	$0	$0	$6,025,967
Lime Slurry System Improvements	$6,156,738	$0	$0	$0	$0	$6,156,738
Overhead Crane Modernization	$375,000	$500,000	$0	$0	$0	$875,000
Powdered Activated Carbon System Replacement	$202,750	$1,769,625	$1,510,875	$0	$0	$3,483,250
Sedimentation Basin Rehabilitation Project	$2,267,800	$4,770,200	$391,000	$312,800	$0	$7,741,800
Sludge Chamber Project	$1,332,472	$0	$0	$0	$0	$1,332,472
Vactor Pit Decant Facility Renovation/ Replacement	$175,000	$285,000	$927,500	$927,500	$0	$2,315,000
Water Treatment Plant 84-Inch Diameter Line Rehabilitation	$1,234,798	$3,653,683	$0	$0	$0	$4,888,481
Water Treatment Plant Chemical Building Storage Tank Improvements	$125,000	$0	$0	$0	$0	$125,000
Water Treatment Plant Entrance Improvements	$265,000	$0	$0	$0	$0	$265,000
Water Treatment Plant Filter Building Roof	$0	$3,500,000	$0	$0	$0	$3,500,000
Water Treatment Plant Contingency	$0	$0	$0	$0	$0	$0
PROJECT FUNDING TOTAL	**$17,534,390**	**$22,116,205**	**$5,059,256**	**$2,084,190**	**$7,960,735**	**$54,754,776**

Aspinwall Water Treatment Plant Filter Building Sodium Hypochlorite Improvements

Project Description

General and mechanical work will include demolition, a new filling station, a new storage and pumping room, furnishing and installing new storage tanks, feed pumps and piping. HVAC work will include furnishing and installing new HVAC system including an air handling unit, a condensing unit, an exhaust system and ductwork. Plumbing work will include new water service lines inside the building, furnishing and installing eyewash stations, hot water units, sanitary drain modifications, and the installation of a wet sprinkler fire suppression system and fire alarm system. Electrical work will include furnishing and installing power wiring and conduit to new equipment, control wiring to instrumentation, and program system integration services to operate the new treatment process.

Project Details

Phase: Construction

Priority: Regulatory Compliance, Safety, Risk of Failure, Quality of Service

Project Justification: To increase storage of sodium hypochlorite solution as required by the PADEP and enhance the operational safety and efficiency of the system.

Risk(s): Not meeting requirements of the PADEP if the project not completed.

Impact on Operations: Operating budget will likely decrease due to efficiencies.

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2017-322-101-8 - Aspinwall Water Treatment Plant Filter Building Sodium Hypochlorite Improvements - General/Mechanical	$350,000	$0	$0	$0	$0	$350,000
2017-322-101-11 - Aspinwall Water Treatment Plant Filter Building Sodium Hypochlorite Improvements - Electrical	$66,397	$0	$0	$0	$0	$66,397
PROJECT FUNDING TOTAL	**$416,397**	**$0**	**$0**	**$0**	**$0**	**$416,397**

Funding Sources

2025-2029 CAPITAL PLAN						5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$416,397	$0	$0	$0	$0	$416,397
PROJECT FUNDING TOTAL	**$416,397**	**$0**	**$0**	**$0**	**$0**	**$416,397**

Aspinwall Water Treatment Plant Raw Water Intakes

Project Description

Project will include condition assessment, renewing or replacing the existing West and East Raw Water Intake Gate House buildings and associated systems (including gates, screens, and associated mechanical equipment), as well as the addition of SCADA. Influent piping through the Ross Pump Station will also be addressed.

Project Details

Phase: Design

Priority: Regulatory Compliance, Quality of Service, Risk of Failure

Project Justification: The West Gate is 90% closed and inoperable. Both gate houses are in need of rehabilitation or replacement. The West Gatehouse is 100 years old, and the East Gate is almost 90 years old.

Risk(s): Both gates have reached the end of their useful life and need to be replaced. Failure of the East Gate would cause a disruption to the supply of water.

Impact on Operations: Modernization of systems will require less time spent in operations and maintenance of these facilities.

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2024-100-104-0 - Aspinwall Water Treatment Plant Raw Water Intakes	$516,484	$539,697	$0	$343,890	$7,460,735	$8,860,806
PROJECT FUNDING TOTAL	**$516,484**	**$539,697**	**$0**	**$343,890**	**$7,460,735**	**$8,860,806**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$516,484	$539,697	$0	$343,890	$7,460,735	$8,860,806
PROJECT FUNDING TOTAL	**$516,484**	**$539,697**	**$0**	**$343,890**	**$7,460,735**	**$8,860,806**

Clearwell Improvements

Project Description

Replacement of the existing 100 + year old clearwell (finished water structure) with multi-celled clearwell to allow for maintenance.

Project Details

Phase: Design

Priority: Regulatory Compliance, Safety, Quality of Service, Risk of Failure

Project Justification: The clearwell was constructed in 1908 and has not undergone any major modifications or upgrades since. It has two main functions: providing equalization storage that allows the filters to operate independently of potential fluctuations in system demands, and providing sufficient retention contact time for disinfection agents to meet the requirements of the Surface Water Treatment Rule and Long-Term 2 Enhanced Surface Water Treatment Rule.

Risk(s): Failure of the clearwell would cause a service disruption.

Impact on Operations: Ability to meet system reliability and water quality regulations.

DSIC Eligible: No

Project Funding

2025-2029 CAPITAL PLAN						TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2023-100-104-0 - Clearwell Improvements	$3,444,376	$1,324,489	$500,000	$500,000	$500,000	$6,268,865
PROJECT FUNDING TOTAL	**$3,444,376**	**$1,324,489**	**$500,000**	**$500,000**	**$500,000**	**$6,268,865**

Funding Sources

2025-2029 CAPITAL PLAN						5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
WIFIA	$3,444,376	$1,324,489	$500,000	$500,000	$500,000	$6,268,865
PROJECT FUNDING TOTAL	**$3,444,376**	**$1,324,489**	**$500,000**	**$500,000**	**$500,000**	**$6,268,865**

Ferric Chloride Feed System Rehabilitation

Project Description

Replacement and modernization of the Ferric Chloride Chemical Feed Pump System, including flow pacing.

Project Details

Phase: Design

Priority: Safety, Regulatory Compliance

Project Justification: The goal of this project is to replace and modernize the ferric chloride dosing system. Ferric chloride acts as a coagulant and flocculant that facilitates the clarification of water (separating suspended and some dissolved materials). The replacement is to ensure reliability, resiliency, and treatment performance. Additionally, flow pacing will allow for the chemical to be dosed at the correct rate without intervention.

Risk(s): Ferric Chloride Feed System is required for achieving water quality.

Impact on Operations: None

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2025-100-101-0 - Ferric Chloride Feed System Rehabilitation	$186,250	$2,313,750	$0	$0	$0	$2,500,000
PROJECT FUNDING TOTAL	**$186,250**	**$2,313,750**	**$0**	**$0**	**$0**	**$2,500,000**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$186,250	$2,313,750	$0	$0	$0	$2,500,000
PROJECT FUNDING TOTAL	**$186,250**	**$2,313,750**	**$0**	**$0**	**$0**	**$2,500,000**

Hydraulic Valve Replacement Program

Project Description

This project is retrofitting the various hydraulic valve actuators in the filters to electric valve actuators.

Project Details

Phase: Design

Priority: Regulatory Compliance, Safety, Risk of Failure, Quality of Service

Project Justification: Improve operational control while modernizing the facility to better align with industry standard practices.

Risk(s): Inefficient operations resulting from an aged facility that do not align with industry standard practices.

Impact on Operations: Increased system reliability and improved system management.

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2023-100-105-0 - Hydraulic Valve Replacement Program	$836,325	$3,459,761	$1,729,881	$0	$0	$6,025,967
PROJECT FUNDING TOTAL	**$836,325**	**$3,459,761**	**$1,729,881**	**$0**	**$0**	**$6,025,967**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$836,325	$3,459,761	$1,729,881	$0	$0	$6,025,967
PROJECT FUNDING TOTAL	**$836,325**	**$3,459,761**	**$1,729,881**	**$0**	**$0**	**$6,025,967**

Lime Slurry System and Sodium Permanganate System Improvements

Project Description

Lime slurry system capacity expansion improvements to include demolition, installation of additional tanks, chemical feed equipment, minor revisions to the existing lime slurry system, and Supervisory Control and Data Acquisition (SCADA) communications equipment and interface.

Project Details

Phase: Construction

Priority: Regulatory Compliance, Safety, Quality of Service

Project Justification: Adequate lime storage is mandated by the PADEP. New system will be more efficient/require less labor to operate and maintain.

Risk(s): The extra storage for liquid lime is critical to the reliable operation of the Water Treatment Plant.

Impact on Operations: Adequate storage, increased reliability and efficiency, less housekeeping labor.

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2017-322-101-7 - Lime Slurry System Improvements	$3,631,719	$0	$0	$0	$0	$3,631,719
2017-322-101-12 - Lime Slurry System and Sodium Permanganate System Improvements - Plumbing	$1,089,467	$0	$0	$0	$0	$1,089,467
2017-322-101-13 - Lime Slurry System and Sodium Permanganate System Improvements - Electrical	$1,435,552	$0	$0	$0	$0	$1,435,552
PROJECT FUNDING TOTAL	**$6,156,738**	**$0**	**$0**	**$0**	**$0**	**$6,156,738**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Project Fund)	$6,156,738	$0	$0	$0	$0	$6,156,738
PROJECT FUNDING TOTAL	**$6,156,738**	**$0**	**$0**	**$0**	**$0**	**$6,156,738**

Overhead Crane Modernization

Project Description

Replacement and upgrade of existing cranes at Bruecken, Mission, Aspinwall, and Ross pump stations.

Project Details

Phase: Construction

Priority: Safety, Quality of Service

Project Justification: The current age of the existing overhead cranes is well beyond their useful life and should be replaced.

Risk(s): Inefficient operations resulting from an aged facility that does not align with industry standard practices.

Impact on Operations: Increase operating flexibility and reliability.

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2024-100-100-0 - Overhead Crane Modernization	$375,000	$500,000	$0	$0	$0	$875,000
PROJECT FUNDING TOTAL	**$375,000**	**$500,000**	**$0**	**$0**	**$0**	**$875,000**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$375,000	$500,000	$0	$0	$0	$875,000
PROJECT FUNDING TOTAL	**$375,000**	**$500,000**	**$0**	**$0**	**$0**	**$875,000**

Powdered Activated Carbon System Replacement

Project Description

Replacement of the current non-functional Powdered Activated Carbon (PAC) System.

Project Details

Phase: Design

Priority: Safety, Regulatory Compliance

Project Justification: Powdered activated carbon (PAC) is required for the production of drinking water, primarily on a seasonal basis, to address the necessary removal of organic compounds. PAC is used to remove persistent organic compounds (e.g., pesticides and biocides) and organic compounds (e.g., AOX, BTEX, MAH, and PAHs). The existing system in non-operational.

Risk(s): PAC System is required for achieving water quality.

Impact on Operations: None

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2025-100-102-0 - Powdered Activated Carbon System Replacement	$202,750	$1,769,625	$1,510,875	$0	$0	$3,483,250
PROJECT FUNDING TOTAL	**$202,750**	**$1,769,625**	**$1,510,875**	**$0**	**$0**	**$3,483,250**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$202,750	$1,769,625	$1,510,875	$0	$0	$3,483,250
PROJECT FUNDING TOTAL	**$202,750**	**$1,769,625**	**$1,510,875**	**$0**	**$0**	**$3,483,250**

Sedimentation Basin Rehabilitation Project

Project Description

Improvements to keep stormwater from infiltrating the basins, rehabilitation or replacement of existing sluice gates including drain gates, disconnecting existing stormwater outfall including related permitting, and repair of existing vaults.

Project Details

Phase: Design

Priority: Regulatory Compliance, Quality of Service, Risk of Failure

Project Justification: The sedimentation basins are the only system in the Water Treatment Plant process that is open to the environment. As such, care must be taken to prevent infiltration of contaminants via surface runoff. These repairs and valve replacements were recommended by regulating agencies. Working isolation valves are required to properly isolate and maintain treatment. Proactive repair/maintenance will reduce the chance of complete failure of the asset.

Risk(s): Pittsburgh Water could experience regulatory violations.

Impact on Operations: Ability for staff to quickly isolate the sedimentation basins as part of routine or emergency maintenance.

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2024-100-106-0 - Sedimentation Basin Rehabilitation Project	$2,267,800	$4,770,200	$391,000	$312,800	$0	$7,741,800
PROJECT FUNDING TOTAL	**$2,267,800**	**$4,770,200**	**$391,000**	**$312,800**	**$0**	**$7,741,800**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$2,267,800	$4,770,200	$391,000	$312,800	$0	$7,741,800
PROJECT FUNDING TOTAL	**$2,267,800**	**$4,770,200**	**$391,000**	**$312,800**	**$0**	**$7,741,800**

Sludge Chamber Project

Project Description

Replacement of existing sludge pump and related components.

Project Details

Phase: Construction

Priority: Regulatory Compliance, Quality of Service, Risk of Failure

Project Justification: The submersible pumps are not operational because they are not capable of handling the type of sludge coming from the clarifier drainage. The pump system needs to be designed to ensure the proper pump size and selection suitable for sludge handling is utilized.

Risk(s): Inefficient operations resulting from an aged facility that does not align with industry standard practices.

Impact on Operations: Increased operating efficiency, flexibility, reliability, and life expectancy.

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2021-322-102-0 - Sludge Chamber Pump Project	$214,446	$0	$0	$0	$0	$214,446
2021-322-102-2 - Sludge Chamber Pump Project - General	$828,038	$0	$0	$0	$0	$828,038
2021-322-102-3 - Sludge Chamber Pump Project - Mechanical/Electric	$289,988	$0	$0	$0	$0	$289,988
PROJECT FUNDING TOTAL	**$1,332,472**	**$0**	**$0**	**$0**	**$0**	**$1,332,472**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$289,988	$0	$0	$0	$0	$289,988
Debt (Project Fund)	$1,042,484	$0	$0	$0	$0	$1,042,484
PROJECT FUNDING TOTAL	**$1,332,472**	**$0**	**$0**	**$0**	**$0**	**$1,332,472**

Vactor Pit Decant Facility Renovation/ Replacement

Project Description

Design/evaluation and construction of a renovated/replacement Vactor Dewatering Facility.

Project Details

Phase: Design

Priority: Regulatory Compliance, Improved Efficiency/ Effectiveness

Project Justification: Project is necessary to address a poorly functioning pit facility which is difficult to maintain. Project will provide adequate location for the handling and processing of the ongoing debris generated from Pittsburgh Water's direct/internal cleaning of sewers and catch basins. Project will also provide for handling the debris from Pittsburgh Water's vendors (e.g., catch basin cleaning debris), in lieu of the vendors directly hauling the wastes to a remote disposal site.

Risk(s): Inefficient operations resulting from an aged facility that do not align with industry standard practices.

Impact on Operations: It is anticipated that the expansion/replacement of the vactor pit to accommodate Pittsburgh Water's vendors will eliminate the need for vendors to dispose of debris at sites remote from City limits. This should allow vendors to bid more competitively on contracts.

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2025-100-103-0 - Vactor Pit Decant Facility Renovation/ Replacement	$175,000	$285,000	$927,500	$927,500	$0	$2,315,000
PROJECT FUNDING TOTAL	**$175,000**	**$285,000**	**$927,500**	**$927,500**	**$0**	**$2,315,000**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$175,000	$285,000	$927,500	$927,500	$0	$2,315,000
PROJECT FUNDING TOTAL	**$175,000**	**$285,000**	**$927,500**	**$927,500**	**$0**	**$2,315,000**

Water Treatment Plant 84-Inch Diameter Line Rehabilitation

Project Description

Replacement of various isolation valves at the plant and the encasement of an existing 84-inch diameter pipe coupling and lining of the conduit between the clarifiers and the filter building.

Project Details

Phase: Construction

Priority: Regulatory Compliance, Risk of Failure, Quality of Service

Project Justification: This 84-inch coupling presents a single source of failure at the WTP. Water from the sedimentation basins travels through a single 84-inch diameter main to the filters. There is a coupling on this main that is highly corroded and at risk of failure. Proactive repair/maintenance will reduce the chance of complete failure of the asset.

Risk(s): Customers may experience service disruption.

Impact on Operations: An inability to route water through the sedimentation basins will lead to an inability to meet water quality regulations.

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2023-100-106-1 - Water Treatment Plant 84-Inch Diameter Line Rehabilitation Project	$1,234,798	$3,653,683	$0	$0	$0	$4,888,481
PROJECT FUNDING TOTAL	**$1,234,798**	**$3,653,683**	**$0**	**$0**	**$0**	**$4,888,481**

Funding Sources

2025-2029 CAPITAL PLAN						5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$1,234,798	$3,653,683	$0	$0	$0	$4,888,481
PROJECT FUNDING TOTAL	**$1,234,798**	**$3,653,683**	**$0**	**$0**	**$0**	**$4,888,481**

Water Treatment Plant Chemical Building Storage Tank Improvements

Project Description

The project involves three ferric chloride storage tanks and requires each tank to be individually removed from service, drained, old liner removed, bottom cone replaced, and a new liner installed. The tank will then be hydrostatically tested before being placed back into service and moving to the next tank. All work will be overseen be a certified tank installer and proper documentation filed with the PADEP for the work on the registered storage tanks. In addition, this project will install new remote fill point spill containment lockers to better contain any drips during the unloading process.

Project Details

Phase: Other

Priority: Regulatory Compliance, Safety, Quality of Service

Project Justification: Pittsburgh Water maintains three above-ground storage tanks for ferric chloride, which is a primary chemical used for coagulation in the drinking water treatment process. These steel tanks are lined to protect against the highly corrosive property of ferric chloride. However, due to the age of the liner regulatory inspections have determined the liners require replacement. In addition, the bottom cone section of each tank has lost wall thickness due to age and requires replacement. This work is needed to maintain storage of the chemical and to comply with regulatory inspections.

Risk(s): Compliance violation for improper operation of an above-ground storage tank system. Product leakage resulting in emergency cleanup and disposal of a hazardous waste. Catastrophic failure resulting in employee safety concerns and loss of water treatment capacity or capability.

Impact on Operations: Water treatment can continue while one tank at a time is out of service for liner replacement. During this time more frequent deliveries are required to maintain chemical volumes with reduced storage capacity.

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2023-100-111-0 - Water Treatment Plant Chemical Building Storage Tank Improvements	$125,000	$0	$0	$0	$0	$125,000
PROJECT FUNDING TOTAL	**$125,000**	**$0**	**$0**	**$0**	**$0**	**$125,000**

Funding Sources

2025-2029 CAPITAL PLAN						5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$125,000	$0	$0	$0	$0	$125,000
PROJECT FUNDING TOTAL	**$125,000**	**$0**	**$0**	**$0**	**$0**	**$125,000**

Water Treatment Plant Entrance Improvements

Project Description

Improvements to the Water Treatment Plant's entrance.

Project Details

Phase: Design

Priority: Safety, Quality of Service

Project Justification: The project is necessary to facilitate safe access to the treatment plant by employees and contractors during the ongoing and future extensive construction work and daily operations of the plant. Traffic will back up on to Freeport Road without these improvements increasing the risk of a traffic or train accident.

Risk(s): Traffic and train accidents with increased vehicular traffic at the plant.

Impact on Operations: None

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2025-100-100-0 - Water Treatment Plant Entrance Improvements	$265,000	$0	$0	$0	$0	$265,000
PROJECT FUNDING TOTAL	**$265,000**	**$0**	**$0**	**$0**	**$0**	**$265,000**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$265,000	$0	$0	$0	$0	$265,000
PROJECT FUNDING TOTAL	**$265,000**	**$0**	**$0**	**$0**	**$0**	**$265,000**

Water Treatment Plant Filter Building Roof

Project Description

Roof and parapet flashing replacement at the Water Treatment Plant filter building.

Project Details

Phase: Inactive

Priority: Safety, Security, Risk of Failure, Quality of Service

Project Justification: The existing roof is aged and in need of replacement.

Risk(s): Continued deterioration of the roof could result in an emergency replacement.

Impact on Operations: Decrease in yearly maintenance for the existing roof.

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2024-100-103-0 - Water Treatment Plant Filter Building Roof	$0	$3,500,000	$0	$0	$0	$3,500,000
PROJECT FUNDING TOTAL	**$0**	**$3,500,000**	**$0**	**$0**	**$0**	**$3,500,000**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$0	$3,500,000	$0	$0	$0	$3,500,000
PROJECT FUNDING TOTAL	**$0**	**$3,500,000**	**$0**	**$0**	**$0**	**$3,500,000**

Water Treatment Plant Contingency

Project Description

Water Treatment Plant contingency project pass-trough.

Project Details

Phase: Not applicable

Priority: Not applicable

Project Justification: Improved efficiency of capital improvement fund management.

Risk(s): No identified risks.

Impact on Operations: Improved efficiency of capital improvement plan management.

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2025-100-105-0 - Water Treatment Plant Contingency	$0	$0	$0	$0	$0	$0
PROJECT FUNDING TOTAL	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$0	$0	$0	$0	$0	$0
PROJECT FUNDING TOTAL	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

Water Pumping & Storage

Category Summary

Projects within this category improve, maintain, or replace assets within the distribution system that transports and stores water that is utilized by Pittsburgh Water customers. The system contains 1 raw water pump station located along the Allegheny River, 10 finished water pump stations, 4 finished water reservoirs, 1 source water reservoir, and 11 storage tanks. These assets are critical to ensure that appropriate water levels are always maintained and available for customers.

Project Summary Table

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Aspinwall and Fox Chapel Interim Feed	$539,200	$4,862,604	$1,711,721	$454,581	$0	$7,568,106
Aspinwall Pump Station Improvements, Bruecken Pump Station Improvements, and Clearwell Bypass	$34,368,736	$78,419,004	$91,447,113	$46,897,050	$0	$251,131,903
Bruecken Pumps No. 4, 5, and 7 Starter Replacements	$731,028	$0	$0	$0	$0	$731,028
Chlorine Booster Station Improvements	$353,823	$0	$0	$0	$0	$353,823
Herron Hill Reservoir Improvements	$10,000	$0	$0	$0	$0	$10,000
Herron Hill Reservoir Improvements - Sodium Hypochlorite Building	$414,780	$0	$0	$0	$0	$414,780
Highland No. 2 Reservoir Liner and Cover Replacements	$810,916	$352,488	$9,914,145	$10,197,450	$0	$21,274,999
Highland Reservoir Pump Station and Rising Main	$24,908,444	$13,908,448	$0	$0	$0	$38,816,892
Lanpher Reservoir Improvements	$7,600,857	$0	$0	$0	$0	$7,600,857
Lincoln Pump Station: Bypass Pump Station Project	$230,650	$0	$0	$0	$0	$230,650
Water Pumping & Storage Contingency	$0	$0	$0	$0	$0	$0
PROJECT FUNDING TOTAL	**$69,968,434**	**$97,542,544**	**$103,072,979**	**$57,549,081**	**$0**	**$328,133,038**

Aspinwall Pump Station, Bruecken Pump Station, and Clearwell Bypass

Project Description

Replacement of aged pump and valve equipment, electrical equipment, HVAC, auxiliary systems, and rehabilitation of the building architectural and energy management systems at the Bruecken and Aspinwall Pump Stations, or replacement with a single high service pump station at the Water Treatment Plant.

Project Details

Phase: Construction

Priority: Regulatory Compliance, Safety, Quality of Service, Risk of Failure

Project Justification: The pump station is in need of renovations and upgrades to maintain service, to restore a 20 to 25 year useful life expectancy, and to provide safer conditions for staff. Additionally, the installation of variable frequency drives will reduce water pressure surges during start-up, and it will allow the pumps to operate over a wide range of flow, and to operate while the clearwell is being replaced. Alternately, a new high service pump station to replace the existing pump stations is also being investigated.

Risk(s): Pittsburgh Water could experience higher costs for emergency maintenance, and customers could experience a service disruption.

Impact on Operations: Increased operating efficiency, flexibility, reliability, and improved safety conditions.

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2024-300-100-0 - Aspinwall PS, Bruecken PS, and Clearwell Bypass - Construction	$4,678,239	$8,996,063	$12,676,270	$12,496,062	$0	$38,846,634
2024-300-100-1 - Aspinwall PS, Bruecken PS, and Clearwell Bypass - General	$20,823,926	$53,273,787	$55,898,199	$21,228,572	$0	$151,224,484
2024-300-100-2 - Aspinwall PS, Bruecken PS, and Clearwell Bypass - Electrical	$7,743,023	$14,252,755	$18,224,336	$9,605,192	$0	$49,825,306
2024-300-100-3 - Aspinwall PS, Bruecken PS, and Clearwell Bypass - Plumbing	$407,418	$809,474	$1,758,328	$1,098,955	$0	$4,074,175
2024-300-100-4 - Aspinwall PS, Bruecken PS, and Clearwell Bypass - HVAC	$716,130	$1,086,925	$2,889,980	$2,468,269	$0	$7,161,304
PROJECT FUNDING TOTAL	**$34,368,736**	**$78,419,004**	**$91,447,113**	**$46,897,050**	**$0**	**$251,131,903**

Funding Sources

2025-2029 CAPITAL PLAN						5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
PENNVEST	$34,368,736	$78,419,004	$60,789,630	$34,772,997	$0	$208,350,367
Debt (Revenue Bonds)	$0	$0	$0	$12,124,053	$0	$12,124,053
WIFIA	$0	$0	$30,657,483	$0	$0	$30,657,483
PROJECT FUNDING TOTAL	**$34,368,736**	**$78,419,004**	**$91,447,113**	**$46,897,050**	**$0**	**$251,131,903**

Aspinwall and Fox Chapel Interim Feed

Project Description

Design of alternative feed to Aspinwall and Fox Chapel during the construction of the clearwell bypass.

Project Details

Phase: Design

Priority: Quality of Service, Social Impact, Regulatory Compliance

Project Justification: The Aspinwall Pump Station to Lanpher Reservoir Rising Main project was growing to exceed reasonable budget expectations. An alternate method to ensure contact time for Fox Chapel and Aspinwall will be explored as an alternative to the Lanpher Rising Main Project.

Risk(s): Excessive cost of the Lanpher Rising Main, delays due to permitting and borough negotiations, difficult operations due to two mains.

Impact on Operations: The Lanpher Rising Main is proving to likely be difficult to operate. This option will allow the Aspinwall Pumps to decrease in size as well as provide more bandwidth for pump operation.

DSIC Eligible: No

Project Funding

2025-2029 CAPITAL PLAN						TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2023-300-113-0 - Aspinwall and Fox Chapel Interim Feed	$539,200	$4,862,604	$1,711,721	$454,581	$0	$7,568,106
PROJECT FUNDING TOTAL	**$539,200**	**$4,862,604**	**$1,711,721**	**$454,581**	**$0**	**$7,568,106**

Funding Sources

2025-2029 CAPITAL PLAN						5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$0	$1,580,585	$1,711,721	$454,581	$0	$3,746,887
WIFIA	$539,200	$3,282,019	$0	$0	$0	$3,821,219
PROJECT FUNDING TOTAL	**$539,200**	**$4,862,604**	**$1,711,721**	**$454,581**	**$0**	**$7,568,106**

Bruecken Pumps No. 4, 5, and 7 Starter Replacements

Project Description

Replacement of Bruecken Pump Station motor starters for Pumps No. 4, 5, and 7.

Project Details

Phase: Construction

Priority: Quality of Service, Risk of Failure

Project Justification: The motor starters failed and require immediate replacement.

Risk(s): May cause service disruptions.

Impact on Operations: Increased operating efficiency, flexibility, and reliability.

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2022-323-101-0 - Bruecken Pumps No. 4, 5, and 7 Starter Replacements	$731,028	$0	$0	$0	$0	$731,028
PROJECT FUNDING TOTAL	**$731,028**	**$0**	**$0**	**$0**	**$0**	**$731,028**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$731,028	$0	$0	$0	$0	$731,028
PROJECT FUNDING TOTAL	**$731,028**	**$0**	**$0**	**$0**	**$0**	**$731,028**

Chlorine Booster Station Improvements

Project Description

Replacement of existing chlorine injection facilities at reservoirs and tanks for chlorine residual.

Project Details

Phase: Design

Priority: Regulatory Compliance, Safety, Quality of Service, Risk of Failure

Project Justification: Pittsburgh Water boosts chlorine residual at a majority of its storage facilities. Recent changes to PADEP regulations require an increase in minimum chlorine residual levels in the distribution system. All chlorine booster facilities need to be upgraded to meet these requirements.

Risk(s): Negative impacts to water quality.

Impact on Operations: Increased flexibility and reliability, system compliance, and improved safety conditions.

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2019-323-101-0 - Chlorine Booster Station Improvements	$353,823	$0	$0	$0	$0	$353,823
PROJECT FUNDING TOTAL	**$353,823**	**$0**	**$0**	**$0**	**$0**	**$353,823**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$353,823	$0	$0	$0	$0	$353,823
PROJECT FUNDING TOTAL	**$353,823**	**$0**	**$0**	**$0**	**$0**	**$353,823**

Herron Hill Reservoir Improvements

Project Description

Replacement of existing reservoir liner and cover and associated reservoir rehabilitation. Replacement of existing chlorine injection system.

Project Details

Phase: Construction

Priority: Regulatory Compliance, Safety, Risk of Failure, Quality of Service

Project Justification: The existing cover has reached the end of its useful life and must be replaced. Existing chlorine feed systems are beyond their useful life and must be replaced.

Risk(s): Exposes Pittsburgh Water's customers to poor water quality from reservoir failure and inadequate booster disinfection.

Impact on Operations: Increased flexibility and reliability, system compliance, and improved safety conditions.

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2019-323-100-0 - Herron Hill Reservoir Improvements	$10,000	$0	$0	$0	$0	$10,000
PROJECT FUNDING TOTAL	**$10,000**	**$0**	**$0**	**$0**	**$0**	**$10,000**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$10,000	$0	$0	$0	$0	$10,000
PROJECT FUNDING TOTAL	**$10,000**	**$0**	**$0**	**$0**	**$0**	**$10,000**

Herron Hill Reservoir Improvements - Sodium Hypochlorite Building

Project Description

Replacement of existing chlorine injection system.

Project Details

Phase: Construction

Priority: Regulatory Compliance, Safety, Risk of Failure, Quality of Service

Project Justification: Existing chlorine feed systems are beyond their useful life and must be replaced.

Risk(s): Exposes the Pittsburgh Water's customers to poor water quality and possible PADEP violations due to inadequate booster disinfection.

Impact on Operations: Increased flexibility and reliability, system compliance, and improved safety conditions.

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2019-323-100-1 - Herron Hill Reservoir Improvements - Sodium Hypochlorite Building - General	$414,780	$0	$0	$0	$0	$414,780
PROJECT FUNDING TOTAL	**$414,780**	**$0**	**$0**	**$0**	**$0**	**$414,780**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$414,780	$0	$0	$0	$0	$414,780
PROJECT FUNDING TOTAL	**$414,780**	**$0**	**$0**	**$0**	**$0**	**$414,780**

Highland No. 2 Reservoir Liner and Cover Replacements

Project Description

Replacement of existing reservoir liner and cover and associated reservoir rehabilitation. Replacement of existing chlorine injection system and an upgrade of the reservoir outlet structure.

Project Details

Phase: Design

Priority: Regulatory Compliance, Safety, Quality of Service

Project Justification: The Highland No. 2 Reservoir will be used as a temporary clearwell while the new clearwell is being constructed. Existing chlorine feed facilities must be upgraded to meet PADEP regulatory requirements for the distribution of chlorine residual. The existing reservoir outlet structure must be upgraded to accommodate new Highland Reservoir Pump Station.

Risk(s): Pittsburgh Water could experience poor water quality and regulatory violations.

Impact on Operations: Increased flexibility and reliability, system compliance, and improved safety conditions.

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2019-323-102-2 - Highland No. 2 Reservoir Dam Permitting and Slope Stability	$810,916	$352,488	$9,914,145	$10,197,450	$0	$21,274,999
PROJECT FUNDING TOTAL	**$810,916**	**$352,488**	**$9,914,145**	**$10,197,450**	**$0**	**$21,274,999**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$810,916	$352,488	$9,914,145	$10,197,450	$0	$21,274,999
PROJECT FUNDING TOTAL	**$810,916**	**$352,488**	**$9,914,145**	**$10,197,450**	**$0**	**$21,274,999**

Highland Reservoir Pump Station and Rising Main

Project Description

Construction of a new finished water pump station and transmission main to supply water to the Highland No. 1 service area from the Highland No. 2 Reservoir.

Project Details

Phase: Construction

Priority: Regulatory Compliance, Safety, Quality of Service, Risk of Failure

Project Justification: All the water supply for the Highland No. 1 service area currently flows through the Highland No. 1 Reservoir. There is no other source water supply for the Highland No. 1 service area. In addition to providing alternate supply, this project is to temporarily provide finished water that meets the chlorine disinfection rules to the Highland No. 1 service area during the Clearwell Replacement Project. Additionally, this new facility could also be designed to service the Garfield pressure district, thus eliminating the rehabilitation of the Highland Pump Station.

Risk(s): Customers may experience service disruption.

Impact on Operations: Increased operation and maintenance labor and expenses. Increased operating flexibility in the future.

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2017-323-101-0 - Highland Reservoir Pump Station and Rising Main	$4,803,659	$2,139,076	$0	$0	$0	$6,942,735
2017-323-101-1 - Highland Reservoir Pump Station and Rising Main - General	$14,258,113	$7,320,698	$0	$0	$0	$21,578,811
2017-323-101-2 - Highland Reservoir Pump Station and Rising Main - Electrical	$4,851,122	$3,640,657	$0	$0	$0	$8,491,779
2017-323-101-3 - Highland Reservoir Pump Station and Rising Main - HVAC	$550,866	$414,838	$0	$0	$0	$965,704
2017-323-101-4 - Highland Reservoir Pump Station and Rising Main - Plumbing	$444,684	$393,179	$0	$0	$0	$837,863
PROJECT FUNDING TOTAL	**$24,908,444**	**$13,908,448**	**$0**	**$0**	**$0**	**$38,816,892**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$24,908,444	$13,908,448	$0	$0	$0	$38,816,892
PROJECT FUNDING TOTAL	**$24,908,444**	**$13,908,448**	**$0**	**$0**	**$0**	**$38,816,892**

Lanpher Reservoir Improvements

Project Description

Replacement of existing reservoir liner and cover and associated reservoir rehabilitation. Replacement of existing chlorine injection system.

Project Details

Phase: Construction

Priority: Regulatory Compliance, Safety, Quality of Service, Risk of Failure

Project Justification: The existing cover failed and had to be replaced on an emergency basis as part of the PADEP October 2017 Administrative Order. Existing chlorine feed systems are beyond their useful life and must be replaced.

Risk(s): Exposes Pittsburgh Water's customers to poor water quality from reservoir failure and inadequate booster disinfection.

Impact on Operations: Increased flexibility and reliability, system compliance, and improved safety conditions.

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2017-323-105-0 - Lanpher Reservoir Improvements	$1,142,013	$0	$0	$0	$0	$1,142,013
2017-323-105-4 - Lanpher Reservoir Booster Disinfection Improvements - Construction	$1,342,456	$0	$0	$0	$0	$1,342,456
2017-323-105-5 - Lanpher Reservoir Booster Disinfection Improvements - General/Mechanical	$3,622,300	$0	$0	$0	$0	$3,622,300
2017-323-105-6 - Lanpher Reservoir Booster Disinfection Improvements - Electrical	$693,340	$0	$0	$0	$0	$693,340
2017-323-105-7 - Lanpher Reservoir Booster Disinfection Improvements - HVAC	$581,000	$0	$0	$0	$0	$581,000
2017-323-105-8 - Lanpher Reservoir Booster Disinfection Improvements - Plumbing	$207,000	$0	$0	$0	$0	$207,000
2017-323-105-9 - Lanpher Reservoir Dam Permitting	$12,748	$0	$0	$0	$0	$12,748
PROJECT FUNDING TOTAL	**$7,600,857**	**$0**	**$0**	**$0**	**$0**	**$7,600,857**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$12,748	$0	$0	$0	$0	$12,748
Debt (Project Fund)	$7,588,109	$0	$0	$0	$0	$7,588,109
PROJECT FUNDING TOTAL	**$7,600,857**	**$0**	**$0**	**$0**	**$0**	**$7,600,857**

Lincoln Pump Station: Bypass Pump Station Project

Project Description

Construction of a temporary bypass pump station that will be used at the Lincoln Pump Station and Saline Pump Station. This pump station will allow for the existing pump station to be taken off line completely for rehabilitation.

Project Details

Phase: Construction

Priority: Safety, Quality of Service

Project Justification: Repair of the existing pump station while trying to keep it online increases the cost and construction time. This is a cost-effective way to provide temporary pumping.

Risk(s): Delaying the construction of this pump station will delay the renewal of existing pump stations that are in need of upgrades.

Impact on Operations: Decrease in yearly maintenance for the existing system.

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2020-323-100-0 - Lincoln Pump Station: Bypass Pump Station Project	$10,000	$0	$0	$0	$0	$10,000
2020-323-100-1 - Lincoln Pump Station: Bypass Pump Station Project - General	$190,200	$0	$0	$0	$0	$190,200
2020-323-100-2 - Lincoln Pump Station: Bypass Pump Station Project - Electrical	$30,450	$0	$0	$0	$0	$30,450
PROJECT FUNDING TOTAL	**$230,650**	**$0**	**$0**	**$0**	**$0**	**$230,650**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$230,650	$0	$0	$0	$0	$230,650
PROJECT FUNDING TOTAL	**$230,650**	**$0**	**$0**	**$0**	**$0**	**$230,650**

Water Pumping & Storage Contingency

Project Description

Water Pumping & Storage contingency project pass-through.

Project Details

Phase: Not Applicable

Priority: Not Applicable

Project Justification: Improved efficiency of capital improvement fund management.

Risk(s): No identified risks.

Impact on Operations: Improved efficiency of capital improvement plan management.

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2025-300-103-0 - Water Pumping & Storage Contingency	$0	$0	$0	$0	$0	$0
PROJECT FUNDING TOTAL	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$0	$0	$0	$0	$0	$0
PROJECT FUNDING TOTAL	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

Water Distribution

Category Summary

Projects within this category improve, maintain, or replace various aspects of the distribution system responsible for providing safe and clean drinking water to Pittsburgh Water customers. The drinking water system contains approximately 965 miles of water lines and over 32,000 valves and fire hydrants. The distribution process begins at the Pittsburgh Water Treatment Plant where water is pulled from the Allegheny River, processed for treatment, and ends at private service lines. Pittsburgh Water continually conducts compliance monitoring and sample testing and is committed to providing customers with the highest quality drinking water that exceeds EPA standards.

Project Summary Table

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Interconnection Vault Stormwater Removal	$902,260	$0	$0	$0	$0	$902,260
Intermediate Meter Replacement Program	$205,000	$221,500	$238,825	$257,016	$276,117	$1,198,458
Large Diameter Water Main Program	$2,192,936	$19,733,691	$0	$0	$0	$21,926,627
Large Meter Replacement Program	$200,120	$222,626	$246,257	$271,070	$297,123	$1,237,196
Neighborhood Lead Service Line Replacement Program	$50,931,646	$60,770,404	$64,693,568	$8,552,963	$0	$184,948,581
Private Lead Service Line Reimbursement	$500,000	$500,000	$500,000	$300,000	$0	$1,800,000
Small Diameter Water Main Replacement Program	$74,188,361	$60,800,003	$76,205,405	$12,883,159	$51,810,000	$275,886,928
Small Meter Replacement Program	$990,000	$1,039,500	$1,091,475	$396,049	$453,351	$3,970,375
Urgent Lead Service Line Replacement Program	$1,728,931	$683,323	$227,774	$0	$0	$2,640,028
Valve Replacement Program	$3,250,509	$3,109,019	$3,188,361	$3,170,353	$3,170,000	$15,888,242
Water and Wastewater Safety and Security Improvements (PENNVEST)	$5,381,580	$0	$0	$0	$0	$5,381,580
Water Relay Program	$4,005,896	$5,061,277	$5,718,147	$6,104,212	$4,742,921	$25,632,453
Water Distribution Contingency	$0	$0	$0	$0	$0	$0
PROJECT FUNDING TOTAL	**$144,477,239**	**$152,141,343**	**$152,109,812**	**$31,934,822**	**$60,749,512**	**$541,412,728**

Interconnection Vault Stormwater Removal

Project Description

The purpose of this project is to install permanent sump pumps for stormwater dewatering at all of our interconnection vault locations. This project is required by a Consent Order Agreement.

Project Details

Phase: Construction

Priority: Regulatory Compliance, Risk of Failure, Quality of Service

Project Justification: This project is required by a Consent Order Agreement.

Risk(s): Failure to maintain regulatory compliance.

Impact on Operations: Improved system efficiency.

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2022-325-102-0 - Interconnection Vault Stormwater Removal	$902,260	$0	$0	$0	$0	$902,260
PROJECT FUNDING TOTAL	**$902,260**	**$0**	**$0**	**$0**	**$0**	**$902,260**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$902,260	$0	$0	$0	$0	$902,260
PROJECT FUNDING TOTAL	**$902,260**	**$0**	**$0**	**$0**	**$0**	**$902,260**

Intermediate Meter Replacement Program

Project Description

Replacement of customer meters size 1.5 inches to 2 inches.

Project Details

Phase: Other

Priority: Regulatory Compliance, Quality of Service, Risk of Failure

Project Justification: Ensure capture of all revenue. As meters age, they typically underestimate the amount of water consumed.

Risk(s): Failure to replace meters annually could result in lost revenue or violate regulatory requirements.

Impact on Operations: Increased system reliability and improved system management.

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2021-325-100-0 - Intermediate Meter Replacement Program	$205,000	$221,500	$238,825	$257,016	$276,117	$1,198,458
PROJECT FUNDING TOTAL	**$205,000**	**$221,500**	**$238,825**	**$257,016**	**$276,117**	**$1,198,458**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$205,000	$221,500	$238,825	$257,016	$276,117	$1,198,458
PROJECT FUNDING TOTAL	**$205,000**	**$221,500**	**$238,825**	**$257,016**	**$276,117**	**$1,198,458**

Large Diameter Water Main Program

Project Description

Strategic replacement or rehabilitation of large diameter water mains (16 inches and larger) and appurtenances to improve system reliability and hydraulics, including internal and external inspections.

Project Details

Phase: Construction

Priority: Regulatory Compliance, Safety, Quality of Service, Risk of Failure

Project Justification: Pittsburgh Water's water system has approximately 122 miles of large diameter water mains. Maintaining a proactive approach to replacing large mains will ensure that large mains are replaced before the end of their useful life.

Risk(s): The consequences of failure for larger mains are much greater than for smaller distribution mains, which typically include significant service outages (larger area and longer time frame impacts), as well as property and roadway damage.

Impact on Operations: Increased system reliability and improved system management.

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2024-200-100-0 - 2024 Large Diameter Water Main	$2,192,936	$19,733,691	$0	$0	$0	$21,926,627
PROJECT FUNDING TOTAL	**$2,192,936**	**$19,733,691**	**$0**	**$0**	**$0**	**$21,926,627**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$2,192,936	$19,733,691	$0	$0	$0	$21,926,627
PROJECT FUNDING TOTAL	**$2,192,936**	**$19,733,691**	**$0**	**$0**	**$0**	**$21,926,627**

Large Meter Replacement Program

Project Description

Annual replacement of water meters larger than 2 inches.

Project Details

Phase: Other

Priority: Regulatory Compliance, Quality of Service, Risk of Failure

Project Justification: Ensure capture of all revenue. As meters age, they typically underestimate the amount of water consumed.

Risk(s): Failure to replace meters annually could result in lost revenue.

Impact on Operations: Increased system reliability and improved system management.

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2023-200-102-0 - Large Meter Replacement Program	$200,120	$222,626	$246,257	$271,070	$297,123	$1,237,196
PROJECT FUNDING TOTAL	**$200,120**	**$222,626**	**$246,257**	**$271,070**	**$297,123**	**$1,237,196**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$200,120	$222,626	$246,257	$271,070	$297,123	$1,237,196
PROJECT FUNDING TOTAL	**$200,120**	**$222,626**	**$246,257**	**$271,070**	**$297,123**	**$1,237,196**

Neighborhood Lead Service Line Replacement Program

Project Description

Neighborhood Lead Service Line Replacement (LSLR) program to replace all remaining public and private lead service lines within the Pittsburgh Water service area.

Project Details

Phase: Construction, Inactive, Other

Priority: Regulatory Compliance, Safety, Risk of Failure, Quality of Service, Social Impact

Project Justification: Comply with water quality regulatory requirements.

Risk(s): Noncompliance with Pittsburgh Water goals and regulatory requirements.

Impact on Operations: Increased operating flexibility, reliability, and water quality.

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2021-325-109-0 - 2022 Neighborhood Lead Service Line Replacement	$471,677	$0	$0	$0	$0	$471,677
2022-325-104-1 - 2023 Neighborhood Lead Service Line Replacement Program - Contract B	$2,628,900	$0	$0	$0	$0	$2,628,900
2024-200-105-0 - 2024 Neighborhood Lead Service Line Replacement - Contract A	$5,168,741	$0	$0	$0	$0	$5,168,741
2024-200-105-2 - 2024 Neighborhood Lead Service Line Replacement - Contract A-1	$8,880,789	$0	$0	$0	$0	$8,880,789
2024-200-105-3 - 2024 Neighborhood Lead Service Line Replacement - Contract A-2	$9,164,658	$0	$0	$0	$0	$9,164,658
2024-200-105-4 - 2024 Neighborhood Lead Service Line Replacement - Contract A-3	$8,979,532	$0	$0	$0	$0	$8,979,532
2024-200-105-1 - 2024 Neighborhood Lead Service Line Replacement - Contract B	$12,464,700	$4,154,900	$0	$0	$0	$16,619,600
2025-200-106-0 - 2025 Neighborhood Lead Service Line Replacement - Contract A	$3,172,649	$28,553,839	$0	$0	$0	$31,726,488
2025-200-106-1 - 2025 Neighborhood Lead Service Line Replacement - Contract B	$0	$24,636,958	$8,212,320	$0	$0	$32,849,278
2026-200-107-0 - 2026 Neighborhood Lead Service Line Replacement - Contract A	$0	$3,424,707	$30,822,360	$0	$0	$34,247,067
2026-200-107-3 - 2026 Neighborhood Lead Service Line Replacement - Contract B	$0	$0	$25,658,888	$8,552,963	$0	$34,211,851
PROJECT FUNDING TOTAL	**$50,931,646**	**$60,770,404**	**$64,693,568**	**$8,552,963**	**$0**	**$184,948,581**

Funding Sources

2025-2029 CAPITAL PLAN						5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
PENNVEST	$45,443,826	$57,207,129	$61,034,922	$8,071,477	$0	$171,757,354
Debt (Revenue Bonds)	$5,016,143	$3,563,275	$3,658,646	$481,486	$0	$12,719,550
ARPA	$471,677	$0	$0	$0	$0	$471,677
PROJECT FUNDING TOTAL	**$50,931,646**	**$60,770,404**	**$64,693,568**	**$8,552,963**	**$0**	**$184,948,581**

Private Lead Service Line Reimbursement

Project Description

Reimbursement of private line lead service line costs.

Project Details

Phase: Construction

Priority: Regulatory Compliance, Safety, Quality of Service, Risk of Failure, Social Impact

Project Justification: Replacing both private and public lead service lines is required to eliminate lead in the water system.

Risk(s): Failure to replace private lead service lines poses a public health risk.

Impact on Operations: Increased system reliability and improved system management.

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2023-200-103-0 - Private Lead Service Line Reimbursement	$500,000	$500,000	$500,000	$300,000	$0	$1,800,000
PROJECT FUNDING TOTAL	**$500,000**	**$500,000**	**$500,000**	**$300,000**	**$0**	**$1,800,000**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$500,000	$500,000	$500,000	$300,000	$0	$1,800,000
PROJECT FUNDING TOTAL	**$500,000**	**$500,000**	**$500,000**	**$300,000**	**$0**	**$1,800,000**

Small Diameter Water Main Replacement Program

Project Description

Strategic replacement of water mains to improve system reliability, improve water pressure, maintain water quality, and minimize disturbance to the community. Program will initially focus on replacing existing 4-inch and 6-inch unlined cast iron mains and mains with a history of frequent breaks.

Project Details

Phase: Construction, Design, Inactive

Priority: Regulatory Compliance, Safety, Quality of Service, Risk of Failure, Social Impact

Project Justification: By maintaining a proactive approach to asset management, efforts can be directed towards remedying assets before their failure, thus saving overall replacement cost. Additionally, projects will be coordinated with other utilities to minimize disturbances to the community and street surface restoration costs. Water quality will also improve by removing tuberculated mains.

Risk(s): Customers may be subject to service outages or the potential for inadequate pressure.

Impact on Operations: Increased operating flexibility and reliability.

DSIC Eligible: Yes

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2020-325-106-1 - 2021 Small Diameter Water Main Replacement - Contract B	$254,088	$0	$0	$0	$0	$254,088
2020-325-106-2 - 2021 Small Diameter Water Main Replacement - Contract C	$571,906	$0	$0	$0	$0	$571,906
2021-325-104-0 - 2022 Small Diameter Water Main Replacement	$1,856,166	$187,060	$0	$0	$0	$2,043,226
2021-325-104-1 - 2022 Small Diameter Water Main Replacement - Contract A1	$13,004,474	$717,420	$0	$0	$0	$13,721,894
2021-325-104-2 - 2022 Small Diameter Water Main Replacement - Contract B	$1,393,832	$0	$0	$0	$0	$1,393,832
2021-325-104-3 - 2022 Small Diameter Water Main Replacement - Contract C	$1,367,730	$0	$0	$0	$0	$1,367,730
2021-325-104-4 - 2022 Small Diameter Water Main Replacement - Contract A2	$12,430,967	$685,806	$0	$0	$0	$13,116,773
2022-325-113-0 - 2023 Small Diameter Water Main Replacement	$41,464,706	$33,482,353	$0	$0	$0	$74,947,059
2022-325-113-2 - 2023 Small Diameter Water Main Replacement - Contract A1	$168,292	$168,292	$0	$0	$0	$336,584
2022-325-113-3 - 2023 Small Diameter Water Main Replacement - Contract B1	$175,226	$260,429	$0	$0	$0	$435,655
2023-200-105-0 - 2024 Small Diameter Water Main Replacement	$0	$25,268,653	$66,463,571	$0	$0	$91,732,224
2023-200-105-5 - 2024 Small Diameter Water Main Replacement- Contract E	$261,817	$0	$13,058	$13,058	$0	$287,933
2023-200-105-1 - 2024 Small Diameter Water Main Replacement - Contract A	$306,533	$0	$0	$0	$0	$306,533
2023-200-105-2 - 2024 Small Diameter Water Main Replacement - Contract B	$349,268	$13,442	$35,355	$0	$0	$398,065
2023-200-105-3 - 2024 Small Diameter Water Main Replacement - Contract C	$275,573	$16,548	$43,522	$0	$0	$335,643
2023-200-105-4 - 2024 Small Diameter Water Main Replacement - Contract D	$307,783	$0	$0	$0	$0	$307,783
2025-200-105-0 - 2025 Small Diameter Water Main Replacement	$0	$0	$9,649,899	$12,350,101	$0	$22,000,000
2029-200-101-1 - 2029 Small Diameter Water Main Replacement- Contract A	$0	$0	$0	$260,000	$26,400,000	$26,660,000
2029-200-101-4 - 2029 Small Diameter Water Main Replacement- Contract D	$0	$0	$0	$260,000	$25,410,000	$25,670,000
PROJECT FUNDING TOTAL	**$74,188,361**	**$60,800,003**	**$76,205,405**	**$12,883,159**	**$51,810,000**	**$275,886,928**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
PENNVEST	$65,576,775	$53,172,580	$57,634,959	$0	$0	$176,384,314
Debt (Revenue Bonds)	$8,611,586	$7,627,423	$18,570,446	$12,883,159	$51,810,000	$99,502,614
PROJECT FUNDING TOTAL	**$74,188,361**	**$60,800,003**	**$76,205,405**	**$12,883,159**	**$51,810,000**	**$275,886,928**

Small Meter Replacement Program

Project Description

Annual replacement of water meters 1 inch or less.

Project Details

Phase: Other

Priority: Regulatory Compliance, Quality of Service, Risk of Failure

Project Justification: Ensure capture of all revenue. As meters age, they typically underestimate the amount of water consumed.

Risk(s): Failure to replace meters annually could result in lost revenue or violate regulatory requirements.

Impact on Operations: Increased system reliability, reliability, and improved system management.

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2023-200-106-0 - Small Meter Replacement Program	$990,000	$1,039,500	$1,091,475	$396,049	$453,351	$3,970,375
PROJECT FUNDING TOTAL	**$990,000**	**$1,039,500**	**$1,091,475**	**$396,049**	**$453,351**	**$3,970,375**

Funding Sources

2025-2029 CAPITAL PLAN						5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$990,000	$1,039,500	$1,091,475	$396,049	$453,351	$3,970,375
PROJECT FUNDING TOTAL	**$990,000**	**$1,039,500**	**$1,091,475**	**$396,049**	**$453,351**	**$3,970,375**

Urgent Lead Service Line Replacement Program

Project Description

This project involves the private side Lead Service Line Replacements (LSLR) associated with public side replacements. It includes provisions for some full line replacements when operations requests both sides be completed due to their workload or other factors.

Project Details

Phase: Construction

Priority: Regulatory Compliance, Safety, Quality of Service, Social Impact

Project Justification: This project involves the private side Lead Service Line Replacements (LSLR) associated with public side replacements. It includes provisions for some full line replacements when operations requests both sides be completed due to their workload or other factors.

Risk(s): Required to terminate service if property owners do not replace their private side lead service lines after operations replaces a public side service line.

Impact on Operations: Increased operating flexibility, reliability, and water quality.

DSIC Eligible: Yes

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2023-200-107-0 - 2023 Urgent Lead Service Line Replacement	$1,556,202	$0	$0	$0	$0	$1,556,202
2025-200-107-0 - 2025 Urgent Lead Service Line Replacement	$172,729	$683,323	$227,774	$0	$0	$1,083,826
PROJECT FUNDING TOTAL	**$1,728,931**	**$683,323**	**$227,774**	**$0**	**$0**	**$2,640,028**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$1,728,931	$683,323	$227,774	$0	$0	$2,640,028
PROJECT FUNDING TOTAL	**$1,728,931**	**$683,323**	**$227,774**	**$0**	**$0**	**$2,640,028**

Valve Replacement Program

Project Description

Replacement of defective or non-operational valves on transmission and distribution mains throughout the water distribution system, excluding valves replaced during waterline relays.

Project Details

Phase: Construction, Inactive

Priority: Regulatory Compliance, Safety, Quality of Service, Risk of Failure

Project Justification: Increasing the number of operable valves in the system will reduce the number of valves that would need to be closed during emergency conditions, and therefore the number of customers that may be impacted.

Risk(s): A larger number of customers may be subject to service outages.

Impact on Operations: Increased operating flexibility and reliability.

DSIC Eligible: Yes

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2024-200-108-0 - 2024 Valve Replacement	$2,590,138	$88,724	$0	$0	$0	$2,678,862
2025-200-108-0 - 2025 Valve Replacement	$660,371	$3,020,295	$149,705	$0	$0	$3,830,371
2026-200-108-0 - 2026 Valve Replacement	$0	$0	$3,038,656	$131,344	$0	$3,170,000
2027-200-108-0 - 2027 Valve Replacement	$0	$0	$0	$3,039,009	$130,991	$3,170,000
2028-200-108-0 - 2028 Valve Replacement	$0	$0	$0	$0	$3,039,009	$3,039,009
PROJECT FUNDING TOTAL	**$3,250,509**	**$3,109,019**	**$3,188,361**	**$3,170,353**	**$3,170,000**	**$15,888,242**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
DSIC - Water	$3,250,509	$3,109,019	$3,188,361	$3,170,353	$3,170,000	$15,888,242
PROJECT FUNDING TOTAL	**$3,250,509**	**$3,109,019**	**$3,188,361**	**$3,170,353**	**$3,170,000**	**$15,888,242**

Water and Wastewater Safety and Security Improvements

Project Description

Safety and security improvements throughout Pittsburgh Water facilities.

Project Details

Phase: Construction

Priority: Safety, Security

Project Justification: Failure to implement safety and security measures will increase the likelihood of a security breach causing harm to Pittsburgh Water employees and customers.

Risk(s): Security breaches.

Impact on Operations: Increased safety and security at all Pittsburgh Water facilities.

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2023-200-109-0 - Water and Wastewater Safety and Security Improvements (PENNVEST)	$5,381,580	$0	$0	$0	$0	$5,381,580
PROJECT FUNDING TOTAL	**$5,381,580**	**$0**	**$0**	**$0**	**$0**	**$5,381,580**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
PENNVEST	$5,381,580	$0	$0	$0	$0	$5,381,580
PROJECT FUNDING TOTAL	**$5,381,580**	**$0**	**$0**	**$0**	**$0**	**$5,381,580**

Water Relay Program

Project Description

Replacement of existing water mains, valves, fittings, service connections, and hydrants due to emergency situations.

Project Details

Phase: Construction, Design, Inactive

Priority: Safety, Quality of Service, Risk of Failure

Project Justification: The existing water distribution system is aging and updates are required to address failures that could be significant public safety hazards.

Risk(s): Customers will be subject to service outages or inadequate pressure.

Impact on Operations: Increased operating flexibility and reliability.

DSIC Eligible: Yes

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2023-200-110-0 - 2023 Water Relay	$982,217	$0	$0	$0	$0	$982,217
2024-200-110-0 - 2024 Water Relay	$2,635,089	$534,911	$0	$0	$0	$3,170,000
2025-200-110-0 - 2025 Water Relay	$388,590	$3,061,910	$0	$0	$0	$3,450,500
2026-200-110-0 - 2026 Water Relay	$0	$1,464,456	$2,834,961	$0	$0	$4,299,417
2027-200-110-0 - 2027 Water Relay	$0	$0	$2,835,504	$2,312,830	$1,564,766	$6,713,100
2028-200-110-0 - 2028 Water Relay	$0	$0	$47,682	$3,791,382	$3,178,155	$7,017,219
PROJECT FUNDING TOTAL	**$4,005,896**	**$5,061,277**	**$5,718,147**	**$6,104,212**	**$4,742,921**	**$25,632,453**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$91,901	$1,005,792	$1,742,004	$2,110,061	$748,417	$5,698,175
DSIC - Water	$3,913,995	$4,055,485	$3,976,143	$3,994,151	$3,994,504	$19,934,278
PROJECT FUNDING TOTAL	**$4,005,896**	**$5,061,277**	**$5,718,147**	**$6,104,212**	**$4,742,921**	**$25,632,453**

Water Distribution Contingency

Project Description

Water Distribution System contingency pass-through project.

Project Details

Phase: Not Applicable

Priority: Not Applicable

Project Justification: Improved efficiency of capital improvement plan fund management.

Risk(s): No identified risks.

Impact on Operations: Improved efficiency of capital improvement plan fund management.

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2025-200-100-0 - Water Distribution Contingency	$0	$0	$0	$0	$0	$0
PROJECT FUNDING TOTAL	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$0	$0	$0	$0	$0	$0
PROJECT FUNDING TOTAL	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

Wastewater System

Project Class Summary

Projects within this category address the rehabilitation, replacement, or improvement to the system that conveys wastewater and stormwater to the ALCOSAN wastewater treatment facility. The sewer system includes approximately 1,242 miles of sanitary, stormwater, and combined sewer lines and 24,993 catch basins and inlets. About 73 percent of the sewer system is a combined system, meaning the stormwater and wastewater flow through the same pipe. The remaining 27 percent is a separate system which means that wastewater flows through one sewer pipe and stormwater flows through another. Projects include, but are not limited to, small and large diameter sewer rehabilitation programs along with the replacement and relocation sewer lines that have been built underneath structures such as bridges, buildings, or railroads.

Project Summary Table

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
31st Ward Pump Station and Appurtenances - Phase 2	$746,447	$7,248,809	$9,507,797	$0	$0	$17,503,053
Browns Hill Road Sewer Pump Station Replacement	$2,221,215	$1,297,058	$0	$0	$0	$3,518,273
Large Diameter Sewer Rehabilitation Program	$8,766,419	$7,715,321	$2,300,000	$660,000	$5,720,000	$25,161,740
Ruthven Cost Share	$1,225,766	$0	$0	$0	$0	$1,225,766
Sewer Reconstruction Program	$3,131,514	$3,277,271	$3,677,846	$4,496,679	$2,714,412	$17,297,722
Sewers Under Structures Program	$6,609,093	$0	$0	$0	$0	$6,609,093
Small Diameter Sewer Rehabilitation Program	$26,700,698	$29,030,811	$3,360,000	$7,800,000	$22,861,700	$89,753,209
Wastewater Contingency	$0	$0	$0	$0	$0	$0
PROJECT FUNDING TOTAL	**$49,401,152**	**$48,569,270**	**$18,845,643**	**$12,956,679**	**$31,296,112**	**$161,068,856**

31st Ward Pump Station and Appurtenances - Phase 2

Project Description

Evaluation to identify and locate the source(s) of the infiltration and inflow (I/I), removal of public I/I sources, and rehabilitation/replacement of the Rogers Street and Mifflin Road Pump Station and force main.

Project Details

Phase: Design

Priority: Regulatory Compliance, Safety, Quality of Service

Project Justification: Both sewage pump stations and the force main that convey flow to the Streets Run Sanitary Trunk Sewer were constructed in the late 1940's and are reaching the end of their useful life. Additionally, past studies suggest this sewershed may be significantly impacted by high levels of infiltration/inflow.

Risk(s): Increased combined sewer overflows and pump station system failures.

Impact on Operations: Increased operating flexibility and reliability.

DSIC Eligible: No

Project Funding

2025-2029 CAPITAL PLAN						TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2022-424-108-0 - 31st Ward Pump Station and Appurtenances - Phase 2	$746,447	$7,248,809	$9,507,797	$0	$0	$17,503,053
PROJECT FUNDING TOTAL	**$746,447**	**$7,248,809**	**$9,507,797**	**$0**	**$0**	**$17,503,053**

Funding Sources

2025-2029 CAPITAL PLAN						5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$746,447	$7,248,809	$9,507,797	$0	$0	$17,503,053
PROJECT FUNDING TOTAL	**$746,447**	**$7,248,809**	**$9,507,797**	**$0**	**$0**	**$17,503,053**

Browns Hill Road Sewer Pump Station Replacement

Project Description

Construction of a replacement 160 GPM sanitary sewer pump station, including standby power, safer ingress and egress for routine maintenance, a water supply for equipment wash down and odor control facilities, if required. Additionally, perform a condition assessment of the 4-inch force main (approx. 790 l.f.) that was constructed in 2007 but not utilized, and confirm that sanitary sewer separation occurred.

Project Details

Phase: Construction

Priority: Regulatory Compliance, Safety, Quality of Service

Project Justification: The existing sanitary sewer pump station has reached the end of its useful life. The replacement station will provide increased operating efficiency and resiliency and improved safety conditions.

Risk(s): If the station is not replaced, pump or wet well failures could occur, which would result in sanitary sewer overflows. Sanitary sewer overflows could result in fines and notices of violations from regulating agencies.

Impact on Operations: Increased operating flexibility and reliability.

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2022-424-109-0 - Browns Hill Road Sewer Pump Station Replacement	$2,221,215	$1,297,058	$0	$0	$0	$3,518,273
PROJECT FUNDING TOTAL	**$2,221,215**	**$1,297,058**	**$0**	**$0**	**$0**	**$3,518,273**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$2,221,215	$1,297,058	$0	$0	$0	$3,518,273
PROJECT FUNDING TOTAL	**$2,221,215**	**$1,297,058**	**$0**	**$0**	**$0**	**$3,518,273**

Large Diameter Sewer Rehabilitation Program

Project Description

Proactive, trenchless rehabilitation of 36 inch diameter (or greater) sewer mains to restore structural integrity, reduce root intrusion, and reduce infiltration and inflow; including cleaning and pre and post construction CCTV inspections.

Project Details

Phase: Construction, Design, Inactive

Priority: Regulatory Compliance, Safety, Quality of Service, Risk of Failure

Project Justification: Provides Pittsburgh Water with a means to address several moderate/major structural defects in pipe segments prior to complete failure. This trenchless pipe renewal method renews the asset, eliminates disruptive excavation, and is more cost-effective than replacement.

Risk(s): If moderate/major structural defects are not proactively addressed, complete failure will eventually occur and excavation will be required. Any complete failure that occurs will result in dramatically increased expenditures for repair.

Impact on Operations: Increased operating flexibility and reliability.

DSIC Eligible: No

Project Funding

2025-2029 CAPITAL PLAN						TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2020-424-107-0 - 2021 Large Diameter Sewer Rehabilitation	$3,863,361	$0	$0	$0	$0	$3,863,361
2021-424-105-0 - 2022 Large Diameter Sewer Rehabilitation	$735,269	$0	$0	$0	$0	$735,269
2022-424-110-0 - 2023 Large Diameter Sewer Rehabilitation	$1,245,894	$1,285,321	$0	$0	$0	$2,531,215
2024-400-101-0 - 2024 Large Diameter Sewer Rehabilitation	$2,381,895	$2,070,000	$0	$0	$0	$4,451,895
2025-400-101-0 - 2025 Large Diameter Sewer Rehabilitation	$540,000	$4,360,000	$0	$0	$0	$4,900,000
2026-400-101-0 - 2026 Large Diameter Sewer Rehabilitation	$0	$0	$2,300,000	$0	$0	$2,300,000
2028-400-101-0 - 2028 Large Diameter Sewer Rehabilitation	$0	$0	$0	$660,000	$5,720,000	$6,380,000
PROJECT FUNDING TOTAL	**$8,766,419**	**$7,715,321**	**$2,300,000**	**$660,000**	**$5,720,000**	**$25,161,740**

Funding Sources

2025-2029 CAPITAL PLAN						5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
PENNVEST	$4,167,789	$7,715,321	$0	$0	$0	$11,883,110
Debt (Revenue Bonds)	$4,598,630	$0	$2,300,000	$660,000	$5,720,000	$13,278,630
PROJECT FUNDING TOTAL	**$8,766,419**	**$7,715,321**	**$2,300,000**	**$660,000**	**$5,720,000**	**$25,161,740**

Ruthven Cost Share

Project Description

Replacement of a failing 18-inch sewer along with a water main under Ruthven Street.

Project Details

Phase: Construction

Priority: Regulatory Compliance, Safety, Quality of Service, Improved Efficiency or Effectiveness

Project Justification: The sewer main is failing, and the City of Pittsburgh is constructing a wall that will disturb the water and sewer mains. A cost-share has been executed with the City of Pittsburgh.

Risk(s): Delay of City project.

Impact on Operations: New water main may reduce operations repairs required on the water line.

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2025-400-104-0 - Ruthven Cost Share	$1,225,766	$0	$0	$0	$0	$1,225,766
PROJECT FUNDING TOTAL	**$1,225,766**	**$0**	**$0**	**$0**	**$0**	**$1,225,766**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$1,225,766	$0	$0	$0	$0	$1,225,766
PROJECT FUNDING TOTAL	**$1,225,766**	**$0**	**$0**	**$0**	**$0**	**$1,225,766**

Sewer Reconstruction Program

Project Description

Reconstruction of existing sewers, manholes, catch basins, and inlets due to emergency situations or pipe failures.

Project Details

Phase: Construction, Design, Inactive

Priority: Regulatory Compliance, Safety, Quality of Service, Risk of Failure

Project Justification: The existing sewer system is aging and immediate repairs are required to address failures that could be significant public safety hazards.

Risk(s): Customers may be subject to basement backups or overflows may occur due to collapsed pipes.

Impact on Operations: Increased operating flexibility and reliability.

DSIC Eligible: Yes

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2022-424-100-0 - 2022 Sewer Reconstruction	$71,027	$0	$0	$0	$0	$71,027
2023-400-100-0 - 2023 Sewer Reconstruction	$51,020	$0	$0	$0	$0	$51,020
2024-400-100-1 - 2024 Sewer Reconstruction	$1,307,392	$0	$0	$0	$0	$1,307,392
2025-400-100-0 - 2025 Sewer Reconstruction	$1,683,339	$1,316,661	$0	$0	$0	$3,000,000
2026-400-100-0 - 2026 Sewer Reconstruction	$18,736	$1,945,987	$1,535,277	$0	$0	$3,500,000
2027-400-100-0 - 2027 Sewer Reconstruction	$0	$14,623	$2,124,290	$1,861,087	$0	$4,000,000
2028-400-100-0 - 2028 Sewer Reconstruction	$0	$0	$18,279	$2,635,592	$2,714,412	$5,368,283
PROJECT FUNDING TOTAL	**$3,131,514**	**$3,277,271**	**$3,677,846**	**$4,496,679**	**$2,714,412**	**$17,297,722**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$417,102	$562,859	$963,434	$1,782,267	$0	$3,725,662
DSIC - Wastewater	$2,714,412	$2,714,412	$2,714,412	$2,714,412	$2,714,412	$13,572,060
PROJECT FUNDING TOTAL	**$3,131,514**	**$3,277,271**	**$3,677,846**	**$4,496,679**	**$2,714,412**	**$17,297,722**

Sewers Under Structures Program

Project Description

Rehabilitation, relocation, and abandonment, if applicable, of existing sewer infrastructure located under or adjacent to buildings, bridges, or railroads or located on steep slopes.

Project Details

Phase: Design, Construction

Priority: Regulatory Compliance, Safety, Quality of Service, Risk of Failure

Project Justification: In recent years, there has been an increasing rate of failure of this asset type due to limited accessibility and pipe age. By maintaining a proactive approach to asset management, efforts can be directed towards remedying assets before their failure, thus saving in overall replacement cost.

Risk(s): Failure of this asset type could result in significant property/structure damage, increased replacement cost, and increased service outages or bypass pumping.

Impact on Operations: Increased operating flexibility and reliability.

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2020-424-104-0 - 2020 Sewers Under Structures Contract 1	$4,276,680	$0	$0	$0	$0	$4,276,680
2020-424-104-1 - 2020 Sewers Under Structures Contract 2	$2,000,000	$0	$0	$0	$0	$2,000,000
2022-424-107-0 - 2022 Sewers Under Structures	$100,000	$0	$0	$0	$0	$100,000
2023-400-101-0 - 2023 Sewers Under Structures	$232,413	$0	$0	$0	$0	$232,413
PROJECT FUNDING TOTAL	**$6,609,093**	**$0**	**$0**	**$0**	**$0**	**$6,609,093**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$6,609,093	$0	$0	$0	$0	$6,609,093
PROJECT FUNDING TOTAL	**$6,609,093**	**$0**	**$0**	**$0**	**$0**	**$6,609,093**

Small Diameter Sewer Rehabilitation Program

Project Description

Proactive, trenchless rehabilitation of sewer mains (36-inch diameter and less) to restore structural integrity, reduce root intrusion, and reduce infiltration and inflow; including cleaning and pre- and post-construction Closed-Circuit Television (CCTV) inspections.

Project Details

Phase: Construction, Design, Inactive

Priority: Regulatory Compliance, Safety, Quality of Service, Risk of Failure

Project Justification: Provides Pittsburgh Water with a means to address several moderate/major structural defects in pipe segments before complete failure. This trenchless pipe renewal method renews the asset, eliminates disruptive excavation, and is more cost-effective than replacement.

Risk(s): If moderate/major structural defects are not proactively addressed, complete failure will eventually occur, and excavation will be required. Any complete failure that occurs will result in dramatically increased expenditures for repair.

Impact on Operations: Increased operating flexibility and reliability.

DSIC Eligible: Yes

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2021-424-108-0 - 2023 Small Diameter Sewer Rehabilitation Contract 1	$2,161,613	$0	$0	$0	$0	$2,161,613
2021-424-108-1 - 2023 Small Diameter Sewer Rehabilitation Contract 2	$1,707,025	$0	$0	$0	$0	$1,707,025
2021-424-108-2 - 2023 Small Diameter Sewer Rehabilitation Contract 3	$430,491	$0	$0	$0	$0	$430,491
2024-400-103-0 - 2024 Small Diameter Sewer Rehabilitation Contract 1	$4,851,807	$876,502	$0	$0	$0	$5,728,309
2024-400-103-1 - 2024 Small Diameter Sewer Rehabilitation Contract 2	$5,663,063	$2,772,852	$0	$0	$0	$8,435,915
2024-400-103-2 - 2024 Small Diameter Sewer Rehabilitation Contract 3	$7,516,354	$3,500,263	$0	$0	$0	$11,016,617
2024-400-103-3 - 2024 Small Diameter Sewer Rehabilitation IDIQ	$798,610	$0	$0	$0	$0	$798,610
2025-400-103-0 - 2025 Small Diameter Sewer Rehabilitation Contract 1	$482,906	$6,173,333	$0	$0	$0	$6,656,239
2025-400-103-1 - 2025 Small Diameter Sewer Rehabilitation Contract 2	$577,431	$6,173,333	$0	$0	$0	$6,750,764
2025-400-103-2 - 2025 Small Diameter Sewer Rehabilitation Contract 3	$271,398	$6,174,528	$0	$0	$0	$6,445,926
2025-400-103-3 - 2025 Small Diameter Sewer Rehabilitation IDIQ	$2,240,000	$1,120,000	$0	$0	$0	$3,360,000
2026-400-103-0 - 2026 Small Diameter Sewer Rehabilitation	$0	$2,240,000	$1,120,000	$0	$0	$3,360,000
2027-400-103-0 - 2027 Small Diameter Sewer Rehabilitation	$0	$0	$2,240,000	$1,120,000	$0	$3,360,000
2028-400-103-0 - 2028 Small Diameter Sewer Rehabilitation	$0	$0	$0	$2,240,000	$1,120,000	$3,360,000
2029-400-103-0 - 2029 Small Diameter Sewer Rehabilitation	$0	$0	$0	$4,440,000	$21,741,700	$26,181,700
PROJECT FUNDING TOTAL	**$26,700,698**	**$29,030,811**	**$3,360,000**	**$7,800,000**	**$22,861,700**	**$89,753,209**

Funding Sources

2025-2029 CAPITAL PLAN						5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
PENNVEST	$23,662,088	$25,670,811	$0	$0	$0	$49,332,899
Debt (Revenue Bonds)	$3,038,610	$3,360,000	$3,360,000	$7,800,000	$22,861,700	$40,420,310
PROJECT FUNDING TOTAL	**$26,700,698**	**$29,030,811**	**$3,360,000**	**$7,800,000**	**$22,861,700**	**$89,753,209**

Wastewater Contingency

Project Description

Wastewater contingency project pass-through.

Project Details

Phase: Not applicable

Priority: Not applicable

Project Justification: Improved efficiency of capital improvement fund management.

Risk(s): Not applicable

Impact on Operations: Improved efficiency of capital improvement fund management.

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2025-400-105-0 - Wastewater Contingency	$0	$0	$0	$0	$0	$0
PROJECT FUNDING TOTAL	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$0	$0	$0	$0	$0	$0
PROJECT FUNDING TOTAL	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

Stormwater

Project Class Summary

Projects within this category manage stormwater during heavy rain events. These projects use a combination of green and gray infrastructure that on the surface mimic nature using vegetation, engineered soils, and open channels that retain water. Underneath are storage systems that hold water back before slowly releasing it through a network of pipes. They also help reduce basement backups, sewer overflows, and improve water quality. Pittsburgh Water maintains 3 sanitary sewer overflow structures, 146 combined sewer overflow outfall structures co-permitted with several other authorities, 35 solely owned combined sewer overflow outfall structures, 46 combined sewer overflow outfall structure co-permitted with ALCOSAN, and 254 separate storm sewer outfalls in the Municipal Separate Storm Sewer System.

Project Summary Table

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Braywood Stormwater Improvements	$1,142,826	$0	$0	$0	$0	$1,142,826
Bus Rapit Transit Stormwater Infrastructure Improvements	$2,210,806	$3,418,543	$666,446	$0	$0	$6,295,795
Catch Basin and Inlet Replacement Program	$9,111,007	$1,964,319	$1,333,333	$1,333,333	$169,014	$13,911,006
Four Mile Run Stormwater Infrastructure Improvements	$432,323	$0	$0	$0	$0	$432,323
Fowler Park Stormwater Improvements	$361,868	$48,693	$0	$0	$0	$410,561
Oakridge Stormwater Separation	$155,168	$0	$0	$0	$0	$155,168
Saw Mill Run Watershed Improvements	$900,000	$100,000	$0	$0	$0	$1,000,000
Southside Flats Sewer Separation	$12,926,946	$1,062,480	$0	$0	$0	$13,989,426
Woods Run Stream Removal Stormwater Infrastructure Improvemements	$2,249,014	$986,725	$0	$0	$0	$3,235,739
Stormwater Improvements Contingency	$0	$0	$0	$0	$0	$0
PROJECT FUNDING TOTAL	**$29,489,958**	**$7,580,760**	**$1,999,779**	**$1,333,333**	**$169,014**	**$40,572,844**

Braywood Stormwater Improvements

Project Description

Stormwater detention system in the right-of-way in and around Braywood Way to increase stormwater control and mitigate flooding experienced by residents. Infrastructure could include permeable pavement, bioswales, subsurface detention, etc. depending on design determinations.

Project Details

Phase: Construction

Priority: Regulatory Compliance, Safety, Quality of Service

Project Justification: There is a low point on Braywood Way that experiences persistent, severe flooding. The previously installed system is undersized and deteriorating.

Risk(s): Risks associated with not completing this project include poor level of service.

Impact on Operations: This project would decrease the need for persistent catch basin cleaning in this location.

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2022-424-105-0 - Braywood Stormwater Improvements	$1,142,826	$0	$0	$0	$0	$1,142,826
PROJECT FUNDING TOTAL	**$1,142,826**	**$0**	**$0**	**$0**	**$0**	**$1,142,826**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$1,142,826	$0	$0	$0	$0	$1,142,826
City of Pittsburgh	$0	$0	$0	$0	$0	$0
PROJECT FUNDING TOTAL	**$1,142,826**	**$0**	**$0**	**$0**	**$0**	**$1,142,826**

Bus Rapid Transit Stormwater Infrastructure Improvements

Project Description

The redesign of Forbes Avenue and Fifth Avenue to accommodate bus rapid transit from Downtown to the Birmingham Bridge. This project will include the installation of permeable paving, underground storage, and bioretention plantings and is tributary to the M-05 and M-19 outfall. Phase 2 currently includes the stormwater and green infrastructure improvements in the Uptown Neighborhood.

Project Details

Phase: Construction

Priority: Safety, Quality of Service, Social Impact

Project Justification: The construction of the Bus Rapid Transit (BRT) project requires that certain assets owned and/or operated by Pittsburgh Water be removed, replaced, and/or relocated. This project will help slow or reduce runoff into the combined sewer system during wet weather events.

Risk(s): Wet weather flow may continue to flow into the combined sewer system prior to the completion of the project, which could cause issues during wet weather events.

Impact on Operations: Increased system reliability and improved system management.

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2024-500-105-0 - Bus Rapid Transit - Phase 2	$1,145,931	$1,522,452	$118,686	$0	$0	$2,787,069
2020-GI-100-0 - Bus Rapid Transit Stormwater Infrastructure Improvements	$1,064,875	$1,896,091	$547,760	$0	$0	$3,508,726
PROJECT FUNDING TOTAL	**$2,210,806**	**$3,418,543**	**$666,446**	**$0**	**$0**	**$6,295,795**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$2,210,806	$3,418,543	$666,446	$0	$0	$6,295,795
PROJECT FUNDING TOTAL	**$2,210,806**	**$3,418,543**	**$666,446**	**$0**	**$0**	**$6,295,795**

Catch Basin and Inlet Replacement Program

Project Description

Strategic replacement of catch basins and storm inlets throughout the system to replace failed units, stormwater control reliability, and minimize disturbance to the community.

Project Details

Phase: Inactive, Construction

Priority: Regulatory Compliance, Safety, Quality of Service, Risk of Failure

Project Justification: By maintaining a proactive approach to asset management, efforts can be directed towards remedying assets before their failure, thus saving in overall replacement costs.

Risk(S): Overland and street flooding could occur due to a defective or undersized catch basin or storm inlet, creating a public health and safety hazard during wet weather events.

Impact On Operations: Increased operating reliability.

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2024-500-100-0 - 2024 Catch Basin and Inlet Replacement	$1,216,057	$0	$0	$0	$0	$1,216,057
2024-500-100-1 - 2024 Catch Basin and Inlet Replacement (Independent)	$347,041	$0	$0	$0	$0	$347,041
2024-500-100-2 - 2024 Catch Basin and Inlet Replacement (A. Merante)	$347,909	$0	$0	$0	$0	$347,909
2025-500-100-0 - 2025 Catch Basin and Inlet Replacement	$7,200,000	$800,000	$0	$0	$0	$8,000,000
2026-500-100-0 - 2026 Catch Basin and Inlet Replacement	$0	$1,164,319	$169,014	$0	$0	$1,333,333
2027-500-100-0 - 2027 Catch Basin and Inlet Replacement	$0	$0	$1,164,319	$169,014	$0	$1,333,333
2028-500-100-0 - 2028 Catch Basin and Inlet Replacement	$0	$0	$0	$1,164,319	$169,014	$1,333,333
PROJECT FUNDING TOTAL	**$9,111,007**	**$1,964,319**	**$1,333,333**	**$1,333,333**	**$169,014**	**$13,911,006**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
PENNVEST	$9,111,007	$800,000	$0	$0	$0	$9,911,007
Debt (Revenue Bonds)	$0	$1,164,319	$1,333,333	$1,333,333	$169,014	$3,999,999
PROJECT FUNDING TOTAL	**$9,111,007**	**$1,964,319**	**$1,333,333**	**$1,333,333**	**$169,014**	**$13,911,006**

Four Mile Run Stormwater Infrastructure Improvements

Project Description

Sewer separation to reduce wet weather flow currently discharging into the combined sewer located in M-29.

Project Details

Phase: Design

Priority: Regulatory Compliance, Safety, Quality of Service

Project Justification: This project will separate wet weather flow from being directly discharged into Pittsburgh Water's combined sewer system.

Risk(s): Wet weather flow may continue to flow into the combined sewer system prior to the completion of the project, which could result in issues during wet weather events.

Impact on Operations: Increased operating flexibility and reliability.

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2018-GI-102-0 - Four Mile Run Stormwater Infrastructure Improvements	$432,323	$0	$0	$0	$0	$432,323
PROJECT FUNDING TOTAL	**$432,323**	**$0**	**$0**	**$0**	**$0**	**$432,323**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$432,323	$0	$0	$0	$0	$432,323
PROJECT FUNDING TOTAL	**$432,323**	**$0**	**$0**	**$0**	**$0**	**$432,323**

Fowler Park Stormwater Improvements

Project Description

Construction of storm sewer system and green infrastructure improvements as part of the City of Pittsburgh Park Master Plan improvements. The project will include the installation of stormwater storage, storm sewer conveyance, new catch basins, and vegetated stormwater control measures. The project is subject to a cost share request with the City of Pittsburgh.

Project Details

Phase: Design

Priority: Regulatory Compliance, Quality of Service, Safety, Risk of Failure, Social Impact

Project Justification: Existing combined sewer system in this area has been identified as a flooding risk and for evaluation as a critical area for sewer capacity improvements.

Risk(s): Reduced need for catch basin cleaning after significant precipitation events.

Impact on Operations: Increased operating reliability.

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2024-500-102-0 - Fowler Park Stormwater Improvements	$361,868	$48,693	$0	$0	$0	$410,561
PROJECT FUNDING TOTAL	**$361,868**	**$48,693**	**$0**	**$0**	**$0**	**$410,561**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$361,868	$48,693	$0	$0	$0	$410,561
PROJECT FUNDING TOTAL	**$361,868**	**$48,693**	**$0**	**$0**	**$0**	**$410,561**

Oakridge Stormwater Separation

Project Description

Improvements for Pittsburgh Water separated storm sewer system to eliminate illicit storm connections to the existing sanitary sewer system located along Oakridge St and Brookline Memorial Park driveway. The project includes the design and installation of new storm sewers and a connection tributary to the existing 42-inch outfall sewer on Brookline Boulevard. Stormwater storage alternatives will be evaluated based on field investigations, with the capture of contributing impervious area managed (appx. 1.2 acres) to the 95th percentile storm event (1.66 inches of runoff depth) to mitigate project impacts to the existing sewer system.

Project Details

Phase: Design

Priority: Safety, Quality of Service

Project Justification: Improvements will reduce sanitary sewer overflows to Saw Mill Run.

Risk(s): Additional storm flow could travel faster to the 42-inch outfall sewer.

Impact on Operations: Increased operating flexibility and reliability.

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2023-500-102-1 - Oakridge Stormwater Separation	$155,168	$0	$0	$0	$0	$155,168
PROJECT FUNDING TOTAL	**$155,168**	**$0**	**$0**	**$0**	**$0**	**$155,168**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$155,168	$0	$0	$0	$0	$155,168
PROJECT FUNDING TOTAL	**$155,168**	**$0**	**$0**	**$0**	**$0**	**$155,168**

Saw Mill Run Watershed Improvements

Project Description

Implementation of stormwater treatment and reconnection of streams to vegetated floodplains to help mitigate stormwater peak flows and reduce sediment and other pollutant loads. This project will demonstrate the effectiveness of green infrastructure in reducing pollutants, controlling CSO/SSOs, and restoring the health of the aquatic ecosystems in the Saw Mill Run watershed to comply with regulatory obligations.

Project Details

Phase: Construction

Priority: Safety, Quality of Service, Regulatory Compliance

Project Justification: This project will help to comply with regulatory obligations by reducing pollutants and controlling CSO/SSOs.

Risk(s): It may be difficult to comply with certain regulatory obligations prior to the completion of the project.

Impact on Operations: Increased system reliability and improved system management.

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2020-424-109-0 - Saw Mill Run Watershed Improvements	$900,000	$100,000	$0	$0	$0	$1,000,000
PROJECT FUNDING TOTAL	**$900,000**	**$100,000**	**$0**	**$0**	**$0**	**$1,000,000**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$900,000	$100,000	$0	$0	$0	$1,000,000
PROJECT FUNDING TOTAL	**$900,000**	**$100,000**	**$0**	**$0**	**$0**	**$1,000,000**

Southside Flats Sewer Separation

Project Description

Separation of 17 acres of combined sewer through the construction of storm drain along Wharton Street to 18th Street.

Project Details

Phase: Construction

Priority: Safety, Quality of Service

Project Justification: This project will help slow or reduce runoff into the combined sewer system during wet weather events.

Risk(s): Community members are concerned about disruptions during construction and potential rooftop disconnect costs.

Impact on Operations: Increased system reliability and improved system management.

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2021-424-106-0 - Southside Flats Sewer Separation	$12,926,946	$1,062,480	$0	$0	$0	$13,989,426
PROJECT FUNDING TOTAL	**$12,926,946**	**$1,062,480**	**$0**	**$0**	**$0**	**$13,989,426**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$12,606,426	$0	$0	$0	$0	$12,606,426
Private Grant	$320,520	$1,062,480	$0	$0	$0	$1,383,000
PROJECT FUNDING TOTAL	**$12,926,946**	**$1,062,480**	**$0**	**$0**	**$0**	**$13,989,426**

Woods Run Stream Removal Stormwater Infrastructure Improvements

Project Description

This project will redirect an existing stream inflow location into a detain and slow-release subsurface storage facility. The stream base and wet weather flow currently discharge directly into a 36-inch diameter combined sewer on Mairdale Avenue.

Project Details

Phase: Construction

Priority: Safety, Quality of Service

Project Justification: This project will separate wet weather flow from being directly discharged into Pittsburgh Water's combined sewer system.

Risk(s): Wet weather flow may continue to flow into the combined sewer system prior to the completion of the project, which could be an issue during wet weather events.

Impact on Operations: Increased operating flexibility and reliability.

DSIC Eligible: No

Project Funding

2025-2029 CAPITAL PLAN						TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2017-424-108-0 - Woods Run Stream Inflow -Mairdale Avenue	$19,981	$0	$0	$0	$0	$19,981
2017-424-108-1 - Woods Run Improvements - Mairdale Avenue	$2,229,033	$986,725	$0	$0	$0	$3,215,758
PROJECT FUNDING TOTAL	**$2,249,014**	**$986,725**	**$0**	**$0**	**$0**	**$3,235,739**

Funding Sources

2025-2029 CAPITAL PLAN						5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$1,036,957	$986,725	$0	$0	$0	$2,023,682
Private Grant	$1,212,057	$0	$0	$0	$0	$1,212,057
PROJECT FUNDING TOTAL	**$2,249,014**	**$986,725**	**$0**	**$0**	**$0**	**$3,235,739**

Stormwater Improvements Contingency

Project Description

Stormwater contingency project pass-through.

Project Details

Phase: Not applicable

Priority: Not applicable

Project Justification: Improved efficiency of capital improvement fund management.

Risk(s): No identified risks.

Impact on Operations: Improved efficiency of capital improvement plan management.

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2025-500-101-0 - Stormwater Improvements Contingency	$0	$0	$0	$0	$0	$0
PROJECT FUNDING TOTAL	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$0	$0	$0	$0	$0	$0
PROJECT FUNDING TOTAL	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

Miscellaneous

Project Class Summary

Projects within this category do not qualify for any of the other five project categories and include, but are not limited to, a new Pittsburgh Water headquarters building, utility cost shares with other entities, and the annual capital reclassification.

Project Summary Table

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Annual Capital Project Reclassification	$10,958,354	$6,000,000	$6,000,000	$6,000,000	$6,000,000	$34,958,354
New Headquarters and Operations Facility	$1,000,000	$10,000,000	$0	$0	$0	$11,000,000
Utility Cost Shares	$599,811	$250,000	$265,500	$250,000	$250,000	$1,615,311
Miscellaneous Contingency	$0	$0	$0	$0	$0	$0
PROJECT FUNDING TOTAL	**$12,558,165**	**$16,250,000**	**$6,265,500**	**$6,250,000**	**$6,250,000**	**$47,573,665**

2025 Capital Project Reclassification

Project Description

Annual capital project reclassification originally expensed through the annual operating budget.

Project Details

Phase: Not Applicable

Priority: Not Applicable

Project Justification: This project is required to reclassify operating costs related to urgent water replacements, urgent sewer replacements, and manhole and point repairs.

Risk(s): Failure to fully capitalize Pittsburgh Water assets.

Impact on Operations: Increased operating flexibility and reliability.

DSIC Eligible: No

Project Funding

2025-2029 CAPITAL PLAN						TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2025-600-100-0 - 2025 Capital Project Reclassification	$10,958,354	$6,000,000	$6,000,000	$6,000,000	$6,000,000	$34,958,354
PROJECT FUNDING TOTAL	**$10,958,354**	**$6,000,000**	**$6,000,000**	**$6,000,000**	**$6,000,000**	**$34,958,354**

Funding Sources

2025-2029 CAPITAL PLAN						5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$10,958,354	$6,000,000	$6,000,000	$6,000,000	$6,000,000	$34,958,354
PROJECT FUNDING TOTAL	**$10,958,354**	**$6,000,000**	**$6,000,000**	**$6,000,000**	**$6,000,000**	**$34,958,354**

New Headquarters and Operations Facility

Project Description

Pittsburgh Water is searching for a new headquarters location that would also include a space for the operations division.

Project Details

Phase: Design

Priority: Quality of Service

Project Justification: A new location would provide additional space that is needed as a result of increased operations.

Risk(s): Increased operational challenges.

Impact on Operations: Increased operating flexibility and reliability.

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2023-600-101-0 - New Headquarters and Operations Facility	$1,000,000	$10,000,000	$0	$0	$0	$11,000,000
PROJECT FUNDING TOTAL	**$1,000,000**	**$10,000,000**	**$0**	**$0**	**$0**	**$11,000,000**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$1,000,000	$10,000,000	$0	$0	$0	$11,000,000
PROJECT FUNDING TOTAL	**$1,000,000**	**$10,000,000**	**$0**	**$0**	**$0**	**$11,000,000**

Utility Cost Shares

Project Description

This project will fund future cost share projects.

Project Details

Phase: Not Applicable

Priority: Quality of Service

Project Justification: Cost sharing projects can provide savings to Pittsburgh Water.

Risk(s): Increased costs to Pittsburgh Water.

Impact on Operations: Increased operating flexibility and reliability.

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2024-600-104-0 - PennDOT - SR 8 Improvements (Butler St)	$15,870	$0	$0	$0	$0	$15,870
2024-600-102-0 - Utility Cost Shares	$0	$0	$0	$0	$0	$0
2025-600-102-0 - Utility Cost Shares	$250,000	$250,000	$250,000	$250,000	$250,000	$1,250,000
2023-600-107-0 - Charles Anderson Bridge Utility Coordination	$0	$0	$15,500	$0	$0	$15,500
2024-600-103-0 - North Avenue Signals & Safety Improvements (DOMI)	$89,128	$0	$0	$0	$0	$89,128
2023-600-108-0 - PennDot SR4003 A25	$8,813	$0	$0	$0	$0	$8,813
2023-600-106-0 - DOMI: Sylvan Avenue	$236,000	$0	$0	$0	$0	$236,000
PROJECT FUNDING TOTAL	**$599,811**	**$250,000**	**$265,500**	**$250,000**	**$250,000**	**$1,615,311**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$599,811	$250,000	$265,500	$250,000	$250,000	$1,615,311
PROJECT FUNDING TOTAL	**$599,811**	**$250,000**	**$265,500**	**$250,000**	**$250,000**	**$1,615,311**

Miscellaneous Contingency

Project Description

Miscellaneous contingency project pass-through.

Project Details

Phase: Not Applicable

Priority: Not Applicable

Project Justification: Improved efficiency of capital improvement fund management.

Risk(s): No identified risks.

Impact on Operations: Improved efficiency of capital improvement plan management.

DSIC Eligible: No

Project Funding

	2025-2029 CAPITAL PLAN					TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
2025-600-101-0 - Miscellaneous Contingency	$0	$0	$0	$0	$0	$0
PROJECT FUNDING TOTAL	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

Funding Sources

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Funding						
Debt (Revenue Bonds)	$0	$0	$0	$0	$0	$0
PROJECT FUNDING TOTAL	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

Financial Policies

FINANCIAL MANAGEMENT POLICY

PURPOSE:
This policy provides a framework to maintain Pittsburgh Water's financial integrity, while serving the long-term interests of its customers and other constituencies. Pittsburgh Water recognizes that maintaining financial integrity is critical to accomplishing its goals and discharging Pittsburgh Water's customer and public service responsibilities. This policy establishes processes to be used by the Pittsburgh Water Board of Directors to define the strategic financial plans for the Pittsburgh Water and to approve specific financial program goals, objectives, and associated budgets.

SCOPE:
This Financial Management Policy applies to all financial practices within Pittsburgh Water.

POLICY:
In seeking to fulfill its customer and public service objectives, Pittsburgh Water will maintain a high level of financial stability and will seek not to compromise long-term financial integrity to achieve short-term benefits. This philosophy will ensure the sustainable financial health of the organization.

The Chief Executive Officer is authorized to engage financial service providers and other related professional service providers, if deemed necessary and appropriate by the Chief Executive Officer in consultation with the Chief Financial Officer or designee, considering the expertise and cost of any such service provider. The engagement of professional service providers will adhere to applicable policies regarding procurements enacted by Pittsburgh Water.

Debt Service Coverage: To provide a margin of safety and flexibility in Pittsburgh Water's financial affairs, revenue levels will be set to target a minimum debt service coverage ratio of 1.35x on the total debt service for all senior debt obligations and 1.15x on the annual debt service for all subordinate debt obligations. In the event overall debt service coverage is projected to be below 1.35x for any fiscal year, the Board will promptly implement a plan, to be recommended by staff, which could include rate increases, cost reductions or other means to achieve a debt service coverage ratio of 1.35x over a maximum three-year (3) time period. The plan will take into consideration approved and pending rate increases with the Pennsylvania Public Utility Commission.

Rates and Prices: Pittsburgh Water will design rates and prices that are intended to ensure Pittsburgh Water meets its financial obligations, recovers reasonable costs in a timely manner, and maintains financial integrity as required by regulatory and contractual requirements. These rates will provide a stable and predictable flow of revenues to maintain appropriate levels of revenue to achieve Pittsburgh Water's goals. Revenue levels will be evaluated in consideration of, but not limited to, bond ratings, capital funding requirements, current business conditions, economic projections, and consumption estimates, delays inherent in the regulatory process, and the projected size and frequency of necessary rate adjustments. These revenues will be adequate to cover operating and maintenance expenses, debt service, covenanted debt service reserves, liquidity requirements, and equity funding for the capital program. Rates and prices for Pittsburgh Water's water, wastewater, and stormwater services will be based on the current tariffs approved by the Public Utility Commission (PUC).

Sources of Financing: Pittsburgh Water may use a combination of equity and debt to finance capital additions to the system such that both current and future customers are allocated an equitable portion of the costs. Pittsburgh Water may borrow for capital projects when it is appropriate to spread the costs of capital assets over an approximation of their useful lives.

• Capital market considerations require an equity base to support financing. Pittsburgh Water will build equity during those periods when major capital projects are not being

undertaken by financing capital projects from revenues. In this way, Pittsburgh Water will build equity sufficient to maintain financial integrity, ensure access to the debt markets, and provide for the growing needs of customers.

• As appropriate, Pittsburgh Water will evaluate mechanisms to restructure or refinance debt. Pittsburgh Water will continually evaluate financing opportunities that achieve the objective of lowering the overall cost of capital for ratepayers while also not increasing risks within the debt portfolio.

Pay-As-You-Go Funding and Cash Reserves: Pittsburgh Water will adopt the following financial goals to reduce the long-term borrowing requirements of capital projects in addition to providing for maximum liquidity flexibility.

• As part of the annual capital budgeting process, financial performance will be evaluated with the goal of funding at least ten (10) percent of capital expenditures not supported by grants or intergovernmental aid from pay-as-you-go funding as measured on a five-year basis.

• Maintain cash reserves, including the operating reserves, rate stabilization fund, and revenue fund at a level of 100 days cash on hand with the goal of increasing to over 300 days over the next five (5) years.

Variable-Rate Financing: The variable-rate debt limit is ten percent (10%) of total capitalization, long-term debt plus capital employed as presented periodically in Pittsburgh Water's financial statements. Variable-rate debt that is hedged by derivative products, such as interest rate swap agreements, will not be considered variable-rate debt when calculating the variable-rate limit. Pittsburgh Water will be very cautious about using variable-rate debt because of its increased risk potential. Variable-rate debt will only be used to provide flexibility in its overall capital program and to manage its overall interest rate exposure. In these instances, the Board must be educated on why the use of variable-rate is preferred over fixed rate debt. The Board must ultimately approve the use of variable-rate debt.

Debt Service Reserves: The amount of debt service requirements for each bond issuance will be governed by the existing Bond Indenture and will support the marketing goals of the bond issue. As allowed in the Restated and Amended Indenture, Pittsburgh Water can either secure bonds as a part of the Common Debt Service Reserve Fund or with a Series Debt Service Reserve Fund after considering the financial and market implications.

PLANNING:

Business Plan/Budget Planning: Pittsburgh Water will prepare a business plan/budget to be submitted for Board approval before the start of each fiscal year. The business plan/budget will include the organization's goals and objectives and will describe the projects, products and services that comprise a five-year (5) forecast for the capital improvement plan and a three-year (3) forecast for the operating budget:

- Operating and maintenance expenses
- Capital expenditures
- Capital funding sources
- Operating and other reserve requirements
- Debt service requirements

This information will be provided in appropriate detail to Pittsburgh Water staff.

Adoption of the business plan/budget authorizes the Chief Executive Officer to complete work plans and make associated expenditures within budgets as provided for in accordance with Board policies. The resolution adopting the business plan/budget will establish the capital and operating budgets for the upcoming fiscal year. Such amounts may not be exceeded without Board approval. Approval of the business plan constitutes authorization to proceed with capital projects included in year one (1) of the plan and establishes the projects'
respective lifetime budgets. The resolution adopting the business plan/budget also will include guidelines for authorizing capital spending and reporting requirements for business plan/budget results.

Quarterly Business Plan/Budget Update: The Department of Finance will provide quarterly updates that include indicators of year-to-date operational and financial performance, progress toward key goals, and financial performance projections.

DEBT MANAGEMENT POLICY

PURPOSE:

Pittsburgh Water is a body corporate and politic duly created and existing under the Pennsylvania Municipality Authorities Act, 53 Pa. C.S.A. §5601 et seq. (the "Act"). Bonds are issued pursuant to the existing amended and restated Trust Indenture. The purpose of Pittsburgh Water's Debt Management Policy is to provide Pittsburgh Water officials and staff a comprehensive guide to the issuance and use of debt to fund capital projects and to refund, refinance, and restructure outstanding debt. The advantages of adopting and adhering to a clear, concise, and comprehensive debt policy are:

- Enhancing the quality of decisions
- Documenting the decision-making process; specifically, for integration into the rate making process under the Pennsylvania Public Utility Commission
- Identifying objectives clearly to facilitate staff implementation
- Demonstrating a commitment to long-term financial planning objectives that result in a sound financial position
- Enhancing the positive assessment of credit quality by the bond rating agencies to maintain and improve Pittsburgh Water's credit ratings
- Integrate the Debt Management Policy with the operating and capital budgets, the multi-year Capital Improvement Program (CIP), multi-year financial plan and other financial policies. The financial policies outlined in this document, in most cases, impose higher standards than the legal requirements contained in the existing amended and restated Trust Indenture.

SCOPE:

This Debt Management Policy applies to all debt issued by Pittsburgh Water

POLICY:

The Pittsburgh Water's Debt Management Policy objectives are:

Compliance: Ensure compliance with all laws, legal agreements, contracts, best practices, and adopted policies related to debt issuance and management including, but not limited to, the following

- Enabling legislation, amended and restated Trust Indenture as further amended and supplemented
- Policies adopted by Pittsburgh Water's Board of Directors (the "Board")
- Rules and Regulations required by the Pennsylvania Public Utility Commission ("PUC").
- Federal, State and local laws and regulations, as applicable.

Accountability and Transparency: Ensure that the duties and responsibilities of those charged with implementation of the Debt Management Policy are clearly conveyed and understood, and that the Debt Management Policy is implemented in accordance with the following tenets:

- Obtain approval for the Board and all Pittsburgh Water stakeholders.
- Providing the Board and all Pittsburgh Water stakeholders with the required information, in sufficient detail and with ample time, to allow for assessment and guidance
- Fully disclosing all proposed and actual costs in a timely manner, to include the selection of and payment for professional services associated with the issuance of debt
- Timely providing all disclosures required by law.

Ethics and Prudence: Ensure that all members of the financing team act in an ethically responsible manner during all steps of issuing and maintaining the debt portfolio. Specific ethical standards include but are not limited to the following:

- Debt shall be issued with the care, skill, prudence, and diligence under circumstances then prevailing that a prudent person acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of a like character and with like aims.
- Officers and employees involved in the debt issuance process shall refrain from personal business activity that could conflict with proper execution of the debt program, or which could impair their ability to make impartial debt issuance decisions.
- Employees and debt issuance officials shall take all necessary steps to avoid any conflicts of interest with any financial institutions that conduct business within this jurisdiction.

MUNICIPAL ADVISOR

It is required that Pittsburgh Water work with a SEC registered municipal advisor, who shall provide professional assistance and analysis of any prospective debt issue. This includes, but is not limited to, providing insight on current market conditions,

determining the best method of sale, assisting on the formation of the financing team (Underwriter, Bond Counsel, etc.), and post issuance support. Additionally, the municipal advisor can be utilized for financial planning services that are not directly related to issuing debt.

USE OF DEBT

Debt is a financing tool which should be used judiciously. Generally, Pittsburgh Water will issue debt for three purposes

- Finance costs associated with the CIP
- Refund existing debt to obtain Debt Service savings and/or restructure certain terms of debt, when economically feasible.
- If necessary and as part of the larger plan, to provide liquidity for operating costs.

GUIDELINES FOR A DEBT TRANSACTION

The following section discusses several of the decisions that must be made for each debt issuance. Each and every debt transaction is unique. Pittsburgh Water financial staff, when making these decisions, will confer with the municipal advisor(s) and other members of the financing team to evaluate the relative costs and benefits of each decision individually and collectively. Pittsburgh Water's Chief Financial Officer or equivalent staff member will review these options with the Board and provide a recommendation on the preferred option, to be specified in the Board's resolution, authorizing that series of debt. The following areas must be addressed to successfully close a transaction:

- **Debt Capacity Limits:** Pittsburgh Water is authorized to issue additional debt only to the extent that it can satisfy the Debt Service Coverage (annual net revenues as a percent of annual Debt Service) requirements established in the Indenture and certain Board polices.
- **Size of the Bond Transaction:** Pittsburgh Water shall use a variety of tools for determining the size of the debt issuance. The CIP is the primary driver of funding requirements. Debt will be issued to fund that portion of the CIP which will not be financed through other sources such as "PAYGO," wholesale customer contributions, and federal and state grants/loans. Additional factors that may impact the size of the bond transaction include but are not limited to the amount of Costs of Issuance/Underwriter's Discount, the use of a Debt Service Reserve Fund and/or capitalized interest for the transaction.
- **Debt Service Reserve Fund (the "DSRF"):** Pittsburgh Water may consider providing a DSRF as market conditions dictate. A DSRF can be established to support each individual series of bonds or as a common reserve that can support more than one series of bond's debt service. The DSRF is typically funded in its entirety with bond proceeds at the time of issuance but can also be funded through a Letter of Credit or a Surety Bond. When deciding to fund a DSRF, consideration will be given to the current exposure to bond insurers and letter of credit providers.
- **Capitalized Interest:** Pittsburgh Water may choose to issue bonds to pay interest on all or a portion of the bond issue for a specified time after issuance and during the construction period.
- **Timing of the Debt Issuance:** The scheduling and timing of the sale of debt will be determined by:
  - **Multi-Year Financial Plan and CIP Needs:** Represent the primary drivers of the timing of the bond transaction
  - **Market Access and Conditions:** Pittsburgh Water, with advice of its Finance Team, prefers to issue debt in favorable market conditions. However, in the event of debt market stress, it might be difficult to issue debt in a cost-effective manner. If this situation arises, Pittsburgh Water may choose to initially fund project costs with cash on hand or with interim borrowings and to reimburse these expenditures from a future debt financing.
- **Security Provisions:** Pittsburgh Water's Bond Indenture pledges the net operating revenues (generally, the revenues net of operating expenses) to secure the debt obligations that are under the Bond Indenture. In connection with each particular bond issue, Pittsburgh Water must determine whether to issue the proposed bonds with a Senior or Subordinate pledge of net revenues. In addition, Pittsburgh Water also has the ability to use a third lien, when appropriate and approved by the Board.
- **Method of Sale:** The method of sale determines the process by which debt will be sold, the purchasers of the debt, and how the purchase price will be established. There are three primary options for each debt transaction.
  - **Negotiated Sale:** Pittsburgh Water can sell its bonds to the Underwriter(s) selected by Pittsburgh Water at a price to be determined pursuant to negotiation. Bonds with complex security structures (e.g. revenue bonds), certain structural characteristics (e.g. variable rate bonds), and/or certain ratings (e.g. lower) frequently achieve best pricing execution via a negotiated sale process.
  - **Competitive Sale:** Pittsburgh Water can sell its bonds to the bidder providing the lowest true interest cost as long as the bid adheres to the requirements set forth in the official notice of sale. Competitive sales lend themselves most readily to very highly rated, simple security structures (e.g. general obligation bonds).
  - **Private Placement:** From time to time, Pittsburgh Water may elect to privately place its debt for small issuances. Such placement shall only be considered if this method is demonstrated to result in a cost savings or other benefit to Pittsburgh Water relative to other methods of debt issuance.

• **Refunding Consideration:** When economic conditions are advantageous and/or other considerations demand, Pittsburgh Water may refund existing debt. A present value analysis should be prepared to analyze the potential savings and all costs of the refinancing should be taken into account. The present value analysis should be calculated on the transaction as a whole and on a maturity-by-maturity basis. To proceed with the refinancing, the present value savings on the entire transaction should be at least three percent (3%) of the principal amount of the refunded debt incorporating all costs of issuance. An exception might be made if the refunding provides for other financial benefits such as terminating outstanding derivative agreements, trust indenture changes or terminating certain bond insurance agreements. The Board should be made aware of any exception to this policy.

• **Debt Structure:** In addition to making the decisions detailed previously, Pittsburgh Water must also make several significant structural choices regarding proposed bonds. These structural decisions directly impact the associated debt service and, consequently, the Multi-Year Financial Plan, Pittsburgh Water's operations and ratepayers. These structural decisions address:

Term: When determining the final maturity of proposed bonds, Pittsburgh Water will primarily consider the useful life of the assets being financed, the depreciation schedule relating to the financed assets, and the period ratepayers have beneficial use of these assets. Other factors that Pittsburgh Water will consider when determining the term of a bond issuance are the absolute level of interest rates, the relative level of interest rates, applicable rating agency criteria, and the marketability of the bonds. Generally, the term of the bonds shall not exceed the useful life of the assets being financed, so Pittsburgh Water must decide the structure taking into account options provided in the Amended and Restated Indenture:

• **Long-Term Debt** is generally structured where the amortization of the debt approaches the expected useful life of a long-lived asset. Long-term debt may be issued as fixed or variable rate debt. Long-term debt is defined as debt with a final maturity greater than or equal to ten (10) years.

• **Short-Term and Interim Debt** may be issued as bond anticipation notes with either fixed or variable rates. Pittsburgh Water will consider using short-term and interim debt to finance short service life assets, obtain lower interest costs, and/or provide interim financing for certain projects. Short term debt is defined as debt with a final maturity of less than ten (10) years. Interim Debt is any indebtedness for which no principal payments are required to be made prior to maturity, which shall not be later than five (5) years and Pittsburgh Water has declared its intent to issue bonds to refund the debt at a later date.

• **Fixed versus Variable Rate:** It is the intention that Pittsburgh Water use fixed-rate debt whenever possible. When determining the balance between Fixed and Variable Rate debt, the goal is to provide Pittsburgh Water with a balanced debt portfolio that manages the desire for the certainty of known quantity of future Debt Service payments provided by Fixed Rate debt versus the historically lower interest costs provided by Variable Rate debt. The Fixed and/or Variable Rate decision will be influenced and guided by several factors:

• **Market Conditions:** In certain market conditions, Variable Rate issuance may provide Pittsburgh Water with a material cost advantage.

• **Cash and Investment Balances:** The amount of cash and short-term assets Pittsburgh Water has on hand provides a "natural hedge" for Variable Rate debt. While changes in interest rates impact both assets and liabilities, the change is in opposite direction.

• **Credit Considerations:** In general, Rating Agencies prefer a prudent balance between Fixed and Variable Rate debt. This preference is to insulate issuers from sudden, sharp increases in interest rates and debt service costs. In general, rating agencies prefer the percentage of variable-rate debt outstanding shall not exceed twenty to twenty-five percent (20-25%). For calculation purposes, this ratio will exclude both Variable Rate debt which has been converted through a hedging transaction to synthetically Fixed Rate debt and debt that is "naturally hedged" by cash and investment balances

• **Debt Service Payments (Level, Wrapped or Loaded):** Pittsburgh Water must determine the amortization schedule of the bonds. This is a crucial decision that will directly influence the amount of debt service required each year and, as a result, will have a significant impact on the amount of revenue which must be raised each year. Pittsburgh Water will have a balanced approach when determining debt service structures and will consider the need for future debt capacity in structuring new money bonds. In general, there are three primary options available:

• **Level Debt Service:** Creates equal annual debt service payments (i.e., principal plus interest) over the life of the issued bonds. The debt will be structured while still matching debt service to the useful life of the financed facilities (discussed previously).

• **Wrapped Debt Service:** Conforms the debt service on the new debt to Pittsburgh Water's existing debt service burden, projected cash flows and other circumstances to create an overall debt service schedule that meets the objectives and parameters of Pittsburgh Water.

• **Loaded Debt Service:** Creates a principal maturity structure to achieve a desired goal for Pittsburgh Water. Generally, principal can be either "front-loaded" or "backloaded". Pittsburgh Water's normal situation is to avoid backloading debt.

Credit Enhancement: Pittsburgh Water may consider the use of credit enhancement such as a letter-of-credit or bond insurance in order to reduce the cost of borrowing. For variable rate debt transactions that require credit enhancement (such as Variable Rate Demand Bonds), Pittsburgh Water will consider credit enhancement products such as a Standby Bond Purchase Agreement or a Letter of Credit, that are typically required by investors. Pittsburgh Water will consider the cost and marketability implications of each variable rate product and supporting credit enhancement product prior to each transaction on a case-by-case basis. In addition, to manage business and counterparty risk, Pittsburgh Water will consider a diversity of credit enhancement providers.

Derivative Instruments: Pittsburgh Water recognizes that, in certain circumstances, a derivatives transaction (e.g., swaps, swaptions and interest rate collars) can manage risk exposures and produce a lower cost of financing. However, each derivative instrument can raise complex risk and credit issues. Pittsburgh Water's over-arching goals for a derivatives transaction address the following:

- Pittsburgh Water shall not enter into a derivatives transaction for the purpose of speculation.
- When compared to conventional market transactions, Pittsburgh Water will achieve more savings or more flexibility in meeting its overall financial objectives.
- It is the intention of Pittsburgh Water to avoid entering into derivate instruments during future issuances.

By recommendation of the Chief Financial Officer or equivalent staff member, the Board is responsible for the approval to execute a derivatives transaction. The authorizing derivatives resolution will approve the derivatives transaction and its details, including notional amount, security, payment, risks and other conditions relating to the transaction. In the Authorizing Resolution, Pittsburgh Water must state the goals of the derivatives transaction and each resolution will identify the appropriate official to execute and make changes, within limits, to the derivatives transaction being considered. Pittsburgh Water must receive an evaluation from its municipal advisor(s) stating that the proposed Derivative Transaction is in Pittsburgh Water's best interest. Pittsburgh Water must also receive an opinion from Bond Counsel that the approved Derivative Transaction is a legal and valid obligation of Pittsburgh Water. Actions approved by the Board must comply with applicable law and not violate the existing Indenture or other contracts.

Commercial Bank Line of Credit: When determined by the Chief Financial Officer or equivalent staff member to be advantageous, Pittsburgh Water may consider utilizing one or multiple commercial bank line(s) of credit to achieve capital and/or operating budget needs. Pittsburgh Water must receive an evaluation from its municipal advisor(s) stating that utilizing the line(s) of credit is in Pittsburgh Water’s best interest and is aligned with the debt management goals of the Pittsburgh Water. Additionally, the Pittsburgh Water must also receive an opinion from Bond Counsel that the use of the line(s) of credit are legal and a valid obligation of Pittsburgh Water. Board approval is required in order execute all line(s) of credit transactions. Actions approved by the Board must comply with applicable law and not violate the existing Indenture or other contracts.

Investment of Proceeds, Post Issuance Compliance and Monitoring, other compliance requirements The Finance Department under the Chief Financial Officer or equivalent staff member is responsible for the investment of proceeds, as well as all post issuance and compliance activities.

- **Investment of Bond Proceeds.** The Finance Department, after receipt of Bond proceeds, will invest the funds based on the Bond Indenture, Pittsburgh Water’s Bank Management Policy and Federal regulati
- **Project Compliance**
- **Arbitrage:** Pittsburgh Water must follow IRS rules governing the yield restriction (when you may legally earn the Arbitrage Yield from investing bond proceeds) and arbitrage rebate (when you must return the invested earnings above the Arbitrage Yield back to the IRS). The following guidelines apply
- The Tax Certificate for the transaction provides the relevant information.
- Pittsburgh Water may retain the services of a qualified Arbitrage Rebate Agent to calculate any arbitrage due to the IRS on outstanding bond issuances with proceeds remaining.
- **Annual Review:** Pittsburgh Water will review expenditures and reimbursements to determine if any private business use in facilities that were constructed using tax-exempt debt, except as specifically disclosed prior to sale of debt or as subsequently opined by nationally recognized Bond Counsel, do not impact the tax-exempt status of the debt.
- **Bond Proceeds:** Pittsburgh Water will track Bond proceeds, ensuring expenditures are within the legally allowable construction period and other parameters to comply with legal requirements.
- **Document Retention:** Pittsburgh Water will retain documents related to the debt issue for the life of an issue or the life of the Refunding of the issue plus three (3) years.

Continuing Disclosure Compliance: The Official Statement and the Continuing Disclosure Agreement for the transaction will detail what information is required to be disclosed and on what timeline. To meet these disclosure requirements:

- Pittsburgh Water will use a Dissemination/Disclosure Agent who shall be named as responsible for the required reporting for each debt issue requiring Continuing Disclosure under Securities and Exchange Commission Rule 15(c)(2)(12)
- Dissemination of the required information is accomplished through the Electronic Municipal Market Access system (EMMA).
- Finance staff will monitor required reporting dates to ensure annual and periodic reporting requirements are satisfied.
- Disclosure Counsel shall be consulted to determine compliance and updates in Continuing Disclosure.
- Compliance status shall be reported annually to the Board at a public meeting.

Municipal Advisor Rule Compliance:
The Securities and Exchange Commission and the Municipal Securities Rulemaking Board, as mandated by the Dodd-Frank Wall Street Reform Act, have issued procedures and requirements associated with the registration and conduct of Municipal Advisors ("MA Rules"). The MA Rules will generally impose additional requirements for financial advisors to municipal entities, including Pittsburgh Water's Municipal Advisors. The MA Rules can impact the way and manner in which Pittsburgh Water relates and receives information and recommendations from municipal bond underwriters. Pittsburgh Water will require its Municipal Advisor to be registered and to comply with all SEC and MSRB rules and procedures.

Pennsylvania Public Utility Commission (PUC) Filing Requirements:
Title 66 Chapter 19 grants the Commission the right to require a notice of registration to be filed before the utility issues or assumes securities. At 52 Pa. Code § 3.601, the PUC requires a public utility to file and receive notice of registration of a securities certificate before the public utility issues or assumes securities. In addition, at 52 Pa. Code § 3.602, the PUC requires an abbreviated securities certificate when financing has been authorized by another state commission having primary jurisdiction or financing is provided by another agency of the state of Pennsylvania; therefore, a water utility securing a loan through PENNVEST would fall under this regulation

OTHER FINANCIAL POLICIES

BANK MANAGEMENT POLICY

Establishes the internal controls for all revenues, fees and payments collected by Pittsburgh Water. All payments received are deposited into an approved depository within two business days of receipt. Checks and bank drafts require other means to verify that there are sufficient funds.

CAPITAL ASSETS DESIGNATION POLICY

Outlines how Pittsburgh Water defines, tracks the operations/maintenance of, tracks the financial costs of, and the value setting of assets owned by Pittsburgh Water in accordance with GAAP. Capital assets for utility management purposes are defined using the following traits: Tangible Items, Intangible Items, Long-Service-Life, Considerable Value, Maintainable, Component Part, and Not Acquired for Resale or Readily Convertible to Cash.

These assets are tracked for operations and maintenance purposes through several systems, which include Pittsburgh Water's Geographical Information System (GIS), Computerized Maintenance Management System (CMMS), and Pittsburgh Water's accounting system. Each system works in tandem to keep record of the identity of, and the origination and history of work done of each asset. For assets not yet installed, they will be tracked in an Inventory Management System. Pittsburgh Water is also required to track the costs associated with asset; Pittsburgh Water has elected to track these items for accounting purposes on an aggregate basis by type.

GAAP requires utilities to record capital assets at actual cost or estimated historical cost, and donated assets are recorded at fair market value. The cost of the asset includes ancillary costs that are directly tied to the acquisition and placement of an asset. Pittsburgh Water tracks the depreciation of assets using the straight-line method, excluding property and construction works in progress as they do not depreciated. In most cases, Pittsburgh Water will fully exhaust the utility of a capital asset, and no salvage value will be recognized. The useful life of an asset is determined through professional judgement and industry standards.

GOVPLANET AUCTION POLICY

Outlines how Pittsburgh Water uses auction websites to sell decommissioned equipment and vehicles on the GovDeals and GovePlanet auction websites. All auctions will last a minimum of seven days; if the starting bid is not met or no bids received, the

price can be lowered, and the equipment can be reauctioned for another seven days. Pittsburgh Water employees who are involved with the auction are prohibited from bidding on Pittsburgh Water online auctions. Winning bidders make payments directly to GovDeals/GovPlanet, and upon paying buyers can make arrangements to pick up their item from the auction.

RATE STABILIZATION POLICY

Maintains operating reserves from annual revenue collections as an enhancement to Pittsburgh Water's financial stability. The Rate Stabilization Fund (RSF) will be held as a separate account and segregated from other Pittsburgh Water's funds. The RSF will also be invested and managed consistent with Pittsburgh Water's Investment policy. The RSF balance will be evaluated annually with the goal of increasing the balance to no less than 5% of Pittsburgh Water's annual operating revenues. Pittsburgh Water shall replenish the Fund over a period no longer than 3 years when the balance falls below 5% of Pittsburgh Water's annual operating revenues. Transfers from or into the RSF will be assessed annually, contingent upon Pittsburgh Water's financial performance, including operating revenues, expenditures, and reserves and transfers into the RSF will be made no later than 60 days into the following year.

INVESTMENT POLICY

Provides clear guidelines concerning investment objectives, goals, strategy, and restrictions. Pittsburgh Water’s investment practices shall be operated in conformance with federal, state, and other legal requirements. The policy outlines Investment Objectives, Standards of Care, Authority and Responsibilities, Permissible and Prohibited Investments, Risks and Strategies, Safekeeping and Financial Institutions, and Reporting and Performance. The policy excludes employee retirement and deferred compensation funds. Investments must also comply with trust indentures for bond proceeds.

POST ISSUANCE COMPLIANCE POLICY

Ensures Pittsburgh Water adherence to federal tax laws, securities regulations, and state requirements for bond and note issuances. It mandates strict monitoring of bond proceeds, investment compliance with arbitrage rules, and proper record retention to uphold tax-exempt status. The policy applies to all Pittsburgh Water-issued bonds, including tax-exempt and tax-advantaged bonds, and serves as the official tax compliance framework for IRS filings. The policy outlines the following:

- Responsibilities of the Post-Issuance Compliance Coordinator, typically the Chief Financial Officer, is responsible for overseeing compliance, supported by a Compliance Team as needed
- Identification of Required Monitoring Activity and Schedule Review
- Post-Issuance Record Retention
- Tax Requirements Associated with the Sale and Issuance of Bonds
- Expenditure of Proceeds
- Arbitrage Yield Restriction and Rebate Requirements
- Use and Ownership of Bond-Financed Property
- Investments
- Refundings
- Corrections of Violations
- Continuing Disclosure Activity
- Other Required Reporting

Glossary of Terms and Acronyms

Terms

Appurtenance: Structures and devices of a water, sewer, and stormwater system that are designed to assist in the efficient operation and maintenance.

Bioretention: The process in which contaminants and sedimentation are removed from stormwater runoff.

Bioswale: Channels designed to concentrate and convey stormwater runoff while removing debris and pollution.

Catch basin: A type of structure typically found on streets, parking lots, and other paved surfaces. It consists of a concrete or plastic box with a grate or cover on top, allowing water to enter while filtering out debris and larger objects.

Choice Neighborhood: A U.S. Department of Housing and Urban Development program that awards competitive grants to redevelop severely distressed neighborhoods.

Clean Water Act (CWA): A United States federal law enacted in 1972 that aims to regulate the discharge of pollutants into the waters of the United States and ensuring water quality for rivers, lakes, and coastal areas. The law is administered by the Environmental Protection Agency (EPA) and serves as the cornerstone of water pollution control efforts in the United States.

Clearwell: A tank that mixes treated water with disinfectants and stores water that is ready to be pumped out to customers.

Floodplain: Flat lands next to waterways that get flooded periodically.

Impervious: Not allowing liquid to pass through.

Lift station: Also known as a pumping station, these are an essential component of wastewater and stormwater management systems to move water or sewage from lower elevations to higher ones. Lift stations prevent the need for deep, costly sewer lines by allowing water to be "lifted" and transported to treatment plants or further along the collection system.

Manhole: An opening in the ground that provides access to underground utility systems.

Outfall: A structure or point where wastewater and/or stormwater discharges from a pipe or drainage system into another body of water. Outfalls are designed to manage the flow of water and can include features to help treat the water before it enters the environment, minimizing pollution and impact on aquatic ecosystems.

Pathogen: A bacterium, virus, or other microorganism that can cause disease.

Permeable: Allows liquids to pass through.

PGH20 Cares Team: A specialized group within Pittsburgh Water focused on providing direct assistance to low-income and vulnerable customers. Their primary role is to help customers enroll in the available customer assistance programs, which offer discounts and other benefits to reduce bills.

Pump station: A facility that uses pumps to move water from one location to another within the distribution system.

Reservoir: Large natural or artificial storage area designed to hold water for water supply throughout the distribution system.

Safe Drinking Water Act (SDWA): A United States federal law enacted in 1974 that aims to protect the quality of drinking water in the United States. The SDWA authorizes the Environmental Protection Agency (EPA) to set national health-based standards for drinking water to protect against both naturally occurring and human-made contaminants that may be present in water systems.

Sedimentation basin: A structure designed to remove suspended solids from water or wastewater. The main purpose of a sedimentation basin is to allow solids to settle out of the water due to gravity, making the water cleaner. This is commonly used in water treatment plants, stormwater management systems, and industrial wastewater treatment processes.

Stormwater: Water that originates from precipitation, including rain, hail, and snow.

Subsurface detention system: Underground structures that are used to detain and release stormwater.

Tariff: All the water, wastewater, and stormwater service rates, rules, and regulations issued by Pittsburgh Water, which are officially approved by the Pennsylvania Public Utility Commission.

Water treatment plant: A facility that processes and purifies water to make it safe for drinking, recreational use, or industrial applicants.

Acronyms

ALCOSAN: Allegheny County Sanitary Authority: The public agency that provides wastewater treatment services for 83 municipalities in Allegheny County, including Pittsburgh and its suburbs.

AMI: Advanced Metering Infrastructure: Refers to an integrated system of smart meters, communication networks, and data management systems that enable two-way communication between utility companies and their customers.

ARPA: American Rescue Plan Act: A federal economic assistance program that provides direct aid for workers, families, small businesses, and industries affected by COVID-19.

BRT: Bus Rapid Transit: A bus-based public transport system designed to have much more capacity, reliability and other quality features than a conventional bus system.

CCTV: Closed Circuit Television: A system that uses cameras to inspect pipes, sewers, and drains. CCTV can help identify issues in water and wastewater infrastructure without having to dig or remove walls.

CSO: Combined Sewer Overflows: Discharges of untreated, diluted sewage into rivers and watercourses during heavy rainfall.

DSIC: Distribution System Improvement Charge: Charges on customers' bills to be used for system improvements.

EPA: Environmental Protection Agency: An independent agency of the United States federal government tasked with protecting human health and the environment. The primary responsibility is to create and enforce regulations based on laws passed by Congress to protect air, water, and land resources, and ensure that both natural ecosystems and public health are protected.

GI: Green Infrastructure: An approach to managing wet weather impacts to sewer systems and surface waters.

GPM: Gallons Per Minute: A flow rate measurement used to measure the velocity of liquid through water and sewer pipes.

IFE: Individual Filter Effluent: A measurement of the clarity of water.

LSLR: Lead Service Line Replacement: The replacement of lead water service lines.

MS4: Municipal Separate Storm Sewer System: A collection of structures, including retention basins, ditches, roadside inlets and underground pipes, designed to gather stormwater from built-up areas and discharge it, without treatment, into local streams and rivers. It is not connected to the sanitary sewer system.

PADEP: Pennsylvania Department of Environmental Protection: The Pennsylvania state agency that oversees environmental protection and manages permitting, licensing, and compliance.

PUC: Pennsylvania Public Utility Commission: The state agency responsible for overseeing public utilities in Pennsylvania. Its primary role is to ensure that utility services are provided to consumers in a safe, reliable, and cost-effective manner. The PUC plays a critical role in balancing the interests of utility companies with those of consumers, while also promoting sustainable and efficient utility practices.

PENNVEST: Pennsylvania Infrastructure Investment Authority: A Pennsylvania authority that provides low-interest loans and grants for water, wastewater, and stormwater projects.

SCADA: Supervisory Control and Data Acquisition: A system of software and hardware that allows organizations to control industrial processes and to collect, analyze, and process data.

SSO: Sanitary Sewer Overflows: Discharges of untreated sewage into the environment, not due to stormwater.

WIFIA: Water Infrastructure Finance and Innovation Act: A federal program that provides long-term, low-cost supplemental loans for water, wastewater, and stormwater infrastructure projects.

Exhibit EB-5

PITTSBURGH WATER
PGH2O

Financial Management Policy

PURPOSE:
This policy provides a framework to maintain Pittsburgh Water's financial integrity, while serving the long-term interests of its customers and other constituencies. Pittsburgh Water recognizes that maintaining financial integrity is critical to accomplishing its goals and discharging Pittsburgh Water's customer and public service responsibilities. This policy establishes processes to be used by the Pittsburgh Water Board of Directors to define the strategic financial plans for the Pittsburgh Water and to approve specific financial program goals, objectives, and associated budgets.

SCOPE:
This Financial Management Policy applies to all financial practices within Pittsburgh Water.

POLICY:
In seeking to fulfill its customer and public service objectives, Pittsburgh Water will maintain a high level of financial stability and will seek not to compromise long-term financial integrity to achieve short-term benefits. This philosophy will ensure the sustainable financial health of the organization.

The Chief Executive Officer is authorized to engage financial service providers and other related professional service providers, if deemed necessary and appropriate by the Chief Executive Officer in consultation with the Chief Financial Officer or designee, considering the expertise and cost of any such service provider. The engagement of professional service providers will adhere to applicable policies regarding procurements enacted by Pittsburgh Water.

Debt Service Coverage: To provide a margin of safety and flexibility in Pittsburgh Water's financial affairs, revenue levels will be set to target a minimum debt service coverage ratio of 1.35x on the total debt service for all senior debt obligations and 1.15x on the annual debt service for all subordinate debt obligations. In the event overall debt service coverage is projected to be below 1.35x for any fiscal year, the Board will promptly implement a plan, to be recommended by staff, which could include rate increases, cost reductions or other means to achieve a debt service coverage ratio of 1.35x over a maximum three-year (3) time period. The plan will take into consideration approved and pending rate increases with the Pennsylvania Public Utilities Commission.

Rates and Prices: Pittsburgh Water will design rates and prices that are intended to ensure Pittsburgh Water meets its financial obligations, recovers reasonable costs in a timely manner, and maintains financial integrity as required by regulatory and contractual requirements. These rates will provide a stable and predictable flow of revenues to maintain appropriate levels of

revenue to achieve Pittsburgh Water's goals. Revenue levels will be evaluated in consideration of, but not limited to, bond ratings, capital funding requirements, current business conditions, economic projections, and consumption estimates, delays inherent in the regulatory process, and the projected size and frequency of necessary rate adjustments. These revenues will be adequate to cover operating and maintenance expenses, debt service, covenanted debt service reserves, liquidity requirements, and equity funding for the capital program. Rates and prices for Pittsburgh Water's water, wastewater, and stormwater services will be based on the current tariffs approved by the Public Utility Commission (PUC).

Sources of Financing: Pittsburgh Water may use a combination of equity and debt to finance capital additions to the system such that both current and future customers are allocated an equitable portion of the costs. Pittsburgh Water may borrow for capital projects when it is appropriate to spread the costs of capital assets over an approximation of their useful lives.

- Capital market considerations require an equity base to support financing. Pittsburgh Water will build equity during those periods when major capital projects are not being undertaken by financing capital projects from revenues. In this way, Pittsburgh Water will build equity sufficient to maintain financial integrity, ensure access to the debt markets, and provide for the growing needs of customers.
- As appropriate, Pittsburgh Water will evaluate mechanisms to restructure or refinance debt. Pittsburgh Water will continually evaluate financing opportunities that achieve the objective of lowering the overall cost of capital for ratepayers while also not increasing risks within the debt portfolio.

Pay-As-You-Go Funding and Cash Reserves: Pittsburgh Water will adopt the following financial goals to reduce the long-term borrowing requirements of capital projects in addition to providing for maximum liquidity flexibility.

- As part of the annual capital budgeting process, financial performance will be evaluated with the goal of funding at least ten (10) percent of capital expenditures not supported by grants or intergovernmental aid from pay-as-you-go funding as measured on a five-year basis.
- Maintain cash reserves, including the operating reserves, rate stabilization fund, and revenue fund at a level of 100 days cash on hand with the goal of increasing to over 300 days over the next five (5) years.

Variable-Rate Financing: The variable-rate debt limit is ten percent (10%) of total capitalization, long-term debt plus capital employed as presented periodically in Pittsburgh Water's financial statements. Variable-rate debt that is hedged by derivative products, such as interest rate swap agreements, will not be considered variable-rate debt when calculating the variable-rate limit. Pittsburgh Water will be very cautious about using variable-rate debt because of its increased risk potential. Variable-rate debt will only be used to provide flexibility in its overall capital program and to manage its overall interest rate exposure. In these instances, the Board must be educated on why the use of variable-rate is preferred over fixed rate debt. The Board must ultimately approve the use of variable-rate debt.

Debt Service Reserves: The amount of debt service requirements for each bond issuance will be governed by the existing Bond Indenture and will support the marketing goals of the

bond issue. As allowed in the Restated and Amended Indenture, Pittsburgh Water can either secure bonds as a part of the Common Debt Service Reserve Fund or with a Series Debt Service Reserve Fund after considering the financial and market implications.

PLANNING:
Business Plan/Budget Planning: Pittsburgh Water will prepare a business plan/budget to be submitted for Board approval before the start of each fiscal year. The business plan/budget will include the organization's goals and objectives and will describe the projects, products and services that comprise a five-year (5) forecast for the capital improvement plan and a three-year (3) forecast for the operating budget:

- Operating and maintenance expenses
- Capital expenditures
- Capital funding sources
- Operating and other reserve requirements
- Debt service requirements

This information will be provided in appropriate detail to Pittsburgh Water staff.

Adoption of the business plan/budget authorizes the Chief Executive Officer to complete work plans and make associated expenditures within budgets as provided for in accordance with Board policies. The resolution adopting the business plan/budget will establish the capital and operating budgets for the upcoming fiscal year. Such amounts may not be exceeded without Board approval. Approval of the business plan constitutes authorization to proceed with capital projects included in year one (1) of the plan and establishes the projects' respective lifetime budgets. The resolution adopting the business plan/budget also will include guidelines for authorizing capital spending and reporting requirements for business plan/budget results.

Quarterly Business Plan/Budget Update: The Department of Finance will provide quarterly updates that include indicators of year-to-date operational and financial performance, progress toward key goals, and financial performance projections.

Last Updated: (MM/DD/YYYY)	Editor:	Location of change(s), what was changed, and why:
10/26/2018	Edward Barca	Original
01/02/2025	Edward Barca	Changed “Pittsburgh Water and Sewer Authority” to “Pittsburgh Water”.

Exhibit EB-6

Pittsburgh Water Debt Summary
Outstanding Bonds and Loans Payable ($000's)
As of January 31, 2025

Senior Lien

Series Name	Date of Issue	Date of Maturity	Amount Issued	Amount Outstanding	Coupon Rate / Bank Index	Fixed Rate Swap (Paid)	Variable Swap Rate (Received)	Net Rate	Discount at Issuance	Premium at Issuance	Issuance Expenses[1]	Net Proceeds
Series B of 1998[2]	Mar-1998	9/1/2030	$ 36,440	$ 78,023	5.18%	N/A	N/A	N/A	$ -	$ -	$ -	$ 32,400
Series 2017A	Dec-2017	9/1/2032	159,795	69,195	3.00%-5.00%	N/A	N/A	N/A	-	23,374	1,778	181,391
Series 2017C-1 (JPM Swap)[3]	Dec-2017	9/1/2039	72,748	72,748	70% SOFR + .80%	3.7835%	70% SOFR + .8014%	3.7826%	-	-	693	72,054
Series 2017C-3 (JPM Swap)[3]	Dec-2017	9/1/2040	71,225	71,225	70% SOFR + .80%	3.8255%	70% SOFR + .8014%	3.8246%	-	-	679	70,546
Series 2017C-4 (Unhedged)[4]	Dec-2017	9/1/2035	2,085	2,085	70% SOFR + .80%	N/A	N/A	3.5000%	-	-	20	2,065
Series 2019A	July-2019	9/1/2044	109,855	97,140	5.00%	N/A	N/A	N/A	-	22,468	1,123	131,200
Series 2020B	Dec-2020	9/1/2050	91,520	87,235	3.00%-5.00%	N/A	N/A	N/A	-	16,665	1,185	107,000
Series 2022A	Nov-2022	9/1/2052	44,550	44,550	5.00%-5.50%	N/A	N/A	N/A	-	986	537	45,537
Series 2023A	July-2023	9/1/2053	106,075	105,240	4.250-5.00%	N/A	N/A	N/A	-	7,620	1,020	113,695
Series 2023B	July-2023	9/1/2040	144,530	137,480	5.00%	N/A	N/A	N/A	-	17,841	11,592	162,371
Series 2025A	Jan-2025	9/1/2055	129,220	129,220	5.00%-5.25%	N/A	N/A	N/A	-	12,092	1,189	141,312
Total Senior				**$ 894,141**								

Subordinate Lien

Series Name	Date of Issue	Final Maturity	Issue Size	Outstanding Principal	Coupon Rate / Bank Index	Fixed Rate Swap (Paid)	Variable Swap Rate (Received)	Net Rate	Discount at Issuance	Premium at Issuance	Issuance Expenses[1]	Net Proceeds
WIFIA ID-No. 20140PA	May-2023	9/1/2060	52,476	20,057	3.98%	N/A	N/A	N/A	-	-	302	52,476
Series 2019B	July-2019	9/1/2035	104,290	104,290	4.00%-5.00%	N/A	N/A	N/A	-	22,621	28,952	103,660
Series 2025B	Jan-2025	9/1/2043	12,825	12,825	5.00%	N/A	N/A	N/A	-	1,307	114	14,132
Total Subordinate				**$ 137,172**								

Third Lien

Series Name	Date of Issue	Final Maturity	Issue Size	Outstanding Principal	Coupon Rate / Bank Index	Fixed Rate Swap (Paid)	Variable Swap Rate (Received)	Net Rate	Discount at Issuance	Premium at Issuance	Issuance Expenses	Net Proceeds
Pennvest Loans	Various	4/1/2056	622,634	225,208	1.00% - 2.97%	N/A	N/A	N/A	-	-	-	-
PNC Capital Line of Credit	June-2022	6/23/2025	150,000	15,000	[redacted]				-	-	-	-
Total Third				**$ 240,208**								

[1] Includes legal and professional costs, underwriters' discount, bond insurance premium, surety premium and/or swap termination payments, if applicable, to respective series of bonds.
[2] Capital Appreciation Bond with the accreted value as of 01/30/2025.
[3] Represents the portion of the Series C of 2017 which is connected to certain swap agreements.
[4] Net rate is assumed of 3.50% for the purposes of this summary.

Exhibit EB-7

Pittsburgh Water
Additional Bonds Test - Existing Rates

	FPFTY FY 2026 COS	FPFTY FY 2027 COS
Operating Revenues	$ 260,224,613	$ 260,224,613
Total: Operating Revenues	$ 260,224,613	$ 260,224,613
Operating Expenses	$ 147,715,214	$ 147,715,214
Total: Operating Expenses	$ 147,715,214	$ 147,715,214
Additional Indebtedness Test Net Revenues	**$ 112,509,400**	**$ 112,509,400**
Existing Annual Debt Service		
125% Senior Debt	$ 92,107,354	$ 94,731,729
110% Subordinate Debt	$ 26,098,253	$ 32,531,051
100% Senior and Subordinate Debt Service	$ 99,784,136	$ 108,316,434
Series A of 2026 Bonds Maximum Annual Debt Service		
125% of Series A of 2026	$ 14,052,254	$ 14,052,254
100% Series A of 2026	$ 11,241,803	$ 11,241,803
Series A of 2027 Bonds Maximum Annual Debt Service		
125% of Series A of 2027	$ -	$ 10,304,986
100% Series A of 2027	$ -	$ 8,243,989
Total: Debt Service	$ 111,025,939	$ 127,802,226
Net Revenues less 125% of Senior and 110% of Subordinate Debt Service:	**$ (19,748,461)**	**$ (39,110,620)**
Net Revenues less 100% of Senior and Subordinate Debt Service:	**$ 1,483,460**	**$ (15,292,827)**

Exhibit EB-8

Pittsburgh Water
Additional Bonds Test - Proposed Rates

	FPFTY FY 2026 COS	FPFTY FY 2027 COS
Operating Revenues	$ 313,744,110	$ 334,542,917
Total: Operating Revenues	$ 313,744,110	$ 334,542,917
Operating Expenses	$ 147,715,214	$ 147,834,367
Total: Operating Expenses	$ 147,715,214	$ 147,834,367
Additional Indebtedness Test Net Revenues	**$ 166,028,896**	**$ 186,708,551**
Existing Annual Debt Service		
125% Senior Debt	$ 92,107,354	$ 94,731,729
110% Subordinate Debt	$ 26,098,253	$ 32,531,051
100% Senior and Subordinate Debt Service	$ 99,784,136	$ 108,316,434
Series A of 2026 Bonds Maximum Annual Debt Service		
125% of Series A of 2026	$ 14,052,254	$ 14,052,254
100% Series A of 2026	$ 11,241,803	$ 11,241,803
Series A of 2027 Bonds Maximum Annual Debt Service		
125% of Series A of 2027	$ -	$ 10,304,986
100% Series A of 2027	$ -	$ 8,243,989
Total: Debt Service	$ 111,025,939	$ 127,802,226
Net Revenues less 125% of Senior and 110% of Subordinate Debt Service:	**$ 33,771,035**	**$ 35,088,531**
Net Revenues less 100% of Senior and Subordinate Debt Service:	**$ 55,002,957**	**$ 58,906,324**

Exhibit EB-9

PITTSBURGH WATER
PGH2O

Rate Stabilization Fund Policy

PURPOSE:
The purpose of the Rate Stabilization Fund ("RSF" or "Fund") is to maintain operating reserves from annual revenue collections as an enhancement to Pittsburgh Water's financial stability. The RSF is intended to help Pittsburgh Water smooth forecasted revenues over several years and/or help meet debt service coverage requirements during times of unexpected revenue shortfalls. These shortfalls include, but are not limited to, poor regional economic conditions, increased water conservation, and/or other unforeseen circumstances.

SCOPE:
Pittsburgh Water created the RSF in fiscal year 2020 as a financial best practice. Pittsburgh Water can transfer excess operating revenues into the Fund when revenues are higher than expected within a fiscal year. Any revenue transferred into the Fund will not be counted as net revenues for calculating debt service coverage ratios in the year they are generated. Alternatively, monies transferred out of the fund and into the General Fund within a given year would be counted as net revenues for calculating the debt service coverage ratios.

POLICY:
The RSF will be held as a separate account and segregated from other PWSA funds. The RSF will also be invested and managed consistent with Pittsburgh Water's Investment policy.

The RSF balance will be evaluated annually with the goal of increasing the balance to no less than 10%, with a goal of 15%, of Pittsburgh Water's annual operating revenues (excluding ALCOSAN revenues). Pittsburgh Water shall replenish the Fund over a period no longer than 3 years when the balance falls below 10% of Pittsburgh Water's annual operating revenues.

Transfers from or into the RSF will be assessed annually, contingent upon Pittsburgh Water's financial performance, including operating revenues, expenditures, and reserves. The Director of Finance, or designee, will conduct a review of the financial performance of the prior year in conjunction with the Controller to determine the amount of the transfer. Transfers into the RSF will be made no later than 60 days into the following year. Interest earning are to be allocated to the balances of the RSF and may be utilized for future transfers if needed.

Last Updated: (MM/DD/YYYY)	**Editor:**	**Location of change(s), what was changed, and why:**
03/27/2024	Kevin Pawlos	Original
01/02/2024	Edward Barca	Changed “Pittsburgh Water and Sewer Authority” to “Pittsburgh Water”.
03/25/2025	Kevin Pawlos	Revised target RSF balance 10% of annual operating revenues. Added RSF balance goal of 15%.

Exhibit EB-10

Q. PLEASE SET FORTH THOSE QUESTIONS AND ANSWERS.

A. Certainly. The relevant factors, which can be found in the Commission's regulations,[1] are as follows:

(1) How the ratemaking mechanism and rate design align revenues with cost causation principles as to both fixed and variable costs.

One of the principal benefits of a multi-year rate plan is that it permits a better alignment of fixed and variable costs with revenues. Rates based upon a static test year – even a fully projected future test year – will necessarily diverge from the costs and revenues actually experienced by the utility in subsequent years when the rate award is still in place. Determinations of revenues and expenses in the rate case may be higher or lower than the levels subsequently experienced. A multi-year filing permits a better alignment with the levels of expenses and revenues that are reasonably expected to be experienced in the years following the fully projected test year.

(3) Whether the ratemaking mechanism and rate design reflect the level of demand associated with the customer's anticipated consumption levels.

A multi-year rate plan permits a better alignment with the customer's anticipated consumption level.

(4) How the ratemaking mechanism and rate design limit or eliminate interclass and intraclass cost shifting.

A multi-year rate plan does not have an effect on interclass or intraclass cost shifting.

(7) How the ratemaking mechanism and rate design impact low-income customers and support consumer assistance programs.

Pittsburgh Water's M*ulti-year rate plan proposal will have no impact on its existing low-income customer assistance programs.*

(8) How the ratemaking mechanism and rate design impact customer rate stability principles.

M*ulti-year rate plans provide rate certainty for customers which in turn permits them to plan and facilitates investment in water efficiency measures.*

(10) How the ratemaking mechanism and rate design impact the frequency of rate case filings and affect regulatory lag.

A second major benefit of a multi-year rate plan is that it will dramatically reduce the frequency of rate case filings and regulatory lag.

---

[1] 52 Pa. Code § 69.3302.

Exhibit EB-10

(11) If or how the ratemaking mechanism and rate design interact with other revenue sources, such as Section 1307 automatic adjustment surcharges, 66 Pa.C.S. § 1307 (relating to sliding scale of rates; adjustments), riders such as 66 Pa.C.S. § 2804(9) (relating to standards for restructuring of electric industry) or system improvement charges, 66 Pa.C.S. § 1353 (relating to distribution system improvement charge).

The multi-year rate plan will work in tandem with Pittsburgh Water's existing DSIC or any of the new automatic adjustment clauses Pittsburgh Water is proposing in this case.

(12) Whether the alternative ratemaking mechanism and rate design include appropriate consumer protections.

The revenue requirement in each year of the multi-year rate plan will be set after an examination of Pittsburgh Water's projected revenues, expenses and cash needs in those years. Accordingly, customers will be assured that the rate increases placed into effect will be just and reasonable.

(13) Whether the alternative ratemaking mechanism and rate design are understandable to consumers.

Pittsburgh Water has provided notice to customers of the multi-year rate plan and will provide notices prior to the proposed rate increases being placed into effect. This will assure that customers will be adequately informed of the increase.

(14) How the ratemaking mechanism and rate design will support improvements in utility reliability.

The multi-year rate plan will assure that Pittsburgh Water will have sufficient revenues to fund its operating and capital budgets in each year of the multi-year plan thereby making it more likely that Pittsburgh Water will be able to engage in necessary repairs and maintenance and to continue to modernize water and wastewater systems and to make those systems more reliable.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

DIRECT TESTIMONY OF

BARRY KING, PE

ON BEHALF OF
THE PITTSBURGH WATER
AND SEWER AUTHORITY
d/b/a Pittsburgh Water

Docket Nos.
R-2025-3055010 (Water)
R-2025-3055011 (Wastewater)
R-2025-3055012 (Stormwater)

TOPICS:
Capital Projects – Water Programs

June 4, 2025

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I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND POSITION FOR THE RECORD.

A. My name is Barry King, and I am the Director of Engineering and Construction for Water Drinking Programs for The Pittsburgh Water and Sewer Authority, d/b/a Pittsburgh Water ("Pittsburgh Water").

Q. WHEN DID YOU ASSUME THIS ROLE?

A. I assumed this role in June 2016, filling the role of Interim Director of Engineering and Construction for Pittsburgh Water, and subsequently selected as the permanent Director of Engineering and Construction in April 2019. In January 2025, I was designated the focused role of Director of Engineering and Construction – Drinking Water Programs.

Q. PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND.

A. I earned my Bachelor of Science in Environmental Engineering from Rensselaer Polytechnic Institute. I am actively licensed as a Professional Engineer by the Pennsylvania Bureau of Professional and Occupational Affairs. I also maintain current certifications of Project Management Professional (PMP) with the Project Management Institute (PMI) and Construction Documents Technologist (CDT) with the Construction Specification Institute.

Q. PLEASE PROVIDE A SUMMARY OF YOUR RELEVANT EXPERIENCE.

A. Over the last 30 years, I have been progressively responsible for engineering, design, project management, construction management, leadership, and administration in the fields of water supply, treatment, storage, and distribution; wastewater conveyance and treatment; stormwater management; and other civil/ environmental engineering-related projects and roles within both the public and private sectors. I have served in a range of capacities throughout my career including Director of Engineering and Construction,

Program Manager, Utilities Bureau Chief, Assistant Director of Public Works, Design Manager, Principal Engineer, Project Engineer, Design Engineer, Project Manager, and QA/QC Reviewer. With respect to employment in the public sector, I have over 13 years of experience working directly for water and sewer municipal authorities in primary leadership roles. I also have more than 17 years of experience working in the private sector for engineering consultants (of which more than 4 of those years were spent embedded as a full-time employee in a public water and sewer authority). I am an actively licensed Professional Engineer in the State of Pennsylvania and hold current Professional Engineer licenses in the States of New York, Maryland, and Delaware. I have more than 20 years of experience focused on Water, Wastewater and Stormwater engineering, 5 years of dedicated Utility Program Management, and 5 years of other Civil/Environmental Engineering experience (e.g., geotechnical, transportation, solid waste/recycling, and hazardous materials remediation). With specific respect to water and sewer infrastructure and facilities, I have performed, coordinated, managed, and/or supervised technical studies, evaluations, and site assessments; planning; engineering conceptualization and design; cost estimating; permitting; bidding; construction project management and contract administration; water and sewer rate and fee studies and adoption; conducted public hearings and informational meetings; performed staff management and program administration; supported full proposal/bid procurement processes; and completed consultant and contractor selections.

Q. WHAT ARE YOUR VARIOUS JOB RESPONSIBILITIES WITH PITTSBURGH WATER?

A. Since April 2015, I have been involved in the daily budgeting, planning, design and construction of Pittsburgh Water's infrastructure projects, as well as coordinating staff

and consultant activities. I utilize my extensive hands-on experience in the field of water programs to manage Pittsburgh Water's engineering and construction endeavors. Since January 2025, I have directed my focus on both the design and construction of Pittsburgh Water's drinking water-related infrastructure.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION ("PUC" OR "COMMISSION")?

A. Yes. In Pittsburgh Water's base rate case in 2020 at Docket Nos. R-2020-3017951 and R-2020-3017970, I submitted Direct Testimony on March 6, 2020, Supplemental Direct Testimony on May 15, 2020 and Rebuttal Testimony on August 18, 2020. In Pittsburgh Water's base rate case in 2021 at Docket Nos. R-2021-3024773, R-2021-3024774 and R-2021-3024779, I submitted Direct Testimony on April 13, 2021, Rebuttal Testimony on July 28, 2021 and Rejoinder Testimony on August 10, 2021. Further, I presented written Direct, Supplemental Direct, Rebuttal and Rejoinder testimony in support of Pittsburgh Water's most recent rate case at Docket Numbers R-2023-3039920 (water), R-2023-3039921 (wastewater), and R-2023-3039919 (stormwater).

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to:

1) describe Pittsburgh Water's Capital Improvement Plan ("CIP") for drinking water, with an emphasis on the total capital requirements for water programs of over $924 million for fiscal years 2025-2029;

2) explain the impact of increasing the water Distribution System Improvement Charge ("DSIC") percentage from 5% to 7.5%;

3) support Pittsburgh Water's multi-year rate request; and

4) provide updates regarding prior rate case settlement commitments.

II. OVERVIEW OF WATER PROGRAMS: TREATMENT, PUMPING, TRANSMISSION, STORAGE, AND DISTRIBUTION

Q. PLEASE PROVIDE AN OVERVIEW OF PITTSBURGH WATER'S DRINKING (POTABLE) WATER INFRASTRUCTURE.

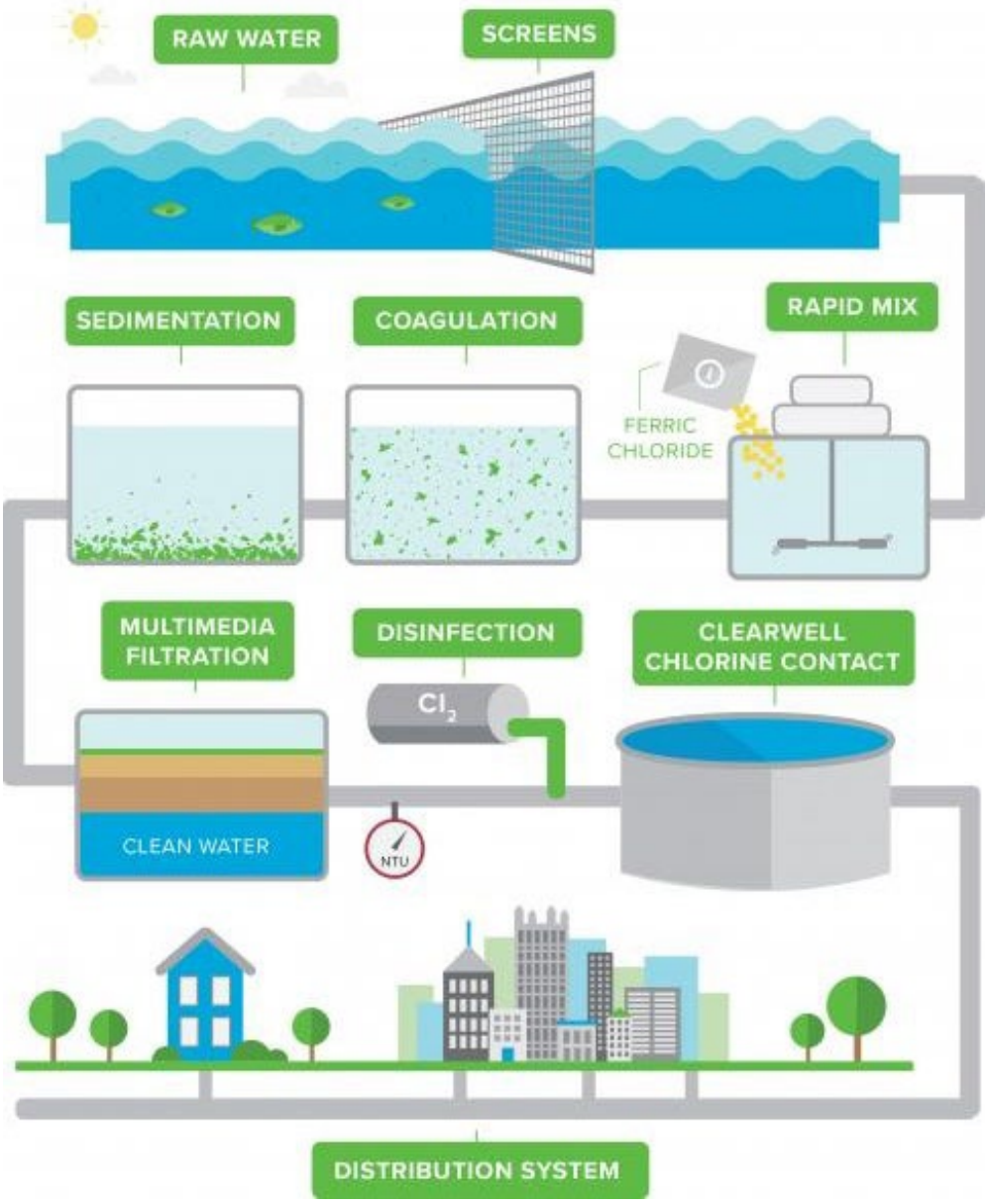
A. Pittsburgh Water's drinking water supply system consists of infrastructure for the treatment, pumping, transmission, storage, and distribution of water.

Water Treatment Overview: Pittsburgh Water's water treatment system consists of a 117 million gallon per day ("MGD") hydraulic capacity water treatment plant ("WTP"), with a current fifty-year Water Allocation Permit (Permit No. WA-131A, dated April 4, 1989) to withdraw up to 100 MGD of raw water from the Allegheny River. This is Pittsburgh Water's only currently active WTP, identified as the Pittsburgh WTP ("PWTP"), located at 900 Freeport Road, Pittsburgh, Allegheny County, PA 15238. Raw water withdrawals (an average of 64.8 MGD [million gallons per day] in calendar year 2024) come solely from the Allegheny River via one of two intakes on the north riverbank, identified as the West and East Raw Water Intakes.

Water Treatment Process at PWTP: The three-day water treatment process performed at the PWTP consists of: 1. screening (via two traveling water screens), 2. clarification (coagulation and flocculation [via four clarification basins]), 3. sedimentation (via three sedimentation basins), 4. filtration (via eighteen [18] dual cell high-rate dual media [a coarse layer of crushed anthracite coal underlain by a finer layer of silica sand] filters), and 5. disinfection (via the Filtered Water Clearwell Reservoir ("clearwell",). Chemical additions are made at specific points in the treatment process, including coagulants (ferric chloride [after the screens], sodium permanganate [after the intakes], cationic polymers [before both the clarifiers and the filters], powdered activated carbon [before the clarifiers]), pH adjusters (lime [before the clarifiers] and soda ash

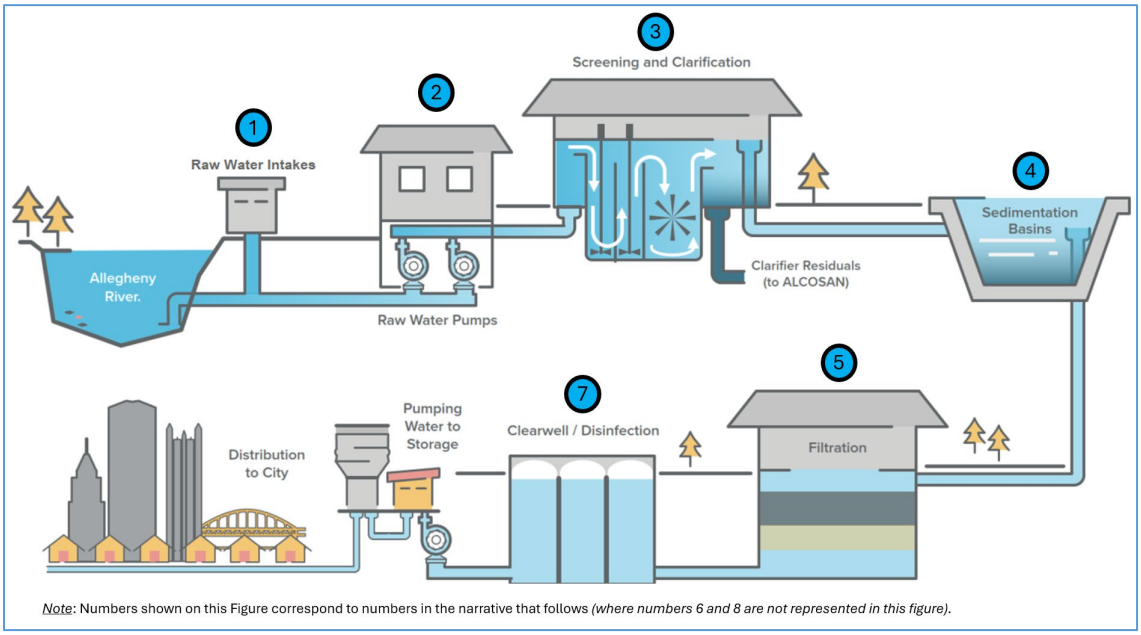
[before the clearwell]), disinfectant (sodium hypochlorite [before and after the filters]), and fluoride (hydrofluosilicic acid [before the clearwell]). Figure A below illustrates a general overview of the water treatment process performed at the PWTP.

Figure A. PWTP Water Treatment Processes:



Water Treatment Infrastructure at PWTP: The general path that raw water withdrawn from the Allegheny River takes through the PWTP infrastructure is represented in Figure B below, where the numbers correspond to the references in the narrative that follows Figure B:

Figure B. Path of Water through PWTP's Major Infrastructure, by Process:

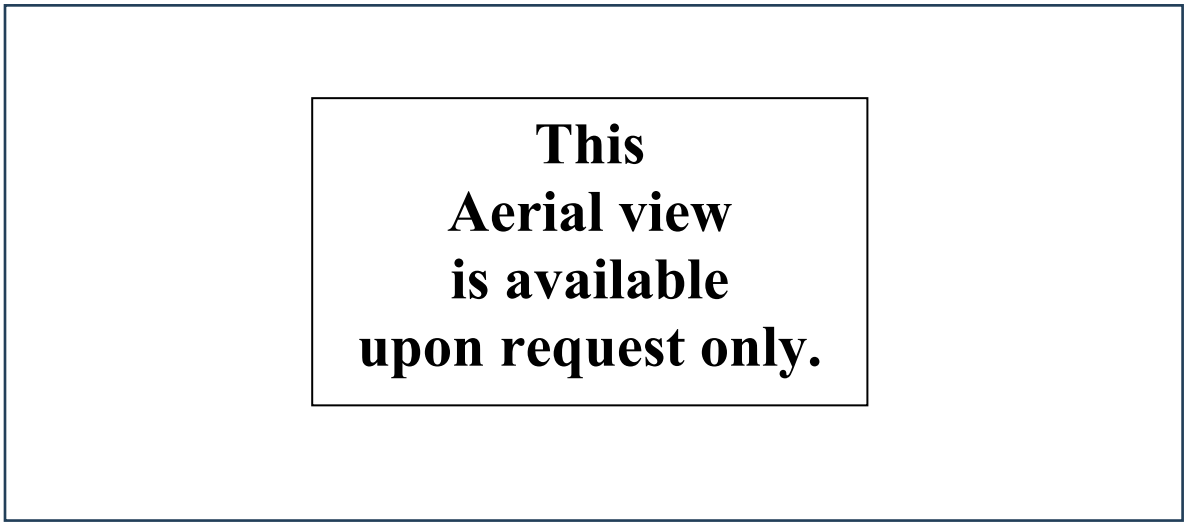


Raw water entering the PWTP via the **(1.) Raw Water Intakes** flows through large diameter conduits (ranging from 72-inch x 84-inch up to 120-inch diameter) to the **(2.) Ross Pump Station**, where it is pumped by one (or more) of the five pumps (with individual rated capacities from 50 up to 120 MGD) through a 96-inch conduit to the Traveling Water Screens located in the **(3.) Clarifier Building**. This initial pumping is the only time the water is pumped (lifted) during the entire treatment process, where it flows by gravity throughout the remainder of the three-day water treatment process. Continuing through the Clarifier Building, screened water is treated with ferric chloride, which then passes through flash mixers, where additional treatment chemicals (e.g., hydrated lime, cationic polymer, and powdered activated carbon) are added. Water then

passes into a common flume and into one of the four Clarifier Basins [with a combined 100 MG capacity]. Within the basins, flocculation is achieved by mechanical agitation of the water, passing cross-flow through slow-rotating (motor-driven) horizontal-shaft paddle wheel flocculators. This agitation helps the smaller particles (flocs) that formed (clumping together) due to the chemical additions of ferric chloride and cationic polymers in the flash mixers to form larger flocs that settle to the bottom of the basins. Clarified water passes from the Clarifier Building via a 96-inch dia. rising main, running north, passing under railroad tracks, Freeport Road and the Waterworks Mall, and discharges into the **(4.) Sedimentation Basins** (located south of Pennsylvania Route 28). Clarified water flows into the Central Receiving Basin and into either the West or East Sedimentation Basin. These three basins have a combined capacity of 120 MG. Settled water passes from the West and East Sedimentation Basins via 84-inch dia. conduits that combine into a single 96-inch dia. settled water conduit that flows south back under the Waterworks Mall, Freeport Road, and railroad tracks, and enters the **(5.) Filter Building**. Prior to entering the Filters, the water is dosed with sodium hypochlorite and cationic polymer and then passes into one of the eighteen [18] dual-cell high-rate dual-media filters, flowing through a 15-inch layer of crushed anthracite coal and a 12-inch layer of silica sand. Upon exiting the filters, the filtered water is again treated with sodium hypochlorite, subsequently flowing via the 96-inch dia. filtered water conduit to the **(6.) Inlet Gate House**. Before entering the Inlet Gate House, the filtered water is treated with fluoride (hydrofluosilicic acid), after which it enters a vault beneath the Inlet Gate House, where it is treated with soda ash. Subsequently, the treated filtered water passes into the **(7.) Clearwell**, with a 44.5 MG capacity, where it achieves the necessary regulatory

contact time for full disinfection, referred to as "CT". The duration for CT for the PWTP's Clearwell is approx. 8 hours. It is at this point, at the west end of the Clearwell, that the water has reached the end of the three-day treatment process, where the finished (treated, potable) drinking water exits the Clearwell via the **(8.) Outlet Gate House.** This is the point where the treated water has completed the full treatment process, leaving the treatment infrastructure, which is identified as the regulatory "Point of Entry" ("POE"), where it officially enters the pumping, transmission, storage, and then distribution systems. An aerial view of the major water treatment infrastructure along with the interconnecting piping and conduits is presented as the light blue linework in Figure C below, where the numbers correspond to the references in the narrative prior.

Figure C. PWTP's Major Treatment Infrastructure and Interconnecting Piping:



Pumping, Transmission, and Storage Infrastructure: Finished water passing from the Outlet Gate House flows by gravity to the two finished water pumping stations, either the **(9.) Aspinwall Pump Station** (located at the PWTP, between the Filter Building and Clearwell) via an **(11.) 84-inch dia. conduit** that passes through the bottom

of the Clearwell, or the **(12.) Bruecken Pump Station** (located at the Brilliant Yard on the south bank of the Allegheny River) via **(13.) dual 72-inch conduits** that pass under the Allegheny River.

Finished water entering the Aspinwall Pump Station is pumped by one (or more) of the four pumps (with individual rated capacities from 12 up to 28 MGD) through the large dia. (60-inch) approx. 4-mile long **(14.) Lanpher Rising Main** (which runs through the Boroughs of Aspinwall, Etna, and Sharpsburg; Shaler Township; and Pittsburgh), suppling drinking water to the 133 MG **(15.) Lanpher Reservoir**, which is situated in Shaler Township The Lanpher Reservoir supplies drinking water to the **Lanpher Supersystem**, (*area shown in Figure G below*) which routinely services customers north of the Allegheny and Ohio Rivers, as well as Millvale, supplying roughly 25% of the average day demand *(calendar year 2024)* of the overall distribution system.

Finished water that supplies the balance of Pittsburgh Water's service area enters the Bruecken Pump Station, where it is routinely pumped by one (or more) of the three pumps (each with individual rated capacities of 28 MGD) through one or both of the two large dia. (48- to 60-inch) rising mains [**(16.) Rising Main No. 1** or **(17.) Rising Main No. 2**] to the **Highland No. 1 Supersystem** (*area shown in Figure G below*), supplying roughly 48% of the average day demand of the overall distribution system. Bruecken Pump Station also routinely pumps via one (or more) of the three pumps (each with individual rated capacities of 24 MGD) through one or both of the two large dia. (42- to 50-inch) rising mains **[(18.) Rising Main No. 3 or (19). Rising Main No. 4**] to the 125 MG **(20.) Highland Reservoir No. 2**. The Highland Reservoir No. 2 supplies drinking water to the **Highland No. 2 Supersystem** (*area shown in Figure G below*), which

routinely services customers in portions of Squirrel Hill, Downtown, South Side, and the West End, supplying roughly 27% of the average day demand of the overall distribution system. Aerial views of the major water pumping infrastructure and transmission mains are shown in Figures D and E below, where the numbers correspond to the references in the narrative prior.

Figure D. Finished Water Pumping Stations and Transmission Mains:

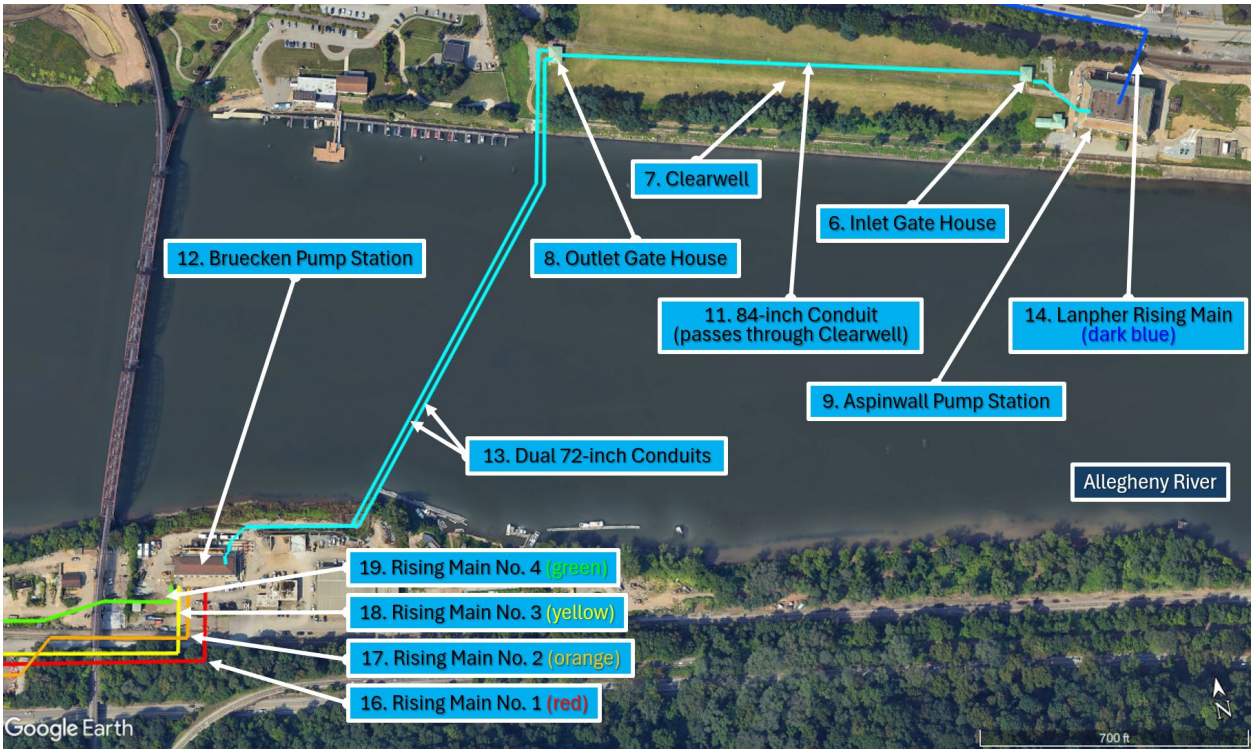
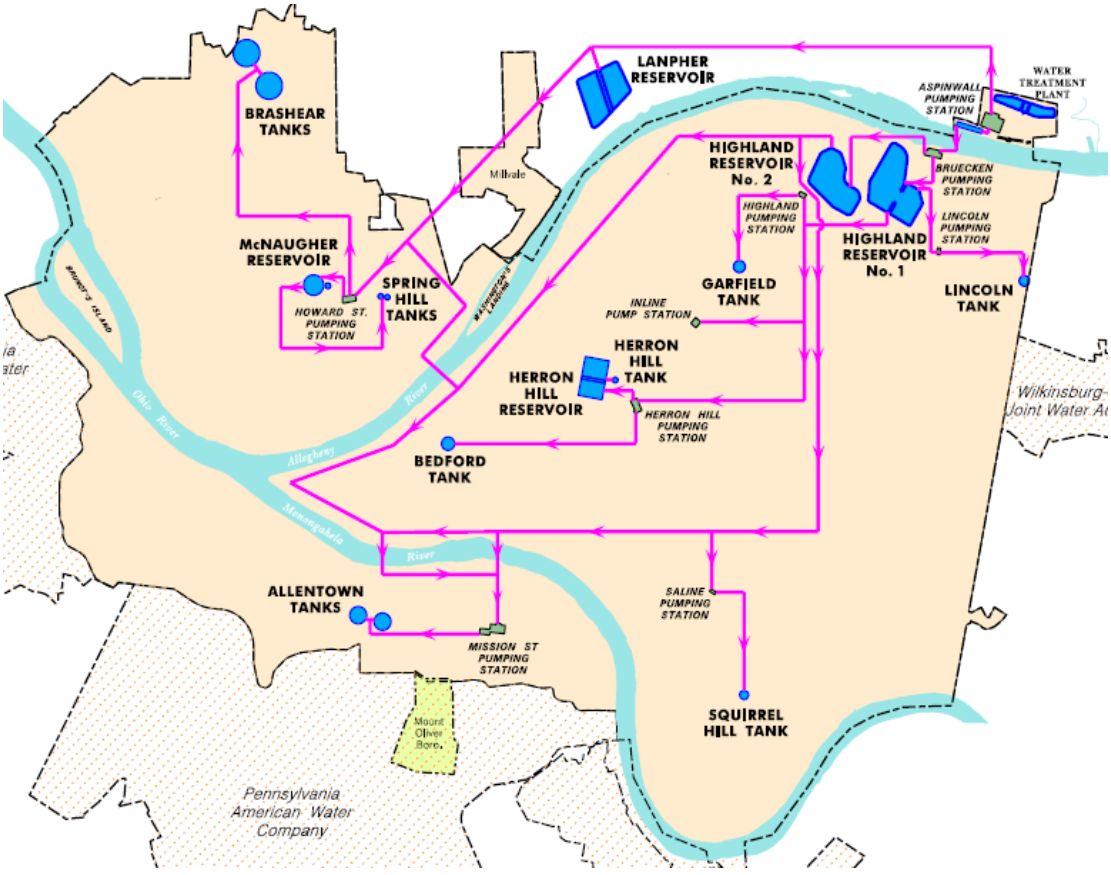


Figure E. Finished Water Pumping Stations, Transmission Mains, and Reservoirs:



Figure F below provides a general overview of the naming and location of all the Pumping and Storage facilities throughout the city, with the piping connectivity between the infrastructure shown roughly for the transmission and distribution mains.

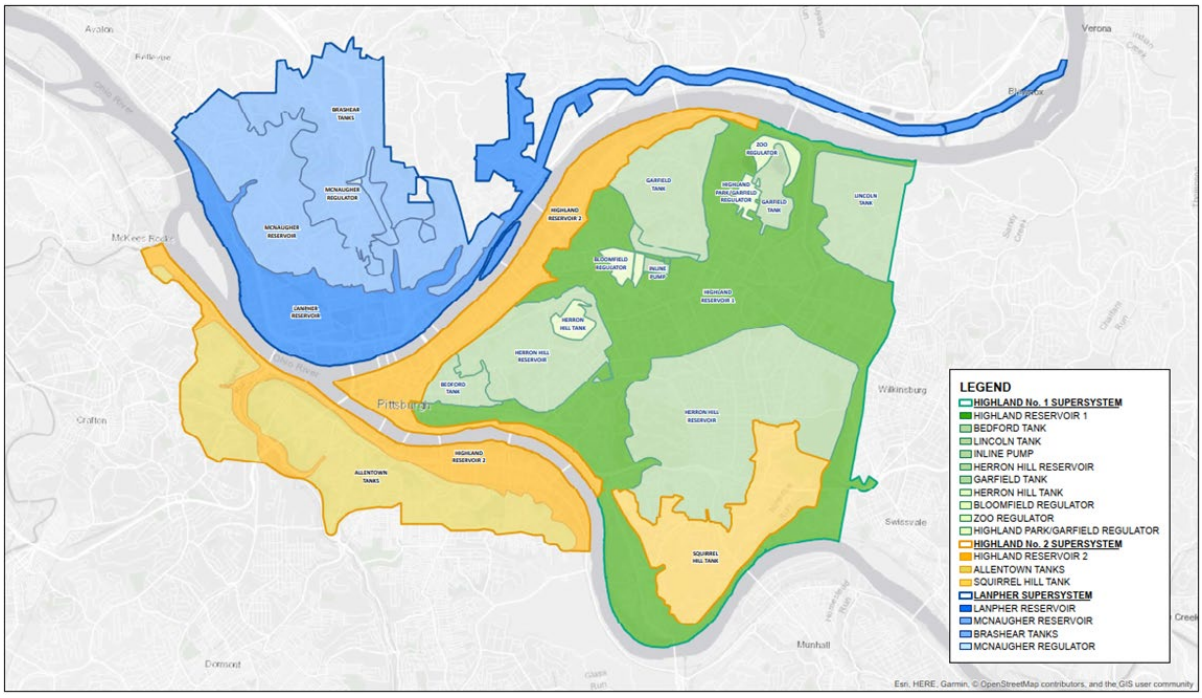
Figure F. Overview of the Pumping, Storage, and Transmission System:



Distribution Infrastructure: Given the challenging topography of the City of Pittsburgh, and technology of the day that was available when the primary water distribution system was constructed at the turn of the 20th century, a total of eighteen (18) pressure zones were ultimately employed to effectively distribute drinking water throughout Pittsburgh's neighborhoods and industries. With a growing population and expanding physical boundary, reservoirs and pumping stations were added as necessary to service the needs within the respective areas.

Pittsburgh Water's overall Water Distribution System consists of three (3) primary pressure gradients, which Pittsburgh Water references as "Supersystems", which includes the Lanpher Supersystem, the Highland No. 1 Supersystem, and the Highland No. 2 Supersystem, as shown in Figure G below.

Figure G. Water Distribution Supersystems and Pressure Areas:



Water from the finished water High Service Pump Stations (Aspinwall Pump Station and Bruecken Pump Stations), along with stored water from the Highland

Reservoir No. 2 and Lanpher Reservoirs, is distributed into the corresponding Supersystem (see Figure G above), where it goes through a series of progressively smaller distribution pipes, secondary pumping stations and secondary storage facilities, and into the distribution pipes and service lines that supply the customer homes and businesses with drinking water.

This Water Distribution System consists of 950 miles of water main, 11 finished water pump stations, 4 reservoirs, 9 chlorine booster stations, more than 81,000 service lines, approx. 26,989 line valves, more than 7,450 fire hydrants (not including private), twelve pumping stations (one raw water, two finished water, and eight distribution pump stations), four covered-finished water reservoirs (with one additional, uncovered reservoir that is no longer used source-water [Highland No. 1 Reservoir]), and ten storage tanks. Pittsburgh Water maintains disinfection facilities at the PWTP, as well as ten chlorine booster stations throughout the distribution system, including booster stations at three reservoir sites and six tank sites.

Q. ARE YOU SPONSORING ANY EXHIBITS?

A. Yes. I am sponsoring the following exhibits:

1) **Exh. BK-1:** Exhibit BK-1, which is the 2019 Consent Order and Agreement ("2019 COA") issued by the Pennsylvania Department of Environmental Protection ("DEP") [dated September 6, 2019]

2) **Exh. BK-2:** Exhibit BK-2, which is DEP's COVID Extension Letter;

3) **Exh. BK-3**: Exhibit BK-3, which is DEP's First Amendment of the 2019 COA [dated May 7, 2021];

4) **Exh. BK-4**: Exhibit BK-4, which is DEP's Second Amendment of the 2019 COA [dated August 4, 2022]; and

5) **Exh. BK-5:** Exhibit BK-5, which is the 2024 Consent Decree ("2024 CD"), an Order of the Commonwealth Court of Pennsylvania, entered into between the DEP and Pittsburgh Water through a Joint Motion for Entry of Consent Decree (superseding the 2019 COA and its associated amendments) DEP [dated September 6, 2024]

Exh. BK-6: Exhibit BK-6, which is DEP's 2019 COA Closure Letter

III. CAPITAL PROJECTS

(A) General Overview

Q. WHAT IS PITTSBURGH WATER'S CAPITAL IMPROVEMENT PLAN ("CIP")?

A. Pittsburgh Water's CIP is a five-year plan identifying the planning schedule and costs for required capital projects related to the rehabilitation, replacement, or construction of new infrastructure, facilities, as well as equipment purchases. Projects included in the CIP are typically (but not always) of a nonrecurring nature that are expected to have an estimated service life of at least one year and exceed the cost of $10,000.

Q. HOW IS PITTSBURGH WATER'S CIP ORGANIZED?

A. Pittsburgh Water's five-year CIP is organized into six project classes: 1) Water Treatment Plant; 2) Water Pumping and Storage; 3) Water Distribution System (including lead service line replacements); 4) Wastewater System; 5) Stormwater System; and 6) Miscellaneous. The project class designated as "Miscellaneous" consists of Utility Cost Shares, Capital Project Reclassification, and New Headquarters and Operations Facility. Each project class is then made up of individual projects, which are defined based upon current information and range from annual allowances for asset renewal and/or replacement activities to major, multiple phase facility renewal projects. Pittsburgh Water undertakes the same general programmatic approach for identifying, planning, designing, and constructing drinking water capital projects as it undertakes for wastewater and stormwater capital projects.

My testimony will address the CIP overview; overall vision for the CIP; project identification, evaluation criteria, and prioritization processes for all six project classes; a

review of funding sources; followed by a focus on the drinking water program related project classes of Water Treatment Plant; Water Pumping and Storage; and Water Distribution System. Mrs. Mechler's direct testimonies will address the wastewater and stormwater programs in detail.

Q. PLEASE PROVIDE A GENERAL OVERVIEW OF PITTSBURGH WATER'S CURRENT APPROVED CIP.

A. As a result of about 30 years of little to no investment in our water, sewer and stormwater systems, Pittsburgh Water's CIP focuses on restoring and sustaining cost-effective operations that comply with all regulatory requirements, while optimizing the system's asset performance and life expectancy in accordance with accepted utility metrics. The 2025-2029 CIP, approved by the Pittsburgh Water Board of Directors on December 20, 2024, invests in programs that balance risk and consequence of asset failure and levels of service benefits, with overall customer affordability.

Q. PLEASE DESCRIBE YOUR OVERALL VISION FOR PITTSBURGH WATER'S WATER SYSTEMS.

A. My vision for Pittsburgh Water is to build a sustainable program of operation, maintenance and capital activities and investments to sustain the uninterrupted performance of safe, affordable and manageable water systems for the City of Pittsburgh and surrounding populations. Pittsburgh Water needs to restore full operational resiliency and redundancy of our water systems to meet our current and future challenges and regulations. Pittsburgh Water's Engineering and Construction Department recognizes that we are responsible for providing our customers with safe, reliable, and uninterrupted water services that are in full compliance with quality and regulatory requirements. We continue striving to build a team of dedicated Engineers, Scientists, and Project Managers to solidify a strong, competent, effective and stable work force with the requisite

education, initiative and innovation to undertake this work either directly or as project managers, and identify projects that balance the cost of the project, ensuring just and reasonable rates, with the scope and outcome of the project. We will continue to embrace technology, where appropriate and cost effective. With a considerable number of significant, complex, and large-scale projects required over the next 5 to 7 years, we will seek to build the necessary technical and skilled workforce to undertake projects, and to complement the responsibilities and actions of other Pittsburgh Water Departments.

Q. PLEASE EXPLAIN PITTSBURGH WATER'S PROCESS TO IDENTIFY CAPITAL PROJECTS THAT NEED TO BE COMPLETED.

A. This response is the consistent approach to identifying capital projects needed across each of the six primary project classes (Water Treatment Plant; Water Pumping and Storage; Water Distribution System; Wastewater System; Stormwater System; and Miscellaneous classes).

As explained further in Mr. Barca's testimony, Pittsburgh Water's CIP process begins each year around the second quarter when project nominations are solicited and existing project cash flow projections are requested from the entire organization. At the completion of the nomination/request period, a CIP Review Committee screens, evaluates, and prioritizes the projects that should be included in the upcoming CIP. Further planning efforts consist of the preparation of a Project Sheet for each project, which provides more detailed information on a project's potential scope (including description); justification; risks; expected schedule (start and end dates); preliminary cost estimate; assumed operating budget impacts; and selection criteria the project is associated with. It also includes estimates of the number of customers impacted, and which neighborhoods are impacted. This process lasts several months and ultimately

leads to the approval from Pittsburgh Water's Board of Directors before the end of the fiscal year. Projects not selected for execution at any stage will be reassessed during next year's CIP development process.

Q. WHAT CRITERIA ARE USED TO EVALUATE AND PRIORITIZE CAPITAL PROJECTS?

A. Due to funding limitations and the need to renew or replace a significant amount of aging infrastructure, Pittsburgh Water's CIP Review Committee uses the following criteria to evaluate and prioritize capital projects:

1) **Regulatory Compliance** – Ranking a project's relative importance for maintaining current compliance levels or mitigating future compliance impacts;

2) **Quality of Service** – Ranking a project's role in maintaining or improving current quality of services;

3) **Safety** – Ranking a project's relative importance in maintaining or improving employee or public health & safety; the relative impact of failing to complete the project has on health and safety;

4) **Risk of Failure** - Ranking a project's probability of failing if not replaced or improved;

5) **Security** - Ranking a project's relative impact on physical security measures to protect or fortify infrastructure;

6) **Social Impact** – Ranking a project's relative importance to customer quality of life, environmental justice areas, and number of customers impacted, etc.

Q. WHAT ARE PITTSBURGH WATER'S FUNDING SOURCES FOR ITS CIP?

A. Pittsburgh Water's CIP is funded through several primary sources to which specific programs and projects are allocated. These capital project funding sources for Capital works (both projects and equipment purchases) include, but are not limited to:

1) **Debt (Revenue Bonds)** – Funding secured by municipal bond issuances to pay down the capital line of credit, which is used to interim fund certain capital projects;

2) **Debt (Project Fund)** – Funding secured by issuing debt instruments, such as revenue bonds or loans, securing the necessary capital earmarked for the expenses related to planning, implementing, and completing capital projects;

3) **Distribution System Improvement Charge ("DSIC")** – Funding secured directly from DSIC collections via customer water and wastewater conveyance bills. Pittsburgh Water is required to report on both collections and expenses of DSIC charges to the Pennsylvania Public Utilities Commission ("PUC") quarterly to ensure transparency and accountability are maintained. Pittsburgh Water must spend an amount equal to, or greater than, the DSIC revenue collected annually. Pittsburgh Water has an approved Long Term Infrastructure Improvement Plan that sets out specific yearly projections of distribution improvements that may be financed through the DSIC;

4) **Pennsylvania Infrastructure Investment Authority ("PENNVEST")** – Funding secured through low-interest loans and grants through an independent state agency that addresses funding needs for clean water and drinking water improvements for municipalities and other eligible entities, to finance the construction, improvement, or expansion of water and wastewater treatment facilities, stormwater management projects, and drinking water distribution systems;

5) **Water Infrastructure Finance and Innovation Act ("WIFIA")** – Funding secured through long-term, low-cost loans through a federal loan and guarantee program administered by the United States Environmental Protection Agency (EPA) for eligible water, wastewater, and stormwater infrastructure projects.

6) **American Rescue Plan Act ("ARPA")** – The City of Pittsburgh allocated $17 million and $500,000 of their State and Local Fiscal recovery Funds (SLFRF) authorized by the American Rescue Plan Act to Pittsburgh Water for neighborhood lead service line replacement and a wastewater lateral replacement and repair pilot program respectively. Note, during 2024, the City of Pittsburgh re-allocated the $500,000 originally intended for the wastewater lateral replacement and repair program for non-Pittsburgh Water initiatives. This funding must be obligated no later than December 31, 2024, and spent by December 31, 2026;

7) **City of Pittsburgh** – Funding secured by existing cost-share agreements where the City of Pittsburgh has agreed to pay for a portion of project costs; and

8) **Private Grants** – Funding from any other external funding source not listed above. This includes but is not limited to ALCOSAN Green Revitalization of Our Waterways ("GROW") grants, Department of Community and Economic Development (DCED) funds, The Heinz Endowments, R.K. Mellon Foundation, etc.

Pittsburgh Water is dedicated to identifying and pursuing funding from all potential sources to offset planned capital investments. More detail about funding is set forth in the direct testimony of Ed Barca, Director of Finance.

Q. PLEASE DESCRIBE THE INFORMATION THAT IS PROVIDED FOR EACH PROJECT IDENTIFIED IN THE CIP.

A. Each project is identified by type (project class) and a descriptive name given to it. Other information includes the project description (*including intent and scope of work*), current phase (*in the project's life cycle, e.g., design, construction*), priority (*applicable prioritization criteria categories*), project justification (*detailed explanation as to why the project is needed*), risk(s) [*list of the risks to Pittsburgh Water if the project is delayed or not funded*], impact on Operations (*anticipated impact on Operations when the project is completed*), DSIC eligibility (d*etermination of whether costs qualify under the DSIC*), estimated five-year cash flow summary, and proposed funding source(s) (*per source per year*). Once approved and opened in our project management software, unique project numbers are assigned to track the project from inception to completion.

Q. DID PITTSBURGH WATER ACHIEVE THEIR ANNUAL CAPITAL SPENDING AS PROJECTED IN THE 2024 CIP?

A. The Capital Spending for FY 2024 was in excess of $203 million, exceeding the projection for FY 2024 in the 2024 CIP, a record-setting level for Pittsburgh Water:

(B) CIP for Fiscal Years 2025-2029

Q. FOR THE CAPITAL PROJECTS APPROVED BY THE BOARD, WHAT IS PITTSBURGH WATER'S TOTAL CAPITAL REQUIREMENT FOR THE CIP FOR FISCAL YEARS 2025-2029?

A. The total capital requirement for all six project classes for Fiscal Years 2025-2029 is approximately $1.174 billion. This amount is broken out by project class and by fiscal

year, as shown on page 20-21 of the CIP. As shown Figure H in the table below, the capital requirements by fiscal year under the 2025-2029 CIP are:

Figure H. Capital Requirements

	2025-2029 CAPITAL PLAN					5 YEAR TOTAL
	FY2025	FY2026	FY2027	FY2028	FY2029	
Project Category						
Water Treatment Plant	$17,534,390	$22,116,205	$5,059,256	$2,084,190	$7,960,735	$54,754,776
Water Pumping & Storage	$69,968,434	$97,542,544	$103,072,979	$57,549,081	$0	$328,133,038
Water Distribution	$144,477,239	$152,141,343	$152,109,812	$31,934,822	$60,749,512	$541,412,728
Wastewater System	$49,401,152	$48,569,270	$18,845,643	$12,956,679	$31,296,112	$161,068,856
Stormwater	$29,489,958	$7,580,760	$1,999,779	$1,333,333	$169,014	$40,572,844
Miscellaneous	$12,558,165	$16,250,000	$6,265,500	$6,250,000	$6,250,000	$47,573,665
PROJECT CATEGORY TOTAL	**$323,429,338**	**$344,200,122**	**$287,352,969**	**$112,108,105**	**$106,425,373**	**$1,173,515,907**

Q. PLEASE IDENTIFY THE PROJECTS THAT HAVE BEEN APPROVED.

A. The entire list of projects approved by the 2025-2029 CIP are listed on pages 20-21 of the 2025-2029 CIP, which is attached to Mr. Barca's testimony as Pittsburgh Water Exhibit EB-4, and is available electronically here.

Q. IS A PORTION OF PITTSBURGH WATER'S 2025-2029 CIP INCLUDED IN ITS CURRENT LTIIP?

A. Yes. Pittsburgh Water's projected DSIC-eligible construction expenditures are set out in its current LTIIP, which covers the period 2023-2027 and which was approved by the PUC in 2023.[1]

Q. CAN YOU EXPLAIN THE IMPACT OF INCREASING PITTSBURGH WATER'S WATER DSIC CAP FROM 5% TO 7.5%?

A. Yes. As defined in Pittsburgh Water's LTIIP water DSIC proceeds currently fund all or a portion of the water relay, urgent lead service line, valve, and small diameter water main replacement projects. Increasing the DSIC cap to 7.5% will generate an additional $6.5 million in the FPFTY and $986,051 in FY 2027 that can be used to increase the amount

[1] Docket No. P-2022-3035953 (Water Operations) and Docket No. P-2022-3035956 (Wastewater Operations), Opinion and Orders entered January 12, 2023.

of work completed under these projects. This could result in an additional 5,400 of linear feet of small diameter water main replaced in FPFTY and 820 linear feet of small diameter water main replaced in FY2027. The table below shows the amount of projects that are scheduled to be funded at the current 5% DSIC level and what could be funded if the cap increase is approved.

	FY 2023 Actual	FY 2024 Actual	FY 2025 Forecast	FY 2026 FPFTY	FY 2027 Forecast
DSIC %	5%	5%	5%	7.50%	7.50%
DSIC - Water	6,085,475	7,501,070	7,698,497	13,903,179	14,889,230
DSIC - Wastewater	2,398,517	2,778,700	2,793,652	4,995,365	5,381,850
Total	**8,483,992**	**10,279,770**	**10,492,149**	**18,898,544**	**20,271,080**

	FY 2023 Actual	FY 2024 Actual	FY 2025 Forecast	FY 2026 FPFTY	FY 2027 Forecast
DSIC %	5%	5%	5%	5%	5%
DSIC - Water	6,085,475	7,501,070	7,698,497	7,698,497	7,698,497
DSIC - Wastewater	2,398,517	2,778,700	2,793,652	2,793,652	2,793,652
Total	**8,483,992**	**10,279,770**	**10,492,149**	**10,492,149**	**10,492,149**

Q. CAN YOU EXPLAIN THE IMPACT OF THE APPROVAL OF A MULTI-YEAR FUNDING REQUEST?

A. It should be noted that as a result of the uncertainty surrounding the approval of a necessary rate increase, the CIP was necessarily decreased in FY 2027, FY 2028, and FY 2029 as compared to the 2024-2028 CIP. The process of pulling back on the level of production and accomplishment in the rehabilitations and replacements of aging infrastructure results in inefficiencies in performing the planning, design and construction of the needed critical Capital work. To this end, the approval of multi-year rate increases is beneficial for Capital Programs of this magnitude due to the certainty and consistency that sufficient funding allows, enabling effective planning and execution of critical programs. A stop-and-go approach to the larger-scale projects in Pittsburgh Water's CIP

will have clear negative implications for the effective and efficient implementation of the work, which results in the need to spend more Operational funds to keep the legacy and deteriorating systems functional.

(C) Prioritization of Capital Projects

Q. HOW DOES PITTSBURGH WATER PRIORITIZE ITS CAPITAL PROJECTS?

A. Pittsburgh Water uses the aforementioned criteria --1) Regulatory Compliance; 2) Quality of Service; 3) Safety; 4) Risk of Failure; 5) Security; and 6) Social Impact -- to evaluate and prioritize capital projects, except when a legal mandate has been issued. Pittsburgh Water prioritizes its capital projects based on legal mandates such that it places the highest priority on non-negotiable regulatory requirements. Several negotiated agreements with DEP and DEP directives have established Pittsburgh Water's Capital Project priorities in recent years, which I discuss in detail below. The 2019 COA has since been renegotiated and ordered as the 2024 CD (attached as Exhibit BK-5), which is currently active and is scheduled to remain in force for approximately 9 years (through 2034). In 2017, DEP alleged compliance issues, which ultimately resulted in issuance of an administrative order and entry into a consent order and agreement. Both of those documents, which resulted in several significant Capital Projects and which have been successfully resolved and closed out, are also discussed below.

By way of background for Pittsburgh Water's current obligations, DEP's September 6, 2019 COA ("2019 COA") triggered significant Capital Project obligations. The 2019 COA, which is attached as Exhibit BK-1, fully resolved a DEP investigation and avoided litigation. The 2019 COA had been administratively amended initially via letter to grant extensions in the milestones as a result of COVID-related impacts, attached as Exhibit BK-2 (DEP's COVID Extension Letter), followed by the DEP's First

Amendment of the 2019 COA, dated May 7, 2021, attached as Exhibit BK-3, and DEP's Second Amendment of the 2019 COA, dated August 4, 2022, attached as Exhibit BK-4. Most recently, the 2019 COA was renegotiated by DEP and Pittsburgh Water as the 2024 CD dated September 6, 2024, which was authorized as an Order of the Commonwealth Court of Pennsylvania ("Court"). This superseded the 2019 COA, replacing it and its associated amendments. Under the 2024 CD, the Court retains jurisdiction over the parties and subject matter of the 2024 CD until compliance is achieved. In superseding the 2019 COA, the 2024 CD provides timelines and requirements for the completion of all remaining Capital Projects that had yet to be completed under Pittsburgh Water's "Water Reliability Plan" ("WRP") at the time of the ordering of the 2024 CD (September 6, 2024). A summary of the obligations (capital projects) completed under the 2019 COA and the outstanding obligations required under the 2024 CD are discussed in subsequent responses below.

Note, other major obligations associated with the two 2017 DEP documents have been completed and fulfilled. The administrative order and the COA from 2017 were closed out on June 17, 2020 and May 5, 2025, respectively, and can be summarized as follows:

> 1) On **October 25, 2017**, DEP issued an **Administrative Order** ("**2017 AO**" or "**Safe Drinking Water Order**"), requiring Pittsburgh Water to address the following items: (a) installation of ultraviolet (UV) disinfection at the Membrane Filtration Plant ("MFP") as a condition to reinstate operation of Highland No. 1 Reservoir; (b) replace the cover and liner of the Lanpher Reservoir; (c) address reliability deficiencies at the Bruecken Pump Station; (d) install pressure sensors in the distribution system; and (e) establish a schedule for other capital improvements to the system. Pittsburgh Water completed all required actions to resolve all stipulated items in this Safe Drinking Water Order on or before June 17, 2020, closing-out the 2017 AO. The MFP improvements project was completed in June 2020, having received the Public Water Supply Operating Permit on June 17, 2020. The MFP was restored to full operation on September

14, 2020. The Lanpher Reservoir cover and liner replacement were completed in June 2019, receiving the Public Water Supply Operating Permit on June 19, 2019. The Bruecken Pump Station Standby Power Generators were installed and commissioned on April 21, 2020. The installation of the 24 continuous recording pressure monitors, located throughout the Pittsburgh Water distribution system (System) was completed on July 8, 2018. Finally, the full detailed listing of Capital Improvement Projects (CIP) was provided to DEP on January 23, 2018, with a presentation on the CIP conducted for DEP and EPA staff on January 23, 2018 in Harrisburg PA. Additionally, to comply with the Commission's regulations at 52 Pa. Code §65.6(b), Pittsburgh Water completed the installation of an additional 37 pressure monitors on January 21, 2021, ensuring that there is at least one (or more) continuous recording pressure monitors in each separate pressure zone throughout the Pittsburgh Water Distribution System, with a total of more than 61 continuous recording pressure monitors now operational throughout Pittsburgh Water's system.

2) On **November 17, 2017**, DEP issued a **COA** ("**2017 COA**") addressing directives relating to the implementation of Corrosion Control, the completion of Lead Service Line Replacements, and performance of Water Quality Parameter monitoring throughout Pittsburgh Water's service area. Pittsburgh Water has fulfilled all obligations and requirements under the 2017 COA and was notified by letter from the DEP dated May 7, 2025 that the COA is closed. This letter is attached as Exhibit BK-6.

Q. CAN YOU DISCUSS THE ORIGIN AND OVERVIEW OF THE WATER RELIABILITY PLAN ("WRP")?

A. The WRP was initially conceived as a response to analyzing the combined results of several condition assessments of Pittsburgh Water's existing infrastructure that were completed between 2016 and 2018. The collective evaluation of these assessments culminated in the identification of a key takeaway:

> The clearwell, constructed between 1904 and 1908, is a 44.5 MG single-cell concrete tank (a buried reservoir) which has, to date, not undergone any major maintenance, modifications, or upgrades since commencing operation. There are currently no viable means to take the clearwell out of services as there are no existing alternatives for sufficing the two main functions the clearwell performs: providing sufficient retention contact time for disinfection agents to meet the requirements of the Surface Water Treatment Rule and Long-Term 2 Enhanced Surface Water Treatment Rule; and providing equalization storage that allows the filters to operate independently of potential fluctuations in system demands. Considering the age and condition of the clearwell, it was deemed to be Pittsburgh Water's most critical single point of potential failure to be addressed, as there are

currently no practical means to bypass the clearwell to deliver water, while maintaining the required volume, quality, and contact time for disinfection.

To facilitate the replacement of the existing clearwell with one that meets current regulations (multi-cell design), a plan was devised, in coordination with DEP, that would utilize the existing Highland Reservoir No. 2 and the Aspinwall Pump Station to Lanpher Reservoir Rising Main ("Lanpher Rising Main") to function as temporary clearwells, achieving the necessary contact time, CT, replacing the function of the existing clearwell, allowing for it to be taken offline and replaced. To that end, and in consideration of the age and condition of key components of Pittsburgh Water's infrastructure in between PWTP's filters and the Lanpher Reservoir and the Highland Reservoir No. 2, the plan was expanded to necessarily address the critical infrastructure rehabilitations, restorations, and when necessary, replacements of the key components of the water production, pumping, transmission, and storage systems to reduce risk of failure (that could lead to an interruption of water supply), and restore long-absent operational redundancies, safeguarding Pittsburgh Water's ability to achieve the essential mission of uninterrupted quality water supply throughout the city of Pittsburgh. Pittsburgh Water branded these interrelated and codependent Capital Improvement Projects as the Water Reliability Plan ("WRP").

The WRP consists of capital projects addressing all primary infrastructure between the clearwell and both the Lanpher Reservoir and Highland 2 Reservoir, including the respective pump stations, rising mains, and reservoirs, along with constructing a bypass around the Clearwell, ultimately leading to the replacement of the clearwell, which specifically includes addressing:

1) critical infrastructure between the PWTP and the Lanpher Reservoir, including the:

a. Aspinwall Pump Station Improvements Project addressing building rehabilitation and pumps, piping, and electrical gear replacements;
b. Aspinwall and Fox Chapel Interim Feed Project addressing piping modifications to permit the existing 60-inch Blawnox supply line to be utilized for achieving CT for customers in Aspinwall and Fox Chapel. Note, this project is in lieu of the infeasible new redundant Aspinwall Pump Station to Lanpher Reservoir Rising Main Project; and
c. Lanpher Reservoir Improvements Project that addressed the cover and liner replacement (which was completed in 2019, prior to the execution of the 2019 COA)

2) critical infrastructure between the PWTP and the Highland Reservoir No. 2, including the:
   a. Bruecken Pump Station Improvements Project addressing a full pump station replacement;
   b. Rehabilitation and Replacement of Segments of Rising Mains 3 & 4; and
   c. Highland No. 2 Reservoir Improvements Project that addressed the cover and liner replacement

3) critical infrastructure at the PWTP, including:
   a. Pittsburgh WTP Clearwell Bypass (Emergency Response) addressing construction of a bypass around the clearwell;

4) other critical infrastructure related to the Highland Reservoir No. 2 and Supersystem (not specifically called out in the WRP or COA/CD): including the:
   a. Highland Reservoir Pump Station and Rising and Supply Mains Project addressing the construction of a new pump station.

Once all of these projects are complete, the ultimate goal of bypassing and taking the existing clearwell offline, demolition, and replacement of the clearwell with a modern clearwell will be possible.

Q. CAN YOU DISCUSS THE BACKGROUND FOR THE IMPOSITION OF THE 2019 COA?

A. While coordinating the regulatory and permitting requirements necessary to undertake the necessary projects associated with the Water Reliability Plan with the DEP, the DEP determined it was necessary to ensure the completion of these projects, up through the

replacement of the clearwell by codifying the Project scopes and schedules in the 2019 COA.

Q. WHAT WERE PITTSBURGH WATER'S SPECIFIC OBLIGATIONS UNDER THE 2019 COA AND SUBSEQUENT AMENDMENTS?

A. As identified in the 2019 COA, Pittsburgh Water is required to construct a clearwell bypass system to enable Pittsburgh Water to remove the existing single-cell clearwell from service and replace it with a new multi-celled clearwell[2]. As a result of the existing single-cell clearwell basin condition and design, a clearwell bypass system was deemed essential to ensure uninterrupted water supply service should the existing clearwell prematurely fail.

Pittsburgh Water is also required by the 2019 COA to: (i) rehabilitate or replace portions of Rising Main #3 (from the Bruecken Pump Station) to Pittsburgh Water's Highland No. 2 Reservoir;[3] (ii) rehabilitate or replace portions of Rising Main #4 (from the Bruecken Pump Station) to Pittsburgh Water's Highland No. 2 Reservoir;[4] (iii) construct a new redundant rising main from the Aspinwall Pump Station to the Lanpher Reservoir to replace the existing 100 year old transmission main which had suffered three major failures in the past 7 years;[5] (iv) replace the cover and liner of the Highland No. 2 Reservoir to comply with existing regulatory standards, and facilitate the clearwell

[2] 2019 COA Ordering ¶ 3.a.-b.

[3] 2019 COA Ordering ¶ 3.c.-d.

[4] 2019 COA Ordering ¶ 3.e.-f.

[5] 2019 COA Ordering ¶ 3.g.-h.

bypass system construction;[6] and (v) replace or rehabilitate the existing Aspinwall and Bruecken Pump Stations.[7]

Q. IN 2021 AND 2023, YOU TESTIFIED AS TO THE STATUS OF EACH OF THESE PROJECTS. PLEASE PROVIDE UPDATES.

A. At the outset, I note that construction on the following three projects required in the 2019 COA had been completed by the stated deadlines of the 2019 COA: (i) Rising Main #3 Rehabilitation Project (November 18, 2022); (ii) Highland No. 2 Reservoir Improvements (Liner and Cover Replacement) Project (December 30, 2022); and (iii) Rising Main #3 Rehabilitation Project (November 27, 2023). The status of each of the remaining projects of the 2019 COA and the one added to the 2024 CD (Aspinwall and Fox Chapel Interim Feed Project) are shown in the Table below.

Q. PLEASE PROVIDE OVERVIEWS OF THE REQUESTS FOR COVID EXTENSION AND COA AMENDMENTS THAT WERE APPROVED PRIOR TO CONVERSION TO THE 2024 CD.

A. On May 13, 2020, DEP issued a COVID Extension Letter, a copy of which is attached as Exhibit BK-2, which provided ninety-day extensions of the deadlines for submitting Construction Permit Applications for the following projects:

- Provision 3.c.i: Rising Main #3 Rehabilitation Project:
  - Was due "on or before September 1, 2020", but with the ninety-day extension, the revised date was "11/30/20". Pittsburgh Water submitted the application by the revised deadline, on November 30, 2020.
- Provision 3.g: Aspinwall Pump Station to Lanpher Reservoir Rising Main Project:

[6] 2019 COA Ordering ¶ 3.i.-j.

[7] 2019 COA Ordering ¶ 3.k.

- Was due "on or before December 30, 2020", but with the ninety-day extension, the revised date was "3/31/21". Pittsburgh Water submitted the application by the revised deadline, on March 29, 2021.

- Provision 3.k.ii: Aspinwall and Bruecken Pump Station Improvements Projects:
  - Was due "on or before January 1, 2021", but with the ninety-day extension, the revised date was "4/1/21".
- Provision 3.q: Washout Disconnection:
  - Was due "on or before June 1, 2020", but with the ninety-day extension, the revised date was "8/31/20". Pittsburgh Water met this deadline by submitting the application on August 31, 2020.

On May 7, 2021, DEP issued the first Amendment of the 2019 COA ("Amendment #1"), in response to delays associated with the COVID-19 pandemic and changes in design and construction approaches, a copy of which is attached as Exhibit BK-3, which provided extensions for submitting Construction Permit Applications for the following projects:

- Provision 3.a: Clearwell and Related Projects:
  - Specifically, for the Clearwell Bypass System, the original due date for submission of a "complete and technically sufficient application for construction permit" was "on or before January 1, 2023". Amendment #1 revised the due date for the application for the construction permit to be "No later than September 30, 2021", which Pittsburgh Water achieved, submitting the Application on September 30, 2021.
- Provision 3.k.ii: Aspinwall and Bruecken Pump Station Improvements Projects:

- The submission of a "complete and technically sufficient application for construction permit" was originally due "on or before January 1, 2021" for both Aspinwall and Bruecken Pump Station Improvements. The May 13, 2020 authorized ninety-day COVID extension revised the due date to be "on or before April 1, 2021". Amendment #1 further revised the due date to be "No later than September 30, 2021", which Pittsburgh Water achieved, submitting the Application on September 30, 2021 for both Aspinwall and Bruecken Pump Station Improvements Projects.

Amendment #1 also modified the Stipulated Civil Penalties provision of the 2019 COA, as follows:

- Provision 4: Stipulated Civil Penalties:
  - Amendment #1 of the 2019 COA modified the Stipulated Civil Penalties for failure "to meet the corrective action deadline of September 30, 2021, as specified in Paragraphs 3a. and 3.k.", providing that if Pittsburgh Water were to miss a deadline, it "shall pay a one-time civil penalty in the amount of Twenty Thousand Dollars ($20,000)", as well as providing as follows: "In addition to the one-time payment, Pittsburgh Water shall pay a civil penalty in the amount of One Thousand Dollars ($1,000) per day for each violation until the requirements specified in Paragraphs 3a. and 3.k., above, are fulfilled." This revised the original 2019 COA requirement for Pittsburgh Water to "pay a civil penalty in the amount of One Hundred Dollars ($100.00) per day for each violation".

On August 4, 2022, DEP issued a Second Amendment of the 2019 COA ("Amendment #2"), requested because of delays associated with supply chain issues as a result of the COVID-19 pandemic, a copy of which is attached as Exhibit BK-4, which provided extensions of the submission of Construction Completion Forms for the following projects:

- Provision 3.d: Rising Main #3 Rehabilitation Project:
  - The original 2019 COA required that the Pittsburgh Water "shall complete the authorized work" and submit a "signed "Certificate of Construction/Modification Completion" form" "within one (1) year of the Department's issuance of a construction permit authorizing the rehabilitation or replacement of Rising Main #3". As the Construction Permit was issued on March 10, 2021, the Original COA required that the "Certificate of Construction/Modification Completion" form be submitted by March 10, 2022. Amendment #2 changed the requirement from a stated duration to a specific date, stating the due date was "no later than December 31, 2022." Pittsburgh Water achieved the construction deadline by completing the project on November 18, 2022.
- Provision 3.j: Highland No. 2 Reservoir Improvements (Liner and Cover Replacement) Project:
  - The original deadline for submitting a "signed "Certificate of Construction/Modification Completion" form" was changed from a stated duration of "within one (1) year of the Department's issuance of a construction permit authorizing the rehabilitation or replacement", to a

specific date, "no later than December 31, 2022." For reference, as the Construction Permit was issued on January 8, 2021, the original 2019 COA would have required that the "Certificate of Construction/Modification Completion" form be submitted by January 8, 2022. Pittsburgh Water achieved the construction deadline by completing the project on December 30, 2022.

Amendment #2 also modified the Stipulated Civil Penalties provision of the 2019 COA, as follows:

- Provision 4.b: Stipulated Civil Penalties:
  - Amendment #2 of the 2019 COA modified the Stipulated Civil Penalties for failure "to meet the corrective action deadline of December 31, 2022, as specified in Paragraphs 3.d. and 3.j.", again providing that if Pittsburgh Water were to miss a deadline, it "shall pay a one-time civil penalty in the amount of Twenty Thousand Dollars ($20,000)" for this failure, as well as providing as follows: "In addition to the one-time payment, Pittsburgh Water shall pay a civil penalty in the amount of One Thousand Dollars ($1,000) per day for each violation until the requirements specified in Paragraphs 3d. and 3.j., above, are fulfilled." This revised the original 2019 COA requirement for Pittsburgh Water to "pay a civil penalty in the amount of One Hundred Dollars ($100.00) per day for each violation".

Q. PLEASE PROVIDE AN EXPLANATION REGARDING WHY THE DEP REPLACED THE 2019 COA WITH THE 2024 CD

A. Up through December 31, 2023, Pittsburgh Water had met the deadlines stipulated in the 2019 COA, as amended in the two amendments. To ensure Pittsburgh Water continued

to meet the deadlines of the 2019 COA, communications were initiated on August 3, 2023 (verbal communication during a recurring Coordination Meeting) and again on October 2, 2023 (via a written request), to request a third amendment to the 2019 COA, to address the following challenges identified with the 2019 COA Second Amendment:

> 1) Paragraph 3.m (on page 10 of the original 2019 COA) required that "On or before January 1, 2024," Pittsburgh Water "shall submit" to DEP "a complete and technically sufficient application for a construction permit to replace the clearwell." Paragraph 3.n (on page 10 of the original 2019 COA) further required that the construction of the clearwell replacement be completed, with submission of a "Certificate of Construction/Modification Completion" "within two (2) years" of issuance of the construction permit. This would require Pittsburgh Water to have the Clearwell constructed by approx. March 31, 2026 (assuming a 90-day permit review period). This deadline would fall before the completion of the schedules for the construction completion of the Aspinwall and Bruecken Pump Station Improvements and PWTP Clearwell Bypass Projects, which is not feasible. Pittsburgh Water required an amendment of the deadlines stipulated under 3.m and 3.n for the Clearwell Replacement Project.
>
> 2) The Redundant Lanpher Rising Main Project was confirmed to be both unfeasible and un-constructable (e.g., legal opposition to the pipe alignment within right-of-way from an adjacent Water Authority), and unaffordable (where the preliminary construction cost estimate of $26M had escalated to $155M as of estimate generated March 2023). Accordingly, Pittsburgh Water worked to identify a viable alternative to the redundant rising main project, named the "Aspinwall and Fox Chapel Interim Feed Project". Pittsburgh Water also requested that the 2019 COA be amended to substitute the proposed Interim Feed project in lieu of the Redundant Rising Main project.

Between October 2, 2023 and July 31, 2024, DEP and Pittsburgh Water repeatedly met and corresponded to address the resolution of the outstanding Pittsburgh Water requests for extensions of the deadlines to submit the Application for Construction Permit and the Certificate of Construction Completion for the clearwell replacement; and for the approval to substitute the Aspinwall and Fox Chapel Interim Feed Project for the Redundant Lanpher Rising Main Project. DEP sent repeated written responses to Pittsburgh Water's ongoing requests for broader extensions of time for the clearwell

replacement milestones. These letters provided brief thirty-day extensions for submission, having been set by the DEP on December 23, 2024, March 26, 2024, May 30, 2024, June 27, 2024, and July 31, 2024, which provided repeated short-term deadline continuations, without penalties for not submitting the Application for Construction Permit for the clearwell. DEP and Pittsburgh Water then entered into the 2024 CD, which was ultimately authorized as an Order of the Commonwealth Court of Pennsylvania. The 2024 CD superseded the 2019 COA, replacing it and its associated amendments. Under the 2024 CD, the Court retains jurisdiction over the parties and subject matter of the 2024 CD until compliance is achieved. In superseding the 2019 COA, the 2024 CD provides timelines and requirements for the completion of all remaining Capital Projects that had yet to be completed under Pittsburgh Water's "Water Reliability Plan" ("WRP") at the time of the ordering of the 2024 CD (September 6, 2024).

Q. PLEASE PROVIDE AN OVERVIEW OF THE NEW OBLIGATIONS UNDER THE 2024 CD.

A. A summary of the obligations (capital projects) required under the 2024 CD are discussed in subsequent responses below:

- Section 5. Corrective Action: Pittsburgh Water shall perform the following tasks:
  - Exchanging the **Redundant Lanpher Rising Main Project** for the **Aspinwall and Fox Chapel Interim Feed Project**:
    - 5.a. Submit a complete and technically sufficient Application for a Permit to Construct for the Aspinwall and Fox Chapel Interim Feed Project no later than December 31, 2025;

- 5.b. Complete construction and submit a signed "Certificate of Construction/ Modification Completion" form no later than three (3) years and eight (8) months from DEP's construction permit issuance.

- **Fluoride and Orthophosphate Chemical Feed Systems** at the **Aspinwall Pump Station**:
  - 5.c.i. Complete construction and submit signed "Certificate of Construction Completion" form no later October 15, 2027.
- **Clearwell Bypass Piping (*excluding connections to clearwell inlet and outlet structures*)**:
  - 5.c.ii. Complete construction and submit a signed "Certificate of Construction Completion" form no later April 14, 2028.
- **Aspinwall Pump Station: Install 2 new pumps**:
  - 5.c.iii. Complete construction and submit a signed "Certificate of Construction Completion" form no later October 16, 2028.
- **Clearwell Overflow Structure (*located on the west end of the clearwell*)**:
  - 5.c.iv. Complete construction and submit a signed "Certificate of Construction Completion" form no later October 15, 2029.
- **Clearwell Bypass System (*including pipe connections to clearwell inlet and outlet*); Aspinwall Pump Station Rehabilitation; and Bruecken Pump Station Rehabilitation**:

- 5.c.v. Complete construction and submit a signed "Certificate of Construction Completion" form no later September 30, 2030.

- **New Clearwell**:
  - 5.d. Submit a complete and technically sufficient Application for a Permit to construct a new clearwell no later than December 31, 2026;
  - 5.e. Complete construction and submit a signed "Certificate of Construction Completion" form no later than March 30, 2034.

- **Removal of the Membrane Filtration Plant ("MFP") from Service**.
  - 5.f.ii. DEP has stipulated that Pittsburgh Water, as part of the 2024 CD, is required to remove the MFP from service within ninety (90) from the date of removing the existing clearwell from service , if not already taken out of service, permanently decommissioning it, and submit a request to the DEP to rescind all operating permits for the MFP upon its removal from service.

Note, use of Highland Reservoir No. 2 as a clearwell, and the activation of the Highland Reservoir Pump Station (pumping from the Highland Reservoir No. 2 and Highland Supersystem No. 1) precludes the permitted use of MFP. Deactivating the MFP results in Highland Reservoir No. 1 ceasing to serve as source water for the system. As such, Pittsburgh Water removed the MFP from service October 18, 2024, informing the DEP same day. DEP withdrew the operating permits for the MFP December 11, 2024.

Q. PLEASE PROVIDE AN OVERVIEW OF THE NEW STIPULATED CIVIL PENALTIES UNDER THE 2024 CD.

Under Provision 7.a., the Stipulated Civil Penalties are as follows: "In the event that" Pittsburgh Water "fails to comply in a timely manner with any term or provision of this" CD, Pittsburgh Water "shall be in contempt of this" CD "and, in addition to other applicable remedies, shall pay a civil penalty to the" DEP "in the amount of $2,000 per day for each violation."

Note, this is a change from the 2019 COA, where there was a requirement to pay a "one-time civil penalty in the amount of Twenty Thousand Dollars ($20,000)" for each failure, as well as stating that: "In addition to the one-time payment, Pittsburgh Water shall pay a civil penalty in the amount of One Thousand Dollars ($1,000) per day for each violation until the requirements specified in Paragraphs 3d. and 3.j., above, are fulfilled."

Q. DID THE 2019 COA ALSO ADDRESS CROSS-CONNECTIONS?

A. Yes. Pittsburgh Water was required by the 2019 COA to investigate the locations where valves, blow-offs, or other such appurtenances that connect to the distribution system are found within chambers, pits or manholes connected directly or indirectly to any storm drain or sanitary sewer (commonly referred to by Pittsburgh Water as "washouts"), which it has done. Further, in September 2020, Pittsburgh Water submitted to DEP a report detailing the findings including the number and locations of all such cross-connections within Pittsburgh Water's system. Finally, Pittsburgh Water submitted a plan and

proposed schedule on November 30, 2020 for eliminating any and all cross-connections and to take the necessary steps to eliminate them as soon as practicable.[8]

Q. WHAT ARE THE CONSEQUENCES THAT PITTSBURGH WATER WOULD FACE IF IT DID NOT COMPLY WITH THE 2024 CD, AND HOW DOES THAT COMPARE WITH THE CONSEQUENCES UNDER THE 2019 COA?

A. As noted above, under the 2024 CD, if Pittsburgh Water does not comply in a timely manner with any term or provision of the COA, it will be required to pay a civil penalty in the amount of $2,000 per day for each violation. This contrasts with the amounts under Amendment #1 and Amendment #2 of the 2019 COA, where if Pittsburgh Water did not comply in a timely manner with any term or provision of the COA, it would have been required to pay a one-time civil penalty in the amount of $20,000, in addition to a civil penalty in the amount of $1,000 per day for each violation. This also contrasts with the amount of $100.00 per day for each violation that was in the original COA. Pittsburgh Water is also subject to the imposition of additional penalties under the 2024 CD, as was the case under the 2019 COA.[9] As Mr. Barca had explained in prior Rate Case Direct Testimony, if Pittsburgh Water is not permitted to raise its rates as proposed through this proceeding, it would be unable to fulfill the 2024 CD obligations. The result would be that Pittsburgh Water would be subject to the payment of these penalties. Since Pittsburgh Water does not have investors, this burden would be the responsibility of its ratepayers, which would further exacerbate Pittsburgh Water's ability to implement the required project improvements.

[8] 2019 COA Ordering ¶ 3.q.-t.

[9] 2019 COA Ordering ¶ 4; Amendment #1 to 2019 COA and Amendment #2 to 2019 COA and 2024 CD Ordering

Q. PLEASE IDENTIFY THE CAPITAL CONSTRUCTION PROJECTS THAT PITTSBURGH WATER WAS REQUIRED TO UNDERTAKE PURSUANT TO THE 2019 COA.

A. Pittsburgh Water has assigned the following names to the projects that are:

- Required by the 2019 COA that were completed as of May 20, 2025:
  - Rising Main 3 – Rehabilitation AND/OR
    - Rising Main 3 – Replacement
  - Rising Main 4 – Rehabilitation AND/OR
    - Rising Main 4 – Replacement
  - Highland No. 2 Reservoir Improvements (Liner and Cover Replacement)

- Required by the 2019 COA and are in progress as of May 20, 2025:
  - Aspinwall Pump Station Improvements
  - Bruecken Pump Station Improvements
  - Clearwell Bypass (Emergency Response)
  - Clearwell Improvements (Replacement)

- Required by the 2019 COA but were subsequently removed from the 2019 COA prior to May 20, 2025:
  - Aspinwall Pump Station to Lanpher Reservoir (Redundant) Rising Main

Q. PLEASE IDENTIFY THE CAPITAL CONSTRUCTION PROJECTS THAT PITTSBURGH WATER MUST UNDERTAKE PURSUANT TO THE 2024 CD (THAT SUPERSEDES THE 2019 COA).

A. Pittsburgh Water has assigned the following names to the projects that are:

- Required by the 2024 CD (that were also required by the 2019 COA) that are in progress as of May 20, 2025:
  - Aspinwall Pump Station Improvements
  - Bruecken Pump Station Improvements
  - Clearwell Bypass (Emergency Response)
  - Clearwell Improvements (Replacement)
- Required by the 2024 CD (that was not previously required by the 2019 COA) that is in progress as of May 20, 2025:
  - Aspinwall and Fox Chapel Interim Feed

Status of the Projects required by the 2019 COA and 2024 CD are shown in the table below:

Description	Pittsburgh Water Project Name	Pittsburgh Water Project Number	DEP Construction Permit Submittal	DEP CD/COA Requirement: Construction Complete
PROJECTS SPECIFICALLY STATED IN CD/COA				
Pittsburgh WTP Clearwell Bypass (Emergency Response)	Clearwell Emergency Response Project	2017-323-100-0	Extended date 9/1/2021 (was 1/1/2021, then 4/1/2023) - Completed (submitted 9/30/2021) – Permit received 3/26/2024)	Revised by 2024 CD: Bypass Piping (*excluding connection to inlet & outlet*): 4/14/2028; Install clearwell overflow structure (*west end of clearwell*): 10/15/2029 Clearwell Bypass System (*including pipe connections to clearwell inlet and outlet*): 9/30/2030
Rising Main 3 – Rehabilitation	2019 Large Diameter Water Main Improvements (Rising Main 3 & 4)	2019-325-103-0	Extended due date 11/30/2020 (was 9/1/2020) – Completed (submitted 9/1/2020, early) - Permit received 3/10/2021	Final amended due date was 12/31/2022, with an extension approved via 8/4/2022 COA Amendment). Completed 11/18/2022
Rising Main 3 – Replacement	2019 Large Diameter Water Main Improvements (Rising Main 3 & 4)	2019-325-103-0	Due 3/1/2021 – Completed (submitted 9/1/2020, early) - Permit received 3/10/2021	Final amended due date was 12/31/2022, with an extension approved via 8/4/2022 COA Amendment). Completed 11/18/2022
Highland No. 2 Reservoir Liner and Cover Replacement	Highland No. 2 Reservoir Liner and Cover Replacement	2019-323-102-0	Due 6/30/2020 (submitted 6/30/2020) – Permit received 1/8/2021	Final amended due date was 12/31/2022, with an extension approved via 8/4/2022 COA Amendment).

Description	Pittsburgh Water Project Name	Pittsburgh Water Project Number	DEP Construction Permit Submittal	DEP CD/COA Requirement: Construction Complete
				Completed 12/30/2022
Rising Main 4 – Rehabilitation	2019 Large Diameter Water Main Improvements (Rising Main 3 & 4)	2019-325-103-0	Due 6/1/2021 - Completed (submitted 6/1/2021) – Permit received 1/14/2022	2 years after receipt of construction permit (due 1/14/2024): Completed 11/27/2023
Rising Main 4 – Replacement	2019 Large Diameter Water Main Improvements (Rising Main 3 & 4)	2019-325-103-0	Due 6/1/2021 - Completed (submitted 6/1/2021) – Permit received 1/14/2022	2 years after receipt of construction permit (due 1/14/2024): Completed 11/27/2023
Aspinwall Pump Station Improvements	Aspinwall Pump Station Improvements	2017-323-104-0	Extended date 9/1/2021 (was 1/1/2021, then 4/1/2023) - Completed (submitted 9/30/2021) – Permit received 3/26/2024	Revised by 2024 CD: Fluoride & Orthophosphate Chemical Feed Systems due no later than 10/15/2027; Installation of 2 new Pumps due by 10/16/2028 APS Rehabilitation completion due by 9/30/2030
Bruecken Pump Station Improvements	Bruecken Pump Station Improvements	2017-323-106-0	Extended date 9/1/2021 (was 1/1/2021, then 4/1/2023) - Completed (submitted 9/30/2021) – Permit received 3/26/2024)	Revised by 2024 CD: BPS Rehabilitation (*Replacement*) completion due by 9/30/2030
Aspinwall Pump Station to Lanpher Reservoir Rising Main	*Aspinwall Pump Station to Lanpher Reservoir Rising Main*	*2018-323-100-0*	*N/A (removed from 2024 CD)*	*N/A (removed from 2024 CD*
Aspinwall and Fox Chapel Interim Feed Project	Aspinwall and Fox Chapel Interim Feed Project	2023-300-113-0	Application Due 12/31/2025	Added by 2024 CD: due by 3 years and 8 months after

Description	Pittsburgh Water Project Name	Pittsburgh Water Project Number	DEP Construction Permit Submittal	DEP CD/COA Requirement: Construction Complete
				receipt of construction permit
Pittsburgh WTP Clearwell Improvements (Replacement)	Clearwell Improvements	2023-100-104-0	12/31/2026	Revised by 2024 CD: 3/30/2034
PROJECTS NECESSARY TO SUPPORT COA PROJECTS (Not Stated in COA)				
Lanpher Reservoir Booster Disinfection Improvements	Lanpher Reservoir Booster Disinfection Improvements	2017-323-105-0	Const. Permit Received 4/5/2023	N/A (not required by 2024 CD or 2019 COA)
Highland Reservoir Pump Station and Rising Main	Highland Reservoir Pump Station and Rising Main	2017-323-101-0	Submitted 3/5/2021 – Const. Permit Received 7/8/2022	N/A (not required by 2024 CD or 2019 COA)

Q. WHAT ARE THE TOTAL COSTS ASSOCIATED WITH THE CONSTRUCTION PROJECTS THAT ARE NECESSARY TO COMPLY WITH THE COA?

A. Pittsburgh Water's total approved budget in the 2025-2029 CIP for the construction projects that are directly required by the 2019 COA and 2024 CD is approximately $265.0 million. However, the total budget for these projects, including what was completed to date and what will be completed post-2029 is approximately $367.2 million. As of May 2025, the cumulative commitment for these projects is $148.1 million with $67.2 million paid to date. In addition, even though they are not included in the 2019

COA or the 2024 CD, the Highland Reservoir Pump Station and Rising and Supply Main Project, Highland No. 2 Reservoir Dam Permitting and Slope Stability, and Lanpher Reservoir Booster Disinfection Projects must be completed in order to replace the clearwell. The approved 2025-2029 CIP budget to complete these related projects is approximately $67.7 million with approximately an additional $42.9 million spent prior to 2025. The approved 2025-2029 CIP budget to complete all WRP projects, both those directly required by the 2019 COA/2024 CD as well as the WRP related projects not included in the 2019 COA/2024 CD, is $332.7 million, for a grand total of $434.9 million including actual amounts spent prior to FY 2025, as well as costs after 2029. As design progress continues to refine the scope of the projects in the WRP, additional budget may be necessary.

Tables presenting the WRP Projects in the 2025-2029 CIP are shown in the tables below:

Tables. WRP Projects Funding Requirements

		2025-2029 Capital Plan							
Project Funding: WRP Projects Required & Identified in the 2019 COA/2024 CD	**Actual Spent prior to FY 2025**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**FY 2029**	**Total 5Yr. CIP (Not including Prior to 2025)**	**FY 2030+**	**Grand Total (Inc Prior to 2025 and FY 2030+)**
Rising Main 3 Rehabilitation and Replacement	$ 17,762,834	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 17,762,834
Rising Main 4 Rehabilitation and Replacement	$ 10,155,429	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 10,155,429
Aspinwall Pump Station to Lanpher Reservoir Rising Main	$ 6,331,685	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 6,331,685
Highland No. 2 Reservoir Improvements (Liner and Cover Replacement)	$ 17,335,363	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 17,335,363
Aspinwall Pump Station, Bruecken Pump Station, and Clearwell Bypass	$ 15,587,833	$ 34,368,736	$ 78,419,004	$ 91,447,113	$ 46,897,050	$ -	$ 251,131,903	$ -	$ 251,131,903
Aspinwall and Fox Chapel Interim Feed	$ -	$ 539,200	4862604	$ 1,711,721	$ 454,581	$ -	$ 7,568,106	$ -	$ 7,568,106
Clearwell Improvements	$ -	$ 3,444,376	$ 1,324,489	$ 500,000	$ 500,000	$ 500,000	$ 6,268,865	$ 50,676,135	$ 56,945,000
Project Funding Total	**$ 67,173,144**	**$ 38,352,312**	**$ 84,606,097**	**$ 93,658,834**	**$ 47,851,631**	**$ 500,000**	**$ 264,968,874**	**$ 50,676,135**	**$ 367,230,320**

		2025-2029 Capital Plan							
Project Funding: WRP-Related Projects not Identified in the 2019 COA/2024 CD	**Actual Spent prior to FY 2025**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**FY 2029**	**Total 5Yr. CIP (Not including Prior to 2025)**	**FY 2030+**	**Grand Total (Inc Prior to 2025 and FY 2030+)**
Highland No. 2 Reservoir Dam Permitting and Slope Stability	$ 233,586	$ 810,916	$ 352,488	$ 9,914,145	$ 10,197,450	$ -	$ 21,274,999	$ -	$ 21,274,999
Highland Reservoir Pump Station and Rising Main	$ 40,728,927	$ 24,908,444	$ 13,908,448	$ -	$ -	$ -	$ 38,816,892	$ -	$ 38,816,892
Lanpher Reservoir Booster Disinfection Improvements	$ 1,912,559	$ 7,600,857	$ -	$ -	$ -	$ -	$ 7,600,857	$ -	$ 7,600,857
Project Funding Total	**$ 42,875,073**	**$ 33,320,217**	**$ 14,260,936**	**$ 9,914,145**	**$ 10,197,450**	**$ -**	**$ 67,692,748**	**$ -**	**$ 67,692,748**

GRAND TOTAL (both WRP [req. by COA/CD] and WRP-Related)	**$ 110,048,217**	**$ 71,672,529**	**$ 98,867,033**	**$ 103,572,979**	**$ 58,049,081**	**$ 500,000**	**$ 332,661,622**	**$ 50,676,135**	**$ 434,923,068**

Q. DO YOU WISH TO HIGHLIGHT ANY OTHER CAPITAL PROJECTS TO WHICH PITTSBURGH WATER HAS COMMITTED?

A. Pittsburgh Water has continued its critical initiatives to address lead mitigation within the Pittsburgh Water System in connection with the 2017 COA (addressing directives relating to the implementation of corrosion control water treatment and the completion of LSLRs, with the 2017 COA since closed-out effective May 5, 2025), and other applicable lead and corrosion requirements mandated by the DEP and the PUC. These initiatives include:

1) a water treatment program to mitigate lead corrosion to permit compliance with current water quality standards;

2) a lead service line replacement (LSLR) program; and

3) a lead service line identification program (that was to be completed by 2020 for residential service line connections and a 2022 update to include all service line connections, which was achieved).

Q. SUMMARIZE THE EFFECTIVENESS OF PITTSBURGH WATER'S FINISHED WATER TREATMENT PROGRAM ON MITIGATING LEAD CORROSION?

A. In response to the 2017 COA, chemical treatment testing of orthophosphate application to Pittsburgh Water's finished water demonstrated rapid mitigation of lead and copper corrosion to levels well below the current federal drinking water standard. Subsequently, Pittsburgh Water fully implemented a Capital Project to design and construct seven orthophosphate addition facilities within the system. The introduction of orthophosphate to the drinking water system commenced in April 2019, and since then has had two consecutive 6-month rounds of lead monitoring results below the Federal action level[10] of 15.0 parts per billion (ppb), along with five additional rounds of lead monitoring also below 15.0 ppb. The historic lead results, to date, are as follows:

Sampling Period	**90th Percentile Lead Level (ppb)**
July – December 2019	10.0
January – June 2020	5.1[11]
July – December 2021	7.1
January – June 2022	4.42
July – December 2022	5.0
January – June 2023	3.4
July – December 2023	3.58

[10] Action levels are the EPA's established standard for water system compliance with the Federal Lead and Copper Rule.

[11] The second round of results below the action level removed the mandated requirement to replace lead service lines.

Q. SUMMARIZE THE PROGRESS MADE TO DATE WITH THE LSLR PROGRAM?

A. Under the 2017 COA, Pittsburgh Water was ordered by the DEP 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, Pittsburgh Water was required to continue to replace 7 percent of the initial number of lead service lines in the system (revised to 855 based upon Pittsburgh Water data) until two consecutive 6-month monitoring period sampling events were below the Federal lead action level (where this replacement requirement ended in June 2020 as described above). As of LSLR reporting through May 14, 2025, Pittsburgh Water has replaced a total of more than 12,856 public and 9,487 private LSLs.

In October 2020, Pittsburgh Water completed work on the 2019 Neighborhood LSLR project with $49.1 million in funding through PENNVEST, of which $35.4 million was a loan and $13.7 million was a grant. This program replaced over 4,738 public and 3,008 private lead service lines (as of March 18, 2022).

In 2022, with the availability of outside funding sources, the Pittsburgh Water commenced additional LSLR projects. The first was funded by PENNVEST and focused on removing lead service lines at day care facilities and locations with elevated levels of lead in the drinking water. The 2022 Priority LSLR program was extremely successful and all LSLR work was completed by late 2022. The 2022 Neighborhood LSLR program was funded by American Recovery Plan Act funds, and construction of the $17 million program commenced in April 2022 and was completed in early 2024. Work included

service line identification and LSLR at over 2,600 properties replacing 732 public and 695 private lead service lines.

Finally, with funding being provided for LSLRs by the Infrastructure Investment and Jobs Act, Pittsburgh Water is planning to submit additional funding requests to PENNVEST for continued Neighborhood LSLR programs on a semi-annual basis. To date, five projects have been funded: a $13.4 million project that commenced in July 2023 and was completed in 2024, a $12.2 million project started in March 2024 and a $32 million project started in August 2024. The fourth project started construction in late March 2025, and fifth was awarded by PENNVEST in January 2025 and construction is expected to commence in August 2025. Another application was submitted on May 7, 2025.

Q. WHAT IS PITTSBURGH WATER'S TOTAL CAPITAL REQUIREMENT FOR ALL PLANNED PROJECTS UNDER THE LSLR PROGRAM IN THE CURRENT CIP FOR FISCAL YEARS 2025-2029?

A. The total capital requirement for the LSLR Program Projects for Fiscal Years 2025-2029 is approximately $189.4 million, with $62.0 million in FY 2026 and $65.4 million in FY 2027.

Q. SUMMARIZE THE TRANSITION PITTSBURGH WATER HAS MADE WITH PERFORMING LSLRS AS PART OF THE SMALL DIAMETER WATER REPLACEMENT PROGRAM ("SDWMRP)?

A. In June 2020, Pittsburgh Water transitioned into a new phase of the lead mitigation program by addressing the completion of LSLRs in concert with the Small Diameter Water Main Replacement Program. In this manner, Pittsburgh Water minimizes the overall cost for water main and LSLRs (e.g., single mobilization, single excavation, single restoration, etc.). This approach was logical, due to the fact that most of the remaining LSLs are connected to the oldest water mains in the system, most subject to

breakage and failure. Pittsburgh Water has and will continue to strive to implement this program at the lowest possible cost, while addressing those water mains that have the highest likelihood of failure. Pittsburgh Water's investment in water main replacement will continue, to ensure that Pittsburgh Water can mitigate the amount of annual pipe breaks and minimize the risk of service disruption to its customers. Pittsburgh Water's program intends to achieve an average water main life expectancy in line with national standards.

Q. SUMMARIZE THE GRAND TOTAL NUMBER OF LSLRS COMPLETED BY PITTSBURGH WATER TO DATE, UNDER ALL PROGRAMS (LSLR AND SDWMRP)?

A. In summary, as of reporting through May 14, 2025, Pittsburgh Water has replaced a total of more than 12,856 public and 9,487 private LSLs under all programs involving the removal of LSLs, including the LSLR Program (2016 through 2025 Contracts) and the SDWMR Program.

Q. SUMMARIZE THE BASIS FOR AND IMPORTANCE OF PURSUING THE SDWMR PROGRAM?

A. The SDWRP is being implemented to address the aging, and at times undersized, small diameter water mains that are in fragile condition, minimizing the rate of failures of these water mains throughout the service areas. These pipes are often failing prematurely due to uncontrollable external pipeline corrosion. The corrosion-related pipeline failures have become acute in the past several years, which adds substantially to Pittsburgh Water's operations expenses. This approach to replacement allows Pittsburgh Water to complete the replacement of both the publicly owned portions of the individual LSLs, along with the private portions of LSLs where and when identified, concurrent with the replacement

of aging water distribution mains, improving the related costs and efficiency for completion of the LSLRs and the resulting surface restoration activities.

Q. SUMMARIZE THE PROGRESS BEING MADE WITH THE SDWMR PROGRAM, REVIEWING THE FIVE PHASES OF SDWMRP TO DATE?

A. The ongoing SDWMRP consists of a series of annual projects designed to replace aging, failing, and undersized water mains in neighborhoods with a focus on areas with a high likelihood of having LSLs.

The first phase of the SDWMR projects (2020 SDWMR) consisted of three individual construction contracts totaling nearly 15 miles of new water main. These projects were designed in 2019, construction started in mid-2020 and were completed in December 2021 and, inclusive of design and construction, cost approximately $56 million.

The second phase of SDWMR projects (2021 SDWMR) was funded by PENNVEST. Designs for three 2021 SDWMR Projects (Contracts A / B / C) started in August 2020 and were complete February 2021. Based on the Opinion of Probable Construction Costs (OPCC) for the 3 Contracts, a decision was made to move two of the three 2021 contracts (B / C) forward to bidding in March 2021. Due to a delay with closing the PENNVEST funding, Contracts B and C were cancelled, and rebids were received in December 2021. Construction of the 2021B and 2021C SDWMR Projects began in late March 2022 and reached substantial completion in September 2023. Nearly 6 miles of pipeline replacement including associated valving, fittings and hydrants were completed in six neighborhoods across the Pittsburgh Water's service area, including the concurrent replacement of 929 public-side service lines (589 copper and 340 lead) and 293 lead private-side service lines. Construction cost for 2021B and 2021C was

approximately $27 million. The design for 2021C SDWMR was renamed 2022C SDWMR and bid at the same time as 2022A and 2022B SDWMR Contracts (see below).

The third phase of SDWMR projects (2022 SDWMR) was funded by PENNVEST. Designs for the 2022A and 2022B SDWMR projects were started August 2021 and were completed October 2022. Resolution of clean fill disposal requirements delayed bidding until March 2023. Construction bids were received for the 2022 SDWMR projects in May 2023, greatly exceeding the construction cost estimates, only allowing for two (2022B and 2022C) of the three construction contracts to proceed construction on time in late-summer/early-fall of 2023. Construction of Contracts 2022B and 2022C was completed in 2024. Total construction value for these projects is $60.1 million as of March 2024, which includes addressing 7.6 miles of the more than 9 miles of water mains planned and replacement of over 515 of the 1,250 water service lines planned as of March 2024. Construction of the delayed 2022A Contract (divided into 2 Contracts, A1 and A2) was started in August 2024 and will be complete in 2025.

The fourth phase of SDWMR projects (2023 SDWMR) was funded by PENNVEST. Design of the 2023A1/A2/B1/B2 SDWMR Projects began in April 2023. Bidding for construction of the 2023A1/B1/B2 (three) separate SDWMR projects that addresses five neighborhoods was completed in January 2025. These projects will construct approximately 9.6 miles of new water mains and will replace nearly 1,600 public-side service lines and 483 lead private-side service lines. The estimated cost of this work will be nearly $70.7M.

The fifth phase of SDWMR projects (2024 SDWMR) is anticipated to be funded by PENNVEST, where Pittsburgh Water is applying for funding during the July 30

Meeting, for approval in PENNVEST's October 15, 2025 Board Meeting. Design of the 2024B/C SDWMR Projects began in April 2024. Bidding for construction of the separate 2023A2 and 2024B/C separate SDWMR projects that address seven neighborhoods is expected to be bid in November 2025. These projects will construct approximately 11 miles of new water mains and will replace nearly 1,606 public-side service lines and 482 lead private-side service lines. The estimated cost of this work will be nearly $93M.

Q. WHAT IS PITTSBURGH WATER'S TOTAL CAPITAL REQUIREMENT FOR ALL PLANNED PROJECTS UNDER THE SDWMR PROGRAM IN THE CURRENT CIP FOR FISCAL YEARS 2025-2029?

A. The total capital requirement for SDWMR Program Projects (including the closeout of the 2021 contracts, the ongoing completion of construction of the 2022 contracts, the completion of the design and construction of the 2023, 2024, 2025, and 2029 SDWMRP contracts) for Fiscal Years 2025-2029 is approximately $275.9 million, with $60.8 million in FY 2026 and $76.2 million in FY 2027. The five-year total amount will equate to approximately 36 miles of small diameter water main to be replaced.

Q. SUMMARIZE THE STATUS OF THE LSL IDENTIFICATION PROGRAM, AS REQUIRED BY THE 2017 COA, AS WELL AS THE LATEST LEAD AND COPPER RULE REVISIONS?

A. Pittsburgh Water's LSL identification program determines the materials of manufacture for each existing water service line in the Pittsburgh Water's system. The first phase of that program was completed with digitization of existing records. The second phase, which evolved since the signing of the 2017 COA, consisted of a combination of verification inspections and replacement records of ongoing infrastructure programs, video inspection of accessible residential service lines to evaluate the materials of manufacture, identification of private service lines while replacing meters, the

development of a machine-learning predictive model in conjunction with the University of Pittsburgh and further records-mining with Pittsburgh Water, City of Pittsburgh and Allegheny County Plumbing Department. This phase was completed in December 2020 and submitted to the DEP, in compliance with the 2017 COA. The third phase included identifying service line materials for non-residential customers and providing an update for all locations. This effort was submitted to DEP, on time, in December 2022.

This LSL Identification Program will ultimately culminate in a complete digital file and mapping of all service lines within Pittsburgh Water's service territory. All updated records are made publicly available on Pittsburgh Water's website within one month of the data being collected.

The EPA Lead and Copper Rule Revisions (LCRR) required all utilities to submit an updated service line inventory by October 2024. In conjunction with this requirement, the DEP provided new requirements for acceptable inventory methods in late 2022. Pittsburgh Water submitted an updated inventory based on the new DEP requirements, including having a new machine learning predictive model prepared and instituting a large-scale program to identify service line materials inside customer's homes, by the LCRR deadline.

IV. UPDATE REGARDING PRIOR RATE CASE SETTLEMENT ISSUES

(A) Lead Service Line Replacement (LSLR) Program

Q. ARE YOU FAMILIAR WITH PITTSBURGH WATER'S LEAD SERVICE LINE REPLACEMENT PROGRAM AND THE RECENT COMMISSION PROCEEDINGS CONCERNING THE PROGRAM AT DOCKET NOS. P-2024-3046468 AND P-2024-3046465?

A. Yes, I have personal knowledge of Pittsburgh Water's Lead Service Line Replacement Program and these related Commission proceedings.

Q. PLEASE EXPLAIN WHAT HAS RECENTLY HAPPENED IN THOSE PROCEEDINGS?

A. Following numerous settlement discussions, and the submittal of six (6) joint status reports to the Administrative Law Judges from September 2024 to February 2025, Pittsburgh Water, the Office of Consumer Advocate ("OCA"), and Pittsburgh United Our Water Table ("Our Water Table") submitted a Joint Petition for Settlement on April 21, 2025 ("Joint Petition for Settlement"), in Docket Nos. P-2024-3046468[12] and P-2024-3046465[13] .

As of May 19, 2025, the most recent correspondence with the PUC with information relating to the review or approval of the Joint Petition for Settlement for approval of Pittsburgh Water's LSLR Program ("LSLRP") was via a letter dated May 9, 2025 from PUC Secretary Matthew Homsher confirming the approval of Pittsburgh Water's Annual Asset Optimization Plan ("AAOP") that was filed on February 20, 2025. Secretary Homsher's letter informed that the LSLRP was, at that time, "currently being adjudicated by the Office of the Administrative Law Judge (LSLR Proceeding)", and that Pittsburgh Water "shall modify its LTIIP" (Long-Term Infrastructure Improvement Plan) "through the LSLR Proceeding".

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[12] On February 15, 2024, Pittsburgh Water had filed a Petition for Approval of its Lead Service Line Replacement Program ("LSLR Petition"), in accordance with Section 1311(b) of the Public Utility Code, 66 Pa. C.S. § 1311(b), Chapter 65 of the Commission's regulations, 52Pa. Code §§ 65.51 et seq., and the Commission's March 14, 2022 Final Rulemaking Order Implementing Act 120 of 2018 at Docket No. L-2020-3019521. As discussed in the LSLR Petition, Pittsburgh Water's existing program to replace lead service lines has been reviewed and approved by the Commission in a number of prior proceedings as part of its existing Lead Infrastructure Plan. The LSLR Petition sought approval of an LSLR Plan (that would replace its existing Lead Infrastructure Plan) in order to comply with Chapter 65 of the Commission's regulations, and also to reflect the requirements of the U.S. Environmental Protection Agency's ("EPA") Lead and Copper Rule Revisions("LCRR") with which Pittsburgh Water was required to comply by October 16, 2024.

[13] Also on February 15, 2024, Pittsburgh Water filed a Petition for Waiver of Certain Regulations Regarding its Lead Service Line Replacement Program ("Petition for Waiver"). Through the Petition for Waiver, Pittsburgh Water sought waiver of certain regulation in order to permit it to continue its existing reimbursement program that determines the amount of reimbursement based on income

Q. WHAT DOES THE JOINT PETITION FOR SETTLEMENT REQUEST?

A. The Joint Petition for Settlement requests approval of Pittsburgh Water's LSLR Plan as modified by the terms and conditions set forth in the Joint Petition for Settlement, and a determination that the terms of the Joint Petition for Settlement are in accordance with law and are in the public interest.[14]

Q. WHAT COMMITMENTS DOES PITTSBURGH WATER MAKE IN THE JOINT PETITION FOR SETTLEMENT?

A. In the Joint Petition for Settlement, Pittsburgh Water commits to: (i) where needed to meet DEP inventory requirements, evaluate feasibility for in-person visits to document interior service line materials for customers who did not return lead service line inventory surveys or where data submitted was unclear, and continue to provide annual notifications to customers by mail to locations with lead or unknown service lines; (ii) continue outreach methods for LSLR agreements and continue use of door hangers and in-person communication as referenced in its LSLR Plan; (iii) continue to bring neighborhoods identified for LSL replacement to the Community Lead Response Advisory Committee for review before finalizing plans; (iv) continue its existing reimbursement program and providing outreach materials regarding that program via various methods; (v) continue to include information in communication documents, in appropriate languages, advising individuals they may contact Pittsburgh Water to obtain translated copies in certain languages, and provide translation services available to customers upon request; (vi) continue to translate its website into 10 different languages; (vii) provide pitcher/filter kits to LSLR locations three to six months after a LSLR, and

[14] Joint Petition for Settlement, Introduction

communicate to customers that they should use NSF-certified lead-reducing water filters for at least six months after an LSLR regardless of tap sampling results; (viii) revise its tariff language of Part VI, Section 3, subsection (h) regarding Step-In Rights; (ix) revise its existing tariff language of Part VI, Section 7 concerning restoration; (x) replace all lead service lines in accordance with applicable EPA regulations and update its LSLR Plan to reflect its projected timeframe for completion for replacing all LSLs in accordance with the Lead and Copper Rule Improvements (LCRI) requirements; (xi) revise pages to its LTIIP for the period January 1, 2023 through December 31, 2027, at Docket No. P-2022-3035953, as provided in Appendix C to the Joint Petition for Settlement.

Q. WHAT IS PITTSBURGH WATER'S CURRENT TIMELINE FOR REPLACING REMAINING RESIDENTIAL LEAD SERVICE LINES IN ITS SYSTEM?

A. As stated in the Joint Petition for Settlement, Pittsburgh Water has a revised goal of replacing the remaining residential lead service lines in its system by the end of calendar year 2027.

(B) Minimum Warranty

Q. PLEASE DESCRIBE PITTSBURGH WATER'S OBLIGATION UNDER THE 2020 SETTLEMENT REGARDING ITS MINIMUM WARRANTY.

A. Pittsburgh Water agreed as part of the 2020 Settlement to revise its minimum warranty on workmanship and material on lead service line replacements to comply with the industry-wide standard that the Commission is expected to establish pursuant to Act 120 of 2018.[15]

[15] 2020 Joint Petition for Settlement, III.H.7. *See Implementation of Act 120 of 2018*, Docket No. M-2019-3013286 (Order entered November 1, 2019), at 4-5.

Q. HAS THE COMMISSION ESTABLISHED THIS INDUSTRY-WIDE STANDARD?

A. Yes. The Commission established an industry-wide standard, requiring an entity performing repairs or replacement of damaged water service and wastewater sewer lines to provide a warranty term of not less than two years.[16] The warranty provisions must define the start date of the two-year term; ensure that the materials and workmanship of the line replacement and restoration of services are covered; define the maximum coverage amounts under the warranty; explain any liability an entity will have for damages not covered by the warranty; and ensure that the entity has access to the property to correct any deficiencies.

Q. IS PITTSBURGH WATER COMMITTED TO COMPLIANCE WITH THIS INDUSTRY-WIDE STANDARD FOR THE MINIMUM WARRANTY ON WORKMANSHIP AND MATERIAL LINE REPLACEMENTS?

A. Yes.

V. CONCLUSION

Q. DOES THAT COMPLETE YOUR DIRECT TESTIMONY?

A. Yes; however, I do reserve the right to supplement this testimony as may be appropriate.

[16] 52 Pa. Code §§ 65.58(e) and 66.38(e).

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VERIFICATION

I, Barry King, hereby state that: (1) I am the Director of Engineering and Construction for Water Programs for The Pittsburgh Water and Sewer Authority d/b/a Pittsburgh Water; (2) the facts set forth in my rejoinder testimony are true and correct (or are true and correct to the best of my knowledge, information and belief); and, (3) I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa. C.S. § 4904 (relating to unsworn falsification to authorities).

DocuSigned by:
Barry King
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Dated: 6/4/25

Barry King
Director of Engineering
The Pittsburgh Water and Sewer Authority d/b/a Pittsburgh Water

Exhibit BK-1

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

In The Matter Of:

Pittsburgh Water and Sewer Authority Penn Liberty Plaza 1 1200 Penn Avenue Pittsburgh, PA 15222	: : : :	Violations of the Pennsylvania Safe Drinking Water Act and the Rules and Regulations Promulgated Pursuant Thereto

CONSENT ORDER AND AGREEMENT

This Consent Order and Agreement is entered into this 6th day of SEPTEMBER 2019, by and between the Commonwealth of Pennsylvania, Department of Environmental Protection ("Department") and the Pittsburgh Water and Sewer Authority ("PWSA").

The Department has found and determined the following:

A. The Department is the agency with the duty and authority to administer and enforce the Pennsylvania Safe Drinking Water Act, Act of May 1, 1984, P.L. 206, *as amended*, 35 P.S. §§ 721.1-721.17 ("Safe Drinking Water Act"); Section 1917-A of the Administrative Code of 1929, Act of April 9, 1929, P.L. 177, *as amended*, 71 P.S. § 510–17 ("Administrative Code"); and the rules and regulations promulgated thereunder ("Regulations").

B. PWSA is a municipal authority with a business address of Penn Liberty Plaza 1, 1200 Penn Avenue, Pittsburgh, Pennsylvania 15222. PWSA is a "person," a "supplier of water" and a "public water supplier," as those terms are defined in Section 3 of the Safe Drinking Water Act, 35 P.S. § 721.3, and Section 1 of the Regulations, 25 Pa. Code § 109.1.

C. PWSA leases, operates and is the permittee of a "public water system" and, more specifically, a "community water system," as those terms are defined in Section 3 of the Safe Drinking Water Act, 35 P. S. § 721.3, and Section 1 of the Regulations, 25 Pa. Code § 109.1.

PWSA's public water system consists of water sources, a clearwell and other storage facilities, treatment facilities and a distribution system (collectively, the "System"). PWSA provides drinking water through the System to approximately 520,000 people in the Pittsburgh, Pennsylvania area, including approximately 250,000 residential customers. PWSA operates the System pursuant to multiple public water supply permits issued by the Department and has been assigned Public Water System Identification Number 5020038. The City of Pittsburgh owns the System and leases it to PWSA.

D. Section 4(3) of the Regulations, 25 Pa. Code § 109.4(3), requires public water suppliers to provide and effectively operate and maintain public water system facilities. Section 4(4) of the Regulations, 25 Pa. Code § 109.4(4), requires public water suppliers to take whatever investigative or corrective action is necessary to assure that safe and potable water is continuously supplied to the users of the public water system.

E. PWSA uses a clearwell constructed in approximately 1908 for storage of filtered water prior to the introduction of the water into PWSA's distribution system. In 1998, PWSA contracted Marion Hill Associates to conduct an inspection of the clearwell. The 1998 clearwell inspection found that the structural stability of the clearwell was good overall, but identified several areas of concern including, but not limited to: excessive amounts of sediment that prohibited inspection of the bottom of the tank; debris; infiltrating tree roots; signs of erosion, deterioration and cracks in the concrete walls; leaks in the clearwell equalization chamber; and considerable amounts of rust on the gates for the clearwell and gatehouse, which could make them unmovable. The consultant concluded that the clearwell did not meet current design standards for public water supply finished water storage.

F. PWSA subsequently hired consultants HDR Engineering, Inc. and Malcom Pirnie, Inc. to provide separate but concurrent evaluations and recommendations regarding the clearwell. In November 2008, HDR Engineering, Inc. provided a report to PWSA titled "Pittsburgh Water Treatment Plant Clearwell Improvements, Phase 1- Study". The purpose of the report was to identify available alternatives to address "PWSA's desires to have a clearwell system with the operational flexibility of being able to remove approximately one half of the clearwell from service for cleaning and maintenance while the other half remains in service; and to have the ability to bypass the clearwell and send filtered water directly to the Bruecken Pump Station in emergency situations." In December 2008, Malcom Pirnie, Inc. provided a report to PWSA titled "Clearwell Improvements Phase 1-Study", which also addressed PWSA's expressed need for operational flexibility with the clearwell. Both reports identified viable alternative options and provided cost estimates to PWSA to address the condition of the clearwell as well as the desired operational flexibility.

G. In March 2017, consultant Mott McDonald submitted another report to PWSA entitled "Alternative Evaluation-Clearwell Redundancy Project", which identified additional viable options to remedy the inflexibility of the clearwell with cost estimates.

H. During a three-day inspection in late April 2017, the Department discovered that two access hatches on the clearwell were open and several other hatches were in disrepair, creating possible pathways of surface contamination. The Department required PWSA to take immediate action to secure the manholes on the clearwell with temporary covers. On May 1, 2017, the Department issued a Field Order citing PWSA for failing to effectively operate and maintain its public water facilities and failing to take investigative and corrective action necessary to ensure that safe and potable water is continuously supplied to the users of its system

by, among other things, not adequately responding to the 1998 Marion Hill Associates clearwell inspection report, in violation of 25 Pa. Code §§ 109.4(3) and 109.4(4). In the Field Order, the Department directed PWSA to increase its free chlorine residual, install additional protective and monitoring equipment on the clearwell, and conduct additional monitoring and testing of the clearwell.

I. The violations described in Paragraph H, above, constitute a public nuisance under Section 12 of the Safe Drinking Water Act, 35 P.S. § 721.12, and subject PWSA to a claim for civil penalties under Section 13(g) of the Safe Drinking Water Act, 35 P.S. § 721.13(g).

J. On October 25, 2017, the Department issued an Administrative Order to PWSA directing the Authority to undertake a number of actions including, among other things: to provide to the Department a detailed schedule for the completion of certain longer-term capital improvement projects identified by PWSA to the Department. Two of the identified capital improvement projects were the "Clearwell Emergency Response Project" and the "Washout Disconnection Program".

K. Pursuant to Section 109.608 of the Regulations, 25 Pa. Code § 109.608, a public water system may not be designed or constructed in a manner which creates a cross-connection. A "cross-connection" is defined in 25 Pa. Code § 109.1 as "[a]n arrangement allowing either a direct or indirect connection through which backflow, including backsiphonage, can occur between the drinking water in a public water system and a system containing a source or potential source of contamination, or allowing treated water to be removed from any public water system, used for any purpose or routed through any device or pipes outside the public water system, and returned to the public water system. The term does not include connections to devices totally within the control of one or more public water systems and connections between

water mains." A "washout", as referred to in PWSA's planned "Washout Disconnection Program", is a connection between the public water system distribution components and the storm or sanitary sewerage systems utilized for flushing these lines and may indicate the presence of a cross-connection within the public water system. Cross-connections pose a potential threat to public health.

After full and complete negotiation of all matters set forth in this Consent Order and Agreement and upon mutual exchange of covenants contained herein, the parties desiring to avoid litigation and intending to be legally bound, it is hereby ORDERED by the Department and AGREED to by PWSA as follows:

1. Authority. This Consent Order and Agreement is an Order of the Department authorized and issued pursuant to Section 5 of the Safe Drinking Water Act, 35 P.S. § 721.5; and Section 1917-A of the Administrative Code, 71 P.S. § 510-17.

2. Findings.

a. PWSA agrees that the findings in Paragraphs A through K are true and correct and, in any matter or proceeding involving PWSA and the Department, PWSA shall not challenge the accuracy or validity of these findings.

b. The parties do not authorize any other persons to use the findings in this Consent Order and Agreement in any matter or proceeding.

3. Corrective Action. PWSA shall complete the following actions in accordance with the following schedule:

Clearwell and Related Projects

a. On or before January 1, 2023, PWSA shall submit to the Department a complete and technically sufficient application for a construction permit for a bypass system that

will enable PWSA to remove the clearwell from service and replace it. In the event the Department makes a written request to PWSA to supplement or modify the application, PWSA shall supplement or modify its application as requested by the Department within the time requested.

b. Within two (2) years of the Department's issuance of a construction permit authorizing construction of a clearwell bypass system, PWSA shall complete construction of the bypass system in accordance with the terms and conditions of the permit and shall submit to the Department an original, signed "Certificate of Construction/Modification Completion" form (certification of construction) that meets the requirements of 25 Pa. Code § 109.504(a). In the event the Department notifies PWSA in writing of any deficiencies in PWSA's construction of the bypass system, PWSA shall correct the deficiencies as requested by the Department within the time requested and submit a new certification of construction.

c. To facilitate the clearwell bypass system, PWSA shall rehabilitate or replace Rising Main #3 to PWSA's Highland 2 Reservoir as follows:

(i) On or before September 1, 2020, PWSA shall submit to the Department a complete and technically sufficient application for a construction permit to rehabilitate Rising Main #3;

OR

(ii) On or before March 1, 2021, PWSA shall submit to the Department a complete and technically sufficient application for a construction permit to replace Rising Main #3.

In the event the Department makes a written request to PWSA to supplement or modify an application submitted pursuant to Paragraph 3.c.(i) or 3.c.(ii), above, PWSA shall supplement or modify its application as requested by the Department within the time requested.

d. Within one (1) year of the Department's issuance of a construction permit authorizing the rehabilitation or replacement of Rising Main #3, PWSA shall complete the authorized work in accordance with the terms and conditions of the permit and shall submit to the Department an original, signed "Certificate of Construction/Modification Completion" form (certification of construction) that meets the requirements of 25 Pa. Code § 109.504(a). In the event the Department notifies PWSA in writing of any deficiencies in PWSA's rehabilitation or replacement of Rising Main #3, PWSA shall correct the deficiencies as requested by the Department within the time requested and submit a new certification of construction.

e. On or before June 1, 2021, PWSA shall submit to the Department a complete and technically sufficient application for a construction permit to rehabilitate or replace Rising Main #4 to PWSA's Highland 2 Reservoir to facilitate the clearwell bypass system. In the event the Department makes a written request to PWSA to supplement or modify the application, PWSA shall supplement or modify its application as requested by the Department within the time requested.

f. Within two (2) years of the Department's issuance of a construction permit authorizing the rehabilitation or replacement of Rising Main #4, PWSA shall complete the authorized work in accordance with the terms and conditions of the permit and shall submit to the Department an original, signed "Certificate of Construction/Modification Completion" form (certification of construction) that meets the requirements of 25 Pa. Code § 109.504(a). In the event the Department notifies PWSA in writing of any deficiencies in PWSA's rehabilitation

or replacement of Rising Main #4, PWSA shall correct the deficiencies as requested by the Department within the time requested and submit a new certification of construction.

g. On or before December 30, 2020, PWSA shall submit to the Department a complete and technically sufficient application for a construction permit for a new redundant rising main from the Aspinwall Pump Station to the Lanpher Reservoir to facilitate the clearwell bypass system. In the event the Department makes a written request to PWSA to supplement or modify the application, PWSA shall supplement or modify its application as requested by the Department within the time requested.

h. Within two (2) years of the Department's issuance of a construction permit authorizing the construction of a new redundant rising main from the Aspinwall Pump Station to the Lanpher Reservoir, PWSA shall complete construction of the rising main in accordance with the terms and conditions of the permit and shall submit to the Department an original, signed "Certificate of Construction/Modification Completion" form (certification of construction) that meets the requirements of 25 Pa. Code § 109.504(a). In the event the Department notifies PWSA in writing of any deficiencies in PWSA's construction of the redundant rising main, PWSA shall correct the deficiencies as requested by the Department within the time requested and submit a new certification of construction.

i. On or before June 30, 2020, PWSA shall submit to the Department a complete and technically sufficient application for a construction permit to replace the cover and liner of the Highland 2 Reservoir to facilitate the clearwell bypass system. In the event the Department makes a written request to PWSA to supplement or modify the application, PWSA shall supplement or modify its application as requested by the Department within the time requested.

j. Within eighteen (18) months of the Department's issuance of a construction permit authorizing the replacement of the cover and liner of the Highland 2 Reservoir, PWSA shall replace the cover and liner in accordance with the terms and conditions of the permit and shall submit to the Department an original, signed "Certificate of Construction/Modification Completion" form (certification of construction) that meets the requirements of 25 Pa. Code § 109.504(a). In the event the Department notifies PWSA in writing of any deficiencies in PWSA's replacement of the cover and/or liner, PWSA shall correct the deficiencies as requested by the Department within the time requested and submit a new certification of construction.

k. On or before January 1, 2021, to facilitate the clearwell bypass system, PWSA shall submit to the Department:

(i) A complete and technically sufficient application for a combined pump station to replace the existing Aspinwall and Breucken pump stations;

OR

(ii) Complete and technically sufficient applications for rehabilitation of the existing Aspinwall and Breucken pump stations.

In the event the Department makes a written request to PWSA to supplement or modify the application(s), PWSA shall supplement or modify its application(s) as requested by the Department within the time requested.

l. Within two (2) years of the Department's issuance of a construction permit authorizing PWSA to conduct a project under either Paragraph 3.k.(i) or 3.k.(ii), above, PWSA shall complete the authorized work in accordance with the terms and conditions of the permit and shall submit to the Department an original, signed "Certificate of

Construction/Modification Completion" form (certification of construction) that meets the requirements of 25 Pa. Code § 109.504(a). In the event the Department notifies PWSA in writing of any deficiencies in PWSA's replacement or rehabilitation of the Aspinwall and Bruecken pump stations, PWSA shall correct the deficiencies as requested by the Department within the time requested and submit a new certification of construction.

m. On or before January 1, 2024, PWSA shall submit to the Department a complete and technically sufficient application for a construction permit to replace the clearwell. In the event the Department makes a written request to PWSA to supplement or modify the application, PWSA shall supplement or modify its application as requested by the Department within the time requested.

n. Within two (2) years of the Department's issuance of a construction permit authorizing the replacement of the clearwell, PWSA shall complete the authorized work in accordance with the terms and conditions of the permit and shall submit to the Department an original, signed "Certificate of Construction/Modification Completion" form (certification of construction) that meets the requirements of 25 Pa. Code § 109.504(a). In the event the Department notifies PWSA in writing of any deficiencies in PWSA's replacement of the clearwell, PWSA shall correct the deficiencies as requested by the Department within the time requested and submit a new certification of construction.

o. No later than thirty (30) days after the date of the Department's issuance of an operation permit authorizing the operation of the new clearwell, PWSA shall begin operating the clearwell in accordance with the permit.

p. For as long as PWSA continues to operate the existing clearwell, PWSA shall continue to monitor turbidity, temperature, pH, log inactivation values and specific

conductance from the clearwell effluent, and NOAA precipitation values, as required by the Field Order issued by the Department on May 1, 2017. PWSA shall maintain the monitoring records on-site. PWSA shall notify the Department within one (1) hour if any turbidity reading from the clearwell effluent exceeds 1.0 NTU.

Cross-connections

q. On or before June 1, 2020, PWSA shall complete an investigation of the locations where valves, blow-offs, meters or other such appurtenances to the distribution system are found within chambers, pits or manholes connected directly or indirectly to any storm drain or sanitary sewer (commonly referred to by PWSA as "washouts") and submit to the Department a report detailing the findings including the number and locations of all such cross-connections within PWSA's System.

r. Within ninety (90) days of PWSA's submission of the report required under Paragraph 3.q., above, PWSA shall submit to the Department a plan and proposed schedule to eliminate all of the identified cross-connections and a written request for a determination by the Department as to whether the requested modification to eliminate each cross-connection identified in the report constitutes a major or minor change.

s. For any modification the Department determines to require a permit, PWSA shall submit a complete and technically sufficient application to the Department for a construction permit within sixty (60) days of the date the Department's written determination is issued to PWSA. In the event the Department makes a written request to PWSA to supplement or modify the application, PWSA shall supplement or modify its application as requested by the Department within the time requested.

t. In accordance with the plan and schedule required under Paragraph 3.r., above, as approved or as modified and approved by the Department, PWSA shall complete the elimination of all identified cross-connections and shall submit to the Department within ninety (90) days of completion a report confirming the elimination of all previously existing cross-connections with confirmatory photographs, dates and details of the corrective work performed.

4. Stipulated Civil Penalties.

a. In the event PWSA fails to comply in a timely manner with any term or provision of this Consent Order and Agreement, PWSA shall be in violation of this Consent Order and Agreement and, in addition to other applicable remedies, shall pay a civil penalty in the amount of One Hundred Dollars ($100.00) per day for each violation.

b. Stipulated civil penalty payments shall be payable monthly on or before the fifteenth day of each succeeding month. The payment shall be made by corporate check or the like made payable to the "Commonwealth of Pennsylvania – Safe Drinking Water Fund" and sent to Renee Diehl, Program Manager, Safe Drinking Water Program, Department of Environmental Protection, 400 Waterfront Drive, Pittsburgh, PA 15222-4745.

c. Any payment under this paragraph shall neither waive PWSA's duty to meet its obligations under this Consent Order and Agreement nor preclude the Department from commencing an action to compel PWSA's compliance with the terms and conditions of this Consent Order and Agreement. The payment resolves only PWSA's liability for civil penalties arising from the violation of this Consent Order and Agreement for which the payment is made.

d. Stipulated civil penalties shall be due automatically and without notice.

5. Additional Remedies.

a. In the event PWSA fails to comply with any provision of this Consent Order and Agreement, the Department may, in addition to the remedies prescribed herein, pursue any remedy available for a violation of an order of the Department, including an action to enforce this Consent Order and Agreement.

b. The remedies provided by this paragraph and Paragraph 4 (Stipulated Civil Penalties) are cumulative and the exercise of one does not preclude the exercise of any other. The failure of the Department to pursue any remedy shall not be deemed to be a waiver of that remedy. The payment of a stipulated civil penalty, however, shall preclude any further assessment of civil penalties for the violation for which the stipulated penalty is paid.

6. Reservation of Rights. The Department reserves the right to require additional measures to achieve compliance with applicable law. PWSA reserves the right to challenge any action which the Department may take to require those measures.

7. Liability of PWSA. PWSA shall be liable for any violations of the Consent Order and Agreement, including those caused by, contributed to, or allowed by its officers, agents, employees, consultants or contractors. Except as provided in Paragraph 8.c., PWSA also shall be liable for any violation of this Consent Order and Agreement caused by, contributed to, or allowed by its successors and assigns.

8. Transfer of Site.

a. The duties and obligations under this Consent Order and Agreement shall not be modified, diminished, terminated or otherwise altered by the transfer of any legal or equitable interest in the PWSA public water system or any part thereof.

b. If PWSA intends to transfer any legal or equitable interest in the PWSA public water system which is affected by this Consent Order and Agreement, PWSA shall serve a copy of this Consent Order and Agreement upon the prospective transferee of the legal and equitable interest at least thirty (30) days prior to the contemplated transfer and shall simultaneously inform the Southwest Regional Office of the Department of such intent.

c. The Department in its sole discretion may agree to modify or terminate PWSA's duties and obligations under this Consent Order and Agreement upon transfer of the PWSA System or any part thereof. PWSA waives any right that it may have to challenge the Department's decision in this regard.

9. Correspondence with Department. All correspondence with the Department concerning this Consent Order and Agreement shall be addressed to:

Renee Diehl, Program Manager
Safe Drinking Water Program
Department of Environmental Protection
Southwest Regional Office
400 Waterfront Drive
Pittsburgh, Pennsylvania 15222-4745
Telephone: 412.442.4210 Facsimile: 412.442.4242

10. Correspondence with PWSA. All correspondence with PWSA concerning this Consent Order and Agreement shall be addressed to:

Robert Weimar, Executive Director
Pittsburgh Water and Sewer Authority
Penn Liberty Plaza 1
1200 Penn Avenue
Pittsburgh, PA 15222
Telephone: 412.255.2579

PWSA shall notify the Department whenever there is a change in the contact person's name, title, or address. Service of any notice or any legal process for any purpose under this Consent

Order and Agreement, including its enforcement, may be made by mailing a copy by first class mail to the above address.

11. Force Majeure.

a. In the event that PWSA is prevented from complying in a timely manner with any time limit imposed in this Consent Order and Agreement solely because of a strike, fire, flood, act of God, or other circumstance beyond PWSA's control and which PWSA, by the exercise of all reasonable diligence, is unable to prevent, then PWSA may petition the Department for an extension of time. An increase in the cost of performing the obligations set forth in this Consent Order and Agreement shall not constitute circumstances beyond PWSA's control. PWSA's economic inability to comply with any of the obligations of this Consent Order and Agreement shall not be grounds for any extension of time.

b. PWSA shall only be entitled to the benefits of this paragraph if PWSA notifies the Department within five (5) working days by telephone and within ten (10) working days in writing of the date it becomes aware or reasonably should have become aware of the event impeding performance. The written submission shall include all necessary documentation, as well as a notarized affidavit from an authorized individual specifying the reasons for the delay, the expected duration of the delay, and the efforts which have been made and are being made by PWSA to mitigate the effects of the event and to minimize the length of the delay. The initial written submission may be supplemented within ten (10) working days of its submission. PWSA's failure to comply with the requirements of this paragraph specifically and in a timely fashion shall render this paragraph null and of no effect as to the particular incident involved.

c. The Department will decide whether to grant all or part of the extension requested on the basis of all documentation submitted by PWSA and other information available

to the Department. In any subsequent litigation, PWSA shall have the burden of proving that the Department's refusal to grant the requested extension was an abuse of discretion based upon the information then available to it.

12. Severability. The paragraphs of this Consent Order and Agreement shall be severable and should any part hereof be declared invalid or unenforceable, the remainder shall continue in full force and effect between the parties.

13. Entire Agreement. This Consent Order and Agreement shall constitute the entire integrated agreement of the parties. No prior or contemporaneous communications or prior drafts shall be relevant or admissible for purposes of determining the meaning or extent of any provisions herein in any litigation or any other proceeding.

14. Attorney Fees. The parties shall bear their respective attorney fees, expenses and other costs in the prosecution or defense of this matter or any related matters, arising prior to execution of this Consent Order and Agreement.

15. Modifications. No changes, additions, modifications, or amendments of this Consent Order and Agreement shall be effective unless they are set out in writing and signed by the parties hereto.

16. Titles. A title used at the beginning of any paragraph of this Consent Order and Agreement may be used to aid in the construction of that paragraph, but shall not be treated as controlling.

17. Decisions Under Consent Order. Any decision which the Department makes under the provisions of this Consent Order and Agreement, including a notice that stipulated civil penalties are due, is intended to be neither a final action under 25 Pa. Code § 1021.2, nor an

adjudication under 2 Pa. C.S. § 101. Any objection which PWSA may have to the decision will be preserved until the Department enforces this Consent Order and Agreement.

18. Resolution. Attached hereto as Appendix A is a resolution of the Board of PWSA authorizing its signatories below to enter into this Consent Order and Agreement on its behalf.

IN WITNESS WHEREOF, the parties hereto have caused this Consent Order and Agreement to be executed by their duly authorized representatives. The undersigned representatives of PWSA certify under penalty of law, as provided by 18 Pa. C.S. § 4904, that they are authorized to execute this Consent Order and Agreement on behalf of PWSA; that PWSA consents to the entry of this Consent Order and Agreement as a final ORDER of the Department; and that PWSA hereby knowingly waives its right to appeal this Consent Order and Agreement and to challenge its content or validity, which rights may be available under Section 4 of the Environmental Hearing Board Act, Act of July 13, 1988, P.L. 530, 35 P.S. § 7514; the Administrative Agency Law, 2 Pa. C.S. § 103(a) and Chapters 5A and 7A; or any other provisions of law. Signature by PWSA's attorney certifies only that the agreement has been signed after consulting with counsel.

FOR PITTSBURGH WATER AND SEWER AUTHORITY:

Robert Weimar
Executive Director
Pittsburgh Water and Sewer Authority

David Ries
Attorney for Pittsburgh Water
and Sewer Authority

FOR THE COMMONWEALTH OF PENNSYLVANIA, DEPARTMENT OF ENVIRONMENTAL PROTECTION:

Rence Diehl
Environmental Program Manager
Bureau of Safe Drinking Water

Gail Guenther
Assistant Counsel
Southwest Office of Chief Counsel

Exhibit BK-2

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

May 13, 2020

CERTIFIED MAIL NO.

Robert Weimar, Executive Director
Pittsburgh Water and Sewer Authority
1200 Penn Avenue
Pittsburgh, PA 15222

Re: Consent Order and Agreements dated November 17, 2017 and September 9, 2019
Extension Request
PWS ID No. 5020038
Allegheny County

Dear Mr. Weimar:

On April 8, 2020, the Department received a request from the Pittsburgh Water and Sewer Authority (PWSA), for an extension of time to complete the following tasks:

November 17, 2017 Consent Order and Agreement

Paragraph 3.c.iii - requiring all monies held aside for the Community Environmental Project to be spent within three years of the execution date of the COA, or by November 16, 2020.

September 6, 2019 Consent Order and Agreement

Paragraph 3.c.i - requiring PWSA must submit a construction permit application for the rehabilitation of Rising Main #3 on or before September 1, 2020.

Paragraph 3.g – requiring submission of a construction permit application for the Aspinwall Pump Station to Lanpher Reservoir Rising main on or before December 30, 2020.

Paragraph 3.k.ii – requiring submission of a construction permit application for the rehabilitation of the existing Aspinwall and Breucken pump stations on or before January 1, 2021.

Paragraph 3.q – requiring completion of investigation of the locations where valves, blow-offs, meters or other appurtenances are directly or indirectly connected to storm drains or sanitary sewers by June 1, 2020.

In response to this request, the Department will exercise its enforcement discretion to allow an **additional 90 days** for PWSA to comply with the provisions of the specific paragraphs listed above of DEP's November 17, 2017 Consent Order and Agreement and September 9, 2019 Consent Order and Agreement. All other requirements and deadlines of the November 17, 2017 Consent Order and Agreement and the September 9, 2019 Consent Order and Agreement remain unchanged.

Provided that PWSA complies with the new corrective action deadlines stated above, the Department will exercise its enforcement discretion to forego the collection of stipulated civil penalties otherwise due under the terms of the COAs. If, however, PWSA fails to satisfactorily complete the corrective action obligations required under the provisions listed above in accordance with the new deadlines, then the Department will assess civil penalties beginning from the new deadlines until such time as PWSA complies in full with these obligations under the November 17, 2017 Consent Order and Agreement and the September 9, 2019 Consent Order and Agreement.

Sincerely,

Renee L. Diehl
Environmental Group Manager
Safe Drinking Water Program

Exhibit BK-3

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

IN THE MATTER OF:

Pittsburgh Water and Sewer Authority	:	Violations of the Clean Streams Law,
Penn Liberty Plaza 1	:	Safe Drinking Water Act and Rules and
1200 Penn Avenue	:	Regulations Promulgated Pursuant Thereto
Pittsburgh PA 15222	:	

FIRST AMENDMENT TO
SEPTEMBER 6, 2019 CONSENT ORDER AND AGREEMENT

This first amendment to the September 6, 2019 Consent Order and Agreement ("First Amendment") is entered into this 7th day of May, 2021, by and between the Commonwealth of Pennsylvania, Department of Environmental Protection ("Department") and the Pittsburgh Water and Sewer Authority ("PWSA").

The Department has found and determined the following:

A. The Department is the agency with the duty and authority to administer and enforce the Pennsylvania Safe Drinking Water Act, Act of May 1, 1984, P.L. 206, *as amended*, 35 P.S. §§ 721.1-721.17 ("Safe Drinking Water Act"); Section 1917-A of the Administrative Code of 1929, Act of April 9, 1929, P.L. 177, *as amended*, 71 P.S. § 510-17 ("Administrative Code"); and the rules and regulations promulgated thereunder ("Regulations").

B. PWSA is a municipal authority with a business address of Penn Liberty Plaza 1, 1200 Penn Avenue, Pittsburgh, Pennsylvania 15222. PWSA is a "person," a "supplier of water" and a "public water supplier," as those terms are defined in Section 3 of the Safe Drinking Water Act, 35 P.S. § 721.3, and Section 109.1 of the Regulations, 25 Pa. Code § 109.1.

C. PWSA leases, operates and is the permittee of a "public water system" and, more specifically, a "community water system," as those terms are defined in Section 3 of the Safe

Drinking Water Act, 35 P.S. § 721.3, and Section 109.1 of the Regulations, 25 Pa. Code § 109.1. PWSA's public water system consists of water sources, a clearwell and other storage facilities, treatment facilities, and a distribution system (collectively, the "System"). PWSA's System has been assigned Public Water System Identification Number 5020038.

D. On September 6, 2019, the Department and PWSA executed a Consent Order and Agreement ("2019 COA"), a copy of which is attached hereto as Appendix A.

E. Because of delays associated with the COVID-19 pandemic and changes in design and construction approaches, PWSA has requested to amend the 2019 COA for the purpose of: 1) extending the deadline for PWSA to submit applications for permits to construct two new pump stations; 2) shortening the deadline for PWSA to submit an application for a permit to construct a new clearwell bypass system; and 3) establishing a new stipulated civil penalty in the event PWSA fails to meet the new deadlines under this First Amendment.

F. Based on the foregoing reasons, the Department is willing to amend Paragraphs 3.a., 3.k. and 3.l. (Corrective Action) and Paragraph 4 (Stipulated Civil Penalties) of the 2019 COA as set forth below. To avoid confusion, the modified Corrective Action provisions herein are identified with the same numbers and letters as those of the provisions in the 2019 COA that they amend.

G. The parties intend that all other terms and provisions of the 2019 COA shall remain in full force and effect.

After full and complete negotiation of all matters set forth in this First Amendment, and upon mutual exchange of covenants contained herein, the parties desiring to avoid litigation and intending to be legally bound, it is hereby ORDERED by the Department and AGREED to by PWSA as follows:

1. Authority. This First Amendment is an Order of the Department authorized and issued pursuant to Section 5 of the Safe Drinking Water Act, 35 P.S. § 721.5; and Section 1917-A of the Administrative Code, 71 P.S. § 510-17.

2. Findings.

a. PWSA agrees that the findings in Paragraphs A through G of this First Amendment are true and correct and, in any matter or proceeding involving PWSA and the Department, PWSA shall not challenge the accuracy or validity of these findings.

b. The parties do not authorize any other persons to use the findings in this First Amendment in any matter or proceeding.

3. Corrective Action. The following paragraphs and subparagraphs of the 2019 COA are amended to read as follows:

Clearwell and Related Projects

3.a. No later than September 30, 2021, PWSA shall submit to the Department a complete and technically sufficient application for a permit to construct a bypass system that will enable PWSA to remove the clearwell from service and replace it. In the event the Department makes a written request to PWSA to supplement or modify the application, PWSA shall supplement or modify its application as requested by the Department within fifteen (15) days or such other time as the Department requests.

3.k. No later than September 30, 2021, to facilitate the clearwell bypass system, PWSA shall submit to the Department a complete and technically sufficient application to rehabilitate the existing Aspinwall pump station and a complete and technically sufficient application to rehabilitate the existing Bruecken pump station. In the event the Department makes a written request to PWSA to supplement or modify either or both of the applications,

PWSA shall supplement or modify its application(s) as requested by the Department within fifteen (15) days or such other time as the Department requests.

3.l. Within two (2) years of the Department's issuance of each of the construction permits for the Aspinwall pump station and the Bruecken pump station referenced in Paragraph 3.k., above, PWSA shall complete the authorized work in accordance with the terms and conditions of each construction permit and shall submit to the Department an original, signed "Certificate of Construction/Modification Completion" form (certification of construction) that meets the requirements of 25 Pa. Code § 109.504(a). In the event the Department notifies PWSA in writing of any deficiencies in PWSA's rehabilitation of either the Aspinwall or Bruecken pump stations, PWSA shall correct the deficiencies as requested by the Department within the time requested and submit a new certification of construction.

4. Stipulated Civil Penalties.

a. In the event PWSA fails to meet the corrective action deadline of September 30, 2021, as specified in Paragraphs 3a. and 3.k., above, PWSA shall be in violation of this Consent Order and Agreement and, in addition to other applicable remedies, shall pay a one-time civil penalty in the amount of Twenty Thousand Dollars ($20,000). In addition to the one-time payment, PWSA shall pay a civil penalty in the amount of One Thousand Dollars ($1,000) per day for each violation until the requirements specified in Paragraphs 3a. and 3.k., above, are fulfilled.

b. In the event PWSA fails to comply in a timely manner with any term or provision in Paragraphs 3.b. through 3.j. and Paragraphs 3.l. through 3.t., above, PWSA shall be in violation of this Consent Order and Agreement and, in addition to other applicable remedies, shall pay a civil penalty in the amount of One Hundred Dollars ($100) per day for each violation.

c. Stipulated civil penalty payments shall be payable monthly on or before the fifteenth day of each succeeding month. The payment shall be made by corporate check or the like, made payable to the "Commonwealth of Pennsylvania - Safe Drinking Water Fund" and sent to:

Gail Guenther
Environmental Protection Compliance Specialist
Safe Drinking Water Program
PA DEP Southwest Regional Office
400 Waterfront Drive
Pittsburgh PA 15222

d. Any payment under this paragraph shall neither waive PWSA's duty to meet its obligations under this Consent Order and Agreement, nor preclude the Department from commencing an action to compel PWSA's compliance with the terms and conditions of this Consent Order and Agreement. The payment resolves only PWSA's liability for civil penalties arising from the violation of this Consent Order and Agreement for which the payment is made.

e. The civil penalty settlement and stipulated civil penalties shall be due automatically and without notice.

5. Except for the amendment to Paragraphs 3.a., 3.k., 3.l. and Paragraph 4, expressly stated herein, the Findings and all other terms and conditions of the 2019 COA shall remain in full force and effect between the Parties.

6. Resolution. Attached hereto as Appendix B is a resolution of the Board of Directors of PWSA authorizing its signatory(ies) below to enter into this First Amendment on its behalf.

7. This First Amendment may be signed in counterparts, each of which shall be deemed to be an original and all of which together shall constitute one and the same instrument. Counterpart signatures may be transmitted electronically using portable document format (.pdf).

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IN WITNESS WHEREOF, the parties hereto have caused this First Amendment to the September 6, 2019 Consent Order and Agreement to be executed by their duly authorized representatives. PWSA certifies under penalty of law, as provided by 18 Pa. C.S. § 4904, that it is authorized to execute this First Amendment to the September 6, 2019 Consent Order and Agreement; that it consents to the entry of this First Amendment to the September 6, 2019 Consent Order and Agreement as a final ORDER of the Department; and it hereby knowingly waives its rights to appeal this First Amendment to the September 6, 2019 Consent Order and Agreement and to challenge its content or validity, which rights may be available under Section 4 of the Environmental Hearing Board Act, Act of July 13, 1988, P.L. 530, 35 P.S. § 7514; the Administrative Agency Law, 2 Pa. C.S. § 103(a) and Chapters 5A and 7A; or any other provisions of law. Signature by PWSA's attorney certifies only that the amendment has been signed after consulting with counsel.

FOR PITTSBURGH WATER AND SEWER AUTHORITY:

William J. Pickering
Chief Executive Officer
Pittsburgh Water and Sewer Authority

David G. Ries, Esquire
Attorney for Pittsburgh Water and Sewer Authority

FOR THE COMMONWEALTH OF PENNSYLVANIA, DEPARTMENT OF ENVIRONMENTAL PROTECTION:

Renee Diehl
Program Manager
Southwest Safe Drinking Water Program

Wendy Carson
Assistant Counsel

Exhibit BK-4

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

IN THE MATTER OF:

Pittsburgh Water and Sewer Authority Penn Liberty Plaza 1 1200 Penn Avenue Pittsburgh, PA 15222	: : : :	Violations of the Safe Drinking Water Act and the Rules and Regulations Promulgated Pursuant Thereto

SECOND AMENDMENT TO
SEPTEMBER 6, 2019 CONSENT ORDER AND AGREEMENT

This second amendment to the September 6, 2019 Consent Order and Agreement (Amendment 2) is entered into this 4th day of August, 2022, by and between the Commonwealth of Pennsylvania, Department of Environmental Protection (Department) and the Pittsburgh Water and Sewer Authority (PWSA).

The Department has found and determined the following:

A. The Department is the agency with the duty and authority to administer and enforce the Pennsylvania Safe Drinking Water Act, Act of May 1, 1984, P.L. 206, *as amended*, 35 P.S. §§ 721.1-721.17 (Safe Drinking Water Act); Section 1917-A of the Administrative Code of 1929, Act of April 9, 1929, P.L. 177, *as amended*, 71 P.S. § 510-17 (Administrative Code); and the rules and regulations promulgated thereunder (Regulations).

B. PWSA is a municipal authority with a business address of Penn Liberty Plaza 1, 1200 Penn Avenue, Pittsburgh, Pennsylvania 15222. PWSA is a "person", a "supplier of water" and a "public water supplier", as those terms are defined in Section 3 of the Safe Drinking Water Act, 35 P.S. § 721.3, and Section 109.1 of the Regulations, 25 Pa. Code § 109.1.

C. PWSA leases, operates and is the permittee of a "public water system" and, more specifically, a "community water system", as those terms are defined in Section 3 of the Safe

Drinking Water Act, 35 P.S. § 721.3, and Section 109.1 of the Regulations, 25 Pa. Code § 109.1. PWSA's public water system consists of water sources, a clearwell, and other storage facilities, treatment facilities, and a distribution system (collectively, the "PWSA System"). PWSA's System has been assigned Public Water System Identification Number 5020038.

D. On September 6, 2019, the Department and PWSA executed a Consent Order and Agreement (2019 COA). On May 7, 2021, the Department and PWSA executed a First Amendment to the 2019 COA (First Amendment). A copy of the First Amendment, which appends a copy of the 2019 COA, is attached hereto as Appendix A.

E. Because of delays associated with supply chain issues as a result of the COVID-19 pandemic, PWSA has requested to amend the 2019 COA for the purpose of: 1) extending the deadline for PWSA to complete construction of a replacement for Rising Main #3 to PWSA's Highland 2 Reservoir; 2) extending the deadline for PWSA to complete construction of a new cover and liner for the Highland 2 Reservoir; and 3) establishing new stipulated civil penalties in the event PWSA fails to meet the new deadlines under this Amendment 2.

F. Based on the foregoing reasons, the Department is willing to amend Paragraphs 3.d. and 3.j. (in Corrective Action) and Paragraph 4 (Stipulated Civil Penalties) of the 2019 COA as set forth below. To avoid confusion, the modified Corrective Action provisions herein are identified with the same numbers and letters as those of the provisions in the 2019 COA that they amend. The parties intend that all other terms and provisions of the 2019 COA and the First Amendment shall remain in full force and effect.

After full and complete negotiation of all matters set forth in this Amendment 2, and upon mutual exchange of covenants contained herein, the parties desiring to avoid litigation and

intending to be legally bound, it is hereby ORDERED by the Department and AGREED to by PWSA as follows:

1. Authority. This Amendment 2 is an Order of the Department authorized and issued pursuant to Section 5 of the Safe Drinking Water Act, 35 P.S. § 721.5; and Section 1917-A of the Administrative Code of 1929, 71 P.S. § 510-17.

2. Findings.

a. PWSA agrees that the findings in Paragraphs A through F of this Amendment 2 are true and correct and, in any matter or proceeding involving PWSA and the Department, PWSA shall not challenge the accuracy or validity of these findings.

b. The parties do not authorize any other persons to use the findings in this Amendment 2 in any matter or proceeding.

3. Corrective Action. The following subparagraphs of Paragraph 3 of the 2019 COA are amended to read as follows:

Clearwell and Related Projects

3.d. No later than December 31, 2022, PWSA shall complete the work authorized for the reconstruction and rehabilitation of Rising Main #3 in accordance with the terms and conditions of Public Water Supply Permit No. 0220523MA and shall submit to the Department an original, signed "Certificate of Construction/Modification Completion" form (certification of construction) that meets the requirements of 25 Pa. Code § 109.504(a). In the event the Department notifies PWSA in writing of any deficiencies in the reconstruction and rehabilitation of Rising Main #3, PWSA shall correct the deficiencies as requested by the Department within the time requested and submit a new certification of construction.

3.j. No later than December 31, 2022, PWSA shall complete the work authorized for the installation of a new liner and cover for the Highland 2 Reservoir in accordance with the terms and conditions of Public Water Supply Permit No. 0220522MA, which has an expiration date of December 31, 2022, and shall submit to the Department an original, signed "Certificate of Construction/Modification Completion" form (certification of construction) that meets the requirements of 25 Pa. Code § 109.504(a). In the event the Department notifies PWSA in writing of any deficiencies in the installation of the new liner and/or cover for the Highland 2 Reservoir, PWSA shall correct the deficiencies as requested by the Department within the time requested and submit a new certification of construction.

4. Stipulated Civil Penalties. Paragraph 4 of the 2019 COA and the First Amendment are superseded by the following:

a. In the event PWSA fails to meet the corrective action deadline of September 30, 2021, as specified in Paragraphs 3a. and 3.k., above, PWSA shall be in violation of this Consent Order and Agreement and, in addition to other applicable remedies, shall pay a one-time civil penalty in the amount of Twenty Thousand Dollars ($20,000). In addition to the one-time payment, PWSA shall pay a civil penalty in the amount of One Thousand Dollars ($1,000) per day for each violation until the requirements specified in Paragraphs 3a. and 3.k., above, are fulfilled.

b. In the event that PWSA fails to meet the corrective action deadline of December 31, 2022, as specified in Paragraphs 3.d. and 3.j., above, PWSA shall be in violation of this Consent Order and Agreement and, in addition to other applicable remedies, shall pay a one-time civil penalty in the amount of Twenty Thousand Dollars ($20,000). In addition to the one-time payment, PWSA shall pay a civil penalty in the amount of One Thousand Dollars

($1,000) per day for each violation until the requirements specified in Paragraphs 3d. and 3.j., above, are fulfilled.

c. In the event PWSA fails to comply in a timely manner with any term or provision in Paragraphs 3.b., 3.c., 3.e. through 3.i. and Paragraphs 3.l. through 3.t., above, PWSA shall be in violation of this Consent Order and Agreement and, in addition to other applicable remedies, shall pay a civil penalty in the amount of One Hundred Dollars ($100) per day for each violation.

d. Stipulated civil penalty payments shall be payable monthly on or before the fifteenth day of each succeeding month. The payment shall be made by corporate check or the like, made payable to the "Commonwealth of Pennsylvania - Safe Drinking Water Fund" and sent to:

Gail Guenther
Environmental Protection Compliance Specialist
Safe Drinking Water Program
PA DEP Southwest Regional Office
400 Waterfront Drive
Pittsburgh PA 15222

e. Any payment under this paragraph shall neither waive PWSA's duty to meet its obligations under the 2019 COA, as amended, nor preclude the Department from commencing an action to compel PWSA's compliance with the terms and conditions of the 2019 COA, as amended. The payment resolves only PWSA's liability for civil penalties arising from the violation of the 2019 COA, as amended, for which the payment is made.

f. The civil penalty settlement and stipulated civil penalties shall be due automatically and without notice.

5. Except for the amendments to Paragraphs 3.d. and 3.j. and Paragraph 4, expressly stated herein, the Findings and all other terms and conditions of the 2019 COA and First Amendment shall remain in full force and effect between the Parties.

6. Resolution. Attached hereto as Appendix B is a resolution of the Board of Directors of PWSA authorizing its signatory(ies) below to enter into this Amendment 2 on its behalf.

7. This Amendment 2 may be signed in counterparts, each of which shall be deemed to be an original and all of which together shall constitute one and the same instrument. Counterpart signatures may be transmitted electronically using portable document format (.pdf).

[THE REMAINDER OF THIS PAGE IS INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the parties hereto have caused this Amendment 2 to be executed by their duly authorized representatives. PWSA certifies under penalty of law, as provided by 18 Pa. C.S. § 4904, that it is authorized to execute this Amendment 2; that it consents to the entry of this Amendment 2 as a final ORDER of the Department; and it hereby knowingly waives its rights to appeal this Amendment 2 and to challenge its content or validity, which rights may be available under Section 4 of the Environmental Hearing Board Act, Act of July 13, 1988, P.L. 530, 35 P.S. § 7514; the Administrative Agency Law, 2 Pa. C.S. § 103(a) and Chapters 5A and 7A; or any other provisions of law.

FOR PITTSBURGH WATER AND SEWER AUTHORITY:

William J. Pickering
Chief Executive Officer
Pittsburgh Water and Sewer Authority

David G. Ries, Esquire
Attorney for Pittsburgh Water and Sewer Authority

FOR THE COMMONWEALTH OF PENNSYLVANIA, DEPARTMENT OF ENVIRONMENTAL PROTECTION:

Renee Diehl
Program Manager
Southwest Safe Drinking Water Program

Wendy Carson
Assistant Counsel

Exhibit BK-5

Received 8/27/2024 2:09:55 PM Commonwealth Court of Pennsylvania
Pittsburgh Water Exhibit BK-5

Filed 8/27/2024 2:09:00 PM Commonwealth Court of Pennsylvania
405 MD 2024

IN THE COMMONWEALTH COURT OF PENNSYLVANIA

COMMONWEALTH OF PENNSYLVANIA, DEPARTMENT OF ENVIRONMENTAL PROTECTION,	:	
Petitioner,	:	
	:	No. 405 M.D. 2024
v.	:	
PITTSBURGH WATER AND SEWER AUTHORITY,	:	
Respondent.	:	

JOINT MOTION FOR ENTRY OF CONSENT DECREE

NOW COMES the Petitioner, Commonwealth of Pennsylvania, Department of Environmental Protection ("Department") and the Respondent, Pittsburgh Water and Sewer Authority ("PWSA"), by and through their undersigned counsel, and respectfully move this Honorable Court to enter the attached Consent Decree as an Order of this Court. In support of this Joint Motion for Entry of Consent Decree ("Joint Motion"), the parties state as follows:

1. On or about August 27, 2024, the Department and PWSA entered into a Consent Decree in anticipation of the Department filing a Petition to Enforce Consent Order and Agreement ("Petition") against PWSA for noncompliance with the September 6, 2019 Consent Order and Agreement entered into by the parties.

2. The purpose of this Consent Decree is to resolve the matters raised in the Department's Petition by having this Honorable Court adopt the Consent Decree, which is attached to this Joint Motion and marked as Exhibit A, as an Order of this Court.

3. Entry of the proposed Consent Decree will further the public interest.

4. All parties consent to this Joint Motion.

WHEREFORE, the Parties respectfully request that this Honorable Court adopt the Consent Decree, attached hereto and marked as Exhibit A, as an Order of this Court to resolve the issues raised in the Department's Petition, and to retain jurisdiction over this matter pursuant to the terms of the Consent Decree.

Respectfully submitted,

s/ Christopher L. Ryder
Christopher L. Ryder
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(412) 394-7787
(412) 394-2555 (Fax)
Attorneys for Respondent

Date: August 27, 2024

EXHIBIT

A

IN THE COMMONWEALTH COURT OF PENNSYLVANIA

COMMONWEALTH OF PENNSYLVANIA, DEPARTMENT OF ENVIRONMENTAL PROTECTION,	:	
Petitioner,	:	
	:	No. _____ M.D. 2024
v.	:	
PITTSBURGH WATER AND SEWER AUTHORITY,	:	
Respondent.	:	

CONSENT DECREE

A. The Department is the agency with the duty and authority to administer and enforce the Pennsylvania Safe Drinking Water Act, Act of May 1, 1984, P.L. 206, *as amended,* 35 P.S. §§ 721.1-721.17 ("Safe Drinking Water Act"); Section 1917-A of the Administrative Code of 1929, Act of April 9, 1929, P.L. 177, *as amended,* 71 P.S. § 510-17 ("Administrative Code"); and the rules and regulations promulgated thereunder ("Regulations").

B. PWSA is a municipal authority with a business address of Penn Liberty Plaza 1, 1200 Penn Avenue, Pittsburgh, Pennsylvania 15222.

C. PWSA is a "person" and a "supplier of water" as those terms are defined in Section 3 of the Safe Drinking Water Act, 35 P.S. § 721.3, and is a

"person" and "public water supplier" as those terms are defined in Section 109.1 of the Regulations, 25 Pa. Code § 109.1.

D. PWSA leases, operates and is the permittee of a "public water system" and, more specifically, a "community water system," as those terms are defined in Section 3 of the Safe Drinking Water Act, 35 P. S. § 721.3, and Section 109.1 of the Regulations, 25 Pa. Code § 109.1.

E. PWSA's public water system consists of water sources, a clearwell and other storage facilities, treatment facilities and a distribution system (collectively, the "PWSA Water System"). PWSA provides drinking water through the PWSA Water System to approximately 520,000 people in the Pittsburgh, Pennsylvania area, including approximately 250,000 residential customers. PWSA operates the PWSA Water System pursuant to multiple public water supply permits issued by the Department and has been assigned Public Water System Identification Number 5020038. The City of Pittsburgh owns the PWSA Water System and leases it to PWSA.

Jurisdiction

F. This Court has jurisdiction pursuant to Section 763(a) of the Judicial Code, 42 Pa. C.S. § 763(a); Pennsylvania Rule of Appellate Procedure 3761, Pa.

R.A.P. 3761; and Sections 5(c) and 13(a) of the Safe Drinking Water Act, 35 P.S. §§ 721.5(c), 721.13(a).

Background

G. PWSA uses a clearwell constructed in approximately 1908 for storage of filtered water prior to the introduction of the water into PWSA's distribution system.

H. In 1998, PWSA contracted Marion Hill Associates to conduct an inspection of the clearwell. The 1998 clearwell inspection found that the structural stability of the clearwell was good overall, but identified several areas of concern including, but not limited to: excessive amounts of sediment that prohibited inspection of the bottom of the tank; debris; infiltrating tree roots; signs of erosion, deterioration and cracks in the concrete walls; leaks in the clearwell equalization chamber; and considerable amounts of rust on the gates for the clearwell and gatehouse, which could make them unmovable.

I. The consultant concluded that the clearwell did not meet current design standards for public water supply finished water storage.

J. PWSA subsequently hired consultants HDR Engineering, Inc., and Malcom Pirnie, Inc., to provide separate but concurrent evaluations and recommendations regarding the clearwell.

K. In November 2008, HDR Engineering, Inc., provided a report to PWSA titled "Pittsburgh Water Treatment Plant Clearwell Improvements, Phase 1- Study." The purpose of the report was to identify available alternatives to address "PWSA's desires to have a clearwell system with the operational flexibility of being able to remove approximately one half of the clearwell from service for cleaning and maintenance while the other half remains in service; and to have the ability to bypass the clearwell and send filtered water directly to the Bruecken Pump Station in emergency situations."

L. In December 2008, Malcom Pirnie, Inc., provided a report to PWSA titled "Clearwell Improvements Phase 1-Study," which also addressed PWSA's expressed need for operational flexibility with the clearwell.

M. Both reports identified viable alternative options and provided cost estimates to PWSA to address the condition of the clearwell as well as the desired operational flexibility.

N. In March 2017, consultant Mott McDonald submitted another report to PWSA entitled "Alternative Evaluation-Clearwell Redundancy Project," which identified additional viable options to remedy the inflexibility of the clearwell with cost estimates.

O. During a three-day inspection in late April 2017, the Department discovered that two access hatches on the clearwell were open and several other hatches were in disrepair, creating possible pathways of surface contamination. The Department required PWSA to take immediate action to secure the manholes on the clearwell with temporary covers. PWSA took this corrective action.

P. On May 1, 2017, the Department issued a Field Order citing PWSA for failing to effectively operate and maintain its public water facilities and failing to take investigative and corrective action necessary to ensure that safe and potable water is continuously supplied to the users of its system by, among other things, not adequately responding to the 1998 Marion Hill Associates clearwell inspection report, in violation of 25 Pa. Code §§ 109.4(3) and 109.4(4). In the Field Order, the Department directed PWSA to increase its free chlorine residual, install additional protective and monitoring equipment on the clearwell, and conduct additional monitoring and testing of the clearwell. PWSA took this corrective action.

Q. On October 25, 2017, the Department issued an Administrative Order to PWSA directing PWSA to undertake a number of actions including, among other things, to provide to the Department a detailed schedule for the

completion of certain longer-term capital improvement projects identified by PWSA to the Department. Two of the identified capital improvement projects were the "Clearwell Emergency Response Project" and the "Washout Disconnection Program."

2019 Consent Order and Agreement and Amendments

R. On September 6, 2019, the Department and PWSA executed a Consent Order and Agreement (2019 COA), a copy of which is attached hereto as Exhibit A.

S. On May 7, 2021, the Department and PWSA executed a First Amendment to the September 6, 2019 Consent Order and Agreement ("First Amendment"), a copy of which (without the Appendices) is attached hereto as Exhibit B. The First Amendment acknowledges that PWSA requested the amendment because of delays associated with the COVID-19 pandemic and changes in design and construction approaches.

T. On August 4, 2022, the Department and PWSA executed a Second Amendment to the September 6, 2019 Consent Order and Agreement ("Second Amendment"), a copy of which (without the Appendices) is attached hereto as Exhibit C. The Second Amendment acknowledges that PWSA requested the amendment because of delays associated with supply chain issues as a result of the COVID-19 pandemic.

Clearwell Replacement

U. Pursuant to Paragraph 3.m. of the 2019 COA, PWSA was required to submit to the Department a complete and technically sufficient application for a construction permit to replace the clearwell on or before January 1, 2024.

Clearwell Bypass System

V. The 2019 COA, among other things, required PWSA to submit a permit application to construct a bypass system that will enable PWSA to remove the clearwell from service and replace it, which it has done.

W. To facilitate the clearwell bypass system, the 2019 COA, among other things, required PWSA to submit a permit application to: 1) rehabilitate or replace the existing Aspinwall and Bruecken pump stations; and 2) construct a redundant rising main from the Aspinwall Pump Station to the Lanpher Reservoir ("Redundant Lanpher Rising Main Project").

X. On August 4, 2023, PWSA advised the Department that PWSA had identified administrative, schedule, and construction risks that it would experience in completing the design, permitting and construction of the Redundant Lanpher Rising Main Project and proposed to replace it with an alternative. PWSA gave a presentation to the Department that provided details concerning the alternative and the need for related design and scheduling changes.

Y. On October 2, 2023, PWSA submitted a written request that the 2019 COA be amended for a third time to include the alternative to the Redundant Lanpher Rising Main Project, which PWSA has titled the Aspinwall and Fox Chapel Interim Feed Project. PWSA also requested that the 2019 COA be amended to extend the deadlines for completing construction of the bypass system, the Aspinwall and Breucken pump stations and replacement of the clearwell to coordinate with the Aspinwall and Fox Chapel Interim Feed Project.

Z. Between October 2023 and June 2024, the Department and PWSA engaged in discussions concerning deadlines and the Aspinwall and Fox Chapel Interim Feed Project.

AA. By correspondence dated December 23, 2023, in response to PWSA's request for an extension of time to submit the construction permit to replace the clearwell, the Department advised PWSA that it would exercise its enforcement discretion and not demand or pursue civil penalties for non-compliance with Paragraph 3.m of the 2019 COA so long as compliance was fully achieved no later than April 1, 2024 (or alternative deadlines are memorialized before that date).

BB. By correspondence dated March 26, 2024, in response to PWSA's request for an additional extension of time to submit the construction permit to replace the clearwell, the Department advised PWSA that it would continue to exercise its enforcement discretion and not demand or pursue civil penalties for non-

compliance with Paragraph 3.m of the 2019 COA so long as compliance was fully achieved no later than June 1, 2024 (or alternative deadlines are memorialized before that date).

CC. By correspondence dated May 30, 2024, in response to PWSA's request for an additional extension of time to submit the construction permit to replace the clearwell, the Department advised PWSA that it would continue to exercise its enforcement discretion and not demand or pursue civil penalties for non-compliance with Paragraph 3.m of the 2019 COA so long as compliance was fully achieved no later than July 1, 2024 (or alternative deadlines are memorialized before that date).

DD. By correspondence dated June 27, 2024, in response to PWSA's request for an additional extension of time to submit the construction permit to replace the clearwell, the Department advised PWSA that it would continue to exercise its enforcement discretion and not demand or pursue civil penalties for non-compliance with Paragraph 3.m of the 2019 COA so long as compliance was fully achieved no later than August 1, 2024 (or alternative deadlines are memorialized before that date).

EE. By correspondence dated July 31, 2024, in response to PWSA's request for an additional extension of time to submit the construction permit to replace the clearwell, the Department advised PWSA that it would continue to exercise its enforcement discretion and not demand or pursue civil penalties for non-compliance

with Paragraph 3.m of the 2019 COA so long as compliance was fully achieved no later than September 1, 2024 (or alternative deadlines are memorialized before that date).

Failure to Submit Application for Permit

FF. As of the date of this Consent Decree, PWSA has failed to submit to the Department a complete and technically sufficient application for a construction permit to replace the clearwell. Before the deadline, PWSA proposed extension of the deadlines in the 2019 COA for corrective actions not yet completed, including the deadline to submit an application for clearwell replacement.

GG. Pursuant to Paragraph 1 of the 2019 COA, the 2019 COA is an Order of the Department issued pursuant to Section 5 of the Safe Drinking Water Act, 35 P.S. § 721.5, and Section 1917-A of the Administrative Code, and any violation of the 2019 COA is a violation of a Department Order.

HH. Contemporaneously with the filing of a Petition to Enforce Consent Order and Agreement with the Commonwealth Court of Pennsylvania ("Petition"), the Department and PWSA filed a Joint Motion for Entry of Consent Decree.

II. The parties, wishing to avoid further litigation, have agreed to resolve the Department's Petition through entry of the following Consent Decree.

ORDER

Based upon the foregoing Findings, the Department's Petition to Enforce a Consent Order and Agreement, and the Motion for Entry of Consent Decree filed by the Department, it appearing to the Court that this Consent Decree is just and proper, it is hereby ORDERED, ADJUDGED, AND DECREED that:

1. ***Jurisdiction***. This Court has jurisdiction pursuant to Section 763(a) of the Judicial Code, 42 Pa. C.S. § 763(a), and Pennsylvania Rule of Appellate Procedure 3761, Pa. R.A.P. 3761.

2. ***Court Order***. This Consent Decree is an Order of this Court and applies to and is binding upon the Department and PWSA. Upon this Court's determination that PWSA has failed to comply with any term or condition of this Order, PWSA shall be in contempt and shall be subject to all penalties and remedies provided for by law for failing to comply with an Order of this Court.

3. ***Department Order***. This Consent Decree is also an Order of the Department and is authorized and issued pursuant to Section 5 of the Safe Drinking Water Act, 35 P.S. § 721.5; and Section 1917-A of the Administrative Code, 71 P.S. § 510-17. The failure of PWSA to comply with any term or condition of this Consent Decree shall subject PWSA to any penalties and remedies provided by the Safe Drinking Water Act for failing to comply with an Order of the Department.

4. ***Findings***. In any matter or proceeding between PWSA and the Department, PWSA shall not challenge or deny the Department's assertion of the truth, accuracy or validity of Paragraphs A though II, above. The parties do not authorize any other persons to use the Findings in this Consent Decree in any matter or proceeding.

5. ***Corrective Action***. PWSA shall perform the following tasks in accordance with the following schedule:

Aspinwall and Bruecken Pump Stations, Lanpher Reservoir, Clearwell Bypass and Overflow Structure

a. No later than December 31, 2025 PWSA shall submit to the Department a complete and technically sufficient application for a permit to construct the Aspinwall and Fox Chapel Interim Feed Project to facilitate the clearwell bypass system.

b. No later than three (3) years and eight (8) months from the Department's permit issuance, PWSA shall complete the work authorized for the Aspinwall and Fox Chapel Interim Feed Project in accordance with the terms and conditions of the permit(s) issued by the Department and shall submit to the Department an original, signed "Certificate of Construction/Modification Completion" form (certification of construction) that meets the requirements of 25 Pa. Code § 109.504(a).

c. i. No later than October 15, 2027, PWSA shall complete all of the authorized work necessary for the construction of the fluoride and orthophosphate chemical feed systems at the Aspinwall Pump Station in accordance with the terms and conditions of the applicable permit(s) issued by the Department and shall submit to the Department an original, signed "Certificate of Construction/Modification Completion" form (certification of construction) that meets the requirements of 25 Pa. Code § 109.504(a).

ii. No later than April 14, 2028, PWSA shall complete all of the authorized work necessary for the installation of the clearwell bypass piping parallel to the existing clearwell, excluding the connections to the clearwell inlet and outlet structures, in accordance with the terms and conditions of the permit(s) issued by the Department.

iii. No later than October 16, 2028, PWSA shall complete all of the authorized work necessary for the installation of two new pumps at the Aspinwall Pump Station in accordance with the terms and conditions of the permit(s) issued by the Department and shall submit to the Department an original, signed "Certificate of Construction/Modification Completion" form (certification of construction) that meets the requirements of 25 Pa. Code § 109.504(a).

iv. No later than October 15, 2029, PWSA shall complete all of the authorized work necessary for construction of the clearwell overflow structure located on the west end of the clearwell in accordance with the terms and conditions of the permit(s) issued by the Department and shall submit to the Department an original, signed "Certificate of Construction/Modification Completion" form (certification of construction) that meets the requirements of 25 Pa. Code § 109.504(a).

v. No later than September 30, 2030, PWSA shall complete all of the authorized work necessary for the clearwell bypass system (including completion of the piping connections to the clearwell inlet and outlet), the Aspinwall pump station rehabilitation work and the Bruecken pump station rehabilitation work in accordance with the terms and conditions of the permit(s) issued by the Department and shall submit to the Department an original, signed "Certificate of Construction/Modification Completion" form (certification of construction) that meets the requirements of 25 Pa. Code § 109.504(a).

New Clearwell

d. No later than December 31, 2026, PWSA shall submit to the Department a complete and technically sufficient application for a permit to construct a new clearwell.

e. No later than March 30, 2034, PWSA shall complete the authorized work necessary for construction of the new clearwell in accordance with the terms and conditions of the permit(s) and shall submit to the Department an original, signed "Certificate of Construction/Modification Completion" form (certification of construction) that meets the requirements of 25 Pa. Code § 109.504(a). The March 30, 2034 deadline set forth in this Paragraph shall be extended on a per-day basis for as many days as the permits referenced in 5.a and 5.d are not issued if, and only if, both of the following two conditions occur:

i. The Department's issuance of the permit referenced in 5.a is later than January 31, 2027, or the Department's issuance of the permit referenced in 5.d is later than September 30, 2030; and

ii. In responding to the Department's review of any document submitted in furtherance of the permits referenced in 5.a and 5.d, PWSA fully complies with the requirements of Paragraph 6, below (Submission of Documents).

f. i. Within twenty-four (24) hours after it removes the existing clearwell from service, PWSA shall notify the Department in writing.

ii. Within ninety (90) days from the date PWSA removes the existing clearwell from service, PWSA shall take its membrane filtration plant out of service, permanently decommission it, if not already taken out of service and decommissioned, and submit a request to the Department to rescind all permits for the membrane filtration plant.

6. ***Submission of Documents***. With regard to any document that PWSA is required to submit pursuant to Paragraph 5, above, of this Consent Decree, the Department intends to review the document and will approve or disapprove the document, or any portion thereof, in writing. If the document, or any portion thereof, is disapproved by the Department, PWSA shall submit a revised document to the Department that addresses the Department's concerns within thirty (30) days or as otherwise specified in writing by the Department. Upon approval by the Department, the document, including any Department-approved implementation schedules, shall become a part of this Consent Decree for all purposes and shall be enforceable as such.

7. ***Stipulated Civil Penalties.***

a. In the event that PWSA fails to comply in a timely manner with any term or provision of this Consent Decree, PWSA shall be in contempt of this Consent Decree and, in addition to other applicable remedies, shall pay a civil penalty to the Department in the amount of $2,000 per day for each violation.

b. Stipulated civil penalty payments shall be payable monthly on or before the fifteenth day of each succeeding month by corporate check or the like made payable to the "Commonwealth of Pennsylvania - Safe Drinking Water Fund" and sent to:

Gail Guenther
Environmental Protection Compliance Specialist
Safe Drinking Water Program
PA DEP Southwest Regional Office
400 Waterfront Drive
Pittsburgh, PA 15222

c. Any payment under this Paragraph shall neither waive PWSA's duty to meet its obligations under this Consent Decree nor preclude the Department from commencing an action to compel PWSA's compliance with the terms and conditions of this Consent Decree. The payment resolves only PWSA's liability for civil penalties arising from the violation of this Consent Decree for which the payment is made.

d. Stipulated civil penalties shall be due automatically and without notice.

8. ***Contempt***. If PWSA fails to comply with any of the requirements set forth in Paragraphs 5, 6 or 7, above, by the dates specified therein, upon certification of the same by the Department to the Court, PWSA shall be in contempt of this Consent Decree until such time as PWSA complies with the requirements of Paragraphs 5, 6 and/or 7, above, as applicable.

9. ***Enforcement of Consent Decree***. If the Department brings an action for contempt and this Court holds PWSA in contempt for violations of any provision of this Consent Decree, including failure to pay any stipulated civil penalties owed, PWSA shall reimburse the Department for all costs, including but not limited to, the Department's personnel costs and attorneys' fees and any other costs incurred by the Department for such action.

10. ***Reservation of Rights***. The Department reserves the right to require additional measures to achieve compliance with applicable law. PWSA reserves the right to challenge any action which the Department may take to require those measures.

11. ***Liability of PWSA***. PWSA shall be liable for any violations of this Consent Decree, including those caused by, contributed to, or allowed by its officers,

agents, employees, or contractors. PWSA also shall be liable for any violation of this Consent Decree caused by, contributed to, or allowed by its successors and assigns.

12. ***Correspondence with the Department.*** All correspondence with the Department concerning this Consent Decree shall be addressed to:

Renee Diehl
Program Manager
Safe Drinking Water Program
Department of Environmental Protection
400 Waterfront Drive
Pittsburgh, PA 15222
Email: Rediehl@pa.gov

13. ***Correspondence with PWSA.*** All correspondence with PWSA concerning this Consent Decree shall be addressed to:

William J, Pickering
Chief Executive Officer
Pittsburgh Water and Sewer Authority
Penn Liberty Plaza 1
1200 Penn Avenue
Pittsburgh, PA 15222
Email: WPickering@pgh2o.com

PWSA shall notify the Department whenever there is a change in the contact person's name, title, or address. Service of any notice or any legal process for any purpose under this Consent Decree, including its enforcement, may be made electronically by email to the above email address or by mailing a copy by first class mail to the above address.

14. ***Attorneys' Fees***. The parties shall bear their respective attorney fees, expenses, and other costs in the prosecution or defense of this matter or any related matters, arising prior to execution of this Consent Decree.

15. ***Modifications***. Changes, additions, modifications, or amendments of this Consent Decree shall be made with the consent of the parties by joint request to the Court, or by petition/motion to the Court by either party based upon sound evidence and good cause shown.

16. ***Titles***. A title used at the beginning of any paragraph of this Consent Decree may be used to aid in the construction of that paragraph but shall not be treated as controlling.

17. ***Decisions Under Consent Decree***. PWSA waives its rights to appeal to the Environmental Hearing Board any decision that the Department makes under the provisions of this Consent Decree, including a notice that stipulated civil penalties are due, which rights may be available under Section 4 of the Environmental Hearing Board Act, the Act of July 13, 1988, P.L. 530, 35 P.S. § 7514; the Administrative Agency Law, 2 Pa. C.S. § 103(a) and Chapters 5A and 7A; or any other provision of law. The Department agrees that any objection that PWSA may have to any such decision may be raised as a defense in any Court where the Department enforces this Consent Decree.

18. ***Prior Consent Order and Agreements.*** The obligations set forth in Paragraph 5, above, replace the obligations set forth in the 2019 COA, as modified by the First Amendment and Second Amendment. The Findings contained in this Consent Decree are supplemental to, and do not replace, the Findings in all prior Consent Order and Agreements, and any amendments thereto, involving the Department and PWSA occurring before the date of this Consent Decree.

19. ***Force Majeure.***

a. In the event that PWSA is prevented from complying in a timely manner with any time limit imposed in this Consent Decree because of a strike, fire, flood, act of God, or other circumstance beyond PWSA's control and which PWSA, by the exercise of all reasonable diligence, is unable to prevent, then PWSA may petition the Court for an extension of time by following the procedures set forth in this paragraph. An increase in the cost of performing the obligations set forth in this Consent Decree shall not constitute circumstances beyond PWSA's control PWSA's economic inability to comply with any of the obligations of this Consent Decree shall not be grounds for any extension of time.

b. PWSA shall only be entitled to the benefits of this paragraph if it notifies the Department within five (5) working days by telephone and within ten (10) working days in writing of the date it becomes aware or reasonably should have become aware of the event impeding performance and requests the Department's

concurrence in PWSA's petition to the Court to extend deadlines in this Consent Decree based upon the justification provided by PWSA. The written submission to the Department shall include all necessary documentation, as well as an affidavit from an authorized individual specifying the reasons for the delay, the expected duration of the delay, and the efforts which have been made and are being made by PWSA to mitigate the effects of the event and to minimize the length of the delay. The initial written submission may be supplemented within ten working days of its submission. PWSA's failure to comply with the requirements of this paragraph specifically and in a timely fashion shall render this paragraph null and of no effect as to the particular incident involved.

c. The Department will decide whether to join in PWSA's request to the Court to grant all or part of the extension requested on the basis of all documentation submitted by PWSA and other information available to the Department. If the Department refuses to join in PWSA's request, PWSA may petition the Court to extend a deadline in this Consent Decree in accordance with this paragraph, and PWSA shall have the burden of proving all facts to establish the conditions for *force majeure* as set forth in this paragraph based upon the documentation provided to the Department in accordance with Paragraph 22.b.

20. ***Retention of Jurisdiction.*** This Court shall retain jurisdiction over the matters governed by this Consent Decree.

21. ***Termination of this Consent Decree.*** PWSA's obligations, but not the Findings, of this Consent Decree shall terminate when: (1) the Department determines in writing that PWSA has completed all of the requirements of this Consent Decree, including, but not limited to, the payment of any civil penalties and/or stipulated civil penalties; and/or (2) this Court grants a motion by either party to terminate this Consent Decree using the following procedure:

a. Within 30 days after written notice from PWSA that it has complied with all of its obligations under this Consent Decree, the Department will verify whether or not PWSA has complied with all of its obligations, including whether it has paid any civil penalties and/or stipulated civil penalties due.

b. Upon the Department's written notice to PWSA that it has complied with all of its obligations under this Consent Decree, the Department and/or PWSA may petition this Court to terminate this Consent Decree, except for the Findings.

22. ***Resolution.*** Attached hereto as Exhibit D is a resolution of the Board of PWSA authorizing its signatories below to enter into this Consent Decree on its behalf.

FOR PITTSBURGH WATER AND SEWER AUTHORITY:

William J. Pickering
Chief Executive Officer
Pittsburgh Water and Sewer Authority

David G. Ries, Esquire
Attorney for Pittsburgh Water and Sewer Authority

FOR THE COMMONWEALTH OF PENNSYLVANIA, DEPARTMENT OF ENVIRONMENTAL PROTECTION:

Renee Diehl
Program Manager
Southwest Safe Drinking Water Program

Christopher Ryder
Assistant Counsel

APPROVED BY THE COURT,

Date: _____

_____
J.

EXHIBIT A

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

In The Matter Of:

Pittsburgh Water and Sewer Authority	:	Violations of the Pennsylvania Safe
Penn Liberty Plaza 1	:	Drinking Water Act and the Rules and
1200 Penn Avenue	:	Regulations Promulgated Pursuant Thereto
Pittsburgh, PA 15222	:	

CONSENT ORDER AND AGREEMENT

This Consent Order and Agreement is entered into this 16th day of SEPTEMBER 2019, by and between the Commonwealth of Pennsylvania, Department of Environmental Protection ("Department") and the Pittsburgh Water and Sewer Authority ("PWSA").

The Department has found and determined the following:

A. The Department is the agency with the duty and authority to administer and enforce the Pennsylvania Safe Drinking Water Act, Act of May 1, 1984, P.L. 206, *as amended*, 35 P.S. §§ 721.1-721.17 ("Safe Drinking Water Act"); Section 1917-A of the Administrative Code of 1929, Act of April 9, 1929, P.L. 177, *as amended*, 71 P.S. § 510–17 ("Administrative Code"); and the rules and regulations promulgated thereunder ("Regulations").

B. PWSA is a municipal authority with a business address of Penn Liberty Plaza 1, 1200 Penn Avenue, Pittsburgh, Pennsylvania 15222. PWSA is a "person," a "supplier of water" and a "public water supplier," as those terms are defined in Section 3 of the Safe Drinking Water Act, 35 P.S. § 721.3, and Section 1 of the Regulations, 25 Pa. Code § 109.1.

C. PWSA leases, operates and is the permittee of a "public water system" and, more specifically, a "community water system," as those terms are defined in Section 3 of the Safe Drinking Water Act, 35 P. S. § 721.3, and Section 1 of the Regulations, 25 Pa. Code § 109.1.

PWSA's public water system consists of water sources, a clearwell and other storage facilities, treatment facilities and a distribution system (collectively, the "System"). PWSA provides drinking water through the System to approximately 520,000 people in the Pittsburgh, Pennsylvania area, including approximately 250,000 residential customers. PWSA operates the System pursuant to multiple public water supply permits issued by the Department and has been assigned Public Water System Identification Number 5020038. The City of Pittsburgh owns the System and leases it to PWSA.

D. Section 4(3) of the Regulations, 25 Pa. Code § 109.4(3), requires public water suppliers to provide and effectively operate and maintain public water system facilities. Section 4(4) of the Regulations, 25 Pa. Code § 109.4(4), requires public water suppliers to take whatever investigative or corrective action is necessary to assure that safe and potable water is continuously supplied to the users of the public water system.

E. PWSA uses a clearwell constructed in approximately 1908 for storage of filtered water prior to the introduction of the water into PWSA's distribution system. In 1998, PWSA contracted Marion Hill Associates to conduct an inspection of the clearwell. The 1998 clearwell inspection found that the structural stability of the clearwell was good overall, but identified several areas of concern including, but not limited to: excessive amounts of sediment that prohibited inspection of the bottom of the tank; debris; infiltrating tree roots; signs of erosion, deterioration and cracks in the concrete walls; leaks in the clearwell equalization chamber; and considerable amounts of rust on the gates for the clearwell and gatehouse, which could make them unmovable. The consultant concluded that the clearwell did not meet current design standards for public water supply finished water storage.

F. PWSA subsequently hired consultants HDR Engineering, Inc. and Malcom Pirnie, Inc. to provide separate but concurrent evaluations and recommendations regarding the clearwell. In November 2008, HDR Engineering, Inc. provided a report to PWSA titled "Pittsburgh Water Treatment Plant Clearwell Improvements, Phase 1- Study". The purpose of the report was to identify available alternatives to address "PWSA's desires to have a clearwell system with the operational flexibility of being able to remove approximately one half of the clearwell from service for cleaning and maintenance while the other half remains in service; and to have the ability to bypass the clearwell and send filtered water directly to the Bruecken Pump Station in emergency situations." In December 2008, Malcom Pirnie, Inc. provided a report to PWSA titled "Clearwell Improvements Phase 1-Study", which also addressed PWSA's expressed need for operational flexibility with the clearwell. Both reports identified viable alternative options and provided cost estimates to PWSA to address the condition of the clearwell as well as the desired operational flexibility.

G. In March 2017, consultant Mott McDonald submitted another report to PWSA entitled "Alternative Evaluation-Clearwell Redundancy Project", which identified additional viable options to remedy the inflexibility of the clearwell with cost estimates.

H. During a three-day inspection in late April 2017, the Department discovered that two access hatches on the clearwell were open and several other hatches were in disrepair, creating possible pathways of surface contamination. The Department required PWSA to take immediate action to secure the manholes on the clearwell with temporary covers. On May 1, 2017, the Department issued a Field Order citing PWSA for failing to effectively operate and maintain its public water facilities and failing to take investigative and corrective action necessary to ensure that safe and potable water is continuously supplied to the users of its system

by, among other things, not adequately responding to the 1998 Marion Hill Associates clearwell inspection report, in violation of 25 Pa. Code §§ 109.4(3) and 109.4(4). In the Field Order, the Department directed PWSA to increase its free chlorine residual, install additional protective and monitoring equipment on the clearwell, and conduct additional monitoring and testing of the clearwell.

I. The violations described in Paragraph H, above, constitute a public nuisance under Section 12 of the Safe Drinking Water Act, 35 P.S. § 721.12, and subject PWSA to a claim for civil penalties under Section 13(g) of the Safe Drinking Water Act, 35 P.S. § 721.13(g).

J. On October 25, 2017, the Department issued an Administrative Order to PWSA directing the Authority to undertake a number of actions including, among other things: to provide to the Department a detailed schedule for the completion of certain longer-term capital improvement projects identified by PWSA to the Department. Two of the identified capital improvement projects were the "Clearwell Emergency Response Project" and the "Washout Disconnection Program".

K. Pursuant to Section 109.608 of the Regulations, 25 Pa. Code § 109.608, a public water system may not be designed or constructed in a manner which creates a cross-connection. A "cross-connection" is defined in 25 Pa. Code § 109.1 as "[a]n arrangement allowing either a direct or indirect connection through which backflow, including backsiphonage, can occur between the drinking water in a public water system and a system containing a source or potential source of contamination, or allowing treated water to be removed from any public water system, used for any purpose or routed through any device or pipes outside the public water system, and returned to the public water system. The term does not include connections to devices totally within the control of one or more public water systems and connections between

water mains." A "washout", as referred to in PWSA's planned "Washout Disconnection Program", is a connection between the public water system distribution components and the storm or sanitary sewerage systems utilized for flushing these lines and may indicate the presence of a cross-connection within the public water system. Cross-connections pose a potential threat to public health.

After full and complete negotiation of all matters set forth in this Consent Order and Agreement and upon mutual exchange of covenants contained herein, the parties desiring to avoid litigation and intending to be legally bound, it is hereby ORDERED by the Department and AGREED to by PWSA as follows:

1. Authority. This Consent Order and Agreement is an Order of the Department authorized and issued pursuant to Section 5 of the Safe Drinking Water Act, 35 P.S. § 721.5; and Section 1917-A of the Administrative Code, 71 P.S. § 510-17.

2. Findings.

a. PWSA agrees that the findings in Paragraphs A through K are true and correct and, in any matter or proceeding involving PWSA and the Department, PWSA shall not challenge the accuracy or validity of these findings.

b. The parties do not authorize any other persons to use the findings in this Consent Order and Agreement in any matter or proceeding.

3. Corrective Action. PWSA shall complete the following actions in accordance with the following schedule:

Clearwell and Related Projects

a. On or before January 1, 2023, PWSA shall submit to the Department a complete and technically sufficient application for a construction permit for a bypass system that

will enable PWSA to remove the clearwell from service and replace it. In the event the Department makes a written request to PWSA to supplement or modify the application, PWSA shall supplement or modify its application as requested by the Department within the time requested.

b. Within two (2) years of the Department's issuance of a construction permit authorizing construction of a clearwell bypass system, PWSA shall complete construction of the bypass system in accordance with the terms and conditions of the permit and shall submit to the Department an original, signed "Certificate of Construction/Modification Completion" form (certification of construction) that meets the requirements of 25 Pa. Code § 109.504(a). In the event the Department notifies PWSA in writing of any deficiencies in PWSA's construction of the bypass system, PWSA shall correct the deficiencies as requested by the Department within the time requested and submit a new certification of construction.

c. To facilitate the clearwell bypass system, PWSA shall rehabilitate or replace Rising Main #3 to PWSA's Highland 2 Reservoir as follows:

(i) On or before September 1, 2020, PWSA shall submit to the Department a complete and technically sufficient application for a construction permit to rehabilitate Rising Main #3;

OR

(ii) On or before March 1, 2021, PWSA shall submit to the Department a complete and technically sufficient application for a construction permit to replace Rising Main #3.

In the event the Department makes a written request to PWSA to supplement or modify an application submitted pursuant to Paragraph 3.c.(i) or 3.c.(ii), above, PWSA shall supplement or modify its application as requested by the Department within the time requested.

d. Within one (1) year of the Department's issuance of a construction permit authorizing the rehabilitation or replacement of Rising Main #3, PWSA shall complete the authorized work in accordance with the terms and conditions of the permit and shall submit to the Department an original, signed "Certificate of Construction/Modification Completion" form (certification of construction) that meets the requirements of 25 Pa. Code § 109.504(a). In the event the Department notifies PWSA in writing of any deficiencies in PWSA's rehabilitation or replacement of Rising Main #3, PWSA shall correct the deficiencies as requested by the Department within the time requested and submit a new certification of construction.

e. On or before June 1, 2021, PWSA shall submit to the Department a complete and technically sufficient application for a construction permit to rehabilitate or replace Rising Main #4 to PWSA's Highland 2 Reservoir to facilitate the clearwell bypass system. In the event the Department makes a written request to PWSA to supplement or modify the application, PWSA shall supplement or modify its application as requested by the Department within the time requested.

f. Within two (2) years of the Department's issuance of a construction permit authorizing the rehabilitation or replacement of Rising Main #4, PWSA shall complete the authorized work in accordance with the terms and conditions of the permit and shall submit to the Department an original, signed "Certificate of Construction/Modification Completion" form (certification of construction) that meets the requirements of 25 Pa. Code § 109.504(a). In the event the Department notifies PWSA in writing of any deficiencies in PWSA's rehabilitation

or replacement of Rising Main #4, PWSA shall correct the deficiencies as requested by the Department within the time requested and submit a new certification of construction.

g. On or before December 30, 2020, PWSA shall submit to the Department a complete and technically sufficient application for a construction permit for a new redundant rising main from the Aspinwall Pump Station to the Lanpher Reservoir to facilitate the clearwell bypass system. In the event the Department makes a written request to PWSA to supplement or modify the application, PWSA shall supplement or modify its application as requested by the Department within the time requested.

h. Within two (2) years of the Department's issuance of a construction permit authorizing the construction of a new redundant rising main from the Aspinwall Pump Station to the Lanpher Reservoir, PWSA shall complete construction of the rising main in accordance with the terms and conditions of the permit and shall submit to the Department an original, signed "Certificate of Construction/Modification Completion" form (certification of construction) that meets the requirements of 25 Pa. Code § 109.504(a). In the event the Department notifies PWSA in writing of any deficiencies in PWSA's construction of the redundant rising main, PWSA shall correct the deficiencies as requested by the Department within the time requested and submit a new certification of construction.

i. On or before June 30, 2020, PWSA shall submit to the Department a complete and technically sufficient application for a construction permit to replace the cover and liner of the Highland 2 Reservoir to facilitate the clearwell bypass system. In the event the Department makes a written request to PWSA to supplement or modify the application, PWSA shall supplement or modify its application as requested by the Department within the time requested.

j. Within eighteen (18) months of the Department's issuance of a construction permit authorizing the replacement of the cover and liner of the Highland 2 Reservoir, PWSA shall replace the cover and liner in accordance with the terms and conditions of the permit and shall submit to the Department an original, signed "Certificate of Construction/Modification Completion" form (certification of construction) that meets the requirements of 25 Pa. Code § 109.504(a). In the event the Department notifies PWSA in writing of any deficiencies in PWSA's replacement of the cover and/or liner, PWSA shall correct the deficiencies as requested by the Department within the time requested and submit a new certification of construction.

k. On or before January 1, 2021, to facilitate the clearwell bypass system, PWSA shall submit to the Department:

(i) A complete and technically sufficient application for a combined pump station to replace the existing Aspinwall and Breucken pump stations;

OR

(ii) Complete and technically sufficient applications for rehabilitation of the existing Aspinwall and Breucken pump stations.

In the event the Department makes a written request to PWSA to supplement or modify the application(s), PWSA shall supplement or modify its application(s) as requested by the Department within the time requested.

l. Within two (2) years of the Department's issuance of a construction permit authorizing PWSA to conduct a project under either Paragraph 3.k.(i) or 3.k.(ii), above, PWSA shall complete the authorized work in accordance with the terms and conditions of the permit and shall submit to the Department an original, signed "Certificate of

Construction/Modification Completion" form (certification of construction) that meets the requirements of 25 Pa. Code § 109.504(a). In the event the Department notifies PWSA in writing of any deficiencies in PWSA's replacement or rehabilitation of the Aspinwall and Bruecken pump stations, PWSA shall correct the deficiencies as requested by the Department within the time requested and submit a new certification of construction.

m. On or before January 1, 2024, PWSA shall submit to the Department a complete and technically sufficient application for a construction permit to replace the clearwell. In the event the Department makes a written request to PWSA to supplement or modify the application, PWSA shall supplement or modify its application as requested by the Department within the time requested.

n. Within two (2) years of the Department's issuance of a construction permit authorizing the replacement of the clearwell, PWSA shall complete the authorized work in accordance with the terms and conditions of the permit and shall submit to the Department an original, signed "Certificate of Construction/Modification Completion" form (certification of construction) that meets the requirements of 25 Pa. Code § 109.504(a). In the event the Department notifies PWSA in writing of any deficiencies in PWSA's replacement of the clearwell, PWSA shall correct the deficiencies as requested by the Department within the time requested and submit a new certification of construction.

o. No later than thirty (30) days after the date of the Department's issuance of an operation permit authorizing the operation of the new clearwell, PWSA shall begin operating the clearwell in accordance with the permit.

p. For as long as PWSA continues to operate the existing clearwell, PWSA shall continue to monitor turbidity, temperature, pH, log inactivation values and specific

conductance from the clearwell effluent, and NOAA precipitation values, as required by the Field Order issued by the Department on May 1, 2017. PWSA shall maintain the monitoring records on-site. PWSA shall notify the Department within one (1) hour if any turbidity reading from the clearwell effluent exceeds 1.0 NTU.

Cross-connections

q. On or before June 1, 2020, PWSA shall complete an investigation of the locations where valves, blow-offs, meters or other such appurtenances to the distribution system are found within chambers, pits or manholes connected directly or indirectly to any storm drain or sanitary sewer (commonly referred to by PWSA as "washouts") and submit to the Department a report detailing the findings including the number and locations of all such cross-connections within PWSA's System.

r. Within ninety (90) days of PWSA's submission of the report required under Paragraph 3.q., above, PWSA shall submit to the Department a plan and proposed schedule to eliminate all of the identified cross-connections and a written request for a determination by the Department as to whether the requested modification to eliminate each cross-connection identified in the report constitutes a major or minor change.

s. For any modification the Department determines to require a permit, PWSA shall submit a complete and technically sufficient application to the Department for a construction permit within sixty (60) days of the date the Department's written determination is issued to PWSA. In the event the Department makes a written request to PWSA to supplement or modify the application, PWSA shall supplement or modify its application as requested by the Department within the time requested.

t. In accordance with the plan and schedule required under Paragraph 3.r., above, as approved or as modified and approved by the Department, PWSA shall complete the elimination of all identified cross-connections and shall submit to the Department within ninety (90) days of completion a report confirming the elimination of all previously existing cross-connections with confirmatory photographs, dates and details of the corrective work performed.

4. Stipulated Civil Penalties.

a. In the event PWSA fails to comply in a timely manner with any term or provision of this Consent Order and Agreement, PWSA shall be in violation of this Consent Order and Agreement and, in addition to other applicable remedies, shall pay a civil penalty in the amount of One Hundred Dollars ($100.00) per day for each violation.

b. Stipulated civil penalty payments shall be payable monthly on or before the fifteenth day of each succeeding month. The payment shall be made by corporate check or the like made payable to the "Commonwealth of Pennsylvania – Safe Drinking Water Fund" and sent to Renee Diehl, Program Manager, Safe Drinking Water Program, Department of Environmental Protection, 400 Waterfront Drive, Pittsburgh, PA 15222-4745.

c. Any payment under this paragraph shall neither waive PWSA's duty to meet its obligations under this Consent Order and Agreement nor preclude the Department from commencing an action to compel PWSA's compliance with the terms and conditions of this Consent Order and Agreement. The payment resolves only PWSA's liability for civil penalties arising from the violation of this Consent Order and Agreement for which the payment is made.

d. Stipulated civil penalties shall be due automatically and without notice.

5. Additional Remedies.

a. In the event PWSA fails to comply with any provision of this Consent Order and Agreement, the Department may, in addition to the remedies prescribed herein, pursue any remedy available for a violation of an order of the Department, including an action to enforce this Consent Order and Agreement.

b. The remedies provided by this paragraph and Paragraph 4 (Stipulated Civil Penalties) are cumulative and the exercise of one does not preclude the exercise of any other. The failure of the Department to pursue any remedy shall not be deemed to be a waiver of that remedy. The payment of a stipulated civil penalty, however, shall preclude any further assessment of civil penalties for the violation for which the stipulated penalty is paid.

6. Reservation of Rights. The Department reserves the right to require additional measures to achieve compliance with applicable law. PWSA reserves the right to challenge any action which the Department may take to require those measures.

7. Liability of PWSA. PWSA shall be liable for any violations of the Consent Order and Agreement, including those caused by, contributed to, or allowed by its officers, agents, employees, consultants or contractors. Except as provided in Paragraph 8.c., PWSA also shall be liable for any violation of this Consent Order and Agreement caused by, contributed to, or allowed by its successors and assigns.

8. Transfer of Site.

a. The duties and obligations under this Consent Order and Agreement shall not be modified, diminished, terminated or otherwise altered by the transfer of any legal or equitable interest in the PWSA public water system or any part thereof.

b. If PWSA intends to transfer any legal or equitable interest in the PWSA public water system which is affected by this Consent Order and Agreement, PWSA shall serve a copy of this Consent Order and Agreement upon the prospective transferee of the legal and equitable interest at least thirty (30) days prior to the contemplated transfer and shall simultaneously inform the Southwest Regional Office of the Department of such intent.

c. The Department in its sole discretion may agree to modify or terminate PWSA's duties and obligations under this Consent Order and Agreement upon transfer of the PWSA System or any part thereof. PWSA waives any right that it may have to challenge the Department's decision in this regard.

9. Correspondence with Department. All correspondence with the Department concerning this Consent Order and Agreement shall be addressed to:

Renee Diehl, Program Manager
Safe Drinking Water Program
Department of Environmental Protection
Southwest Regional Office
400 Waterfront Drive
Pittsburgh, Pennsylvania 15222-4745
Telephone: 412.442.4210 Facsimile: 412.442.4242

10. Correspondence with PWSA. All correspondence with PWSA concerning this Consent Order and Agreement shall be addressed to:

Robert Weimar, Executive Director
Pittsburgh Water and Sewer Authority
Penn Liberty Plaza 1
1200 Penn Avenue
Pittsburgh, PA 15222
Telephone: 412.255.2579

PWSA shall notify the Department whenever there is a change in the contact person's name, title, or address. Service of any notice or any legal process for any purpose under this Consent

Order and Agreement, including its enforcement, may be made by mailing a copy by first class mail to the above address.

11. Force Majeure.

a. In the event that PWSA is prevented from complying in a timely manner with any time limit imposed in this Consent Order and Agreement solely because of a strike, fire, flood, act of God, or other circumstance beyond PWSA's control and which PWSA, by the exercise of all reasonable diligence, is unable to prevent, then PWSA may petition the Department for an extension of time. An increase in the cost of performing the obligations set forth in this Consent Order and Agreement shall not constitute circumstances beyond PWSA's control. PWSA's economic inability to comply with any of the obligations of this Consent Order and Agreement shall not be grounds for any extension of time.

b. PWSA shall only be entitled to the benefits of this paragraph if PWSA notifies the Department within five (5) working days by telephone and within ten (10) working days in writing of the date it becomes aware or reasonably should have become aware of the event impeding performance. The written submission shall include all necessary documentation, as well as a notarized affidavit from an authorized individual specifying the reasons for the delay, the expected duration of the delay, and the efforts which have been made and are being made by PWSA to mitigate the effects of the event and to minimize the length of the delay. The initial written submission may be supplemented within ten (10) working days of its submission. PWSA's failure to comply with the requirements of this paragraph specifically and in a timely fashion shall render this paragraph null and of no effect as to the particular incident involved.

c. The Department will decide whether to grant all or part of the extension requested on the basis of all documentation submitted by PWSA and other information available

to the Department. In any subsequent litigation, PWSA shall have the burden of proving that the Department's refusal to grant the requested extension was an abuse of discretion based upon the information then available to it.

12. Severability. The paragraphs of this Consent Order and Agreement shall be severable and should any part hereof be declared invalid or unenforceable, the remainder shall continue in full force and effect between the parties.

13. Entire Agreement. This Consent Order and Agreement shall constitute the entire integrated agreement of the parties. No prior or contemporaneous communications or prior drafts shall be relevant or admissible for purposes of determining the meaning or extent of any provisions herein in any litigation or any other proceeding.

14. Attorney Fees. The parties shall bear their respective attorney fees, expenses and other costs in the prosecution or defense of this matter or any related matters, arising prior to execution of this Consent Order and Agreement.

15. Modifications. No changes, additions, modifications, or amendments of this Consent Order and Agreement shall be effective unless they are set out in writing and signed by the parties hereto.

16. Titles. A title used at the beginning of any paragraph of this Consent Order and Agreement may be used to aid in the construction of that paragraph, but shall not be treated as controlling.

17. Decisions Under Consent Order. Any decision which the Department makes under the provisions of this Consent Order and Agreement, including a notice that stipulated civil penalties are due, is intended to be neither a final action under 25 Pa. Code § 1021.2, nor an

adjudication under 2 Pa. C.S. § 101. Any objection which PWSA may have to the decision will be preserved until the Department enforces this Consent Order and Agreement.

18. Resolution. Attached hereto as Appendix A is a resolution of the Board of PWSA authorizing its signatories below to enter into this Consent Order and Agreement on its behalf.

IN WITNESS WHEREOF, the parties hereto have caused this Consent Order and Agreement to be executed by their duly authorized representatives. The undersigned representatives of PWSA certify under penalty of law, as provided by 18 Pa. C.S. § 4904, that they are authorized to execute this Consent Order and Agreement on behalf of PWSA; that PWSA consents to the entry of this Consent Order and Agreement as a final ORDER of the Department; and that PWSA hereby knowingly waives its right to appeal this Consent Order and Agreement and to challenge its content or validity, which rights may be available under Section 4 of the Environmental Hearing Board Act, Act of July 13, 1988, P.L. 530, 35 P.S. § 7514; the Administrative Agency Law, 2 Pa. C.S. § 103(a) and Chapters 5A and 7A; or any other provisions of law. Signature by PWSA's attorney certifies only that the agreement has been signed after consulting with counsel.

FOR PITTSBURGH WATER AND SEWER AUTHORITY:

Robert Weimar
Executive Director
Pittsburgh Water and Sewer Authority

David Ries
Attorney for Pittsburgh Water
and Sewer Authority

FOR THE COMMONWEALTH OF PENNSYLVANIA, DEPARTMENT OF ENVIRONMENTAL PROTECTION:

Renee Diehl
Environmental Program Manager
Bureau of Safe Drinking Water

Gail Guenther
Assistant Counsel
Southwest Office of Chief Counsel

APPENDIX A

BOARD RESOLUTION ITEM

Originating Department:	Engineering and Construction	Phone:	412.255.8800-2291
Department Contact:	Barry King	E-mail:	BKing@pgh2o.com
Date:	09.06.2019		

Resolution No: 163 Authorize the Executive Director to Sign a PA Department of Environmental Protection Consent Order and Agreement To Restore Functionality and Water System Resiliency as well as Modernize The Authority's Facilities

STATEMENT OF THE ISSUE: The Pennsylvania Department of Environmental Protection in its role of Public Water Supply Oversight and Regulatory Compliance Has Determined that PWSA's facilities must be restored and modernized to comply with their regulations. The Executive Director requests Board Approval to execute a Consent Order and Agreement (COA) to establish the specific requirements and schedule for these improvements.

FINAL BOARD APPROVAL:
ADOPTED SEPTEMBER 6, 2019

Lisa Turner

James Turner, Secretary

EXHIBIT B

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

IN THE MATTER OF:

Pittsburgh Water and Sewer Authority	:	Violations of the Clean Streams Law,
Penn Liberty Plaza 1	:	Safe Drinking Water Act and Rules and
1200 Penn Avenue	:	Regulations Promulgated Pursuant Thereto
Pittsburgh PA 15222	:	

FIRST AMENDMENT TO
SEPTEMBER 6, 2019 CONSENT ORDER AND AGREEMENT

This first amendment to the September 6, 2019 Consent Order and Agreement ("First Amendment") is entered into this 7th day of May, 2021, by and between the Commonwealth of Pennsylvania, Department of Environmental Protection ("Department") and the Pittsburgh Water and Sewer Authority ("PWSA").

The Department has found and determined the following:

A. The Department is the agency with the duty and authority to administer and enforce the Pennsylvania Safe Drinking Water Act, Act of May 1, 1984, P.L. 206, *as amended*, 35 P.S. §§ 721.1-721.17 ("Safe Drinking Water Act"); Section 1917-A of the Administrative Code of 1929, Act of April 9, 1929, P.L. 177, *as amended*, 71 P.S. § 510-17 ("Administrative Code"); and the rules and regulations promulgated thereunder ("Regulations").

B. PWSA is a municipal authority with a business address of Penn Liberty Plaza 1, 1200 Penn Avenue, Pittsburgh, Pennsylvania 15222. PWSA is a "person," a "supplier of water" and a "public water supplier," as those terms are defined in Section 3 of the Safe Drinking Water Act, 35 P.S. § 721.3, and Section 109.1 of the Regulations, 25 Pa. Code § 109.1.

C. PWSA leases, operates and is the permittee of a "public water system" and, more specifically, a "community water system," as those terms are defined in Section 3 of the Safe

Drinking Water Act, 35 P.S. § 721.3, and Section 109.1 of the Regulations, 25 Pa. Code § 109.1. PWSA's public water system consists of water sources, a clearwell and other storage facilities, treatment facilities, and a distribution system (collectively, the "System"). PWSA's System has been assigned Public Water System Identification Number 5020038.

D. On September 6, 2019, the Department and PWSA executed a Consent Order and Agreement ("2019 COA"), a copy of which is attached hereto as Appendix A.

E. Because of delays associated with the COVID-19 pandemic and changes in design and construction approaches, PWSA has requested to amend the 2019 COA for the purpose of: 1) extending the deadline for PWSA to submit applications for permits to construct two new pump stations; 2) shortening the deadline for PWSA to submit an application for a permit to construct a new clearwell bypass system; and 3) establishing a new stipulated civil penalty in the event PWSA fails to meet the new deadlines under this First Amendment.

F. Based on the foregoing reasons, the Department is willing to amend Paragraphs 3.a., 3.k. and 3.l. (Corrective Action) and Paragraph 4 (Stipulated Civil Penalties) of the 2019 COA as set forth below. To avoid confusion, the modified Corrective Action provisions herein are identified with the same numbers and letters as those of the provisions in the 2019 COA that they amend.

G. The parties intend that all other terms and provisions of the 2019 COA shall remain in full force and effect.

After full and complete negotiation of all matters set forth in this First Amendment, and upon mutual exchange of covenants contained herein, the parties desiring to avoid litigation and intending to be legally bound, it is hereby ORDERED by the Department and AGREED to by PWSA as follows:

1. Authority. This First Amendment is an Order of the Department authorized and issued pursuant to Section 5 of the Safe Drinking Water Act, 35 P.S. § 721.5; and Section 1917-A of the Administrative Code, 71 P.S. § 510-17.

2. Findings.

a. PWSA agrees that the findings in Paragraphs A through G of this First Amendment are true and correct and, in any matter or proceeding involving PWSA and the Department, PWSA shall not challenge the accuracy or validity of these findings.

b. The parties do not authorize any other persons to use the findings in this First Amendment in any matter or proceeding.

3. Corrective Action. The following paragraphs and subparagraphs of the 2019 COA are amended to read as follows:

Clearwell and Related Projects

3.a. No later than September 30, 2021, PWSA shall submit to the Department a complete and technically sufficient application for a permit to construct a bypass system that will enable PWSA to remove the clearwell from service and replace it. In the event the Department makes a written request to PWSA to supplement or modify the application, PWSA shall supplement or modify its application as requested by the Department within fifteen (15) days or such other time as the Department requests.

3.k. No later than September 30, 2021, to facilitate the clearwell bypass system, PWSA shall submit to the Department a complete and technically sufficient application to rehabilitate the existing Aspinwall pump station and a complete and technically sufficient application to rehabilitate the existing Bruecken pump station. In the event the Department makes a written request to PWSA to supplement or modify either or both of the applications,

PWSA shall supplement or modify its application(s) as requested by the Department within fifteen (15) days or such other time as the Department requests.

3.l. Within two (2) years of the Department's issuance of each of the construction permits for the Aspinwall pump station and the Bruecken pump station referenced in Paragraph 3.k., above, PWSA shall complete the authorized work in accordance with the terms and conditions of each construction permit and shall submit to the Department an original, signed "Certificate of Construction/Modification Completion" form (certification of construction) that meets the requirements of 25 Pa. Code § 109.504(a). In the event the Department notifies PWSA in writing of any deficiencies in PWSA's rehabilitation of either the Aspinwall or Bruecken pump stations, PWSA shall correct the deficiencies as requested by the Department within the time requested and submit a new certification of construction.

4. Stipulated Civil Penalties.

a. In the event PWSA fails to meet the corrective action deadline of September 30, 2021, as specified in Paragraphs 3a. and 3.k., above, PWSA shall be in violation of this Consent Order and Agreement and, in addition to other applicable remedies, shall pay a one-time civil penalty in the amount of Twenty Thousand Dollars ($20,000). In addition to the one-time payment, PWSA shall pay a civil penalty in the amount of One Thousand Dollars ($1,000) per day for each violation until the requirements specified in Paragraphs 3a. and 3.k., above, are fulfilled.

b. In the event PWSA fails to comply in a timely manner with any term or provision in Paragraphs 3.b. through 3.j. and Paragraphs 3.l. through 3.t., above, PWSA shall be in violation of this Consent Order and Agreement and, in addition to other applicable remedies, shall pay a civil penalty in the amount of One Hundred Dollars ($100) per day for each violation.

c. Stipulated civil penalty payments shall be payable monthly on or before the fifteenth day of each succeeding month. The payment shall be made by corporate check or the like, made payable to the "Commonwealth of Pennsylvania - Safe Drinking Water Fund" and sent to:

Gail Guenther
Environmental Protection Compliance Specialist
Safe Drinking Water Program
PA DEP Southwest Regional Office
400 Waterfront Drive
Pittsburgh PA 15222

d. Any payment under this paragraph shall neither waive PWSA's duty to meet its obligations under this Consent Order and Agreement, nor preclude the Department from commencing an action to compel PWSA's compliance with the terms and conditions of this Consent Order and Agreement. The payment resolves only PWSA's liability for civil penalties arising from the violation of this Consent Order and Agreement for which the payment is made.

e. The civil penalty settlement and stipulated civil penalties shall be due automatically and without notice.

5. Except for the amendment to Paragraphs 3.a., 3.k., 3.l. and Paragraph 4, expressly stated herein, the Findings and all other terms and conditions of the 2019 COA shall remain in full force and effect between the Parties.

6. Resolution. Attached hereto as Appendix B is a resolution of the Board of Directors of PWSA authorizing its signatory(ies) below to enter into this First Amendment on its behalf.

7. This First Amendment may be signed in counterparts, each of which shall be deemed to be an original and all of which together shall constitute one and the same instrument. Counterpart signatures may be transmitted electronically using portable document format (.pdf).

[THE REMAINDER OF THIS PAGE IS INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the parties hereto have caused this First Amendment to the September 6, 2019 Consent Order and Agreement to be executed by their duly authorized representatives. PWSA certifies under penalty of law, as provided by 18 Pa. C.S. § 4904, that it is authorized to execute this First Amendment to the September 6, 2019 Consent Order and Agreement; that it consents to the entry of this First Amendment to the September 6, 2019 Consent Order and Agreement as a final ORDER of the Department; and it hereby knowingly waives its rights to appeal this First Amendment to the September 6, 2019 Consent Order and Agreement and to challenge its content or validity, which rights may be available under Section 4 of the Environmental Hearing Board Act, Act of July 13, 1988, P.L. 530, 35 P.S. § 7514; the Administrative Agency Law, 2 Pa. C.S. § 103(a) and Chapters 5A and 7A; or any other provisions of law. Signature by PWSA's attorney certifies only that the amendment has been signed after consulting with counsel.

FOR PITTSBURGH WATER AND SEWER AUTHORITY:

William J. Pickering
Chief Executive Officer
Pittsburgh Water and Sewer Authority

David G. Ries, Esquire
Attorney for Pittsburgh Water and Sewer Authority

FOR THE COMMONWEALTH OF PENNSYLVANIA, DEPARTMENT OF ENVIRONMENTAL PROTECTION:

Renee Diehl
Program Manager
Southwest Safe Drinking Water Program

Wendy Carson
Assistant Counsel

EXHIBIT C

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

IN THE MATTER OF:

Pittsburgh Water and Sewer Authority	:	Violations of the Safe Drinking Water Act
Penn Liberty Plaza 1	:	and the Rules and Regulations Promulgated
1200 Penn Avenue	:	Pursuant Thereto
Pittsburgh, PA 15222	:	

SECOND AMENDMENT TO
SEPTEMBER 6, 2019 CONSENT ORDER AND AGREEMENT

This second amendment to the September 6, 2019 Consent Order and Agreement (Amendment 2) is entered into this 4th day of August, 2022, by and between the Commonwealth of Pennsylvania, Department of Environmental Protection (Department) and the Pittsburgh Water and Sewer Authority (PWSA).

The Department has found and determined the following:

A. The Department is the agency with the duty and authority to administer and enforce the Pennsylvania Safe Drinking Water Act, Act of May 1, 1984, P.L. 206, *as amended*, 35 P.S. §§ 721.1-721.17 (Safe Drinking Water Act); Section 1917-A of the Administrative Code of 1929, Act of April 9, 1929, P.L. 177, *as amended*, 71 P.S. § 510-17 (Administrative Code); and the rules and regulations promulgated thereunder (Regulations).

B. PWSA is a municipal authority with a business address of Penn Liberty Plaza 1, 1200 Penn Avenue, Pittsburgh, Pennsylvania 15222. PWSA is a "person", a "supplier of water" and a "public water supplier", as those terms are defined in Section 3 of the Safe Drinking Water Act, 35 P.S. § 721.3, and Section 109.1 of the Regulations, 25 Pa. Code § 109.1.

C. PWSA leases, operates and is the permittee of a "public water system" and, more specifically, a "community water system", as those terms are defined in Section 3 of the Safe

Drinking Water Act, 35 P.S. § 721.3, and Section 109.1 of the Regulations, 25 Pa. Code § 109.1. PWSA's public water system consists of water sources, a clearwell, and other storage facilities, treatment facilities, and a distribution system (collectively, the "PWSA System"). PWSA's System has been assigned Public Water System Identification Number 5020038.

D. On September 6, 2019, the Department and PWSA executed a Consent Order and Agreement (2019 COA). On May 7, 2021, the Department and PWSA executed a First Amendment to the 2019 COA (First Amendment). A copy of the First Amendment, which appends a copy of the 2019 COA, is attached hereto as Appendix A.

E. Because of delays associated with supply chain issues as a result of the COVID-19 pandemic, PWSA has requested to amend the 2019 COA for the purpose of: 1) extending the deadline for PWSA to complete construction of a replacement for Rising Main #3 to PWSA's Highland 2 Reservoir; 2) extending the deadline for PWSA to complete construction of a new cover and liner for the Highland 2 Reservoir; and 3) establishing new stipulated civil penalties in the event PWSA fails to meet the new deadlines under this Amendment 2.

F. Based on the foregoing reasons, the Department is willing to amend Paragraphs 3.d. and 3.j. (in Corrective Action) and Paragraph 4 (Stipulated Civil Penalties) of the 2019 COA as set forth below. To avoid confusion, the modified Corrective Action provisions herein are identified with the same numbers and letters as those of the provisions in the 2019 COA that they amend. The parties intend that all other terms and provisions of the 2019 COA and the First Amendment shall remain in full force and effect.

After full and complete negotiation of all matters set forth in this Amendment 2, and upon mutual exchange of covenants contained herein, the parties desiring to avoid litigation and

intending to be legally bound, it is hereby ORDERED by the Department and AGREED to by PWSA as follows:

1. Authority. This Amendment 2 is an Order of the Department authorized and issued pursuant to Section 5 of the Safe Drinking Water Act, 35 P.S. § 721.5; and Section 1917-A of the Administrative Code of 1929, 71 P.S. § 510-17.

2. Findings.

a. PWSA agrees that the findings in Paragraphs A through F of this Amendment 2 are true and correct and, in any matter or proceeding involving PWSA and the Department, PWSA shall not challenge the accuracy or validity of these findings.

b. The parties do not authorize any other persons to use the findings in this Amendment 2 in any matter or proceeding.

3. Corrective Action. The following subparagraphs of Paragraph 3 of the 2019 COA are amended to read as follows:

Clearwell and Related Projects

3.d. No later than December 31, 2022, PWSA shall complete the work authorized for the reconstruction and rehabilitation of Rising Main #3 in accordance with the terms and conditions of Public Water Supply Permit No. 0220523MA and shall submit to the Department an original, signed "Certificate of Construction/Modification Completion" form (certification of construction) that meets the requirements of 25 Pa. Code § 109.504(a). In the event the Department notifies PWSA in writing of any deficiencies in the reconstruction and rehabilitation of Rising Main #3, PWSA shall correct the deficiencies as requested by the Department within the time requested and submit a new certification of construction.

3.j. No later than December 31, 2022, PWSA shall complete the work authorized for the installation of a new liner and cover for the Highland 2 Reservoir in accordance with the terms and conditions of Public Water Supply Permit No. 0220522MA, which has an expiration date of December 31, 2022, and shall submit to the Department an original, signed "Certificate of Construction/Modification Completion" form (certification of construction) that meets the requirements of 25 Pa. Code § 109.504(a). In the event the Department notifies PWSA in writing of any deficiencies in the installation of the new liner and/or cover for the Highland 2 Reservoir, PWSA shall correct the deficiencies as requested by the Department within the time requested and submit a new certification of construction.

4. Stipulated Civil Penalties. Paragraph 4 of the 2019 COA and the First Amendment are superseded by the following:

a. In the event PWSA fails to meet the corrective action deadline of September 30, 2021, as specified in Paragraphs 3a. and 3.k., above, PWSA shall be in violation of this Consent Order and Agreement and, in addition to other applicable remedies, shall pay a one-time civil penalty in the amount of Twenty Thousand Dollars ($20,000). In addition to the one-time payment, PWSA shall pay a civil penalty in the amount of One Thousand Dollars ($1,000) per day for each violation until the requirements specified in Paragraphs 3a. and 3.k., above, are fulfilled.

b. In the event that PWSA fails to meet the corrective action deadline of December 31, 2022, as specified in Paragraphs 3.d. and 3.j., above, PWSA shall be in violation of this Consent Order and Agreement and, in addition to other applicable remedies, shall pay a one-time civil penalty in the amount of Twenty Thousand Dollars ($20,000). In addition to the one-time payment, PWSA shall pay a civil penalty in the amount of One Thousand Dollars

($1,000) per day for each violation until the requirements specified in Paragraphs 3d. and 3.j., above, are fulfilled.

c. In the event PWSA fails to comply in a timely manner with any term or provision in Paragraphs 3.b., 3.c., 3.e. through 3.i. and Paragraphs 3.l. through 3.t., above, PWSA shall be in violation of this Consent Order and Agreement and, in addition to other applicable remedies, shall pay a civil penalty in the amount of One Hundred Dollars ($100) per day for each violation.

d. Stipulated civil penalty payments shall be payable monthly on or before the fifteenth day of each succeeding month. The payment shall be made by corporate check or the like, made payable to the "Commonwealth of Pennsylvania - Safe Drinking Water Fund" and sent to:

Gail Guenther
Environmental Protection Compliance Specialist
Safe Drinking Water Program
PA DEP Southwest Regional Office
400 Waterfront Drive
Pittsburgh PA 15222

e. Any payment under this paragraph shall neither waive PWSA's duty to meet its obligations under the 2019 COA, as amended, nor preclude the Department from commencing an action to compel PWSA's compliance with the terms and conditions of the 2019 COA, as amended. The payment resolves only PWSA's liability for civil penalties arising from the violation of the 2019 COA, as amended, for which the payment is made.

f. The civil penalty settlement and stipulated civil penalties shall be due automatically and without notice.

5. Except for the amendments to Paragraphs 3.d. and 3.j. and Paragraph 4, expressly stated herein, the Findings and all other terms and conditions of the 2019 COA and First Amendment shall remain in full force and effect between the Parties.

6. Resolution. Attached hereto as Appendix B is a resolution of the Board of Directors of PWSA authorizing its signatory(ies) below to enter into this Amendment 2 on its behalf.

7. This Amendment 2 may be signed in counterparts, each of which shall be deemed to be an original and all of which together shall constitute one and the same instrument. Counterpart signatures may be transmitted electronically using portable document format (.pdf).

[THE REMAINDER OF THIS PAGE IS INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the parties hereto have caused this Amendment 2 to be executed by their duly authorized representatives. PWSA certifies under penalty of law, as provided by 18 Pa. C.S. § 4904, that it is authorized to execute this Amendment 2; that it consents to the entry of this Amendment 2 as a final ORDER of the Department; and it hereby knowingly waives its rights to appeal this Amendment 2 and to challenge its content or validity, which rights may be available under Section 4 of the Environmental Hearing Board Act, Act of July 13, 1988, P.L. 530, 35 P.S. § 7514; the Administrative Agency Law, 2 Pa. C.S. § 103(a) and Chapters 5A and 7A; or any other provisions of law.

FOR PITTSBURGH WATER AND SEWER AUTHORITY:

William J. Pickering
Chief Executive Officer
Pittsburgh Water and Sewer Authority

David G. Ries, Esquire
Attorney for Pittsburgh Water and Sewer Authority

FOR THE COMMONWEALTH OF PENNSYLVANIA, DEPARTMENT OF ENVIRONMENTAL PROTECTION:

Renee Diehl
Program Manager
Southwest Safe Drinking Water Program

Wendy Carson
Assistant Counsel

EXHIBIT D

BOARD RESOLUTION ITEM

Originating Department:	Environmental Compliance	Phone:	412.255.8800
Department Contact:	Frank P. Sidari III	E-mail:	fsidari@pgh2o.com
Date:	08.23.2024		

Resolution No: 49

Authorizing the Chief Executive Officer to enter into a Consent Decree from the Department of Environmental Protection establishing schedules for various projects to complete replacement of the clearwell.

FINAL BOARD APPROVAL:
ADOPTED AUGUST 23 2024

BJ Leber

BJ Leber, Secretary

IN THE COMMONWEALTH COURT OF PENNSYLVANIA

COMMONWEALTH OF PENNSYLVANIA, DEPARTMENT OF ENVIRONMENTAL PROTECTION,	:	
Petitioner,	:	
	:	No. 405 M.D. 2024
v.	:	
PITTSBURGH WATER AND SEWER AUTHORITY,	:	
Respondent.	:	

ORDER

AND NOW, this _____ day of _____, 2024, upon consideration of the Parties' Joint Motion for Entry of Consent Decree ("Joint Motion"), it is hereby ORDERED that said Joint Motion is GRANTED. The Consent Decree, which is attached to the Joint Motion and marked as Exhibit A, shall be adopted as an Order of this Court. This Court shall retain jurisdiction over this matter

SO ORDERED,

_____

J.

Exhibit BK-6

Pennsylvania
Department of
Environmental Protection
Southwest Regional Office

May 7, 2025

DELIVERED VIA EMAIL

William Pickering, Executive Director
Pittsburgh Water and Sewer Authority
Penn Liberty Plaza 1
200 Penn Avenue
Pittsburgh PA 15222

Re: 2017 Consent Order and Agreement
PWSID No. 5020038
Pittsburgh Water and Sewer Authority
City of Pittsburgh, Allegheny County

Dear Mr. Pickering:

The Department has determined that your obligations under the November 17, 2017 Consent Order and Agreement have been met and this Order is now closed.

If you have any questions concerning this matter, please contact me at 412-442-4210 or rediehl@pa.gov.

Sincerely,

Renee Diehl

Renee Diehl
Program Manager
Bureau of Safe Drinking Water

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

DIRECT TESTIMONY OF

KATHERINE "KATE" MECHLER, PE

ON BEHALF OF
THE PITTSBURGH WATER
AND SEWER AUTHORITY

Docket Nos.
R-2025-3055010 (Water)
R-2025-3055011 (Wastewater)
R-2025-3055012 (Stormwater)

TOPICS:

Overview Wastewater and Stormwater Conveyance
Capital Projects
Utility Coordination and Surface Restoration

June 4, 2025

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TABLE OF EXHIBITS

KM-1	January 26, 2021 EPA Administrative Order on Consent

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND POSITION FOR THE RECORD.

A. My name is Katherine Mechler and I am the Director of Engineering and Construction for Wastewater, Stormwater, and Green Infrastructure Programs for the Pittsburgh Water and Sewer Authority ("Pittsburgh Water"), a position that I assumed in January 2025. Prior to this position, I served as the Deputy Director of Engineering for Pittsburgh Water from April 2019 to December 2024.

Q. PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND RELEVANT EXPERIENCE.

A. Over the last 22 years, I have been progressively responsible for design, construction management, project management, program management, and leadership in the fields of wastewater conveyance and stormwater management. I hold a Bachelor of Engineering in Chemical Engineering from the University of Delaware. I am licensed as a Professional Engineer by the Pennsylvania Bureau of Professional and Occupational Affairs. Prior to my employment with Pittsburgh Water, I was employed (from March 2015 to Apr 2019) as a Senior Project Manager by Mott MacDonald — which is a consulting engineering firm serving public and private clients in North America. During my time at Mott MacDonald, I was an embedded consultant at Pittsburgh Water and my roles were Program Manager and Sewer Program Manager, which included asset assessment, capital improvement program development and execution, and process development. Before that, from June 2003 to March 2015, I was a Certified Project Manager/Senior Buried Infrastructure Engineer for Arcadis — which is a global design, engineering and management consulting company. In that role, I was the project

manager and lead design engineer for various storm, combined, and sanitary sewer projects across the United States.

Q. WHAT ARE YOUR VARIOUS JOB RESPONSIBILITIES WITH PITTSBURGH WATER?

A. I am responsible for budgeting, planning, and executing wastewater, stormwater, and green infrastructure programs, as well as supporting the development of the department's staff.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION ("PUC" OR "COMMISSION")?

No.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to: (1) describe Pittsburgh Water's wastewater and stormwater conveyance facilities, related regulatory requirements, and status of operation and maintenance of the wastewater system; (2) describe Pittsburgh Water's Capital Improvement Plan ("CIP") for wastewater and stormwater; (3) provide justification for increasing the wastewater Distribution System Improvement Charge ("DSIC") percentage from 5% to 7.5%; (4) support Pittsburgh Water's multi-year rate request; and (5) describe Pittsburgh Water's coordination with other utilities and Surface Restoration Program.

Q. ARE YOU SPONSORING ANY EXHIBITS?

A. Yes. I am sponsoring the following exhibits:

- **Exh. KM-1:** Exhibit KM-1 is a copy of the January 26, 2021 United States Environmental Protection Agency ("EPA") Administrative Order on Consent with Pittsburgh Water and the City of Pittsburgh.

II. OVERVIEW OF WASTEWATER AND STORMWATER CONVEYANCE

Q. PLEASE PROVIDE AN OVERVIEW OF PITTSBURGH WATER'S WASTEWATER AND/OR STORMWATER INFRASTRUCTURE.

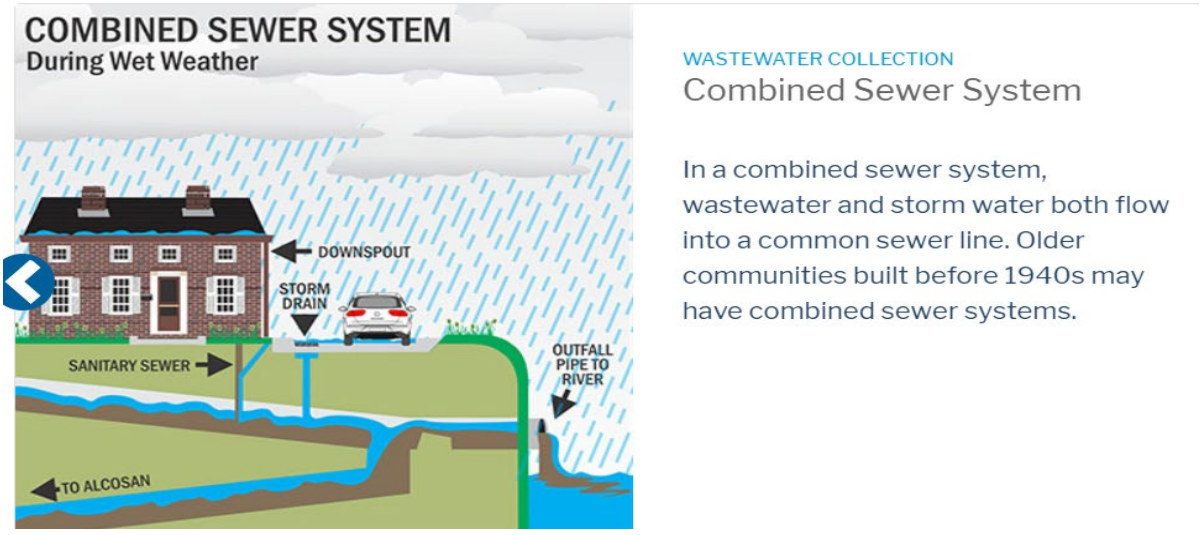
A. Pittsburgh Water sewer system conveys wastewater collected from 24 neighboring suburban municipalities and wastewater generated by 306,000 residents and businesses within the City boundaries to the Allegheny County Sanitary Authority ("ALCOSAN") interceptors. The ALCOSAN interceptors are located along the rivers and tributaries for conveyance to ALCOSAN's Wastewater Treatment Facility ("WWTF") for treatment prior to discharge into the Ohio River. In total, the ALCOSAN WWTF receives wastewater flows from 83 municipalities and authorities in the region. ALCOSAN also conducts enforcement of industrial pretreatment in Pittsburgh Water service area.

Pittsburgh Water's sewer collection system includes: an extensive network of approximately 1,242 miles of sanitary, storm, and combined sewers; 30,297 manholes (some manholes include flow dividers and diversion chambers); 24,993 inlets (includes catch basins and storm inlets; excludes private inlets); 99 combined sewer overflow ("CSO") diversion chambers that are currently inspected and maintained by Pittsburgh Water; three sanitary sewer overflow ("SSO") structures (located at our pump stations) maintained by Pittsburgh Water (previously designed/constructed as part of the original system); 35 solely owned CSO outfall structures maintained by Pittsburgh Water and 146 CSO outfall structures co-permitted with ALCOSAN; 254 separate storm sewer outfalls in the municipal separate storm sewer ("MS4") system; and four wastewater pump stations and ancillary facilities.

Pittsburgh Water has two types of wastewater conveyance systems – a combined system and separated sanitary and storm sewer systems. Stormwater is conveyed in different

ways by each type of system. Approximately 73% of the system, or approximately 912 miles of sewer lines, is the combined sewer system. This is generally the older areas of the system where wastewater and stormwater are conveyed in the same pipe. During times of dry weather, all flow is conveyed to ALCOSAN for treatment. When it rains, the capacity of the system to convey flow can be limited, which causes localized flooding, basement sewer backups, and overflows to streams and rivers. Figure A below illustrates the operation of a combined sewer system.

Figure A



Source: https://www.alcosan.org/what-we-do/wastewater-treatment

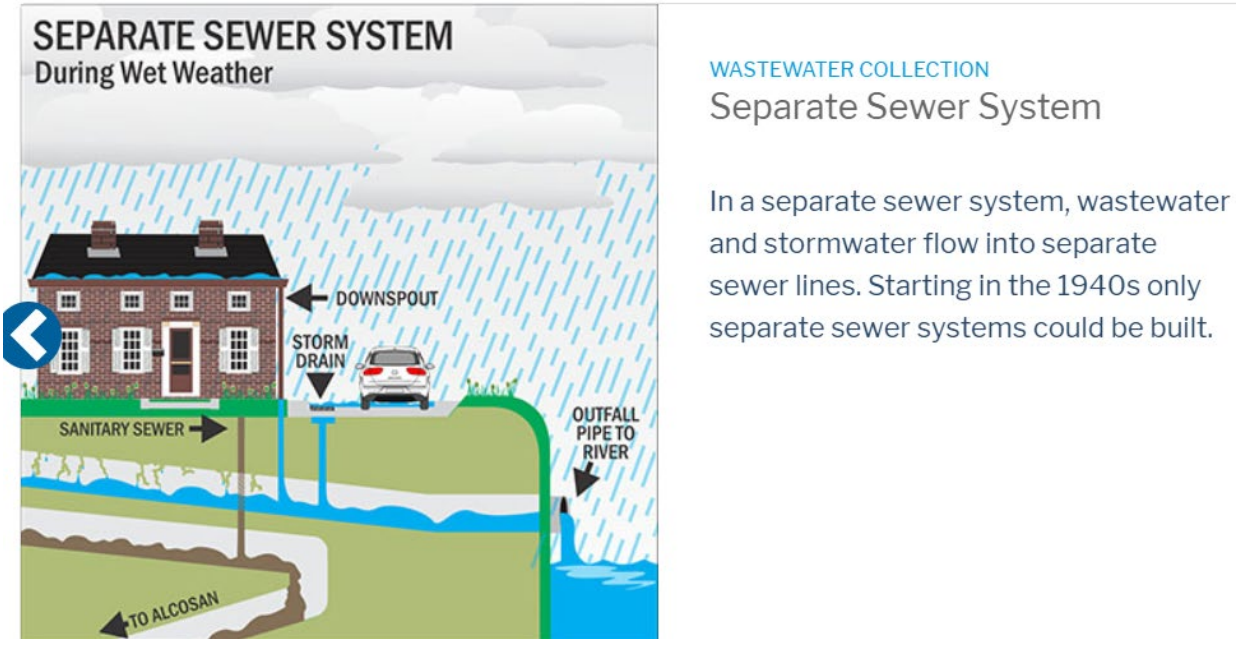
Newer, or more recently redeveloped communities, have separated sanitary and storm sewer systems.[1] In a separated system, wastewater is conveyed to ALCOSAN for treatment, and when it rains stormwater is discharged directly to a nearby stream or river.

[1] Due to uneven patterns and timelines of real estate development, some areas have been built as separated systems but must connect to an older combined system downstream because they do not have direct access to ALCOSAN sanitary sewer lines (for sanitary flow) or a body of water (for stormwater flow), resulting in a patchwork of infrastructure types.

The MS4[2] is not connected to either the combined wastewater system or the sanitary sewer system and only carries stormwater.

Approximately 27% of the Pittsburgh Water system is separated. The separated system has approximately 177 miles of sanitary sewer and 153 miles of stormwater pipes. However, as redevelopment occurs in the City and portions of the combined sewer system are replaced by separate sewer systems, the percentage of separate sanitary and storm sewers is gradually increasing. Figure B below illustrates the operation of a separate sanitary sewer system.

Figure B

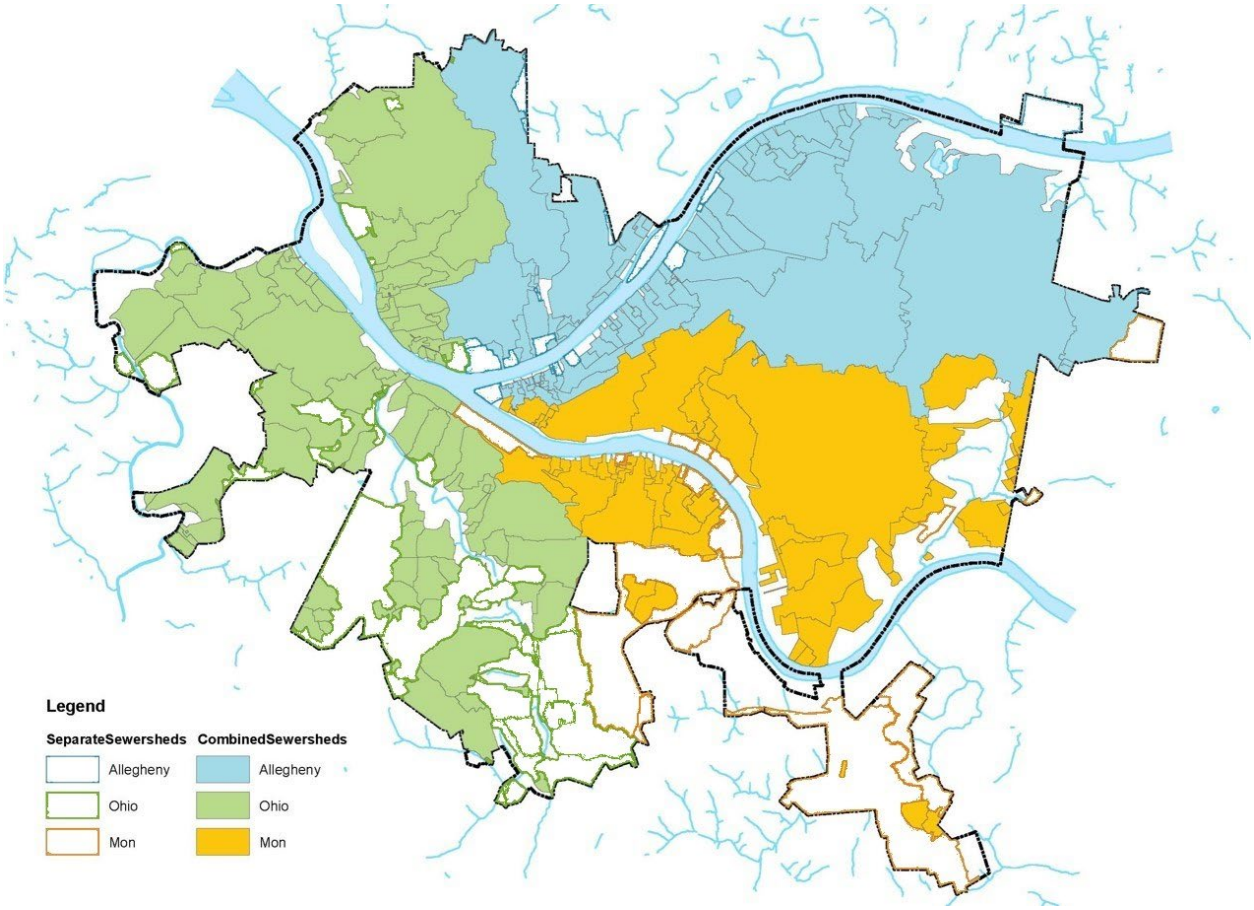


Source: https://www.alcosan.org/what-we-do/wastewater-treatment

A map providing an overview of the combined and separated sewersheds in the City of Pittsburgh is shown in Figure C below.

[2] "MS4" stands for Municipal Separate Storm Sewer System. *See* 25 Pa. Code § 92a.2. Municipalities and other entities that meet certain standards must obtain National Pollutant Discharge Elimination System ("NPDES") permit coverage for discharges of storm water from their MS4s. *See, e.g.,* the Storm Water Management Act, 32 P.S. §§ 680.1, *et seq. See also* 40 CFR 122.26(b) (relating to definitions).

Figure C



Q. ARE THERE DIFFERENT REGULATORY CATEGORIES OF STORMWATER?

A. Yes. Under the Clean Water Act, a permit is required for any discharge to waters such as rivers or streams. There are two types of permits that address stormwater discharges: (1) National Pollutant Discharge Elimination System ("NPDES") permits that apply to discharges from a combined sewer system, including stormwater flow which is due to groundwater infiltration and stormwater inflow that mix with other wastewater in combined sewer pipes; and (2) NPDES permits for MS4, relating to stormwater that is collected, conveyed, and discharged to local waterbodies via stormwater-only pipes.

Q. WHAT PERMITS IS PITTSBURGH WATER CURRENTLY OPERATING UNDER FOR THEIR SYSTEM?

A. The Pennsylvania Department of Environmental Protection ("PADEP") issued CSO NPDES Permit PA0217611 to Pittsburgh Water and the City (as co-permittees), with an effective date of May 1, 2004. The PADEP has administratively extended this permit since April 30, 2009. Pittsburgh Water's CSO NPDES permit requires implementation of the EPA's "Nine Minimum Control Measures" ("NMCs"). The NMCs define the basic steps for maintaining the combined sewer system in proper operational order and identifying potential areas requiring updates and repairs. Pittsburgh Water continues to prioritize work associated with the compliance requirements in the CSO NPDES Permit.

The PADEP issued a MS4 NPDES Permit to Pittsburgh Water and the City in 2004 that was administratively extended through June 30, 2020. PADEP issued a new MS4 NPDES Permit (PAI136133) to Pittsburgh Water and the City (City (as co-permittees) effective as of July 1, 2020, with an expiration date of June 30, 2025. Both Pittsburgh Water and the City must implement Six Minimum Control Measures ("MCMs") in order to comply with the MS4 NPDES Permit. These include:

- Public Education and Outreach
- Public Participation
- Illicit Discharge Detection and Elimination
- Pre-Construction Runoff Control
- Post-Construction Runoff Control
- Good Housekeeping

Q. WHAT IS COMBINED SEWER OVERFLOW (CSO)?

A. Normally, during dry periods or low intensity rainfalls, Pittsburgh Water's combined system sends all wastewater and stormwater flow to the ALCOSAN treatment facility. However, if there is a large rainfall event, the system can become overloaded beyond its

capacity. When this occurs, the system is designed to allow excess stormwater and untreated sewage to be discharged into rivers and streams. This means that combined sewers can cause water pollution problems when the volume of sewage and stormwater exceed the capacity of the conveyance system.

Q. HOW ARE COMBINED SEWER OVERFLOWS BEING ADDRESSED?

A. In 2004, the PADEP issued a consent order to the City of Pittsburgh and other municipalities in Allegheny County.[3] The consent order directed the parties to reduce the volume of CSOs and basement backups.

In 2013, Pittsburgh Water prepared a *Wet Weather Feasibility Study*[4] in accordance with the PADEP Consent Order. In this document, Pittsburgh Water discussed green infrastructure and integrated watershed management and indicated its intent to further analyze and evaluate how these methods could be utilized to address CSOs in Pittsburgh and the region. The study also described how stormwater infrastructure can help to address chronic surface flooding and sewage basement backups experienced across Pittsburgh.

In November 2016, Pittsburgh Water completed the *Green First Plan*,[5] which presented the results of these analyses and evaluations. Pittsburgh Water's *Green First Plan* identified the use of green infrastructure, stormwater source control, and stream removal as an alternate plan to the current ALCOSAN *Clean Water Plan* ("CWP").[6] It

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[3] Available at: https://www.3riverswetweather.org/sites/default/files/Consent%20Order%20and%20Agreement%20final%202004.pdf.

[4] Available at: https://www.pgh2o.com/your-water/stormwater.

[5] Available at: https://www.pgh2o.com/your-water/stormwater.

[6] Available at: https://www.alcosan.org/our-plan/plan-documents/clean-water-plan.

also indicated that using these alternate methods could lead to improved efficiencies for ALCOSAN's planned WWTP upgrades and operations of the existing collection system, as well as greater reduction of sediment levels in the existing deep tunnel interceptor sewers. Pittsburgh Water's *Green First Plan* estimated that it could reduce the region's overflow volume by a comparable amount (6 billion gallons or more) to ALCOSAN's WWTP, while also providing a higher level of protection against surface flooding and basement sewage backups.

In 2020, ALCOSAN signed a Modified Consent Decree with the EPA, the Department of Justice ("DOJ"), the PADEP, and the Allegheny County Health Department, which Pittsburgh Water is not a party to. Through the implementation of their Clean Water Plan, ALCOSAN will be increasing the WWTF capacity to 480 million gallons per day ("mgd") by the end of 2025 and to 600 mgd by the end of 2029. The most significant infrastructure component of the plan, however, is the construction of a regional tunnel system, with deep tunnels being built along the Allegheny, Ohio and Monongahela rivers, which will convey sewage and stormwater to ALCOSAN's WWTF during wet weather events. The anticipated result of these and other components of the plan will be the removal of 7 billion gallons of combined sewer overflows annually, putting ALCOSAN in compliance with the consent decree and closer to the regulatory goals of the Clean Water Act.[7]

In 2021, Pittsburgh Water began negotiations with the EPA, DOJ, and PADEP to develop a consent decree with Pittsburgh Water and the City related to CSO compliance

[7] See, https://www.alcosan.org/clean-water-plan/clean-water-act.

and SSOs. In October 2021, Pittsburgh Water awarded a contract to a consulting firm to assist Pittsburgh Water with Wet Weather Program Management during and following consent decree negotiations. The regulators provided a first draft of a Consent Decree to Pittsburgh Water on November 21, 2024. While currently on-hold due to the new United States Government Administration, it is believed negotiations will continue in 2025.

Q. ARE ALL COSTS RELATED TO PITTSBURGH WATER'S PROPOSED CONSENT DECREE OBLIGATIONS KNOWN AT THIS TIME?

A. No, all costs related to the Consent Decree are not known at this time, due to ongoing negotiations.

Q. DID PITTSBURGH WATER PETITION THE COMMISSION FOR A DAMAGED WASTEWATER LATERALS AND ILLEGAL CONNECTION REMOVAL PILOT PROGRAM AS STATED IN THE 2023 RATE CASE?

A. No, Pittsburgh Water has not petitioned the Commission for authority to implement a Pilot Infiltration and Inflow Reduction Program and Damaged Wastewater Lateral Program for eligible low-income customers largely due to the ongoing Consent Decree negotiations and unavailable resources required for implementation.

Q. CAN YOU EXPLAIN THE REGIONALIZATION CONCEPT IN ALCOSAN'S MODIFIED CONSENT DECREE?

A. Regionalization involves the voluntary transfer of municipal sewers and sewer facilities over to ALCOSAN ownership that meet the following criteria: (1) 10-inches in diameter or greater; and (2) conveys flow from more than one municipality and is envisioned as a potential remedy within the interim measures of the Wet Weather Plan required in the 2020 ALCOSAN Modified Consent Decree. The ALCOSAN Clean Water Plan (September 2019) summarizes the benefits of regionalization as follows:

- Streamlines wet weather compliance by transferring responsibility for overflows long transferred sewers to ALCOSAN.
- Facilitates more holistic and cost-effective decision-making regarding overflow reduction strategies and priorities.

- Resolves historic complexities associated with allocating costs for inter-municipal trunk sewer maintenance and improvements.
- Enables efficiencies in operational control of wet weather facilities.
- Promotes flow reduction and integrated planning.
- Facilitates prioritization of repairs from a system-wide perspective.
- Provides more accurate and updated information about the condition and connectivity of these sewers.
- Promotes local decision making (as transfers are voluntary).

There is approximately 60.5 miles of multi-municipal sewer infrastructure, 19 Pittsburgh Water solely permitted outfalls, and 36 diversion chambers currently eligible for transfer of Pittsburgh Water's system. Additional infrastructure could be identified.

Q. WHAT HAPPENS TO STORMWATER IN SEPARATED SANITARY SEWER AREAS?

A. Stormwater in separated sanitary sewer areas is subject to management under local ordinances and/or an NPDES permit for MS4s.

Q. WHAT IS AN MS4 PERMIT?

A. Municipalities and other entities (such as universities) that meet certain standards must obtain an NPDES permit for discharges of stormwater from their MS4s.

In Pennsylvania, the MS4 program is managed by PADEP. The Clean Water Act requires cities serving a population of over 100,000 people to obtain an NPDES permit for their discharges. EPA has delegated oversight of the NPDES program in Pennsylvania to PADEP. The Pennsylvania Clean Streams Law of 1937 also provides additional authority to PADEP.

Q. WHAT ARE SOME OF THE STORMWATER SERVICES AND ACTIVITIES THAT PITTSBURGH WATER MUST PROVIDE UNDER THE MS4 PERMIT?

A. Pittsburgh Water's obligations under the MS4 NPDES Permit include reducing the amount of sediment, nutrients, and other pollution from entering rivers, streams, creeks,

waterways and water bodies that have significant direct and indirect impacts on water supply and water quality in the area. Some examples of "water quality" services include:

- GIS mapping;
- Public education and outreach; and
- Project design construction and management (e.g. projects in Pollutant Reduction Plans and Total Maximum Daily Load Plans).

Q. WHO MAINTAINS THE STORMWATER CATCH BASINS IN THE CITY OF PITTSBURGH?

A. Stormwater runoff from roadways flows into storm grates or inlets, then into the sump or well below called a catch basin. Pittsburgh Water has taken responsibility for maintaining approximately 25,000 stormwater catch basins and inlets.[8] The catch basins and inlets need to remove stormwater runoff from the streets as quickly as possible. For them to function properly, they require regular maintenance to remove sediment, litter, and other debris—as well as contaminants that get picked up along the way.

Catch basins are designed to handle flows from specific rainfall events (i.e., a design storm). It is neither feasible nor cost effective to build catch basins (and combined sewer systems) to handle the largest or heaviest rains. In doing so, they would never be used to their full capacity if designed to manage storms with a frequency of 25, 100, or 200 years. Even with proper design and installation, catch basins may not be able to handle all heavy drainage, runoff, or high intensity precipitation, but can manage our most common sized storms.

The below-ground (or internal) cleaning of a catch basin requires the use of a vacuum truck to suck up leaves, sediment and debris from the catch basin. After the

[8] On State roads, however, the Pennsylvania Department of Transportation ("PennDOT") is responsible for inlet maintenance.

basin is vacuumed, other work needs to be done inside the basin to ensure that the subsurface connections to the combined sewer lines or separate stormwater lines are clear before the job is complete. This other work often includes spraying, flushing and/or "jetting" the catch basin. "Jetting" means that high pressure water runs through the lines to remove any accumulated material such as sediment, leaves, or trash. Right now, Pittsburgh Water acts as an agent of the City of Pittsburgh to perform maintenance of all publicly owned catch basins.

III. CAPITAL PROJECTS

Q. HOW IS PITTSBURGH WATER'S CIP ORGANIZED?

A. The CIP is organized into six project classes: (1) Water Treatment Plant; (2) Water Pumping and Storage; (3) Water Distribution System; (4) Wastewater System; (5) Stormwater System; and (6) Miscellaneous. The project class designated as "Miscellaneous" consists of Utility Cost Shares, Capital Project Reclassification, and New Headquarters and Operations Facility. Each project class is then made up of individual projects, which are defined based upon current information and range from annual allowances for asset renewal and/or replacement activities to major, multiple phase facility renewal projects. Funding sources, project identification and prioritization processes, and the drinking water program, are discussed in more detail in Mr. King's testimony.

Q. PLEASE HIGHLIGHT SOME OF PITTSBURGH WATER'S HISTORIC STORMWATER MANAGEMENT AND MITIGATION CAPITAL PROJECTS.

A. As of April 2025, Pittsburgh Water has constructed (or partnered with) twenty-eight stormwater infrastructure projects in the City of Pittsburgh. Projects were strategically sited to collect stormwater in high priority sheds where projects would have a significant

impact on reducing combined sewer overflows, as mandated by the EPA and PADEP. These projects featured sewer separation, bioretention (rain gardens and "bump outs" along roadways), and underground retention tanks to hold back the peak flows of stormwater during rainfall events.

Q. WHAT ARE THE CAPITAL COSTS ASSOCIATED WITH THESE PROJECTS?

A. Pittsburgh Water has made a significant investment in green/stormwater infrastructure over the past several years to manage stormwater, reduce sewer overflows, and comply with regulatory requirements, as shown in Table 1:

Table 1 – Pittsburgh Water Stormwater Capital Expenditures from 2017-2024[9]

Year	Capital Expenditure
2017	$953,003
2018	$3,156,175
2019	$6,901,255
2020	$15,791,622
2021	$15,614,923
2022	$15,273,343
2023	$12,291,912
2024	$14,833,091

Q. PLEASE HIGHLIGHT SOME OF PITTSBURGH WATER'S HISTORIC WASTEWATER CAPITAL PROJECTS.

A. In 2017, Pittsburgh Water initiated the planning and design of defined, proactive small diameter sewer rehabilitation projects by neighborhood, which focused on restoring structural integrity to the system and reducing public infiltration and inflow sources in

[9] *See* 2022-2026 CIP (2022-2026 CIP - FINAL-compressed.pdf (pgh2o.com)), 2023-2027 CIP (2023-2027 Capital Improvement Plan Final Document.pdf (pgh2o.com)), and 2025-2029 CIP (https://www.pgh2o.com/sites/default/files/2025-03/2025-2029%20CIP_FINAL_3.3.25.pdf.).

sanitary sewersheds. Prior to this initiative, sewer mains were reconstructed or rehabilitated utilizing Pittsburgh Water's annual Indefinite Delivery Indefinite Quantity ("IDIQ") contracts, which yielded limited renewal in the system. In 2023, Pittsburgh Water established and "piloted" a risk-based approach towards prioritizing sewer rehabilitation and has continued to refine and utilize the methodology on future contracts. Project areas are still neighborhood based; however, only mains that meet predefined criteria are selected for rehabilitation. Results of the 2023 pilot approach indicated that approximately 50% of infrastructure that was condition assessed required a rehabilitation measure. This statistic was confirmed to remain accurate in 2024 and continues to be assessed. Pittsburgh Water continues to refine the methodology and qualifications of the risk-based approach towards prioritizing sewer rehabilitation. As of April 2025, Pittsburgh Water has renewed 59 miles (excluding IDIQ contracts) of sewers utilizing cured-in-place lining under this Program. Additional projects include M-29 Outfall Improvements, Queenston Sewer Improvements, Large Diameter Sewer Rehabilitation Program, Sewers Under Structures Program, and Sewer Reconstruction Program.

Q. WHAT ARE THE CAPITAL COSTS ASSOCIATED WITH THESE PROJECTS?

A. Pittsburgh Water has made a significant investment in the renewal and replacement of wastewater infrastructure over the past several years, as shown in Table 2. In 2024, Pittsburgh Water exceeded the capital plan budget ($41,501,076) by $1,665,225 for this project class.

Table 2 – Pittsburgh Water Wastewater Capital Expenditures from 2017-2024[10]	
Year	Capital Expenditure
2017	$6,768,668
2018	$9,225,987
2019	$15,152,656
2020	$8,767,047
2021	$20,632,500
2022	$20,181,159
2023	$18,088,222
2024	$43,166,301

Q. FOR THE WASTEWATER AND STORMWATER CAPITAL PROJECTS APPROVED BY THE BOARD, WHAT IS PITTSBURGH WATER'S TOTAL PLANNED CAPITAL EXPENDITURE FOR THE CIP FOR FISCAL YEARS 2025-2029?

A. The total planned wastewater and stormwater capital expenditures for Fiscal Years 2025-2029 is $201,641,700. This amount is broken out by project class and by fiscal year, as shown on page 19 of the 2025-2029 CIP. The entire list of projects approved by the 2025-2029 CIP are listed on pages 20-21 of the CIP, which is attached to Mr. Barca's testimony as Pittsburgh Water Exhibit EB-4, and is also available electronically, here: https://www.pgh2o.com/sites/default/files/2025-03/2025-2029%20CIP_FINAL_3.3.25.pdf. As shown in Table 3 below, the planned capital expenditures by fiscal year are:

Table 3

[10] *See* 2022-2026 CIP (2022-2026 CIP - FINAL-compressed.pdf (pgh2o.com)), 2023-2027 CIP (2023-2027 Capital Improvement Plan Final Document.pdf (pgh2o.com)), and 2025-2029 CIP (https://www.pgh2o.com/sites/default/files/2025-03/2025-2029%20CIP_FINAL_3.3.25.pdf.).

Project Class	FY2025	FY2026	FY2027	FY2028	FY2029
Wastewater	$49,401,152	$48,569,270	$18,845,643	$12,956,679	$31,296,112
Stormwater	$29,489,958	$7,580,760	$1,999,779	$1,333,333	$169,014

Q. PLEASE IDENTIFY THE WASTEWATER AND STORMWATER PROGRAMS/PROJECTS INCLUDED IN THE FPFTY AND FY 2027 REVENUE REQUIREMENTS.

Wastewater

Table 4		
Project Class	**FY2026**	**FY2027**
Small Diameter Sewer Rehabilitation	$29,030,812	$3,360,000
31st Ward Sewer Pump Station	$7,248,809	$9,507,797
Large Diameter Sewer Rehabilitation	$7,715,321	$2,300,000
Sewer Reconstruction	$3,277,271	$3,677,846
Browns Hill Road Sewer Pump Station	$1,297,058	$-
Total	$48,569,271	$18,845,643

One critical and cost-effective program is the annual Small Diameter Sewer Rehabilitation Program. This program proactively rehabilitates sewers (combined, sanitary, and storm) through the trenchless installation of airtight, watertight cured-in-place pipelining on the inside of aging sewer pipes. This affords Pittsburgh Water with an approach that minimizes the impact to residents through a more cost-effective way of extending the life of the sewer system than replacing it with new pipe. This sewer lining program improves the reliability and service provided to our customers. The planned Fully Projected Future Test Year ("FPFTY") revenue requirement is $29,030,812 and $3,360,000 in FY 2027.

Similar to the Small Diameter Sewer Rehabilitation Program, the Large Diameter Sewer Rehabilitation Program is proactive, trenchless rehabilitation of sewer mains greater than 36-inch in diameter to restore structural integrity, reduce root intrusion, and reduce deposits attached encrustation prior to complete failure. This trenchless pipe renewal method renews the asset, eliminates disruptive excavation, and is more cost-effective than replacement. The planned FPFTY revenue requirement is $7,715,321 and $2,300,000 in FY 2027.

Two additional projects, which Pittsburgh Water has discussed as early action projects during the Consent Decree negotiations, are the replacement of two wastewater pump stations (Browns Hills and Mifflin), including the elimination of one wastewater pump station (Rodgers) and the construction of an equalization tank to store flows in excess of pump station capacity during wet weather events. The planned FPFTY revenue requirement for these two projects is $8,545,867 and $9,507,797 in FY 2027.

Stormwater

Table 5		
Project Class	**FY2026**	**FY2027**
Catch Basin and Inlet Replacement	$1,964,319	$1,333,333
Bus Rapid Transit	$3,418,543	$666,446
Southside Flats Sewer Separation	$1,062,480	$-
Woods Run Improvements – Mairdale Avenue	$986,725	$-
Saw Mill Run Watershed Improvements	$100,000	$-
Total	$7,580,760	$1,999,779

The Catch Basin Replacement Program includes the strategic replacement of catch basins and storm inlets throughout the system to replace failed units, maintain stormwater control reliability, reduce the amount of sediment, litter, and other debris from entering the system, and minimize disturbance to the community. The planned FPFTY revenue requirement is $1,964,319 and $1,333,333 in FY 2027.

Pittsburgh Water is partnering with Pittsburgh Regional Transit on the Bus Rapid Transit ("BRT") Project[11], which is the redesign of Forbes and Fifth Avenues in the City of Pittsburgh to accommodate BRT from Downtown to the Birmingham Bridge. The construction of the BRT project requires certain assets owned and/or operated by Pittsburgh Water be removed, replaced, and/or relocated. Additionally, it will include the installation of underground storage and bioretention plantings to help slow or reduce runoff into the combined sewer system during wet weather events. The planned FPFTY revenue requirement is $3,418,543 and $666,446 in FY 2027.

The Southside Flats Sewer Separation Project includes the construction of a separated storm system to reduce combined sewer overflows from the M-15 and M-15Z sewersheds. Flow from the M-15 and M-15Z sewersheds will not be conveyed to ALCOSAN's Monongahela River Tunnel. This portion of the sewer system is currently "combined," which has led to overtaxed pipes in this area during heavy stormwater events, causing basement backups and overland flooding. In addition to the installation of new storm sewers, this project includes surface conveyance, connection to the existing

[11] *See* Commission Docket No. U-2022-3035852; Phase 2 Agreement of Cooperation dated September 29, 2022, Certificate of Filing issued by Commission on November 3, 2022.

54-inch storm sewer on South 18th Street, as well as water main replacement and lead service line replacements. The planned FPFTY revenue requirement is $1,062,480.

The Woods Run Improvements - Maridale Avenue project is located in Riverview Park, which is a city park located in the Perry North neighborhood. This project will use green stormwater infrastructure in the park to capture stormwater runoff, stabilize streams, and redirect, detain, and slowly release stormwater runoff that currently discharges directly into a 36-inch diameter combined sewer on Mairdale Avenue. These improvements will reduce flooding, sediment from entering the combined sewer, and combined sewer overflows to the Ohio River. The planned FPFTY revenue requirement is $986,725.

Q. ARE THERE FUNDING SHORTFALLS IN THE CURRENT CIP IN THE WASTEWATER AND STORMWATER PROJECT CLASSES?

A. Yes, there are funding shortfalls in the wastewater and stormwater project classes in the current CIP. For wastewater, the Sewers Under Structures Program was defunded, apart from the contracts currently in construction, and both the Small and Large Diameter Sewer Rehabilitation Programs were significantly reduced. For stormwater, construction was deferred for six projects that are currently in various stages of planning and design. These projects include Fowler Park, Oakridge Stormwater Separation, Southside Park, Four Mile Run, Stewart Avenue, and MLK Field. Additionally, projects to comply with the proposed EPA and PADEP requirements are not included. This topic is discussed in more detail in Mr. Barca's testimony.

Q. CAN YOU EXPLAIN WHY THESE BUDGETARY SHORTFALLS EXIST?

A. Certainly. The current 2025-2029 CIP was approved December 20, 2024. Pittsburgh Water had a stay out clause from the last rate case settlement that prohibited a general

rate increase before January 1, 2026. This stay out clause, along with the denial of Pittsburgh Water's prior multi-year rate increase request, forced Pittsburgh Water to dramatically reduce its CIP starting in FY 2026 (See Table 6 below).

Table 6			
Project Class	**FY2025**	**FY 2026**	**FY2027**
Wastewater	$49,401,152	$48,569,270	$18,845,643
Stormwater	$29,489,958	$7,580,760	$1,999,779
Total	$78,891,110	$56,150,030	$20,845,422

The current wastewater and stormwater needs of the system far exceed the nominal amount being requested in the FPFTY and FY 2027. Failure to approve the full amounts of the revenue requirements would further decrease sewer and stormwater infrastructure improvements.

Q. WHAT IMPACT WILL THESE SHORTFALLS HAVE ON CUSTOMERS?

A. Existing infrastructure will continue to fail, potentially creating sinkholes, surface flooding, landslides, damage to other utilities, damage or condemnation to private property, basement backups, and increased maintenance to the system. Additionally, more urgent repairs will occur, which are more costly than planned projects.

Q. HOW WOULD PITTSBURGH WATER'S MULTI-YEAR FUNDING REQUEST (FPFTY AND FY 2027) HELP TO ADDRESS THIS FUNDING SHORTFALL?

A. A multi-year increase would allow Pittsburgh Water to budget and complete projects more efficiently, knowing that revenue required to pay for the full life cycle of projects will be available. The current practice of only approving single year rate increases is unsustainable and results in "stop and go" effect where projects need to be postponed or cancelled until additional revenue can be obtained.

Q. CAN YOU DEFINE A PROJECT LIFE CYCLE AND FURTHER ELABORATE ON THE IMPACTS OF THE REFERENCED "STOP AND GO" EFFECT?

A. Certainly. Pittsburgh Water's project life cycle typically involves six main stages: conceptual design, preliminary design, final design, bidding and contracting, construction/commissioning (if applicable), and project closeout. When any one of these stages is significantly delayed or deferred until funding is available, additional project budgeting will be required, costing our customers more for the same product. Examples of additional costs include, but are not limited to, survey, subsurface utility exploration, redesign fees, escalation on the Engineer's and Construction Manager/Inspector's rates, inflation on construction material and labor, and/or loss of cost shares funds with other agencies. Additionally, relationships with external stakeholders are typically impacted. Pittsburgh Water typically engages external stakeholders during preliminary design for community buy-in (if applicable) or for cost share opportunities.

Q. CAN YOU EXPLAIN THE IMPACT OF INCREASING PITTSBURGH WATER'S WASTEWATER DSIC CAP FROM 5% TO 7.5%?

A. Yes. As defined in Pittsburgh Water's Long-Term Infrastructure Improvement Plan ("LTIIP"), wastewater DSIC proceeds currently fund all or a portion of the sewer reconstruction and small diameter sewer rehabilitation projects. Increasing the DSIC cap to 7.5% will generate an additional $2.3 million in the FPFTY and $386,485 in FY 2027 that can be used to increase the amount of work completed under these projects. This could result in an additional 13,300 of linear feet of sewer main rehabilitated in FPFTY and 2,250 linear feet of sewer main rehabilitated in FY2027.

IV. UTILITY COORDINATION AND SURFACE RESTORATION

Q. HOW DOES PITTSBURGH WATER COORDINATE PROJECTS WITH OTHER UTILITIES?

A. Pittsburgh Water has developed a coordination team with the City and its other utility members and has assigned specific utility coordination duties to a primary, internal utility coordination staff member within the Engineering Department. Pittsburgh Water attends monthly utility coordination meetings with the City's Department of Mobility and Infrastructure ("DOMI") and other local utilities and coordinates construction and repair efforts when possible to avoid conflicts where overlapping work is identified. Additionally, Pittsburgh Water also developed a robust GIS-based data layer to communicate its plans to other utilities. At present, the critical coordination appears to be with the City, specifically the annual paving plans, and the local Gas Companies' piping improvements.

Additionally, Pittsburgh Water and Peoples Gas executed a Cooperation Agreement (PUC Certificate of Filing Number U-2024-3049529) to coordinate and restore roadways utilizing one contractor in the event of any overlap in restoration sites. An ArcGIS Online webmap has been created to document the sites and the cost associated with the restoration for each utility. At the end of the year, Peoples Gas and Pittsburgh Water review the restoration costs that occurred throughout the restoration season and reconcile any discrepancies.

Q. HOW DOES PITTSBURGH WATER COORDINATE SURFACE RESTORATION WITH OTHER GOVERNMENTAL AGENCIES?

A. Pittsburgh Water solicits information from PennDOT, Allegheny County, and the City as to their intentions to undertake paving and other public works projects during the budget year. Whenever and wherever Pittsburgh Water decides to undertake a pipe or manhole

refurbishment project on a road pre-scheduled for paving, the project is coordinated with the State, County, City or appropriate municipality. Pittsburgh Water works closely with the government agencies to ensure that the design, permitting, and construction of the Pittsburgh Water's infrastructure project will be completed in time to allow for the road to be paved. In some cases, the government agencies will agree to postpone paving of its roads to match Pittsburgh Water's completion of construction date, even if it extends into the subsequent year. Typically, where Pittsburgh Water undertakes a project where paving has been pre-planned by the involved government agency, Pittsburgh Water and its rate payers will benefit financially through the avoidance of road surface restoration. Pittsburgh Water will continue the proactive means to identify opportunities to coordinate pipe replacement and road paving.

Q. WHAT IS PITTSBURGH WATER'S HISTORIC SURFACE RESTORATION EXPENDITURES?

A. Table 7, below, provides contract expenditures for surface restoration from 2021 through 2024. Prior to 2021, Pittsburgh Water surface restoration contracts included restoration for lead service line replacement sites. Starting in 2021, surface restoration sites are generally generated from investigation, repair, or replacement performed by Pittsburgh Water's Water Operations Department.

Table 7 – Pittsburgh Water Surface Restoration Contract Expenditures from 2021 - 2024

Surface Restoration Contract	Expenditure
2021	$7,394,000
2022	$8,405,752
2023	$12,677,855

Table 7 – Pittsburgh Water Surface Restoration Contract Expenditures from 2021 - 2024	
Surface Restoration Contract	Expenditure
2024	$12,236,064

Q. WHAT IS THE SURFACE RESTORATION FPFTY REVENUE REQUIREMENT?

A. The total FPFTY revenue requirement is $15,000,000.

Q. HOW MANY SITES WERE RESTORED UNDER THE 2024 SURFACE RESTORATION CONTRACTS?

A. 894 sites were restored under the 2024 Surface Restoration contracts.

Q. WHAT IS THE CURRENT BACKLOG OF SITES THAT STILL REQUIRE SURFACE RESTORATION?

A. As of April 9, 2025, there are 1,022 sites where restoration is required. On average, 21 new sites are added weekly from Pittsburgh Water's Water Operation Department. Increased contractor labor, materials, and Pittsburgh Water's aggressive pursuit of replacing aged infrastructure have and will continue to put pressure on future restoration costs.

Q. WHAT WOULD BE THE IMPACT IF THE FPFTY SURFACE RESTORATION REVENUE REQUIREMENT IS REDUCED?

A. If the FPFTY Surface Restoration revenue requirement is reduced, Pittsburgh Water will not be able restore sites within the DOMI's permitted restoration timeframe. For each permit (which is based on site) that is not completed within 84 days, DOMI can assess an additional $50 per two-week period until the final restoration work is complete. Additionally, unrestored sites present safety hazards for the traveling public. Sidewalks remain as aggregate, which can be a tripping/slip hazard, and difficult for customers to

maintain during winter months. Unrestored roadways develop ruts or sinkholes, which can cause vehicular damage and accidents.

Q. HOW ARE THE SURFACE RESTORATION SITES TRACKED AND PRIORITIZED?

A. In 2020, Technology Services ("TS") developed an ArcGIS Online Dashboard, Field Data Collection Map, and Project Management Web Application, which assist the engineering team in managing the surface restoration process in the field and in the office. In addition to allowing the engineering team to review these sites spatially and update inspection information, these applications provide the team with information to coordinate with other utilities and work locations and to prioritize site completion. These applications have been reviewed and improved each subsequent year. In 2024, TS added the ability for construction management firms to estimate costs for surface restoration sites based on contract prices, which the engineering team utilizes for planning purposes.

Overall, prioritization of sites is determined based on the average site age within each ward within the limits of the City of Pittsburgh. In 2024, a heat map was generated that scored every ward according to this average site age along with an estimated cost to complete the ward based on site scouting estimates. A route for the contractor was then planned within the average site age guideline. Contractors started restoration work in wards with the highest average site age and then systematically progress towards with progressively younger average site age while monitoring contract budget.

V. <u>STORMWATER TARIFF CHANGES</u>

Q. IS PITTSBURGH WATER PROPOSING TO MODIFY ANY DEFINITIONS IN ITS STORMWATER TARIFF?

A. Yes. Pittsburgh Water is proposing to modify the definition of "Storm Water Collection System or Storm Water Sewers" in its Stormwater Tariff to remove gutters, ditches, and

swales from this definition. This change will clarify and more accurately reflect the extent of Pittsburgh Water's responsibility for stormwater infrastructure within the City of Pittsburgh.

Q. IS PITTSBURGH WATER PROPOSING MODIFICATIONS TO ITS STORMWATER TARIFF LANGUAGE REGARDING ERU ADJUSTMENTS?

A. Yes. Pittsburgh Water is proposing to modify the Stormwater Tariff language regarding ERU adjustments, in Part III, Section E, Paragraph 9. The proposed changes will remove the requirement that written notice of ERU adjustments increasing the customer's bill must be provided sixty (60) days in advance of the effective date of an ERU adjustment. The modified language instead provides that when an ERU adjustment is made as a result of impervious area updates or annual parcel updates, and the adjustment will increase the customer's bill, the customer will receive written notice when the change is made to the account. The modified language also clarifies that notice is not required when the change was initiated by the customer.

Q. WHY IS PITTSBURGH WATER PROPOSING THIS CHANGE?

A. As Pittsburgh Water has gained experience implementing the Stormwater Tariff, the process to provide 60-day written advance notice of ERU changes has proven to be overly burdensome in terms of customer service staff time, printing and mailing costs, and in development of technology to carry out this requirement. For example, since stormwater charges were first implemented in January 2022, approximately 2,339 such notices have been issued, or about 56 per month. The process also requires Pittsburgh Water to "trap" the increase for 60 days – which requires changes to the internal stormwater billing system to implement – as well as generating and reviewing frequent reports to track these parcels and mailing a significant number of letters to customers.

Pittsburgh Water seeks to streamline the notice process to keep stormwater administrative costs low.

A number of customer-initiated processes could potentially fall within the current tariff language requiring 60 days' notice. For example, instances where parcels are aggregated or split and thus resulting in changes to the billed ERU are typically changes made at the customer's request. Pittsburgh Water proposes that any changes resulting from customer-initiated requests be exempt from the notice requirement, as the customer is already aware of the change being made.

Q. WOULD PROVIDING NOTICE TO THE CUSTOMER OF THE ERU CHANGE WHEN THE CHANGE IS MADE TO THE ACCOUNT NEGATIVELY IMPACT THE CUSTOMER'S ABILITY TO QUESTION THE CHANGE?

A. No. If the customer receives the notice and has questions or concerns about the change, they may still contact Pittsburgh Water to address those concerns. As with any customer inquiry, Pittsburgh Water will provide information regarding the reason for the change, and if any corrections need to be made, Pittsburgh Water will appropriately implement the correction and provide any necessary billing adjustment.

VI. CONCLUSION

Q. DOES THAT COMPLETE YOUR DIRECT TESTIMONY?

A. Yes.

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VERIFICATION

I, Katherine Mechler, hereby state that: (1) I am the Director of Engineering and Construction for Wastewater, Stormwater, and Green Infrastructure Programs for The Pittsburgh Water and Sewer Authority d/b/a Pittsburgh Water; (2) the facts set forth in my rejoinder testimony are true and correct (or are true and correct to the best of my knowledge, information and belief); and, (3) I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa. C.S. § 4904 (relating to unsworn falsification to authorities).

DocuSigned by:
Kate Mechler, PE
6FCA778A9DFE40C...

Dated: 6/4/25

Katherine Mechler
Director of Engineering and Construction for Wastewater, Stormwater, and Green Infrastructure Programs
The Pittsburgh Water and Sewer Authority d/b/a Pittsburgh Water

Exhibit KM-1

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Docket No. CWA-03-2021-0039DN FILED January 26, 2021 2:02 PM U.S. EPA Region III, Regional Hearing Clerk

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III

Philadelphia, Pennsylvania 19103-2029

In the Matter of:	:	
	:	
City of Pittsburgh	:	**U.S. EPA Docket No. CWA-03-2021-0039DN**
414 Grant Street	:	
Pittsburgh, Pennsylvania 15219	:	**Proceeding under Section 309(a)**
	:	**of the Clean Water Act**
AND	:	
	:	
Pittsburgh Water and Sewer Authority	:	**ADMINISTRATIVE ORDER ON CONSENT**
1200 Penn Avenue	:	
Pittsburgh, Pennsylvania 15222	:	
	:	
Respondents	:	
	:	

I. PRELIMINARY STATEMENT

1. The United States Environmental Protection Agency ("EPA") has made the following findings of fact and issues this Administrative Order on Consent ("AOC") pursuant to the authority vested in the Administrator of EPA under Section 309(a) of the Clean Water Act ("CWA" or "Act"), 33 U.S.C. § 1319(a). This authority has been delegated by the Administrator to the Regional Administrator of EPA Region III, and further delegated to the Director, Enforcement & Compliance Assurance Division, Region III.

2. Section 309(a) of the CWA, 33 U.S.C. § 1319(a), provides, *inter alia*, that whenever on the basis of any information available to him the Administrator finds that any person is in violation of any permit condition or limitation implementing certain sections of the CWA, in a permit issued under Section 402 of the CWA, 33 U.S.C. § 1342, he shall issue an order requiring such person to comply with such section or requirement.

3. The City of Pittsburgh ("City") and the Pittsburgh Water and Sewer Authority ("PWSA") (collectively, "Respondents") have agreed to the issuance of this AOC.

II. STATUTORY AND REGULATORY BACKGROUND

4. Section 301(a) of the CWA, 33 U.S.C. § 1311(a), prohibits the discharge of any pollutant (other than dredged or fill material) from a point source into waters of the United States except in compliance with a permit issued pursuant to the National Pollutant Discharge Elimination System ("NPDES") program under Section 402 of the CWA, 33 U.S.C. § 1342.

5. Section 402 of the CWA, 33 U.S.C. § 1342(a), provides that the Administrator of EPA, or a state upon approval by EPA, may issue permits under the NPDES program for the discharge of pollutants from point sources to waters of the United States. The discharges are subject to specific terms and conditions as prescribed in the permit.

6. Pursuant to Section 402(b) of the CWA, 33 U.S.C. § 1342(b), EPA authorized the Pennsylvania Department of the Environment Protection ("PADEP") to issue NPDES permits in the Commonwealth of Pennsylvania.

7. Section 402(p) of the CWA, 33 U.S.C. § 1342(p), and 40 C.F.R. §§ 122.2 and 122.26 provide that, with some exceptions not relevant here, storm water discharges are "point sources" subject to NPDES permitting requirements under Section 402(a) of the CWA, 33 U.S.C. § 1342(a).

8. 40 C.F.R. § 122.2 states, in relevant part: "Discharge of a pollutant means: a) any addition of any 'pollutant' or combination of pollutants to waters of the United States from any point source. . . . This definition includes additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. . . ."

9. "Storm water" (or "stormwater") is defined as "storm water runoff, snow melt runoff and surface runoff and drainage." 40 C.F.R. § 122.26(b)(13).

10. 40 C.F.R. § 122.26(b)(8)(i) defines the term "municipal separate storm sewer system" or "MS4" as including, *inter alia*, "a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains): (i) owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States."

11. 40 C.F.R. § 122.26(b)(16) defines the term "small municipal separate storm sewer system" as "all separate storm sewers that are: (i) Owned or operated by the United States, a State, city, town, borough . . . or other public body (created by or pursuant to State law) having jurisdiction over disposal of . . . storm water. . . .; [and] (ii) Not defined as 'large' or 'medium' municipal separate storm sewer systems."

12. 40 C.F.R. § 122.26(b)(17) defines the term "Small MS4" as "a small municipal separate storm sewer system."

13. Small MS4s are regulated pursuant to Section 402(p) of the CWA, 33 U.S.C. § 1342(p) and the regulations promulgated thereunder.

14. Pursuant to 40 C.F.R. § 122.26(a)(9)(i), small MS4s require an NPDES permit if they are required to be regulated pursuant to 40 C.F.R. § 122.32.

15. 40 C.F.R. § 122.32(a)(1) states: "(a) Unless you qualify for a waiver under paragraph (c) of this section, you are regulated if you operate a small MS4, including but not limited to systems operated by federal, State, Tribal, and local governments, including State departments of transportation; and: (1) Your small MS4 is located in an urbanized area as determined by the latest Decennial Census by the Bureau of the Census. (If your small MS4 is not located entirely within an urbanized area, only the portion that is within the urbanized area is regulated). . . ."

16. 40 C.F.R. § 122.34(a) provides: "*General requirements*. For any permit issued to a regulated small MS4, the NPDES permitting authority must include permit terms and conditions to reduce the discharge of pollutants from the MS4 to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act. Terms and conditions that satisfy the requirements of this section must be expressed in clear, specific, and measurable terms. Such terms and conditions may include narrative, numeric, or other types of requirements (*e.g.*, implementation of specific tasks or best management practices (BMPs), BMP design requirements, performance requirements, adaptive management requirements, schedules for implementation and maintenance, and frequency of actions)."

17. Pursuant to its authority under the CWA and the NPDES program approval, PADEP issued to the Respondents NPDES Permit No. PAI136133, an Individual Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems ("the 2004 Permit"). The effective date of the 2004 Permit was September 29, 2004, with an expiration date of March 9, 2008.

18. PADEP administratively extended the 2004 Permit until June 30, 2020.

19. Pursuant to its authority under the CWA and the NPDES program approval, the PADEP issued to Respondents NPDES Permit No. PAI136133, Individual Permit to Discharge Stormwater from Small Municipal Separate Storm Sewer Systems ("the 2020 Permit"). The effective date of the Permit was July 1, 2020 with an expiration date of June 30, 2025.

20. NPDES Permit No. PAI136133 authorizes discharges from a regulated small MS4, when in accordance with the conditions and terms of the Permit.

21. The City and PWSA are "municipalities" within the meaning of Section 502(4) of the CWA, 33 U.S.C. § 1362(4).

22. Respondents are "persons" within the meaning of Section 502(5) of the CWA, 33 U.S.C. § 1362(5) and 40 C.F.R. § 122.2.

23. At all times relevant herein, upon information and belief, Respondents owned or operated a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) that discharges to waters of the United States.

24. At all times relevant herein, upon information and belief, Respondents owned or operated a "municipal separate storm sewer system" or "MS4", as that term is defined at 40 C.F.R. § 122.26(b)(8)(i), located in the City of Pittsburgh, Allegheny County, Pennsylvania.

25. At all times relevant to this AOC, the Respondents have discharged stormwater from the MS4 to the Monongahela River, Thompson Run, Chartiers Creek, Ohio River, Allegheny River, Glass Run, Streets Run, Sawmill Run, and Nine Mile Run.

26. The Monongahela River, Thompson Run, Chartiers Creek, Ohio River, Allegheny River, Glass Run, Streets Run, Sawmill Run, and Nine Mile Run are "water[s] of the United States" within the meaning of Section 502(7) of the CWA, 33 U.S.C. § 1362(7).

27. On December 6 and 7, 2016, representatives of EPA Region III and EPA contractors from Eastern Research Group, Inc. (jointly "the Inspection Team" or "the inspectors") conducted an inspection of the MS4 (hereinafter, "the Inspection") to assess compliance with the 2004 NPDES Permit No. PAI136133.

28. Following the Inspection, the Inspection Team prepared an inspection report, dated January 2017 ("the Inspection Report"), which included multiple observations regarding Respondents' compliance with the requirements of the 2004 Permit. EPA sent a copy of the Inspection Report to the Respondents on February 27, 2017.

29. Respondents were presented with the opportunity to provide to EPA a response to the Inspection Report by March 20, 2017. EPA received no response from Respondents.

30. On May 19, 2017, EPA sent an Opportunity to Confer letter to the Respondents, communicating alleged violations of the CWA and the 2004 Permit observed during the Inspection.

31. EPA received the Respondents' response to the Opportunity to Confer letter on June 5, 2017. This response indicated that the Respondents were developing and/or implementing new procedures to address the alleged violations communicated in the May 2017 Opportunity to Confer letter.

32. On September 6, 2017, EPA sent to Respondents a follow-up letter to the Opportunity to Confer letter. In this letter, EPA requested documentation of the procedures referenced in Respondents' June 2017 response, to evaluate whether the new procedures had been implemented and whether these practices satisfied the Permit requirements. EPA also requested documentation related to Respondents' NPDES Permit renewal application that was due September 16, 2017.

33. EPA received Respondents' response to the follow up letter on October 2, 2017. This response provided documentation that indicated Respondents had addressed some, but not all, of the violations communicated in the May 2017 Opportunity to Confer letter.

34. On February 26, 2020, pursuant to its authority under Section 308 of the CWA, 33 U.S.C. § 1318, EPA issued an Information Requirement Letter to the Respondents. This Information Requirement Letter requested updates on eight components of the Respondents' MS4 program.

35. EPA received a partial response to the Information Requirement Letter from Respondents on April 2, 2020, and a complete response on May 2, 2020.

36. On June 30, 2020, EPA issued a Notice of Noncompliance to the Respondents for violations of the 2004 Permit that were previously identified as potential violations in the Opportunity to Confer letter. The Notice of Noncompliance requested, among other things, that the Respondents (1) submit to EPA within 45 days of receipt of the letter a plan and schedule for developing and implementing a program for conducting inspections and enforcement regarding construction erosion and sediment ("E&S") controls and post-construction BMPs and (2) develop and implement the program within 180 days of receipt of the letter.

37. On August 17, 2020, EPA received the Respondents' response to the Notice of Noncompliance. In the response, Respondents provided a schedule of activities to develop and implement a program for conducting inspections of construction E&S controls and post-construction BMPs. The schedule extended from February 7, 2020 through July 31, 2021. However, the schedule did not include implementation of an enforcement program.

III. PERMIT REQUIREMENTS

38. Part A. Stormwater Management Program, 2. Minimum Control Measures of the 2004 Permit requires, among other requirements, Permittees to (1) implement procedures for site inspection and enforcement of construction E&S control measures and (2) enforce a program that addresses post-construction runoff and ensures the long-term operations and maintenance of post-construction stormwater controls.

39. Part A. Stormwater Management Program, 3. Use of the DEP Stormwater Management *Protocol* to Meet the Minimum Control Measure Requirements of the 2004 Permit states that "Permittees may elect to implement the *Protocol* to meet the 6 Minimum Control Measure requirements. The *Protocol* becomes a part of the Individual Permit coverage for those permittees who elect to do so." In the Individual Permit application submitted by Respondents on September 5, 2003, the Respondents elected to use the DEP Stormwater Management *Protocol* ("the Protocol") for all six minimum control measures. Therefore, implementation of the Protocol is part of the 2004 Permit requirements.

40. In the Construction Stormwater Management Minimum Control Measure section of the Protocol, Permittees are required, among other things, to "Enact, implement, and enforce a stormwater control ordinance using DEP model language."

41. In the Post-Construction Stormwater Runoff Management Minimum Control Measure section of the Protocol, Permittees are required, among other things, to "Enact, implement, and enforce a stormwater control ordinance," using DEP model language

42. Part C.I.B.4.c of the 2020 Permit requires, among other requirements, Permittees to "Enact, implement and enforce an ordinance or SOP to require the implementation and maintenance of E&S control BMPs, including sanctions for non-compliance, as applicable."

43. Part C.I.B.5.a of the 2020 Permit requires, among other requirements, Permittees to "Enact, implement and enforce an ordinance or SOP to require post-construction stormwater management from new development and redevelopment projects, including sanctions for non-compliance."

44. Part C.I.B.5.c of the 2020 Permit requires, among other requirements, Permittees to "Ensure adequate O&M of all post-construction stormwater management BMPs that have been installed at development or redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale."

45. Title Thirteen: Stormwater Ordinance for the City of Pittsburgh, Pennsylvania Code of Ordinances ("Stormwater Ordinance"), Section §1304.07 states that "the City or its designated representative may conduct inspections during construction as it deems appropriate. If inspections performed by the City reveal deficiencies from the submitted and approved SWM site plan, the City may request corrective actions. Any corrective action shall be at the cost of the stormwater facility owner," and "After receipt of the completion certification by the City, the City will conduct a final inspection, and may conduct inspections thereafter to ensure proper functioning and compliance with approved plans."

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46. Section §1305.03 of the Stormwater Ordinance states, "The landowner or the owner's designee (including the City for dedicated and owned facilities) shall inspect [stormwater management] SWM BMPs, facilities and/or structures installed under this Ordinance according to the following frequencies, at a minimum, to ensure the BMPs, facilities and/or structures continue to function as intended: annually for the first five (5) years, once every three (3) years thereafter, and during or immediately after the cessation of a ten-year or greater storm. A written inspection report shall be created to document each inspection. The inspection report shall contain the date and time of the inspection, the individual(s) who completed the inspection, the location of the BMP, facility or structure inspected, observations on performance, and recommendations for improving performance, if applicable. Inspection reports shall be kept onsite and furnished to City/PWSA inspectors upon request."

IV. FINDINGS OF FACT AND CONCLUSIONS OF LAW

Count I
Failure to Conduct Inspections and Enforcement of Construction E&S Control Measures and Post-Construction Stormwater Management BMPs

47. The information and allegations in the Paragraphs above are incorporated herein by reference.

48. At the time of the Inspection on December 6 and 7, 2016, representatives from the City of Pittsburgh stated that the City relied on Allegheny County Conservation District to conduct reviews of E&S control plans and E&S control inspections during active construction. This agreement was initially formalized under a Memorandum of Understanding ("MOU"). The MOU had expired prior to the time of Inspection.

49. At the time of Inspection on December 6 and 7, 2016, representatives from the City stated:

a. There was no protocol established or entity identified to conduct regular inspections, or system in place to monitor privately-owned stormwater management BMPs following construction.
b. The City was not inspecting municipally-owned stormwater control facilities at least annually.
c. The City did not have a detailed schedule for inspection and maintenance of all stormwater facilities, and instead performed this work on an as-needed basis.

50. In their June 5, 2017 response to the Opportunity to Confer Letter, the Respondents stated:

a. The City's Department of Public Works budgeted for an Environmental Enforcement Inspector position within the City's Department of Permits, Licenses, and Inspections.

b. The City was seeking a qualified individual for the position and expected to start operation and maintenance inspections as soon as possible.
c. PWSA conducts multiple inspections of its drainage facilities, but informal inspections of other municipally owned stormwater facilities are not documented.
d. The City planned to implement a formal stormwater facility documentation process for incorporation into the NPDES Permit renewal application due September 16, 2017.

51. In its September 6, 2017 follow-up letter to the Opportunity to Confer Letter, EPA requested verification that the Environmental Enforcement Inspector position within the City's Department of Permits, Licenses, and Inspections had been filled.

52. In their October 2, 2017 response letter, Respondents stated that the Environmental Enforcement Inspector position was budgeted for in the 2017 budget but had not yet been filled by the City of Pittsburgh.

53. In its Information Requirement Letter dated February 26, 2020, EPA requested documentation from Respondents to confirm that the Environmental Enforcement Inspector position has been filled.

54. In their May 2, 2020 response to the Information Requirement Letter, Respondents stated:

a. They determined that the Environmental Enforcement Inspector position was not suited to be within the Departments of Permits, Licenses and Inspections because this Department could not enforce the plumbing code and stormwater permitting requirements. Therefore, the funding for the position was removed from the City of Pittsburgh's budget.
b. The legal authority to enforce stormwater management falls under Allegheny County Health Department Plumbing Code. Respondents stated that they were working with Allegheny County Health Department and Allegheny County Conservation District to define agency responsibilities in stormwater enforcement.

55. On June 30, 2020, EPA issued a Notice of Noncompliance to the Respondents for their failure to conduct inspections and enforcement of construction E&S control measures and post-construction stormwater management BMPs.

56. In their August 17, 2020 response to the Notice of Noncompliance, the Respondents stated that they were in the process of addressing the violations set forth in the Notice of Noncompliance, and provided a schedule of activities to develop and implement a program for conducting inspections of construction E&S controls and post-construction BMPs. The schedule extended from February 7, 2020 through July 31, 2021. However, the schedule did not include ultimate implementation of an enforcement program.

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57. Based upon the information described above, Respondents failed to implement the Stormwater Ordinance in accordance with the requirements of the Protocol of the 2004 Permit and Parts C.I.B.4.c and C.I.B.5.a of the 2020 Permit.

58. Based upon the information described above, Respondents failed to conduct inspections and enforcement of construction E&S controls and post-construction stormwater management BMPs in accordance with Part A. Stormwater Management Program, 2. Minimum Control Measures of the 2004 Permit and Parts C.I.B.4.c, C.I.B.5.a, and C.I.B.5.c of the 2020 Permit.

59. Respondents' failure to conduct inspections and enforcement of construction E&S controls and post-construction stormwater management BMPs in accordance Part A. Stormwater Management Program, 2. Minimum Control Measures of the 2004 Permit and Parts C.I.B.4.c, C.I.B.5.a, and C.I.B.5.c of the 2020 Permit constitutes a violation of the Permit and Sections 301 and 402 of the CWA, 33 U.S.C. §§ 1311 and 1342.

V. ORDER

AND NOW, Pursuant to Section 309(a) of the CWA, 33 U.S.C. § 1319(a), Respondents are hereby ORDERED to do the following:

60. Respondents shall develop and implement a program for conducting inspections and enforcement of (1) construction erosion and sediment controls and (2) post-construction BMPs, in accordance with the schedule attached to this AOC as Attachment A.

61. Respondents shall achieve the following milestones by the deadlines specified below:
    a. Submission of amended unified Stormwater Code to City Council by July 1, 2021.
    b. City administration submission of the budget request to City Council to increase capacity for inspections and enforcement by December 31, 2021.
    c. Implementation of procedures with the capability to implement an inspection and enforcement program in accordance with Permit requirements by January 28, 2022. This may include implementation of MOUs with Allegheny County Conservation District, Allegheny County Health Department, and other agencies, as necessary, to ensure the Respondents retain oversight and responsibility of the programs.
    d. Complete implementation of the inspection and enforcement program and staff in place for construction E&S controls and post-construction stormwater management BMPs by March 31, 2022.

62. Respondents shall submit quarterly progress reports to EPA for a period of two years after the effective date of this AOC. These reports shall be due on March 31, June 30, September 30, and December 31 each year. These reports shall be submitted in accordance with Paragraphs 68 and 69. These reports shall include, at a minimum:
    a. Activities completed during the reporting period;
    b. Dates by which the activities were completed;

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c. Any barriers to the timely completion of activities encountered; and
d. Activities currently in progress.

63. Any notice, submission, certification, data presentation, or other document submitted by Respondents to EPA pursuant to this AOC which discusses, describes, demonstrates, or supports any finding or makes any representation concerning Respondents' compliance or non-compliance with any requirements of this AOC shall be certified by either a principal executive officer or ranking elected official. The aforesaid certification shall provide the following statement above the signature of the responsible corporate officer signing the certification on behalf of Respondent:

> *I certify under penalty of law that this document and all attachments are true, accurate and complete. As to [the/those] identified portions of this [type of submission] for which I cannot personally verify [its/their] accuracy, I certify under penalty of law that this [type of submission] and all attachments were prepared in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.*

Signature: _____
Name: _____
Title: _____

64. Any notice, submission, certification, data presentation, or other document submitted by Respondents to EPA pursuant to this AOC shall be sent via-email transmission to the attention of:

Shane McAleer (3ED32)
Environmental Engineer / Inspector
NPDES Section, Water Branch
Enforcement and Compliance Assurance Division
U.S. Environmental Protection Agency
1650 Arch Street
Philadelphia, PA 19103-2029
mcaleer.shane@epa.gov

and

Natalie Katz (3RC40)
Sr. Asst. Regional Counsel
U.S. Environmental Protection Agency, Region III
1650 Arch Street
Philadelphia, PA 19103-2029
katz.natalie@epa.gov

VI. GENERAL PROVISIONS

65. Issuance of this AOC is intended to address the violations described herein. EPA reserves the right to commence action against any person, including Respondent, in response to any condition which EPA determines may present an imminent and substantial endangerment to the public health, public welfare, or the environment. Further, EPA reserves any rights and remedies available to it under the CWA, 33 U.S.C. §§ 1251-1388, the regulations promulgated thereunder, and any other federal laws or regulations for which EPA has jurisdiction, to enforce the provisions of this AOC, following its effective date (as defined below).

66. This AOC does not constitute a waiver or modification of the terms or conditions of the Respondents' Permit. Compliance with the terms and conditions of this AOC does not relieve Respondents of their obligations to comply with any applicable federal, state, or local law, regulation or permit.

67. By signing this AOC, Respondents neither admit nor deny the specific factual allegations set forth in this AOC.

68. Respondents waive any and all remedies, claims for relief and otherwise available rights to judicial or administrative review that Respondents may have with respect to any issue of fact or law set forth in this AOC, including any right of judicial review pursuant to Chapter 7 of the Administrative Procedure Act, 5 U.S.C. §§ 701-706.

69. EPA reserves all existing inspection authority otherwise available to EPA pursuant to Section 308 of the CWA, 33 U.S.C. § 1318, or pursuant to any other statute or law.

70. The undersigned representative of each Respondent certifies that he or she is fully authorized by the party represented to enter into the terms and conditions of this AOC and to execute and legally bind the party.

71. The provisions of this AOC shall apply to and be binding upon each Respondent and its officers, directors, employees, contractors, agents, trustees, successors and assigns of that Respondent.

72. Each Respondent certifies that any information or representation it has supplied or made to EPA concerning this matter was, at the time of submission true, accurate, and complete

and that there has been no material change regarding the truthfulness, accuracy or completeness of such information or representation. EPA shall have the right to institute further actions to recover appropriate relief if EPA obtains evidence that any information provided and/or representations made by a Respondent to the EPA regarding matters relevant to this AOC are false or, in any material respect, inaccurate. This right shall be in addition to all other rights and causes of action that EPA may have, civil or criminal, under law or equity in such event. Each Respondent and its officers, directors and agents are aware that the submission of false or misleading information to the United States government may subject a person to separate civil and/or criminal liability.

73. Respondents may assert a business confidentiality claim covering part or all of the information which this AOC requires it to submit to EPA, but only to the extent and only in the manner described in Part 2 Subpart B of Title 40 of the C.F.R. The EPA will disclose information submitted under a confidentiality claim only as provided in Part 2 Subpart B of Title 40 of the C.F.R. If Respondents do not assert a confidentiality claim, EPA may make the submitted information available to the public without further notice to Respondent.

VI. EFFECTIVE DATE

This AOC is effective after receipt by Respondents of a fully executed document.

SO ORDERED:

U.S. ENVIRONMENTAL PROTECTION AGENCY

Date: 01/26/2021

By: KAREN MELVIN Digitally signed by KAREN MELVIN Date: 2021.01.26 13:52:45 -05'00'

Karen Melvin
Director, Enforcement & Compliance Assurance Division
U.S. EPA – Region III

AOC with City of Pittsburgh and PWSA *Docket No. CWA-03-2021-0039DN*

AGREED TO:

For Respondent: CITY OF PITTSBURGH

Date: 1/20/2021 By: _____

William Peduto
Mayor

AOC with City of Pittsburgh and PWSA *Docket No. CWA-03-2021-0039DN*

AGREED TO:

For Respondent: PITTSBURGH WATER AND SEWER AUTHORITY

Date: 1/20/2021 By: William J. Pickering

William J. Pickering
Chief Executive Officer

ATTACHMENT A

Pittsburgh Water and Sewer Authority - Stormwater Code and Ordinance Review and Update

Project Schedule - Updated: 12/22/2020

Task Description	Start Date	End Date	Meeting Date
Task 1 Technical Analysis			
1.1 Kickoff and Discovery Meeting			2/7/2020
1.2 Evaluation of Policy and Regulation Changes	2/10/2020	2/26/2021	
Internal AKRF Team - Policy Alternatives Exploration Workshop			3/4/2020
PWSA/City/AKRF Meeting to Discuss Policy Priorities			7/31/2020
Detailed Scoping of Additional Technical Analyses for Priority Policies	8/3/2020	8/25/2020	
Additional Technical Analyses for Priority Policies	8/26/2020	2/26/2021	
1.3 Technical Analysis: BMP Applicability	3/2/2020	7/31/2020	
1.4 Technical Analysis: Variability in SWM Requirements	7/20/2020	12/4/2020	
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Meeting 3			12/15/2020
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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III

Philadelphia, Pennsylvania 19103-2029

In the Matter of:	:	
	:	
City of Pittsburgh	:	**U.S. EPA Docket No. CWA-03-2021-0039DN**
414 Grant Street	:	
Pittsburgh, Pennsylvania 15219	:	**Proceeding under Section 309(a)**
	:	**of the Clean Water Act**
AND	:	
	:	
Pittsburgh Water and Sewer Authority	:	**ADMINISTRATIVE ORDER ON CONSENT**
1200 Penn Avenue	:	
Pittsburgh, Pennsylvania 15222	:	
	:	
Respondents	:	
	:	

CERTIFICATE OF SERVICE

I certify that the enclosed Administrative Order on Consent was sent to the following persons by UPS Overnight Mail, at the following addresses:

Yvonne Hilton, Esq. and John Miller, Esq.
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Pittsburgh, Pennsylvania 15219
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I certify that the enclosed Administrative Order on Consent was delivered to the following person by electronic mail, at the following addresses.

Regional Hearing Clerk (3RC00)
U.S. Environmental Protection Agency, Region III
Email: R3_Hearing_Clerk@epa.gov

I have also arranged for the Regional Hearing Clerk to distribute the Administrative Order by electronic mail to the persons listed above.

Date: 1/26/2021 By: Gloria G Battista
NAME:
TITLE:

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

DIRECT TESTIMONY OF

WILLIAM J. MCFADDIN

ON BEHALF OF
THE PITTSBURGH WATER AND SEWER AUTHORITY
d/b/a Pittsburgh Water

Docket Nos.
R-2025-3055010 (Water)
R-2025-3055011 (Wastewater)
R-2025-3055012 (Stormwater)

TOPICS:
Customer Complaint Logs and Work Order Logs
Valve Maintenance
Meter Replacement
Flushing Distribution System
Break-In Connections

June 4, 2025

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I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND CURRENT POSITION.

A. My name is William J. McFaddin and I am the Director of Operations for the Pittsburgh Water and Sewer Authority d/b/a "Pittsburgh Water" ("Pittsburgh Water").

Q. HOW LONG HAVE YOU HELD THIS POSITION?

A. I have held the role of Director of Operations since November 2021.

Q. WHAT ARE YOUR VARIOUS JOB RESPONSIBILITIES?

A. As Director of Operations, I oversee the operations team. The team is responsible for operation of the treatment plant, which produces about 65 to 70 million gallons of water per day. The team also oversees the field of operations of the water and sewer systems, including any incidents in the streets involving water mains and fire hydrants.

Q. PLEASE SUMMARIZE YOUR BACKGROUND AND EXPERIENCE.

A. I received my Bachelor of Science degree in Management and Accounting from the University of Pittsburgh in 1997. While at Pittsburgh Water, I have been progressively responsible for Field Operations and Production Operations. I started with Pittsburgh Water as a Deputy Director of Field Operations, and was then promoted to Deputy Director of Operations, before becoming Director of Operations.

Q. HAVE YOU EVER PROVIDED TESTIMONY BEFORE THIS COMMISSION?

A. Yes, I provided written testimony before the Commission during the last base rate case proceeding filed by Pittsburgh Water, at Docket Nos. R-2023-3039921, R-2023-3039920, and R-2023-3039919. I also provided oral testimony in two consumer complaint proceedings. I testified in *Musgrave v. The Pittsburgh Water and Sewer Authority*, Docket No. C-2020-3020714, on February 9, 2023, regarding a variety of issues, including private ownership of lines and Pittsburgh Water's overall obligations and

operations regarding the repair and maintenance of such lines. I also testified in *Bornside v. The Pittsburgh Water and Sewer Authority*, Docket No. C-2023-3044525, on April 2, 2024, regarding a "break-in" connection to the wastewater main and the replacement of that connection. I provided support through contributing information for written testimony and responses to discovery requests on relevant topics for Pittsburgh Water's prior base rate proceedings, in 2020 at Docket Nos. R-2020-3017951 and R-2020-3017970, and in 2021 at Docket Nos. R-2021-3024773, R-2021-3024774, and R-2021-3024779.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to provide information regarding Pittsburgh Water's continued compliance with obligations in prior settlements in the areas of customer complaint and work order logs, valve maintenance, the replacement of meters, and flushing of the distribution system. I will also provide supporting testimony for Pittsburgh Water's proposed tariff revisions to address break-in connections.

Q. ARE YOU SPONSORING ANY EXHIBITS?

A. Yes. The exhibits I am sponsoring are set forth in the Table of Exhibits following the Table of Contents of this testimony.

II. UPDATE REGARDING PRIOR RATE CASE SETTLEMENT OBLIGATIONS

A. Customer Complaint Logs and Work Order Logs

Q. DID PITTSBURGH WATER MAKE A COMMITMENT IN THE PRIOR RATE CASE SETTLEMENT REGARDING CUSTOMER COMPLAINT LOGS AND WORK ORDER LOGS?

A. Yes. In the Settlement, Pittsburgh Water agreed to maintain complete data regarding customer complaints, work order logs, and service logs, so that the information could be made available via Microsoft Excel in response to any discovery requests by the parties

in, e.g., Pittsburgh Water's next base rate case. If the data is requested as part of discovery, Pittsburgh Water agreed to collaborate on an informal basis to ensure that it is provided in a mutually acceptable and reasonably sortable format. Pittsburgh Water further agreed to continue to capture pressure inquiries or complaints in its work order logs.[1]

Q. PLEASE DESCRIBE PITTSBURGH WATER'S FULFILLMENT OF THESE COMMITMENTS.

A. Pittsburgh Water is fulfilling these commitments. Pittsburgh Water currently uses the SpryMobile application as its work order management system, and will soon begin to utilize Cityworks, a comparable work order system, as Pittsburgh Water's work order management system. The use of Cityworks likely will begin in the middle of 2025. Like SpryMobile, data managed in the Cityworks system can be exported to and organized in Microsoft Excel format.

Q. HAS PITTSBURGH WATER BEEN TRACKING CUSTOMER COMPLAINTS AS COMMITTED IN THE SETTLEMENT OF ITS LAST RATE CASE?

A. Yes. Following subsequent informal discussions with the Office of Consumer Advocate regarding its test customer complaint log format in April 2024, Pittsburgh Water has been tracking customer complaints in the agreed-to manner. The attached Exhibit WM-1 contains all data for calendar year 2024.

[1] *Pa. Pub. Util. Comm'n v. Pittsburgh Water and Sewer Auth.*, Docket Nos. R-2023-3039921, R-2023-3039920, and R-2023-3039919 (Order entered January 18, 2024), approving the 2023 Joint Petition for Settlement ("Joint Petition for Settlement"). Joint Petition for Settlement, ¶¶ 9.F.1., 9.F.2.

B. Valves

Q. DID PITTSBURGH WATER MAKE A COMMITMENT IN THE PRIOR RATE CASE SETTLEMENT REGARDING VALVES?

A. Yes. In the Settlement, Pittsburgh Water agreed to continue its valve exercising program where all valves are inspected and exercised over a 5-year cycle. Pittsburgh Water further committed, starting by or before the fourth quarter of 2024, to use best-efforts to inspect and exercise critical valves over a 3-year cycle. Finally, Pittsburgh Water agreed to maintain records of when each valve is exercised.[2]

Q. PLEASE DESCRIBE PITTSBURGH WATER'S PROGRESS WITH RESPECT TO THESE COMMITMENTS.

A. Pittsburgh Water has identified and mapped critical valves in GIS. There are 1,872 critical valves in Pittsburgh Water's system, which are inspected and exercised on a 3-year cycle. The goal of Pittsburgh Water is to inspect and exercise 5,000 total valves each year, with the critical valves counting towards that goal. Pittsburgh Water exercised 5,444 valves in 2023, 5,182 valves in 2024, and 803 valves so far in 2025. The Operations team continues to utilize best efforts to ensure inspection and exercise of valves, as committed.

Furthermore, Pittsburgh Water is using PermaNET SU correlating noise loggers. These are permanently installed on valves throughout the system, and perform an audio recording every day between 2:00 a.m. and 3:00 a.m. The collected information is communicated to a dashboard using Verizon cell towers. Pittsburgh Water's leak detection team reviews the generated data each morning as part of its efforts to identify leaks within the Pittsburgh Water system. If a potential leak is detected, Pittsburgh Water

[2] Joint Petition for Settlement, ¶ 9.F.3.

dispatches a leak detection specialist to pinpoint any leak that may need to be repaired. As of the date of this testimony, Pittsburgh Water has installed 300 of these noise loggers. Pittsburgh Water has ordered an additional 300 loggers, which should be installed this year assuming there are no significant delivery delays.

When a valve is located and found to be inoperable, an order is created in Pittsburgh Water's work order system, soon to be the Cityworks system as mentioned above, for the repair and replacement of that valve. Since the same process applies regardless of the size of the valve, no separate or additional steps are taken for valves that are 16 inches and larger.

All repairs and replacements are completed as quickly as possible.

C. Meter Testing and Replacement

Q. WHAT COMMITMENTS IN THE PRIOR RATE CASE SETTLEMENT DID PITTSBURGH WATER MAKE WITH RESPECT TO METER TESTING AND REPLACEMENT?

A. Pittsburgh Water agreed to use best efforts to test or replace 8,000 meters per calendar year after 2023, until all undocumented meters are either tested or replaced.[3]

Q. HAS PITTSBURGH WATER FULFILLED THESE COMMITMENTS? PLEASE EXPLAIN.

A. Pittsburgh Water processed 9,460 meter upgrades on customer accounts in 2024, exceeding the Settlement requirement of 8,000 meters annually. As of April 30, 2025, Pittsburgh Water has processed 2,503 meter upgrades. Pittsburgh Water is on track to test or replace at least 8,000 meters this calendar year, in accordance with the Settlement. Pittsburgh Water tests every meter that is pulled. Testing cycles are different for larger

[3] Joint Petition for Settlement, ¶ 9.F.4.

meters. Pittsburgh Water has 26,832 aged water meters remaining that it plans to test or replace.

D. Flushing Distribution System

Q. DID PITTSBURGH WATER MAKE A COMMITMENT IN THE PRIOR RATE CASE SETTLEMENT REGARDING FLUSHING THE DISTRIBUTION SYSTEM?

A. Yes. In the Settlement, Pittsburgh Water agreed to continue its efforts to identify, locate and track dead-end lines to ensure they have a blow-off or hydrant so they can be flushed.[4]

Q. PLEASE DESCRIBE PITTSBURGH WATER'S PROGRESS WITH RESPECT TO THESE COMMITMENTS.

A. Pittsburgh Water flushed and inspected 2,385 hydrants in 2023, and 2,034 hydrants in 2024. So far in 2025, Pittsburgh Water has flushed and inspected 532 hydrants.

E. Break In Connections

Q. PLEASE EXPLAIN A "BREAK-IN CONNECTION."

A. A break-in connection exists where a private sewer lateral was not properly connected to the sewer main. Break-in connections do not utilize the appropriate fittings to connect to Pittsburgh Water's main line and are considered unauthorized connections. For example, a break-in connection may exist where a crude hole was hammered into the wastewater main and the private sewer lateral pipe was inserted directly into this hole, rather than using a factory installed connection to the main. Pittsburgh Water does not allow new break-in connections.

[4] Joint Petition for Settlement, ¶ 9.F.5.

Q. DOES PITTSBURGH WATER KNOW THE LOCATION OF ALL THESE BREAK-IN CONNECTIONS?

A. No. The wastewater system is very old and we suspect there are a number of these all over the City which have likely been placed over many decades. Pittsburgh Water typically does not locate these break-in connections until we start digging, until a customer is replacing their private sewer lateral, or upon television inspection of a main.

Q. WHY ARE THESE BREAK-IN CONNECTIONS PROBLEMATIC?

A. Break-in connections are problematic because they can compromise the integrity of the wastewater main, are not properly sealed, and are unauthorized and not known to Pittsburgh Water.

Q. WHAT IS PITTSBURGH WATER'S PROCESS WHEN ONE OF THESE BREAK-IN CONNECTIONS IS FOUND?

A. According to our existing tariff, because break-in connections were provided by the customer and not by Pittsburgh Water, the break-in connection is the customer's responsibility and must be repaired or replaced by the customer. *See* Pittsburgh Water's Wastewater Tariff at Section III.B.

Q. HAS THE COMMISSION RECENTLY CONSIDERED THIS ISSUE?

A. Yes, the Commission recently concluded that regardless of who or what entity may have created the break-in connection, Pittsburgh Water could not hold a customer responsible for its repair or replacement pursuant to existing tariff language as it would require work on Pittsburgh Water's sewer main.[5]

[5] *Bornside v. Pittsburgh Water and Sewer Authority*, Docket No. C-2023-3044525, Order entered April 10, 2025.

Q. ARE YOU AWARE OF PITTSBURGH WATER HISTORICALLY CREATING BREAK-IN CONNECTIONS UTILIZING INAPPROPRIATE OR INCORRECT FITTINGS?

A. No. Pittsburgh Water would not have provided break-in connections because to do so would be a risk to the main line.

Q. GIVEN THIS, WHAT TARIFF REVISION IS PITTSBURGH WATER PROPOSING TO ADDRESS THIS SITUATION GOING FORWARD?

A. As noted in the red-lined tariffs submitted with this filing, Pittsburgh Water is proposing to revise its tariff to provide that if a pre-existing break-in connection that results in a nonfunctioning lateral is identified, a customer is responsible for properly ending the break-in connection and also connecting to the main via a factory-installed connection. Prior to termination of any break-in connection, a customer must obtain prior written approval from Pittsburgh Water for all work necessary for completion of the above. Pittsburgh Water's Manual for Developers sets forth the requirements for tap-in and tap termination procedures.

Q. WHAT IS PITTSBURGH WATER PROPOSING WITH RESPECT TO OWNERSHIP OF LINES IN THE RIGHT OF WAY FOR CERTAIN LINES?

A. Pittsburgh Water is proposing to take ownership of water service lines two inches and smaller from the main to the curb stop within the right-of-way. This will benefit Pittsburgh Water by enabling it to make repairs in a timelier manner and by allowing it to more easily control a termination if a customer does not pay a bill. This ownership would also benefit customers, given that Pittsburgh Water could control any non-revenue water that may be leaking from these types of lines. I would like to point out that this practice aligns with the practices of other regulated water companies in the area, such as Pennsylvania American Water. Note that new customers and developers would be required to install the line to the main, with Pittsburgh Water taking ownership of the

portion in the right of way for lines two inches and smaller following completion of such installation. The costs associated with this proposal are discussed in Mr. Barca's testimony.

III. CONCLUSION

Q. DOES THAT COMPLETE YOUR DIRECT TESTIMONY?

A. Yes; however, I do reserve the right to supplement this testimony as may be appropriate.

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VERIFICATION

I, William J. McFaddin, hereby state that: (1) I am the Director of Operations for The Pittsburgh Water and Sewer Authority d/b/a Pittsburgh Water; (2) the facts set forth in my testimony are true and correct (or are true and correct to the best of my knowledge, information and belief); and, (3) I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa. C.S. § 4904 (relating to unsworn falsification to authorities).

Dated: 6/4/2025

DocuSigned by:
William McFadden
90912C6707E04D9...

William J. McFaddin
Director of Operations
The Pittsburgh Water and Sewer Authority d/b/a Pittsburgh Water

Exhibit WM-1

Customer Complaint Log 2024

Water System	Count
Investigate Dirty Water	5
Lab-Discolored Water	20
Lab-Malodorous Water	39
Lab-Poorly Tasting Water	23
Lab-Water Causing Illness	10
Lab-Water Quality	16
Leak Investigation	1017
Investigate Lid	101
High Pressure Inquiry	5
Low Pressure Inquiry	183
Incomplete Surface Restoration	504
Property Damage	13
Staining of Laundry/Plumbing Fixture	0
Service Line Leak/Frozen	114
No Water	151
Request Replacement	1025
Water Main Break	592
Lead Service Line	185
Material Verification	476
Valve Operation	6595
Street/Sidewalk Undermined	10
Misc.	0

Water Meters

Frozen/Leaking/Broken	648
Curb Stop/Box Inoperable	58
Locate and Mark	34
Blow Out Valve Box	196
Curb Box Leak	38
Defective	8
Fail to Close Tight	0
Non Access	1092
Meter Testing	722

Curb Boxes

Frozen/Leaking/Broken	92
Curb Stop/Box Inoperable	143
Locate and Mark	134
Blow Out Valve Box	196
Curb Box Leak	29
Defective	83
Fail to Close Tight	2
Non Access	105
Curb Box Locate/Replace	1049

Fire Hydrants

Repair Leaking/Broken	111
Investigate Hydrant	319
Low Volume/Pressure	7
Flow Test	385
Hydrant Hit/Sheared Off	43
Hydrant Repair	382
Hydrant Replacement	90

Wastewater System	Count
Investigate Sewer Backup	327
Investigate Sewer Smell	98
Sewer Line Jetting	343
Sewer Line Televising	553
Curb Box Leak	0
Sinkhole Investigation	462
Replace Manhole Casting and Cover	10
Pump Station Alarm	25
Sewer Lateral Blockage	67
Missing/Offset Lid	32
Property Damage	10
Surcharging Manhole	22
Sewer Line Break	3
TV Sewer Line	553

Stormwater System	Count
Catch Basin Clean/Repair	3126
Catch Basin Replace	357
Retrival from Catch Basin	75
Overland Flooding	1
Investigate Sewer Backup	0
Missing/Offset Lid	86
Collapsed Catch Basin	17
Clean CSO Outfall	23
Misc.	0

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

DIRECT TESTIMONY OF

JULIE A. MECHLING

ON BEHALF OF
PITTSBURGH WATER SEWER AUTHORITY
D/B/A Pittsburgh Water

Docket Nos.
R-2025-3055010 (Water)
R-2025-3055011 (Wastewater)
R-2025-3055012 (Stormwater)

TOPICS:

Customer Service Accomplishments, Surveys and Projects
Impact of Rate Request on Future Affordability
Enhancements to Low-Income Customer Assistance Programs
Prior Commission-Approved Settlement Commitments
Water and Wastewater Tariff Revisions
Public Notice of Rate Filing

June 4, 2025

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I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND CURRENT POSITION WITH PITTSBURGH WATER.

A. My name is Julie A. Mechling. My position with Pittsburgh Water is Director of Customer Service.

Q. HOW LONG HAVE YOU HELD THIS POSITION?

A. Although my title changed in 2021, I have held this current position for over seven years. Previously, I was an employee of Pittsburgh Water for 22 years. I left for a job opportunity in the private sector from 2011 through 2017.

Q. WHAT ARE YOUR VARIOUS JOB RESPONSIBILITIES?

A. In my current position, I am responsible for oversight and management of the Customer Service department; including the day-to-day operations of Advanced Metering Infrastructure ("AMI") and Billing, Collections, the Contact Center, Emergency Dispatch, Lead Help, Permits, and Pennsylvania Public Utility Commission ("Commission" or "PUC") Compliance (including our PGH2O Cares team). In our efforts to continually improve service to our customers, I engage the team and my colleagues within other departments in projects and innovative partnerships with third-party providers.

Q. PLEASE SUMMARIZE YOUR BACKGROUND AND EXPERIENCE.

A. I obtained a Bachelor of Arts degree at Duquesne University, and I have 35 years of utility billing experience. My initial role at Pittsburgh Water was entry-level while in college. When I left employment in 2011, my title at Pittsburgh Water was Customer Services Manager. In the private sector, I processed electronic Earned Income Tax ("EIT") employer filings. I then designed, developed, launched, and managed

monthly/quarterly sewage treatment, stormwater, and refuse billing and collection for 24 municipalities with less than 10 employees.

Q. HAVE YOU EVER PROVIDED TESTIMONY BEFORE THIS COMMISSION?

A. Yes, I have presented oral testimony in support of Pittsburgh Water for a number of formal consumer complaint cases before the Commission. In addition, below is a list of the written testimony I have presented for other Pittsburgh Water proceedings before the Commission:

- Written Direct and Rebuttal testimony in Pittsburgh Water's Initial Tariff and Rate Case at Docket Numbers R-2018-3002645 (water) and R-2018-3002647 (wastewater).
- Written Direct, Supplemental Direct and Rebuttal testimony in Pittsburgh Water's combined Compliance Plan Stage 1 and Long-Term Infrastructure Improvement Plan ("LTIIP") proceeding at Docket Numbers M-2018-2640802 (water), M-2018-2640803 (wastewater), P-2018-3005037 (water), and P-2018-3005039 (wastewater).
- Written Direct, Supplemental Direct, Rebuttal, and Rejoinder Testimony in support of Pittsburgh Water's second base rate proceeding at Docket Numbers R-2020-3017951 (water) and R-2020-3017970 (wastewater).
- Written Direct and Rejoinder Testimony in support of Pittsburgh Water's third base rate proceeding at Docket Numbers R-2021-3024773 (water), R-2021-3024774 (wastewater), and R-2021-3024779 (stormwater).
- Written Direct, Rebuttal, Surrebuttal, and Rejoinder testimony in support of Pittsburgh Water's Compliance Plan Stage 2 – Customer Service issues at Docket Numbers M-2018-2640802 and M-2018-2640803.
- Written Direct and Surrebuttal testimony in support of Pittsburgh Water's Petition for Pilot Private Service Line Leak Repair and Expanded Conservation Program for Eligible Low Income Customers and Authorization to Track Costs As a Regulatory Asset for Future Base Rate Recovery at Docket No. P-2022-3030253.
- Written Direct and Rejoinder Testimony in support of Pittsburgh Water's fourth base rate proceeding at Docket Numbers R-2023-3039920 (water), R-2023-3039921 (wastewater), and R-2023-3039919 (stormwater).

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to:

- Provide highlights of the work being performed by Pittsburgh Water to elevate the customer experience;
- Describe recent initiatives to further enhance communication with customers;
- Explore the impact of the rate request on future affordability;
- Propose enhancements to Pittsburgh Water's low-income customer assistance programs and tariffs;
- Deliver updates on prior rate case settlement requirements;
- Review the proposed Tariff revisions; and
- Address the public notice of rate filing.

Q. ARE YOU SPONSORING ANY EXHIBITS?

A. Yes.

II. CUSTOMER SERVICE ACCOMPLISHMENTS, SURVEYS AND PROJECTS

A. 2024 Accomplishments

Q. HAVE YOU TRACKED THE VARIOUS ACTIVITIES OF THE CUSTOMER SERVICE DEPARTMENT?

A. Yes. Consistent with my testimony in Pittsburgh Water's four prior Rate Cases, Pittsburgh Water remains committed to the goal of becoming a highly responsive and trusted public utility that is recognized for excellence and valued by the customers it serves. The Customer Service department consists of eight interconnected teams who ensure that we are billing and collecting for water/wastewater conveyance/stormwater services, reacting timely to customers' needs, maintaining self-service tools, proactively communicating with our customers, and consistently enhancing the level of service that we provide. In support of that statement, I offer the following Customer Service accomplishments for the year 2024:

Advanced Metering Infrastructure ("AMI")	✓ Processed 9,460 meter upgrades on customer accounts, exceeding the PUC rate case settlement requirement of 8,000 meter upgrades annually ✓ Achieved an actual meter reading rate of 97.85% ✓ Encouraged 254 non-residential customers to install approved backflow prevention devices

	✓ Increased the number of non-residential customers with installed backflow devices who report annual backflow test results to 20,494; an increase of 4,729 tests as compared to the prior year
Billing	✓ Billed 116,357 water/wastewater conveyance/stormwater accounts monthly ✓ Delivered 4,711 final bills to facilitate property closings ✓ Garnered additional credits of $153,394 for a total of $776,133 in Allegheny County Sanitary Authority ("ALCOSAN") Reconciliation credits
Collections	✓ Made personal telephone calls to 1,745 delinquent customers to offer payment arrangements and the Customer Assistance Programs ✓ Posted $156,114 in LIHWAP, and $150,679 in PAHAF, grants to customer accounts ✓ Mailed 2,754 Notices of Intent to Lien and collected $1.3M in aged debt ✓ Collected $221,192 in customer payments on inactive accounts through our partnership with Penn Credit Corporation ✓ Issued 1,207 emails and 1,791 text messages to encourage past due customers to enroll in payment arrangements ✓ Continued to monitor and correct the Collections process automation in SAP
Contact Center	✓ Handled 130,482 customer calls in 2024 ✓ Secured an average call abandonment rate of 2.2% and an average speed of answer of 31 seconds ✓ Reduced customer call requeues from 14.8% (19,302) to 6.9% (8,937) ✓ Held 28 coaching sessions to promote First Call Resolution ✓ Hired and trained 10 Customer Service Representatives ("CSRs") in person ✓ Trained and promoted 3 CSRs within the CSR Progression
Emergency Dispatch	✓ Handled 33,729 customer calls in 2024

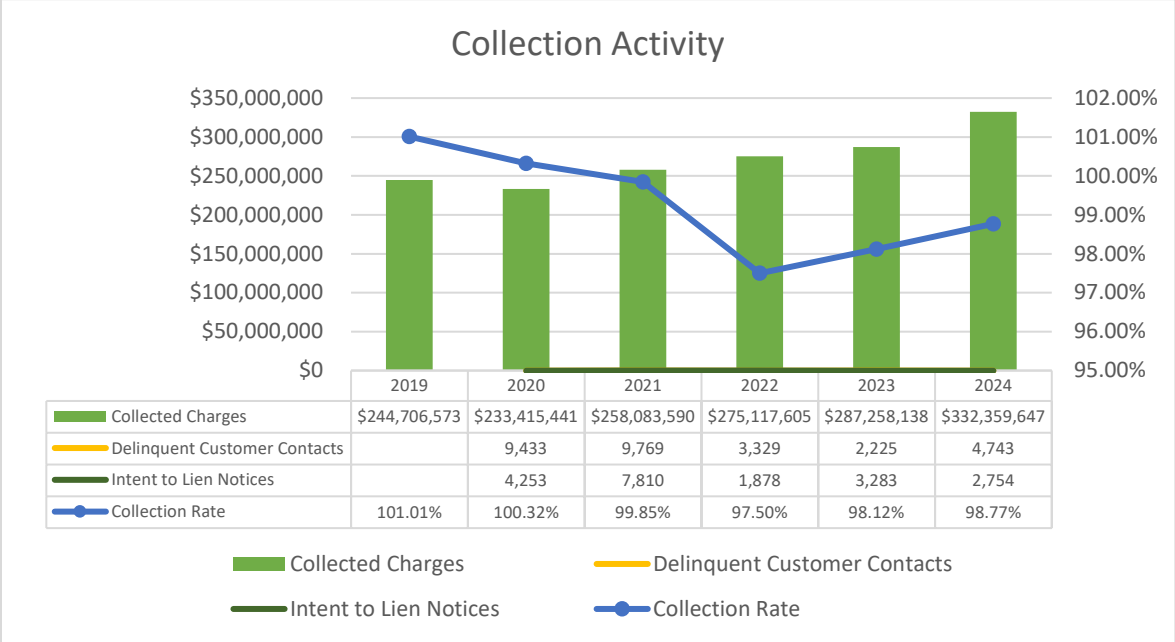
	✓ Secured an average call abandonment rate of 2.5% and an average speed of answer of 23 seconds ✓ Responded to 1,257 interruptions of service and 2,511 311 tickets ✓ Made 1,790 outbound calls to schedule meter upgrade appointments ✓ Researched 396 pieces of returned customer mail ✓ Hired and trained 3 Dispatchers
Lead Help	✓ Handled 20,969 customer calls into/made by Lead Help and 13,713 emails to LeadHelp@pgh2o.com ✓ Achieved an average call abandonment rate of 1.2% and an average speed of answer of 8 seconds ✓ Facilitated 3,815 pre-construction meetings ✓ Secured 3,711 signed agreements from property owners ✓ Processed 720 Private Lead Service Line Replacement Reimbursement applications; an increase of 298 from the prior year ✓ Responded to 972 customer requests for test kits ✓ Attained 1,259 Private Lead Service Line Replacements ✓ Promoted and trained 3 new Lead Program Customer Assistance team members
Permits	✓ Responded to 6,488 dye testing certification requests in 10 days or less ✓ Prepared 405 permits ✓ Collected $258,630 in permit fees
PUC Compliance	✓ Responded to 2,018 dissatisfied customers (.02% of our customer base) via 1,426 Disputes, 550 Informal Complaints, and 42 Formal Complaints ✓ Identified and billed previously unbilled service charges totaling $71,401.38 ✓ Hired/promoted and trained one Compliance Analyst, one Compliance Coordinator, and one Compliance Manager
PGH2O Cares	✓ Participated in 53 community events; 51 in-person events and two virtual events

	✓ Handled 10,190 inbound calls and made 5,392 outbound calls to promote our Customer Assistance Programs ✓ Increased Bill Discount Program ("BDP") enrollees to 8,084 ✓ Assisted 159 customers with leak repairs through the Line Repair and Water Conservation Pilot, achieving a reduction of their monthly consumption by an average of 17% ✓ Processed over 4,400 applications and implemented the PUC's Common Application Form
Quality Control	✓ Formed two new task types in SpryMobile ✓ Created eight new automated reports in Metabase for various departments ✓ Trained 34 employees/contractors on SpryMobile navigation and proper service/work order completion ✓ Designed 27 reports to track data for new initiatives in SpryMobile ✓ Participated in the asset management project team to implement Cityworks for WTP assets to replace SpryMobile with a successful go-live in May ✓ Worked on Cityworks phase 2, developing reporting and training to meet needs currently satisfied in SpryMobile ✓ Contributed on project team to implement Arcos for overtime offerings in Field Operations and Dispatch, creating 27 safety siren scenarios to replace the Alert Media application ✓ Trained 50 Keep members and site-specific emergency responders on the process of sending a safety siren notification

Q. WOULD YOU LIKE TO HIGHLIGHT ONE PARTICULAR TREND IN SERVICE TO PITTSBURGH WATER CUSTOMERS?

A. Yes. The following graph represents pre- and post-Covid 19 pandemic collection trends. As you can see, despite the dwindling of federal financial aid assistance to customers, Pittsburgh Water has continued to increase the annual collection rate year-over-year since

2022. From 2019 to 2024, the annual collection rate vacillated within 3.51 percentage points.



	2019	2020	2021	2022	2023	2024
Collected Charges	$244,706,573	$233,415,441	$258,083,590	$275,117,605	$287,258,138	$332,359,647
Delinquent Customer Contacts		9,433	9,769	3,329	2,225	4,743
Intent to Lien Notices		4,253	7,810	1,878	3,283	2,754
Collection Rate	101.01%	100.32%	99.85%	97.50%	98.12%	98.77%

Q. WHAT PITTSBURGH WATER COLLECTION EFFORTS CONTRIBUTED TO THIS INCREASING, POST-PANDEMIC COLLECTION RATE?

A. Achieving these annual collection rate increases is a testament to the multi-layer touchpoints that Pittsburgh Water now has with our customers who carry past due charges. In addition to the requirements of its Compliance Plan, Stage 2 approved Collections Plan,[1] Pittsburgh Water Collections personnel began in 2024 making attempts to reach past due customers in advance of issuing a courtesy 5-day letter, requesting payment and offering income-based payment arrangements. In November 2024, Pittsburgh Water initiated payment plan email and text messaging campaigns. The target audience is past-due residential customers, and the goal is to encourage contact

[1] *Implementation of Chapter 32 of the Pub. Util. Code Regarding Pittsburgh Water and Sewer Auth. – Stage 2*, Docket Nos. M-2018-2640802 (water) and M-2018-2640803 (wastewater), Order entered July 14, 2022, adopting as own action the Recommended Decision dated May 18, 2022 which recommended approval of the Joint Petition for Settlement dated March 14, 2022. *See* Updated Stage 2 Customer Service Compliance Plan (with Collections Plan) as filed September 12, 2022. A copy of the filing is available at: https://www.puc.pa.gov/pcdocs/1758529.pdf.

with Pittsburgh Water to determine eligibility for an income-based, interest free payment plan. The following is the text messaging script from this campaign:

> Hello, this is Pittsburgh Water with an important message regarding your account. Our records indicate that your account is past due. If you are having trouble paying your bill, we are here to help. You may be eligible for an income based, interest-free payment plan. Please contact us at 412-255-2423 and choose Option #5 to determine your payment plan eligibility, Monday through Friday, from 8:00 am to 6:00 pm. You may also reach us via email at info@pgh2o.com. Don't miss this opportunity to resolve your past due balance! Text STOP to opt-out.

Pittsburgh Water also created a billing system data reporting mechanism to discern the success rate of these additional communications. This table displays recently available payment plan campaign statistics:

Payment Plan Campaign	Date	Total Contract Accounts with Past Due Charges	Total Contract Accounts Emailed	Total Contract Accounts Texts	CAs with New Payment Plans
Week #11	1/20/2025	10,449	217	469	3
Week #12	1/27/2025	10,449	387	679	4
Week #13	2/3/2025	10,449	442	531	8
Week #14	2/10/2025	10,449	473	639	2
Week #15	2/17/2025	10,449	338	426	4
Week #16	2/24/2025	8,164	293	662	5
Week #17	3/3/2025	8,164	417	598	8
Week #18	3/10/2025	8,164	406	564	7
Week #19	3/17/2025	8,164	534	738	2
Week #20	3/24/2025	8,164	460	833	6
Week #21	3/31/2025	8,164	444	1,005	6
Week #22	4/7/2025	8,701	399	661	4
Week #23	4/14/2025	8,701	478	478	7
Week #24	4/21/2025	8,701	620	684	1
Week #25	4/28/2025	8,701	321	772	5
Week #26	5/5/2025	8,701	620	590	3
Week #27	5/12/2025	8,701	241	318	15
Week #28	5/19/2025	7,897	672	955	
Total			9,573	14,162	117

In January 2025, in addition to collections personnel making, on average, 150 weekly personal collection calls to customers, Pittsburgh Water expanded its use of electronic communication methods, sending text and email notifications to customers who are past due on their payment plans. The following is the text messaging script from this campaign:

Hello, this is Pittsburgh Water with an important message regarding your account. Our records indicate that your payment plan is past due. Please bring your payment plan current by calling 1-888-601-3007, making a payment online at myaccount@pgh2o.com or by mailing a payment. If you are unable to keep this agreement due to a significant change in your financial situation, please contact Customer Service at 412-255-2423 and choose Option #5 between 8:00 AM and 6:00 PM, Monday through Friday. We appreciate your prompt response to this important matter.

This table displays recently available past due payment plan campaign statistics:

Past Due Payment Plans			
Date	**Past Due Payment Plans**	**Total Emails Sent**	**Total Texts Sent**
January-25	4,073	1,222	1,949
February-25	3,448	3,032	4,438
March-25	3,680	3,811	4,830
April-25	3,713	2,567	3,691
May-25	3,196		
		10,632	14,908

Q. HOW MANY COLLECTION LETTERS, NOTICES, AND POSTINGS DID PITTSBURGH WATER ISSUE TO PAST DUE CUSTOMERS IN 2024?

A. In 2024, Collections personnel issued 5,005 37-day letters, 37,231 10-day letters, 2,110 30-day postings, 6,990 3-day postings, and 677 48-hour postings. 96.98% of customers complied with one or a series of these communications by:

- Making payment in full;
- Entering into an income-based, interest-free payment plan;
- Filing a medical;

- Submitting a Protection from Abuse order; and/or
- Entering into one or many of our customer assistance programs.

275 properties were actually shut for non-payment in 2024.

Q. BY WHAT OTHER MEANS ARE COLLECTIONS PERSONNEL IDENTIFYING AND CONNECTING WITH CUSTOMERS WHO ARE FAILING TO PAY ON TIME?

A. Collections management personnel and I meet weekly to review the accounts appearing on the Aging Report. Pittsburgh Water's Aging Report was recently updated through the Commission's Management and Operational Audit that concluded in the first quarter of 2023. The amendments to the Aging Report included: 1) the tracking of arrearages to effectively capture all the various nuances of aged arrearage amounts by customer class; and 2) detail of pass-through debt as the result of billing ALCOSAN charges. In our weekly review meetings, we examine management notes on recent collection attempts and work as a team to identify additional opportunities for collection.

Q. IS THE LIEN FILING STEP CONTINUING TO HAVE A ROLE IN COLLECTING UNPAID CHARGES THAT ARE NOT SATISFIED DURING THE TERMINATION NOTICE PROCESS?

A. Yes; Pittsburgh Water Collections and Legal personnel are preparing lien filings for more than 100 accounts each month. In 2024, they successfully filed liens for unpaid water/wastewater conveyance/stormwater charges against 1,210 properties. These liens must be satisfied via payment to Pittsburgh Water should the owner plan to sell the property or obtain a loan with the property as collateral. As I shared in Pittsburgh Water's 2024 accomplishments above, just the issuing of Notices of Intent to Lien garnered $1.3 million in payments of delinquent charges.

B. After-Call and Annual Customer Surveys

Q. CAN YOU PROVIDE FEEDBACK FROM CUSTOMERS ON THE SERVICES THAT PITTSBURGH WATER PROVIDES?

A. Yes. As shared in my testimony in Pittsburgh Water's most recent rate case, customers are presented with a brief, five-question survey and optional voice recording after each telephone queue interaction with Pittsburgh Water staff. When they accept, customers are asked to rate the following:

Your call is now being routed to take a short survey on the quality of Pittsburgh Water's service. Press 1 to continue, or press 2 to disconnect and end your call.	
1	On a scale of 1 to 5, with 5 being Extremely Satisfied and 1 being Extremely Dissatisfied, please rate your satisfaction with the Customer Service Representative who assisted you today.
2	On a scale of 1 to 5, with 5 being Extremely Satisfied and 1 being Extremely Dissatisfied, please rate your satisfaction with the resolution of your most recent inquiry to Pittsburgh Water.
3	On a scale of 1 to 5, with 5 being Extremely Satisfied and 1 being Extremely Dissatisfied, please rate your overall satisfaction with Pittsburgh Water's responsiveness to your questions concerning your water and/or wastewater services.
4	On a scale of 1 to 5, with 5 being Extremely Satisfied and 1 being Extremely Dissatisfied, please rate your overall satisfaction with the quality of the water and/or wastewater services provided to you by Pittsburgh Water.
5	On a scale of 1 to 5, with 5 being Extremely Satisfied and 1 being Extremely Dissatisfied, please rate Pittsburgh Water's overall performance as a water and wastewater utility.

The analysis of the after-call customer survey responses in 2024 is included in Pittsburgh Water Exhibit JAM-1, "After Call Customer Survey Response Data 2024." As the scoring summary illustrates, Pittsburgh Water's call-focused overall performance scores average 4.64 out of 5 and the organization-focused overall performance scores average 4.37 out of 5.

Q. HAS PITTSBURGH WATER RESURVEYED ITS CUSTOMER BASE, FOLLOWING THE COMPREHENSIVE SURVEY IN 2022, TO EVALUATE THE EFFECTIVENESS OF THE SERVICES IT PROVIDES TO CUSTOMERS?

A. It has. Between October 28 and November 21, 2024, Pittsburgh Water conducted its second, bi-annual Customer Satisfaction Survey. The survey gauges overall customer

satisfaction and perceptions associated with service offerings. It also gathers feedback on customer priorities and provides a measure of experience with customer service and communications. Findings from the survey help to identify opportunities to improve customer service and communication with customers.

Q. CAN YOU DESCRIBE THE METHODOLOGY THAT PITTSBURGH WATER UTILIZED TO CONDUCT THE SECOND, COMPREHENSIVE CUSTOMER SATISFACTION SURVEY?

A. We received responses from 800 Pittsburgh Water residential customers who are responsible for household utility bills and decisions. The survey was conducted online, and respondents were recruited from two distinct sources:

1. A direct email invitation to our internal customer email list (342 responses); and

2. An invitation to neighborhood associations shared with their constituents (458 responses).

The majority of responses were received from customers who received the invitation through their neighborhood association.

Q. WHAT WERE THE FINDINGS GLEANED FROM THE SECOND, COMPREHENSIVE CUSTOMER SATISFACTION SURVEY?

A. The key findings from the survey are as follows:

- 65% of customers rate their overall satisfaction with Pittsburgh Water as excellent or very good.
    - Most common reasons for positive satisfaction include reliable water supply and service; excellent customer service; delivery of clean, high-quality water; effective water treatment and disinfection; effective communication with customers; and responsiveness to customer issues.
- 72% of customers have seen major or minor improvements from Pittsburgh Water since 2018, an increase of 23% as compared to the previous survey.
    - The improvements customers are noticing include improved water quality, improved customer service, and water main replacements and upgrades.

- 69% trust Pittsburgh Water to make smart decisions about water and sewer services, an increase of 12% as compared to the previous survey.

- 72% trust Pittsburgh Water to provide transparent communication about water and sewer services.

- Top customer priorities include water quality, protecting source water from pollution, keeping lead levels low, and investing in water and sewer systems to prepare for the future, even if it means raising rates.

- On average, 55% of customers rank our performance on these priorities as excellent or very good.

- 58% of customers indicate that they are satisfied with the frequency of communication from Pittsburgh Water.

- 48% of customers have contacted Customer Service and 89% of those customers were completely satisfied with their interaction.

- 75% of customers are familiar with Pittsburgh Water's Customer Assistance Programs. Of those, 51% are eligible for the programs and 89% are currently enrolled.

- 62% of customers realize that the names Pittsburgh Water and Sewer Authority, PWSA, PGH2O, and Pittsburgh Water are different names for the same entity.

C. Customer Service Projects

Q. WHY IS PITTSBURGH WATER STRIVING TO CONSISTENTLY ENHANCE THE CUSTOMER EXPERIENCE?

A. As Pittsburgh Water continues to lead as a utility of the future, we are identifying opportunities to build on our already steady state of 1) answering customer calls in less than one minute on average, 2) achieving a less than 3% monthly call abandonment rate, and 3) allowing customers the ability to provide their name and preferred telephone number to receive a callback while maintaining their place in the queue. To illustrate, I would like to focus on three significant projects that Customer Service launched in 2024.

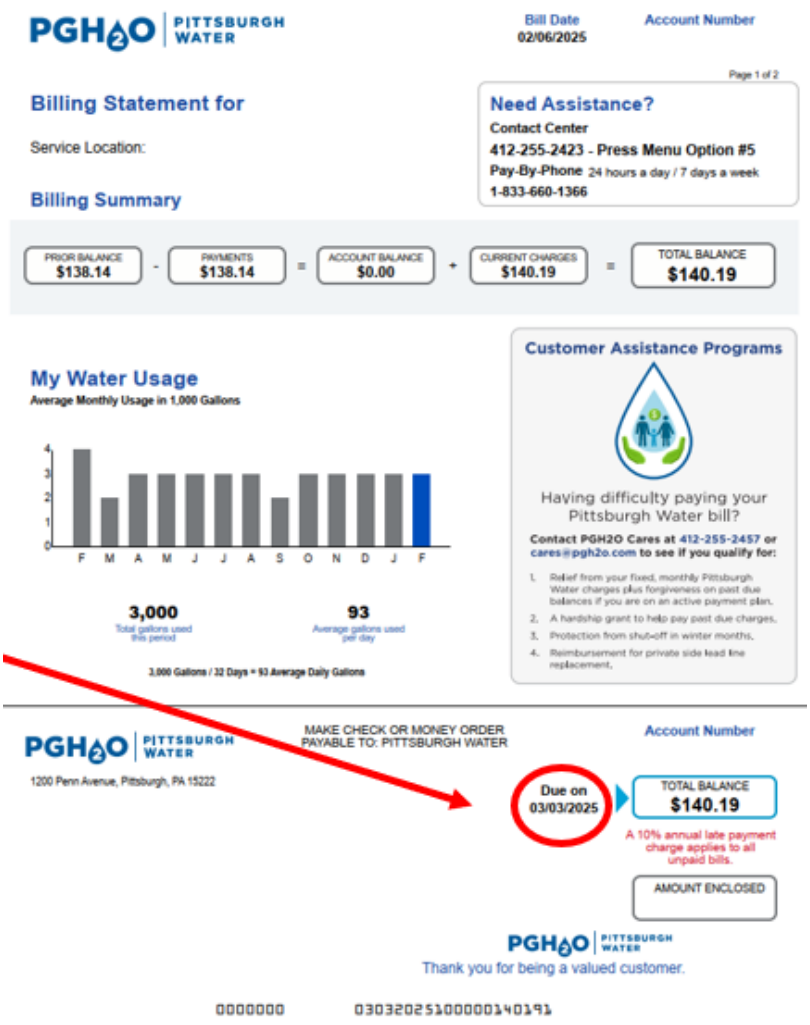
1. Customer Bill Enhancements

Q. WHICH ENHANCEMENTS HAS PITTSBURGH WATER MADE TO MONTHLY CUSTOMER BILLS?

A. Firstly, the bill due date has been extended from 20 to 23 days from the bill date. On July 2, 2024, a customer filed the following Formal Complaints regarding experiencing insufficient time between his monthly bill date and due date:

- C-2024-3049868 (water); and
- C-2024-3049869 (wastewater).

Customer Service management personnel worked with the customer to extend his due date beyond the established 20 days from bill date. That change was successful; however, the customer remained unsatisfied. Pittsburgh Water then funded a change request with our Customer Information System ("CIS") vendor to make system-wide changes to the bill due date logic. Effective January 1, 2025, all Pittsburgh Water bills are calculated with a 23-day due date. In addition, if a bill due date falls on a holiday or weekend, it is further extended to the next business day. In the below example, a bill was created and printed on February 6, 2025. The 23-day due date should be March 1, 2025; however, that is a Saturday, therefore the due date was moved forward two days to Monday, March 3, 2025.



Secondly, personnel from Pittsburgh Water and Kubra, our bill print vendor, launched a project on December 11, 2024 to replace bill inserts with "onserts," realizing cost savings for ratepayers and increasing customer messaging engagement. The project went live on February 6, 2025. Instead of having to open an insert folded separately from the bill, customers now see custom messaging created by our Public Affairs department on an additional page of the bill. For eBill customers, the onsert content is now clickable within the "view bill" function of the Customer Advantage Portal, rather than having to choose to open another tab to see the content. The following are images of the initial onserts as shared with customers in February 2025. Pittsburgh Water Exhibit JAM-2,

"Sample Customer Bill with Rebranding-New Due Date-Onserts" illustrates all three recent enhancements to Pittsburgh Water's bills.



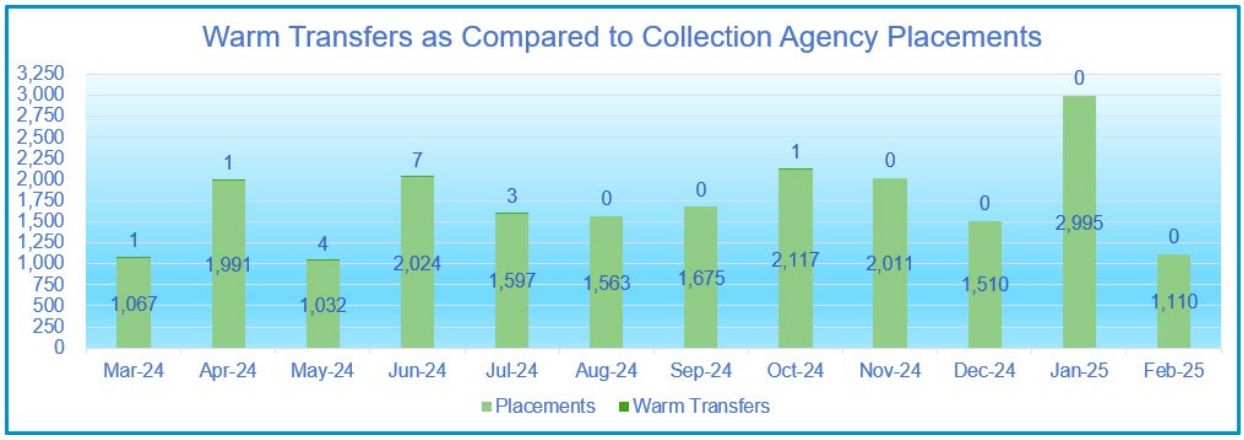
2. Collection Agency Partnership

Q. IS THE PARTNERSHIP BETWEEN PITTSBURGH WATER AND PENN CREDIT CORPORATION PRODUCTIVE?

Yes; in 2024, Penn Credit Corporation collected $221,192 in customer payments on inactive accounts. These are unpaid service charges on former customers' accounts that we had previously been unsuccessful in collecting. It is also important to note that, consistent with our 2023 rate case settlement commitment B.1.b.,[2] I provided training to

[2] *Pa. Pub. Util. Comm'n v. Pittsburgh Water and Sewer Auth.*, Docket Nos. R-2023-3039920 (water); R-2023-3039921 (Wastewater); R-2023-3039919 (Stormwater), Recommended Decision dated November 28, 2023. Terms and Conditions of Settlement at 27.

Penn Credit staff to ensure that any current customers they may encounter are warm transferred to Pittsburgh Water Customer Service. This table illustrates the number of accounts placed with the collection agency versus the number of active customers, or customers wanting to reinstate service, who were transferred to a Customer Service Representative to take advantage of all regulatory protections as well as our suite of customer assistance programs:



In February 2025, Penn Credit began issuing rolling lists of inactive accounts where 12 months of debt collection efforts proved unsuccessful. Collections personnel manually review each account to determine if the debt can be written off per the Pittsburgh Water Exhibit JAM-3, "Write-Off Process Standard Operating Procedure."

Pittsburgh Water has recently made the request of our CIS vendor to amend collection agency program logic to include the placement of certain categories of active accounts with unpaid water/wastewater conveyance/stormwater charges. These categories of active accounts and the rationale for placement of the associated delinquencies are as follows:

- **Stormwater-Only** – Pittsburgh Water accounts for stormwater-only charges do not have accompanying water/wastewater conveyance services. This means that there are no active water/wastewater conveyance customers associated with these accounts; therefore, the termination process is not a collection tool when these

accounts become delinquent. Collection of these 1,149 accounts with delinquencies totaling $602,015 has been solely via the lien process, the effectiveness of which is contingent upon a future property transaction. Placing these delinquent accounts with the collection agency is the next best approach to achieve Pittsburgh Water's goals of collecting what is billed and reducing an unfair burden for all ratepayers.

- **Unlisted Tenant** – Due to the regulated protections for tenants under the Discontinuance of Service to Leased Premises Act, tenants may avoid termination of service by continuing to make payment of only current, 30-day bills, while the owner allows prior delinquent amounts to remain unpaid. There are 270 such past due accounts totaling $1,514,978 in Pittsburgh Water's CIS. As termination is not an effective collection method for some rental properties where the owner is the customer, Pittsburgh Water plans to place these landlord accounts with the collection agency.

- **Inoperable Curb Box** – On occasion, Pittsburgh Water encounters a curb stop that is buried or unable to be located. Because the work of locating, repairing, and replacing curb stops in non-emergency situations is performed by field crews who are also responding to main breaks, repairing the public side of broken service lines, and replacing inoperable valves on mains in the distribution system, you can imagine how the replacement of valves in curb boxes becomes a lower priority. Additionally, if the curb stop cannot be located, the main must be shut down on both sides of the stop to cut a new box into the service line. Making curb boxes operable is a time-consuming and costly process. Therefore, placement of these accounts with the collection agency is the prudent path forward. Placement will occur after the customer has received all requisite notices in the regulated termination process.

- **West View Water Authority ("WVWA") Service** – Of the 385 customer accounts with WVWA water service to properties within the city of Pittsburgh, 52 accounts are delinquent in the total amount of $154,545.18. To pursue termination of these properties, this municipal authority requires ratepayer dollars to be provided in the amount of $100 per property in advance of any termination activity. Pittsburgh Water views this as an unfair use of ratepayer dollars and instead will be placing these accounts with the collection agency. Affected customers will be afforded all regulated and customer assistance program protections through the warm transfer process established between Penn Credit Corporation and Pittsburgh Water.

3. First Call Resolution

Q. HOW IS PITTSBURGH WATER IMPROVING UPON ITS STELLAR CALL HANDLING STATISTICS?

A. In 2024, Pittsburgh Water Customer Service launched a First Call Resolution ("FCR") project. Through the FCR project, we are concentrating on the reduction of requeued

customer calls, live call monitoring, call coaching, peer mentoring, and the calculation of an FCR rate. Having gained customers' trust by being available to them when they call, we now must build on that trust by resolving their inquiry within that initial interaction.

Q. WHICH STEPS DID YOU TAKE TO REDUCE THE NUMBER OF REQUEUED CUSTOMER CALLS?

A. A requeued call occurs when a customer's call is delivered to a CSR's extension, the CSR does not answer the customer, and the call rolls to the next available agent. Given that distractions are inevitable, Contact Center management set the expectation of ≤ 10% requeued calls per month, per CSR. If a CSR's requeued calls are above 10% of their total calls handled, management provides a copy of the relevant telephony system report to the CSR and holds a coaching session with them to ensure that they understand how to utilize the "Make Busy" telephone preferences to further reduce their requeued call percentage. This initiative kicked off in February of 2024, and by year end our tracking revealed that we had reduced customer call requeues from 14.8% (19,302) to 6.9% (8,937).

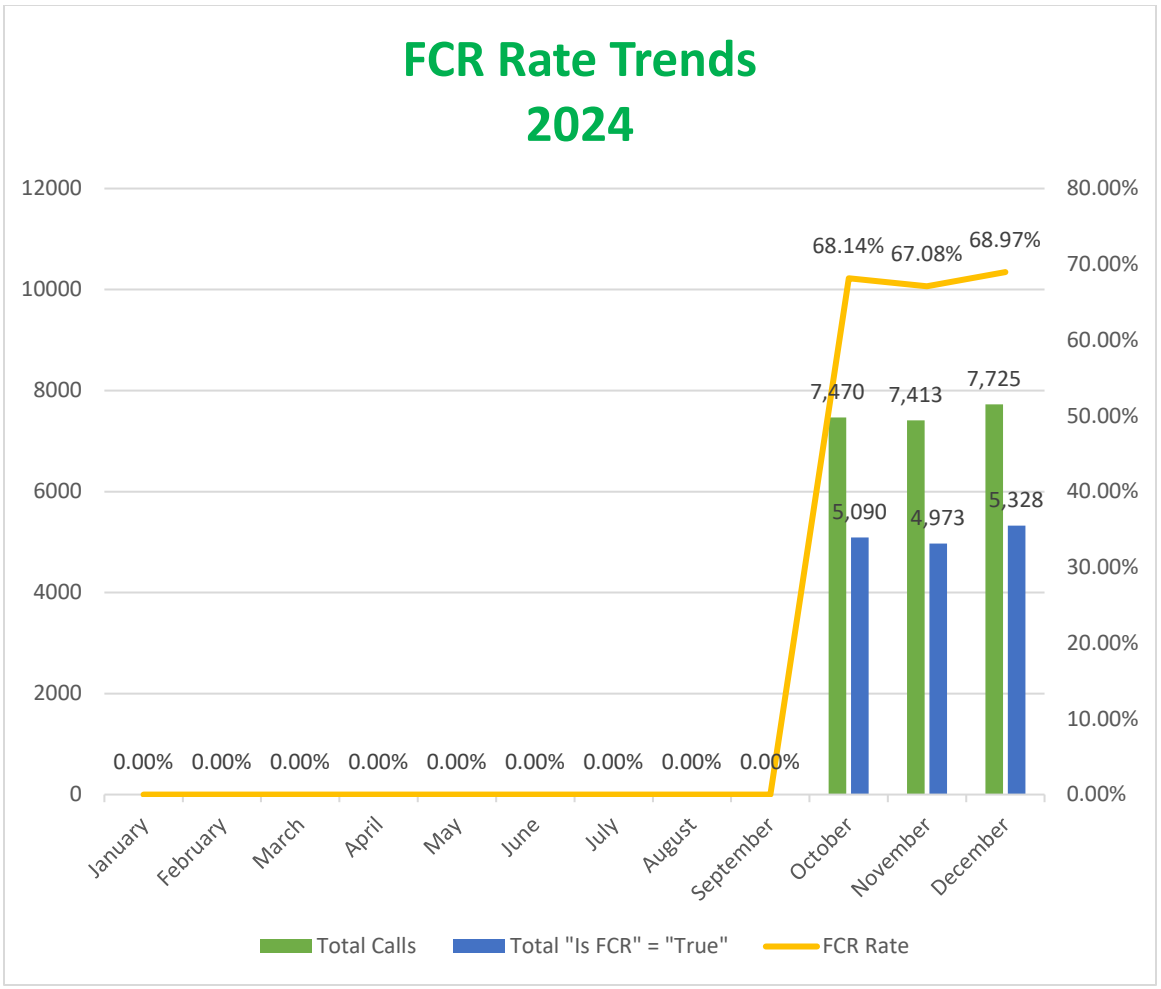
Q. CAN YOU DESCRIBE THE ADDITIONAL ELEMENTS OF THE FCR PROJECT THAT HAVE BEEN ACCOMPLISHED TO DATE?

A. Certainly; and, in order to show continued progress in this project, we first had to fill Contact Center management staff vacancies. We recruited, hired, and trained a Contact Center Coordinator and a Senior Customer Service Coordinator. Additionally, we trained and promoted three CSRs within the CSR Progression, which is a tool contained in the AFSCME Local 2719 Agreement allowing CSRs to engage in training, develop competencies, and progress to the next level of CSR with a salary increase. Having these team members in place allowed us to build on the reduction of requeued calls with live call monitoring, call coaching, and peer mentoring. Contact Center management live-

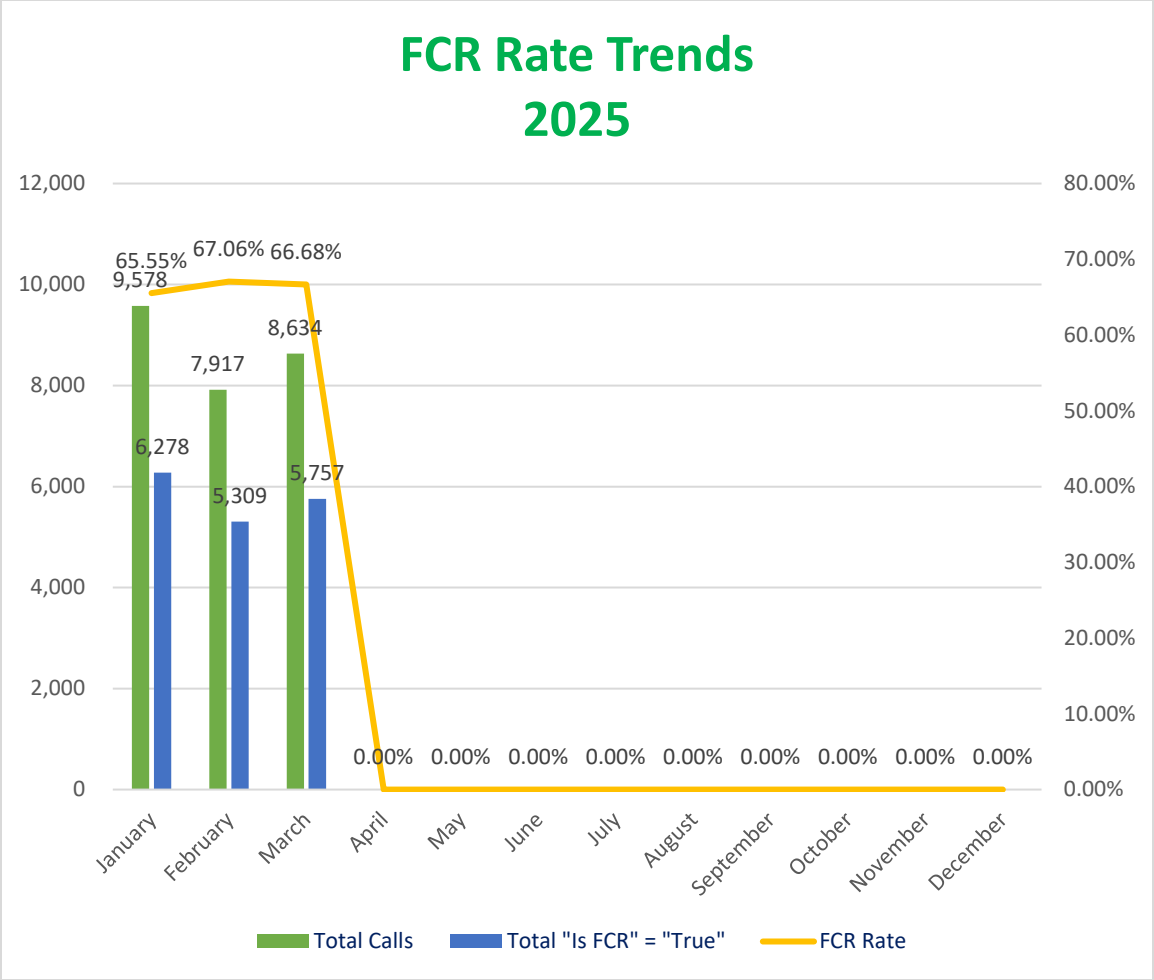
monitors CSRs to ensure that they are actively utilizing all tools available to them when assisting customers. When they fall short, management steps in with call coaching and CSR 3's provide peer mentoring. In 2024, management held 28 call coaching sessions with struggling CSRs and 13 peer mentoring sessions took place.

Q. WHAT ARE THE NEXT STEPS IN THE FCR PROJECT?

A. Contact Center management have begun investigating Automatic Call Distribution ("ACD") short handle call counts, ensuring that Customer Service Representatives are calling back customers whose calls were disconnected by either party, possibly as the result of a technical glitch. By doing so, we will minimize calls lasting less than 59 seconds. Simultaneously, we worked with our telephony system vendor, Mitel, to design and develop a First Call Resolution Rate report to measure success and to utilize in further team mentoring to always resolve customers' inquiries during that first interaction. I ran the report of available monthly data from November 2024 to present as a baseline and shared it with select members of the Customer Service management team. Here are the resulting FCR rate trends in bar graph form:


FCR Rate Trends
2024
12000
10000
8000
6000
4000
2000
0
80.00%
70.00%
60.00%
50.00%
40.00%
30.00%
20.00%
10.00%
0.00%
0.00% 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% 0.00%
68.14% 67.08% 68.97%
7,470 7,413 7,725
5,090 4,973 5,328
January
February
March
April
May
June
July
August
September
October
November
December
Total Calls
Total "Is FCR" = "True"
FCR Rate

1



Investigation of recorded conversations with our customers will be necessary to further refine the rate calculation and to show improvement on the baseline rate. The goals are to ensure that: 1) every customer is satisfied at each initial touchpoint; and 2) customer call volumes into queues are reduced. The management team will be working to address:

- Tracking FCR "False" by queue to determine where training is needed;
- Verifying that a transferred call between queues does not count as FCR "False"; and
- Determining if the Dispatch queue should remain in the tracking of the rate or should be evaluated as a stand-alone queue.

III. MITIGATION EFFORTS REGARDING IMPACT OF PROPOSED RATE INCREASE ON FUTURE AFFORDABILITY

Q. PLEASE EXPLAIN EFFORTS OF PITTSBURGH WATER TO MITIGATE THE IMPACT OF THE PROPOSED RATE INCREASES FOR CUSTOMERS.

A. As explained in the testimony of other Pittsburgh Water witnesses, including Mr. Barca, Pittsburgh Water carefully considered the need for additional revenue to support its on-going operations and capital projects with consideration of how increases could impact our ratepayers. Our efforts also include the collections activities I have described and our commitment to ensuring that Pittsburgh Water receives payment for services rendered because of the negative impacts of uncollectible charges on all our customers and our ability to provide services. Regarding the proposals of this specific rate case, several of them are expected to have rate mitigation impacts.

A. Electronic Billing Credit

Q. PLEASE EXPLAIN PITTSBURGH WATER'S PROPOSED EBILL ENROLLMENT CREDIT PROPOSAL.

A. Currently, Pittsburgh Water has the ability to encourage customers to enroll in autopay by offering a one-time autopay enrollment credit of $5. As part of this case, Pittsburgh Water is proposing to offer a one-time $15 credit per account for customers to enroll in paperless billing. The purpose of the proposal is to reduce the costs associated with mailing monthly bills. Electronic billing (and the associated customer portal) is a more efficient and reliable communication channel than the postal service. Providing this credit will also reduce postage and billing costs, saving money for ratepayers. It should be noted that this is an optional credit. Customers who prefer to receive paper billings may continue to do so. As explained in Mr. Barca's testimony, Pittsburgh Water is not

proposing any cost recovery in this case for this electronic bill credit. The postage and billing savings will pay for the $15 credit being offered.

B. Removal of the Minimum Allowance

Q. PLEASE EXPLAIN PITTSBURGH WATER'S CURRENT RATE STRUCTURE REGARDING THE MINIMUM ALLOWANCE.

A. Currently, most residential customers are billed a minimum charge for up to 1,000 gallons. For every full 1,000 gallons over the minimum, they are assessed a consumption charge. The use of a minimum allowance has been a feature of Pittsburgh Water's rate structure since coming under the jurisdiction of the Commission, and the Commission has continued to approve the rate structure through our most recent rate case.

Q. HAS PITTSBURGH WATER AGREED TO TRANSITION AWAY FROM THE USE OF THE MINIMUM ALLOWANCE?

A. Yes. Consistent with our prior rate case commitment,[3] Pittsburgh Water has engaged the CIS support vendor to evaluate logic in the billing system software and to make the determination that it can be updated to accommodate removal of the minimum charges. As explained more fully in the testimony of Mr. Barca, Pittsburgh Water is proposing to effectuate the removal on January 1, 2027. While our proposal to remove the minimum does not effectively result in receiving more money from ratepayers, it does shift cost responsibility among the customers so that some customers will see increases while some will not. Given the cost shifting impacts of the removal of the minimum charge, we view our proposal to not implement it until January 1, 2027 as a rate mitigation effort to smooth out rate change impacts for all customers, to schedule the CIS development so as

[3] *Pa. Pub. Util. Comm'n v. Pittsburgh Water and Sewer Auth.*, Docket Nos. R-2023-3039920 (water), R-2023-3039921 (Wastewater), R-2023-3039919 (Stormwater), Recommended Decision dated November 28, 2023; Terms and Conditions of Settlement, Section 9.A.3.a.ii at p. 26.

not to interfere with a planned functional upgrade, and to provide a reasonable opportunity for Pittsburgh Water to educate customers about the coming changes.

Q. ARE CUSTOMER ASSISTANCE PROGRAM CHANGES PROPOSED TO COINCIDE WITH PITTSBURGH WATER'S CHANGES TO ITS RATE STRUCTURE?

A. Yes. As part of the last rate case settlement, Pittsburgh Water agreed to propose a BDP structure, to be implemented with the removal of the minimum charge, that ensures enrolled customers receive at least the same discount on a total bill as they receive with the current minimum charge structure.[4] To satisfy this requirement, Pittsburgh Water proposes to provide qualifying customers a bill credit up to the following amounts:

	2026	2027
CAP Customers above 50% - 200% of FPL	$5.00 per bill for water charges	$23.00 per bill for water charges
	$2.50 per bill for wastewater conveyance charges	$9.00 per bill for wastewater conveyance charges
CAP Customers at or below 50% of FPL	$0.00 per bill for water charges	$8.35 per bill for water charges
	$0.00 per bill for wastewater conveyance charges	$2.98 per bill for wastewater conveyance charges

Q. IF PITTSBURGH WATER IS NOT PROPOSING TO REMOVE THE MINIMUM ALLOWANCE UNTIL 2027, THEN WHY IS IT PROPOSING TO IMPLEMENT A BILL CREDIT IN 2026?

A. The bill credit proposed for 2026 for qualifying customers is intended to smooth the transition to the new rate structure in 2027. The below tables further illustrate this. *Table One* provides the total BDP discount by utility for 2025-2027 for an average residential customer using 3,000 gallons of water/sewer per month. The first section demonstrates the discount provided if no changes are made to the program's structure (for

[4] *Pa. Pub. Util. Comm'n v. Pittsburgh Water and Sewer Auth.*, Docket Nos. R-2023-3039920 (water); R-2023-3039921 (Wastewater); R-2023-3039919 (Stormwater), Recommended Decision dated November 28, 2023. Terms and Conditions of Settlement, Section 9.E.3.d at p. 33.

illustration only). Though the total discount increases from 2025 to 2026, it declines in 2027 as a result of the removal of the minimum allowance. When the minimum allowance is removed, the service charge decreases correspondingly. Since the BDP discount is primarily derived from waiving the service charge, that change ultimately lowers the discount received. As a result, Pittsburgh Water has proposed two additional discounts in the proposed discounts section: 1) a 50% discount on the water and sewer PENNVEST Charge[5]; and 2) fixed discounts to the water and sewer bills that result from base rates (service charge + volumetric rates). The proposed discounts provide an additional monthly discount of $12.36 and $50.75 as compared to the current structure in 2026 and 2027, respectively.

Table One: Current and Proposed BDP Reductions

	FY 2025 FTY	**FY 2026** FPFTY	**FY 2027**
Benefits on Current Monthly Water, Wastewater, and Stormwater Bill			
Water BDP Reductions			
Water Base Charge Discount	$31.54	$34.34	$18.81
Reduction of DSIC*	$1.58	$1.72	$0.94
	$33.12	$36.06	$19.75
Wastewater BDP Reductions			
Wastewater Base Charge Discount	$8.25	$8.37	$3.99
Reduction of DSIC*	$0.41	$0.42	$0.20
	$8.66	$8.79	$4.19
Stormwater BDP Reductions			
Stormwater Base Charge Discount	$8.55	$10.49	$0.00
	$8.55	$10.49	$0.00
Current Program: Total Reductions**	**$50.33**	**$55.34**	**$23.94**
Benefits on Proposed Monthly Water, Wastewater, and Stormwater Bill			
Water BDP Reductions			

[5] The Commission approved Pittsburgh Water's proposed 50% discount for the PVC for BDP participants as part of the last base rate case and the provision is already included in Pittsburgh Water's tariff. Until this proceeding, Pittsburgh Water had not begun assessing any costs to customer pursuant to the PVC.

Water Base Charge Discount	$31.54	$34.34	$18.81
Water Fixed Discount	$0.00	$5.00	$23.00
Water PENNVEST Charge Discount	$0.00	$2.13	$3.35
Reduction of DSIC*	$1.58	$3.11	$3.39
	$33.12	$44.58	$48.54
Wastewater BDP Reductions			
Wastewater Base Charge Discount	$8.25	$8.37	$3.99
Wastewater Fixed Discount	$0.00	$2.50	$9.00
Wastewater PENNVEST Charge Discount	$0.00	$0.88	$1.35
Reduction of DSIC*	$0.41	$0.88	$1.08
	$8.66	$12.64	$15.41
Stormwater BDP Reductions			
Stormwater Base Charge Discount	$8.55	$10.49	$10.73
	$8.55	$10.49	$10.73
Proposed Program: Total Reductions**	**$50.33**	**$67.70**	**$74.69**

*DSIC cost is a percentage of the total bill. If the total bill is reduced, the DSIC charge is also reduced, providing additional benefit.

**Calculations based on typical BDP customer with 5/8" Meter, 3kgal monthly usage, Tier 2 ERU

Table Two shows the expected burdens for BDP participants at differing income and household-size levels. The income thresholds include 50% FPL, 100% FPL, and 150% FPL; and the household-size thresholds include 2, 4, and 6-person households. This table shows how bill burdens would evolve if household incomes remained the same while bills continue to increase according to the proposed rates and discounts. Water usage is also kept the same regardless of household size.

Table Two: BDP Customer Bill Household Burdens at Various Income Levels

	FY 2025 FTY	**FY 2026** FPFTY	**FY 2027**
50% FPL Scenario			
Monthly Bill	$20.88	$28.40	$30.06
Annual Bill*	**$250.56**	**$340.84**	**$360.78**
Annual Income at 50% FPL**			
2-person Household	$10,575	$10,575	$10,575
Bill as % of Income	*2.37%*	*3.22%*	*3.41%*
4-person Household	$16,075	$16,075	$16,075
Bill as % of Income	*1.56%*	*2.12%*	*2.24%*

6-person Household	$21,575	$21,575	$21,575
Bill as % of Income	*1.16%*	*1.58%*	*1.67%*
100% FPL Scenario			
Monthly Bill	$49.94	$55.31	$60.81
Annual Bill*	**$599.23**	**$663.75**	**$729.66**
Annual Income at 100% FPL**			
2-person Household	$21,150	$21,150	$21,150
Bill as % of Income	*2.83%*	*3.14%*	*3.45%*
4-person Household	$32,150	$32,150	$32,150
Bill as % of Income	*1.86%*	*2.06%*	*2.27%*
6-person Household	$43,150	$43,150	$43,150
Bill as % of Income	*1.39%*	*1.54%*	*1.69%*
150% FPL Scenario			
Monthly Bill	$49.94	$55.31	$60.81
Annual Bill*	**$599.23**	**$663.75**	**$729.66**
Annual Income at 150% FPL**			
2-person Household	$31,725	$31,725	$31,725
Bill as % of Income	*1.89%*	*2.09%*	*2.30%*
4-person Household	$48,225	$48,225	$48,225
Bill as % of Income	*1.24%*	*1.38%*	*1.51%*
6-person Household	$64,725	$64,725	$64,725
Bill as % of Income	*0.93%*	*1.03%*	*1.13%*

*Customers at 50% FPL or below receive an additional volumetric discount on water and wastewater charges

**Assumes no change in income from 2025-2027

Q. HOW DOES THIS PROPOSAL ASSIST ELIGIBLE CUSTOMERS?

A. The bill credit will allow eligible customers to receive additional discounts to offset the transition to the new rate structure, which currently results in no payment from customers for their first 1,000 gallons of consumption per month.

Q. DOES PITTSBURGH WATER VIEW ITS PROPOSAL TO IMPLEMENT A SUBSEQUENT INCREASE EFFECTIVE JANUARY 1, 2027 AS A RATE MITIGATION PROPOSAL?

A. Yes. As explained more fully by Mr. Barca, the proposal to receive Commission approval as part of this rate case for a rate increase January 1, 2027, focusing on known debt service costs, is a rate mitigation proposal because it is focused on known costs and does not require ratepayers to bear the costs of a subsequent rate case. This is in addition to what I testified earlier about how staging the implementation of the removal of the minimum charge will help smooth out rate adjustment for customers in a more reasonable manner.

Q. HOW CAN AFFORDABILITY BE ACHIEVED ACROSS ALL RATEPAYERS?

A. In support of Mr. Barca's testimony proposing to reinstitute Pittsburgh Water's historical practice of assessing debit and credit card third party processing fees to all ratepayers, this proposal removes the responsibility of payment of these fees, that are outside of Pittsburgh Water's tariffs, from select ratepayers to instead be spread amongst all ratepayers. This is both an equitable approach and it allows Pittsburgh Water to reduce its rate request in kind. Continuing to force certain ratepayers to subsidize these external payment-processing fees is an unfair practice.

C. Additional Enhancements To Low-Income Customer Assistance Programs

Q. PLEASE DESCRIBE THE CURRENT PITTSBURGH WATER LOW-INCOME CUSTOMER ASSISTANCE PROGRAMS THAT ARE AVAILABLE.

A. Pittsburgh Water offers the following suite of programs to provide financial assistance to qualifying low-income residential customers: 1) the Bill Discount Program; 2) the Line Repair and Water Conservation Pilot Program; 3) flexible payment arrangements with Arrearage Forgiveness; 4) Winter Moratorium; 5) the Lead Service Line Replacement

Reimbursement Program; and 6) the Hardship Grant Program. Please see Pittsburgh Water Exhibit JAM-4 for the flyer of current program offerings in both English and Spanish. See also the chart below, taken from Pittsburgh Water's website, that provides a short description and the eligibility level of each program:

Assistance Program	Description	Federal Poverty Level (FPL) Eligibility
Bill Discount Program	Provides first 1,000 gallons of water/wastewater conveyance for free plus 85% reduction of the stormwater fee	≤ 200% of FPL
Line Repair and Water Conservation Pilot	Free leak repairs on exposed plumbing and installation of water saving devices	≤ 200% of FPL
Flexible Payment Arrangements with Arrearage Forgiveness	$40 forgiven monthly for each on-time payment in an active, income-based payment plan	≤ 200% of FPL
Winter Moratorium	Protection from service termination due to non-payment from December 1st through March 31st	≤ 300% of FPL
Lead Service Line Replacement Reimbursement Program	Up to 100% reimbursement of the cost of proactive lead service line replacements	≤ 300% of FPL
Hardship Grants	Up to $450 annual grants for each water and wastewater conveyance service	≤ 200% of FPL
ALCOSAN Clean Water Assistance Fund	$50 quarterly grants	≤ 150% of FPL

Q. PLEASE DESCRIBE PITTSBURGH WATER'S LOW INCOME ASSISTANCE ADVISORY COMMITTEE.

A. Pittsburgh Water continues to gain more experience with these programs through its own interactions with customers and through the feedback received as part of the Low Income Assistance Advisory Committee ("LIAAC"). Pittsburgh Water formed the LIAAC committee in March 2019. Since that time, Pittsburgh Water has facilitated twenty-six meetings of the LIAAC. In these meetings, Pittsburgh Water shares PGH2O Cares team initiatives, program enrollment data, information about its low-income customer program enhancements, descriptions of Public Affairs' efforts to promote the assistance programs, and we facilitate discussions to receive feedback and other ideas from committee members. These meetings continue to be very valuable, and I am proud of what we have been able to achieve collaboratively.

Q. HOW DID PITTSBURGH WATER EXPAND UPON ITS OUTREACH EFFORTS IN 2024?

A. In 2024, the PGH2O Cares team reached its target of 8,000 enrollees in the Bill Discount Program, which is an increase of 13% as compared to the low-income customers enrolled in 2023. The team made/received 1,767 *more* calls than in 2023 to educate and enroll eligible customers in Pittsburgh Water's assistance programs. The Line Repair and Water Conservation Pilot was well underway in 2024, with a total of 155 customers achieving a reduction of their monthly consumption by an average of 17%. Cares processed over 4,400 assistance applications from customers and was an early adopter of the Commission's Common Application Form. The Common Application Form was implemented by the Cares team for intake and was updated on our website, see https://www.pgh2o.com/residential-commercial-customers/customer-assistance-programs/apply-bill-discount-program-winter, as of November 21, 2024.

Q. IS PITTSBURGH WATER PROPOSING FURTHER ENHANCEMENTS TO ITS EXISTING LOW-INCOME CUSTOMER ASSISTANCE PROGRAMS IN THIS PROCEEDING?

A. Yes. We are proposing enhancements to our assistance programs as part of our rate request. These proposals are related to our flagship program, the Bill Discount, and our pilot program, the Line Repair and Water Conservation.

1. Proposed Program Enhancements

Q. PLEASE DESCRIBE THE ENHANCEMENTS PITTSBURGH WATER IS PROPOSING FOR ITS BILL DISCOUNT PROGRAM.

A. The first proposal is to extend the Bill Discount recertification requirement from two years to five years for customers on fixed incomes of social security and/or retirement benefits. Once confirmed through the PGH2O Cares intake procedures, receivers of such benefits would be required to notify Pittsburgh Water of any changes to their source of

income. Removing the need to re-verify eligibility of these customers twice during the five-year period will free the PGH2O Cares Analysts to engage that time in increasing enrollment in the program.

The second proposal is to automatically enroll customers into the Bill Discount Program who apply for and are granted a Hardship Grant through one of the community-based organizations partnering with Dollar Energy Fund. If a customer meets the eligibility requirement by providing the proof of income documentation required to achieve one or both grants, then they would meet the eligibility requirement of the Bill Discount Program as well. Automatic enrollment of such customers would alleviate PGH2O Cares Analysts of the task of reconnecting with the customers to avail them of the cost-saving advantages of the Bill Discount Program.

The third proposal is to apply a fixed discount for income-eligible customers in 2026 ($5.00 for water and $2.50 wastewater) to mitigate impacts on those customers that are driven by the increase in the PENNVEST Charge and proposed volumetric rates in 2026. I explored this more fully in section III.B of my testimony above.

Q. DO PITTSBURGH WATER'S PROPOSED TARIFF SUPPLEMENTS INCLUDE REVISIONS TO CAPTURE THESE CHANGES?

A. Yes. Revisions to the existing tariff language for the Bill Discount Program are included in the Tariff Supplements consistent with our proposals.

2. Permanent Line Repair and Water Conservation Program

Q. IS PITTSBURGH WATER PROPOSING TO CONVERT THE LINE REPAIR AND WATER CONSERVATION PILOT PROGRAM TO A PERMANENT LOW-INCOME ASSISTANCE PROGRAM?

A. Yes; Pittsburgh Water has witnessed how the Line Repair and Water Conservation Pilot Program has benefited our low-income customers and the conservation efforts of our

organization. Building on what I stated earlier in my testimony, a total of 188 customers have achieved repair/replacement of leaking plumbing devices and an *average* reduction in monthly consumption of 17%. Pittsburgh Water Exhibit JAM-5, "Line Repair and Water Conservation Pilot Program Data Tracking," itemizes the per-property usage reduction following program repairs. When Pilot Program funds are exhausted, Pittsburgh Water proposes to establish a permanent Line Repair and Water Conservation Program, appending it to our suite of customer assistance programs and allocating ratepayer dollars to fund the repair/replacement of leaking plumbing devices for income-qualified customers. To support this proposal, $150,000 is included in the revenue requirements for both the FPFTY and FY 2027 to continue this program after the Pilot is complete. Additionally, Pittsburgh Water proposes to increase the per-property program benefit from $1,356 to $1,600 based on contractor feedback following Pilot appointments. This new coverage limit will ensure that customers whose necessary repairs exceeded $1,356 are covered by the future, permanent program. Pittsburgh Water's contractor performing Pilot Program repairs identified a few locations where the repairs exceeded the program limit of $1,356. The contractor explained that it was important to perform all available work at these properties to achieve the usage reduction and conservation goals of the program, and they did not bill Pittsburgh Water ratepayers for these services that they performed beyond the existing program limit. Raising the per-property limit is not expected to significantly increase the $931 *average* cost per program repair.

Q. HAS PITTSBURGH WATER INCLUDED PROPOSED LANGUAGE IN ITS WATER TARIFF TO MEMORIALIZE THIS PROGRAM?

A. Yes. We are proposing a new section for the Line Repair and Water Conservation Program. The purpose of the tariff proposal is to identify for customers the availability of the program, the eligibility requirements, and the benefit available. However, the tariff language is not intended to provide all the specific details about the functioning of the program, such as the specific form and information that is required from our customers, as Pittsburgh Water needs to maintain flexibility over those details to be able to ensure that the program continues to evolve to best serve customers as we gain more experience with its functioning. All program details are, and will continue to be, made available to customers on our website and in our regular communications with them.

3. Arrearage Forgiveness Program

Q. IS PITTSBURGH WATER IN A POSITION TO ENHANCE ITS ARREARAGE FORGIVENESS PROGRAM TO FURTHER ALLEVIATE THE BURDEN OF PAST DUE CHARGES FOR INCOME QUALIFIED RESIDENTIAL CUSTOMERS?

A. Yes; prior to the launch of its current CIS in August 2022, Pittsburgh Water ensured that the logic to support enhancements to the Arrearage Forgiveness Program—namely to freeze a customer's debt and reduce the customer's account balance by 1/36th of the original pre-program balance amount with on-time payments of monthly billed charges, eliminating the balance within a three-year period—was developed as part of the system implementation. The Arrearage Forgiveness Program enhancement proposed in this rate case is to freeze a customer's debt and reduce the customer's account balance by 1/24th of the original pre-program balance amount with on time payments of monthly billed charges, eliminating the balance within a two-year period. Participants are not required to make a payment towards the pre-program, frozen arrears; however, they are required

to stay current on future bills. Customers who fail to remain current on payment of their billed charges would have the opportunity to catch-up on their missed payments of charges billed within the 24 months to achieve forgiveness of their frozen, pre-program arrears.

Q. WHICH STEPS WOULD BE NECESSARY TO ROLL OUT THESE ENHANCEMENTS TO THE ARREARAGE FORGIVENESS PROGRAM?

A. The proposed enhancements, along with the appropriate cost recovery, must be finalized in this rate case. If that occurs, Pittsburgh Water Customer Service must work with its CIS vendor to update the programming to ensure: 1) the functionality of the logic at 24 versus 36 months; and 2) that the logic does not interfere with all enhancements to the customer experience since August 2022. The next step would be to educate team members on the enhancements through training sessions to prepare them to share the new features, answer customer questions, troubleshoot any issues, and educate financially struggling customers about the enhanced program. The final step would be to work with Public Affairs and the PGH2O Cares management team to update external materials advertising the program enhancements to the public and update internal customer assistance data tracking mechanisms.

Q. DO PITTSBURGH WATER'S PROPOSED TARIFF SUPPLEMENTS INCLUDE REVISIONS TO CAPTURE THESE CHANGES?

A. Yes. Revisions to the existing tariff language for the Arrearage Forgiveness Program are included in the Tariff Supplements consistent with our proposals.

Q. ARE THERE ANY OUTSTANDING CONCERNS WITH THE IMPLEMENTATION OF THESE ENHANCEMENTS TO THE ARREARAGE FORGIVENESS PROGRAM?

A. Yes; as addressed in Mr. Barca's testimony, Pittsburgh Water would lose an estimated $280,094 in the FPFTY and $291,828 in FY 2027 with these enhancements. The loss of

significant revenue remains a concern and must be addressed through revenue recovery should we move forward with the above-described program enhancements. However, as Mr. Barca explains, Pittsburgh Water is only requesting cost recovery of $280,094 in both the FPFTY and FY 2027 in order to eliminate additional revenue requirements in FY 2027 that are not associated with debt service costs. The costs will be recorded via new Rider AFP which will be a component of Pittsburgh Water's rates though not billed separately to customers.

Q. DID THE PRIOR RATE CASE SETTLEMENT CONTEMPLATE PITTSBURGH WATER PROPOSING A COST RECOVERY METHOD TO RECOVER THE FORGIVEN ARREARAGES?

A. Yes.[6] Any costs that are included as part of the arrearage forgiveness program are costs incurred by Pittsburgh Water that Pittsburgh Water is agreeing the customer generating the cost is not required to pay. However, because Pittsburgh Water does not have shareholders and is regulated on the cash flow ratemaking methodology, Pittsburgh Water's rates do not include a return on equity that could be used as an additional funding source for a cost like this. As such, Pittsburgh Water may only recover the costs of a program like this from all ratepayers through rates. Pittsburgh Water is not proposing a separate reconcilable mechanism to recover the costs of their low income program like those available to the electric and natural gas distribution utilities in recognition of the opposition to such a mechanism received as part of its last rate case wherein Pittsburgh Water agreed to withdraw the proposal.[7]

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[6] *Pa. Pub. Util. Comm'n v. Pittsburgh Water and Sewer Auth.*, Docket Nos. R-2023-3039920 (water); R-2023-3039921 (Wastewater); R-2023-3039919 (Stormwater), Recommended Decision dated November 28, 2023. Terms and Conditions of Settlement, Section 9.E.3.f.ii at 34.

[7] *Pa. Pub. Util. Comm'n v. Pittsburgh Water and Sewer Auth.*, Docket Nos. R-2023-3039920 (water); R-2023-3039921 (Wastewater); R-2023-3039919 (Stormwater), Recommended Decision dated November 28, 2023. Terms and Conditions of Settlement, Section 9.A.3.c at 27. *See also Petition of Pittsburgh Water and Sewer Auth. to Implement a Customer Assistance Charge*, Docket No. P-2023-3040578, Petition filed May 9, 2023.

Q. HOW IS PITTSBURGH WATER PROPOSING TO RECOVER THE COSTS THAT CUSTOMERS IN THE ARREARAGE PROGRAM ARE NOT GOING TO BE REQUIRED TO PAY?

A. As explained more fully by Mr. Barca, Pittsburgh Water has included $280,094 in both the FPFTY and FY 2027 as part of its revenue requirements to cover the anticipated costs for this for this program. Without the ability to assess a separate reconcilable charge to all ratepayers for the actual costs of the program, this is the only way Pittsburgh Water can ensure that the costs will be recovered from all ratepayers. As such, the ability to recover these costs as part of Pittsburgh Water's revenue requirements is a condition on the ability of Pittsburgh Water to be able to implement the program.

D. <u>Proposal to Reduce Usage Charges Related to a Leak</u>

Q. HAS PITTSBURGH WATER OBSERVED ANY POSSIBLE IMPROVEMENTS THAT IT COULD MAKE IN THE RESOLUTION OF DISPUTES AND COMPLAINTS RELATING TO UNDETECTED LEAKS IN PROPERTIES?

A. Yes, we have. When a customer files a dispute or complaint as a reaction to receiving one or many high Pittsburgh Water bills in relation to a known leak in a property, the customer's current method of resolution is to make the leak repair and file a Leak Credit Request with ALCOSAN. If the customer is income-eligible, the leak repair can be facilitated through the Line Repair and Water Conservation Pilot Program. The review of required documentation in the ALCOSAN Leak Credit Request often takes months, and, if approved, the end result is usually a reduction of billed usage to decrease wastewater treatment (ALCOSAN) charges and wastewater conveyance (Pittsburgh Water) charges, with no reduction of water (Pittsburgh Water) charges. Pittsburgh Water is proposing to establish the following in both its Water and Wastewater Tariffs:

> Where a customer has received a bill for higher than usual consumption as a result of a leak that they had neither actual nor constructive notice of, and the customer

has provided evidence that the leak that resulted in higher than usual consumption has been repaired, in the form of:

i. An invoice from the registered plumber who made the repair(s) describing the location of the leak(s) and the repair(s) made;

ii. A letter or email from the registered plumber who made the repair(s) describing the location of the leak(s) and the repair(s) made; or

iii. A receipt for the purchase of materials along with a letter or email from the customer who made the repair(s) describing the location of the leak(s) and the repair(s) made;

and the customer has enrolled in all of the free leak alerts within the Customer Advantage Portal to receive alerts of higher than usual consumption via text and/or email, Pittsburgh Water may, in its sole discretion, reduce the initial invoice for higher than usual charges assessed under Part I of this tariff down to average monthly consumption for the customer. Average monthly consumption will be established by the average number of gallons used in the 12 months preceding the apparent beginning of the leak. Should the customer incur a second, subsequent bill for higher than usual consumption, Pittsburgh Water may, in its sole discretion, additionally reduce the subsequent invoice for higher than usual charges assessed under Part I of this tariff down to average monthly consumption for the customer. Such reduction(s) may only be applied once per incident and per customer throughout their residency within a particular property.

Q. HOW IS PITTSBURGH WATER PROPOSING TO RECOVER THE COSTS OF THE LEAK CREDIT?

A. The cost for this program is proposed to be recovered from all ratepayers through rates. As explained in Mr. Barca's testimony, Pittsburgh Water has included $662,322 in both the FPFTY and FY 2027 as part of its revenue requirements for this credit. The full amount of these revenue requirements must be approved to offer this credit.

IV. PRIOR COMMISSION APPROVED SETTLEMENT COMMITMENTS

A. Last Rate Case

1. Collection Agency

Q. HAS PITTSBURGH WATER SATISFIED ITS COMMITMENTS IN ITS LAST RATE CASE WITH RESPECT TO PITTSBURGH WATER'S COLLECTION AGENCY, PENN CREDIT CORPORATION?

A. Yes; Pittsburgh Water committed to: 1) train its third-party collection agency to affirmatively ask whether an individual wishes to seek service restoration; and 2) track

and report in this rate case the data from the collection agency, including how many warm transfers were made and what happened with those customers.

As you may see in Pittsburgh Water Exhibit JAM-6, "Debt Collection Services Training of Penn Credit Staff," we drafted a presentation to support the warm transferring to Pittsburgh Water of any active customers who our collection agency partner, Penn Credit Corporation, may encounter. I conducted this training of Penn Credit staff on November 28, 2023, and their management team committed to sharing this training with any newly hired employees assigned to Pittsburgh Water's account.

Regarding collection agency data tracking, the chart of placements versus warm transferred calls is shared with the members of the LIAAC each quarter. The number of warm transfers from Penn Credit Corporation continues to be less than 1% of the number of accounts placed for collection. The following chart provides the results of each warm transfer:

Date of Warm Transfer	Results
2/14/2024	Payment plan
2/29/2024	Payment plan
3/20/2024	Paid in full and service restored
4/26/2024	Property razed and account removed from billing
5/1/2024	Transferred payment to satisfy debt
5/4/2024	Transferred payment to satisfy debt
5/22/2024	Transferred payment to satisfy debt
6/4/2024	Explained stormwater fee
6/4/2024	Debt transferred to create final bill
6/10/2024	Lien satisfied
6/24/2024	Explained origin of debt
6/24/2024	Explained origin of debt
7/1/2024	Dispute filed and reduced charges paid in full
7/12/2024	Explained origin of debt
10/3/2024	Payment plan to restore service

2. Stormwater Outreach and Education

Q. PLEASE EXPLAIN HOW PITTSBURGH WATER HAS SATISFIED ITS STORMWATER OUTREACH AND EDUCATION COMMITMENTS IN ITS LAST RATE CASE.

A. To reinforce stormwater education tools within Pittsburgh Water, Deputy Director of Customer Service, Brittany Schacht created both a Stormwater Fee training for Customer Service as well as a Stormwater Script. These can be found as Pittsburgh Water Exhibits JAM-7 and JAM-8. The Stormwater Fee training presentation builds on the training that I provide to newly hired Customer Service employees, and it highlights three ways that customers may reduce their stormwater fee: 1) utilizing the stormwater fee credit program by application; 2) determining if they are income-eligible for the reduction of the monthly stormwater fee; and 3) applying for the rain barrel credit program by application. Additionally, Ms. Schacht's Stormwater Script contains a section addressing how to conduct the call when a customer requests their stormwater fee be reduced.

To enhance stormwater outreach and education for Pittsburgh Water customers, Pittsburgh Water met with the Pittsburgh United Our Water Table Stormwater Working Group in May and August 2024. At the first meeting, Pittsburgh Water provided an overview of the stormwater fee structure and the credit program. The Stormwater Working Group discussed programs in other cities, such as the 20-year Department of Energy and Environment program and the RiverSmart Homes Program (funded by the United States Environmental Protection Agency Chesapeake Bay Implementation Grant), that Pittsburgh Water could look to for ideas such as installing rain barrels, rain gardens, and permeable pavement for reduced cost or with a reimbursement. Pittsburgh Water noted that our primary funding stream to fund the stormwater program is our customer rates, but we are actively seeking external funding. Pittsburgh Water asked the

Stormwater Working Group to help spread the word about the Customer Assistance Programs to help income-eligible customers with their Pittsburgh Water bills, and to encourage residents to report stormwater problems to Pittsburgh Water via phone or email via our website. Our August meeting focused on our "Enhanced Stormwater Communications Plan" where we discussed our recent and planned stormwater communications. We received valuable feedback from the Stormwater Working Group, including emphasizing projects in the community's environmental justice areas, stormwater education in schools, and providing stormwater fee information in language that is easier to understand.

Pittsburgh Water's Stormwater Outreach and Education initiatives have included:

- "Save Water and Save Money with Better Stormwater Management" community workshops in May 2024 and March 2025; and
- Implementation of a $40 rain barrel credit for residential stormwater customers in 2024, with outreach that included information in bills and a postcard to customers.

Pittsburgh Water's Stormwater Outreach and Education plans for 2025 include:

- Develop a postcard for the rain barrel credit and the stormwater fee credit;
- Audit website content on stormwater to make certain that it is easy to understand;
- Continue to include stormwater fee office hours as outreach;
- Conduct two drinking water system workshops – the treatment process and ensuring quality;
- Provide Green Infrastructure Project tours for educators;
- Launch to the public this summer a program to look at opportunities to convert vacant lots to green infrastructure, with a focus on environmental justice neighborhoods; and
- Organize a Community Water Academy, in collaboration with the WaterNow Alliance and River Network, to create authentic and equitable relationships between community organizations and water authorities. The academy would launch in 2026.

Pittsburgh Water continues to look for opportunities to partner with community groups, the City of Pittsburgh, and others to help engage community members on stormwater education and projects.

3. 5% Stormwater Fee Credit for Pittsburgh Public Schools ("PPS")

Q. HAS PITTSBURGH WATER SATISFIED ITS COMMITMENT TO THE PPS REGARDING THEIR STORMWATER FEE CREDIT?

A. Pittsburgh Water calculated a 5% stormwater fee credit retroactive to January 12, 2022 for all stormwater bills issued to the school district for the city of Pittsburgh. To apply the total credit as prescribed by June 2024, Billing personnel chose the six PPS properties with the largest impervious area. Billing also notified PPS with a letter, providing the accounts that would receive these monthly credits and the total stormwater fee credits to be applied. The entire 5% stormwater fee credit was allocated to PPS accounts as of June 10, 2024.

4. Contact Center Metrics

Q. PLEASE EXPLAIN HOW CUSTOMER SERVICE AT PITTSBURGH WATER HAS SATISFIED ITS COMMITMENT TO MEET ITS INTERNAL STANDARDS FOR CONTACT CENTER METRICS.

A. Customer Service has continued to meet or exceed its internal standards for Contact Center metrics, which includes an Average Speed of Answer ("ASA") of $\leq$ 1 minute and an Abandonment Rate of $\leq$ 3%, as illustrated by the below telephony system report for the year 2024. It is important to note that the PGH2O Cares queue includes a voicemail option for customers whose calls are not answered by a live agent.

Queue Group Performance by Queue

1 - All Queues

1/1/2024 - 12/31/2024 - 00:00 - 24:00

ACD queue	ACD queue name	ACD calls offered	ACD calls handled	Average speed of answer (hh:mm:ss)	Average ACD handling time (hh:mm:ss)	Abandon %	Service level %	Answer %
P001	GENERAL	80805	78269	00:00:48	00:05:55	2.0%	85.5%	96.9%
P004	DISPATCH	34592	33729	00:00:23	00:02:17	2.5%	96.1%	97.5%
P002	COLLECTIONS	18259	17570	00:00:56	00:06:23	1.6%	82.6%	96.2%
P006	AMI 8920	12757	9615	00:00:10	00:04:22	1.2%	100.0%	75.4%
P318	LEAD HELP	11126	9353	00:00:08	00:04:13	1.2%	100.0%	84.1%
P317	PGH2O Cares	10738	9298	00:00:11	00:04:46	4.4%	100.0%	86.6%
P003	BILLING AND METERING	8562	8233	00:00:48	00:05:18	2.1%	84.9%	96.2%
P005	AMI	4279	4239	00:00:23	00:04:12	0.9%	96.0%	99.1%
P008	PERMITS	2290	2137	00:00:11	00:02:44	1.4%	100.0%	93.3%
P009	STORMWATER	1177	1121	00:00:44	00:07:42	3.1%	87.3%	95.2%
Totals		**184585**	**173564**	**00:00:37**	**00:04:55**	**2.1%**	**90.3%**	**94.0%**

5. Screening for Low-Income Customers

Q. ARE CUSTOMER SERVICE PERSONNEL SATISFYING THE COMMITMENT TO SCREEN FOR LOW-INCOME CUSTOMERS DURING TELEPHONE INTERACTIONS AND SERVICE CHANGES?

A. Yes; Deputy Director of Customer Service, Brittany Schacht, created both a Customer Assistance Program Script and Checklist to guide Customer Service Representatives on identifying and assisting low-income customers during telephone interactions. Within Pittsburgh Water Exhibits JAM-9 and JAM-10, six scenarios are developed with instructions on how to recognize and warm transfer customers to the PGH2O Cares team. These scenarios are: 1) if there is no past due balance; 2) if there is a past due balance but no active termination; 3) if there is a past due balance and an active termination notice; 4) if the water service is off; 5) if the caller is applying to become a customer; and 6) if there is high consumption.

6. Update Root Cause Analysis

Q. REGARDING THE COMMITMENT TO UPDATE THE CUSTOMER COMPLAINT ROOT CAUSE ANALYSIS, WAS THIS SETTLEMENT COMMITMENT SATISFIED?

A. Yes; Deputy Director of Customer Service Brittany Schacht updated the 2022 Root Cause Analysis. Pittsburgh Water Exhibit JAM-11, "Root Cause Analysis Update 2025" was filed with the Commission on January 21, 2025, meeting the prescribed deadline. Ms. Schacht's analysis is inclusive of Informal and Formal Complaint statistics and has yielded the following recommendations for Customer Service in 2025:

Number	Recommendation
Disputes	
1	Retrain Customer Service Representatives on high consumption and meter testing, and establish an annual training schedule.
2	Add meter testing bench tours and training to all new hire schedules.
Informal Complaints	
3	Enhance data tracking for dispute to complaint conversion rates.
4	Update payment arrangement training SOPs for Customer Service Representatives.
5	Develop training specific to identifying and properly handling disputes and complaints.
Formal Complaints	
6	Enhance data tracking for complaint types.
Informally Verified Infractions	
7	Update non-registering water meter account listing.
8	Initiate Utility Report quality assurance reviews.

7. PGH2O Cares Collaboration Efforts

Q. HAS THE CARES TEAM MADE ANY PROGRESS WITH ADDRESSING THE SETTLEMENT COMMITMENT TO INCREASE COLLABORATION WITH THE CITY AND COUNTY?

A. As reported in the 22nd LIAAC meeting, the PGH2O Cares team reached out to the City of Pittsburgh Neighborhood Planners to introduce them to the Cares team, to ask that the Planners include Cares when scheduling relevant community meetings and get-togethers, and to ask the Planners to refer community members to Cares for enrollment. The Cares team also reached out to the County of Allegheny Department of Human Services to advise them of the increase in assistance program eligibility from 150% to 200% of the

Federal Poverty Level and to ask that they include Cares in any relevant in-person events/meetings for on-site enrollment.

8. Update Household Affordability Analysis

Q. HAS PITTSBURGH WATER COMMISSIONED AN UPDATE OF THE 2019 HOUSEHOLD AFFORDABILITY ANALYSIS PER ITS SETTLEMENT COMMITMENT TO DO SO?

A. It has. Pittsburgh Water commissioned its financial advisors, Raftelis, to update the Household Affordability Analysis. The updated analysis was shared in draft form with the members of the LIAAC via email on February 8, 2025, requesting review and feedback. Feedback was received from the Pennsylvania Utility Law Project ("PULP"), additional tables were created in response, and I met with PULP on March 14, 2025 to walk through the new content. PULP raised some questions concerning the approach to affordability, and they indicated that they may have additional feedback once they are able to meet internally. No other LIAAC members submitted feedback. I then met with PULP a second time on May 13, 2025 to gain clarity for Raftelis regarding their feedback. Please see Pittsburgh Water Exhibit JAM-12, "Updated Household Affordability Analysis," for the finalized version.

9. Enhancements to Customer Assistance Programs

Q. PLEASE EXPLAIN HOW PITTSBURGH WATER HAS SATISFIED ITS COMMITMENTS TO ENHANCE ITS CUSTOMER ASSISTANCE PROGRAMS IN ITS LAST RATE CASE.

A. Pittsburgh Water enacted the following customer assistance program changes effective February 15, 2024:

a. Increased the volumetric discount from 50% to 60%;

b. Expanded the Bill Discount Program maximum eligibility to 200% of the Federal Poverty Level;

c. Increased the Arrearage Forgiveness Credit from $30 to $40; and

d. Expanded the Hardship Grant from $300 annually to two annual grants, one for water and one for wastewater, of $450 each.

10. Discussions with Low Income Assistance Advisory Committee Members

Q. PLEASE EXPLAIN HOW PITTSBURGH WATER HAS SATISFIED ITS COMMITMENTS TO DISCUSS A VARIETY OF TOPICS WITH THE LOW INCOME ASSISTANCE ADVISORY COMMITTEE ("LIAAC") MEMBERS IN ITS LAST RATE CASE.

A. Since February 14, 2024, I have engaged the LIAAC members on a variety of topics, including the following:

a. Evaluation of the potential benefits of developing a program to provide no-cost stormwater mitigation measures for customers;
b. Consideration of how enhanced technology could increase the enrollment and retention of low-income customers in Pittsburgh Water's low-income customer assistance programs; and
c. Discussion of how or whether to encourage low-income tenants to transfer service into their own name.

As I stated earlier in this testimony, Pittsburgh Water and the Pittsburgh United Our Water Table Stormwater Working Group met twice in 2024. In August 2024, their meeting focused on our "Enhanced Stormwater Communications Plan" where we discussed our recent and planned stormwater outreach and education initiatives. Regarding the consideration of technology to increase enrollment and retention, in February 2024, the PGH2O Cares team began texting residential customers who are struggling financially, encouraging them to enroll in our customer assistance programs. The initial target audience was customers who appear to be income-qualified based on their enrollment in a payment plan or one of our assistance programs, and we engaged them to work with us to complete their application for all possible assistance. Cares team text messaging efforts are shared with the LIAAC members during quarterly meetings. When we connect with a valid cellular telephone number but do not receive the desired

customer response, we send a second text message to further encourage enrollment. For those cell numbers deemed invalid, Cares personnel attempt personal telephone calls to connect with customers. The use of this campaign contributed to the attainment of our goal to enroll a total of 8,000 customers by 2024 year end.

During the LIAAC's first quarterly meeting of 2025, we held a very interactive discussion of how or whether to encourage low-income tenants to transfer service into their own name. Member feedback will be converted into a one- or two-page instructional document geared towards assisting tenants in making important water/wastewater/stormwater billing decisions. This document will be shared with the members, and future feedback will be incorporated before the document becomes customer-facing.

11. Customer Complaint Data Tracking

Q. HAS PITTSBURGH WATER SUCCESSFULLY MET ITS COMMITMENT TO TRACK SPECIFIED TYPES OF CUSTOMER COMPLAINTS?

A. Yes; customer complaints, service orders, work orders, pressure inquiries, pressure complaints, and isolation valve exercising details have been tracked either in spreadsheets created and maintained by Pittsburgh Water or in third-party applications provided by vendors who are contracted by Pittsburgh Water.

12. Meter Upgrades

Q. WHAT IS THE STATUS OF PITTSBURGH WATER'S COMMITMENT TO ACCOMPLISH 8,000 UPGRADES OF AGED WATER METERS ANNUALLY?

A. As I mentioned earlier in this testimony, Pittsburgh Water processed 9,460 meter upgrades on customer accounts in 2024, exceeding the prior rate case settlement requirement of 8,000 meter upgrades annually. First quarter 2025 meter upgrade totals

indicate a slower than previous year progression, largely due to harsher winter weather. Customer Service and Plumbing Division management are in constant communication to ensure that the annual goal of 8,000 is met or exceeded until all aged meters are replaced.

V. TARIFF REVISIONS

Q. ARE YOU SPONSORING THE PROPOSED CHANGES TO PITTSBURGH WATER'S THREE TARIFFS?

A. Yes. All of Pittsburgh Water's proposed tariff changes needed to implement the proposals of this rate case are listed on Exhibit JAM-13. The Tariff Supplements are included as the below identified exhibits to this testimony:

JAM-14	Supplement No. 16 Tariff Water – Pa. P.U.C. No. 1 [clean]
JAM-15	Supplement No. 16 Tariff Water – Pa. P.U.C. No. 1 [redlined]
JAM-16	Supplement No. 15 Tariff Wastewater – Pa. P.U.C. No. 1 [clean]
JAM-17	Supplement No. 15 Tariff Wastewater – Pa. P.U.C. No. 1 [redlined]
JAM-18	Supplement No. Tariff Storm Water – Pa. P.U.C. No. 1 [clean]
JAM-19	Supplement No. Tariff Storm Water – Pa. P.U.C. No. 1 [redlined]

These revisions include the rates proposed to be effective for March 1, 2026, as well as January 1, 2027, and include the proposed increase to the DSIC rate and the proposed rate for the PENNVEST Charge.

Q. WHAT OTHER REVISIONS ARE INCLUDED WITH THESE TARIFF SUPPLEMENTS THAT YOU HAVE DISCUSSED IN THIS TESTIMONY?

A. Other revisions include our proposals regarding the Bill Discount Program, the Arrearage Forgiveness Program, and the Line Repair and Water Conservation Program. Also included are revisions related to the Leak Credit and the E-Bill credit. I have discussed all of these proposals previously in this testimony.

Q. WHAT OTHER REVISIONS IS PITTSBURGH WATER PROPOSING TO ITS TARIFFS AS PART OF THIS RATE CASE?

A. As described in the testimony of William McFaddin, Pittsburgh Water is proposing revisions to its wastewater tariff to address break-in connections. As described in the testimony of Kate Mechler, we are also proposing some changes to our definitions regarding stormwater and the requirement to provide an additional 60 days advanced notice when normal day-to-day data maintenance regarding a customer's impervious area results in changes to the stormwater charges. As discussed by Mr. McFaddin, Pittsburgh Water is also proposing to take ownership of water service lines in the public right of way for customers with line sizes of 2" or less. Finally, we are proposing to remove two of our currently tariffed developer fees in the water and wastewater tariffs, to update our service territory listing, and to provide clarity regarding termination notices issued as part of our Lead Service Line Replacement Program.

Q. PLEASE FURTHER EXPLAIN THE PROPOSAL TO REMOVE THE TWO DEVELOPER FEES.

A. The "Developer Fee – Water and Sewer Use Review Letter" and "Developer Fee – Water and Sewer Use Review Letter – Expedited" should be removed from both the Water and Wastewater Tariffs because these letters are no longer required by the Development Services team in working with developers requesting access to Pittsburgh Water's water and/or sewer system(s). The Development Services team utilized the letter review process as a temporary measure while they were transitioning into the current permit review process.

Q. PLEASE EXPLAIN PITTSBURGH WATER'S UPDATED SERVICE TERRITORY LISTING.

A. Pittsburgh Water provides service to customers in added service territories but had inadvertently excluded listing them in our Initial Tariff effective March 1, 2019. The customers and/or mains within the referenced service territories existed prior to the Commission's assumption of jurisdiction over Pittsburgh Water. As such, the addition of these territories is intended as a tariff clean-up revision.

Q. PLEASE EXPLAIN PITTSBURGH WATER'S PROPOSED CLARIFICATIONS REGARDING THE ADVANCE NOTICES SENT REGARDING FUTURE TERMINATION OF SERVICE.

A. Pittsburgh Water proposes to modify Section C of Part III (Rules and Regulations) of its Tariff Water – Pa. P.U.C. No. 1, Page No. 40, to clarify the timeframe for advance notices for termination of service under scenarios covered by Part VI: Lead Service Line Remediation of the tariff. The Commission's Act 120 regulations require that in certain scenarios such as where the customer or property owner refuses a utility's offer to replace a customer-owned lead service line, that the utility must replace the utility-owned portion of the lead service line and "terminate service in accordance with the entity's tariff." The proposed clarifications are necessary since the Tariff does not comprehensively address the timing for termination notices in the lead service line replacement context.

Q. IS PITTSBURGH WATER PROPOSING TO CHANGE ANY OF ITS CURRENT NOTICE PROCEDURES IN THE LEAD SERVICE LINE REPLACEMENT CONTEXT?

A. Yes. A component of Pittsburgh Water's current practice is to provide a notice of termination at least 37 days in advance of a potential termination in the lead service line replacement context, regardless of whether the property is owner occupied or tenant occupied, to the service address and, if different, the mailing address. Pittsburgh Water is

planning to continue providing the 37-day advance notice of termination to properties that are tenant occupied, to the service address and, if different, the mailing address. Pittsburgh Water is proposing to discontinue its practice of providing the 37-day advance notice to properties that are owner occupied. Importantly, Pittsburgh Water will: 1) for locations where the mailing address is different from the service address, post a notice (by door-hanger) a minimum of 30 days in advance of potential terminations; 2) provide a 10-day notice of termination via mail to the service address and property owner (if different); 3) have a field liaison attempt to contact the resident and leave a termination notice three days prior to the water being shut off; and 4) have a field liaison visit the site and attempt contact with the resident on the day the water is scheduled to be shut off.

Q. WHY IS PITTSBURGH WATER PROPOSING THE CHANGE IN NOTICE PROCEDURES?

A. In its Stage 1 Compliance Plan proceeding before the Commission, Pittsburgh Water agreed to provide notice at least 37 days in advance of a potential termination, regardless of whether the property is owner occupied or tenant occupied, to the service address and, if different, the mailing address. Since then, the requirement has significantly impacted Pittsburgh Water's ability to efficiently replace lead service lines because it extends the period of time it takes Pittsburgh Water to conclude lead service line replacement work in an area. Presently, Pittsburgh Water will send a 37-day notice as a contractor deploys to a new neighborhood to locations that have not already agreed to a replacement. Often, however, during the work locations need to be added to the work order, or customers that have returned an agreement become unresponsive and the contractor is required to wait for the notice period in order to proceed with a small number of locations in that neighborhood before finishing their work. In addition, it results in increased costs, as

Pittsburgh Water's contractors may need to be redeployed to an area to complete replacement efforts. Pittsburgh Water's need to expeditiously replace lead service lines is especially important now, as additional lead service line regulatory requirements have been imposed on Pittsburgh Water, including the Commission's Act 120 regulations and the Environmental Protection Agency's Lead and Copper Rule Revisions.

Q. HOW MANY ADVANCE NOTICES FOR TERMINATIONS IN THE LEAD SERVICE LINE REPLACEMENT CONTEXT HAS PITTSBURGH WATER SENT?

A. As of May 30, 2025, Pittsburgh Water has sent 4,315 total 37-day advance notices for lead service line replacement related terminations. Only 1,701 of those notices were sent to tenant occupied properties.

Q. WHY IS THE PROPOSED CHANGE IN NOTICE PROCEDURE REASONABLE?

A. The proposed change is reasonable as it is consistent with the Commission's general regulations for termination of service to residential customers. The proposed change will also help Pittsburgh Water reach its lead service line replacement goals in an efficient and cost-effective manner.

VI. CUSTOMER NOTICE OF RATE CHANGES

Q. HOW IS PITTSBURGH WATER PROVIDING NOTICE OF THIS RATE FILING TO ITS EXISTING CUSTOMERS?

A. Pittsburgh Water will provide customers with notice of this rate filing consistent with the Commission's regulations.

Q. HOW DOES PITTSBURGH WATER PROPOSE TO PROVIDE CUSTOMER NOTICE PRIOR TO THE IMPOSITION OF NEW RATES EFFECTIVE JANUARY 1, 2027?

A. Consistent with past practice,[8] upon final approval from the Commission of Pittsburgh Water's tariffs, Pittsburgh Water will provide customers with notice through bill messaging, website content, and press release. Because the January 1, 2027 rate changes would be part of an already approved Commission process, Pittsburgh Water's customer notice process would include notification of the two-year rate changes when it implements the first year's rates with a reminder notice in the same manner when it implements the second year's rates.

Q. HOW WILL PITTSBURGH WATER PROVIDE NOTICE REGARDING CHANGES TO THE PENNVEST CHARGE ("PVC")?

A. Changes regarding the amount of the PVC will be handled in according with Pittsburgh Water's already approved tariff provisions, regarding semi-annual adjustments and an annual reconciliation, and the Commission's regulations which direct when and how customer notice should be provided. As such we have not included our projected 2027 PVC charges as part of the tariff supplements filed with this proceeding. Those would be filed and subject to approval pursuant to the reconciliation processes of the existing tariffs.

Q. WILL ADDITIONAL CUSTOMER EDUCATION BE PROVIDED PRIOR TO THE RATE STRUCTURE CHANGE ON JANUARY 1, 2027?

A. Yes. If the Commission approves the removal of the minimum charge effective January 1, 2027, then that will provide Pittsburgh Water with time to develop educational

[8] This is similar to how Pittsburgh Water noticed Commission approved "phase-in" rates that became effective on January 1, 2023. *Pa. Pub. Util. Comm'n v. Pittsburgh Water and Sewer Auth.*, Docket Nos. R-2021-3024773 (water), R-2021-3024774 (wastewater), and R-2021-3024779 (stormwater), Final Order entered November 18, 2021.

materials and other information to assist consumers in understanding the impact of the new rate structure and the changes to Pittsburgh Water low income customer assistance programs as I discussed earlier.

VII. CONCLUSION

Q. DOES THAT COMPLETE YOUR DIRECT TESTIMONY?

A. Yes; however, I do reserve the right to supplement this testimony as may be appropriate.

Docusign Envelope ID: 5891D45B-E2C4-4823-BFE7-83B476F979BB

VERIFICATION

I, Julie A. Mechling, hereby state that: (1) I am the Director of Customer Service for The Pittsburgh Water and Sewer Authority d/b/a Pittsburgh Water; (2) the facts set forth in my testimony are true and correct (or are true and correct to the best of my knowledge, information and belief); and, (3) I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa. C.S. § 4904 (relating to unsworn falsification to authorities).

Date: 6/4/25

Signed by:
Julie A. Mechling
00802B35EAA54E3...

Julie A. Mechling
Director of Customer Service
The Pittsburgh Water and Sewer Authority d/b/a Pittsburgh Water

Exhibit JAM-1

Survey Question	Average	Score of 5	Score of 4	Score of 3	Score of 2	Score of 1	No Response
Question 1	4.639788887	12020	390	157	90	985	0
Question 2	4.623003917	11268	709	371	158	770	366
Question 3	4.680280528	10930	0	365	155	670	1522
Question 4	4.407165592	8654	1514	1147	296	642	1389
Question 5	4.335062241	7652	1730	1203	376	607	2074

Call Focused (Q1 - Q3)	4.647691111
Pittsburgh Water Focused (Q4 and Q5)	4.371113917

EXHIBIT JAM-2

PGH2O PITTSBURGH WATER

Bill Date 03/13/2025

Account Number

Billing Statement for

Service Location:

Need Assistance?

Contact Center

412-255-2423 - Press Menu Option #5

Pay-By-Phone 24 hours a day / 7 days a week

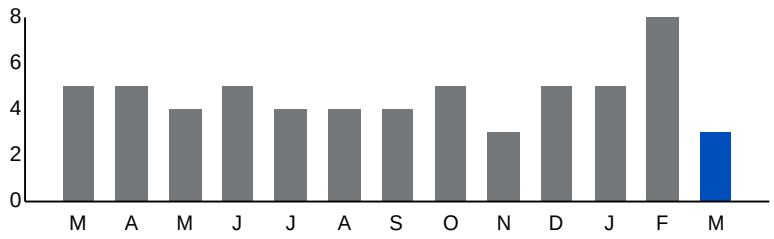
1-833-660-1366

Billing Summary

PRIOR BALANCE	-	PAYMENTS	ACCOUNT BALANCE	CURRENT CHARGES	TOTAL BALANCE
$197.50		$197.50	$0.00	$139.35	$139.35

My Water Usage

Average Monthly Usage in 1,000 Gallons



3,000
Total gallons used this period

103
Average gallons used per day

3,000 Gallons / 29 Days = 103 Average Daily Gallons

Customer Assistance Programs



Having difficulty paying your Pittsburgh Water bill?

Contact PGH2O Cares at 412-255-2457 or cares@pgh2o.com to see if you qualify for:

1. Relief from your fixed, monthly Pittsburgh Water charges plus forgiveness on past due balances if you are on an active payment plan.
2. A hardship grant to help pay past due charges.
3. Protection from shut-off in winter months.
4. Reimbursement for private side lead line replacement.

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PGH2O PITTSBURGH WATER

1200 Penn Avenue, Pittsburgh, PA 15222

MAKE CHECK OR MONEY ORDER
PAYABLE TO: PITTSBURGH WATER

Account Number

Due on
04/07/2025

TOTAL BALANCE
$139.35

A 10 annual late payment charge applies to all unpaid bills.

000009 000002957

AMOUNT ENCLOSED

2

PGH2O PITTSBURGH WATER

Thank you for being a valued customer.

0000000 04072025100000139356

My Billing Details

Previous Balance	$1 7.50
Payment - 02/21/2025 - Thank You	-$1 7.50
Current Charges	$13 .35
Total Due On or Before 04/07/2025	**$139.35**

Current Charges		**$139.35**
Pittsburgh Water		
Water Minimum		$31.54
2,000 gallons	$16.38 per 1,000 gallons	$32.76
Wastewater Conveyance Minimum		$8.25
2,000 gallons	$6.68 per 1,000 gallons	$13.36
Stormwater Fee: 0.500	10.06 per ERU	$5.03
Distribution System Improvement Charge		$4.30
Allegheny County Sanitary Authority		
Charges billed on behalf of ALCOSAN		
Sewage Treatment		$44.11

My Meter Readings

Meter #:	**Type: Residential**
Current:	6 .00 03/12/2025 Actual
Previous:	66.00 02/12/2025 Actual
Usage:	3,000.00
Days of Service:	2

PGH2O PITTSBURGH WATER

How to Pay Your Bill
Enroll in paperless billing at myaccount.pgh2o.com, sign up for Zipcheck, or mail your bill coupon with payment to:

Pittsburgh Water
1200 Penn Avenue, Pittsburgh PA 15222

Pay-By-Phone
1-833-660-1366 24 hours a day / 7 days a week

Customer Assistance Programs
If you are having difficulty paying your Pittsburgh Water bill, contact PGH2O Cares at 412-255-2457 or cares@pgh2o.com to see if you qualify for our assistance programs. pgh2o.com/CAP

Customer Service
412-255-2423 (Press Option #5) or info@pgh2o.com
Monday through Friday from 8AM to 6PM

24/7 Water/Sewer Emergency
412-255-2423 (Press Option #1)

Credits and Incentives
Pittsburgh Water offers a one-time rain barrel credit for residential customers and a stormwater credit and incentive program to encourage all customers to install stormwater solutions on their property. Learn more at pgh2o.com/stormwater-fee

Please register any questions or complaints about your bill prior to the due date. Visit pgh2o.com for more information or to view a current rate brochure.

Pittsburgh Water bills on behalf of ALCOSAN for sewage treatment. ALCOSAN's rates are separate from ours. Their rates are set annually and the amount that they charge for sewage treatment is reflected in your bill from Pittsburgh Water. If you have any questions regarding your ALCOSAN charges, please contact ALCOSAN at 412-766-6696.

Per Section A.1.a of Pittsburgh Water's Supplemental Service Conditions, "...unpaid water, wastewater and/or stormwater charges are a lien against the property."

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PAY YOUR PITTSBURGH WATER BILL WITH CASH AT PARTICIPATING STORES.

powered by KUBRA EZ-PAY

Bring this barcode with you to make a payment.
Payments are recognized immediately and are posted on the next business day.

Retailer Instructions:
1. **SCAN** the customer's barcode.
2. The register will **PROMPT** you to enter an amount.
3. **ENTER** the amount the customer wants to pay.
4. **COLLECT** the desired cash amount (and fee, if applicable).
5. When the transaction is **COMPLETE** hand customer the receipt.

A $1.49 processing fee will be added.

Walmart CVS DOLLAR GENERAL Walgreens FAMILY DOLLAR 7-ELEVEN

7 36643802000637168351 1 37204

By accepting or using this barcode to make a payment, you agree to the full terms and conditions, available at vanilladirect.com/pay/terms. After successful payment using this barcode, you may retrieve your full detailed e-receipt at vanilladirect.com/pay/ereceipt.
For Pittsburgh Water Customer Service, please call 412-255-2423 and press option 5.

Other convenient ways to pay:

Make one time payments via pgh2o.com.

Enroll in eBilling to go green, make fee free payments, and view bills and inserts via pgh2o.com.

Make payment via telephone at 412-255-2423 and press option 2.

PLEASE MAIL TO BELOW ADDRESS.

PITTSBURGH WATER
PO BOX 747055
PITTSBURGH, PA 15274-7055

MARCH 2025

PGH2O | PITTSBURGH WATER

Pittsburgh Water's 2024 **Year In Review**



Pittsburgh Water works for you—our customers.

As we reflect on yet another year of groundbreaking progress, we invite our community to revisit some of the most notable achievements we made in 2024 on behalf of our customers.

From keeping lead levels at historic lows to securing responsible investments in our infrastructure and placing an increased focus on accessibility to the safe, clean drinking water we distribute, last year was an exceptional year for us. Learn more in our 2024 Year In Review! pittsburgh-water.com/review2024

Plastic "Pirates": Young Innovators Help Prevent Plastic Pollution in Sewers & Waterways

Pittsburgh Water partners with local students to address plastic pollutants entering storm drains.

The kids are alright! Recently, the Pittsburgh Water team was excited to collaborate with the **π-Rates** (pronounced "pirates"), a team of 5th- and 6th-graders working on a solution to reduce plastic pollution entering our city's older, open-style storm drains. Taking the initiative to research the issue, propose solutions, and design a custom 3D-printed grate model to catch plastic waste before entering our sewers, the **π-Rates** went on to win first place for their project at the PA State Championship and have since advanced to an Intertantional Open Invitational Championship! Read more: pittsburgh-water.com/pi-rates2025



CUSTOMER RESOURCES



Customer Assistance Programs

We offer multiple programs designed to provide financial relief for income-qualified residential customers experiencing difficulty paying their Pittsburgh Water bill. For info and eligibility, visit **pgh2o.com/CAP** or contact our PGH2O Cares team at **cares@pgh2o.com** or **412-255-2457**.

Never Miss an Alert

Do we have your number? We call customers during water emergencies and outages, so it's important to verify that we have the best number (or numbers) to reach you! Update your contact info at **pgh2o.com/update-contact-info** or by calling Customer Service*.

Neighbors Helping Neighbors

Consider making a contribution to our Hardship Grant Program by visiting **pgh2o.com/give** today.

Enroll in eBilling

Our convenient online portal makes paying your bill quick and simple. Visit **pgh2o.com/ebilling** to enroll.

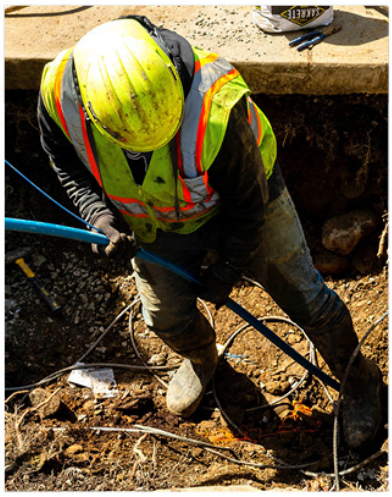
Penn Liberty Plaza 1
1200 Penn Avenue
Pittsburgh, PA 15222

Customer Service*
412.255.2423 (Press 5)
info@pgh2o.com

Emergency Dispatch*
412.255.2423 (Press 1)
Available 24/7

*translation services available

/pittsburghwater
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Pittsburgh Water's **Community Lead Response** Progress

Pittsburgh Water remains years ahead of the national average for lead service line replacements.

2024 was a busy, future-focused year for us, and it marked the eighth year of our Community Lead Response initiative. Last year alone we:

- Distributed over **2,400 free lead water test kits**
- Provided over **2,500 certified lead water filters** to affected homes
- Completed over **5,100 service line material verifications**
- Fielded over **20,000 calls** and **13,000 emails** at our Lead Help Desk
- Replaced **1,370 public** and **1,255 private lead service lines**

Read more about our 2024 progress: pittsburgh-water.com/lead2024

Don't Miss These Upcoming **Events & Meetings**!

Learn about these events and more at **pittsburgh-water.com/march2025** today.

2025 Developer's Roundtable
Wednesday, March 5, 9:00AM
@ Pittsburgh Water
1200 Penn Avenue

State of Pittsburgh Water
Community Presentation and Discussion, Vintage Center for Active Adults
Monday, March 10, 10:30AM
@ Familylinks, Inc.

Save Water, Save Money Stormwater Management Workshop
Wednesday, March 26, 5:00PM
@ The Kingsley Association

March 2025 Board Meeting
Friday, March 28, 10:00AM
@ Pittsburgh Water or via Zoom
1200 Penn Avenue

Learn more & register:

ADDITIONAL STORMWATER RESOURCES

For questions, resources, and other stormwater information, visit **pgh2o.com/stormwater** or contact Customer Service at **412-255-2423 (Option 5)** or via email at **info@pgh2o.com**.

Stormwater Fee Credit Program

Property owners may reduce their monthly stormwater fee by installing approved stormwater management systems on their property. For more information and to apply for the fee credit, visit **pgh2o.com/stormwater-fee**.

Disputing Your Stormwater Fee

If you have questions about the amount of impervious surface calculated for your property or believe there is a discrepancy, please contact Customer Service at **412-255-2423 (Option 5)**.

Fee Finder Website

Get information on your stormwater fee by using the searchable map at **pgh2o.com/stormwater-fee-finder** to view the amount of impervious surface on your property. You can then follow the calculation instructions to determine your fee amount.

Help Manage Stormwater

Flash flooding, waterway pollution, and property damage can all result from uncontrolled stormwater. Find out the role each of us can play in managing stormwater at **pgh2o.com/help-manage-stormwater**.

EXHIBIT JAM-3

Pittsburgh Water & Sewer Authority

PWSA Standard Operating Procedure

Division: Customer Service; Collections

Scope: How to Process a Write-Off of Uncollectible Charges

Job Title: Senior Collections Manager

Subject: Write-Off Process

PWSA's write-off process is intended to expunge unpaid water/wastewater conveyance/stormwater charges that have been deemed uncollectible through the below described review process. In turn, the outstanding value of bad debts reported and reviewed annually will decrease.

The Senior Collections Manager will review accounts listed in the bad debt analysis spreadsheet annually to determine which balances to write-off. This spreadsheet can be found on the shared drive via this path: S:\Customer Service\COLLECTIONS TERM LETTER FOLDER\Bad Debt Analysis.

The following are the criteria that each account must meet to be considered for a write-off. Alternatively, a write-off may be processed if no billing system records exist to support the collection of the charges.

1. Water service to the property is shut at the curb;
2. Vacant, as confirmed through a) PWSA personnel visiting the property to verify vacancy, and b) PWSA regularly obtaining actual meter readings indicating no water consumption at the property;
3. Unpaid charges aged over four years;
4. Length of time overall that the charges have been outstanding;
5. Amount of outstanding water/wastewater conveyance/stormwater charges;
6. Low property value as compared to the total outstanding charges due to PWSA; and
7. Unpaid taxes per the Allegheny County Real Estate portal (http://www2.alleghenycounty.us/RealEstate/Search.aspx).

Pittsburgh Water & Sewer Authority

8. Additionally, unpaid charges on inactive accounts that have a) aged over 4 years, and b) are equal to or less than the cost of a lien filing fee may be written-off.

The Senior Collections Manager will email a spreadsheet of accounts meeting the above write-off criteria to PWSA's Director of Finance and Controller, requesting approval to move forward with the write-off process.

Once approved, the Senior Collections Manger will process write-off adjustments in PWSA's Customer Information System. If the amount of any one write-off adjustment is over $25,000, the Senior Collections Manager will send an adjustment approval request to the Director of Customer Service. Each write-off adjustment will display a comment indicating "Uncollectible Debt" so that all PWSA personnel will know that the charges met the review criteria.

The write-off spreadsheet will be saved on the shared drive via the below path so as to be easily retrieved for audit purposes: S:\Customer Service\COLLECTIONS TERM LETTER FOLDER\Bad Debt Analysis.

EXHIBIT JAM-4

PGH2O
Pittsburgh
Water & Sewer
Authority

Customer Assistance Programs

Which are right for you?

Join the thousands of customers who are receiving assistance with their monthly bills!

Our Customer Assistance Programs provide financial relief for income-qualified, residential customers who are having difficulty paying their PGH2O bill. Many options are available, and no one should have to choose between paying their water/wastewater bill and other essential expenses. To discuss which options are right for you, please call our PGH2O Cares team at **412-255-2457** or e-mail the team at **cares@pgh2o.com**.

Assistance Program	Description	Federal Poverty Level (FPL) Eligibility	How to Apply
Bill Discount Program	Provides first 1,000 gallons of water/wastewater conveyance for free plus 85% reduction of the stormwater fee	≤ 200% of FPL	**Visit: pgh2o.com/CAP** **Call: 412-255-2457**
Line Repair and Water Conservation Pilot	Free leak repairs on exposed plumbing and installation of water saving devices	≤ 200% of FPL	
Flexible Payment Arrangements with Arrearage Forgiveness	$40 forgiven monthly for each on-time payment in an active, income-based payment plan	≤ 200% of FPL	
Winter Moratorium	Protection from service termination due to non-payment from December 1st through March 31st	≤ 300% of FPL	
Lead Service Line Replacement Reimbursement Program	Up to 100% reimbursement of the cost of proactive lead service line replacements	lead.pgh2o.com/LeadReimbursement	
Hardship Grants	Up to $450 annual grants for each water and wastewater conveyance service	≤ 200% of FPL	**Contact a Community Based Organization partnering with Dollar Energy Fund by visiting:** **hardshiptools.org/AgencyFinder**
ALCOSAN Clean Water Assistance Fund	$45 quarterly grants	≤ 150% of FPL	

2024 Annual Income Guidelines

People in Household	150% FPIG	200% FPIG	300% FPIG
1	$22,590	$30,120	$45,180
2	$30,660	$40,880	$61,320
3	$38,730	$51,640	$77,460
4	$46,800	$62,400	$93,600
5	$54,870	$73,160	$109,740
6	$62,940	$83,920	$125,880
7	$71,010	$94,680	$142,020
8	$79,080	$105,440	$158,160
For each additional household member add:	$8,070	$10,760	$16,140



Penn Liberty Plaza 1
1200 Penn Avenue
Pittsburgh, PA 15222
www.pgh2o.com

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T 412.255.2423 (Choose Option #5)
F 412.255.2475
info@pgh2o.com

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PGH2O
Pittsburgh
Water & Sewer
Authority

Programas de asistencia al cliente

¿Cuáles son los adecuados para usted?

¡Únase a los miles de clientes que reciben ayuda con sus facturas mensuales!

Nuestros programas de asistencia al cliente brindan alivio financiero a los clientes residenciales que reúnen los requisitos de ingresos y tienen dificultades para pagar su factura de PGH2O. Hay muchas opciones disponibles y nadie debería tener que elegir entre pagar su factura de agua/aguas residuales y otros gastos esenciales. Para analizar qué opciones se adaptan mejor a sus necesidades, llame a nuestro equipo PGH2O Cares al **412-255-2457** o envíe un correo electrónico al equipo a **cares@pgh2o.com**.

Programa de asistencia	Descripción	Elegibilidad basada en el Nivel Federal de Pobreza (FPL)	Cómo solicitar
Programa de descuento de facturas	Proporciona los primeros 1,000 galones de transporte de agua/aguas residuales de forma gratuita, además de una reducción del 85 % de la tarifa de aguas pluviales	≤200 % del FPL	**Visite pgh2o.com/CAP** **Llame al 412-255-2457**
Programa piloto de reparación de líneas y conservación de agua	Reparación gratuita de fugas en tuberías expuestas e instalación de dispositivos de ahorro de agua	≤200 % del FPL	
Acuerdos de pago flexibles con condonación de atrasos	$40 mensuales condonados por cada pago a tiempo en un plan de pago activo basado en los ingresos	≤200 % del FPL	
Moratoria de invierno	Protección contra la cancelación del servicio por falta de pago desde el 1 de diciembre hasta el 31 de marzo	≤300 % del FPL	
Programa de reembolso del reemplazo de la línea de servicio de plomo	Reembolso de hasta el 100 % del costo de los reemplazos proactivos de la línea de servicio de plomo	lead.pgh2o.com/LeadReimbursement	
Subsidios por dificultades económicas	Subvenciones anuales de hasta $450 para cada servicio de transporte de agua y aguas residuales	≤200 % del FPL	**Póngase en contacto con una organización comunitaria asociada con Dollar Energy Fund al visitar:** **hardshiptools.org/AgencyFinder**
Fondo de Asistencia de Agua Limpia de ALCOSAN	Subvenciones trimestrales de $45	≤150 % del FPL	

Pautas de ingresos anuales para 2024

Personas en el hogar	150 % FPIG	200 % FPIG	300 % FPIG
1	$22,590	$30,120	$45,180
2	$30,660	$40,880	$61,320
3	$38,730	$51,640	$77,460
4	$46,800	$62,400	$93,600
5	$54,870	$73,160	$109,740
6	$62,940	$83,920	$125,880
7	$71,010	$94,680	$142,020
8	$79,080	$105,440	$158,160
Por cada miembro adicional del hogar agregue:	$8,070	$10,760	$16,140



Penn Liberty Plaza 1
1200 Penn Avenue
Pittsburgh, PA 15222
www.pgh2o.com

Servicio al cliente•
T 412-255-2423 (Elija la opción 5)
F 412-255-2475
info@pgh2o.com

Despacho de emergencias•
T 412-255-2423 (Elija la opción 1)
Disponible las 24 horas del día, los 7 días de la semana

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EXHIBIT JAM-5

Appointment Date	Completed	Association to Property	Occupancy	FPIG Level	Enrolled in Customer Advantage Portal	$Parts	$Labor	Total Cost	Same Period Last Year	Prior 12-Month Average	Post 12-Month Average	First Read Post Repair	Prior 12-Month Billed Amount	Post 12-Month Billed Amount	First Bill Post Repair	Prior 12-Month Payments	Post 12-Month Payments	Prior 12-Month Number of Payments	Post 12-Month Number of Payments	Prior 12-Month Delinquent Amount	Delinquent Amount	Post 12-Month Delinquent Amount
9/7/2023	Yes	OWNER	1	92.51%	NO	$375.00	$765.00	$1,140.00	10	13		7	$4,799.60		$215.05	$50.00		1		$4,799.60	$9,595.19	
9/7/2023	Yes	OWNER	2	146.04%	NO	$25.00	$765.00	$790.00	3	6		3	$2,954.08		$40.89	$1,937.22		8			$1,190.99	
9/15/2023	Yes	TENANT	2	85.19%	NO	$591.00	$765.00	$1,356.00	9	8		8	$3,054.77		$242.05	$1,706.93		7		$3,054.77	$3,838.21	
9/13/2023	Yes	TENANT	4	24.00%	NO	$507.00	$802.00	$1,309.00	6	5		2	$1,728.90		$124.64	$573.70		3		$1,728.90	$2,314.45	
9/18/2023	Yes	OWNER	6	32.77%	YES	$35.00	$358.00	$393.00	7	7		6	$2,324.28		$145.79	$640.00		3		$2,324.28	$2,777.64	
9/19/2023	Yes	OWNER	6	77.46%	NO	$522.00	$765.00	$1,287.00		9		5	$1,096.99		$146.41	$586.30		3			$510.69	
9/19/2023	Yes	OWNER	4	64.00%	NO	$230.00	$839.00	$1,069.00	10	6		3	$1,996.36		$82.64	$55.22		1		$1,996.36	$2,384.32	
9/25/2023	Yes	TENANT	2	91.28%	NO	$265.00	$691.00	$956.00		12		1	$398.88		$18.88	$-		0		$398.88	$398.88	
9/25/2023	Yes	OWNER	2	121.70%	NO	$443.00	$913.00	$1,356.00		8		2	$1,084.71		$50.76	$345.53		2			$439.18	
9/29/2023	Yes	OWNER	1	74.32%	NO	$517.00	$839.00	$1,356.00	2	6		2	$1,908.61		$50.76	$420.53		3		$420.53	$1,524.36	
10/3/2023	Yes	OWNER	1	123.46%	NO	$578.00	$765.00	$1,343.00	6	6		5	$1,995.85		$146.41	$2,014.58		13		$-	$-	
10/6/2023	Yes	TENANT	4	24.00%	NO	$220.00	$654.00	$874.00	4	5		5	$1,291.41		$103.48	$460.00		4		$1,291.41	$1,487.01	
10/6/2023	Yes	OWNER	3	62.75%	NO	$304.00	$664.00	$968.00	6	7		7	$1,607.06		$145.79	$382.30		3		$1,607.06	$5,671.62	
10/9/2023	Yes	OWNER	2	139.96%	NO	$320.00	$543.00	$863.00	1	1		2	$762.25		$50.17	$768.44		16		$-	$-	
10/18/2023	Yes	OWNER	1	148.15%	YES	$412.00	$944.00	$1,356.00	2	3		2			$50.76							
10/17/2023	Yes	OWNER	2	94.08%	YES	$320.00	$661.00	$981.00	2	6		3	$2,260.78		$82.64	$1,548.66		10			$1,224.86	
10/19/2023	Yes	TENANT	1	65.84%	NO	$517.00	$839.00	$1,356.00	4	6		6	$2,251.86		$178.29	$1,743.10		14			$669.18	
10/19/2023	Yes	OWNER	1	24.86%	NO	$443.00	$913.00	$1,356.00	2	2		2	$539.52		$40.04	$331.16		7			$-	
10/23/2023	Yes	OWNER	1	103.05%	YES	$390.00	$543.00	$933.00	1	1		1	$287.24		$18.88	$123.13		5			$-	
10/23/2023	Yes	TENANT	8	17.23%	NO	$298.00	$543.00	$841.00	n/a	7		7	$564.89		$145.79	$-		0			$-	
10/23/2023	Yes	OWNER	5	74.45%	YES	$458.00	$898.00	$1,356.00	5	5		7	$2,358.39		$210.17	$2,228.94		10			$317.63	
10/23/2023	Yes	OWNER	1	132.19%	NO	$320.00	$533.00	$853.00	3	2		2	$149.79		$15.37	$901.87		2			$59.26	
10/25/2023	Yes	OWNER	3	135.16%	NO	$590.00	$766.00	$1,356.00	4	1		1	$922.88		$30.44	$371.14		2			$732.45	
10/30/2023	Yes	TENANT	3	96.54%	YES	$495.00	$580.00	$1,075.00	4	7		3	$1,980.02		$82.64	$1,598.88		11			$488.74	
10/31/2023	Yes	OWNER	2	139.92%	NO	$221.00	$654.00	$875.00	3	3		2	$630.75		$40.64	$485.58		11			$-	
11/3/2023	Yes	OWNER	1	76.54%	NO	$526.00	$830.00	$1,356.00	22	18		1	$7,189.19		$20.84	$220.00		1			$15,192.04	
11/6/2023	Yes	TENANT	3	135.16%	NO	$76.00	$395.00	$471.00	11	8		6	$3,142.11		$179.48	$1,675.00		4			$10,258.14	
11/3/2023	Yes	TENANT	4	17.57%	NO	$527.00	$790.00	$1,317.00	11	13		17	$3,361.70		$357.31	$2,292.00		7			$1,437.39	
11/6/2023	Yes	OWNER	1	74.07%	NO	$472.00	$884.00	$1,356.00	n/a	8		0	$2,065.29		$8.47	$-		0			$2,001.40	
11/10/2023	Yes	OWNER	1	75.23%	NO	$544.00	$812.00	$1,356.00	5	7		7	$2,546.73		$210.17	$55.50		2			$1,442.45	
11/14/2023	Yes	Owner	1	57.61%	NO	$690.00	$666.00	$1,356.00	1	1		1	$617.39		$19.74	$660.16		8			$-	
11/20/2023	Yes	OWNER	1	107.00%	NO	$520.00	$836.00	$1,356.00	0	1		1	$670.06		$19.85	$700.79		12			$-	
11/21/2023	Yes	OWNER	7	77.94%	YES	$565.00	$791.00	$1,356.00	6	7		8	$2,643.01		$243.60	$2,163.61		9			$896.94	
11/22/2023	Yes	OWNER	3	0.00%	YES	$65.00	$247.00	$312.00	5	5		3	$1,733.85		$84.61	$1,496.00		12			$863.42	
12/5/2023	Yes	OWNER	1	143.79%	NO	$390.00	$839.00	$1,229.00	2	3		1	$982.14		$19.15	$637.56		12			$310.72	
12/5/2023	Yes	OWNER	4	50.52%	NO	$648.00	$708.00	$1,356.00	5	5		4	$1,086.59		$65.61	$618.79		7			$684.01	
12/6/2023	Yes	OWNER	1	74.81%	NO	$50.00	$469.00	$519.00	2	6		3	$2,053.43		$84.34	$648.46		9			$1,001.54	
12/11/2023	Yes	OWNER	21	145.19%	NO	$639.oo	$717.00	$1,356.00	n/a	5		3	$614.87		$30.74	$599.50		7			$-	
12/14/2023	Yes	OWNER	6	148.15%	YES	$665.00	$592.00	$1,356.00	2	3		3	$1,299.08		$85.35	$1,338.56		12			$-	
12/15/2023	Yes	OWNER				$378.00	$938.00	$1,316.00	6	6		8	$2,044.66		$248.41	$1,008.00		4			$2,160.00	
12/15/2023	Yes	TENANT	9	0.00%	NO	$396.00	$518.00	$1,013.00	2	5		1	$1,944.75		$19.85	$830.74		6			$1,098.10	
12/19/2023	Yes	TENANT	10	116.80%	NO	$265.00	$432.00	$697.00	6	5		3	$1,760.82		$85.77	$1,127.41		8			$746.20	
12/20/2023	Yes	OWNER	8	121.52%	NO	$295.00	$395.00	$690.00	2	8		2	$3,181.01		$52.74	$1,385.91		10			$1,764.73	
12/22/2023	Yes	OWNER	1	92.92%	NO	$445.00	$911.00	$1,356.00	1	1		1	$435.61		$21.44	$482.08		12		$-	$-	
12/22/2023	Yes	TENANT	8	96.40%	NO	$395.00	$469.00	$864.00	3	5		3	$2,199.64		$86.54	$1,164.58		11			$1,164.41	
12/27/2023	Yes	OWNER	1	86.42%	NO	$145.00	$543.00	$688.00	2	2		2	$673.81		$52.74	$503.40		12			$6.69	
1/2/2024	Yes	OWNER	8	69.37%	NO	$665.00	$691.00	$1,356.00	1	2		1	$759.10		$20.13	$3,221.66		4		$-	$484.86	
1/8/2024	Yes	OWNER	2	133.87%%	NO	$169.00	$543.00	$712.00	4	5		4	$2,352.12		$117.97	$1,443.73		8			$1,069.89	
1/9/2024	Yes	OWNER	2	146.04%	NO	$340.00	$913.00	$1,253.00	4	4		1	$1,344.10		$20.13	$350.00		5			$1,198.55	
1/15/2024	Yes	OWNER	1	131.69%	NO	$245.00	$679.00	$924.00	5	3		2	$1,280.93		$54.78	$718.63		5			$2,772.86	
1/18/2024	Yes	OWNER	1	87.90%	NO	$617.00	$326.00	$943.00	2	2		2	$610.86		$53.29	$558.36		12			$-	
1/19/2024	Yes	OWNER	2	63.23%	n/a	$76.00	$321.00	$397.00	4	5		5	$1,300.02		$157.01	$1,263.26		12			$-	
1/22/2024	Yes	OWNER	1	90.37%	n/a	$445.00	$691.00	$1,136.00	0	1		5	$402.86		$161.42	$170.35		8			$84.30	
1/22/2024	Yes	TENANT	9	38.78%	NO	$6.00	$284.00	$290.00	n/a	21		6	$3,297.55		$126.74	$188.84		1			$8,849.95	
1/30/2024	Yes	OWNER	2	137%	NO	$526.00	$654.00	$1,180.00	2	3		1	$714.53		$45.03	$619.75		12			$100.52	
1/31/2024	Yes	OWNER	1	148%	n/a	$31.00	$284.00	$315.00	1	3		0	$695.59		$9.32	$484.03		11			$130.84	
2/1/2024	Yes	OWNER	1	108%	n/a	$139.00	$395.00	$534.00	5	7		3	$2,517.09		$92.69	$1,250.00		6			$1,258.53	
2/5/2024	Yes	TENANT	2	55.36%	NO	$752.00	$613.00	$1,365.00	0	1		2	$218.22		$54.91	$102.35		4			$-	
2/15/2024	Yes	OWNER	1	98.77%	NO	$64.00	$469.00	$533.00	4	7		4	$2,633.78		$126.52	$1,343.23		10			$1,993.87	
2/15/2024	Yes	OWNER	4	51.84%	NO	$395.00	$691.00	$1,086.00	1	2		1	$933.92		$20.46	$664.45		7			$253.11	
2/15/2024	Yes	TENANT	1	109.47%	n/a	$390.00	$839.00	$1,229.00	5	3		6	$967.62		$197.23	$466.79		3			$1,303.57	
2/15/2024	Yes	TENANT	3	63.72%	n/a	$470.00	$543.00	$1,013.00	n/a	11		5	$3,241.75		$161.88	$-		0			$4,091.43	
2/16/2024	Yes	OWNER	1	72.75%	NO	$97.00	$395.00	$492.00	4	4		3	$1,222.12		$91.17	$1,360.43		14			$54.71	
2/20/2024	Yes	OWNER	1	111.55%	NO	$295.00	$1,061.00	$1,356.00	1	3		1	$908.18		$20.46	$508.58		5			$2,016.07	
2/21/2024	Yes	TENANT	1	111.55%	NO	$517.00	$839.00	$1,356.00	9	8		1	$2,756.92		$19.70	$2,783.00		11			$207.63	
2/23/2024	Yes	OWNER	2	98.77%	YES	$279.00	$812.00	$1,081.00	n/a	3		2	$570.85		$55.05	$201.69		3			$1,144.10	
2/27/2024	Yes	OWNER	2	182.00%	n/a	$96.00	$395.00	$491.00	4	9		4	$3,780.02		$128.04	$1,978.02		10			$2,019.72	
3/1/2024	Yes	OWNER	2	52.43%	n/a	$480.00	$876.00	$1,356.00	2	2		1	$522.21		$20.46	$213.00		5			$321.09	
3/4/2024	Yes	OWNER	1	79.68%	NO	$74.00	$99.00	$173.00	7	9		14	$2,336.68		$291.14	$793.00		4			$4,877.20	
3/14/2024	Yes	OWNER	1	90.62%	n/a	$839.00	$517.00	$1,356.00	1	1		1	$368.02		$8.56	$369.07		10			$-	
3/22/2024	Yes	OWNER	1	111.87%	NO	$-	$173.00	$173.00	4	8		3	$3,117.44		$90.41	$3,059.06		15			$1,695.29	

3/26/2024	Yes	TENANT	1	43.03%	n/a	$60.00	$210.00	$270.00	4	3		3	$1,401.59		$61.35	$1,727.05		4			$2,070.27	
3/26/2024	Yes	OWNER	2	105.68%	N/A	$580.00	$405.00	$985.00	9	14		7	$5,150.57		$234.09	$-		0			$15,332.80	
3/29/2024	Yes	OWNER	2	70.45%	YES	$50.00	$210.00	$260.00	5	3		3	$1,163.99		$91.17	$907.25		4			$4,852.67	
4/1/2024	Yes	OWNER	1	133.07	YES	$203.00	$654.00	$857.00	4	6		6	$2,263.05		$197.23	$1,207.94		8			$1,270.00	
4/5/2024	Yes	OWNER	3	116.19%	YES	$365.00	$617.00	$982.00	9	9		7	$3,652.85		$232.57	$2,900.00		7			$9,307.64	
4/5/2024	Yes	OWNER	2	122.29%	YES	$241.00	$543.00	$784.00	2	3		3	$1,127.05		$91.17	$793.10		12			$373.99	
4/9/2024	Yes	OWNER				$347.00	$358.00	$705.00	3	3		4	$826.01		$82.92	$202.56		6			$773.92	
4/10/2024	Yes	TENANT	3	92.95%	YES	$142.00	$469.00	$611.00	n/a	4		7	$735.74		$145.39	$-		0			$-	
4/11/2024	Yes	OWNER	1	0%%	NO	$75.00	$395.00	$470.00	2	7		4	$3,133.09		$82.92	$-		0			$4,282.08	
4/11/2024	Yes	TENANT	3	24.14%	NO	$45.00	$247.00	$292.00	n/a	16		3	$3,768.66		$62.11	$1,007.30		2			$3,592.93	
4/19/2024	Yes	OWNER	1	98.77%	NO	$535.00	$654.00	$1,189.00	1	2		2	$587.49		$55.81	$2,279.43		2			$517.90	
4/23/2024	Yes	OWNER				$591.00	$765.00	$1,356.00	13	27		5	$10,605.65		$161.12	$825.00		2			$24,477.48	
4/29/2024	Yes	OWNER				$221.00	$716.00	$937.00	4	1		1	$354.91		$21.98	$433.00		11			$-	
5/2/2024	Yes	OWNER				$635.00	$506.00	$1,141.00	2	7		1	$3,028.04		$20.46	$1,573.21		7			$2,501.28	
5/3/2024	Yes	OWNER	6	142.99%	YES	$398.00	$666.00	$1,163.00	0	2		13	$1,257.64		$958.56	$1,247.75		4			$2,515.08	
5/7/2024	Yes	TENANT	5	0.00%	NO	$294.00	$506.00	$800.00	n/a	22		28	$7,723.46		$974.99	$500.00		1			$7,223.46	
5/13/2024	Yes	OWNER	1	135.46%	YES	$425.00	$592.00	$1,116.00	3	3		5	$862.97		$161.88	$583.99		7			$327.18	
5/15/2024	Yes	Owner	1	93.78%	NO	$39.00	$148.00	$286.00	1	1		1	$387.26		$2.46	$205.50		11			$126.14	
5/17/2024	Yes	OWNER	1	67.73%	NO	$408.36	$716.00	$1,124.36	5	4		3	$1,446.09		$90.41	$1,064.00		4			$1,811.94	
5/22/2024	Yes	OWNER	2	0.00%	NO	$545.00	$592.00	$1,236.00	0	9		2	$3,840.43		$41.28	$-		0			$6,853.62	
5/22/2024	Yes	TENANT	2	155.93%	N/A	$665.00	$592.00	$1,356.00	n/a	5		3	$1,502.10		$91.17	$2,062.00		5			$335.16	
5/30/2024	Yes	OWNER	2	117.42%	NO	$395.00	$592.00	$1,086.00	4	3		2	$1,537.75		$55.81	$1,485.78		12			$90.20	
6/3/2024	Yes	OWNER	4	69.23%	NO	$240.00	$580.00	$820.00	71	49		24	$19,752.71		$833.58	$2,692.00		12			$73,041.27	
6/5/2024	Yes	OWNER	4	76.92%	YES	$540.00	$617.00	$1,157.00	3	4		2	$1,847.90		$55.81	$661.96		4			$2,385.00	
6/5/2024	Yes	OWNER	1	47.81%	NO	$40.00	$247.00	$287.00	4	8		10	$1,967.09		$207.85	$472.00		5			$2,283.70	
6/10/2024	Yes	OWNER	1	124.77%	NO	$195.00	$543.00	$738.00	0	1		1	$227.93		$20.46	$174.00		4			$-	
6/12/2024	Yes	OWNER	4	46.15%	YES	$-	$99.00	$99.00	5	5		5	$1,898.10		$161.88	$200.00		2			$4,569.68	
6/13/2024	Yes	TENANT	1	0.00%	NO	$65.00	$284.00	$349.00	n/a	6		2	$1,461.92		$41.28	$897.13		6			$663.62	
6/13/2024	Yes	OWNER	1	128.29%	NO	$125.00	$259.00	$384.00	3	8		13	$3,341.06		$444.70	$883.57		7			$3,054.06	
6/13/2024	Yes	OWNER	4	40.54%	NO	$295.00	$1,061.00	$1,356.00	2	3		6	$871.03		$124.57	$-		0			$1,406.91	
6/17/2024	Yes	TENANT	2	52.84%	NO	$546.00	$691.00	$1,237.00	n/a	8		3	$1,160.79		$90.41	$-		0			$1,218.80	
6/21/2024	Yes	OWNER	1	121.12%	NO	$389.00	$617.00	$1,006.00	2	6		2	$2,141.52		$55.05	$1,574.97		11			$620.70	
6/27/2024	Yes	OWNER	3	92.95%	YES	$390.00	$654.00	$1,044.00	2	3		3	$116,498.00		$91.17	$1,267.62		8			$752.20	
7/9/2024	Yes	OWNER	4	67.31%	YES	$391.00	$691.00	$1,082.00	6	13		18	$5,017.85		$620.70	$1,391.99		16			$5,074.30	
7/11/2024	Yes	OWNER	1	191.24%	NO	$189.68	$469.00	$658.68	1	7		1	$3,442.78		$9.32	$830.74		8			$2,725.29	
7/16/2024	Yes	OWNER	2	176.13%	NO	$-	$469.00	$469.00	2	1		2	$951.28		$103.59	$1,005.36		11			$-	
7/17/2024	Yes	TENANT	0	0	YES	$369.00	$987.00	$1,356.00	2	3		2	$1,304.45		$55.81	$1,130.11		12			$267.40	
7/23/2024	Yes	OWNER	2	93.93%	NO	$265.00	$543.00	$808.00	13	7		4	$2,685.66		$128.04	$3,855.60		8			$570.34	
7/29/2024	Yes	TENANT	4	27.46%	NO	$13.47	$210.00	$223.47	1	17		11	$4,689.82		$228.68	$-		0			$4,769.92	
7/29/2024	Yes	OWNER	1	54.18%	NO	$591.00	$765.00	$1,356.00	4	4		5	$1,290.68		$161.88	$900.00		1			$949.72	
7/30/2024	Yes	OWNER	1	78.57%	NO	$136.00	$432.00	$568.00	2	1		2	$411.30		$55.81	$361.59		11			$-	
8/1/2024	Yes	TENANT	3	57.92%	NO	$339.00	$469.00	$808.00	n/a	4		5	$1,076.93		$160.74	$915.00		2			$950.51	
8/2/2024	Yes	OWNER	1	72.91%	NO	$443.00	$913.00	$1,356.00	0	1		1	$469.09		$19.70	$512.11		10			$-	
8/6/2024	Yes	OWNER	1	158.09%	YES	$54.00	$247.00	$301.00	1	3		0	$1,400.29		$9.32	$837.23		5			$694.31	
8/6/2024	Yes	TENANT	3	144.81%	NO	$27.00	$247.00	$274.00	6	13		3										
8/12/2024	Yes	TENANT	1	65.34%	NO	$739.00	$617.00	$1,356.00	n/a	8		2										
8/14/2024	Yes	OWNER	2	115.62%	YES	$178.00	$506.00	$684.00	3	7		2										
8/15/2024	Yes	OWNER	3	48.27%	YES	$-	$358.00	$358.00	4	8		5										
8/20/2024	Yes	OWNER	2	0.00%	NO	$369.00	$987.00	$1,356.00	1	3		1										
8/22/2024	Yes	TENANT	4	41.19%	YES	$415.00	$543.00	$958.00	3	7		1										
8/22/2024	Yes	OWNER	1	115.22%	NO	$412.00	$617.00	$1,029.00	2	2		2										
8/23/2024	Yes	OWNER	4	46.15%	NO	$198.00	$395.00	$593.00	4	9		4										
8/27/2024	Yes	OWNER	3	116.19%	NO	$59.64	$395.00	$454.64	2	4		3										
8/27/2024	Yes	OWNER	1	193.39%	NO	$10.00	$247.00	$257.00	2	3		1										
8/28/2024	Yes	OWNER	1	118.80%	YES	$345.00	$506.00	$851.00	3	3		2										
9/23/2024	Yes	TENANT	1	79.68%	NO	$591.00	$765.00	$1,356.00	1	6		0										
9/5/2024	Yes	OWNER	4	0.00%	YES	$591.00	$765.00	$1,356.00	7	8		6										
9/6/2024	Yes	OWNER	1	108.90%	NO	$239.00	$506.00	$745.00	n/a	4		2										
9/12/2024	Yes	OWNER	3	111.54%	YES	$517.00	$839.00	$1,356.00	3	8		3										
9/13/2024	Yes	OWNER	2	73.86%	NO	$74.00	$99.00	$173.00	1	5		3										
9/13/2024	Yes	TENANT	2	117.42%	NO	$517.00	$839.00	$1,356.00	2	4		1										
9/18/2024	Yes	OWNER	2	152.85%	NO	$480.00	$876.00	$1,356.00	5	3		3										
9/19/2024	Yes	OWNER	3	69.71%	NO	$426.00	$543.00	$969.00	7	9		7										
9/20/2024	Yes	OWNER	3	145.92%	NO	$478.00	$691.00	$1,169.00	2	3		2										
9/23/2024	Yes	OWNER	1	102.88%	NO	$378.00	$802.00	$1,180.00	3	6		3										
10/3/2024	Yes	OWNER	5	98.41%	NO	$365.00	$728.00	$1,093.00	6	7		8										
10/7/2024	Yes	OWNER	2	54.95%	NO	$295.00	$1,061.00	$1,356.00	3	3		3										
10/11/2024	Yes	OWNER	1	55.78%	YES	$27.00	$321.00	$348.00	2	3		2										
10/16/2024	Yes	OWNER	5	127.94%	NO	$198.00	$432.00	$630.00	4	7		5										
10/17/2024	Yes	OWNER	2	105.68%	NO	$145.00	$395.00	$540.00	4	6		9										
10/25/2024	Yes	OWNER	1	127.50%	NO	$42.00	$321.00	$363.00	1	5		2										
10/28/2024	Yes	OWNER	1	136.81%	NO	$591.00	$765.00	$1,356.00	2	4		1										
10/31/2024	Yes	OWNER	1	122.47%	NO	$591.00	$765.00	$1,356.00	3	2		1										
11/4/2024	Yes	OWNER	2	55.30%	NO	$348.00	$543.00	$891.00	5	6		4										
11/4/2024	Yes	OWNER	2	181.12%	NO	$172.00	$469.00	$641.00	3	4		3										
11/15/2024	Yes	OWNER	1	75.86%	NO	$470.58	$543.00	$1,013.58	1	2		1										
11/18/2024	Yes	OWNER	1	0%	NO	$362.24	$765.00	$1,127.24	0	1		0										

11/21/2024	Yes	OWNER		109.20%	NO	$565.00	$691.00	$1,256.00	6	15		9										
11/25/2024	Yes	OWNER	2	109.20%	NO	$443.00	$913.00	$1,356.00	2	4		1										
12/2/2024	Yes	OWNER	1	66.53%%	NO	$219.00	$543.00	$762.00	5	4		1										
12/9/2024	Yes	OWNER	1	87.65%%	NO	$118.00	$432.00	$550.00	2	2		3										
12/13/2024	Yes	OWNER	1	79.68%%	NO	$196.00	$469.00	$665.00	3	4		5										
12/5/2024	Yes	OWNER	1	76.89%%	NO	$32.00	$321.00	$353.00	3	4		3										
12/10/2024	Yes	TENANT	5	15.37%	NO	$85.00	$469.00	$554.00	4	10		6										
12/11/2024	Yes	OWNER	1	119.52%	NO	$57.72	$395.00	$452.72	2	7		2										
12/12/2024	Yes	OWNER	2	117.42%	NO	$534.00	$691.00	$1,225.00	3	3		1										
12/20/2024	Yes	OWNER	1	151.39%	NO	$591.00	$765.00	$1,356.00	0	2		1										
1/3/2025	Yes	OWNER	1	83.98%	NO				0	6		3										
1/28/2025	Yes	OWNER	5	0.00%	NO				1	2		2										
1/8/2025	Yes	OWNER	1	170.52%	YES				2	2		5										
1/10/2025	Yes	OWNER	1	143.43	NO				2	3		2										
1/14/2025	Yes	TENANT	2	0.00%	NO				3	3		2										
1/16/2025	Yes	OWNER	1	126.93%	NO				6	7		7										
1/16/2025		TENANT	2	0.00%	NO				n/a	10		16										
1/23/2025	Yes	TENANT	1	74.50%	NO				7	7		6										
1/23/2025	Yes	OWNER																				
1/28/2025		OWNER	1	94.82	YES																	
1/28/2025	Yes	OWNER	1	147.97%	NO																	
1/30/2025	Yes	OWNER	1	130.68%	NO																	
1/31/2025	Yes	OWNER	2	123.29%	YES																	
2/7/2025	Yes	TENANT	3	17.16	NO																	
2/11/2024	Yes	OWNER	2	102.13	NO																	
2/12/2025	Yes	OWNER	1	111.55%	NO																	
2/18/2025		OWNER	1	103.82	NO																	
2/19/2025																						
2/21/2025		OWNER	1	167.33%	NO																	
2/24/2025																						
2/25/2025	Yes	OWNER	2	96.4	YES																	
2/25/2025		OWNER	2	68.09%	NO																	
2/27/2025		OWNER	3	135.08	NO																	
2/27/2025		OWNER	1	103.36%	YES																	
3/3/2025		OWNER	1	92.01%	YES																	
3/11/2025		OWNER	5	0.00%	NO																	
3/14/2025		OWNER	1	69.01%	NO																	
3/18/2025		OWNER	1	132.96%	NO																	
3/21/2025		OWNER	2	51.06%	NO																	
3/21/2025		OWNER	1	139.63	YES																	

EXHIBIT JAM-6

Pittsburgh Water Exhibit JAM-6

Debt Collection Services for PWSA

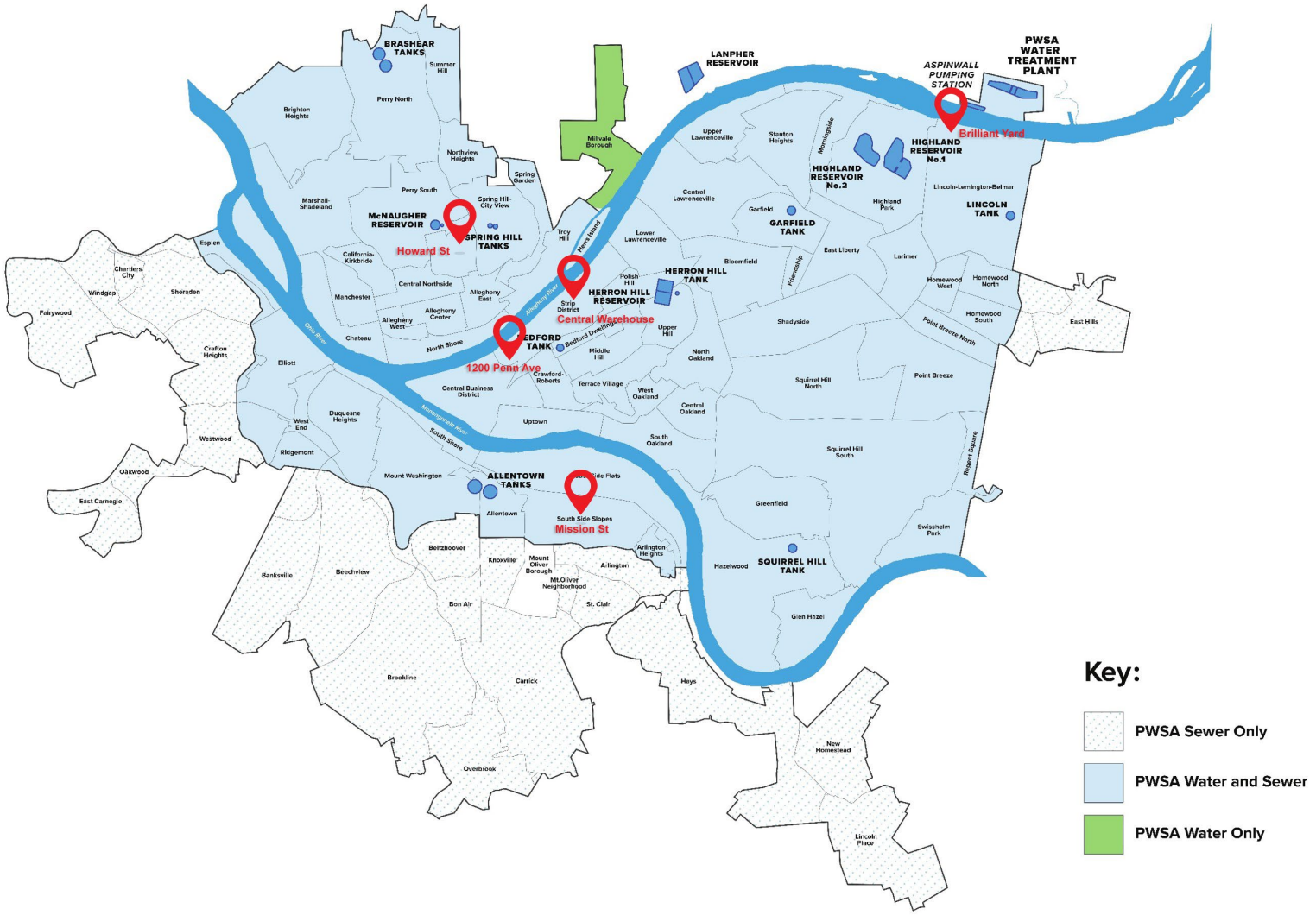
Training of Penn Credit Staff

November 28, 2023



The Pittsburgh Water and Sewer Authority (PWSA)

- Largest combined water, sewer and stormwater authority in Pennsylvania, serving a population of approximately 500,000 throughout the city of Pittsburgh and surrounding areas
- Over 116K accounts
- Drinking water system with ≈ 965 miles of water lines, 5 reservoirs, and 11 tanks with a water storage capacity of 455M gallons
- Sewer system with ≈ 1,200 miles of sewer lines and more than 25K storm drains



PWSA provides service to over 116,000 accounts and over 500,000 people.

PWSA's Low-Income Residential Customer Assistance Programs

- **Bill Discount Program (BDP)**: 100% discount of the minimum monthly water and wastewater conveyance charges *and* an 85% discount of the monthly stormwater charges for customers who are ≤ 150% of FPL
    - BDP +: 50% discount of the volumetric water and wastewater conveyance charges for customers who are ≤ 50% of FPL
- **PWSA Hardship Grant**: Up to $300/year,; no sincere effort of payment or past due balance required
- **Payment Arrangements with Arrearage Forgiveness**: Debt forgiveness program for BDP enrollees on a payment arrangement; provides debt reductions of $30 each month
- **Winter Moratorium**: December 1st through March 31st for customers who are ≤ 300% of FPL
- **Lead Line Replacement Reimbursement Program**
- **New! Line Repair and Water Conservation Pilot Program**



Pennsylvania Public Utility Commission Regulations

The Pennsylvania Public Utility Commission (PA PUC) regulates the many essential utility services that Commonwealth residents and businesses rely on every day. The PA PUC works to ensure safe and reliable electric, natural gas, pipeline, motor carrier, rail, telecommunications, water and wastewater service at reasonable rates.

The mission of the PA PUC is to balance the needs of consumers and utilities; ensure safe and reliable utility service at reasonable rates; protect the public interest; educate consumers to make independent and informed utility choices; further economic development; and foster new technologies and competitive markets in an environmentally sound manner.

PWSA's Expectations

By providing this training *prior to* the launch of any debt collection services, PWSA is working to ensure that the expectations in the following slides are met by Penn Credit Staff on these topics:

1. Protections for Residential Customers
2. Protections for Tenants
3. PWSA Scripting Questions

Protections for Residential Customers

Protections are afforded to Residential customers with unpaid charges as required under 52 Pa. Code Chapter 56:

- Payment Arrangements – Income based payment plans
- Medical – Someone in the property has a serious illness
- PFA – Someone in the property has a Protection from Abuse Order
- Confirmed Low Income – Someone in the property is struggling financially and is living at ≤ 150% of the Federal Poverty Level

Protections for Tenants

Procedures that must be followed under DSLPA, 66 Pa.C.S. Ch. 15 Subch. B for situations during debt collection when a previously unidentified tenant is reached on a terminated/inactive landlord account:

- If PWSA is notified that a premise is occupied by a tenant after the water service was terminated, and the tenant did not receive the proper notification at least 30-days prior to the termination date, PWSA will promptly restore the water service and reissue the termination with the proper 37-day and 30-day notifications.

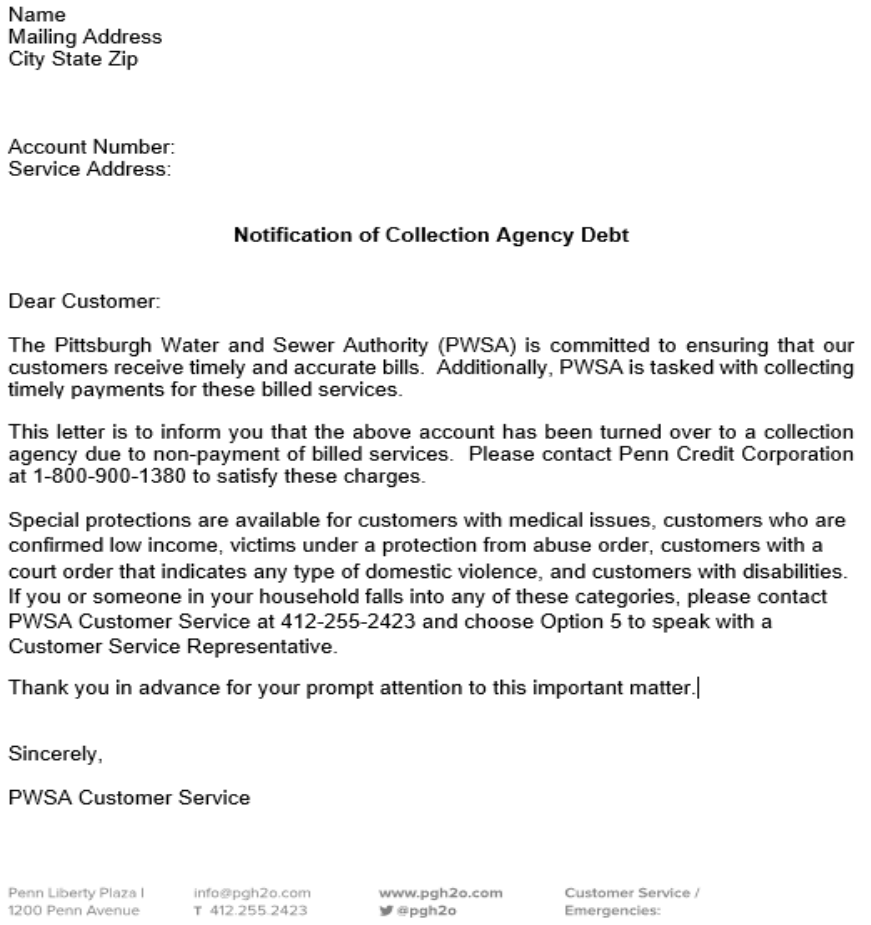
Scripting for Calls With PWSA Customers

The following questions are to be asked in every collection call, mailing, or email interaction to determine if the individual resides in a property that is serviced by PWSA, is eligible for a medical, has a PFA or other court order that is indicative of domestic violence, or are confirmed low income. **All such individuals must be warm transferred to PWSA Customer Service personnel by calling 412-255-2423 and choosing Option #5.**

- Are you the owner or tenant of the property?
- Can you please verify your mailing address?
- Do you currently have a serious illness?
- Do you currently have an active Protection From Abuse Order?
- Are you struggling financially and are living at ≤ 150% of the Federal Poverty Level?

Communication from PWSA

- PWSA will mail a letter to delinquent customers advising them that their account has been turned over to Penn Credit for collection of their debt. Said letter will include the customer's name, mailing address, service address, account number, the collection agency's contact information, as well as language similar to that of PWSA termination notices regarding medicals, Protection From Abuse orders, and confirmed low-income customers, advising affected customers to call PWSA directly. PWSA will also insert the customer assistance program and domestic violence victims' flyers into these mailings.



Name
Mailing Address
City State Zip

Account Number:
Service Address:

Notification of Collection Agency Debt

Dear Customer:

The Pittsburgh Water and Sewer Authority (PWSA) is committed to ensuring that our customers receive timely and accurate bills. Additionally, PWSA is tasked with collecting timely payments for these billed services.

This letter is to inform you that the above account has been turned over to a collection agency due to non-payment of billed services. Please contact Penn Credit Corporation at 1-800-900-1380 to satisfy these charges.

Special protections are available for customers with medical issues, customers who are confirmed low income, victims under a protection from abuse order, customers with a court order that indicates any type of domestic violence, and customers with disabilities. If you or someone in your household falls into any of these categories, please contact PWSA Customer Service at 412-255-2423 and choose Option 5 to speak with a Customer Service Representative.

Thank you in advance for your prompt attention to this important matter.

Sincerely,

PWSA Customer Service

Penn Liberty Plaza I
1200 Penn Avenue

info@pgh2o.com
T 412.255.2423

www.pgh2o.com
@pgh2o

Customer Service /
Emergencies:



Thank you

Questions or comments about this presentation?

Please contact Sharon Gottschalk, Senior Collections Manager at 412-606-4789 or via email to sgottschalk@pgh2o.com.

EXHIBIT JAM-7

Stormwater Fee

Customer Service Training

January 22, 2024

Why is Stormwater Management Important?

- PWSA's sewer system is overwhelmed by the increasing intensity and frequency of rain. With so much pavement and hard surfaces throughout the city of Pittsburgh, all this rain has nowhere to go.
- Due to combined sanitary and stormwater systems, sewage frequently overflows into our rivers, floods our streets, and backs-up into basements throughout Pittsburgh. The previous method of sending wastewater and stormwater through one pipe is no longer manageable.

What is PWSA Doing to Address the Problem?

- Building new stormwater gray infrastructure that captures the rain where it falls, allowing it to soak into the ground and slowly release back into the sewer system
- Planting green infrastructure that on the surface mimics nature, using vegetation, engineered soils, and open channels that retain water



Stormwater Fee

- A stormwater fee, approved by the Pennsylvania Public Utility Commission, became effective on January 12, 2022.
- Historically, PWSA funded stormwater services from wastewater rates that were based on water usage. As part of implementing the stormwater fee, wastewater conveyance rates initially decreased.
- Revenues generated from the stormwater fee, based on imperious area, directly fund costs related to stormwater management within the city of Pittsburgh. These costs include:
    1. Construction of new stormwater projects, including gray and green infrastructure;
    2. Operation and maintenance of our stormwater system, such as cleaning of catch basins and maintaining rain gardens; and
    3. Meeting regulatory requirements to improve source water quality.



What is Impervious Area (IA)?

Impervious area is the measurement of any manmade or altered surface, resulting from parcel improvements, which prevents or limits the infiltration of water into the ground, including:

- Private streets
- Driveways
- Concrete pads
- Structures
- Mobile homes
- Private sidewalks/walkways
- Parking lots
- Patios and decks
- Athletic facilities and artificial turf
- Pool (above ground and in-ground)
- Compacted earth or clay
- Gravel that is installed and maintained for vehicle travel or parking
- Trails (paved or unpaved)
- Retaining walls
- Foundation walls
- Rubble from razed buildings

How is the Stormwater Fee Calculated?

The stormwater fee is based on a property's hard, or impervious, surfaces. In Pittsburgh, the average amount of impervious surface on a residential property is approximately 1,650 square feet. This is equal to one Equivalent Residential Unit (ERU) of impervious area. ERUs are the unit of measure for calculating the stormwater fee. The method of ERU calculation is accepted as the industry standard for determining a stormwater fee.

There are two bill classes:

- Single Family Residential (SFR) – individual residential dwellings
  - Subdivided into tiers to determine the flat fee stormwater charge
- Non-Single Family Residential (NSFR) – all parcels not included in the SFR category
  - Charged a flat fee based on the number of ERUs assigned to the property
  - ERU's are rounded to the next whole number when calculating for NSFR accounts

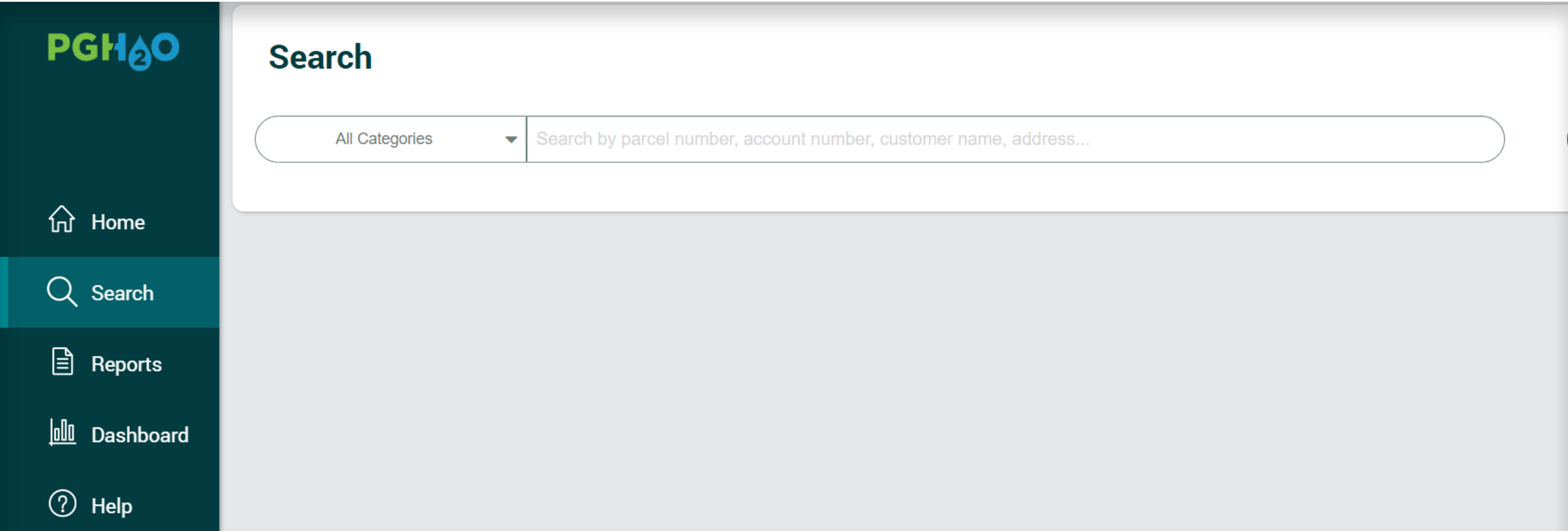
Stormwater Monthly Fees	ERUs	2022	2023
Residential Tier 1: (>= 400 sf to < 1,015 sf)	0.5	$2.98	$3.98
***Residential Tier 2**: (>= 1,015 sf to < 2,710 sf)	1	$5.96	$7.95
Residential Tier 3: (>= 2,710 sf)	2	$11.92	$15.90
Non-residential	Per ERU	$5.96	$7.95
*70% of all Pittsburgh homeowners fall into Residential Tier 2.			

Stormwater Billing Information System (SBIS)

https://stormwater.pwsa.local/

Accounts may be located by:

- Parcel Identification Number (PIN)
- Account Number (Cogsdale Premise, which can be searched in SAP)
- Customer Name
- Service Address



Aggregation and Parsing

Aggregation is the process of linking parcels together that share common ownership and boundaries.

- Allows customer to receive a single bill instead of a separate bill for each parcel.
- Aggregated parcels have one “Parent” parcel, and all other associated parcels are referred to as “Child” parcels.

Parsing is used to manually override the default distribution of the stormwater fee among multiple accounts.

- Allows customer who owns a stormwater-only parcel that is adjacent to an account with water service to receive a single bill for both parcels.



Stormwater Inquiries

1. Customer questions the square footage calculation of their impervious surface.
    - Add a Stormwater Lock to the account and email the inquiry details to stormwaterfee@pgh2o.com.
2. Customer requests to parse, or change, the percentages of the fee as billed among their aggregated parcels.
    - Add a Stormwater Lock to the account and email the inquiry details to billing_ops@pgh2o.com.
3. Customer requests to aggregate adjacent parcels so that they are billed together on one account.
    - Add a Stormwater Lock to the account and email the inquiry details to billing_ops@pgh2o.com.
4. Customer questions or challenges the amount of the fee that they are being billed or any other billing-related anomalies (duplicate accounts, accounts aggregated with different owners, etc.), and your research of their account in SAP and SBIS does not explain the charges.
    - Add a Stormwater Lock to the account and email the inquiry details to billing_ops@pgh2o.com.

Stormwater Disputes

1. Customer refuses to pay their billed stormwater fee.
    - Create a Dispute Clarification Case and email PUCCompliance@pgh2o.com.
2. Customer challenges the legality of the stormwater fee.
    - Create a Dispute Clarification Case and email PUCCompliance@pgh2o.com.

Stormwater Credits

PWSA has developed a system of stormwater fee credits for customers who take steps to reduce the stormwater runoff leaving their property and entering PWSA's stormwater management system and natural receiving waters.

Residential customers can reduce their stormwater fee by 50% by controlling ¾ of an inch of runoff from their property's impervious surface.

Non-residential customers can reduce their stormwater fee by 45% or 60% by capturing and detaining runoff on-site, meeting or exceeding 2016 or 2019 development standards in place in Pittsburgh.



Stormwater Credit Applications

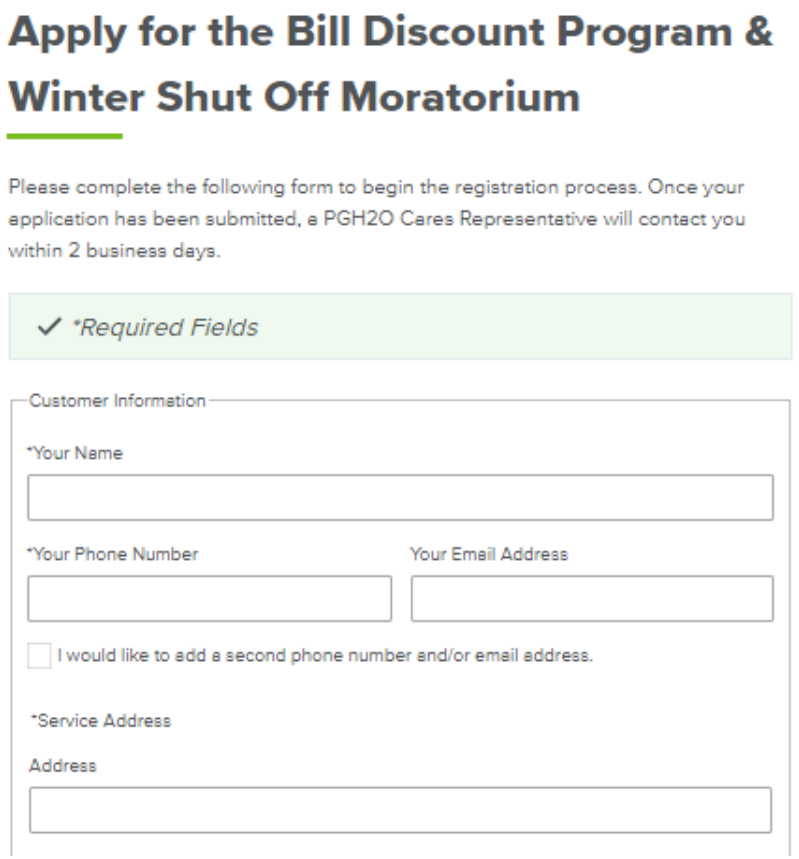
The Stormwater Fee Credit Application and Approval process consists of the following steps:

1. The property owner completes and submits a Stormwater Fee Credit Application form with all required documentation.
    a. This application is available on PWSA's website.
2. PWSA Engineering will evaluate the application within three days to determine if the customer has qualified for a stormwater fee credit.
    a. Review times may be extended up to 30 days based on the volume of applications received by PWSA.
3. The applicant will be notified by letter and/or email of the determination of the stormwater fee credit.
4. If approved by PWSA Engineering, credits and/or billing adjustments will be processed by PWSA Billing, and property owners must submit a renewal form with a copy of the property owner's written inspection report of their Best (Stormwater) Management Practice every three years.



Additional Stormwater Credits

- Customers who are ≤ 200% of the Federal Poverty Level and are enrolled in PWSA's Bill Discount Program will also receive an 85% reduction of their monthly stormwater fees.
  - Warm transfer customers to the PGH2O Cares team at 412-255-2457 or encourage them to visit pgh2o.com/cap to complete an application to enroll in PWSA's Customer Assistance Programs.
- Customers practicing green stormwater mitigation, specifically those with rain barrels, are eligible to receive a $40 credit.



Apply for the Bill Discount Program & Winter Shut Off Moratorium

Please complete the following form to begin the registration process. Once your application has been submitted, a PGH2O Cares Representative will contact you within 2 business days.

✓ *Required Fields

Customer Information

*Your Name

*Your Phone Number

Your Email Address

I would like to add a second phone number and/or email address.

*Service Address

Address



Rain Barrels

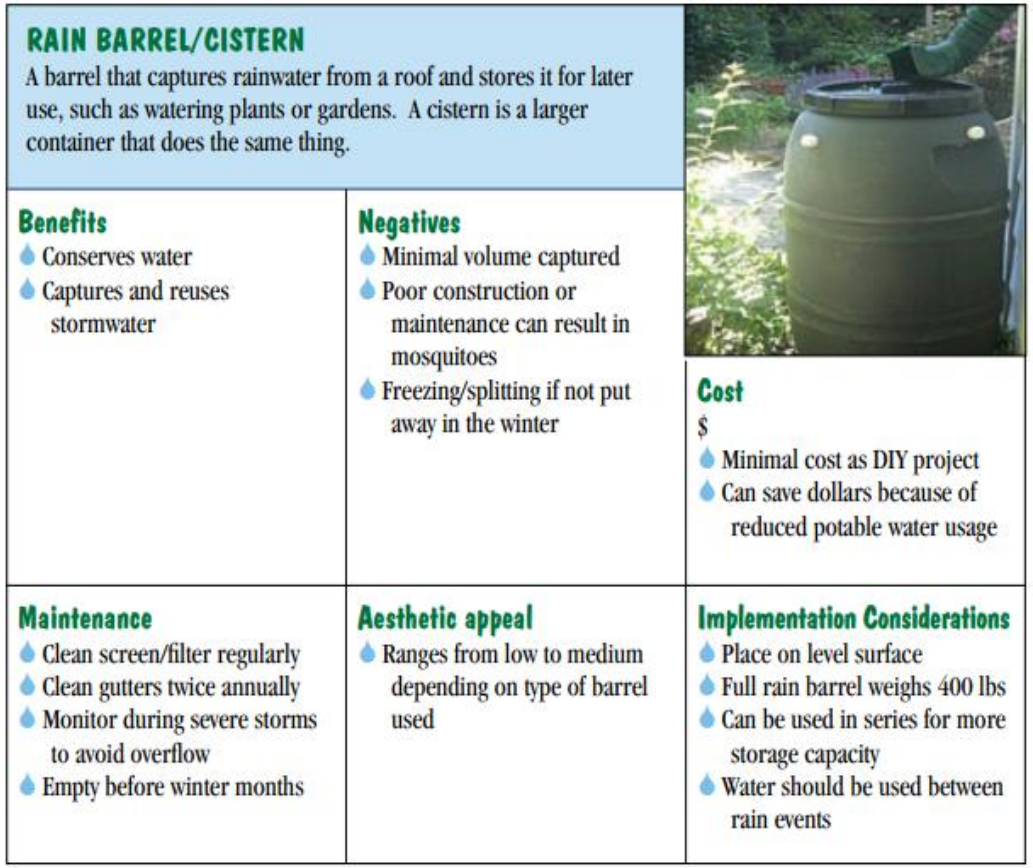
- Effective February 15, 2024, PWSA will offer residential customers a one-time $40 credit for an installed rain barrel of at least 50 gallons that captures and detains roof run-off on their property.
- One rain barrel per parcel will be awarded this credit, regardless of the number of accounts that are associated with the parcel.
    - This includes future accounts created due to ownership changes and/or tenant changes.

Rain Barrel Credit Applications

The Rain Barrel Credit Application and Approval process consists of the following steps:

1. The property owner completes and submits a Rain Barrel Credit Application form with all required documentation, including a photo of the rain barrel installed at the identifiable address and in good working order (i.e., properly connected to collect roof stormwater).
    a. This application is available on PWSA's website.
2. PWSA Engineering will evaluate the application within 7-14 days to determine if the customer qualifies for a stormwater fee credit.
    a. Review times may be extended up to 30 days based on the volume of applications received by PWSA.
3. The applicant will be notified by email and/or telephone of the determination of the rain barrel fee credit.

If approved by PWSA Engineering, the $40 credit will be processed by PWSA Billing and will appear on the next billing statement.



RAIN BARREL/CISTERN

A barrel that captures rainwater from a roof and stores it for later use, such as watering plants or gardens. A cistern is a larger container that does the same thing.

Benefits
- Conserves water
- Captures and reuses stormwater

Negatives
- Minimal volume captured
- Poor construction or maintenance can result in mosquitoes
- Freezing/splitting if not put away in the winter

Cost

$
- Minimal cost as DIY project
- Can save dollars because of reduced potable water usage

Maintenance
- Clean screen/filter regularly
- Clean gutters twice annually
- Monitor during severe storms to avoid overflow
- Empty before winter months

Aesthetic appeal
- Ranges from low to medium depending on type of barrel used

Implementation Considerations
- Place on level surface
- Full rain barrel weighs 400 lbs
- Can be used in series for more storage capacity
- Water should be used between rain events

Source: https://www.accdpa.org/files/resources/30/southwestern-pa-homeowners-guide-to-stormwater.pdf



Thank you

Questions or comments about this Stormwater Fee Training? Please contact Brittany Schacht, Deputy Director of Customer Service at bschacht2@pgh2o.com.

Questions

EXHIBIT JAM-8

PGH2O | PITTSBURGH WATER

Stormwater Script

CSR:	Thank you for calling Pittsburgh Water. My name is <CSR Name>. May I have your account number or service address?
Customer:	Provides information.
CSR:	Thank you; and may I have you name and affiliation to the property?
Customer:	Provides information.
CSR:	Thank you <use customer's name>. Can you confirm the telephone number associated with the account? [Update any customer contact information that does not match the SAP account.]
Customer:	Provides information.
CSR:	Thank you; and how can I assist you today?
Customer:	Indicates they are calling about the stormwater fee.
CSR:	I can certainly assist you with this today. May I place you on a brief hold to review your account? [Review SBIS.]

IF THE CUSTOMER QUESTIONS THE STORMWATER FEE:

CSR:	Thank you for your patience. After reviewing your account, I was able to confirm that you are being billed <provide amount> monthly for the stormwater fee based on impervious, or hard, surface area on the property of <provide square feet of IA>.
Customer:	Questions what the fee is.
CSR:	The stormwater fee became effective on January 12, 2022. Historically, revenues generated from the stormwater fee, which is based on impervious area, directly fund costs related to stormwater management within the city of Pittsburgh, which include construction of new stormwater projects, operation and maintenance of our stormwater system, and meeting regulatory requirements to improve source water quality.
Customer:	Questions how the fee is calculated.
CSR:	The stormwater fee is based on a property's impervious, or hard, surfaces. The average amount of impervious surface of all residential properties in the city of Pittsburgh is 1,650 square feet. This square footage is equal to one Equivalent Residential Unit or ERU. ERU's are the unit of measure for calculating the stormwater fee. After reviewing your account, I was able to confirm that you are being billed for <number of ERUs> ERUs. You are able to visit our website, www.pgh2o.com, to obtain additional information regarding the stormwater fee and information about adopting green stormwater mitigation. Some mitigation measures will allow you to earn a credit, such as installing a rain barrel.

PGH2O | PITTSBURGH WATER

IF THE CUSTOMER DISAGREES WITH THE ERU CALCULATION:

CSR: Thank you for holding. After reviewing your account, I was able to confirm that your property has an impervious area of < provide square feet of IA >. This translates to <number of ERUs> ERUs for billing purposes.

Customer: Provides a response.

CSR: This calculation is based on aerial imagery. Please visit our website at pgh2o.com and search "fee finder" to use our impervious area mapping tool. Does the light blue shaded area of your property appear to represent all hard surfaces?

Customer: Provides a response.

CSR: Please contact stormwaterfee@pgh2o.com to challenge the square footage calculation of the impervious area on your property.

IF THE CUSTOMER WANTS THE CHARGES REDUCED:

CSR: Thank you for holding. After reviewing your account, I was able to confirm that you are being billed <provide amount> monthly for the stormwater fee.

Customer: Asks how to reduce the charge.

CSR: There is the ability to receive a reduction of these charges by reducing the stormwater runoff leaving your property. You may install a best management practice (BMP) such as a rain garden or dry well/cistern. Additionally, as of February 15, 2024, you may also receive a one-time $40 credit for an installed rain barrel of at least 50 gallons that captures and detains roof run off from your property.

Customer: Asks how to apply for the credits.

CSR: Both the Stormwater Fee Credit Application and the Rain Barrel Credit Application are available on our website. Pittsburgh Water's Engineering department will evaluate the application to determine if you have qualified for a credit. Once a decision is made you will be notified via letter or email. If your application is approved, a credit will be automatically applied to your account.

OR

Customer: Customer indicates that they cannot afford the stormwater fee.

CSR: I am sorry to hear that this fee is causing a financial hardship. PWSA does offer bill discounts for those customers who are at or below 200% of the Federal Poverty Level. Iyou are enrolled in Pittsburgh Water's Bill Discount Program, you will receive an 85% reduction of the monthly stormwater fees *in addition to* the reduction of water and wastewater conveyance minimums. If you are interested in Pittsburgh Water Bill Discount Program, I can transfer you to the PGH2O Cares department to complete the application over the phone.

[Transfers Call]

CLOSING

CSR:	Is there anything else that I can assist you with today?
Customer:	Confirms that they have no additional questions.
CSR:	Great; and are you satisfied with the information that I have provided today? [Document customer's response in an Interaction Record.] There is a brief 5-question survey at the end of this call, and we would appreciate your feedback. Again, my name is <CSR Name>, and thank you for calling Pittsburgh Water.

EXHIBIT JAM-9

PGH2O | PITTSBURGH WATER

Customer Assistance Program Call Script

CSR:	Thank you for calling Pittsburgh Water. My name is <CSR Name>. May I have your account number or service address?
Customer:	Provides information.
CSR:	Thank you; and may I have you name and affiliation to the property?
Customer:	Provides information.
CSR:	Thank you <use customer's name>. Can you confirm the telephone number associated with the account? [Update any customer contact information that does not match the SAP account.]
Customer:	Provides information.
CSR:	Thank you; and how can I assist you today?
Customer:	Indicates they are calling about Customer Assistance Programs.
CSR:	I can certainly assist you with this today. May I place you on a brief hold to review your account? [Review SAP.]

IF THE CUSTOMER DOES NOT HAVE A PAST DUE BALANCE:

CSR:	Thank you for your patience. After reviewing your account, I was able to confirm that your account is current, and your monthly bill is <$amount of bill due>.
Customer:	Explains that they cannot afford the monthly bill.
CSR:	PWSA does offer several Customer Assistance Programs which include a monthly bill discount that could lower your monthly bill. Are you interested in hearing more about our Customer Assistance Programs?
Customer:	Answers yes.

[Provide direct dial number of 412-255-2457 in case the call is disconnected and transfer the call to PGH2O Cares.]

PGH2O | PITTSBURGH WATER

IF THE CUSTOMER HAS A PAST DUE BALANCE BUT NO ACTIVE TERMINATION:

CSR: Thank you for your patience. After reviewing your account, I was able to confirm that you have an account balance of ($amount of account balance).

Customer: Explains that they cannot afford to pay the balance.

[Account indicates that the customer is eligible for a payment arrangement.]

CSR: You can establish an income-based payment arrangement on the balance. This would allow you to pay your current monthly bill, in addition to a monthly installment amount, over a period of time. Would you like to set up a payment arrangement at this time?

Customer: Answers yes.

CSR: Can you provide your gross monthly income and number of occupants at the property?

Customer: Provides a response that calculates to a 60-month payment arrangement.

CSR: Based on this information you are eligible for a 60-month payment arrangement which will be <$installment amount> plus the current monthly charges. Also, your reported income and occupancy indicate that you may be eligible for our monthly bill discount program. If enrolled, you are also eligible to receive a monthly forgiveness credit in the amount of $40 for every on-time monthly payment. Are you interested in applying for the Bill Discount Program?

Customer: Answers yes.

[Provide direct dial number of 412-255-2457 in case the call is disconnected and transfer the call to PGH2O Cares.]

IF THE CUSTOMER HAS A PAST DUE BALANCE AND AN ACTIVE TERMINATION NOTICE:

CSR: Thank you for your patience. After reviewing your account, I was able to confirm that you have an account balance of <$amount of account balance>.

Customer: Calling about pending termination.

[Account indicates that the customer is eligible for a payment arrangement.]

CSR: You can establish an income-based payment arrangement on the balance. This would allow you to pay your current monthly bill, in addition to a monthly installment amount, over a period of time and would eliminate the pending termination activity. Would you like to set up a payment arrangement at this time?

Customer: Answers yes.

CSR: Can you provide your gross monthly income and number of occupants at the property?

Customer: Provides a response that calculates to a 60-month payment arrangement.

CSR: Based on this information you are eligible for a 60-month payment arrangement which will be <$installment amount> plus the current monthly charges. Accepting this arrangement will stop any pending termination activity. Also, your reported income and occupancy indicate that you may be eligible for our monthly bill discount program. If enrolled, you are also eligible to receive a monthly forgiveness credit in the amount of $40 for every on-time monthly payment. Are you interested in applying for the Bill Discount Program?

[Provide direct dial number of 412-255-2457 in case the call is disconnected and transfer the call to PGH2O Cares.]

PGH2O | PITTSBURGH WATER

IF THE WATER SERVICE IS OFF:

CSR: Thank you for your patience. After reviewing your account, I was able to confirm that the water service is coded as inactive and you have an account balance of <$amount of account balance>. Can you confirm if the property is currently occupied?

Customer: Calling to have the water service restored at the unoccupied property.

[Account indicates that the customer is eligible for a payment arrangement.]

CSR: You can establish an income-based payment arrangement on the balance to have the water service restored. This would allow you to make a partial payment today for the service to be restored, then you would pay your current monthly bill, in addition to the monthly installment amount, over a period of time. Would you like to set up a payment arrangement at this time?

Customer: Answers yes.

CSR: Can you provide your gross monthly income and number of occupants at the property?

Customer: Provides a response that calculates to a 24-month payment arrangement.

CSR: Based on this information you are eligible for a 24-month payment arrangement which will be <$installment amount> plus the current monthly charges. You would have to submit <$first installment amount> before the water service can be restored. Also, your reported income and occupancy indicate that you may be eligible for our monthly bill discount program. If enrolled, you are also eligible to receive a monthly forgiveness credit in the amount of $40 for every on-time monthly payment. Are you interested in applying for the Bill Discount Program?

[Provide direct dial number of 412-255-2457 in case the call is disconnected and transfer the call to PGH2O Cares.]

IF THERE IS HIGH CONSUMPTION:

CSR: Thank you for your patience. After reviewing your account, I can see that the water consumption indicates that there may be a leak at the property. The high consumption began to register as of <provide date> and as of today water use is still actively registering through the meter. Are you aware of any leaks or causes for the increased consumption?

Customer: Indicates that there is a leak at the property.

CSR: Is the leak visible on an exposed pipe? This may be from a faucet, showerhead, toilet, or valve.

Customer: Confirms that the leak is on exposed plumbing.

CSR: You may be eligible for Pittsburgh Water's Line Repair and Conservation Pilot Program. This program offers free repairs of private side service line leaks on exposed plumbing. To be eligible for the program you must be an active Bill Discount Program customer. Are you interested in applying for the Bill Discount Program and speaking with a PGH2O Cares Analyst regarding the potential leak repair?

[Provide direct dial number of 412-255-2457 in case the call is disconnected and transfer the call to PGH2O Cares.]

CLOSING

CSR:	Is there anything else that I can assist you with today?
Customer:	Confirms that they have no additional questions.
CSR:	Great; and are you satisfied with the information that I have provided today? [Document customer's response in an Interaction Record.] There is a brief 5-question survey at the end of this call, and we would appreciate your feedback. Again, my name is <CSR Name>, and thank you for calling Pittsburgh Water .

EXHIBIT JAM-10

PGH2O | PITTSBURGH WATER

CUSTOMER ASSISTANCE PROGRAM CHECKLIST

Checklist: Assistance Program Screening
If there is NO past due balance:
☐ Handle customer initial inquiry per Call Sequencing Model.
☐ Ask if customer is interested in hearing more about Customer Assistance Programs and transfer to Cares if applicable.
If there is a past due balance but NO active termination:
☐ Handle customer initial inquiry per Call Sequencing Model.
☐ Determine if customer is eligible for a payment arrangement.
☐ Based on income eligibility, ask if customer is interested in applying for Customer Assistance Programs and transfer to Cares if applicable.
If there is a past due balance AND an active termination notice:
☐ Review past due balance with customer.
☐ Determine if customer is eligible for a payment arrangement.
☐ Based on income eligibility, ask if customer is interested in applying for Customer Assistance Programs and transfer to Cares if applicable.
If the water service is OFF:
☐ Confirm if the property is currently occupied.
☐ Determine if customer is eligible for a payment arrangement.
☐ Based on income eligibility, ask if customer is interested in applying for Customer Assistance Programs and transfer to Cares if applicable.
If the caller is applying to become a customer:
☐ Refer customer to the Application for Service online application.
☐ Explain interest in Customer Assistance Programs can be indicated on the application.
If there is high consumption:
☐ Provide dates of high consumption.
☐ Determine if a leak is present on exposed pipe, from a faucet, showerhead, toilet, or valve.
☐ Determine if customer is eligible for a payment arrangement.
☐ Based on income eligibility, ask if customer is interested in applying for Customer Assistance Programs and transfer to Cares if applicable.

EXHIBIT JAM-11

ECKERT SEAMANS
ATTORNEYS AT LAW

Eckert Seamans Cherin & Mellott, LLC
213 Market Street
8th Floor
Harrisburg, PA 17101

TEL: 717 237 6000
FAX: 717 237 6019

Deanne M. O'Dell, Esq.
717.255.3744
dodell@eckertseamans.com

January 21, 2025

Via Electronic Filing
Rosemary Chiavetta, Secretary
PA Public Utility Commission
400 North Street
Harrisburg, PA 17120

RE: The Pittsburgh Water and Sewer Authority – Water – R-2023-3039920;
The Pittsburgh Water and Sewer Authority – Wastewater – R-2023-3039921;
The Pittsburgh Water and Sewer Authority – Stormwater – R-2023-3039919

Dear Secretary Chiavetta:

Pursuant to Paragraph 9.D.3. of the Terms and Conditions of Settlement approved by the Commission regarding the above captioned base rate case, Pittsburgh Water and Sewer Authority d/b/a "Pittsburgh Water" agreed to update its March 22, 2022 Customer Complaint Assessment to include an evaluation of informal customer complaints submitted to the Commission's Bureau of Consumer Services. The March 22, 2022 Assessment analyzed customer Disputes and Complaints from 2019 to 2021. Enclosed please find Pittsburgh Water's updated assessment pursuant to the terms of the settlement.

Copies to be served in accordance with the attached Certificate of Service.

Sincerely,

Deanne M. O'Dell

Deanne M. O'Dell

DMO/lww

Enclosure

cc: Hon. Gail M. Chiodo w/enc.
Cert. of Service w/enc.

CERTIFICATE OF SERVICE

I hereby certify that this day I served a copy of **PWSA's Updated Customer Complaint Assessment** upon the persons listed below in the manner indicated in accordance with the requirements of 52 Pa. Code Section 1.54.

Via Email Only

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ROOT CAUSE ANALYSIS

Updated January 2025

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In November 2021, Raftelis conducted a root cause analysis to identify the sources and causes of Pittsburgh Water customer complaints. Pittsburgh Water provided dispute and complaint data from 2019 to 2021. After a comprehensive analysis, Raftelis proposed several recommendations aimed at reducing the number of complaints filed with the Pennsylvania Public Utility Commission (PA PUC). As part of this analysis, Raftelis made seven recommendations aimed at reducing the initial filing of disputes with Pittsburgh Water, which would ultimately decrease the number of informal complaints submitted to the PA PUC's Bureau of Consumer Services (BCS). Upon receiving this report, Pittsburgh Water took immediate action to implement these recommendations.

Five recommendations were specifically focused on customer communications. These included providing comprehensive training to effectively resolve conflicts and address meter testing requests, dispatching Pittsburgh Water plumbers to properties prior to the official initiation of disputes, and enhancing direct communication with customers regarding meter testing and departmental cross-training. As of April 2023, Pittsburgh Water has completed de-escalation training and implemented a call scripting, flowchart, and checklist model to assist Customer Service Representatives in addressing the most common customer concerns.

Since concerns related to consumption and meter testing results were the primary causes of customer disputes, Pittsburgh Water dedicated substantial time to improving training and procedural approaches for this specific type of communication. This enhancement included on-site tours and training on the meter testing bench process. Additionally, Pittsburgh Water updated its website Understanding Your Water Meter | Pittsburgh Water (pgh2o.com), and is committed to continuing water meter upgrades in accordance with the PA PUC Compliance Plan Stage One.

In the event that the customer still requests the testing of the water meter, Pittsburgh Water has initiated a leak detection procedure. A plumber will visit the property to conduct a basic leak detection inspection while educating the customer about potential causes of increased water consumption. This process may alleviate the customer's desire to have the water meter removed for testing. If the customer chooses to proceed with their request, a Pittsburgh Water Compliance Analyst will contact them directly to review the results of the meter testing and potentially resolve the customer's complaint.

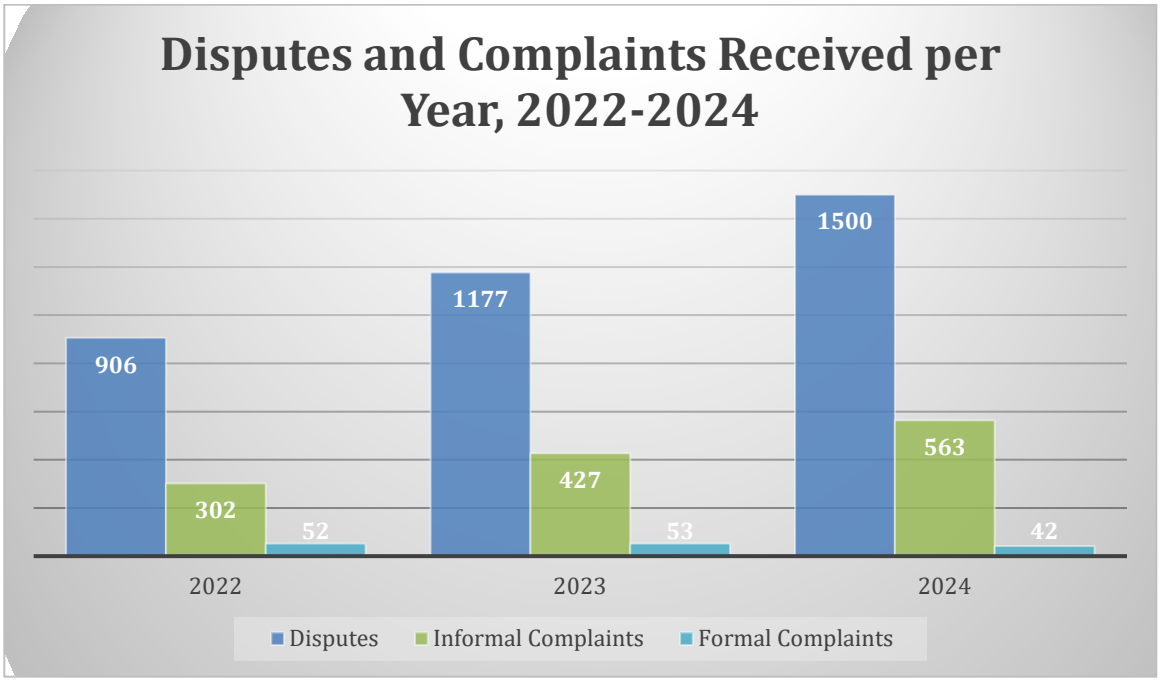
The remaining recommendations made by Raftelis included enhancing billing efforts to identify high consumption more promptly, improving the efficiency of Pittsburgh Water's curb boxes, and expanding data tracking to better identify trends. To address these recommendations, Pittsburgh Water introduced an internal Sensus Analytics report to alert staff of high consumption before the monthly pre-bill editing process. Additionally, Pittsburgh Water

launched the online Customer Advantage portal that enables customers to monitor their usage and set alert thresholds. Pittsburgh Water has also continued to collaborate with contractors to enhance the overall efficiency of curb stop locations, repairs, and replacements.

To enhance overall data collection and tracking, Pittsburgh Water has refined its tracking categories to more effectively identify the primary concerns related to disputes and complaints. The transition to Pittsburgh Water's new billing system has implemented a systematic tracking approach, assigning unique case numbers to all disputes and complaints filed. This improved tracking system enables Pittsburgh Water to identify trends more rapidly.

As part of the Joint Petition for Settlement, A.D.3.a, Pittsburgh Water was required to update the March 2022 root cause analysis to include an evaluation of informal customer complaints submitted to BCS as well as formal customer complaints filed with the PA PUC.

Pittsburgh Water records indicate a decline in the number of disputes and complaints due to the protections implemented during the COVID-19 pandemic. However, as restrictions were lifted and Pittsburgh Water resumed collection efforts, the levels of disputes and complaints began to rise. From 2022 to 2023, there was a 30% increase, followed by an additional 27% increase from 2023 to 2024 as illustrated below.



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Pittsburgh Water's dispute and complaint categorizations have expanded from 13 to 23 categories to enhance analytical monitoring and facilitate trend identification. Despite this enhanced categorization, the most common type of dispute remains related to water consumption, as illustrated below. More than half of the filed disputes pertain to water consumption, with billing-related issues being the second most common type of dispute. All other dispute categories combined account for the remaining 20% of disputes.

Dispute Type	2022 Percentage	2023 Percentage	2024 Percentage	Average Percentage, 2022-2024
Backflow	0%	0%	0%	0%
Balance Validation	0%	1%	4%	2%
Bankruptcy	0%	0%	0%	0%
Billing	7%	17%	22%	15%
Catch Up/Estimates	4%	6%	2%	4%
Consumption	68%	61%	62%	63%
Damages	0%	0%	0%	0%
Fees	0%	2%	1%	1%
Field	1%	0%	0%	0%
Interest	0%	0%	0%	0%
JTS/Lien	1%	1%	2%	2%
Landlord/Tenant	1%	0%	0%	0%
Locked Customer #	5%	0%	0%	2%
Minimum Charges	0%	0%	0%	0%
No Water	0%	0%	0%	0%
Non-registering	4%	3%	1%	3%
Other	1%	2%	2%	2%
Payment	1%	2%	0%	1%
Personnel	0%	0%	0%	0%
Rates	0%	0%	0%	0%
Stormwater Fee	7%	5%	1%	4%
Term/PAR	0%	0%	0%	0%
Water Pressure	0%	0%	0%	0%
Water Quality	0%	0%	0%	0%

The number of informal complaints remained lower than disputes but exhibited a similar upward trend from 2022 to 2024. As collection activities resumed following the COVID-19

pandemic, the number of informal complaints related to terminations and/or payment arrangements significantly increased, with over 50% of complaints filed in 2024 falling into this category. The second most common type of complaint was related to billing, accounting for 24% of the total complaints filed. Overall, the three-year analysis has shown that informal complaint filings continue to be most prevalent in the categories of terminations and payment arrangement requests, billing, and water consumption.

Informal Complaint Type	2022 Percentage	2023 Percentage	2024 Percentage	Average Percentage, 2022-2024
Backflow	2%	0%	0%	1%
Balance Validation	0%	0%	0%	0%
Bankruptcy	0%	0%	0%	0%
Billing	15%	14%	24%	17%
Catch Up/Estimates	2%	4%	1%	3%
Consumption	17%	18%	6%	13%
Damages	3%	1%	3%	3%
Fees	0%	1%	0%	0%
Field	6%	6%	2%	4%
Interest	2%	0%	0%	1%
JTS/Lien	3%	1%	0%	1%
Landlord/Tenant	3%	3%	1%	2%
Locked Customer #	2%	0%	0%	1%
Minimum Charges	0%	0%	0%	0%
Nonaccess	0%	5%	1%	2%
No Water	1%	3%	1%	1%
Nonregistering	8%	5%	1%	4%
Other	8%	5%	7%	7%
Payment	3%	2%	0%	2%
Personnel	0%	0%	0%	0%
Rates	1%	0%	0%	0%
Stormwater Fee	7%	3%	0%	3%
Term/PAR	18%	28%	53%	33%
Water Pressure	0%	0%	0%	0%
Water Quality	0%	0%	0%	0%

Pittsburgh Water customers have submitted significantly fewer formal complaints compared to both informal complaints and disputes. While formal complaints were trending upward from 2019 to 2023, there was a 26% decrease in formal complaints filed from 2023 to

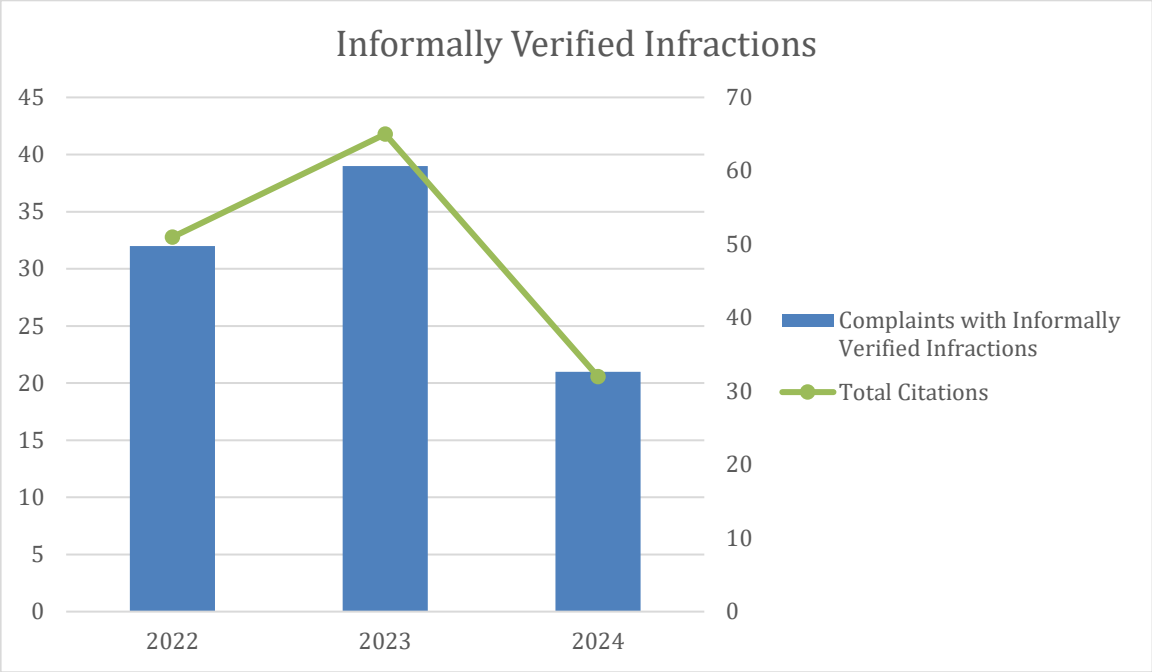
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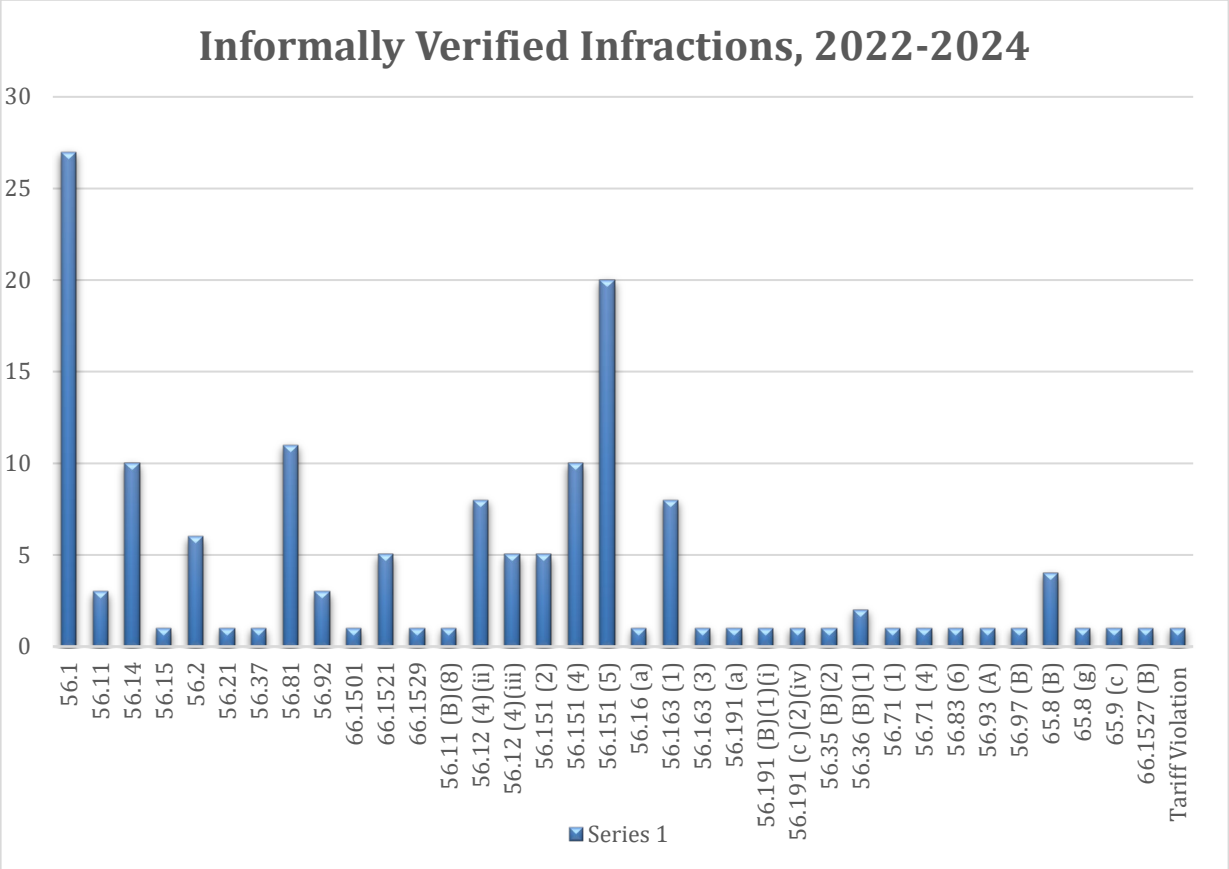
2024. According to the standardized formal complaint form, complainants can select a filing reason from five categories, with the option to choose more than one. Based on this tracked data, the most common type of formal complaint pertains to charges on the customer's bill, with the second most frequently selected category being related issues. Complaints filed under the "Other" category predominantly concerned previously unbilled charges, requests for reimbursement for damages, landlord and tenant balance responsibilities, and stormwater charges.

Formal Complaint Type	2022 Percentage	2023 Percentage	2024 Percentage	Average Percentage, 2022-2024
The utility is threatening to shut off my service or has already shut off my service.	12%	9%	7%	9%
I would like a payment agreement.	12%	2%	7%	7%
Incorrect charges are on my bill.	46%	43%	48%	46%
I am having a reliability, safety or quality property with my utility service.	4%	17%	14%	12%
Other.	44%	57%	38%	46%

Between 2022 and 2024, Pittsburgh Water received a total of 148 informally verified infractions. This equates to informally verified infractions being issued for 11% of informal complaints received during the same period. These citations were distributed across 92 complaints, resulting in an average infraction rate of 8% per informal complaint filed during this three-year period. The most common infraction, accounting for 24% of the total, was cited under § 56.151 and pertained to Dispute Procedures. Specifically, 14% of infractions were cited as § 56.151 (5), which mandates that a report be issued to a complainant within 30 days of a dispute being filed. Additionally, 7% of citations were cited as § 56.151 (4), which requires that the complainant receive all necessary information to make an informed decision regarding their dispute, and 3% of citations were cited as § 56.151 (2), which mandates that Pittsburgh Water investigate a dispute using methods that are reasonable under the circumstances. The second most common infraction, representing 18% of the total, was cited as § 56.1, which defines the statement of purpose and policy that establishes and enforces uniform, fair, and equitable standards for residential public utility services. The third most common infraction, accounting for 13% of the total, was cited under multiple different sections but was related to estimated or non-registering water meters and previously unbilled consumption charges.

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Recommendations

Number	Recommendation
Disputes	
1	Retrain Customer Service Representatives on high consumption and meter testing, and establish an annual training schedule.
2	Add meter testing bench tours and training to all new hire schedules.
Informal Complaints	
3	Enhance data tracking for dispute to complaint conversion rates.
4	Update payment arrangement training SOPs for Customer Service Representatives.
5	Develop training specific to identifying and properly handling disputes and complaints.
Formal Complaints	
6	Enhance data tracking for complaint types.
Informally Verified Infractions	
7	Update non-registering water meter account listing.
8	Initiate Utility Report quality assurance reviews.

The completed analysis identified several trends within each stage of the dispute, informal complaint, and formal complaint processes. Historically, Pittsburgh Water has successfully utilized training programs to educate both Customer Service Representatives and the customers they serve. Most recommendations focus on enhancing the training tools available to Customer Service Representatives, empowering them to address customer concerns in accordance with the First Call Resolution model.

At the dispute level, it is essential to address concerns related to high consumption and customer requests for water meter accuracy testing. Most issues regarding consumption are not due to inaccurate measurements reported by the water meter. Customer Service Representatives must provide callers with all relevant information to enable them to make informed judgments, with a meter test being offered only after all other possibilities have been thoroughly explored. Enhancing the training program specific to consumption will equip representatives with the necessary tools to address these concerns more efficiently and effectively. Ultimately, this will result in a decrease in the number of consumption-related disputes.

At the informal complaint level, a significant volume of complaints is related to requests for payment arrangements, most of which could have been resolved before the customer contacted the PA PUC. This indicates an opportunity to provide additional training and support to Customer Service Representatives, enabling them to determine when a customer's request for a payment arrangement should ultimately be denied. Currently, there is no tracking mechanism in place to assess the conversion rate from disputes to informal complaints. Implementing additional tracking would allow Pittsburgh Water to easily identify the percentage of disputes resolved internally, without the need for PA PUC intervention.

At present, there is limited tracking data available at the formal complaint level, apart from the categories listed on the formal complaint submission form. By implementing additional tracking measures, Pittsburgh Water would gain access to a comprehensive data set that could

help identify trends more promptly and develop more effective strategies for addressing similar formal complaints that may arise in the future.

Since most informally verified infractions are associated with Pittsburgh Water's initiative regarding non-registering water meters, it would be advantageous to update all reporting related to water meters that are providing estimated readings and reporting zero consumption. This update will enable Pittsburgh Water to identify accounts that require attention and ensure these accounts are included in the Non-Access process. Additionally, based on the various informally verified infractions related to responses to customer disputes, it is recommended that Pittsburgh Water's Compliance Department establish a quality assurance review process to ensure that the information provided to customers is comprehensive and accurate.

By implementing the recommendations outlined above, Pittsburgh Water will be able to address trends at each stage of the dispute and complaint process. This will enable staff to concentrate on delivering the highest level of service to customers while effectively complying with the regulatory requirements established by the PA PUC.

EXHIBIT JAM-12

Pittsburgh Water and Sewer Authority

Household Affordability Analysis

Final Report / August 2024

RAFTELIS

RAFTELIS

May 29, 2025

Ms. Julie Mechling
Director of Customer Service
Pittsburgh Water and Sewer Authority
1200 Penn Ave
Pittsburgh, PA 15222

Subject: Household Affordability Analysis

Dear Ms. Mechling:

Raftelis is pleased to provide this final report documenting our analysis of household affordability of water, wastewater, and stormwater service in Pittsburgh Water and Sewer Authority's service area. If you have any questions or need any additional information, please do not hesitate to contact me at (704) 771-3998 or rcraley@raftelis.com. It has been a pleasure working with you, and we thank you for the support provided during the course of this project.

Sincerely,

Rocky Craley,
Vice President

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1. Introduction

Today, water, wastewater conveyance, and stormwater utility systems, and the communities they serve, are faced with difficult decisions as they work to balance the increasing cost of providing service and regulatory compliance with providing service at rates that are not beyond the reach of the households they serve. Water, wastewater conveyance and stormwater costs are rising, and yet, in most communities, incomes are either stagnant or not on pace with costs. Also, the general cost of living in many other areas of life is also rising, making it difficult for customers, especially low-income customers, to pay their water, wastewater conveyance, and stormwater bills.

1.1. Measuring Affordability in the Water and Sewer Industry

Affordability of water, wastewater conveyance, and stormwater service for households can be measured or assessed in many ways. The legacy Environmental Protection Agency (EPA) guidance on the measurement of affordability and financial capability for federal regulatory purposes is documented in *Combined Sewer Overflows – Guidance for Financial Capability Assessment and Schedule Development* (EPA, 1997, referred to from here on as the "*1997 Guidance*"). While many principles from the original *1997 Guidance* were carried forwarded in a March of 2024 update and are still employed today for formal wastewater and stormwater consent decree negotiation, similar principles are also used in practice and formalized in other guidance in the drinking water context. However, despite the modest evolution of the legacy federal guidance, enduring critiques of the affordability measurement methodologies derived from financial capability assessment policies have led to alternative approaches that have advanced the sophistication of water, wastewater conveyance, and stormwater affordability measurement.

In 2019, new customer affordability and financial capability guidance were developed by a team of industry experts who authored a report detailing proposed changes to the *1997 Guidance* as recommendations for the EPA on behalf of the American Water Works Association (AWWA), National Association of Clean Water Agencies (NACWA), and Water Environment Federation (WEF).[1, 2] The approach detailed in the report, which is sometimes referred to as the *Unified Sector Report*, is similar to the *1997 Guidance* in that it compares an annual customer bill to a defined service area income level as collected by the United States Census Bureau. However, rather than considering the median household income (MHI), the newly proposed method considers the lowest quintile income (LQI) to better represent an economically disadvantaged customer and their relative financial burden of water and wastewater bills. Additionally, the new method considers the service area as a whole and the number of customers at or below 200% of the federal poverty line to provide context to the level of burden, as shown

[1] Pending to-be-determined federal legal flexibility surrounding the *1997 Guidance*, if approved by EPA and ultimately adopted as guidance, the proposed changes may be incorporated as wholesale replacements or recommended supplements.

[2] "Developing a New Framework for Household Affordability and Financial Capability Assessment in the Water Sector". AWWA, NACWA, WEF. 2019.

in Figure 1 below. While the 2024 federal financial capability guidance updates did incorporate new metrics that consider LQI and poverty metrics, specifically for affordability measurement, the 2019 industry expert (a.k.a. *Unified Sector Report)* is still often held up and cited as a credible approach that reflects improvements to legacy and updated federal metrics.

Figure 1: 2019 Unified Sector Report Affordability Matrix

HBI - Water Costs as a Percent of Income at LQI	PPI - Percent of Households Below 200% of FPL		
	>=35%	20% to 35%	<20%
>=10%	Very High Burden	High Burden	Moderate-High Burden
7% to 10%	High Burden	Moderate-High Burden	Moderate-Low Burden
< 7%	Moderate-High Burden	Moderate-Low Burden	Low Burden

In considering changes to its Customer Assistance Programs (CAP), the Pittsburgh Water and Sewer Authority (PWSA) should take into account such alternative approaches to affordability and financial capability measurement.

1.2. Customer Assistance Programs – An Overview

Not all utilities provide assistance for low-income customers. Utilities that are legally allowed to provide assistance may choose to assist customers who need assistance paying their bills for altruistic reasons or to address public health concerns. Other reasons to provide assistance are to address rising utility costs, lower collection rates, and higher account arrearages. Utility customer assistance programs can be designed several different ways and can provide assistance through several different mechanisms. The following are examples of potential utility programs or types of assistance:

- **Financial and Bill Assistance** – Utilities can provide discounts on the total monthly bill or on individual components, such as the fixed charge and volumetric rates. Other financial assistance can include one-time or annual hardship grants or arrearage forgiveness.
- **Rate Structure Design** – Utilities can implement rate structures that are designed to be favorable to assist customers paying their monthly bills. One such rate structure assists low volume users through tiered rates in which the first tier is a "lifeline" or reduced rate for low volume consumption. After consuming the "lifeline" amount of water, subsequent water consumption is charged at a higher rate.
- **Water Efficiency Options** – Utilities can implement line repair programs where they assist customers with the cost of private line repair by subsidizing cost with a reduced cost or cap. Utilities can provide non-monetary assistance to customers by providing conservation assistance or water-wise education. These initiatives would be implemented to assist customers in lowering their monthly consumption, thus making their monthly bill more affordable, and to assist customers with system water loss and overall water conservation.

- **Other Measures** – There are a few other measures utilities can implement to assist customers. Utilities can provide financial counseling to assist customers with their monthly budgeting and paying their bills, including their utility bill. Utilities can implement disconnection moratoria, or periods, such as during winter, when utilities will not shut off service.

PWSA has a customer assistance program (CAP) that was first implemented in the fall of 2017 to address customer affordability concerns in conjunction with approved rate adjustments. The CAP was then modified through negotiation and settlement with intervenors during the 2018 tariff filing process with the Public Utility Commission. The current CAP program includes the following components:

- **Winter Shut Off Moratorium** – December 1st through March 31st for customers who are at or below 300% of the Federal Poverty Level
- **Bill Discount Program** – 100% reduction of fixed monthly water and wastewater conveyance charges and an 85% discount of stormwater charges for customers who are at or below 200% of the Federal Poverty Level. 60% reduction of volumetric water and wastewater conveyance charges for customers who are at or below 50% of the Federal Poverty Level
- **Hardship Cash Assistance Program** – Annual cash grants up to $450 each for both water and wastewater conveyance customers who are at or below 200% of the Federal Poverty Level
- **Private Lead Line Replacement Community Environmental Project** – Up to 100% reimbursement of the cost of proactive lead service line replacements based on income qualifications
- **Line Repair and Water Conservation Pilot** – Free leak repairs on exposed plumbing and installation of water saving devices for customers who are at or below 200% of the Federal Poverty Level
- **Flexible Payment Arrangements with Arrearage Forgiveness** – $40 forgiven monthly for each on-time payment in an active income-based payment plan for customers who are at or below 200% of the Federal Poverty Level

In addition to PWSA's CAP, PWSA's wastewater conveyance customers who qualify for the bill discount program can also qualify for a quarterly sewage treatment grant from the Allegheny County Sanitary Authority (ALCOSAN). PWSA provides wastewater conveyance only. ALCOSAN provides sewage treatment for PWSA customers and the customers of 82 other communities. ALCOSAN provides what is termed the Clean Water Assistance Fund (CWAF) grant of $45 per quarter to qualifying customers.

1.3. Raftelis' Household Affordability Study

Pittsburgh Water and Sewer Authority (PWSA) engaged Raftelis to conduct an affordability study in 2019. This study was the first time in recent history that PWSA's service area and customer affordability were analyzed. The scope of the study was not to define what is "affordable" but to better understand the water and wastewater utility bill burden on households in the community. To do this, Raftelis conducted

a comprehensive look at affordability by analyzing the affordability percentage defined as the typical annual customer bill divided by household income. Both the MHI and Upper Limit of the Lowest Quintile Income (LQI) were used in the analysis. Raftelis not only looked at the service area from the macro level, but also from the census tract level, which is the smallest geographical census unit. By looking at the various census tracts in PWSA's service area, Raftelis was able to assist PWSA in identifying its more economically vulnerable areas. This analysis also identified areas with the most potential to enroll residents into the bill discount program, which will enable PWSA to most effectively employ customer education and engagement. Finally, the findings from the analysis will be used to assist PWSA in considering changes to its current affordability programs and its rate structure.

PWSA engaged Raftelis again in 2024 to update the Household Affordability Study and to consider additional analyses, such as exploring new metrics that may be correlated with affordability. The metrics that were analyzed are median home value, Supplemental Nutrition Assistance Program (SNAP) participation, and the percent of population older than 65 years. The original analysis has been updated with the latest information and rates and charges. The new additions to the report enhance PWSA's ability to more effectively and efficiently reach out to customers in the most vulnerable areas within the service area.

It is important to note that this report is meant to provide a baseline statistical understanding of household affordability of water, wastewater conveyance, and stormwater service in the Pittsburgh area: not to recommend what PWSA should do to improve its affordability efforts. PWSA is considering the results of this study and feedback from the Low Income Assistance Advisory Committee (LIAAC) when considering and developing its own changes to its current program.

2. Methodology

2.1. Analysis Approach

This analysis takes a wide view of the issues surrounding affordability of water and wastewater conveyance and treatment service and does not limit itself only to recreating the EPA method, which focuses on calculating affordability for a customer with the median household income in the service area. Instead, this analysis includes diverse socioeconomic statistics such as incomes at various levels, poverty levels, PWSA water and wastewater conveyance bills at various consumption levels, the effect of sewage treatment charges from the Allegheny County Sanitary Authority (ALCOSAN) on customers, and more.

The data needs for this analysis were varied and are described in detail in the next section.

2.2. Data Sources

To fully characterize the affordability challenges of PWSA's customer base, access to detailed data on representative customer water and wastewater conveyance and treatment bills as well as representative customer household incomes was needed. Customer bills were determined from PWSA's billing database, which provided consumption for each residential customer during the calendar year 2023. Using that consumption and PWSA's 2024 rate schedule, every residential customer bill was recalculated to be representative of a 2024 bill.

Ideally, a water and wastewater conveyance and treatment affordability analysis would have access to actual household incomes of every customer. PWSA does not collect this data on all customers. Because household-level income data was not available, the next best alternative is data from the American Community Survey (ACS). Using census data is an accepted approach within the water and wastewater industry. The ACS is an ongoing survey by the U.S. Census Bureau that collects socioeconomic data from several million Americans each year. The last year of published 5-year ACS census data available for this analysis was 2022, which is the source data used in this report. The ACS does not publish individual data for anonymity reasons but does publish data down to the census tract level, which is the level of detail used in this analysis.

2.2.1. A Note on Census Tracts

Many of the findings in this report refer to census tracts, a term that may not be familiar to all. A census tract is a small geographic area designated by the Census Bureau with boundaries drawn such that each tract is relatively homogenous in terms of demographics. Census tracts tend to have populations of 100 to 4,000 people, thus giving reasonable insight into the local conditions of the populace in each tract. Census tracts from 2022, the most recent available data source at the time of this report, were used for our analysis.

Census tracts have numbered names (e.g., Census Tract 301.1). To make census tract data more relatable to a general audience, neighborhood names have been attached to each tract. This was done by manually comparing a map of census tracts in Pittsburgh on the American Community Survey website with neighborhood names as shown for the same area on Google Maps. This exercise of "naming" census tracts was done only for the purpose of having a common understanding of which areas of Pittsburgh are being referenced. It is important to note that whenever a neighborhood name is used, the statistics stated in this report may not be fully applicable to that neighborhood. This is because the borders of a neighborhood may not coincide exactly with the borders of a census tract.

There are several census tracts in Pittsburgh that are almost completely comprised of industrial properties or nature parks. Those census tracts with fewer than five residential PWSA accounts, as identified by PWSA's billing database, were excluded from the analysis.

2.3. Assumptions of the Analysis

The following assumptions were made to facilitate this affordability analysis[3]:

1. A "typical customer" is defined as a residential customer who receives water, wastewater conveyance, and stormwater service from PWSA as well as wastewater treatment service from ALCOSAN. There is a minority of customers in PWSA's territory who receive only water or only wastewater conveyance and stormwater service from PWSA, and there are also other customers who receive water service from other water companies, namely Pennsylvania American Water Company, West View Water Authority, and Wilkinsburg-Penn Joint Water

[3] Analysis and results for customers that receive only wastewater conveyance and stormwater service are provided in Appendix A.

Authority. These customers, which includes the Borough of Millvale, (and the census tracts in which they live) were excluded from the analysis to properly compare water, wastewater, and stormwater bills across areas of the city.

2. The "typical customer" is defined as having a 5/8" meter size. There is a small minority of residential customers who have a meter size larger than 5/8" and thus pay a higher fixed monthly charge. They are excluded from this analysis so that all findings here are reported for the most common residential customer type.
3. The "typical customer" is defined as one (1) equivalent residential unit (ERU) for the assessment of stormwater rates. Some residential customers with much smaller or larger impervious area on their properties are categorized as less than or more than 1 ERU, but the majority of residential customers are assessed a 1 ERU stormwater rate.
4. Both PWSA and ALCOSAN offer bill assistance. Because a typical PWSA customer could qualify for both of these assistance programs, when calculating the effect of these assistance programs, they are both included as if the customer benefitted from them for a complete calendar year.
5. Because of the lack of access to individual income data, incomes reported by the ACS are taken to be representative.
6. To recreate a typical water and wastewater conveyance and treatment bill in each census tract, PWSA's 2023 water consumption data was analyzed. Median residential water consumption per month was calculated for each census tract. That consumption was then used to recreate a typical water and wastewater conveyance and treatment bill in that census tract.
7. PWSA and ALCOSAN's 2024 rates were used for the purposes of calculating customer bills.

2.4. Limitations

It is important to note the limitations of this report. First, this is an analysis of current affordability and uses 2024 rates to calculate customer bills. Rates may change in the future and these changes will certainly impact customer bills. Second, this analysis is not meant to be a true representation of all of the financial challenges faced by PWSA customers. Rather, it sought to give an overview of the affordability challenges experienced, especially by those with median household incomes and those living at the lowest quintile income.

3. Findings

3.1. Socioeconomic Characteristics of the PWSA Customer Base

There are approximately 79,000 residential account holders receiving water, wastewater, and stormwater services from PWSA, and the total population served is approximately 250,000 according to the 2022 American Community Survey (ACS). 99 census tracts were included in this analysis. Below is a map of included tracts with approximate neighborhood names overlaid on top of the tract boundaries. Certain sections are shown in grey because they did not meet criteria for inclusion as outlined in the assumptions

section above (do not receive both water and wastewater conveyance and treatment service, have too few residential accounts, etc.).

Figure 2 – Census Tracts (with Approximate Neighborhood Names) Included in the Affordability Analysis*



*Riverview Park, Frick Park, and the Allegheny Cemetery are noted in red. These census tracts do not appear in this analysis as there are no residential customers in these areas, which is why they appear in grey, or are blank, in other maps.

The PWSA service area has a median household income (MHI) of $66,298. Rather than looking at the ACS MHI for the city of Pittsburgh, this MHI statistic was calculated by taking the average of all of the census tract MHIs included in the analysis to more accurately represent the MHI for the service area. This was done to better represent the income level of residential water and wastewater conveyance and treatment PWSA customers. The ACS did not report an MHI for Census Tract 2615 (Perry South), which is why it appears in grey.

The upper limit of the lowest quintile household income of the service area, or the 20th percentile income, is $26,828. MHIs and LQIs across the service area are shown in Figure 3 and Figure 4, respectively. It is important to note that each of these maps represent what a typical household income in each census tract

is (MHI) and what an economically disadvantaged household income is (LQI). It is clear from the MHI map that there is a wide range of typical incomes across areas of the city, such as areas where a typical income is less than $20,000 per year, (shown in dark red), while a typical income in other census tracts is more than $80,000 per year (shown in dark green). Likewise, the LQI map shows that in nearly every census tract, the LQI (or 20th percentile income) could be categorized as "low income." This demonstrates that even wealthy sections of PWSA's service area are likely to have customers living at low income levels.

Figure 3 - Median Household Incomes of Census Tracts in the PWSA Service Area

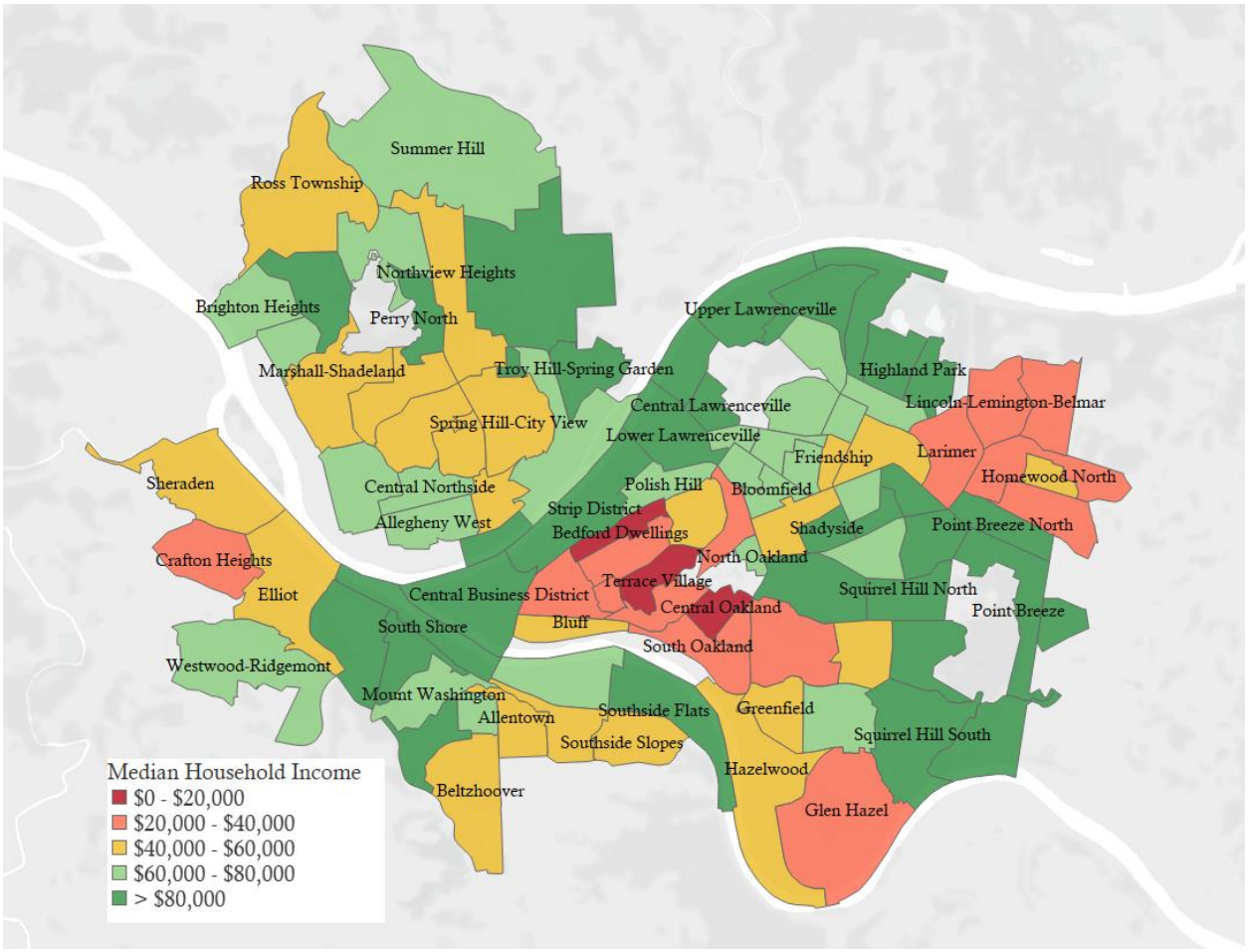
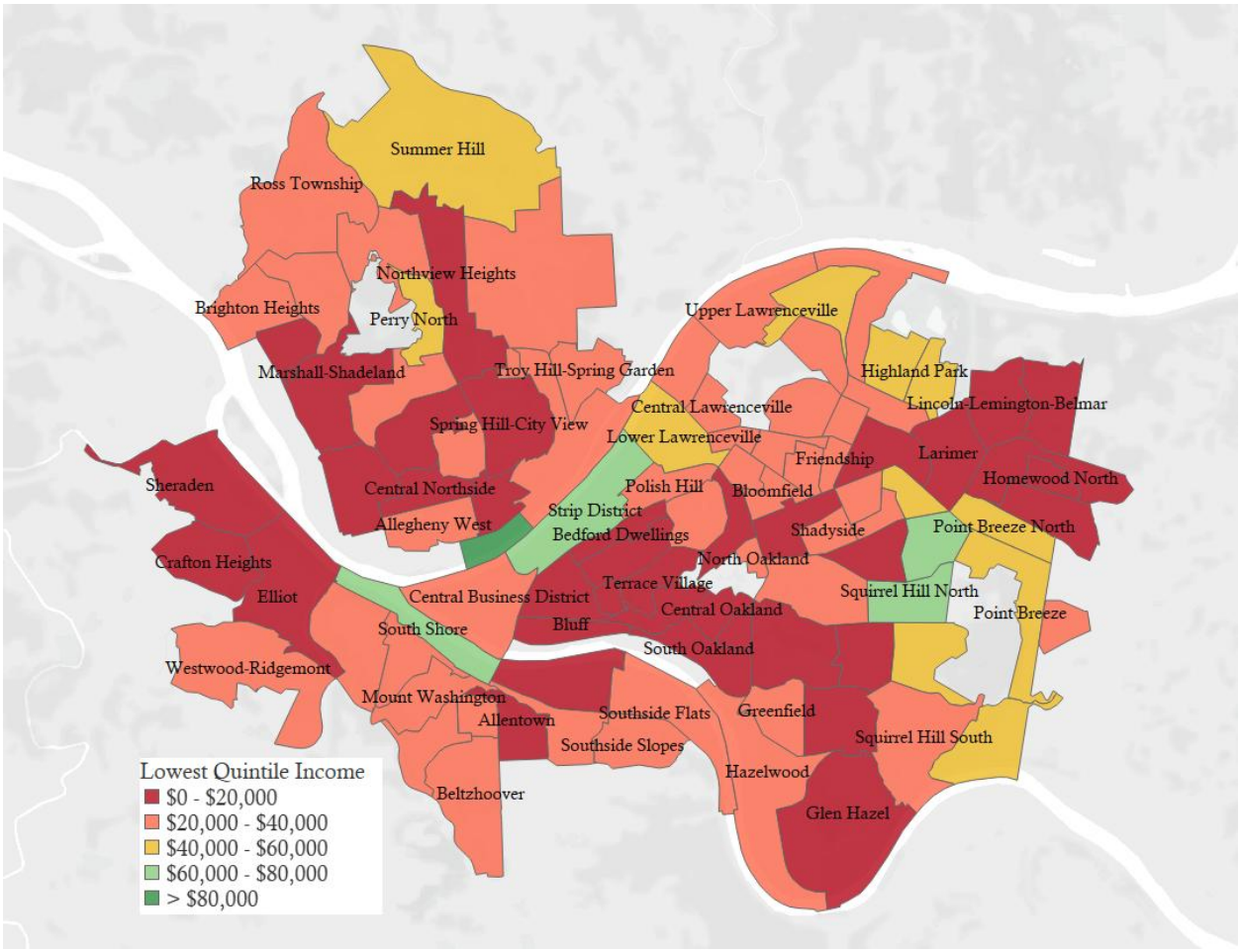


Figure 4 – Lowest Quintile Incomes of Census Tracts in the PWSA Service Area



As with incomes, poverty levels differ across the city as shown in Figure 5. Federal Poverty Level (FPL) incomes are set by the U.S. government each year and depend on household size and state of residence. For reference, in 2024, 200% of FPL for a 4-person household in Pennsylvania was $62,400 per year. Figure 5 displays the percentage of the population in each census tract living at or below 200% of the FPL. 200% of FPL was chosen because it is the income requirement to qualify for PWSA's bill discount program. As shown by the number of census tracts in orange, yellow, and red, large swaths of PWSA's service area likely contain significant numbers of customers who would qualify for PWSA's bill discount program. The service area average percentage of population living at 200% of FPL or below is 35.3%.

Figure 5 – Percentage of Population at or Below 200% of the Federal Poverty Level

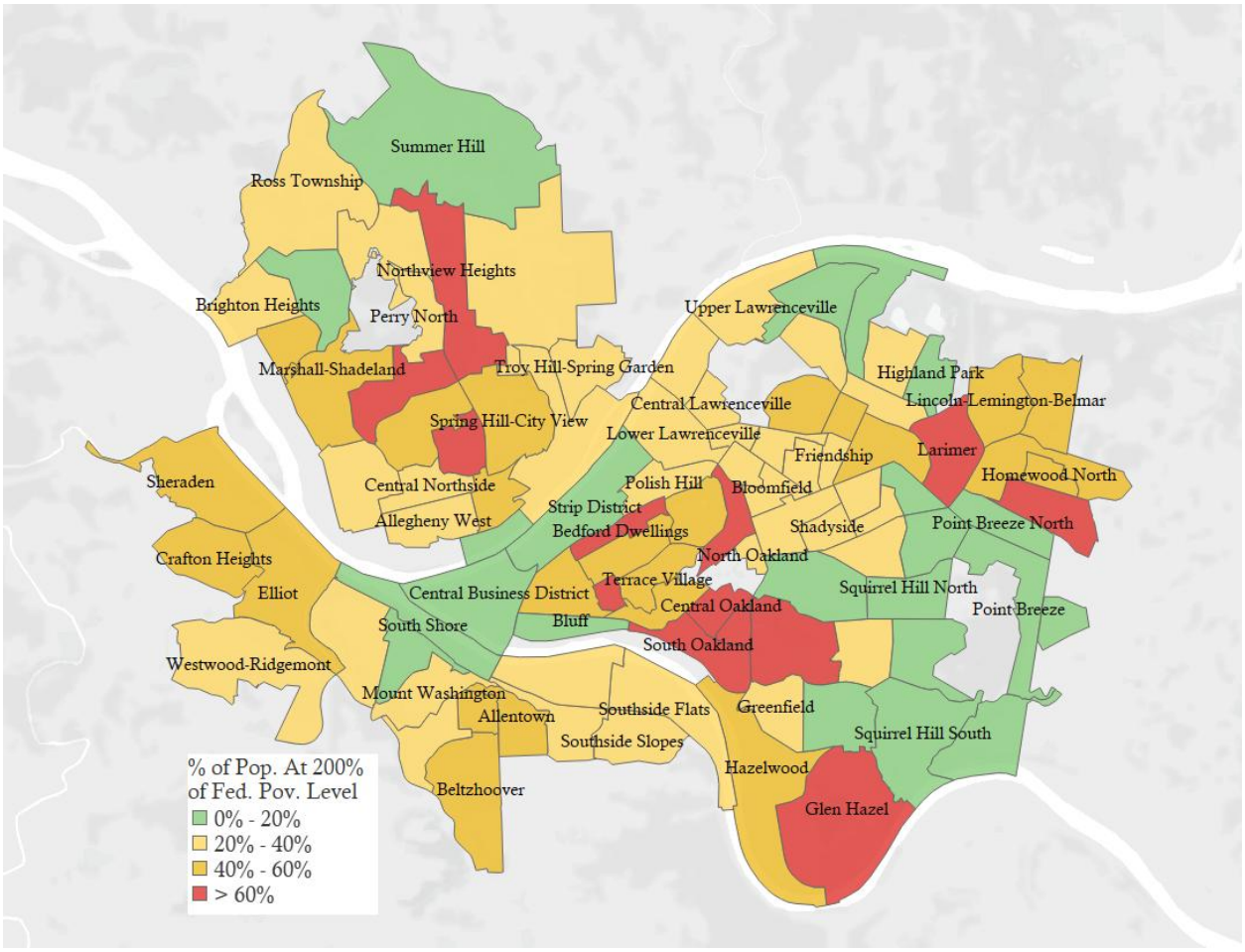
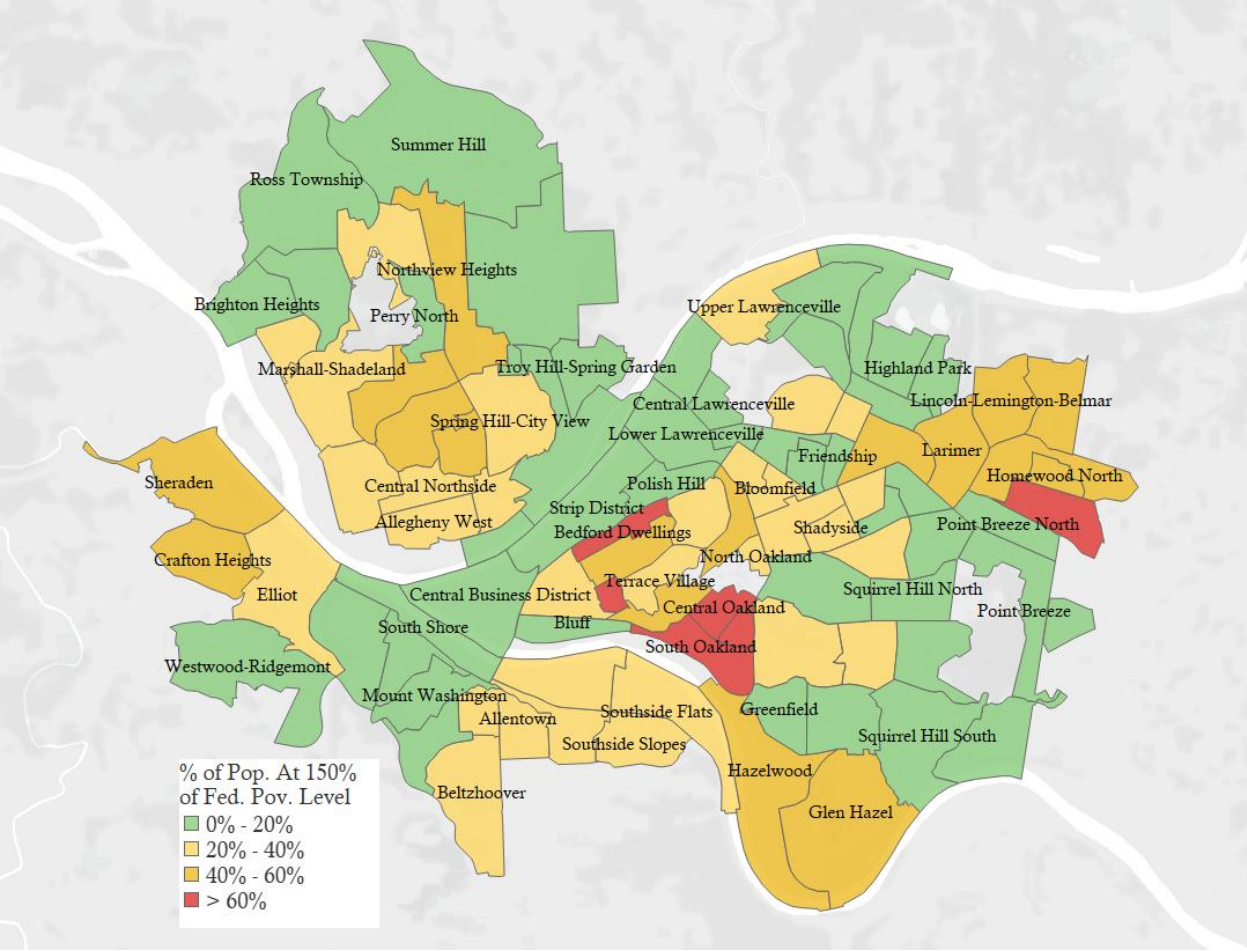


Figure 6 – Percentage of Population at or Below 150% of the Federal Poverty Level



These income and poverty statistics show that Pittsburgh contains a large number of customers with low incomes, many of which are at or below the Federal Poverty Level or at the level in which they could qualify to participate in PWSA's affordability initiatives.

3.2. Typical Water, Wastewater Conveyance, Stormwater and ALCOSAN Bills

A starting point for an analysis of utility affordability is to examine how much customers are paying for service. A typical residential PWSA customer pays the rates shown in Table 1. Customers are assessed a fixed monthly charge for water service, wastewater conveyance service, stormwater (1 ERU), and a fixed charge from ALCOSAN for wastewater treatment service. Thus, a residential customer with a 5/8" meter size (the most typical residential size) pays $59.63 per month in cumulative fixed charges. These are charges that the customer cannot control or waive (unless they participate in the bill discount program).

In addition to the fixed charges, PWSA and ALCOSAN charge per 1,000 gallons of water used. Both water and wastewater conveyance and treatment volumetric charges are based on metered water

consumption. It is important to note that PWSA has a minimum allowance of 1,000 gallons per month for a customer with a 5/8" meter. That is, the fixed charge "includes" 1,000 gallons of unbilled consumption. After a customer surpasses 1,000 gallons of water consumed during a month, subsequent consumption is billed at the rates shown in Table 1. Summing the volumetric charges for water and wastewater conveyance and treatment equals $34.20 per 1,000 gallons consumed.

Table 1 – 2024 PWSA and ALCOSAN Rates for a Residential Customer with a 5/8" Water Meter

Service	Fixed Charge	Volumetric Charge	Minimum Allowance
PWSA Water	$31.54 per month	$16.38 per 1,000 gallons	1,000 gallons per Month
PWSA Sewer	$8.25 per month	$6.68 per 1,000 gallons	1,000 gallons per Month
PWSA Stormwater	$10.06 per month	None	None
ALCOSAN Sewer	$7.80 per month	$11.14 per 1,000 gallons	None

As shown in Table 2, customer bills increase significantly with every 1,000 gallons consumed. The median residential water consumption per month in 2023 was 3,000 gallons. A low-consuming household (20th percentile) used 1,000 gallons per month of water while a high-consuming household (80th percentile) used 5,000 gallons per month. Table 2 shows the annual water, wastewater conveyance and treatment, and stormwater bills at these three consumption levels. A "low consumption" bill is $847 per year, a median-consumption bill is $1,696, and a "high consumption" bill is $2,544. PWSA charges equal approximately 70% of each of these customers' total annual bills, while ALCOSAN makes up approximately 30%.

Table 2 – Annual Water, Wastewater Conveyance and Treatment, and Stormwater Bills for Low, Median, and High-Consumption Customers

Water Consumption (Kgal/Month)	PWSA Water	PWSA Sewer	PWSA Stormwater	ALCOSAN	Total
Low 1	$397	$103	$120	$227	$847
Median 3	$810	$272	$120	$494	$1,696
High 5	$1,222	$440	$120	$762	$2,544

To give broader context to the range of bills that customers may pay, Table 3 shows annual water, wastewater conveyance and treatment, and stormwater bills for monthly water consumption between 0 and 10,000 gallons. The second column shows what percentage of all single-family residential bills are at or below that usage level. For example, 64% of single-family residential bills are below 3,000 gallons per month and less than 10% are above 6,000 gallons per month.

Table 3 – Annual Water, Wastewater Conveyance and Treatment, and Stormwater Bills for Customers Consuming Between 0 and 10,000 Gallons of Water per Month

Water Consumption (Kgal/Month)	% of Single-Family Bills at or Below Usage	PWSA Water	PWSA Sewer	PWSA Stormwater	ALCOSAN	Total
0	11%	$397	$103	$120	$93	$713
1	28%	$397	$103	$120	$227	$847
2	49%	$603	$188	$120	$361	$1,272
3	67%	$810	$272	$120	$494	$1,696
4	79%	$1,016	$356	$120	$628	$2,120
5	86%	$1,222	$440	$120	$762	$2,544
6	90%	$1,429	$524	$120	$895	$2,968
7	93%	$1,635	$608	$120	$1,029	$3,392
8	95%	$1,842	$693	$120	$1,163	$3,818
9	96%	$2,048	$777	$120	$1,296	$4,241
10	97%	$2,254	$861	$120	$1,430	$4,665

3.3. The Burden of Water, Wastewater Conveyance and Treatment, and Stormwater Bills on Households in Pittsburgh

As shown in Table 3, residential water, wastewater conveyance and treatment, and stormwater bills in Pittsburgh can range from a minimum of $713 per year to several thousand dollars per year depending on customer water consumption (assuming no bill discount), with a typical bill around $1,696 per year. Is this affordable? This is a policy question that has not yet been answered by PWSA or the Low Income Assistance Advisory Committee (LIAAC), a stakeholder group convened to provide feedback to PWSA on affordability initiatives. Given that, this section simply seeks to provide informative statistics and industry reference points that demonstrate the scope of the burden that water, wastewater conveyance and treatment, and stormwater bills are putting on households in PWSA's service area.

3.3.1. Affordability in the Service Area

First, an examination of overall service area affordability is due. The affordability percentages that are reported in this section simply represent an annual water, wastewater conveyance and treatment, and stormwater bill divided by an annual household income.

Recent literature on the subject from the American Water Works Association that has been frequently deployed by the water sector for a service area takes two principal factors into account into its measure of affordability. The first is the Household Burden Indicator (HBI), which is equal to water costs as a percent of LQI income. The second is the Poverty Prevalence Indicator (PPI), which is the percent of the service area living below 200% of the Federal Poverty Level. Both of these indicators were calculated for

this analysis. The HBI is 6.4% and the PPI is 35.3%. That puts PWSA's burden on customers at "Moderate-High Burden" as shown in the matrix in Table 4.

Table 4 - PWSA's Burden on Customers as Measured by the Unified Sector Report Matrix

HBI - Water Costs as a Percent of Income at LQI	PPI - Percent of Household Below 200% of FPL		
	>=35%	20% to 35%	<20%
>=10%	Very High Burden	High Burden	Moderate-High Burden
7% to 10%	High Burden	Moderate-High Burden	Moderate-Low Burden
<7%	Moderate-High Burden	Moderate-Low Burden	Low Burden

Table 5 shows the affordability percentages of a customer with low (20th percentile), median, and high (80th percentile) water consumption compared to a low (LQI, or 20th percentile) or median annual household income. Of note is a customer with a typical (median) consumption of 3,000 gallons per month and typical (median) annual household income of $66,298. That customer pays 2.6% of their annual income to water, wastewater conveyance and treatment, and stormwater service. By the EPA affordability standard, which looks specifically at this "typical" customer, service is affordable because the burden is less than 4.5%.

However, one can observe variations in affordability in Table 5. Clearly, having a median income makes service more affordable (customers paying 4.0% or less of their incomes toward water, wastewater conveyance and treatment, and stormwater service), but a customer with both high consumption (5,000 gallons per month) and a low income ($26,828 per year) pays 9.6% of the household's income towards water, wastewater conveyance and treatment, and stormwater service.

Table 5 – Current Affordability Percentages (Annual Bill Divided by Annual Household Income) at Low to High Consumption Levels and Low and Median Income Levels

Water Consumption (Kgal/Month)		Income per Year LQI $26,828	Income per Year MHI $66,298
Low	1	3.2%	1.3%
Median	3	6.4%	2.6%
High	5	9.6%	3.9%

Because ALCOSAN wastewater treatment charges comprise a significant portion (approximately 30%) of a customer's water, wastewater conveyance, and stormwater bill, it may be useful for PWSA to isolate its portion of a customer's bill to examine affordability of its services. This is done in Table 6, which, when contrasted with the above table including ALCOSAN charges, shows that PWSA's portion of the affordability burden is 4.5% of income for a low-income customer with median usage. By contrast, when ALCOSAN charges are included, that customer pays 6.4% of income for service. For a typical customer with both median consumption and median income, PWSA charges represent 1.8% of annual income, while including ALCOSAN charges increases the burden to 2.6% of income.

Table 6 - Current Affordability Percentages at Low to High Consumption Levels and Low and Median Income Levels, Not Counting ALCOSAN Charges

Water Consumption (Kgal/Month)		Income per Year LQI $26,828	MHI $66,298
Low	1	2.3%	0.9%
Median	3	4.5%	1.8%
High	5	6.7%	2.7%

Table 7 is an extended version of the previous affordability tables. It demonstrates a wider view of affordability (including ALCOSAN charges) ranging from very low annual household incomes ($5,000) to high incomes ($100,000) and no consumption (0 gallons per month) to very high (10,000 gallons per month). Once again, it is clear that both consumption levels and incomes have a large effect on customer affordability – a low-income household with a high water and wastewater conveyance and treatment bill can experience a higher affordability burden (as shown in dark red, light red, and orange). Higher income households are less burdened by high water bills based on affordability percentages.

Table 7 – Current Affordability Percentages at Very Low to Very High Consumption Levels and Very Low to High Household Income Levels

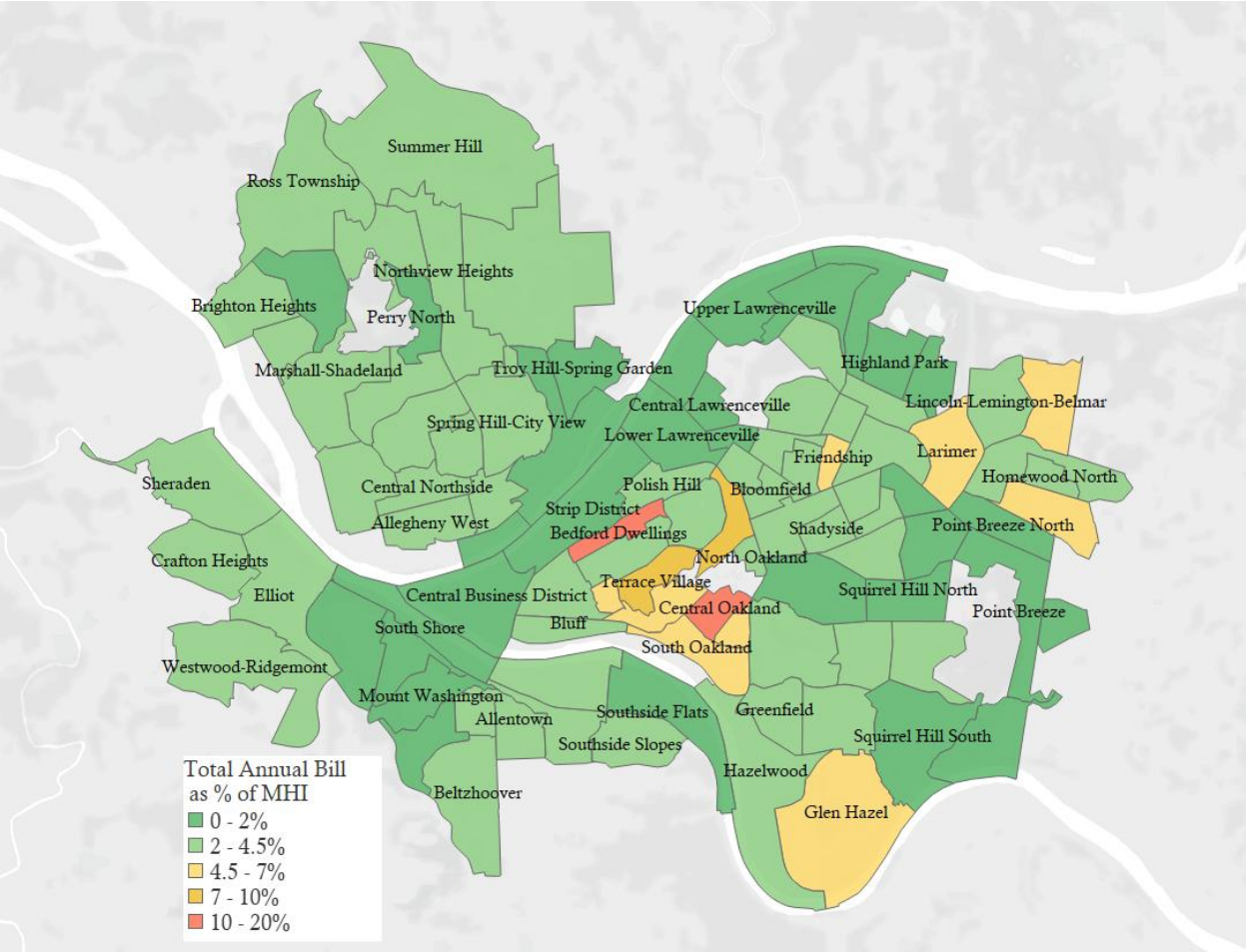
Water Cons. (Kgal/ Month)	Income per Year $5,000	$10,000	$15,000	$20,000	$25,000	$35,000	$40,000	$45,000	$50,000	$80,000	$100,000
0	14.3%	7.1%	4.8%	3.6%	2.9%	2.0%	1.8%	1.6%	1.4%	0.9%	0.7%
1	16.9%	8.5%	5.6%	4.2%	3.4%	2.4%	2.1%	1.9%	1.7%	1.1%	0.8%
2	25.4%	12.7%	8.5%	6.4%	5.1%	3.6%	3.2%	2.8%	2.5%	1.6%	1.3%
3	33.9%	17.0%	11.3%	8.5%	6.8%	4.8%	4.2%	3.8%	3.4%	2.1%	1.7%
4	42.4%	21.2%	14.1%	10.6%	8.5%	6.1%	5.3%	4.7%	4.2%	2.7%	2.1%
5	50.9%	25.4%	17.0%	12.7%	10.2%	7.3%	6.4%	5.7%	5.1%	3.2%	2.5%
6	59.4%	29.7%	19.8%	14.8%	11.9%	8.5%	7.4%	6.6%	5.9%	3.7%	3.0%
7	67.8%	33.9%	22.6%	17.0%	13.6%	9.7%	8.5%	7.5%	6.8%	4.2%	3.4%
8	76.4%	38.2%	25.5%	19.1%	15.3%	10.9%	9.5%	8.5%	7.6%	4.8%	3.8%
9	84.8%	42.4%	28.3%	21.2%	17.0%	12.1%	10.6%	9.5%	8.5%	5.3%	4.2%
10	93.3%	28.3%	31.1%	23.3%	18.7%	13.3%	11.7%	10.4%	9.3%	5.8%	4.7%

3.3.2. Affordability Across Pittsburgh – Census Tract Analysis

After evaluating affordability at a more general, service area level, this study examined affordability at the most detailed geographic level available – the census tract. To do this, median monthly customer water consumption was calculated for that census tract, then used to create a "typical" water, wastewater conveyance and treatment, and stormwater bill in that tract. Then, that bill was compared to the median household income and lowest quintile income specific to that census tract. This gives a view into the diversity of both consumption and incomes that exist across Pittsburgh.

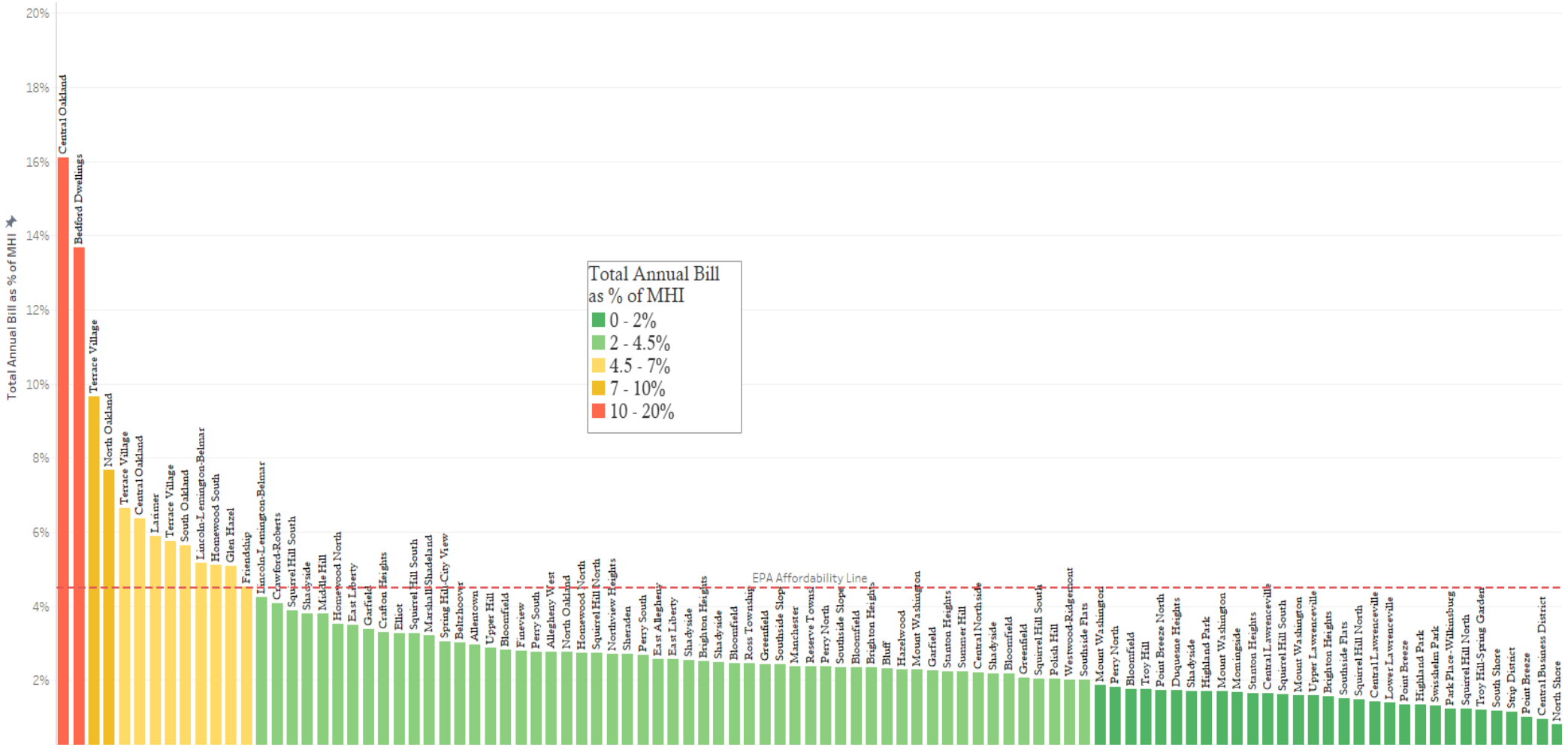
Figure 7 shows the affordability percentage (typical annual bill divided by income) for each census tract included in this analysis. As shown by the number of census tracts in green, most tracts in the PWSA service area have affordable service as defined by the EPA (below 4.5%). However, there are some tracts (shown in yellow, orange, and red) that, even considering a median household income, have affordability percentages above EPA's 4.5% standard.

Figure 7 – Affordability Percentages for Median Household Incomes in Census Tracts Across the PWSA Service Area



Another way to demonstrate this diversity of affordability across Pittsburgh at the MHI level is shown in Figure 8, which is a bar chart of household burden (expressed as annual water, wastewater conveyance and treatment, and stormwater bills as percentage of Median Household Income) of census tracts included in this analysis. Census tracts are labeled with approximate neighborhood and ranked from census tracts with least affordable service (in red) to most affordable service (in dark green). The dotted red line is set at 4.5%, which is the current EPA affordability standard. By this measure, most census tracts have affordable service, but several are above this standard.

Figure 8 - Affordability Percentages for Median Household Incomes in Census Tracts Across the PWSA Service Area, Sorted From Least Affordable to Most Affordable



Of course, as mentioned in the Introduction, looking at households with a median household income does not give much insight into the burden placed on customers who have low incomes. To examine these customers, the above analysis was repeated, but the lowest quintile income (or a 20th percentile income in each census tract) was substituted for MHI. Figure 9, when compared to the MHI map in Figure 7, has many more census tracts colored yellow, orange, light red, and dark red, indicating tracts with potential affordability challenges. Of note are several tracts where a low-income customer with a typical bill is paying above 10% (light red) or in some cases above 20% (dark red) of their annual income for water, wastewater conveyance and treatment, and stormwater service.

Figure 10 shows these same results but in bar chart form. The chart makes clear that approximately half of the census tracts show a typical bill as a percentage of LQI that are at or below 7%. Conversely, there are many other census tracts in Pittsburgh in which low income customers are likely paying over 10 or 20% of their incomes in water, wastewater conveyance and treatment, and stormwater service.

Figure 9 - Affordability Percentages for Lowest Quintile Incomes in Census Tracts Across the PWSA Service Area

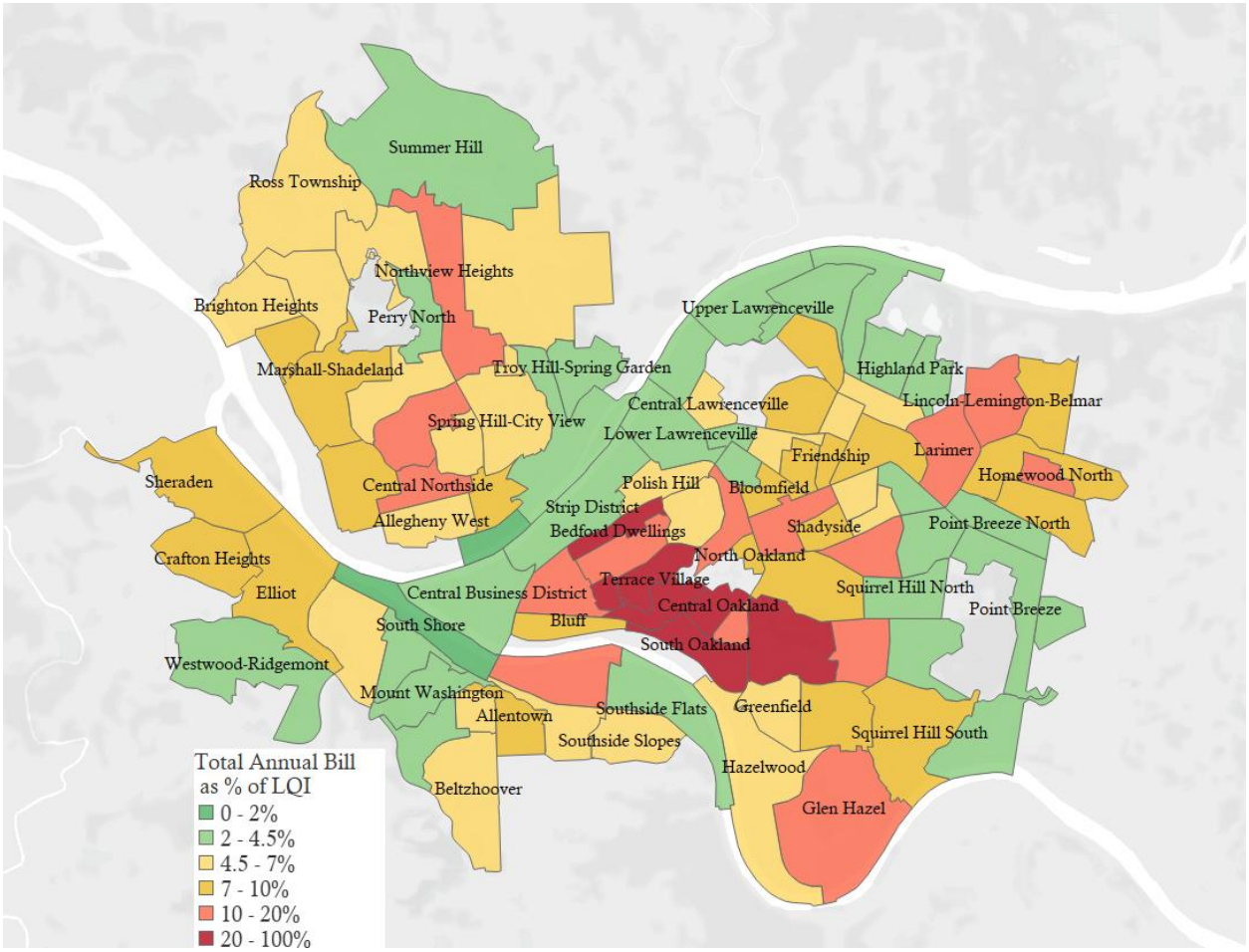
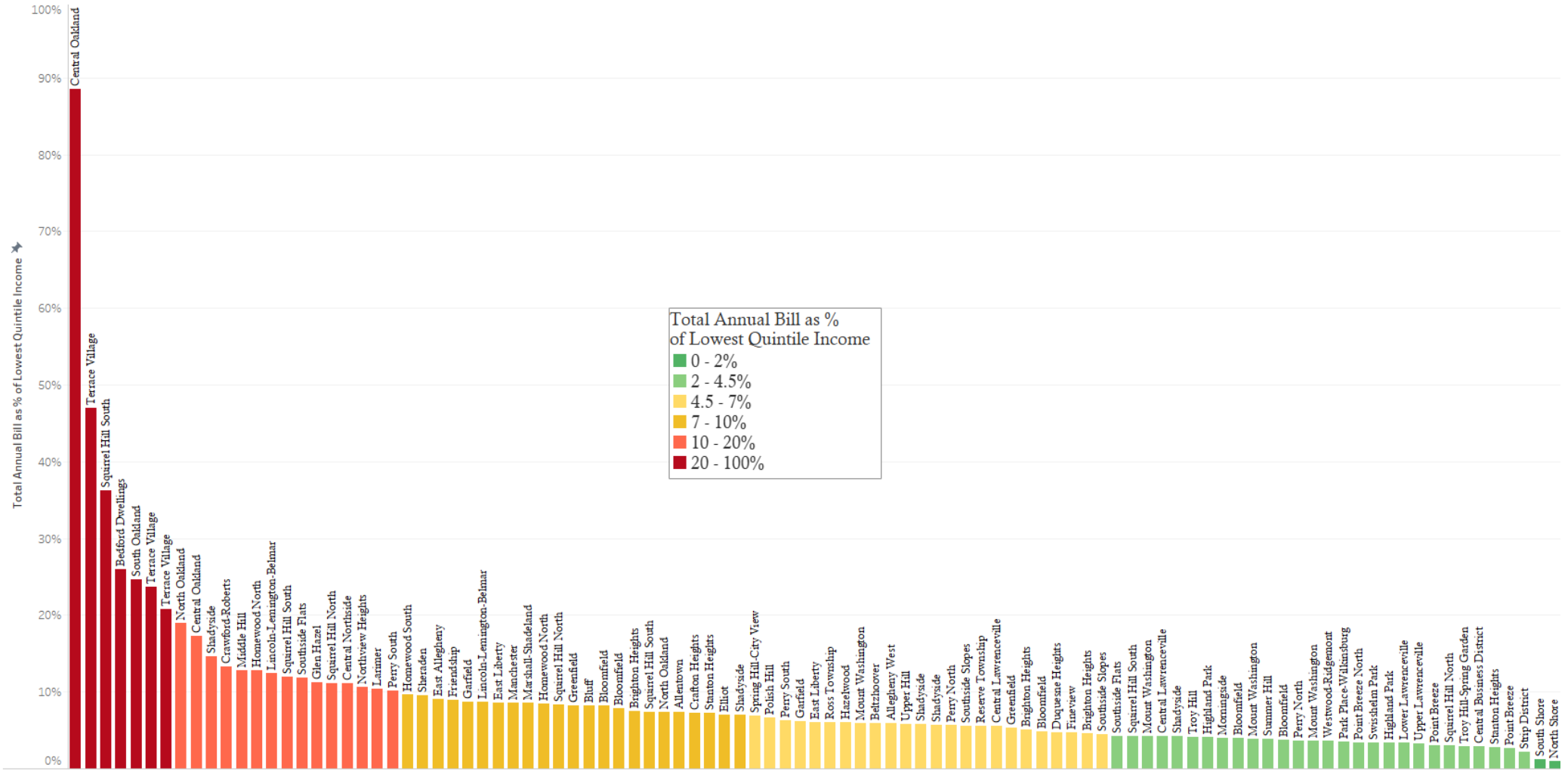


Figure 10 - Affordability Percentages for Lowest Quintile Incomes in Census Tracts Across the PWSA Service Area, Sorted From Least Affordable to Most Affordable



3.4. Priority Areas in Pittsburgh for Affordability Efforts

Given the diversity of socioeconomic conditions existent in Pittsburgh, it stands to reason that certain areas of the city show a higher population of customers who may benefit from PWSA's affordability efforts and engagement.

For example, the distribution of customers and poverty levels can give PWSA insight into where to focus engagement for its bill discount program, which is available to those customers whose incomes fall below 200% of the FPL. ACS data of the percentage of the population living at 200% of FPL in each census tract were crossed with PWSA data of the address of each residential customer to arrive at the number of potential bill discount customers in each census tract. Adding up potential customers eligible in each census tract results in an estimate of 26,840 potential water, wastewater conveyance and treatment, and stormwater customers over the entire PWSA service area. This contrasts with the roughly 4,648 water, wastewater conveyance, and stormwater customers enrolled in the bill discount program, putting the 2023 enrollment percentage at 28.6%.[4] Customers who receive only water service or only wastewater conveyance and stormwater from PWSA are also eligible, but the estimates reported here focused on customers receiving both services.

Table 8 ranks the top census tracts in PWSA's service area by the estimated number of customers who would qualify for PWSA's bill discount program. Members of the LIAAC (Committee) convened by PWSA also suggested that any priority list should include the neighborhood of Homewood and all related census tracts. Those are added at the bottom of Table 8.

[4] As of September 2024, the current bill discount program enrollment is 7,695.

Table 8 – Ranking of Census Tracts in PWSA Service Area by Estimate of Potential Bill Discount Customers, with Six Additional Priority Areas as Recommended by Committee

#	Census Tract	Approximate Area Name	Estimate of Potential Bill Discount Customers
1	1019	Garfield	1,360
2	2716	Marshall-Shadeland	1,080
3	5623	Glen Hazel	853
4	409	South Oakland	723
5	1702	Southside Flats	649
6	1402	Squirrel Hill North	645
7	5619	Lincoln-Lemington-Belmar	579
8	5632.02	East Allegheny	547
9	5626	Elliot	526
10	2614	Perry South	525
11	1803	Allentown	521
12	1011	Upper Lawrenceville	520
13	5651	Central Northside	471
14	2413	Troy Hill	445
15	506	Upper Hill	436
16	1517	Greenfield	426
17	1307	Homewood North	425
18	2615	Perry South	424
19	1807	Mount Washington	419
20	1308	Homewood South	401
21	1302	Homewood North	228

The top areas with estimated potential bill discount customers are mapped in Figure 11.

Figure 11 – Top Areas with Potential Bill Discount Customers, as Estimated by Poverty Levels*



*Neighborhood labels include the estimated number of potential bill discount customers.

The above priority list and map match high-poverty census tracts with the number of PWSA residential customers. Another way to identify areas in need of PWSA assistance is simply by examining which census tracts have the lowest income levels. This is done in Table 9, which shows the census tracts with the lowest LQIs. The previous table of areas with potential bill discount customers overlaps greatly with the table below of areas ranked strictly on LQI. In addition, one of the areas suggested by the LIAAC appear in this ranking (Tract 1302 – Homewood North). These two lists show different socioeconomic statistics relevant to affordability efforts and could be used together to prioritize areas for engagement.

Table 9 – Twenty-One Census Tracts with Lowest Incomes, as Measured by the Lowest Quintile Income

#	Census Tract	Area Name	LQI
1	405	Central Oakland	$2,638
2	511	Terrace Village	$2,638
3	9805	Squirrel Hill South	$2,638
4	409	South Oakland	$6,638
5	402	Terrace Village	$6,750
6	509	Bedford Dwellings	$7,108
7	510	Terrace Village	$8,063
8	501	Middle Hill	$9,424
9	1302	Homewood North	$9,434
10	1203	Lincoln-Lemington-Belmar	$9,711
11	5620	North Oakland	$11,453
12	406	Central Oakland	$11,897
13	305	Crawford-Roberts	$12,029
14	5651	Central Northside	$12,143
15	1702	Southside Flats	$12,254
16	5623	Glen Hazel	$12,405
17	5632.02	East Allegheny	$12,500
18	2614	Perry South	$12,588
19	5625	Sheraden	$12,713
20	1209	Larimer	$12,720
21	2613	Northview Heights	$13,097

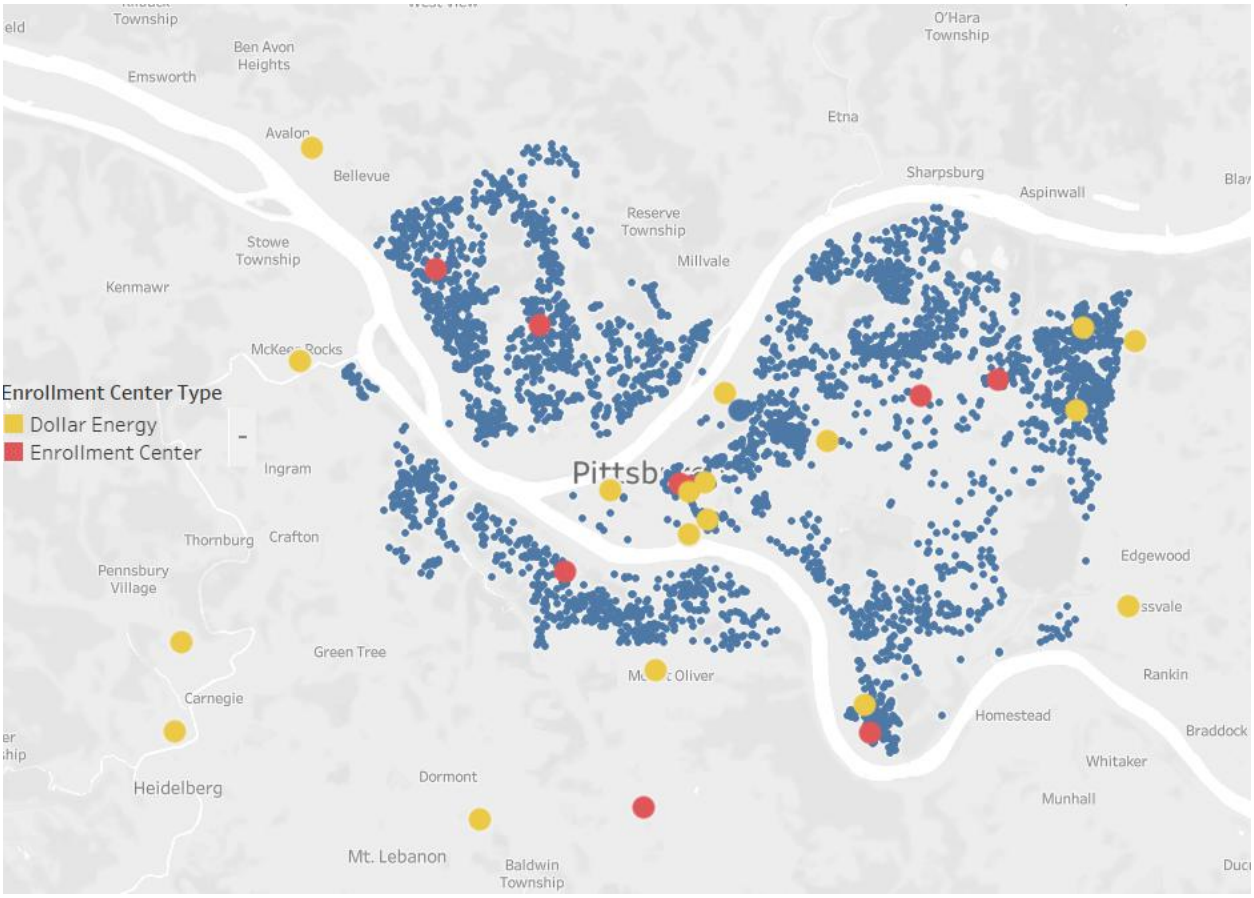
The areas with lowest incomes identified in Table 9 are mapped in Figure 12. In comparison to Figure 11, which is a map of areas with the greatest number of potential bill discount customers, one can observe that low incomes are concentrated in the central areas of Pittsburgh (Oakland) as well as pockets both west (Sheraden), north (Northview Heights, Perry South, and Central Northside) and east (Larimer, Lincoln-Lemington-Belmar, Homewood North) of the city. Because both Carnegie Mellon and the University of Pittsburgh have student residences in Oakland, it is possible that students are responsible for the low incomes reported to the American Community Survey in Oakland neighborhoods. In these cases, PWSA must ascertain whether these low-income students are bill-paying customers of PWSA and if they meet requirements for assistance programs.

Figure 12 – Map of Twenty-One Census Tracts with Lowest Incomes, as Measured by the Lowest Quintile Income



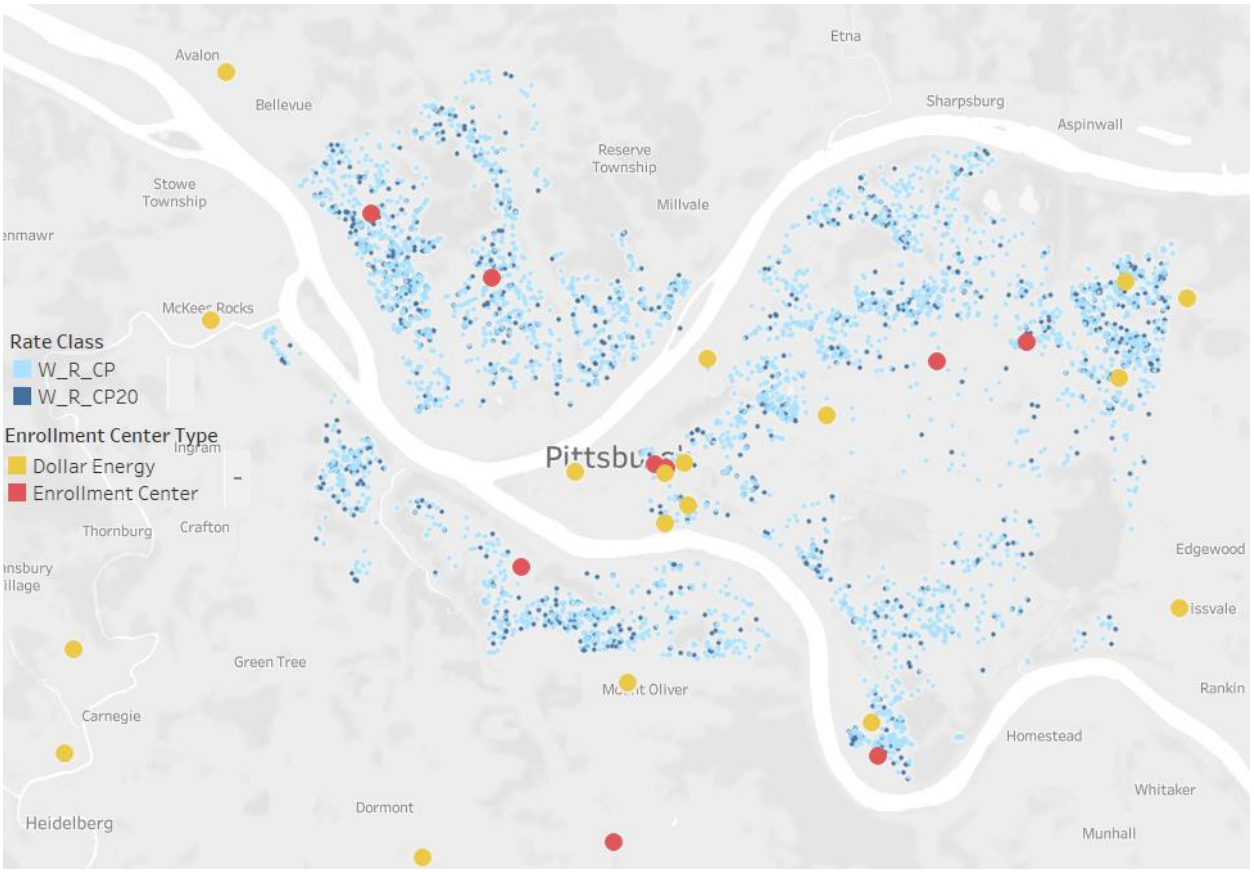
Because PWSA's various assistance programs require direct interaction in person or via telephone, accessibility of enrollment was analyzed. All enrollment can be done over the phone, but in-person customer service centers continue to be an important point of access for many low-income customers. PWSA provided a list of 9 customer service centers where PWSA customers can enroll in PWSA programs, as well as a list of 18 Dollar Energy centers where PWSA customers can apply for hardship grants. These locations are mapped in Figure 13 and Figure 14 below.

Figure 13 – Location of Enrollment Centers (Red Dots) and Dollar Energy Centers (Yellow Dots) versus Location of Residential Customers on Payment Plans (Faded Blue Dots)



The 9 PWSA customer service locations provide good coverage of the PWSA service area, though there are some areas of Pittsburgh, such as the southwest and north sections, that may be underserved.

Figure 14 – Location of Enrollment Centers) and Dollar Energy Centers versus Location of Residential CAP and CAP 20 Customers



3.5. The Effectiveness of Pittsburgh Water's Bill Discount Program

PWSA's bill discount program provides a 100% reduction of PWSA's water and wastewater conveyance fixed charges. In 2024, the water fixed charge for a residential charge was $31.54 per month, while the sewer fixed charged was $8.25. The 100% discount yields a water charge of $0.00 per month and a wastewater conveyance charge of $0.00 per month. Additionally, these customers receive an 85% reduction in the stormwater rate. For 1 ERU, that's a savings of $8.55 per month. Over the course of a year, an enrollee thus saves $580.08 solely by participating in PWSA's program. Customers at or below 50% of the Federal Poverty Level are also eligible for a 60% reduction of PWSA's water and wastewater conveyance volumetric charges.

Those who participate in PWSA's program are also eligible for ALCOSAN's Clean Water Assistance Fund. The Fund gives the customer a credit of $45 every three months. Thus, over the course of a year, an enrollee in ALCOSAN's program can save $180.

In total, a customer who is enrolled in both PWSA and ALCOSAN's assistance programs can save $760.08 per year.

Taking a step back from the savings guaranteed by these programs, it is helpful to reexamine the affordability percentages for water, wastewater conveyance and treatment, and stormwater service before and after counting the savings. The $760 in savings makes a significant impact on a household's finances. For example, a customer with median consumption (3,000 gallons per month) and $10,000 in income would pay 17.0% of the household's income without the bill discount and 9.1% with the bill discount towards water and wastewater conveyance service. Likewise, a customer with $15,000 in income would pay 11.3% of their income without the bill discount and 6.1% with it.

Table 5 showed that for a typical (median) income household water, wastewater conveyance and treatment, and stormwater utility bills were below EPA's 4.5% at 2.6%. Table 10 shows that after the bill discount water, wastewater conveyance and treatment, and stormwater service drops to 1.4% for a household at the service area MHI at median consumption. However, a customer with an income of $26,828 and consumption of 3,000 gallons per month sees a more significant reduction in the affordability percentage from 6.4% (Table 4) to 3.4% of the household's income to water, wastewater conveyance and treatment, and stormwater service.

Table 10 – Current Affordability of Water, Wastewater Conveyance and Treatment, and Stormwater Service (Bill as % of Income) for Low to High Consumption Levels and Low to High Incomes, After the Bill Discount

Water Consumption (Kgal/Month)		Income per Year LQI $26,828	MHI $66,298
Low	1	0.2%	0.1%
Median	3	3.4%	1.4%
High	5	6.6%	2.7%

The PWSA and ALCOSAN bill discounts significantly decrease the burden on households. Table 11 shows the effect of PWSA's bill discount in isolation. That is, it shows the burden of PWSA water, wastewater conveyance, and stormwater charges on household incomes, excluding the ALCOSAN charges a customer would pay. As expected, the burden that PWSA charges put on low- and median-income customers is more affordable after subtracting ALCOSAN charges. Even at low income, a customer with median consumption pays 2.2% of annual income for PWSA service.

Table 11 - Current Affordability of Water, Wastewater Conveyance, and Stormwater Service After the PWSA Bill Discount, Not Counting ALCOSAN Charges

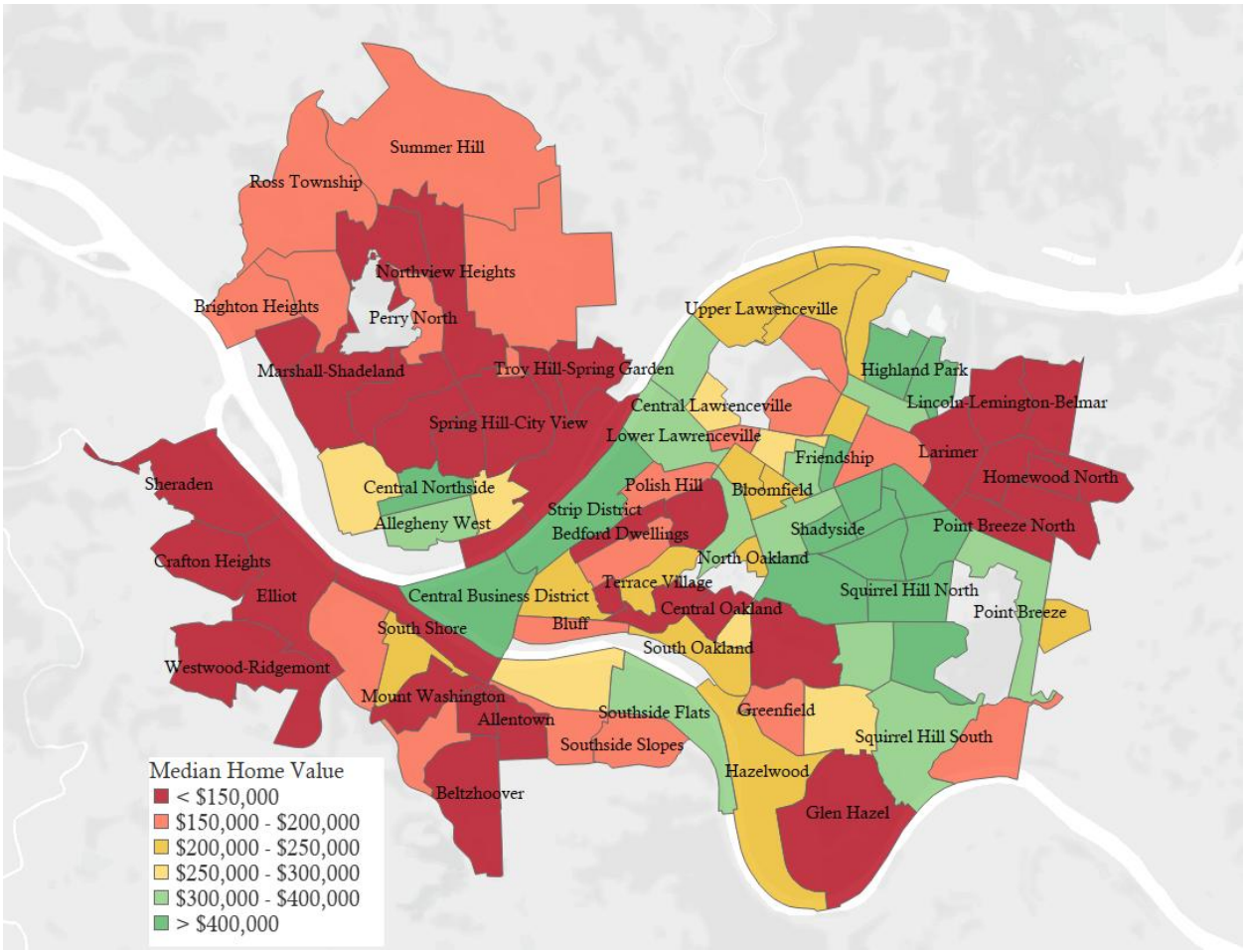
Water Consumption (Kgal/Month)		Income per Year LQI $26,828	MHI $66,298
Low	1	0.1%	0.0%
Median	3	2.2%	0.9%

High	5	4.4%	1.8%

3.6. Additional Views and Analyses

As a part of this study, PWSA wanted to explore new metrics that may be correlated with affordability. The metrics that were analyzed are median home value, Supplemental Nutrition Assistance Program (SNAP) participation, and the percent of population older than 65 years. The data for these three metrics were sourced from the 2022 5-year ACS census. Although the median home values can also be found in the tax assessor roll, after discussions with PWSA staff it was determined that the assessment data available to us was likely out of date or incomplete.

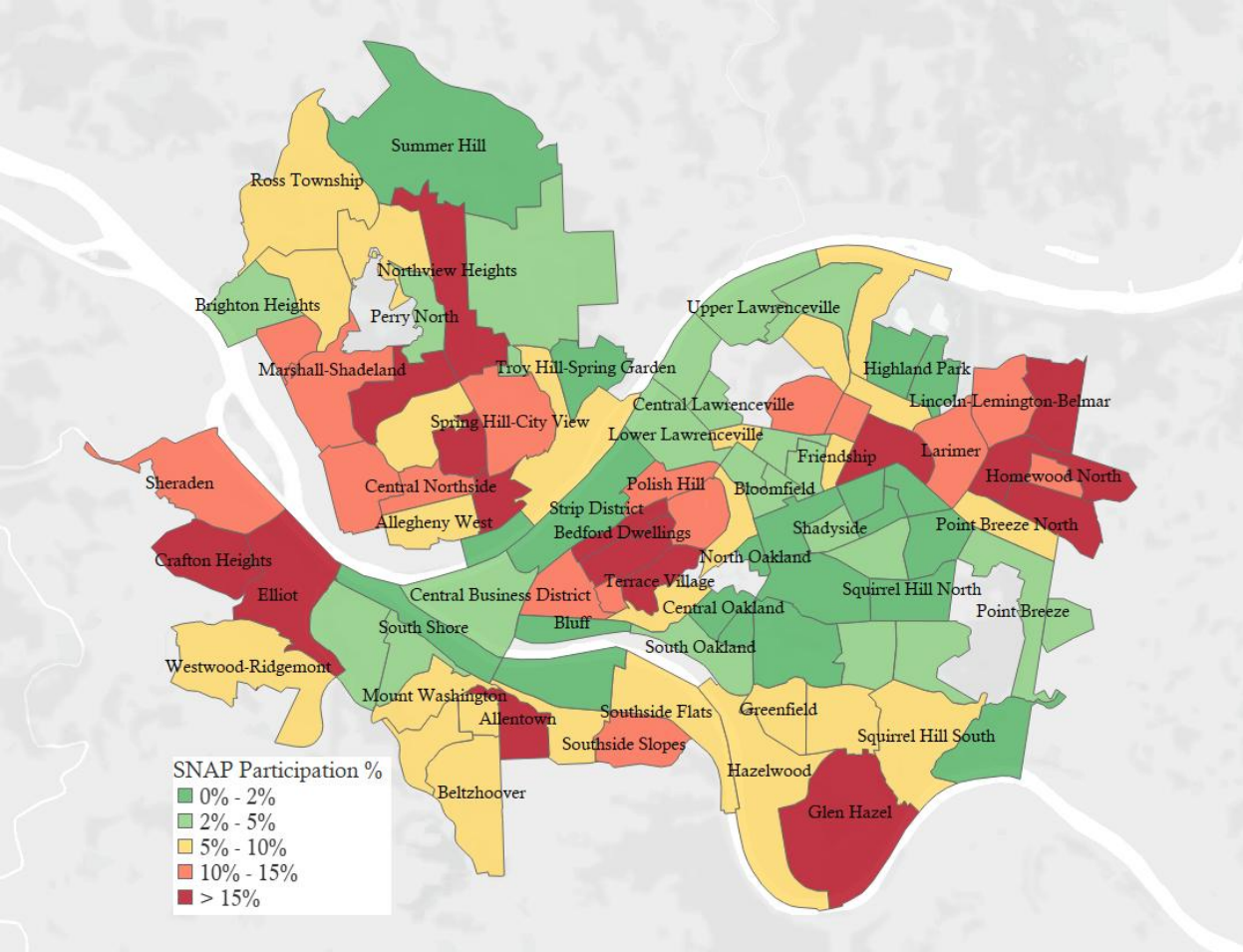
Figure 15 – Median Home Values in Census Tracts Across PWSA Service Area



Typically, median home values reflect the overall economic status of a neighborhood. Areas with lower home values are usually indicative of lower household incomes and higher rates of financial hardship. Consequently, residents in these neighborhoods may struggle to afford basic utilities, such as water and wastewater conveyance and treatment services.

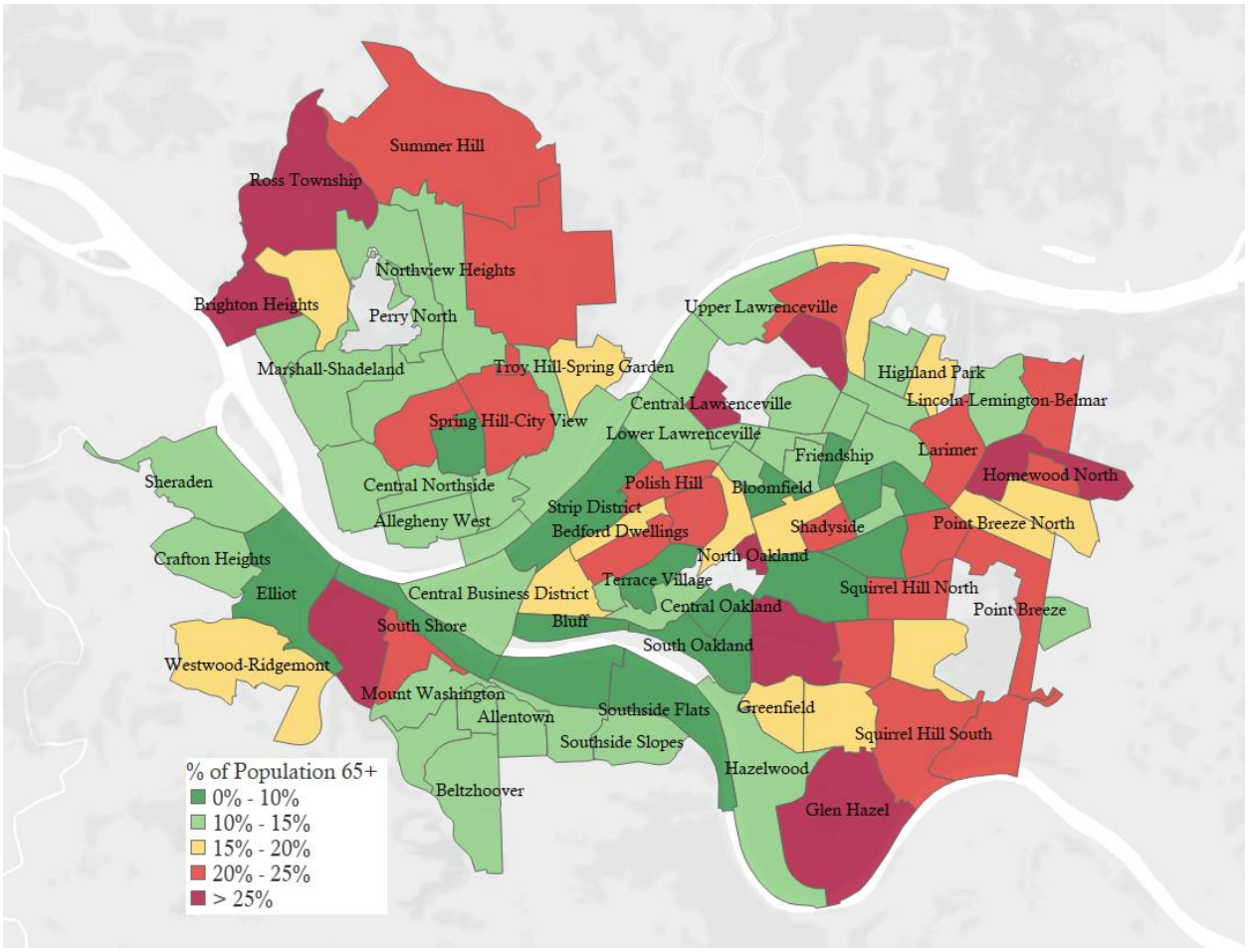
In comparison to Figure 11, which is a map of areas with the greatest number of potential bill discount customers, one can observe that low incomes are concentrated in the central areas of Pittsburgh (Oakland) as well as pockets both west (Elliot, Perry South, and Central Northside) and south (Glen Hazel, Greenfield, Mount Washington) of the city.

Figure 16 – Supplemental Nutrition Assistance Program (SNAP) in Census Tracts Across PWSA Service Area



SNAP participation may also reflect the overall economic status of a neighborhood. Areas with higher SNAP participation are usually indicative of lower household incomes and higher rates of financial hardship. Compared to Figure 16 above, one can observe that a few census tracts are consistently showing up red, such as Glen Hazel, Oakland, and Southside Flats.

Figure 17 – Percent of Population Aged 65 and Older in Census Tracts Across PWSA Service Area



Another metric that was analyzed is percentage of the population aged 65 and older by census tract. Areas with higher populations of people aged 65 and older can potentially be lower income due to several factors. Many seniors rely on fixed incomes, such as Social Security, pensions, or retirement savings, which may be limited. This can result in lower overall income levels within the community. Additionally, some older adults may not have sufficient retirement savings, leading to financial struggles and lower household incomes. Also, most people aged 65 and older are retired and not part of the active workforce, resulting in lower earned income levels within these communities.

Figure 18 – Map of Twenty-One Census Tracts with Worst Affordability Composite Score



Figure 18 above shows a map of twenty-one census tracts with the worst affordability composite score. To create a composite score ranking, we used the following 8 metrics: median household income (MHI), lowest quintile income (LQI), percentage of population at 200% of the Federal Poverty Line (FPL), annual bill as a percentage of MHI, annual bill as a percentage of LQI, SNAP participation percentage, median home value, and percentage of population aged 65 and older. We created an equal-weighted point ranking system on a scale of 1 through 5 for each metric, with 1 being favorable affordability score and 5 being an unfavorable affordability score. Then we created a list of the twenty-one census tracts that produced the worst affordability composite score. In comparison to Figure 12 above, a map of twenty-one census tracts with the lowest incomes as measured by the lowest quintile income, 16 census tracts appear in both maps. Some of the notable census tracts that appear in both maps are Glen Hazel, Larimer, Lincoln-Lemington-Belmar, Homewood North, Perry South, Northview Heights, and the Oakland area.

4. Water, Wastewater Conveyance and Treatment, and Stormwater Summary

The purpose of this study was to assess the current state of affordability of water, wastewater conveyance and treatment, and stormwater bills in Pittsburgh Water and Sewer Authority's service area. The need for this study was borne out of a settlement mandate by the Pennsylvania Public Utilities Commission for PWSA to update its 2019 assessment of PWSA's service area affordability when proposing new rates for approval by the PUC in future years. This study was above all a technical and statistical analysis and was not meant to provide recommendations to PWSA on changes to its affordability efforts.

Given that, this study compiled the highest quality data available from PWSA and from external sources such as the ACS to calculate customer bills for water, wastewater conveyance and treatment, and stormwater service and compare them to household incomes. Industry best practices were followed, such as the EPA's 1997 method, 2024 updates to that method, and the AWWA 2019 method for calculating household affordability. This analysis went to the most detailed levels of geographic resolution by evaluating affordability down to the census tract level across Pittsburgh and even analyzing actual account level billing and customer assistance program participation data.

Pittsburgh is a diverse city with a wide range of incomes and poverty levels. The service area median household income is $66,298 and the 20th percentile income (Lowest Quintile Income) is $26,828. Approximately 35% of the population is estimated to live at or below 200% of the Federal Poverty Level.

The median annual water, wastewater conveyance and treatment, and stormwater bill (including wastewater treatment charges from ALCOSAN) is $1,696. This is the bill of a residential customer with a 5/8" water meter and the median service area consumption of 3,000 gallons per month. Annual bills can range from $713 (assuming no consumption) to $4,665 (assuming 10,000 gallons per month) or more depending on a customer's consumption.

Neither the PWSA, the PA PUC, nor the LIAAC has specifically defined what constitutes affordable or unaffordable service. Given this, this study provides a range of affordability statistics for decision makers. The EPA affordability metric (typical bill divided by service area median household income) for PWSA is 2.6%, meaning that this customer pays 2.6% of the household's annual income for water, wastewater conveyance and treatment, and stormwater service. The EPA's affordability cutoff is 4.5%, though utilities and customer advocates have criticized the metric as unrepresentative of the affordability challenges of lower income customers. By the newer AWWA affordability metric, water, wastewater conveyance and treatment, and stormwater service in PWSA represents a "Moderate-High Burden" on customers, because the percentage of the population living at or below 200% of the Federal Poverty Line is 35.3% and the typical bill as a percentage of a 20th percentile household income is 6.4%. In addition, it is important to note that ALCOSAN's contribution to customer burden is significant and PWSA has no control over ALCOSAN's portion of a customer's bill.

Affordability depends on customer consumption and perhaps more heavily on household income. The diversity of incomes across PWSA's service means that there are economically disadvantaged areas of the city where the customer burden is likely to be higher. Mapping affordability by census tract shows several areas of Pittsburgh where the burden of water, wastewater conveyance and treatment, and stormwater service on customers with Lowest Quintile Incomes may be above 20% of their annual incomes. PWSA has enrolled approximately 4,645 water, wastewater conveyance, and stormwater customers in its bill discount program, while this study estimates there could be approximately 26,834 residential water, wastewater conveyance, and stormwater customers in the service area who could be eligible based on poverty and customer location statistics. The census tracts with the largest number of potential bill discount customers are identified in this report.

PWSA's current bill discount program reduces monthly water and wastewater conveyance fixed charges by 100%. This results in savings of $477 per year for enrolled customers. These customers also receive an 85% reduction in the stormwater rate. For 1 ERU, that's a savings of $8.55 per month. Over the course of a year, an enrollee thus saves $580.08 solely by participating in PWSA's program. In addition, ALCOSAN's Clean Water Assistance Fund provides a credit of $180 per year. Together, the programs total $760 in annual savings for enrollees. PWSA requires customers certify they live at or below 200% of the Federal Poverty Level to participate in the program, while ALCOSAN requires customers certify they live at or below 150% of the Federal Poverty Level to participate. To demonstrate the effect of these programs, a customer with the service area 20th percentile income ($26,828) and median consumption (3,000 gallons per month) would pay 6.4% of income towards water, wastewater conveyance and treatment, and stormwater service, while after participating in the program the customer would pay 3.4% of the household's income for service. PWSA customers at or below 50% of the Federal Poverty Level are also eligible for a 60% reduction of water and wastewater conveyance volumetric charges.

Finally, using additional metrics such as median home value, SNAP participation, percent of population aged 65 and older, and the location of PWSA customers enrolled in a payment plan or bill discount program can significantly enhance a PWSA's ability to target outreach efforts. Median home value can indicate areas where residents may face financial challenges, while SNAP participation provides direct insight into households already experiencing economic hardship. Analyzing the geographic distribution of customers enrolled in existing assistance programs further highlights neighborhoods with a demonstrated need. By focusing on these indicators, PWSA can more effectively allocate resources and tailor communication strategies to reach those most likely to benefit from affordability initiatives, ensuring that support reaches the communities that need it most.

5. Appendix A – Wastewater Conveyance and Treatment and Stormwater Only Analysis

Some customers do not receive water service and are deemed "wastewater conveyance and treatment and stormwater only" accounts. Some census tracts only include wastewater conveyance and treatment and stormwater accounts and other census tracts include wastewater conveyance and treatment and stormwater as well as dual service accounts. This section focuses on affordability for wastewater conveyance and treatment and stormwater only accounts wherever they occur.

5.1. Assumptions of the Wastewater Conveyance and Treatment and Stormwater Only Analysis

The following assumptions were made to facilitate this affordability analysis:

1. A "typical customer" in this section is defined as a residential customer that only receives wastewater conveyance and stormwater service from PWSA as well as wastewater treatment service from ALCOSAN.
2. The "typical customer" is defined as having a 5/8" meter size. There is a small minority of residential customers that have a meter size larger than 5/8" and thus pay a higher fixed monthly charge. They are excluded from this analysis so that all findings here are reported for the most common residential customer type.
3. The "typical customer" is defined as one (1) equivalent residential unit (ERU) for the assessment of stormwater rates. Some residential customers with much smaller or larger impervious area on their properties are categorized as less than or more than 1 ERU, but the majority of residential customers are assessed a 1 ERU stormwater rate.
4. Both PWSA and ALCOSAN offer bill assistance programs. Because a typical PWSA customer could qualify for both of these programs, when calculating the effect of these discounts, they are both included as if the customer benefitted from them for a complete calendar year.
5. Because of the lack of access to individual income data, incomes reported by the ACS are taken to be representative.
6. To recreate a typical wastewater conveyance and treatment and stormwater bill in each census tract, PWSA's 2023 wastewater conveyance consumption data was analyzed. Median residential wastewater conveyance consumption per month was calculated for each census tract. That consumption was then used to recreate a typical wastewater conveyance and treatment and stormwater bill in that census tract.

7. PWSA and ALCOSAN's 2024 rates were used for the purposes of calculating customer bills.
8. Census tracts with fewer than five residential PWSA wastewater conveyance and stormwater only accounts, as identified by PWSA's billing database, were excluded from the analysis.

5.2. Limitations of Wastewater Conveyance and Treatment and Stormwater Only Analysis

It is important to note the limitations of this wastewater conveyance and treatment and stormwater only analysis. First, this is an analysis of current affordability and uses 2024 rates to calculate customer bills. Rates may change in the future and these changes will certainly impact customer wastewater conveyance and treatment and stormwater bills. Second, this analysis is not meant to be a true representation of all of the financial challenges faced by PWSA's wastewater conveyance and treatment and stormwater only customers. Rather, it sought to give an overview of the affordability challenges experienced, especially by those with median household incomes and those living at the lowest quintile income.

5.3. Summarized Findings of Wastewater Conveyance and Treatment Only Analysis

There are approximately 29,750 residential wastewater conveyance and stormwater only account holders served by PWSA and the total population served is approximately 115,000 according to the 2022 American Community Survey (ACS). 40 census tracts are included in this analysis. 12 of the census tracts contain a blended mix of both water, wastewater conveyance, and stormwater customers and wastewater conveyance and stormwater only customers while 28 of the census tracts only contain wastewater conveyance and stormwater customers.

Figure A1 – Wastewater Conveyance and Treatment and Stormwater Only Census Tracts (with Approximate Neighborhood Names) Included in the Affordability Analysis



The PWSA wastewater conveyance and treatment and stormwater only service area has a median household income (MHI) of $62,439. Rather than looking at the ACS MHI for the City of Pittsburgh, this MHI statistic was calculated by taking the average of all of the census tract MHIs included in the analysis to more accurately represent the MHI for the wastewater conveyance and treatment and stormwater only service area. This was done to better represent the income level of residential wastewater conveyance and treatment and stormwater only PWSA customers. The upper limit of the lowest quintile household income of the service area, or the 20th percentile income, is $28,501.

Figure A2 - Median Household Incomes of Wastewater Conveyance and Treatment and Stormwater Only Census Tracts

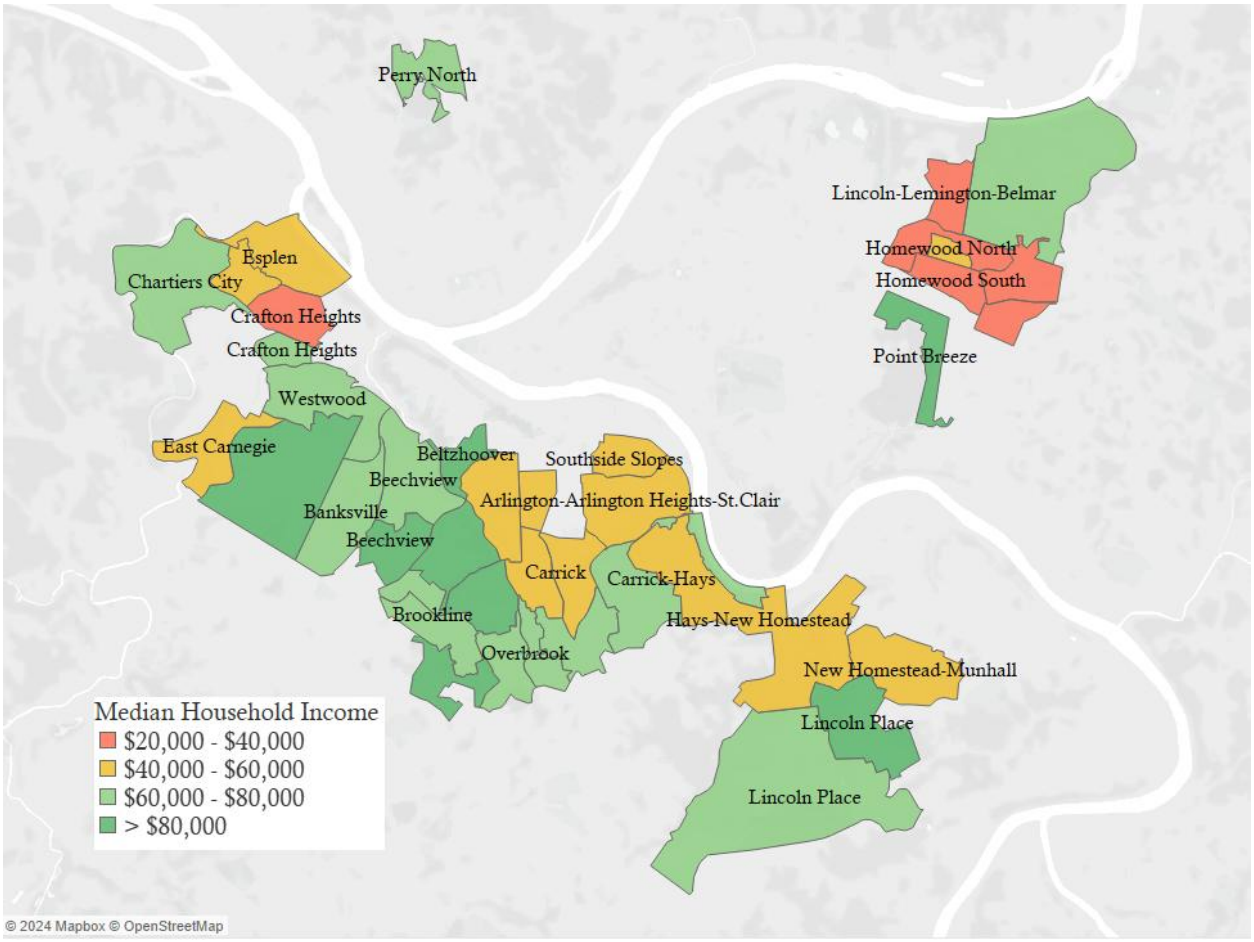
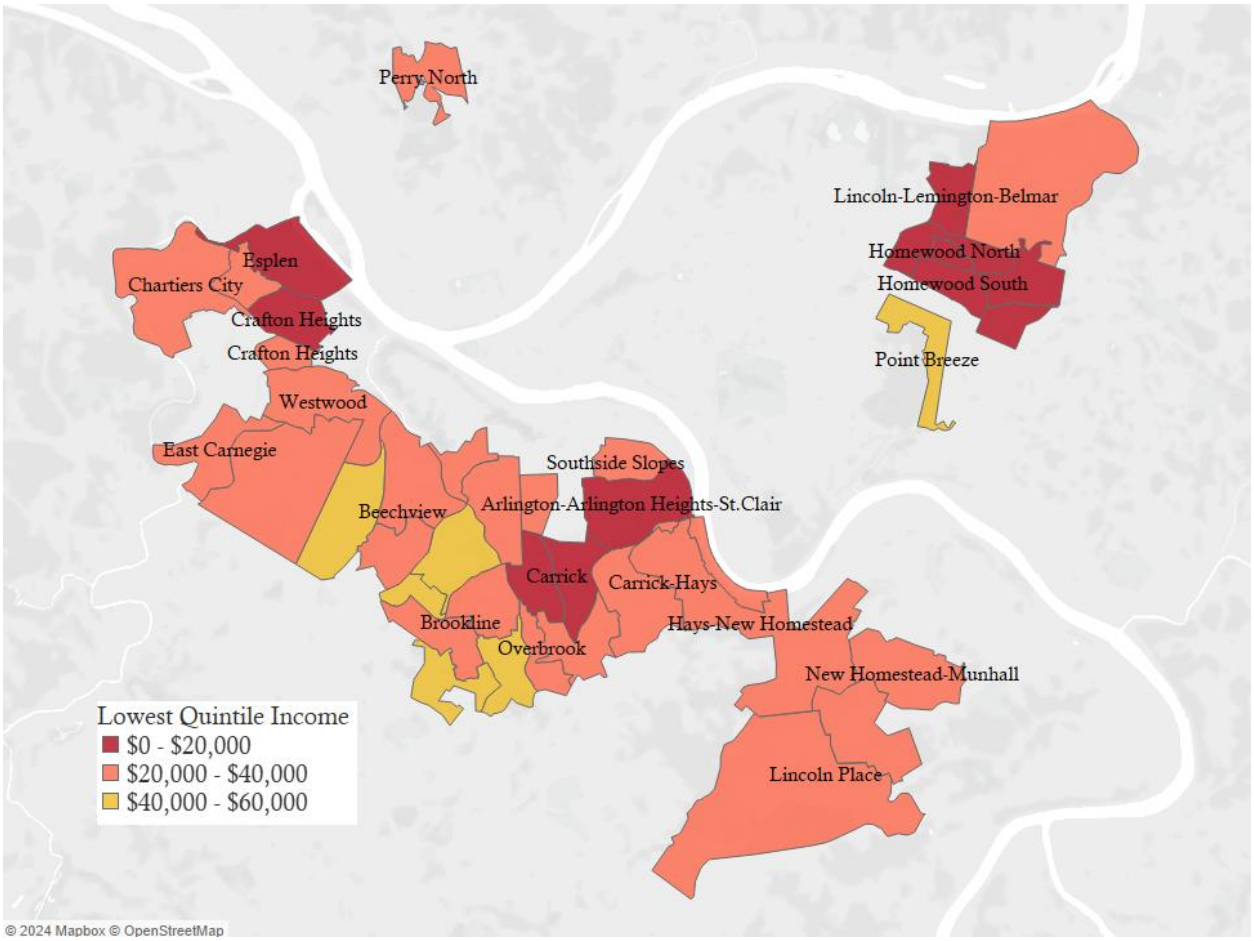


Figure A3 – Lowest Quintile Incomes of Wastewater Conveyance and Treatment and Stormwater Only Census Tracts



As previously discussed in this report, a starting point for an analysis of utility affordability is to examine how much customers are paying for service. Residential PWSA wastewater conveyance customers are assessed a fixed monthly charge for wastewater conveyance service, a fixed charge for stormwater, and a fixed charge from ALCOSAN for wastewater treatment service. Thus, a residential wastewater conveyance and treatment and stormwater only customer with a 5/8" meter size (the most typical residential size) pays $26.11 per month in cumulative fixed charges. These are charges that the customer cannot control or waive (unless they participate in the bill discount program).

In addition to the fixed charges, PWSA and ALCOSAN charge per 1,000 gallons of wastewater usage. It is important to remember that PWSA has a minimum allowance of 1,000 gallons per month for a customer with a 5/8" meter. That is, the fixed charge "includes" 1,000 gallons of unbilled usage. After a customer surpasses 1,000 gallons of wastewater usage during a month, subsequent usage is billed at $6.68 per 1,000 gallons. ALCOSAN does not have a minimum allowance. All wastewater usage is billed at $11.14 per 1,000 gallons.

As shown in Table A, wastewater conveyance and treatment and stormwater only customer bills increase significantly with every 1,000 gallons consumed. The median residential wastewater consumption per month in 2023 was 3,000 gallons. A low-consuming household (20th percentile) used 1,000 gallons per month while a high-consuming household (80th percentile) used 5,000 gallons per month. Table A shows the annual wastewater conveyance and treatment bills at these three consumption levels. A "low consumption" bill is $450 per year, a median-consumption bill is $886, and a "high consumption" bill is $1,322. PWSA charges equal approximately 45% of each of a typical customers' total annual bill, while ALCOSAN makes up approximately 55%.

Table A1 – Annual Wastewater Conveyance and Treatment and Stormwater Bills for Low, Median, and High-Consumption Customers

Wastewater Consumption (Kgal/Month)		PWSA Sewer	PWSA Stormwater	ALCOSAN	Total
Low	1	$103	$120	$227	$450
Median	3	$272	$120	$494	$886
High	5	$440	$120	$762	$1,322

As shown in Table A, residential wastewater conveyance and treatment and stormwater bills in Pittsburgh can range from a minimum of $450 per year to over a thousand dollars per year depending on customer consumption (assuming no bill discount), with a typical bill around $886 per year. Is this affordable? This is a policy question that has not yet been answered by PWSA or the Low Income Assistance Advisory Committee (LIAAC), a stakeholder group convened to provide feedback to PWSA on affordability initiatives. Given that, this summary simply seeks to provide informative statistics and industry reference points that demonstrate the scope of the burden that wastewater conveyance and treatment and stormwater bills are putting on households in PWSA's wastewater conveyance and treatment and stormwater only service area.

Table B below shows the wastewater conveyance and treatment and stormwater only affordability percentages of a customer with low (20th percentile), median, and high (80th percentile) wastewater consumption compared to a low (LQI, or 20th percentile) or median annual household income. Of note is a customer with a typical (median) consumption of 3,000 gallons per month and typical (median) annual household income of $62,439. That customer pays 1.2% of their annual income for wastewater conveyance and treatment and stormwater service. By the EPA affordability standard, which looks specifically at this "typical" customer, service is affordable because the burden is less than 2.0%.

However, one can observe variations in wastewater conveyance and treatment and stormwater only affordability in Table B. Clearly, having a median income makes service more affordable (customers paying 2.0% or less of their incomes toward wastewater conveyance and treatment and stormwater service), but a customer with both high consumption (5,000 gallons per month) and a low income ($28,501 per year) pays 4.6% of the household's income towards wastewater conveyance and treatment and stormwater service.

Table A2 – Current Affordability Percentages (Annual Bill Divided by Annual Household Income) at Low to High Consumption Levels and Low and Median Income Levels

Wastewater Consumption (Kgal/Month)		Income per Year	
		LQI	MHI
		$28,501	$62,439
Low	1	1.6%	0.7%
Median	3	3.1%	1.4%
High	5	4.6%	2.1%

Because ALCOSAN wastewater treatment charges comprise a significant portion (approximately 55%) of a customer's wastewater conveyance and treatment and stormwater bill, it may be useful for PWSA to isolate its portion of a customer's wastewater conveyance and treatment and stormwater bill to examine affordability of its wastewater conveyance and stormwater services. This is done in Table C, which, when contrasted with the above table including ALCOSAN charges, shows that PWSA's portion of the wastewater conveyance and stormwater only affordability burden is 1.4% of income for a low-income customer with median usage. By contrast, when ALCOSAN charges are included, that customer pays 3.1% of income for wastewater treatment and stormwater only service. For a typical customer with both median consumption and median income, PWSA wastewater conveyance and stormwater charges represent 0.6% of annual income, while including ALCOSAN charges increases the burden to 1.4% of income.

Table A3 - Current Affordability Percentages at Low to High Consumption Levels and Low and Median Income Levels, Not Counting ALCOSAN Charges

Wastewater Consumption (Kgal/Month)		Income per Year	
		LQI	MHI
		$28,501	$62,439
Low	1	0.8%	0.4%
Median	3	1.4%	0.6%
High	5	2.0%	0.9%

After evaluating affordability at a more general, service area level, this wastewater conveyance and treatment and stormwater only analysis examined affordability at the most detailed geographic level available – the census tract. To do this, median monthly customer wastewater consumption was calculated for each census tract, then used to create a "typical" wastewater conveyance and treatment and stormwater bill in that tract. Then, that wastewater conveyance and treatment and stormwater bill was compared to the median household income and lowest quintile income specific to that census tract. This gives a view into the diversity of both consumption and incomes that exist across Pittsburgh.

Figure D and Figure E below show the affordability percentage (typical annual bill divided by income) for each census tract included in this wastewater conveyance and treatment and stormwater only analysis. As shown by the census tracts in green, 39 tracts in the PWSA wastewater conveyance and treatment and stormwater only service area have affordable service as defined by the EPA (below 2.0%). However, there is 1 tract (shown in red) that, even considering a median household income, have affordability percentages above EPA's 2.0% standard.

Figure A4 – Affordability Percentages for Median Household Incomes in Wastewater Conveyance and Treatment and Stormwater Only Census Tracts

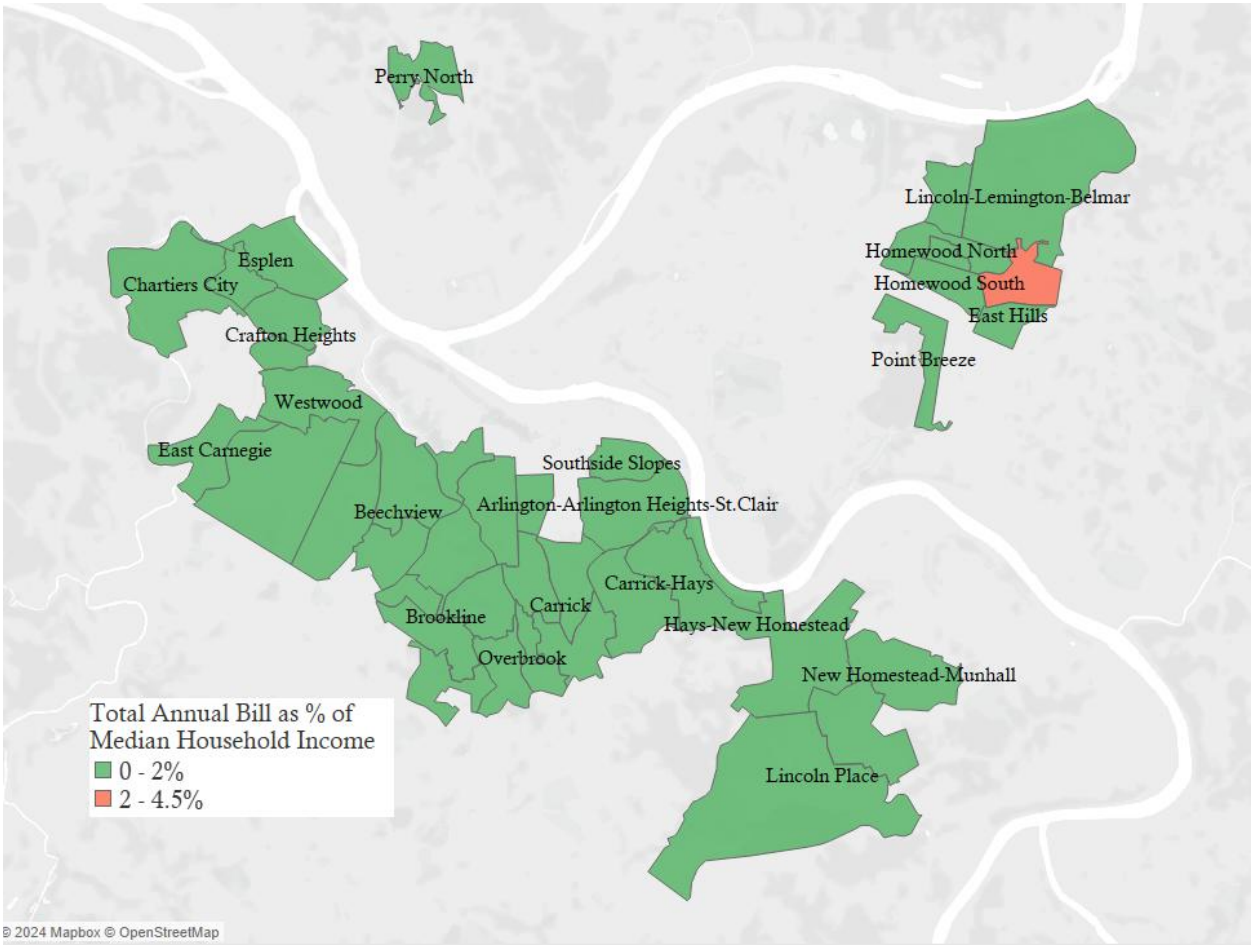
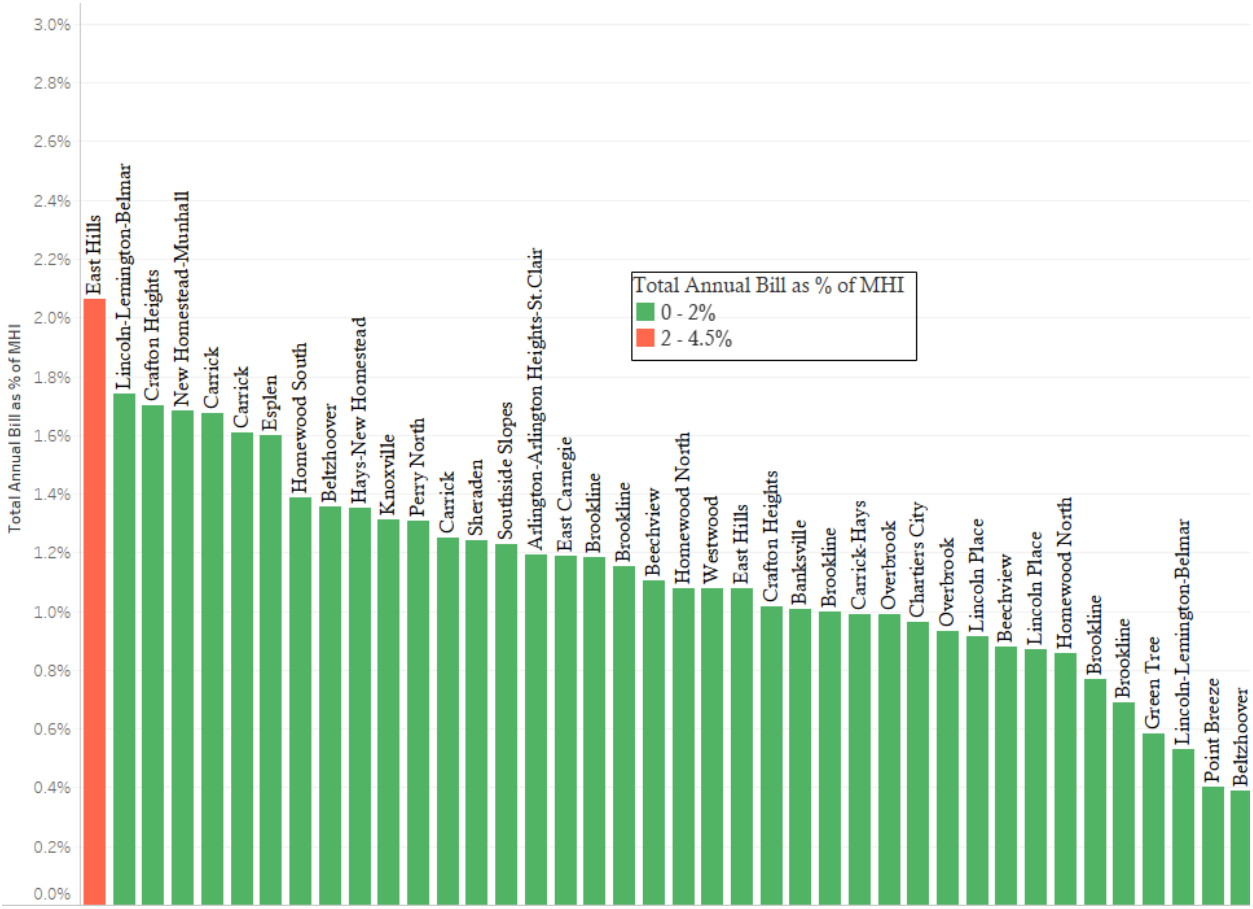


Figure A5 - Affordability Percentages for Median Household Incomes in Wastewater Conveyance and Treatment and Stormwater Only Census Tracts, Sorted From Least Affordable to Most Affordable



Looking at households with a median household income does not give much insight into the burden placed on customers who have low incomes. To examine these customers, the above analysis was repeated, but the lowest quintile income (or a 20th percentile income in each census tract) was substituted for MHI. Figure F below, when compared to the MHI map in Figure D, has many more census tracts colored light red and dark red, indicating tracts with potential affordability challenges. 27 of the 40 census tracts have affordability percentages above EPA's 2.0% standard. Of note are several tracts where a low-income customer with a typical bill is paying between 4.5% to nearly 7.0% (dark red) of their annual income for wastewater conveyance and treatment and stormwater service.

Figure A6 - Affordability Percentages for Lowest Quintile Incomes in Wastewater Conveyance and Treatment and Stormwater Only Census Tracts

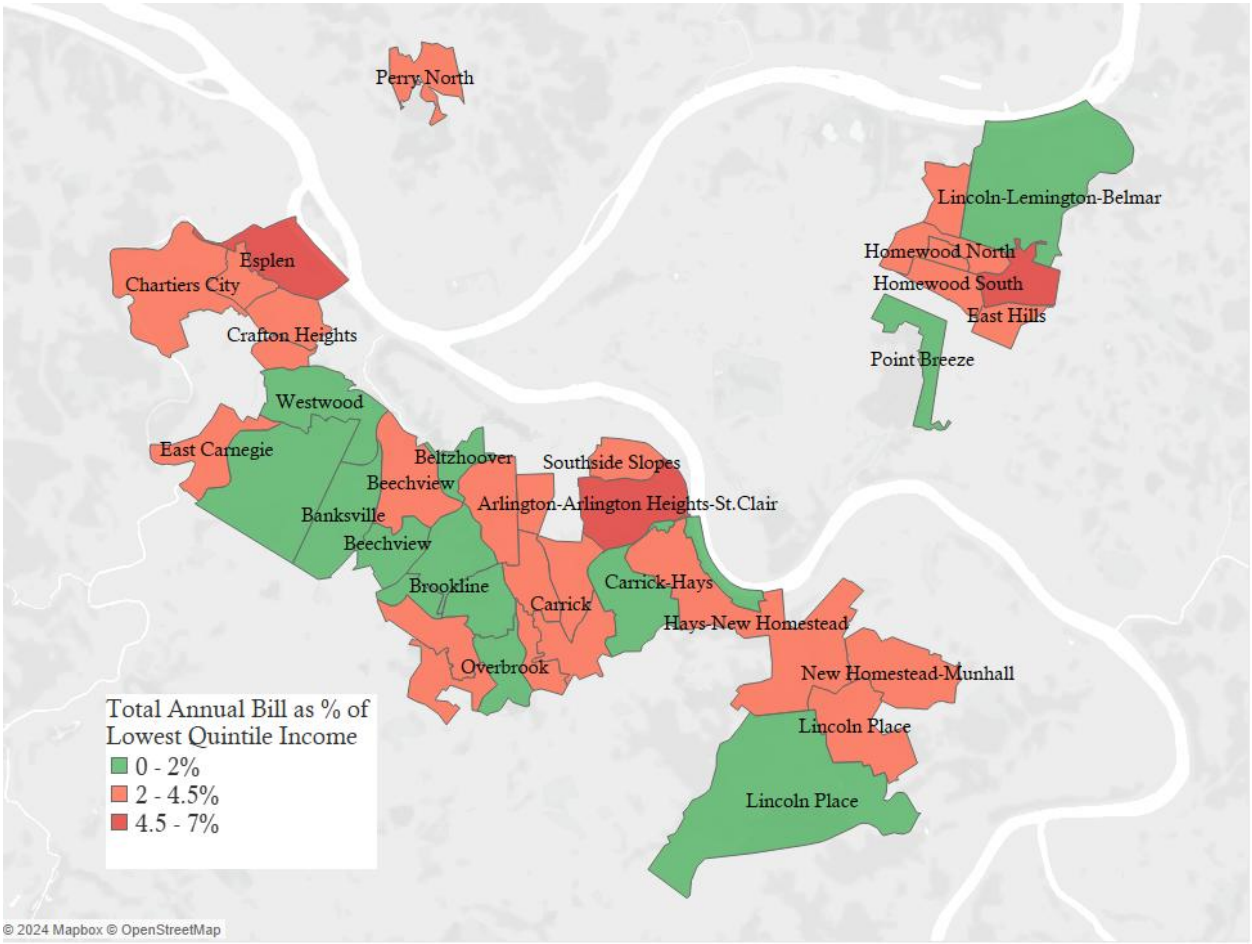
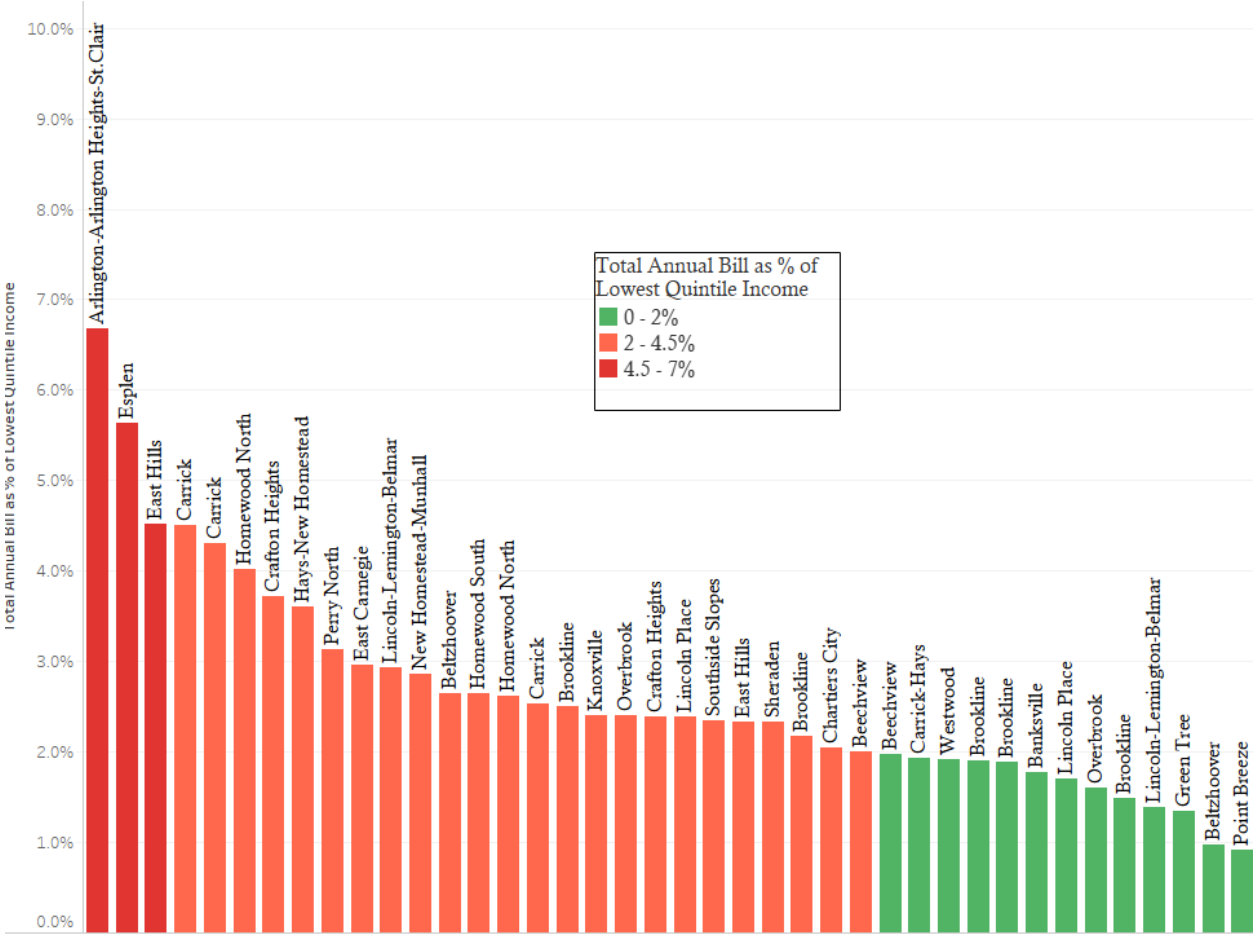
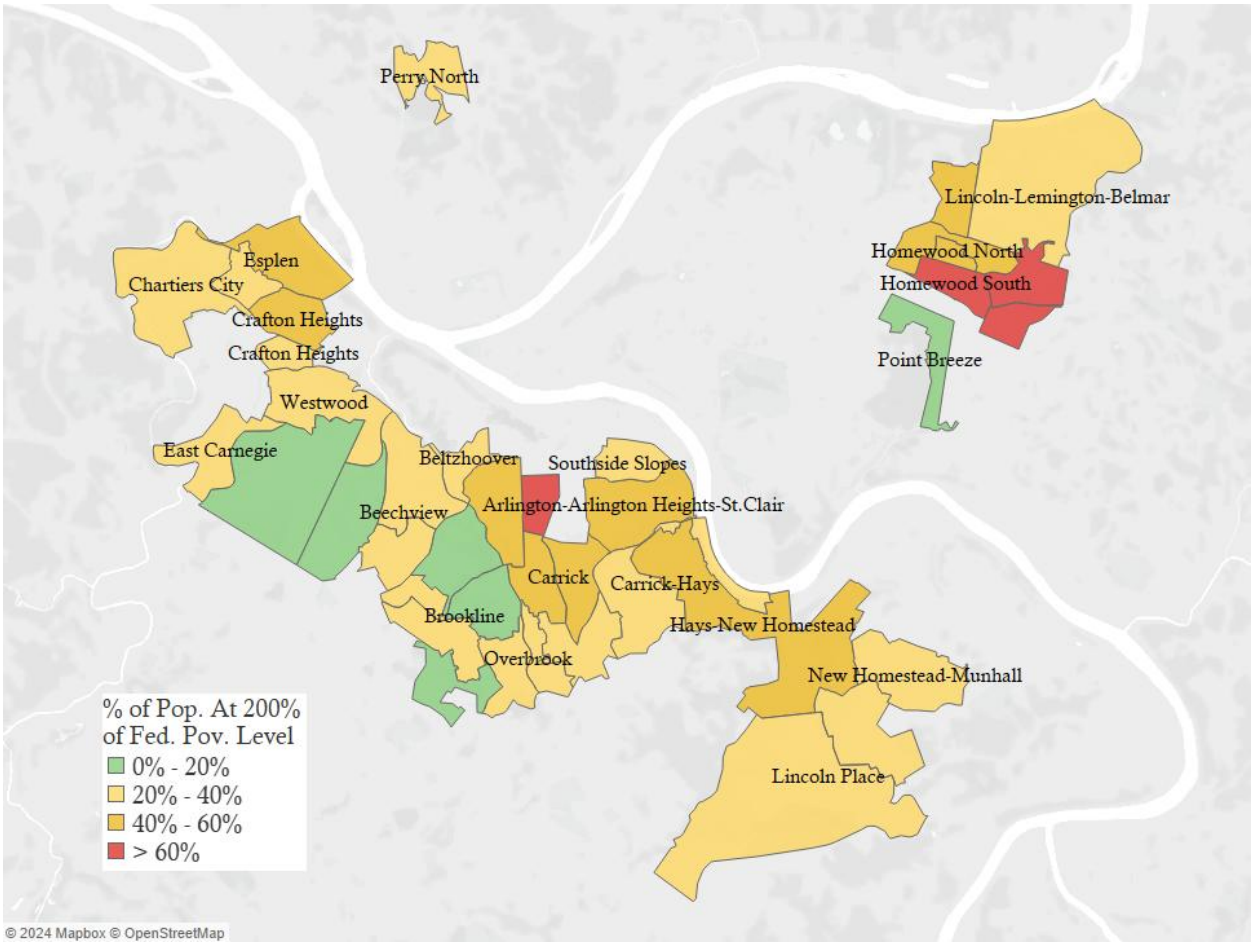


Figure A7 - Affordability Percentages for Lowest Quintile Incomes in Wastewater Conveyance and Treatment and Stormwater Only Census Tracts, Sorted From Least Affordable to Most Affordable



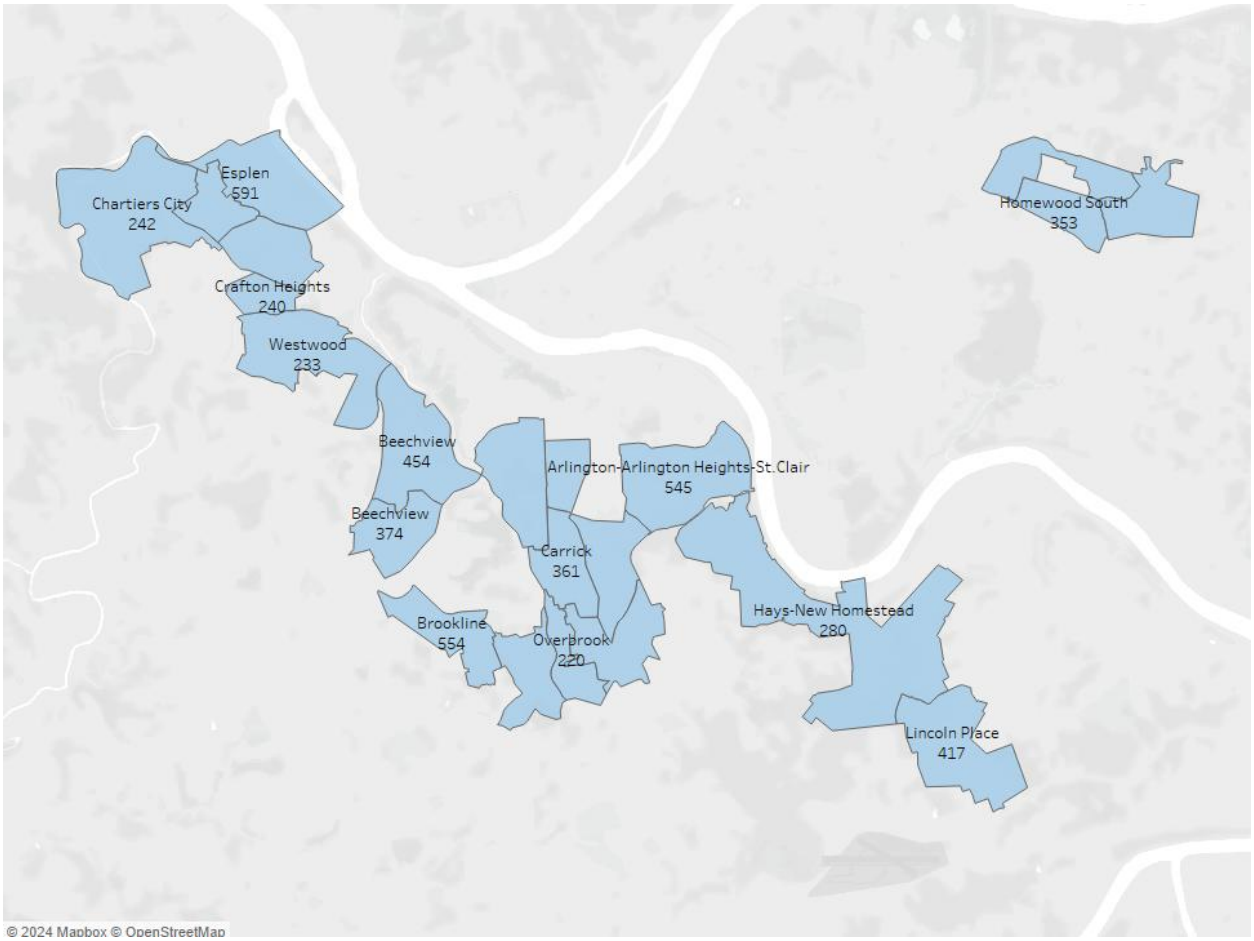
Given the diversity of socioeconomic conditions existent in Pittsburgh, it stands to reason that certain areas of the city show a higher population of wastewater conveyance and treatment and stormwater only customers that may benefit from PWSA's affordability efforts and engagement. For example, the distribution of customers and poverty levels can give PWSA insight into where to focus engagement for its bill discount program, which is available to those customers whose incomes fall below 200% of the FPL. ACS data of the percentage of the population living at 200% of FPL in each census tract were crossed with PWSA data of the address of each residential customer to arrive at the number of potential bill discount customers in each census tract. Adding up potential customers eligible in each census tract results in an estimate of 9,936 potential wastewater conveyance and stormwater only customers over the entire PWSA service area. This significantly contrasts with the 2,715 wastewater conveyance and stormwater only customers currently enrolled in the bill discount program, putting the current enrollment percentage at 27.3%.

Figure A8 – Percentage of Population at or Below 200% of the Federal Poverty Level for Wastewater Conveyance and Treatment and Stormwater Only Census Tracts



The top areas with estimated potential bill discount customers are mapped in Figure I below.

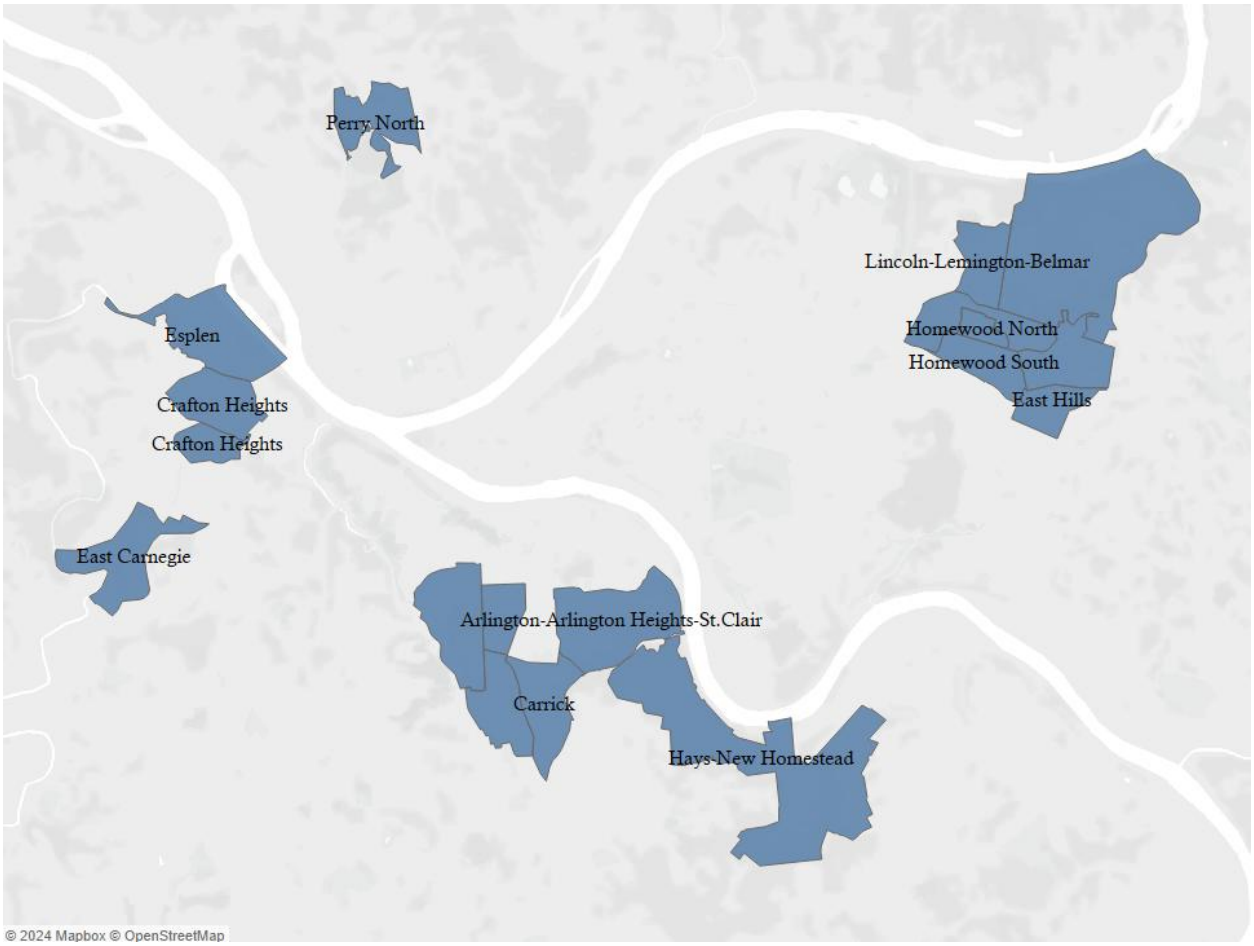
Figure A9 – Top Areas with Potential Bill Discount Customers Labeled, as Estimated by Poverty Levels and Customer Locations for Wastewater Conveyance and Treatment and Stormwater Only Census Tracts



*Neighborhood labels include the estimated number of potential bill discount customers.

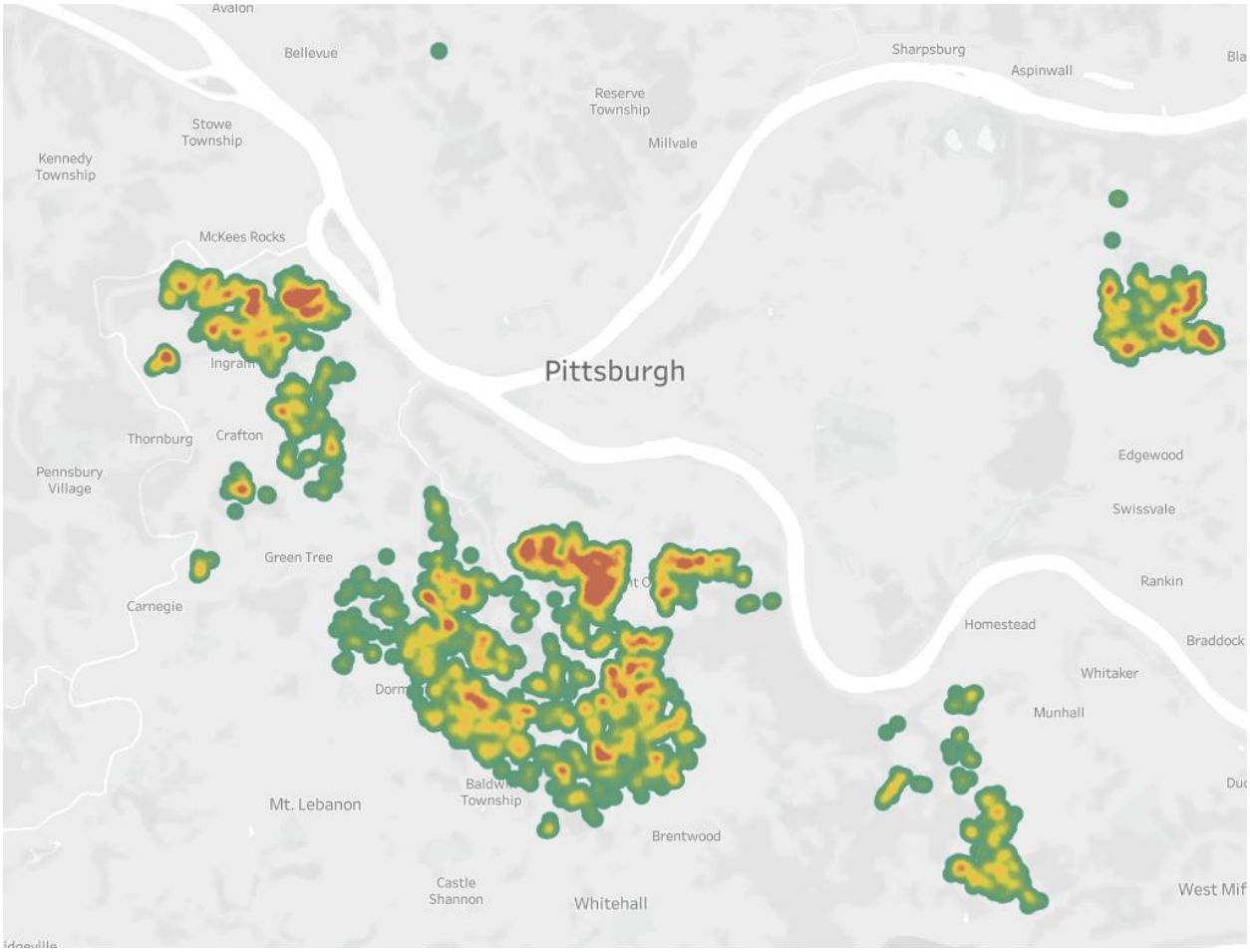
The above priority map matches high-poverty census tracts with the number of PWSA residential customers. Another way to identify areas in need of PWSA assistance is simply by examining which census tracts have the lowest income levels. This is done in Figure J, which shows the census tracts with the lowest LQI's.

Figure A10 – Wastewater Conveyance and Treatment and Stormwater Only Census Tracts with Lowest Incomes, as Measured by the Lowest Quintile Income.



Additionally, analyzing the geographic distribution of customers enrolled in existing assistance programs further highlights neighborhoods with a demonstrated need. By focusing on this distribution, PWSA can more effectively allocate resources and tailor communication strategies to reach those most likely to benefit from affordability initiatives, ensuring that support reaches the communities that need it most. Figure K below is a density map of wastewater conveyance and treatment and stormwater only customers that are on payment arrangement plans.

Figure A11 – Density Map of Payment Arrangements Accounts for Wastewater Conveyance and Treatment and Stormwater Only Customers*



*Red colored areas indicate relatively higher density of accounts of payment arrangements. Green colored areas indicate relatively lower density of accounts of payment arrangements, with yellow indicating moderate density.

PWSA's current bill discount program reduces monthly wastewater conveyance fixed charges by 100%. This results in savings of $99 per year for enrolled customers. These customers also receive an 85% reduction in the stormwater rate. For 1 ERU, that's a savings of $8.55 per month. Over the course of a year, an enrollee thus saves $201.60 solely by participating in PWSA's program. In addition, ALCOSAN's Clean Water Assistance Fund provides a credit of $180 per year. Together, the programs total $381.60 in annual savings for wastewater conveyance and treatment and stormwater only enrollees. PWSA requires customers certify they live at or below 200% of the Federal Poverty Level to participate in the program, while ALCOSAN requires customers certify they live at or below 150% of the Federal Poverty Level to participate. To demonstrate the effect of these programs, a customer with the service area 20th percentile income ($28,501) and median consumption (3,000 gallons per month) would pay 3.1% of income towards wastewater conveyance and treatment and stormwater service, while after participating in the program the customer would pay 1.8% of the household's income for wastewater

conveyance and treatment and stormwater service. PWSA customers at or below 50% of the Federal Poverty Level are also eligible for a 60% reduction of wastewater conveyance volumetric charges.

6. Appendix B – Additional Household Affordability Analysis

The tables included in Appendix B were developed in response to feedback from one advocacy stakeholder prior to the finalizing of this analysis. These tables have not been incorporated into the body of the report, as they begin to parse the information in ways that are subject to misinterpretation. Among these views are data that juxtapose utility bill information with publicly available data in granular ways that may reflect small sample sizes and outliers and as a result do not give a full sense of the performance of the utility in our view. The data requests presented in Appendix B do not include any narrative interpretation because the authors do not feel they represent appropriate representations for diagnosing utility performance as a whole and are unnecessarily narrow. This set of information over emphasizes small slices of hypothetical household burdens, such as small households with the lowest incomes and the highest usage, that are not representative of broad realities for Pittsburgh Water customers. We recognize that there are unique cases where old infrastructure and resulting leaks could create anomalous conditions for customers at a given point in time; however, Pittsburgh Water has several policies and programs in place to address these very circumstances.

The authors of this report have determined that the information included in the body of the report best reflects an analysis of water affordability burdens in the Pittsburgh Water service area and details how the utility is working to address them. While we have chosen to be responsive to the analytical requests of these stakeholders, we would caution readers to treat Appendix B as effectively a separate analysis from the report itself that does not change the author's conclusions. Any essential product or service with a cost can be positioned as overly burdensome or unaffordable for segments of a customer population as broad as Pittsburgh Water's service area, but isolated illustrations are not a useful perspective on enterprise fund utility performance overall, which is the focus of the report. Pittsburgh Water's leadership and staff are working to balance the added cost of assistance program administration with their customers' realities as well as the utility's revenue requirements and rate equity principles. Furthermore, they are working to identify ways to expand participation in these programs in thoughtful and sustainable ways that support even the most vulnerable households with care and consideration.

Table B1 – 2025 Federal Poverty Guidelines

2025 Federal Poverty Guidelines					
Household Size	**50% FPL**	**100% FPL**	**150% FPL**	**200% FPL**	**250% FPL**
1	$7,825	$15,650	$23,475	$31,300	$39,125
2	$10,575	$21,150	$31,725	$42,300	$52,875
3	$13,325	$26,650	$39,975	$53,300	$66,625
4	$16,075	$32,150	$48,225	$64,300	$80,375
5	$18,825	$37,650	$56,475	$75,300	$94,125

Table B2 – 2025 Pittsburgh Water Annual Residential Bill by Monthly Usage

2025 Pittsburgh Water Annual Residential Bill by Monthly Usage					
Kgal per Month	**Water**	**Sewer**	**Stormwater**	**ALCOSAN**	**Annual Bill**
2	$603	$188	$120	$361	$1,272
3	$810	$272	$120	$494	$1,696
4	$1,016	$356	$120	$628	$2,120
5	$1,222	$440	$120	$762	$2,544
6	$1,429	$524	$120	$895	$2,968
8	$1,842	$693	$120	$1,163	$3,818

Table B3 – 2025 Pittsburgh Water 1-Person Household Annual Residential Bill as a Percentage of Income by Monthly Usage and Federal Poverty Level

Water Cons. (Kgal/ Month)	**1 Person Household**				
	50% FPL	100% FPL	150% FPL	200% FPL	250% FPL
2	16.26%	8.13%	5.42%	4.06%	3.25%
3	21.67%	10.84%	7.22%	5.42%	4.33%
4	27.09%	13.55%	9.03%	6.77%	5.42%
5	32.51%	16.26%	10.84%	8.13%	6.50%
6	37.93%	18.96%	12.64%	9.48%	7.59%
8	48.79%	24.40%	16.26%	12.20%	9.76%

Table B4 – 2025 Pittsburgh Water 2-Person Household Annual Residential Bill as a Percentage of Income by Monthly Usage and Federal Poverty Level

Water Cons. (Kgal/ Month)	2 Person Household				
	50% FPL	100% FPL	150% FPL	200% FPL	250% FPL
2	12.03%	6.01%	4.01%	3.01%	2.41%
3	16.04%	8.02%	5.35%	4.01%	3.21%
4	20.05%	10.02%	6.68%	5.01%	4.01%
5	24.06%	12.03%	8.02%	6.01%	4.81%
6	28.07%	14.03%	9.36%	7.02%	5.61%
8	36.10%	18.05%	12.03%	9.03%	7.22%

Table B5 – 2025 Pittsburgh Water 3-Person Household Annual Residential Bill as a Percentage of Income by Monthly Usage and Federal Poverty Level

Water Cons. (Kgal/ Month)	3 Person Household				
	50% FPL	100% FPL	150% FPL	200% FPL	250% FPL
2	9.55%	4.77%	3.18%	2.39%	1.91%
3	12.73%	6.36%	4.24%	3.18%	2.55%
4	15.91%	7.95%	5.30%	3.98%	3.18%
5	19.09%	9.55%	6.36%	4.77%	3.82%
6	22.27%	11.14%	7.42%	5.57%	4.45%
8	28.65%	14.33%	9.55%	7.16%	5.73%

Table B6 – 2025 Pittsburgh Water 4-Person Household Annual Residential Bill as a Percentage of Income by Monthly Usage and Federal Poverty Level

Water Cons. (Kgal/ Month)	4 Person Household				
	50% FPL	100% FPL	150% FPL	200% FPL	250% FPL
2	7.91%	3.96%	2.64%	1.98%	1.58%
3	10.55%	5.28%	3.52%	2.64%	2.11%
4	13.19%	6.59%	4.40%	3.30%	2.64%
5	15.83%	7.91%	5.28%	3.96%	3.17%
6	18.46%	9.23%	6.15%	4.62%	3.69%
8	23.75%	11.88%	7.92%	5.94%	4.75%

Table B7 – 2025 Pittsburgh Water 5-Person Household Annual Residential Bill as a Percentage of Income by Monthly Usage and Federal Poverty Level

Water Cons. (Kgal/ Month)	5 Person Household				
	50% FPL	100% FPL	150% FPL	200% FPL	250% FPL
2	6.76%	3.38%	2.25%	1.69%	1.35%
3	9.01%	4.50%	3.00%	2.25%	1.80%
4	11.26%	5.63%	3.75%	2.82%	2.25%
5	13.51%	6.76%	4.50%	3.38%	2.70%
6	15.77%	7.88%	5.26%	3.94%	3.15%
8	20.28%	10.14%	6.76%	5.07%	4.06%

Table B8 – 2025 Pittsburgh Water Annual Residential Bill by Monthly Usage – Bill Discount Program 200% FPL (No ALCOSAN Discount)

2025 Pittsburgh Water Annual Bill by Monthly Usage - Bill Discount Program 200% FPL (No ALCOSAN Discount)					
Kgal per Month	Water	Sewer	Stormwater	ALCOSAN	Annual Bill
2	$206	$84	$18	$361	$670
3	$413	$168	$18	$494	$1,093
4	$619	$253	$18	$628	$1,518
5	$826	$337	$18	$762	$1,942
6	$1,032	$421	$18	$895	$2,366
8	$1,445	$589	$18	$1,163	$3,215

Table B9 – 2025 Pittsburgh Water Annual Residential Bill by Monthly Usage – Bill Discount Program ≤ 150% FPL

2025 Pittsburgh Water Annual Bill by Monthly Usage - Bill Discount Program ≤ 150% FPL					
Kgal per Month	Water	Sewer	Stormwater	ALCOSAN	Annual Bill
2	$206	$84	$18	$161	$470
3	$413	$168	$18	$294	$893
4	$619	$253	$18	$428	$1,318
5	$826	$337	$18	$562	$1,742
6	$1,032	$421	$18	$695	$2,166
8	$1,445	$589	$18	$963	$3,015

Table B10 – 2025 Pittsburgh Water Annual Residential Bill by Monthly Usage – Bill Discount Program ≤ 50% FPL

2025 Pittsburgh Water Annual Bill by Monthly Usage - Bill Discount Program for ≤ 50% FPL					
Kgal per Month	**Water**	**Sewer**	**Stormwater**	**ALCOSAN**	**Annual Bill**
2	$83	$34	$18	$161	$295
3	$165	$67	$18	$294	$545
4	$248	$101	$18	$428	$795
5	$330	$135	$18	$562	$1,045
6	$413	$168	$18	$695	$1,294
8	$578	$236	$18	$963	$1,795

Table B11 – 2025 Pittsburgh Water 1-Person Household Annual Residential Bill as a Percentage of Income by Usage and Federal Poverty Level – Including Bill Discount ≤ 200% FPL

Water Cons. (Kgal/ Month)	1 Person Household - Bill Discount ≤ 200% FPL				
	50% FPL	100% FPL	150% FPL	200% FPL	250% FPL
2	3.77%	3.00%	2.00%	2.14%	3.25%
3	6.96%	5.71%	3.80%	3.49%	4.33%
4	10.16%	8.42%	5.61%	4.85%	5.42%
5	13.35%	11.13%	7.42%	6.21%	6.50%
6	16.54%	13.84%	9.23%	7.56%	7.59%
8	22.94%	19.27%	12.84%	10.27%	9.76%

Table B12 – 2025 Pittsburgh Water 2-Person Household Annual Residential Bill as a Percentage of Income by Usage and Federal Poverty Level – Including Bill Discount ≤ 200% FPL

Water Cons. (Kgal/ Month)	2 Person Household - Bill Discount ≤ 200% FPL				
	50% FPL	100% FPL	150% FPL	200% FPL	250% FPL
2	2.79%	2.22%	1.48%	1.58%	2.41%
3	5.15%	4.22%	2.82%	2.58%	3.21%
4	7.52%	6.23%	4.15%	3.59%	4.01%
5	9.88%	8.24%	5.49%	4.59%	4.81%
6	12.24%	10.24%	6.83%	5.59%	5.61%
8	16.97%	14.26%	9.50%	7.60%	7.22%

Table B13 – 2025 Pittsburgh Water 3-Person Household Annual Residential Bill as a Percentage of Income by Usage and Federal Poverty Level – Including Bill Discount ≤ 200% FPL

Water Cons. (Kgal/ Month)	3 Person Household - Bill Discount ≤ 200% FPL				
	50% FPL	100% FPL	150% FPL	200% FPL	250% FPL
2	2.22%	1.76%	1.17%	1.26%	1.91%
3	4.09%	3.35%	2.23%	2.05%	2.55%
4	5.96%	4.94%	3.30%	2.85%	3.18%
5	7.84%	6.54%	4.36%	3.64%	3.82%
6	9.71%	8.13%	5.42%	4.44%	4.45%
8	13.47%	11.31%	7.54%	6.03%	5.73%

Table B14 – 2025 Pittsburgh Water 4-Person Household Annual Residential Bill as a Percentage of Income by Usage and Federal Poverty Level – Including Bill Discount ≤ 200% FPL

Water Cons. (Kgal/ Month)	4 Person Household - Bill Discount ≤ 200% FPL				
	50% FPL	100% FPL	150% FPL	200% FPL	250% FPL
2	1.84%	1.46%	0.97%	1.04%	1.58%
3	3.39%	2.78%	1.85%	1.70%	2.11%
4	4.94%	4.10%	2.73%	2.36%	2.64%
5	6.50%	5.42%	3.61%	3.02%	3.17%
6	8.05%	6.74%	4.49%	3.68%	3.69%
8	11.16%	9.38%	6.25%	5.00%	4.75%

Table B15 – 2025 Pittsburgh Water 5-Person Household Annual Residential Bill as a Percentage of Income by Usage and Federal Poverty Level – Including Bill Discount ≤ 200% FPL

Water Cons. (Kgal/ Month)	5 Person Household - Bill Discount ≤ 200% FPL				
	50% FPL	100% FPL	150% FPL	200% FPL	250% FPL
2	1.57%	1.25%	0.83%	0.89%	1.35%
3	2.89%	2.37%	1.58%	1.45%	1.80%
4	4.22%	3.50%	2.33%	2.02%	2.25%
5	5.55%	4.63%	3.09%	2.58%	2.70%
6	6.88%	5.75%	3.84%	3.14%	3.15%
8	9.53%	8.01%	5.34%	4.27%	4.06%

EXHIBIT JAM-13

List of Tariff Changes included in
Supplement Nos. 16 (Water), 15 (Watewater) and 7 (Stormwater)

- Rate Changes effective date of the supplement and January 1, 2027 for all three tariff
- Minimum Allowance removed for water and wastewater tariffs
- PVC charge for effective date of the supplement added for water and wastewater tariffs along with specific PENNVEST loan information to be recovered through the charge
- PVC language updated for all three tariffs
- Developer Permit Fees removed for water and wastewater tariffs
- E-Bill Credit added for all three tariffs
- Leak Credit added for water and wastewater tariffs
- Bill Discount Program automatic enrollment for Hardship Grant and recertification every five years for customers on fixed income for all three tariffs
- Fixed Discount Bill Credit for effective date of supplement and January 1, 2027 for water and wastewater tariff
- Arrearage Forgiveness Program revised to forgive pre-existing charges over 24 months and to recover costs through Rider AFP for water and wastewater tariff
- Line Repair and Water Conservation Program added to water tariff
- Definition updates for water, wastewater and stormwater to include adding d/b/a, creating definition for break-in connections (wastewater tariff) and updating definition of Storm Water Collections System or Storm Water Sewers (wastewater and stormwater tariffs)
- Add ownership of water service lines over two inches or less for water tariff
- Updated service territories for water tariff
- Consolidate service termination processes with Lead Service Line Replacement processes for water tariff
- Increase cap for Distribution System Improvement Charge (DSIC) from 5% to 7.5% for water and wastewater tariffs
- Update notice process for ERU adjustments for stormwater tariff

EXHIBIT JAM-14

Supplement No. 16
Tariff Water - Pa. P.U.C. No. 1

THE PITTSBURGH WATER AND SEWER AUTHORITY
d/b/a PITTSBURGH WATER

RATES, RULES AND REGULATIONS GOVERNING

THE PROVISION OF WATER SERVICE

TO THE PUBLIC IN THE TERRITORY DESCRIBED HEREIN

Issued: Effective: August 8, 2025

BY: William J. Pickering, Chief Executive Officer
1200 Penn Avenue, Pittsburgh, PA 15222
Tel: 412-255-8800

NOTICE

This Tariff Supplement makes changes in rates, rules and regulations as supported by the filing at Docket No. R-2025-3055010.

LIST OF CHANGES

TABLE OF CONTENTS (PAGE NO. 3):
Updated to add pages numbers for new Part I Sections K and L

LIST OF TERRITORIES SERVED (PAGE NO. 7)
Corrected to Add "Fox Chapel" and portions Of Ross, McKees Rocks, Sharpsburg, Penn Hills, Shaler, Swissvale, and Wilkinsburg

PART I: SCHEDULE OF RATES AND CHARGES, SECTION A – RATES FOR METERED SERVICE – NUMBER 1 MINIMUM OR BASE CHARGE (PAGE NO. 8)
Changed "Base" to "Service" to describe fixed charge. Added rates for Minimum or Service Charges which will increase for all customer classes effective the date of this supplement and will decrease on January 1, 2027.

PART I: SCHEDULE OF RATES AND CHARGES, SECTION A – RATES FOR METERED SERVICE – NUMBER 2 CONSUMPTION CHARGE (PAGE NO. 8A)
New text describing elimination of minimum allowance effective January 1, 2025. Added rates for Consumption Charges which will increase for all customer classes effective the date of this supplement and increase on January 1, 2027.

PART I: SCHEDULE OF RATES AND CHARGES, SECTION A–RATES FOR METERED SERVICE – NUMBER 3 PENNVEST CHARGE (PVC) (NEW PAGE NO. 8B, 8C, 8D)
Added PVC charge of $2.13. Revised language to include all current and future PENNVEST loans in the charge and added information about the loans to being recovered. Moved text from Page 8C to 8D

PART I: SCHEDULE OF RATES AND CHARGES, SECTION A.1 – RATES FOR UNMETERED SERVICE (PAGE NO. 9)
Added rates for Unmetered Service for all rate classes effective as of the date of the supplement, increasing on January 1, 2027.

PART I: SCHEDULE OF RATES AND CHARGES, SECTION B – FIRE PROTECTION RATES (PAGE NOS. 10 AND 11)
Added rates for Private and Public Fire Protection Rates all rate classes effective as of the date of this supplement and increasing on January 1, 2027.

LIST OF CHANGES (con't)

PART I: SCHEDULE OF RATE AND CHARGES, SECTION H – MISCELLANEOUS CHARGES, FEES, AND PENALTIES, NO.4.A. (PAGE 15A)
Set to $0.00 Developer Fees for Water and Sewer Use Review Letters.

PART I: SCHEDULE OF RATES AND CHARGES, SECTION I – SALES FOR RESALE (WHOLESALE)(PAGE NO. 16)
Added rates for Sales for Resale classes effective as of the date of the supplement and increased January 1, 2027.

PART I: SCHEDULE OF RATES AND CHARGES, NEW SECTIONS K AND L (NEW PAGE NO. 16A)
Added New Section K to offer a one-time credit for enrollment in paperless billing. Add New Section L giving Pittsburgh Water discretion to offer a credit resulting from a leak for which customer has no actual or constructive notice.

RIDER BDP – BILL DISCOUNT PROGRAM(RESIDENTIAL) (PAGE NO. 19)
Update application requirements. Change "base" to "service" charge. Add Fixed Discount Bill Credit effective as of the date of the supplement, increasing January 1, 2027.

RIDER AFP – ARREARAGE FORGIVENESS PROGRAM (PAGE 19A)
Updated terms of forgiveness arrearage programs and included cost recovery through Rider AFP.

PART II – DEFINITIONS (PAGE 20)
Updated definition No. 2 to include d/b/a Pittsburgh Water

PART III – RULES AND REGULATIONS, SECTION B.12.D (PAGE NO. 35)
Included reference to Line Repair and Water Conservation program described in Rider BDP paragraph 6.

PART III – RULES AND REGULATIONS, SECTION B.12.H (PAGE NO. 36)
Add new paragraph h regarding Pittsburgh Water's assumption of ownership over water service lines that are 2 inches or less.

PART III – RULES AND REGULATIONS, SECTION C.3.J (PAGE NO. 40)
Added cross references to Part VI regarding Lead Service Line Replacement termination processes.

PART V: SURCHARGES DISTRIBUTION SYSTEM IMPROVEMENT CHARGE (DSIC) (PAGE NOS. 59 AND 62)
Increase from 5.0% to 7.5% the DSIC charge.

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Northview Heights
Perry North
Perry South
Pittsburgh Central Business District
Point Breeze
Point Breeze North
Polish Hill
Regent Square
Ridgemont
Shady Side
South Oakland
South Shore
Southside Flats
Southside Slopes
Spring Garden
Spring Hill-City View
Squirrel Hill North
Squirrel Hill South
Stanton Heights
Strip District
Summer Hill
Swisshelm Park
Terrace Village
Troy Hill
Upper Hill
Upper Lawrence
West End
West Oakland
Fox Chapel (C)

The Borough of Millvale.

Portions of Townships of Reserve, O'Hara, Ross, McKees Rocks, Sharpsburg, Penn Hills, Shaler, Swissvale, Wilkinsburg and Blawnox. (C)

(c) - Change

PART I: SCHEDULE OF RATES AND CHARGES

Section A – Rates for Metered Service

1. Minimum (or Service) Charge: Each customer will be assessed a service charge based upon the size of the customer's meter as follows except that residential customers residing in newly constructed townhomes who are required to install a meter larger than 5/8" for fire protection and due to City ordinance requirements, may request assessment of the 5/8" minimum charge and usage allowance: **(C)**

Meter Size	Minimum Gallons	**Per Month Rate Effective as of the date of this supplement**	**(C)**
5/8"	1,000	$34.34	**(I)**
3/4"	2,000	$58.65	**(I)**
1"	5,000	$124.45	**(I)**
1 ½"	10,000	$246.00	**(I)**
2"	17,000	$409.03	**(I)**
3"	40,000	$918.26	**(I)**
4"	70,000	$1,562.04	**(D)**
6"	175,000	$3,722.63	**(D)**
8"	325,000	$6,727.79	**(D)**
10" or Larger	548,000	$11,058.67	**(D)**

Meter Size	**Per Month Rate (Effective January 1, 2027)**	**(C)**
5/8"	$18.81	**(D)**
3/4"	$26.65	**(D)**
1"	$42.34	**(D)**
1 ½"	$81.57	**(D)**
2"	$128.64	**(D)**
3"	$254.17	**(D)**
4"	$395.39	**(D)**
6"	$787.66	**(D)**
8"	$1,258.39	**(D)**
10" or Larger	$1,807.56	**(D)**

(C) = Change (I)= Increase (D)=Decrease

2. Consumption Charge: In addition to the Minimum or Service Charge, the following water consumption charges will apply for each 1,000 gallons above the Minimum Gallons for each meter size effective the date of this supplement and for all metered consumption effective January 1, 2027: **(C)** **(C)**

Customer Class — Consumption Charge Rate per 1000 Gals.

	Effective Date of this Supplement	**Effective January 1, 2027**	**(C)**
Residential	$19.42	$19.98	**(I)/(I)**
Commercial	$20.48	$22.23	**(I)/(I)**
Industrial**	$22.37	$26.48	**(I)/(I)**
Health or Education	$24.85	$25.93	**(I)/(I)**

The rate under this schedule applies to all customers, except public fire protection and private fire protection customers, unless otherwise specifically identified in this tariff.

** *Rate applies to any new bulk water customers.*

(I)= Increase (C)= Change

3. **PennVest Charge (PVC):** In addition to the charges provided in this tariff, and pursuant to the Commission's Statement of Policy at 52 Pa. Code §§ 69.361 et seq., and Section 1307(a) of the Public Utility Code, the PVC will apply uniformly to all classes of water customers (with the exception of public fire protection customers and customers served pursuant to pre-existing wholesale contracts) for each 1,000 gallons consumed. The PVC will apply to unmetered customers based on the estimated billed consumption used to determine their rate for unmetered service.

   a. **Purpose.** The purpose of the PVC is to begin timely recovery of specific interest only and principal and interest ("PI") obligations due by Pittsburgh Water for loans, not grants, received from the Pennsylvania Infrastructure Investment Authority ("PENNVEST") when they first become due and until fully repaid and will remain in effect until costs are fully recovered. **(C)** **(C)**

   b. The currently effective PVC is:

Customer Class	PennVest Charge Rate per 1000 Gals.
	Effective as of the date of this supplement
All Customers	$2.13

(I)

The above charge per 1000 Gallons is determined as follows:

PVC = PI/ Consumption

PVC = PennVest Charge per 1,000 gallons

PI = Annual Interest Only and/or Principal and Interest payments per PennVest Loans identified below

Consumption = total projected billed consumption in 1000s gallons used by all customers in forecast year

(I)= Increase (C)= Change

c. **Computation.** The PVC will be adjusted to conform to the specific interest only and principal and interest ("PI") obligations payable pursuant to the final PENNVEST amortization schedules. The PVC includes all interest and/or interest and principal on all current and future PENNVEST loans. Currently, the PVC is recovering the following loans: **(C)** **(C)**

Loan Source	Loan Number / Identifier	Start Date of Interest Only Payments	Start of Final Amortization Schedule
PENNVEST	83126	2/10/2009	10/1/2011
PENNVEST	12696	12/16/2009	5/1/2011
PENNVEST	81026	8/21/2013	3/1/2015
PENNVEST	81027	11/16/2013	5/1/2015
PENNVEST	80191	3/8/2019	4/1/2020
PENNVEST	85175	6/9/2020	3/1/2022
PENNVEST	85205	3/23/2022	9/1/2023
PENNVEST	81034	3/29/2022	10/1/2023
PENNVEST	87102	12/30/2022	12/1/2027
PENNVEST	80203	12/30/2022	12/1/2027
PENNVEST	80214	8/4/2023	3/1/2025
PENNVEST	80209	8/22/2023	5/1/2025
PENNVEST	80230	3/12/2024	10/1/2025
PENNVEST	80208	4/5/2024	10/1/2026
PENNVEST	80233	8/6/2024	5/1/2026
PENNVEST	82245	8/9/2024	5/1/2026
PENNVEST	80238	8/26/2024	2/1/2026
PENNVEST	80255	5/20/2025	6/20/2028
PENNVEST	80254	5/20/2025	6/20/2028
PENNVEST	80268	7/16/2025	8/16/2028

(C)

d. **Semi-Annual Adjustments.** The PVC is subject to change on a semi-annual basis effective February 1 and August 1 based on the status of applicable PENNVEST loans. Semi-annual updates to be filed by Pittsburgh Water at least ten (10) days prior to the effective date of the update. Supporting data for each semi-annual update will be provided. *[Text moved to next page]* **(C)**

(I)= Increase (C)= Change

[Text from previous page added here]

e. **Annual Reconciliation**. The PVC will be subject to annual reconciliation based on actual consumption for the prior 12 months ending December 31. The PVC will be adjusted to reflect either a credit, as calculated below, or an increase in the charge as determined by the reconciliation process to be effective February 1. Supporting data for each annual reconciliation will be provided. **(C)**

f. **Credit Calculation:** An over-collection occurs after the annual PI is fully recovered within the 12-months subject to the Annual Reconciliation. Interest on over-collections will be calculated in the first full month after the over-collection occurred at the residential mortgage lending specified by the Secretary of Banking in accordance with the Loan Interest and Protection Law (41 P.S. §§ 101, et seq.).

g. The charge will be effective the first billing cycle immediately following the effective date of the tariff supplement. The PVC shall remain in effect if and until included in the general base rates of the Authority; provided, however, that the charge may be continued or adjusted by the Authority as additional PENNVEST loans, which have been approved for other Pittsburgh Water Infrastructure Improvement projects, become due and payable. **(C)**

h. The charge will be reflected as a separate line item on each customer's bill.

i. The Authority will segregate all revenues dedicated for PENNVEST repayment so long as the charge remains in effect. **(C)**

(I)= Increase (C)= Change

Section A.1 - Rates for Unmetered Service

As of September 1, 2018, enrollment for Unmetered Service will be closed and no new Unmetered Service customers will be accepted by the Authority. Customers who are receiving unmetered service will be assessed a monthly customer charge per unmetered connection as follows:

Customer Class	**Customer Charge Per Month**		
	Effective as of date of this supplement	**Effective January 1, 2027**	**(C)**
Residential (per unit)	$92.60	$98.73	**(I)/(I)**
Commercial	$116.26	$129.96	**(I)/(I)**

(I)= Increase (C)= Change

Section B – Fire Protection Rates

1. Private Fire Protection: A customer charge for non-residential private fire protection service will be assessed as follows:

Meter Size	Line Size (if unmetered)	Customer Charge Per Month Effective as of date of supplement	Customer Charge Per Month Effective January 1, 2027	(C)
1" or Less	2"	$41.31	$44.27	(I)/(I)
1 ½"-3"	3"	$127.01	$136.11	(I)/(I)
4"	4"	$419.03	$449.05	(I)/(I)
6" or Greater	6" or Greater	$891.88	$955.78	(I)/(I)

In addition to any customer charge as applicable above, all customers shall be charged for consumption pursuant to the following terms:

a. In the event of a confirmed fire, no charge shall be made for the use of water to fight the fire using private fire hydrants or fire abatement equipment. Customers whose fire equipment has been activated to fight a fire should notify the Authority to assure that the associated water use will not be billed.

b. For consumption of water related to testing, training on, and maintenance of private fire hydrants and fire abatement equipment, consumption charges shall be billed in accordance with the following rates for water consumption. Water used from private fire protection for these purposes should be based on meter readings where possible. If a meter cannot be used, the Authority will estimate the usage.

Consumption Charge
Rate per 1,000 Gals.

	Effective as of date of supplement	Effective January 1, 2027	(C)
Private Fire Protection	$33.51	$35.56	(I)/(I)

(I)= Increase, (D)= Decrease, (C)= Change

2. Public Fire Protection: For public fire protection, the charges will be assessed as follows:

	Per Hydrant Charge Per Month		
	Effective as of the date of this supplement	**Effective January 1, 2027**	**(C)**
Public Fire Protection	$29.34	$31.44	**(I)/(I)**

No charge shall be made for the use of water to fight a confirmed fire or for reasonable testing, training on, and maintenance of public fire hydrants and abatement equipment.

For use other than public fire protection, charges based on metered usage of a hydrant as set forth in Part II, Section H.3.

(I)= Increase, (C)= Change

4. Activities Related to Permits/Approvals Issued by the Authority

a. Development Permits – required for constructing or renovating a structure larger than a single-family home including single-family homes with a fire service line or multi-family homes

Activity	Fee	
Developer Fee – Water and Sewer Availability Letter	$40.00	
Developer Fee – Water and Sewer Use Review Letter	$ 0.00	(C)
Developer Fee – Water and Sewer Use Review Letter – Expedited*	$ 0.00	(C)
Tap-in Plan Review	$420.00	
Tap-In Plan Review – Expedited*	$740.00	
Developer Permit Revisions Review	$140.00	
Developer Permit Revisions Review – Expedited*	$250.00	
Private Construction of Public Facilities Plan Review	$680.00	
Private Construction of Public Facilities Plan Review – Expedited*	$1,190.00	

*Expedited = guaranteed review within 15 business days

b. Residential Permit – for new water and/or sewer taps or reconnecting to existing water service (fee does not apply for water service party line separations)

Activity	Fee
Residential Permit	$40.00

Section I – Sales for Resale (Wholesale)

1. Application: This schedule applies to all new sales of water to other water utilities or public authorities for resale.

2. Rates and Terms of Service: A customer consumption charge per 1,000 gallons of usage will be assessed as follows:

	Consumption Charge Rate per 1000 Gals.		
	Effective as of date of supplement	**Effective January 1, 2027**	**(C)**
Sales for Resale	$12.41	$13.34	**(D)/(I)**

3. Contracts stipulating the negotiated rate and negotiated terms of Sale for Resale Service may be renegotiated and/or entered into between the Authority and Customer or Applicant when the Authority, in its sole discretion, deems such offering to be economically advantageous to the Authority. Service under this rate is interruptible, and the Authority reserves the right to interrupt service at Authority's discretion.

Section J – New Automatic Payment Enrollment Credit

Customers enrolling in paperless billing and establishing automatic bill payments for the first time will receive a one-time credit of $5.00. For customers receiving water, wastewater, and/or storm water service from Pittsburgh Water, this credit will only be applied once per Pittsburgh Water account. **(C)**

(C)= Change; (I) Increase

Section K – E-Bill Credit

Customers enrolling in e-billing for the first time will receive a one-time credit of $15.00. For customers receiving water, wastewater, and/or storm water service from Pittsburgh Water, this credit will only be applied once per Pittsburgh Water account. Customers enrolling in e-billing and receiving the credit are prohibited from switching back to paper billing for six (6) months.

Section L – Leak Credit

Where a customer has received a bill for higher than usual consumption as a result of a leak that they had neither actual nor constructive notice of, and the customer has provided evidence that the leak that resulted in higher than usual consumption has been repaired, in the form of:

i. An invoice from the registered plumber who made the repair(s) describing the location of the leak(s) and the repair(s) made;
ii. A letter or email from the registered plumber who made the repair(s) describing the location of the leak(s) and the repair(s) made; or
iii. A receipt for the purchase of materials along with a letter or email from the customer who made the repair(s) describing the location of the leak(s) and the repair(s) made;

and the customer has enrolled in all of the free leak alerts within the Customer Advantage Portal to receive alerts of higher than usual consumption via text and/or email, the Authority may, in its sole discretion, reduce the initial invoice for higher than usual charges assessed under Part I of this tariff down to average monthly consumption for the customer. Average monthly consumption will be established by the average number of gallons used in the 12 months preceding the apparent beginning of the leak. Should the customer incur a second, subsequent bill for higher than usual consumption, the Authority may, in its sole discretion, additionally reduce the subsequent invoice for higher than usual charges assessed under Part I.

Rider BDP - Bill Discount Program (Residential)

1. Bill Discount Program: This rider is a program designed to enroll residential ratepayers who satisfy the criteria set forth below in a monthly discounted rate program.

2. Availability: This rider is available for a Residential customer that meets the low-income criteria of annual household gross income at or below 200% of the Federal Poverty Level.

   a. A residential ratepayer who meets the eligibility criteria should complete an application for the Bill Discount Program except that residential ratepayers who apply for and are granted a Hardship Grant through one of the community based organizations partnering with Dollar Energy Fund will be automatically enrolled in the Bill Discount Program. **(C)**

   b. Eligible customers may be asked to verify income every two years or, for customers on fixed incomes of social security and/or retirement benefits, every five years. **(C)**

3. Rate (Minimum or Service Charge): The Minimum or Service Charge for residential service pursuant to Rider BDP will be 0% of the prevailing Minimum Service Charge under Part I, Section A. Any other rates, fees and charges will be at the prevailing amounts under this tariff. **(C)**

4. Rate (Consumption Charge): The Consumption Charge for residential service pursuant to Rider BDP for participants with income at or below 50% of the Federal Poverty Level will pay 40% of the prevailing Consumption Charge under Part I, Section A (which represents a 60% discount off the charge). Any other rates, fees and charges will be at the prevailing amounts under this tariff.

5. PennVest Charge ("PVC"): BDP participants will pay 50% of the PVC.

6. Fixed Discount Bill Credit: Qualifying customers will also receive a fixed bill credit up to the amounts stated as set forth below: **(C)**

	Effective as of the date of this supplement	**Effective January 1, 2027**	**(C)**
BDP Participants above 50% - 200% of FPL	$5.00 per bill for water charges	$23.00 per bill for water charges	**(C)/(I)**
CAP Customers at or below 50% of FPL	$0.00 per bill for water charges	$8.35 per bill for water charges	**(C)/(I)**

(D)= Decrease (C)= Change

Rider AFP: Arrearage Forgiveness Program **(C)**

a. Customers receiving residential service pursuant to Rider BDP who maintain an active, income based payment plan as documented by the Authority shall be eligible to participate in the Arrearage Forgiveness Program. Customers who negotiate a payment arrangement for their pre-existing arrearages will be automatically enrolled in the Arrearage Forgiveness Program.

b. Eligible participants will have their pre-existing billed charges in arrears frozen and any remaining balance after 24 months shall be forgiven. Bill charges in arrears includes any amounts outstanding for Pittsburgh Water's wastewater conveyance service, if applicable. Forgiven arrearages will be recovered through Rider AFP as part of Pittsburgh Water's revenue requirements. **(C)** **(C)** **(C)**

c. The Authority will cease assessing any interest on the arrears and pursuing collections while the customer is in an active, income based payment plan.

d. Should the participating customer default on the payment plan, he or she will have the opportunity to make two catch-up payments to continue to receive the benefits of the Arrearage Forgiveness Program. Failure to make the two catch-up payments will result in immediate removal of the customer from the Arrearage Forgiveness Program.

e. Customers removed from the Arrearage Forgiveness Program will be eligible to reenter the program if they make all missed payments incurred during their prior enrollment in the Arrearage Forgiveness Program.

f. The Authority reserves the right to propose to alter or eliminate the Arrearage Forgiveness Program in a future base rate case.

(C) = Change, (I)= Increase

6. Line Repair and Water Conservation Program

a. Program Description. Designed to help customer reduce water loss from leaking pipes and old, inefficient water fixtures, this program offers immediate repairs and replacements as well as education about effective water conservation practices.

b. Eligibility. Residential ratepayers earning 200% of the federal poverty level or less are eligible.

c. Benefit. Eligible ratepayers may receive up to $1,600 for qualifying repairs to be performed by a Pittsburgh Water contractor.

d. Requirements. All projects are subject to the approval of Pittsburgh Water and eligible participants must comply with all required program elements to include providing written consent to the repairs in a form developed by Pittsburgh Water.

PART II: Definitions:

The following words and phrases, when used in this tariff, shall have the meanings assigned below unless the context clearly indicates otherwise:

1. Applicant: A natural person at least 18 years of age not currently receiving service who applies for residential service provided by the Authority or any adult occupant whose name appears on the mortgage, deed or lease of the property for which the residential utility service is requested. The term does not include a person who, within 30 days after service termination or discontinuance of service, seeks to have service reconnected at the same location or transferred to another location within the service territory of the Authority.

2. Authority or PWSA or Pittsburgh Water : The Pittsburgh Water and Sewer Authority d/b/a Pittsburgh Water, a municipal authority organized and existing under the laws of the Commonwealth of Pennsylvania. **(C)**

3. Authority Water Main: The Authority has a duty to operate, maintain, inspect, repair, replace or abandon only those Water Mains that are a part of or connected to the public water distribution system and that fall into one of the following classifications: (1) Water Mains leased to the Authority by the City under the Capital Lease Agreement effective July 27, 1995, as amended; (2) Water Mains constructed by the City or the Authority for public use since July 27, 1995; and (3) Water Mains dedicated to public use and accepted by the Authority on or after July 27, 1995.

4. Authority service line: The water line from the distribution facilities of the Authority which connects to the customer service line at the hypothetical or actual line or the actual property line, including the control valve and valve box. The control valve and valve box determine the terminal point for the Authority's responsibility for the street service connection.

5. Automatic Meter Reading: Metering using technologies that automatically read and collect data from metering devices and transfer that data to a central database for billing and other purposes.

(C) - Change

d. Where a Customer, unless qualified for participation in the Authority's Private Line Leak Repair Pilot Program as approved at PaPUC Docket No. P-2022-3030253 or the Line Repair and Water Conservation Program described in Rider BDP, Paragraph 6 of this Tariff, permits water to leak or flow unnecessarily from a Water Service Line or from any pipe, fixture or appliance, and the Authority gives written notice of the leak or other problem to the property Owner or Customer, the property Owner shall have 5 business days in which to make necessary repairs. Should no action be taken within the allowable 5-day period, the Authority may assess a daily charge for each day after such allowable 5-day period in which the waste of water continues or, in the Authority's discretion, may terminate water service to the Premises - after giving notice of termination consistent with Part II, Section C.3 of this tariff - until the leak or other condition is repaired. The daily charge shall be equivalent to the monthly minimum Meter charge that is predicated upon the Meter size supplying a particular account. **(C)**

e. Where a Customer permits water to leak or flow unnecessarily from a Water Service Line or from any pipe, fixture or appliance and the amount of water is creating a public hazard or damaging public infrastructure, as determined by the Authority, the Authority reserves the right to terminate water service to the property immediately, until the leak or other condition is repaired. Should the condition of a customer service line be such that there is a risk to public health or safety or of damage to public property, and the property Owner fails to take prompt action to cure the problem following notice to do so, the Authority shall have the right, but not the duty, to make the necessary repair or replacement and to charge the property Owner with the reasonable cost of the repair or replacement. Should the property Owner fail to reimburse the Authority within 30 days of the Authority's invoice therefor, the Authority shall have the right to file a lien against the property or properties served by the service line.

f. Should a Customer observe any condition that interferes with the use or safety of the Curb Box, such as an open or damaged Curb Box lid, an uneven condition of the Curb Box and the adjacent ground surface, or a condition that

C = Change

could impair access to the Curb Box, they shall contact the Authority for repair or replacement of the Curb Box.

g. Customers and property Owners may not cover, obscure, damage, tamper, or interfere with the Curb Stop or Curb Box. Customers and property Owners shall not interfere in any way with the Authority's access to or use of the Curb Stop. If the Curb Box or Curb Stop is damaged by the Customer and/or Property Owner, or the Curb Box or Curb Stop is covered so as to preclude or interfere with access, the Customer or property Owner, as applicable, is responsible for the cost of the Authority's work in uncovering, repairing, or replacing the Curb Stop and/or Curb Box, and for the cost of restoring adjacent landscaping, sidewalks, or other property affected by the work.

h. The Authority assumes ownership of water services lines that are two (2) inches or less in diameter and which are located in the public right-of-way, from the Authority Main to the Curb Stop. **(C)**

13. Conversion of Party Water Service Lines and Converting Flat Rate or Unmetered Customers to Metered Customers:

a. Non-Municipal Residential Property Owners whose properties are served by a Party Water Service Line must install separate services lines to each individual property. Each Customer shall have an individual Water Service Line and Meter of a size, type, location, and setting approved by the Authority. The cost of installation of the Water Service Line from the residence to the Curb Stop is the responsibility of the property Owner. Installation and the cost of installation of the Meter and the Water Service Line from the Water Main to and including the Curb Stop is the responsibility of the Authority. No connections fees or service fees will be imposed. All plans for installation of the Water Service Lines and the scheduling of such work is subject to the permitting process and the prior approval of the Authority.

(C)= Change

of violation of any law or ordinance, or upon notice to the Authority from any such authority that it has ordered an existing violation on the property to be corrected and that such order has not been complied with or

h. material violation of any provisions of this tariff.

i. Whenever two or more Properties have been supplied from a single main connection, and one or more of the Customers becomes delinquent or permits water to flow unnecessarily or leak from any pipe, fixture, or appliance, the Authority will send a notice of termination to all the commonly supplied Premises. The Authority will not terminate service to the commonly supplied Premises.

j. Notice of termination shall be in the form required by the Commission and shall be provided as follows:

i. to Customers at least 10 days prior to the scheduled shut off, including termination scenarios covered by Part VI of this tariff; **(C)**

ii. to Customers who are Owners with Tenants at least 37 days prior to the scheduled shut off, including termination scenarios covered by Part VI of this tariff; **(C)**

iii. to Protected-Tenants by posting a notice of termination on the Premises at least 30 days prior to the scheduled shut off, including termination scenarios covered by Part VI of this tariff; **(C)**

iv. to Customers who permit water to flow unnecessarily, as described in the Water Tariff and these Supplemental Service Conditions, upon 24 hours' notice or, if the resulting condition threatens injury to persons or damage to property, immediately; and

v. by telephone call to the telephone number on file with the Authority; by electronic mail to an e-mail address on file with the Authority but only if the customer’s express written consent to accept

PART V: SURCHARGES

DISTRIBUTION SYSTEM IMPROVEMENT CHARGE (DSIC)

In addition to the net charges provided for in this Tariff, a charge of 7.5% will apply consistent with the Commission Order dated TBD at Docket No. TBD, approving the DSIC cap. **(I)**

1. General Description

a. Purpose: To recover the reasonable and prudent costs incurred to repair, improve, or replace eligible property which is completed and placed in service and recorded in the individual accounts, as noted below, between base rate cases and to provide the Utility with the resources to accelerate the replacement of aging infrastructure, to comply with evolving regulatory requirements and to develop and implement solutions to regional supply problems.

The costs of extending facilities to serve new customers are not recoverable through the DSIC.

b. Eligible Property: The DSIC-eligible property will consist of the following:

- Services (account 333000), meters (account 334100) and hydrants (account 335000) installed as in-kind replacements for customers;
- Mains and valves (account 331800) installed as replacements for existing facilities that have worn out, are in deteriorated condition, or are required to be upgraded to meet under 52 Pa Code § 65 (relating to water service);
- Main extensions (account 331800) installed to eliminate dead ends and to implement solutions to regional water supply problems that present a significant health and safety concern for customers currently receiving service from the water utility;
- Main cleaning and relining (account 331800) projects; and
- Unreimbursed costs related to highway relocation projects where a water utility must relocate its facilities; and
- Other related capitalized costs.

(I)= Increase

4. Customer Safeguards

a. Cap: The DSIC is capped at 7.5 % of the amount billed to customers for distribution service (including all applicable clauses and riders), inclusive of amounts billed for annual reconciliation pursuant to the "e" factor set forth above, as determined on an annualized basis. **(I)**

b. Audit/Reconciliation: The DSIC is subject to audit at intervals determined by the Commission. Any cost determined by the Commission not to comply with any provision of 66 Pa C.S. §§ 1350, et seq., shall be credited to customer accounts. The DSIC is subject to annual reconciliation based on a reconciliation period consisting of the twelve months ending December 31 of each year. The revenue received under the DSIC for the reconciliation period will be compared to the Authority's eligible costs for that period. The difference between revenue and costs will be recouped or refunded, as appropriate, in accordance with Section 1307(e), over a one-year period commencing on April 1 of each year. If DSIC revenues exceed DSIC-eligible costs, such over-collections will be refunded with interest. Interest on over-collections and credits will be calculated at the residential mortgage lending specified by the Secretary of Banking in accordance with the Loan Interest and Protection Law (41 P.S. §§ 101, et seq.) and will be refunded in the same manner as an over-collection.

c. Customer Notice: Customers shall be notified of changes in the DSIC by including appropriate information on the first bill they receive following any change. An explanatory bill insert shall also be included with the first billing.

d. All customer classes: The DSIC shall be applied equally to all customer classes. Provided that, the DSIC will not apply to public fire protection customers.

EXHIBIT JAM-15

Supplement No. 16~~5~~
Tariff Water - Pa. P.U.C. No. 1

THE PITTSBURGH WATER AND SEWER AUTHORITY
d/b/a PITTSBURGH WATER

RATES, RULES AND REGULATIONS GOVERNING

THE PROVISION OF WATER SERVICE

TO THE PUBLIC IN THE TERRITORY DESCRIBED HEREIN

Issued: ~~December 13, 2024~~ June 4, 2025

Effective: ~~December 14, 2024~~ August 8, 2025

BY: William J. Pickering, Chief Executive Officer
1200 Penn Avenue, Pittsburgh, PA 15222
Tel: 412-255-8800

NOTICE

This Tariff Supplement ~~updates name to add d/b/a~~ makes changes in rates, rules and regulations as supported by the June 4, 2025 filing at Docket No. R-2025-3055010.

Supplement No. 16~~5~~
The Pittsburgh Water and Sewer Authority
Tariff Water - Pa. P.U.C. No. 1
~~Ninth~~ Tenth Page No. 2
Canceling ~~Eighth~~ Ninth Page No. 2

LIST OF CHANGES

TABLE OF CONTENTS (PAGE NO. 3):
Updated to add pages numbers for new Part I Sections K and L

LIST OF TERRITORIES SERVED (PAGE NO. 7)
Corrected to Add "Fox Chapel" and portions Of Ross, McKees Rocks, Sharpsburg, Penn Hills, Shaler, Swissvale, and Wilkinsburg

PART I: SCHEDULE OF RATES AND CHARGES, SECTION A – RATES FOR METERED SERVICE – NUMBER 1 MINIMUM OR BASE CHARGE (PAGE NO. 8)
Changed "Base" to "Service" to describe fixed charge. Added rates for Minimum or Service Charges which will increase for all customer classes effective the date of this supplement and will decrease on January 1, 2027.

PART I: SCHEDULE OF RATES AND CHARGES, SECTION A – RATES FOR METERED SERVICE – NUMBER 2 CONSUMPTION CHARGE (PAGE NO. 8A)
New text describing elimination of minimum allowance effective January 1, 2025. Added rates for Consumption Charges which will increase for all customer classes effective the date of this supplement and increase on January 1, 2027.

PART I: SCHEDULE OF RATES AND CHARGES, SECTION A–RATES FOR METERED SERVICE – NUMBER 3 PENNVEST CHARGE (PVC) (NEW PAGE NO. 8B, 8C, 8D)
Added PVC charge of $2.13. Revised language to include all current and future PENNVEST loans in the charge and added information about the loans to being recovered. Moved text from Page 8C to 8D

PART I: SCHEDULE OF RATES AND CHARGES, SECTION A.1 – RATES FOR UNMETERED SERVICE (PAGE NO. 9)
Added rates for Unmetered Service for all rate classes effective as of the date of the supplement, increasing on January 1, 2027.

PART I: SCHEDULE OF RATES AND CHARGES, SECTION B – FIRE PROTECTION RATES (PAGE NOS. 10 AND 11)
Added rates for Private and Public Fire Protection Rates all rate classes effective as of the date of this supplement and increasing on January 1, 2027.

Issued: ~~December 13, 2024~~ June 4, 2025
Effective: ~~December 14, 2024~~ August 8, 2025

The Pittsburgh Water and Sewer Authority

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LIST OF CHANGES (con't)

PART I: SCHEDULE OF RATE AND CHARGES, SECTION H – MISCELLANEOUS CHARGES, FEES, AND PENALTIES, NO.4.A. (PAGE 15A)
Set to $0.00 Developer Fees for Water and Sewer Use Review Letters.

PART I: SCHEDULE OF RATES AND CHARGES, SECTION I – SALES FOR RESALE (WHOLESALE) (PAGE NO. 16)
Added rates for Sales for Resale classes effective as of the date of the supplement and increased January 1, 2027.

PART I: SCHEDULE OF RATES AND CHARGES, NEW SECTIONS K AND L (NEW PAGE NO. 16A)
Added New Section K to offer a one-time credit for enrollment in paperless billing. Add New Section L giving Pittsburgh Water discretion to offer a credit resulting from a leak for which customer has no actual or constructive notice.

RIDER BDP – BILL DISCOUNT PROGRAM (RESIDENTIAL) (PAGE NO. 19)
Update application requirements. Change "base" to "service" charge. Add Fixed Discount Bill Credit effective as of the date of the supplement, increasing January 1, 2027.

RIDER AFP – ARREARAGE FORGIVENESS PROGRAM (PAGE 19A)
Updated terms of forgiveness arrearage programs and included cost recovery through Rider AFP.

PART II – DEFINITIONS (PAGE 20)
Updated definition No. 2 to include d/b/a Pittsburgh Water

PART III – RULES AND REGULATIONS, SECTION B.12.D (PAGE NO. 35)
Included reference to Line Repair and Water Conservation program described in Rider BDP paragraph 6.

PART III – RULES AND REGULATIONS, SECTION B.12.H (PAGE NO. 36)
Add new paragraph h regarding Pittsburgh Water's assumption of ownership over water service lines that are 2 inches or less.

PART III – RULES AND REGULATIONS, SECTION C.3.J (PAGE NO. 40)
Added cross references to Part VI regarding Lead Service Line Replacement termination processes.

PART V: SURCHARGES DISTRIBUTION SYSTEM IMPROVEMENT CHARGE (DSIC) (PAGE NOS. 59 AND 62)
Increase from 5.0% to 7.5% the DSIC charge.

The Pittsburgh Water and Sewer Authority

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Effective: ~~February 15, 2024~~ August 8, 2025

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Point Breeze
Point Breeze North
Polish Hill
Regent Square
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Shady Side
South Oakland
South Shore
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Strip District
Summer Hill
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Troy Hill
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Upper Lawrence
West End
West Oakland
Fox Chapel (C)

The Borough of Millvale.

Portions of Townships of Reserve, O'Hara, Ross, McKees Rocks, Sharpsburg, Penn Hills, Shaler, Swissvale, Wilkinsburg and Blawnox. (C)

(c) - Change

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PART I: SCHEDULE OF RATES AND CHARGES

Section A – Rates for Metered Service

1. Minimum (or ~~Base~~ Service) Charge: Each customer will be assessed a service charge based upon the size of the customer's meter as follows except that residential customers residing in newly constructed townhomes who are required to install a meter larger than 5/8" for fire protection and due to City ordinance requirements, may request assessment of the 5/8" minimum charge and usage allowance: **(C)**

Meter Size	Minimum Gallons	**Per Month Rate Effective as of the date of this supplement**	**(C)**
5/8"	1,000	$~~31.54~~ 34.34	**(I)**
3/4"	2,000	$~~55.26~~ 58.65	**(I)**
1"	5,000	$~~121.38~~ 124.45	**(I)**
1 ½"	10,000	$~~240.01~~ 246.00	**(I)**
2"	17,000	$~~401.04~~ 409.03	**(I)**
3"	40,000	$~~911.28~~ 918.26	**(I)**
4"	70,000	$~~1,562.27~~ 1,562.04	**(~~I~~D)**
6"	175,000	$~~3,774.85~~ 3,722.63	**(~~I~~D)**
8"	325,000	$~~6,877.76~~ 6,727.79	**(~~I~~D)**
10" or Larger	548,000	$~~11,393.44~~ 11,058.67	**(~~I~~D)**

Meter Size	**Per Month Rate (Effective January 1, 2027)**	**(C)**
5/8"	$18.81	**(D)**
3/4"	$26.65	**(D)**
1"	$42.34	**(D)**
1 ½"	$81.57	**(D)**
2"	$128.64	**(D)**
3"	$254.17	**(D)**
4"	$395.39	**(D)**
6"	$787.66	**(D)**
8"	$1,258.39	**(D)**
10" or Larger	$1,807.56	**(D)**

~~*[text previously on page moved to next page]*~~ **(D)**

(C) = Change (I)= Increase (D)=Decrease

~~*[text from previous page carried over here]*~~

2. Consumption Charge: In addition to the Minimum or ~~Base~~ Service Charge, the following water consumption charges will apply for each 1,000 gallons above the Minimum Gallons for each meter size effective the date of this supplement and for all metered consumption effective January 1, 2027: (C) (C)

Customer Class	Consumption Charge Rate per 1000 Gals.		
	Effective Date of this Supplement	**Effective January 1, 2027**	**(C)**
Residential	~~$16.38~~ 19.42	$19.98	**(I)/(I)**
Commercial	~~$16.58~~ 20.48	$22.23	**(I)/(I)**
Industrial**	~~$16.50~~ 22.37	$26.48	**(I)/(I)**
Health or Education	~~$20.70~~ 24.85	$25.93	**(I)/(I)**

The rate under this schedule applies to all customers, except public fire protection and private fire protection customers, unless otherwise specifically identified in this tariff.

** *Rate applies to any new bulk water customers.*

(I)= Increase (C)= Change

3. **PennVest Charge (PVC):** In addition to the charges provided in this tariff, and pursuant to the Commission's Statement of Policy at 52 Pa. Code §§ 69.361 et seq., and Section 1307(a) of the Public Utility Code, the PVC will apply uniformly to all classes of water customers (with the exception of public fire protection customers and customers served pursuant to pre-existing wholesale contracts) for each 1,000 gallons consumed. The PVC will apply to unmetered customers based on the estimated billed consumption used to determine their rate for unmetered service.

   a. **Purpose.** The purpose of the PVC is to begin timely recovery of specific interest only and principal and interest ("PI") obligations due by Pittsburgh Water ~~WSA~~ for loans, not grants, received from the Pennsylvania Infrastructure Investment Authority ("PENNVEST") when they first become due and until fully repaid and will remain in effect until costs are fully recovered. (C) (C)

   b. The currently effective PVC is:

Customer Class	PennVest Charge Rate per 1000 Gals.
	Effective as of the date of this supplement
All Customers	$2.13 (I)

The above charge per 1000 Gallons is determined as follows:

PVC = PI/ Consumption

PVC = PennVest Charge per 1,000 gallons

PI = Annual Interest Only and/or Principal and Interest payments per PennVest Loans identified below

Consumption = total projected billed consumption in 1000s gallons used by all customers in forecast year

(I)= Increase (C)= Change

c. **Computation.** The PVC will be adjusted to conform to the specific interest only and principal and interest ("PI") obligations payable pursuant to the final PENNVEST amortization schedules. ~~The loans may not be included in the PVC until the plant is used and useful.~~ ~~When applicable, the final settlement date of loans funded through the PennVest Programmatic Financing (Pro-Fi) program is what will be used to determine which loans closed on or after January 1, 2025.~~ The PVC includes all interest and/or interest and principal on all current and future PENNVEST loans. Currently, the PVC is recovering the following loans: (C) (C) (C)

Loan Source	Loan Number / Identifier	Start Date of Interest Only Payments	Start of Final Amortization Schedule
PENNVEST	83126	2/10/2009	10/1/2011
PENNVEST	12696	12/16/2009	5/1/2011
PENNVEST	81026	8/21/2013	3/1/2015
PENNVEST	81027	11/16/2013	5/1/2015
PENNVEST	80191	3/8/2019	4/1/2020
PENNVEST	85175	6/9/2020	3/1/2022
PENNVEST	85205	3/23/2022	9/1/2023
PENNVEST	81034	3/29/2022	10/1/2023
PENNVEST	87102	12/30/2022	12/1/2027
PENNVEST	80203	12/30/2022	12/1/2027
PENNVEST	80214	8/4/2023	3/1/2025
PENNVEST	80209	8/22/2023	5/1/2025
PENNVEST	80230	3/12/2024	10/1/2025
PENNVEST	80208	4/5/2024	10/1/2026
PENNVEST	80233	8/6/2024	5/1/2026
PENNVEST	82245	8/9/2024	5/1/2026
PENNVEST	80238	8/26/2024	2/1/2026
PENNVEST	80255	5/20/2025	6/20/2028
PENNVEST	80254	5/20/2025	6/20/2028
PENNVEST	80268	7/16/2025	8/16/2028

d. **Semi-Annual Adjustments.** The PVC is subject to change on a semi-annual basis effective February 1 and August 1 based on the status of applicable PENNVEST loans. Semi-annual updates to be filed by Pittsburgh Water ~~WSA~~ at least ten (10) days prior to the effective date of the update. Supporting data for each semi-annual update will be provided. *[Text moved to next page]* (C)

(I)= Increase (C)= Change

[Text from previous page added here]

e. **Annual Reconciliation**. The PVC will be subject to annual reconciliation based on actual consumption for the prior 12 months ending December 31. The PVC will be adjusted to reflect either a credit, as calculated below, or an increase in the charge as determined by the reconciliation process to be effective February 1. Supporting data for each annual reconciliation will be provided. (C)

f. **Credit Calculation:** An over-collection occurs after the annual PI is fully recovered within the 12-months subject to the Annual Reconciliation. Interest on over-collections will be calculated in the first full month after the over-collection occurred at the residential mortgage lending specified by the Secretary of Banking in accordance with the Loan Interest and Protection Law (41 P.S. §§ 101, et seq.).

g. The charge will be effective the first billing cycle immediately following the effective date of the tariff supplement. The PVC shall remain in effect if and until included in the general base rates of the Authority; provided, however, that the charge may be continued or adjusted by the Authority as additional PENNVEST loans, which have been approved for other Pittsburgh Water ~~WSA~~ Infrastructure Improvement projects, become due and payable. (C)

h. The charge will be reflected as a separate line item on each customer's bill.

i. The Authority will segregate all revenues dedicated for PENNVEST repayment so long as the charge remains in effect. (C)

(I)= Increase (C)= Change

The Pittsburgh Water and Sewer Authority

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Section A.1 - Rates for Unmetered Service

As of September 1, 2018, enrollment for Unmetered Service will be closed and no new Unmetered Service customers will be accepted by the Authority. Customers who are receiving unmetered service will be assessed a monthly customer charge per unmetered connection as follows:

Customer Class	**Customer Charge Per Month**		
	Effective as of date of this supplement	**Effective January 1, 2027**	**(C)**
Residential (per unit)	~~$80.68~~ 92.60	$98.73	**(I)/(I)**
Commercial	~~$97.86~~ 116.26	$129.96	**(I)/(I)**

(I)= Increase (C)= Change

Issued: ~~February 5, 2024~~ June 4, 2025

Effective: ~~February 15, 2024~~ August 8, 2025

Section B – Fire Protection Rates

1. Private Fire Protection: A customer charge for non-residential private fire protection service will be assessed as follows:

Meter Size	Line Size (if unmetered)	Customer Charge Per Month Effective as of date of supplement	Customer Charge Per Month Effective January 1, 2027	(C)
1" or Less	2"	~~$31.39~~ 41.31	$44.27	(I)/(I)
1 ½"-3"	3"	~~$97.60~~ 127.01	$136.11	(I)/(I)
4"	4"	~~$314.87~~ 419.03	$449.05	(I)/(I)
6" or Greater	6" or Greater	~~$654.54~~ 891.88	$955.78	(I)/(I)

In addition to any customer charge as applicable above, all customers shall be charged for consumption pursuant to the following terms:

a. In the event of a confirmed fire, no charge shall be made for the use of water to fight the fire using private fire hydrants or fire abatement equipment. Customers whose fire equipment has been activated to fight a fire should notify the Authority to assure that the associated water use will not be billed.

b. For consumption of water related to testing, training on, and maintenance of private fire hydrants and fire abatement equipment, consumption charges shall be billed in accordance with the following rates for water consumption. Water used from private fire protection for these purposes should be based on meter readings where possible. If a meter cannot be used, the Authority will estimate the usage.

Consumption Charge
Rate per 1,000 Gals.

	Effective as of date of supplement	Effective January 1, 2027	(C)
Private Fire Protection	~~$27.11~~ 33.51	$35.56	(I)/(I)

(I)= Increase, (D)= Decrease, (C)= Change

2. Public Fire Protection: For public fire protection, the charges will be assessed as follows:

	Per Hydrant Charge Per Month		
	Effective as of the date of this supplement	**Effective January 1, 2027**	**(C)**
Public Fire Protection	~~$20.69~~ 29.34	$31.44	**(I)/(I)**

No charge shall be made for the use of water to fight a confirmed fire or for reasonable testing, training on, and maintenance of public fire hydrants and abatement equipment.

For use other than public fire protection, charges based on metered usage of a hydrant as set forth in Part II, Section H.3.

(I)= Increase, (C)= Change

4. Activities Related to Permits/Approvals Issued by the Authority

a. Development Permits – required for constructing or renovating a structure larger than a single-family home including single-family homes with a fire service line or multi-family homes

Activity	Fee	
Developer Fee – Water and Sewer Availability Letter	$40.00	
Developer Fee – Water and Sewer Use Review Letter	$~~32~~0.00	(C)
Developer Fee – Water and Sewer Use Review Letter – Expedited*	$~~55~~0.00	(C)
Tap-in Plan Review	$420.00	
Tap-In Plan Review – Expedited*	$740.00	
Developer Permit Revisions Review	$140.00	
Developer Permit Revisions Review – Expedited*	$250.00	
Private Construction of Public Facilities Plan Review	$680.00	
Private Construction of Public Facilities Plan Review – Expedited*	$1,190.00	

*Expedited = guaranteed review within 15 business days

b. Residential Permit – for new water and/or sewer taps or reconnecting to existing water service (fee does not apply for water service party line separations)

Activity	Fee
Residential Permit	$40.00

Section I – Sales for Resale (Wholesale)

1. Application: This schedule applies to all new sales of water to other water utilities or public authorities for resale.

2. Rates and Terms of Service: A customer consumption charge per 1,000 gallons of usage will be assessed as follows:

	Consumption Charge Rate per 1000 Gals.		
	Effective as of date of supplement	**Effective January 1, 2027**	**(C)**
Sales for Resale	~~$12.96~~ 12.41	$13.34	**(D)/(I)**

3. Contracts stipulating the negotiated rate and negotiated terms of Sale for Resale Service may be renegotiated and/or entered into between the Authority and Customer or Applicant when the Authority, in its sole discretion, deems such offering to be economically advantageous to the Authority. Service under this rate is interruptible, and the Authority reserves the right to interrupt service at Authority's discretion.

Section J – New Automatic Payment Enrollment Credit

Customers enrolling in paperless billing and establishing automatic bill payments for the first time will receive a one-time credit of $5.00. For customers receiving water, wastewater, and/or storm water service from Pittsburgh Water ~~PWSA~~, this credit will only be applied once per Pittsburgh Water ~~PWSA~~ account. **(C)**

(C)= Change; (I) Increase

Section K – E-Bill Credit

Customers enrolling in e-billing for the first time will receive a one-time credit of $15.00. For customers receiving water, wastewater, and/or storm water service from Pittsburgh Water, this credit will only be applied once per Pittsburgh Water account. Customers enrolling in e-billing and receiving the credit are prohibited from switching back to paper billing for six (6) months.

Section L – Leak Credit

Where a customer has received a bill for higher than usual consumption as a result of a leak that they had neither actual nor constructive notice of, and the customer has provided evidence that the leak that resulted in higher than usual consumption has been repaired, in the form of:

i. An invoice from the registered plumber who made the repair(s) describing the location of the leak(s) and the repair(s) made;
ii. A letter or email from the registered plumber who made the repair(s) describing the location of the leak(s) and the repair(s) made; or
iii. A receipt for the purchase of materials along with a letter or email from the customer who made the repair(s) describing the location of the leak(s) and the repair(s) made;

and the customer has enrolled in all of the free leak alerts within the Customer Advantage Portal to receive alerts of higher than usual consumption via text and/or email, the Authority may, in its sole discretion, reduce the initial invoice for higher than usual charges assessed under Part I of this tariff down to average monthly consumption for the customer. Average monthly consumption will be established by the average number of gallons used in the 12 months preceding the apparent beginning of the leak. Should the customer incur a second, subsequent bill for higher than usual consumption, the Authority may, in its sole discretion, additionally reduce the subsequent invoice for higher than usual charges assessed under Part I.

The Pittsburgh Water and Sewer Authority

Supplement No. 14
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~~Third~~ Fourth Page No. 19
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Rider BDP - Bill Discount Program (Residential)

1. Bill Discount Program: This rider is a program designed to enroll residential ratepayers who satisfy the criteria set forth below in a monthly discounted rate program.

2. Availability: This rider is available for a Residential customer that meets the low-income criteria of annual household gross income at or below 200% of the Federal Poverty Level.

   a. A residential ratepayer who meets the eligibility criteria should complete an application for the Bill Discount Program except that residential ratepayers who apply for and are granted a Hardship Grant through one of the community based organizations partnering with Dollar Energy Fund will be automatically enrolled in the Bill Discount Program. (C)

   b. Eligible customers may be asked to verify income every two years or, for customers on fixed incomes of social security and/or retirement benefits, every five years. (C)

3. Rate (Minimum or ~~Base~~ Service Charge): The Minimum or ~~Base~~ Service Charge for residential service pursuant to Rider BDP will be 0% of the prevailing Minimum Service Charge under Part I, Section A. Any other rates, fees and charges will be at the prevailing amounts under this tariff. (C)

4. Rate (Consumption Charge): The Consumption Charge for residential service pursuant to Rider BDP for participants with income at or below 50% of the Federal Poverty Level will pay 40% of the prevailing Consumption Charge under Part I, Section A (which represents a 60% discount off the charge). Any other rates, fees and charges will be at the prevailing amounts under this tariff.

5. PennVest Charge ("PVC"): BDP participants will pay 50% of the PVC.

6. Fixed Discount Bill Credit: Qualifying customers will also receive a fixed bill credit up to the amounts stated as set forth below: (C)

	Effective as of the date of this supplement	**Effective January 1, 2027**	(C)
BDP Participants above 50% - 200% of FPL	$5.00 per bill for water charges	$23.00 per bill for water charges	(C)/(I)
CAP Customers at or below 50% of FPL	$0.00 per bill for water charges	$8.35 per bill for water charges	(C)/(I)

(D)= Decrease (C)= Change

Issued: ~~February 5, 2024~~ June 4, 2025
Effective: ~~February 15, 2024~~ August 8, 2025

Rider AFP: Arrearage Forgiveness Program (C)

a. Customers receiving residential service pursuant to Rider BDP who maintain an active, income based payment plan as documented by the Authority shall be eligible to participate in the Arrearage Forgiveness Program. Customers who negotiate a payment arrangement for their pre-existing arrearages will be automatically enrolled in the Arrearage Forgiveness Program.

b. Eligible participants will have their pre-existing billed charges in arrears frozen and any remaining balance after 24 months shall be forgiven~~ in increments of $30 per each payment received~~. (C) Bill charges in arrears includes any amounts outstanding for Pittsburgh Water's wastewater conveyance service, if applicable. (C) Forgiven arrearages will be recovered through Rider AFP as part of Pittsburgh Water's revenue requirements. (C)

c. The Authority will cease assessing any interest on the arrears and pursuing collections while the customer is in an active, income based payment plan.

d. Should the participating customer default on the payment plan, he or she will have the opportunity to make two catch-up payments to continue to receive the benefits of the Arrearage Forgiveness Program. Failure to make the two catch-up payments will result in immediate removal of the customer from the Arrearage Forgiveness Program.

e. Customers removed from the Arrearage Forgiveness Program will be eligible to reenter the program if they make all missed payments incurred during their prior enrollment in the Arrearage Forgiveness Program.

f. The Authority reserves the right to propose to alter or eliminate the Arrearage Forgiveness Program in a future base rate case.

(C) = Change, (I)= Increase

6. Line Repair and Water Conservation Program

a. Program Description. Designed to help customer reduce water loss from leaking pipes and old, inefficient water fixtures, this program offers immediate repairs and replacements as well as education about effective water conservation practices.

b. Eligibility. Residential ratepayers earning 200% of the federal poverty level or less are eligible.

c. Benefit. Eligible ratepayers may receive up to $1,600 for qualifying repairs to be performed by a Pittsburgh Water contractor.

d. Requirements. All projects are subject to the approval of Pittsburgh Water and eligible participants must comply with all required program elements to include providing written consent to the repairs in a form developed by Pittsburgh Water.

PART II: Definitions:

The following words and phrases, when used in this tariff, shall have the meanings assigned below unless the context clearly indicates otherwise:

1. Applicant: A natural person at least 18 years of age not currently receiving service who applies for residential service provided by the Authority or any adult occupant whose name appears on the mortgage, deed or lease of the property for which the residential utility service is requested. The term does not include a person who, within 30 days after service termination or discontinuance of service, seeks to have service reconnected at the same location or transferred to another location within the service territory of the Authority.

2. Authority or PWSA or Pittsburgh Water : The Pittsburgh Water and Sewer Authority d/b/a Pittsburgh Water, a municipal authority organized and existing under the laws of the Commonwealth of Pennsylvania. (C)

3. Authority Water Main: The Authority has a duty to operate, maintain, inspect, repair, replace or abandon only those Water Mains that are a part of or connected to the public water distribution system and that fall into one of the following classifications: (1) Water Mains leased to the Authority by the City under the Capital Lease Agreement effective July 27, 1995, as amended; (2) Water Mains constructed by the City or the Authority for public use since July 27, 1995; and (3) Water Mains dedicated to public use and accepted by the Authority on or after July 27, 1995.

4. Authority service line: The water line from the distribution facilities of the Authority which connects to the customer service line at the hypothetical or actual line or the actual property line, including the control valve and valve box. The control valve and valve box determine the terminal point for the Authority's responsibility for the street service connection.

5. Automatic Meter Reading: Metering using technologies that automatically read and collect data from metering devices and transfer that data to a central database for billing and other purposes.

(C) - Change

d. Where a Customer, unless qualified for participation in the Authority's Private Line Leak Repair Pilot Program as approved at PaPUC Docket No. P-2022-3030253 or the Line Repair and Water Conservation Program described in Rider BDP, Paragraph 6 of this Tariff, permits water to leak or flow unnecessarily from a Water Service Line or from any pipe, fixture or appliance, and the Authority gives written notice of the leak or other problem to the property Owner or Customer, the property Owner shall have 5 business days in which to make necessary repairs. Should no action be taken within the allowable 5-day period, the Authority may assess a daily charge for each day after such allowable 5-day period in which the waste of water continues or, in the Authority's discretion, may terminate water service to the Premises - after giving notice of termination consistent with Part II, Section C.3 of this tariff - until the leak or other condition is repaired. The daily charge shall be equivalent to the monthly minimum Meter charge that is predicated upon the Meter size supplying a particular account. (C)

e. Where a Customer permits water to leak or flow unnecessarily from a Water Service Line or from any pipe, fixture or appliance and the amount of water is creating a public hazard or damaging public infrastructure, as determined by the Authority, the Authority reserves the right to terminate water service to the property immediately, until the leak or other condition is repaired. Should the condition of a customer service line be such that there is a risk to public health or safety or of damage to public property, and the property Owner fails to take prompt action to cure the problem following notice to do so, the Authority shall have the right, but not the duty, to make the necessary repair or replacement and to charge the property Owner with the reasonable cost of the repair or replacement. Should the property Owner fail to reimburse the Authority within 30 days of the Authority's invoice therefor, the Authority shall have the right to file a lien against the property or properties served by the service line.

f. Should a Customer observe any condition that interferes with the use or safety of the Curb Box, such as an open or damaged Curb Box lid, an uneven condition of the Curb Box and the adjacent ground surface, or a condition that

C = Change

could impair access to the Curb Box, they shall contact the Authority for repair or replacement of the Curb Box.

g. Customers and property Owners may not cover, obscure, damage, tamper, or interfere with the Curb Stop or Curb Box. Customers and property Owners shall not interfere in any way with the Authority's access to or use of the Curb Stop. If the Curb Box or Curb Stop is damaged by the Customer and/or Property Owner, or the Curb Box or Curb Stop is covered so as to preclude or interfere with access, the Customer or property Owner, as applicable, is responsible for the cost of the Authority's work in uncovering, repairing, or replacing the Curb Stop and/or Curb Box, and for the cost of restoring adjacent landscaping, sidewalks, or other property affected by the work.

h. The Authority assumes ownership of water services lines that are two (2) inches or less in diameter and which are located in the public right-of-way, from the Authority Main to the Curb Stop. **(C)**

13. Conversion of Party Water Service Lines and Converting Flat Rate or Unmetered Customers to Metered Customers:

a. Non-Municipal Residential Property Owners whose properties are served by a Party Water Service Line must install separate services lines to each individual property. Each Customer shall have an individual Water Service Line and Meter of a size, type, location, and setting approved by the Authority. The cost of installation of the Water Service Line from the residence to the Curb Stop is the responsibility of the property Owner. Installation and the cost of installation of the Meter and the Water Service Line from the Water Main to and including the Curb Stop is the responsibility of the Authority. No connections fees or service fees will be imposed. All plans for installation of the Water Service Lines and the scheduling of such work is subject to the permitting process and the prior approval of the Authority.

(C)= Change

of violation of any law or ordinance, or upon notice to the Authority from any such authority that it has ordered an existing violation on the property to be corrected and that such order has not been complied with or

h. material violation of any provisions of this tariff.

i. Whenever two or more Properties have been supplied from a single main connection, and one or more of the Customers becomes delinquent or permits water to flow unnecessarily or leak from any pipe, fixture, or appliance, the Authority will send a notice of termination to all the commonly supplied Premises. The Authority will not terminate service to the commonly supplied Premises.

j. Notice of termination shall be in the form required by the Commission and shall be provided as follows:

i. to Customers at least 10 days prior to the scheduled shut off, including termination scenarios covered by Part VI of this tariff; (C)

ii. to Customers who are Owners with Tenants at least 37 days prior to the scheduled shut off, including termination scenarios covered by Part VI of this tariff; (C)

iii. to Protected-Tenants by posting a notice of termination on the Premises at least 30 days prior to the scheduled shut off, including termination scenarios covered by Part VI of this tariff; (C)

iv. to Customers who permit water to flow unnecessarily, as described in the Water Tariff and these Supplemental Service Conditions, upon 24 hours' notice or, if the resulting condition threatens injury to persons or damage to property, immediately; and

v. by telephone call to the telephone number on file with the Authority; by electronic mail to an e-mail address on file with the Authority but only if the customer's express written consent to accept

PART V: SURCHARGES

DISTRIBUTION SYSTEM IMPROVEMENT CHARGE (DSIC)

In addition to the net charges provided for in this Tariff, a charge of ~~5~~7.5~~0~~% will apply consistent with the Commission Order dated ~~December 3, 2020~~ TBD at Docket No. TBD ~~P-2020-3019019~~, approving the DSIC cap. **(I)**

1. General Description

a. Purpose: To recover the reasonable and prudent costs incurred to repair, improve, or replace eligible property which is completed and placed in service and recorded in the individual accounts, as noted below, between base rate cases and to provide the Utility with the resources to accelerate the replacement of aging infrastructure, to comply with evolving regulatory requirements and to develop and implement solutions to regional supply problems.

The costs of extending facilities to serve new customers are not recoverable through the DSIC.

b. Eligible Property: The DSIC-eligible property will consist of the following:

- Services (account 333000), meters (account 334100) and hydrants (account 335000) installed as in-kind replacements for customers;
- Mains and valves (account 331800) installed as replacements for existing facilities that have worn out, are in deteriorated condition, or are required to be upgraded to meet under 52 Pa Code § 65 (relating to water service);
- Main extensions (account 331800) installed to eliminate dead ends and to implement solutions to regional water supply problems that present a significant health and safety concern for customers currently receiving service from the water utility;
- Main cleaning and relining (account 331800) projects; and
- Unreimbursed costs related to highway relocation projects where a water utility must relocate its facilities; and
- Other related capitalized costs.

(I)= Increase

4. Customer Safeguards

a. Cap: The DSIC is capped at ~~5~~7.5~~0~~% of the amount billed to customers for distribution service (including all applicable clauses and riders), inclusive of amounts billed for annual reconciliation pursuant to the "e" factor set forth above, as determined on an annualized basis. (I)

b. Audit/Reconciliation: The DSIC is subject to audit at intervals determined by the Commission. Any cost determined by the Commission not to comply with any provision of 66 Pa C.S. §§ 1350, et seq., shall be credited to customer accounts. The DSIC is subject to annual reconciliation based on a reconciliation period consisting of the twelve months ending December 31 of each year. The revenue received under the DSIC for the reconciliation period will be compared to the Authority's eligible costs for that period. The difference between revenue and costs will be recouped or refunded, as appropriate, in accordance with Section 1307(e), over a one-year period commencing on April 1 of each year. If DSIC revenues exceed DSIC-eligible costs, such over-collections will be refunded with interest. Interest on over-collections and credits will be calculated at the residential mortgage lending specified by the Secretary of Banking in accordance with the Loan Interest and Protection Law (41 P.S. §§ 101, et seq.) and will be refunded in the same manner as an over-collection.

c. Customer Notice: Customers shall be notified of changes in the DSIC by including appropriate information on the first bill they receive following any change. An explanatory bill insert shall also be included with the first billing.

d. All customer classes: The DSIC shall be applied equally to all customer classes. Provided that, the DSIC will not apply to public fire protection customers.

EXHIBIT JAM-16

Supplement No. 15
Tariff Wastewater - Pa. P.U.C. No. 1

THE PITTSBURGH WATER AND SEWER AUTHORITY
d/b/a PITTSBURGH WATER

RATES, RULES AND REGULATIONS GOVERNING

THE PROVISION OF WASTEWATER CONVEYANCE SERVICE

TO THE PUBLIC IN THE TERRITORY DESCRIBED HEREIN

Issued: June 4, 2025 Effective: August 8, 2025

BY: William J. Pickering, Chief Executive Officer
1200 Penn Avenue, Pittsburgh, PA 15222
Tel: 412-255-8800

NOTICE

This Tariff Supplement makes changes in rates, rules and regulations as supported by the June 4, 2025 filing at Docket No. R-2025-3055011.

LIST OF CHANGES

TABLE OF CONTENTS (PAGE NO. 3):
Updated to add page numbers for new Part I Sections K and L

PART I: SCHEDULE OF RATES AND CHARGES, SECTION A – WASTEWATER CONVEYANCE – NUMBER 1 MINIMUM OR BASE CHARGE (PAGE NO. 9)
Changed "Base" to "Service" to describe fixed charge. Added rates for Minimum or Service Charges which will increase for all customer classes effective the date of this supplement and will decrease on January 1, 2027.

PART I: SCHEDULE OF RATES AND CHARGES, SECTION A – WASTEWATER CONVEYANCE – NUMBER 2 CONVEYANCE CHARGE (PAGE NO. 9A)
Added rates for Conveyance Charges which will increase for all customer classes effective the date of this supplement and change on January 1, 2027. Added language revision regarding minimum allowance effective January 1, 2027.

PART I: SCHEDULE OF RATES AND CHARGES, SECTION A–RATES FOR METERED SERVICE – NUMBER 3 PENNVEST CHARGE (PVC) (NEW PAGE NO. 9B AND 9C)
Added PVC Charge $0.88. Revised language to include all current and future PENNVEST loans in the charge and added information about the loans to being recovered.

PART I: SCHEDULE OF RATES AND CHARGES, SECTION A.1 – RATES FOR UNMETERED SERVICE (PAGE NO. 11)
Added rates for Unmetered Service for all rate classes effective as of the date of the supplement, increasing on January 1, 2027.

LIST OF CHANGES (con't)

PART I: SCHEDULE OF RATE AND CHARGES, SECTION H – MISCELLANEOUS CHARGES, FEES, AND PENALTIES, NO.4.A. (PAGE 14A)

Set to $0.00 Developer Fees for Water and Sewer Use Review Letters.

PART I: SCHEDULE OF RATES AND CHARGES, NEW SECTIONS K AND L (PAGE 14C)

Added New Section K to offer a one-time credit for enrollment in paperless billing. Add New Section L giving Pittsburgh Water discretion to offer a credit resulting from a leak for which customer has no actual or constructive notice.

RIDER BDP – BILL DISCOUNT PROGRAM(RESIDENTIAL) (PAGE NO. 17 AND NEW PAGE NO. 17AA)

Update application requirements. Change "base" to "service" charge. Add new Page No. 17A with the Fixed Discount Bill Credit effective as of the date of the supplement, increasing January 1, 2027.

RIDER AFP – ARREARAGE FORGIVENESS PROGRAM (PAGE 17A)

Updated terms of forgiveness arrearage programs and included cost recovery through Rider AFP.

PART II – DEFINITIONS (PAGES 18, 19, 24)

Updated definition No. 3 to include d/b/a Pittsburgh Water Break in connections. Updated definition no. 50 regarding Storm Water Collection System. Added No. 6A to define Break-In Connection.

PART III – RULES AND REGULATIONS, SECTION B.3 (PAGE 33)

Add new Section 3.a. to address break-in connections

PART V: SURCHARGES DISTRIBUTION SYSTEM IMPROVEMENT CHARGE (DSIC) (PAGE NOS. 64 AND 67)

Increase from 5.0% to 7.5% the DSIC charge.

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PART I: SCHEDULE OF RATES AND CHARGES

Section A – Wastewater Conveyance

1. Minimum (or Service) Charge: Each customer will be assessed a service charge based upon the size of the customer's water meter as follows except that residential customers residing in newly constructed townhomes who are required to install a meter larger than 5/8" for fire protection and due to City ordinance requirements, may request assessment of the 5/8" minimum charge and usage allowance: **(C)**

Meter Size	Minimum Gallons	Per Month	**(C)**
5/8"	1,000	$8.37	**(I)**
3/4"	2,000	$13.55	**(I)**
1"	5,000	$28.60	**(I)**
1 1/2"	10,000	$54.49	**(I)**
2"	17,000	$90.25	**(I)**
3"	40,000	$205.97	**(I)**
4"	70,000	$355.54	**(I)**
6"	175,000	$872.82	**(I)**
8"	325,000	$1,606.34	**(I)**
10" or Larger	548,000	$2,687.66	**(I)**

Meter Size	Service Charge Per Month **Effective January 1, 2027**	**(C)**
5/8"	$3.99	**(D)**
3/4"	$4.51	**(D)**
1"	$5.55	**(D)**
1 1/2"	$8.15	**(D)**
2"	$11.26	**(D)**
3"	$19.57	**(D)**
4"	$28.92	**(D)**
6"	$54.88	**(D)**
8"	$86.04	**(D)**
10" or Larger	$122.38	**(D)**

(C) = Change (I)= Increase (D) = Decrease

2. Conveyance Charge: In addition to the Minimum or Base Charge, the following wastewater conveyance charges (based on water consumption/usage or wastewater flows, at the Authority's discretion) will apply for each 1,000 gallons above the Minimum Gallons for each meter size effective with the date of this supplement, to be changed for all metered consumption effective January 1, 2027: **(C)**

Customer Class	Conveyance Charge Rate Per 1000 Gals.		
	Effective March 1, 2026	**Effective January 1, 2027**	**(C)**
Residential	$7.69	$7.39	**(I)/(D)**
Commercial	$7.03	$7.42	**(I)/(I)**
Industrial	$7.05	$7.64	**(I)/(I)**
Health or Education	$7.88	$7.96	**(I)/(I)**

(C)= Change (I)= Increase (D) = Decrease

3. **PennVest Charge (PVC):** In addition to the charges provided in this tariff, and pursuant to the Commission's Statement of Policy at 52 Pa. Code §§ 69.361 et seq., and Section 1307(a) of the Public Utility Code, the PVC will apply uniformly to all classes of wastewater conveyance customers (with the exception of customers served pursuant to pre-existing wholesale contracts) for each 1,000 gallons conveyed. The PVC will apply to unmetered customers based on the estimated billed consumption used to determine their rate for unmetered service.

   a. **Purpose.** The purpose of the PVC is to begin timely recovery of specific interest only and principal and interest ("PI") obligations due by Pittsburgh Water for loans, not grants, received from the Pennsylvania Infrastructure Investment Authority ("PENNVEST") when they first become due and until fully repaid and will remain in effect until costs are fully recovered. **(C)** **(C)**

   b. The currently effective PVC is:

Customer Class	PennVest Charge Rate per 1000 Gals.
All Customers	$0.88

(I)

The above charge per 1000 Gallons is determined as follows:

PVC = PI/ Conveyance

PVC = PennVest Charge per 1,000 gallons

PI = Annual Interest Only and/or Principal and Interest payments per PENNVEST identified below

Conveyance = total projected billed conveyance in 1000s gallons conveyed by all customers in forecast year

(C)= Change (I)= Increase (D) = Decrease

c. **Computation.** The PVC will be adjusted to conform to the specific interest only and principal and interest ("PI") obligations payable pursuant to the final PENNVEST amortization schedules. The PVC includes interest and/or interest and principal on all current and future PENNVEST loans. Currently, the PVC is recovering the following loans: **(C)**

Loan Source	Loan Number / Identifier	Start Date of Interest Only Payments	Start of Final Amortization Schedule
PENNVEST	71362	2/16/2009	5/1/2011
PENNVEST	27772	11/16/2009	3/1/2011
PENNVEST	27784	1/7/2010	9/1/2011
PENNVEST	71396	10/17/2013	5/1/2015
PENNVEST	58113	6/3/2014	1/1/2016
PENNVEST	71404	7/10/2014	5/1/2015
PENNVEST	75373	5/14/2021	9/1/2022
PENNVEST	75385	2/18/2022	7/1/2023
PENNVEST	77104	4/19/2022	4/1/2027
PENNVEST	71452	4/19/2022	4/1/2027
PENNVEST	71459	5/22/2023	4/1/2028
PENNVEST	71465	4/16/2025	4/1/2030

(C)

d. **Semi-Annual Adjustments.** The PVC is subject to change on a semi-annual basis effective February 1 and August 1 based on the status of applicable PENNVEST loan. Semi-annual updates to be filed by Pittsburgh Water at least ten (10) days prior to the effective date of the update. Supporting data for each semi-annual update will be provided. **(C)**

e. **Annual Reconciliation.** The PVC will be subject to annual reconciliation based on actual consumption for the prior 12 months ending December 31. The PVC will be adjusted to reflect either a credit, as calculated below, or an increase in the charge as determined by the reconciliation process to be effective February 1. Supporting data for each annual reconciliation will be provided.

(C)= Change (I)= Increase (D) = Decrease

Section A.1 – Wastewater Conveyance (Unmetered Service)

1. Customer Charge. As of September 1, 2018 enrollment for Unmetered Service will be closed and no new Unmetered Service customers will be accepted by the Authority. Customers who are receiving unmetered service will be assessed a monthly customer charge per unmetered connection as follows:

Customer Class	Customer Charge		
	Effective March 1, 2026	**Effective January 1, 2027**	**(C)**
Residential (per unit)	$31.44	$33.55	**(I)/(I)**
Commercial	$36.49	$41.09	**(I)/(I)**

2. Treatment Rate: In addition to the Customer Charge, Customers who are receiving unmetered service will be required to pay rates for Wastewater/Sewage treatment to Premises, as set forth in Section A.3.

Section B – Bulk Wastewater Conveyance

1. Application: This schedule applies to all bulk wastewater conveyance for other wastewater utilities or public authorities.

2. Rates and Terms of Service: Contracts stipulating the negotiated rate and negotiated terms of Bulk Wastewater Conveyance may be entered into between the Authority and Customer or Applicant when the Authority, in its sole discretion, deems such offering to be economically advantageous to the Authority.

(D)= Decrease (I) = Increase (C)= Change

4. Activities Related to Permits/Approvals Issued by PWSA

a. Development Permits – required for constructing or renovating a structure larger than a single-family home including single-family homes with a fire service line or multi-family homes

Activity	Fee	
Developer Fee – Water and Sewer Availability Letter	$40.00	
Developer Fee – Water and Sewer Use Review Letter	$ 0.00	(C)
Developer Fee – Water and Sewer Use Review Letter – Expedited*	$ 0.00	(C)
Tap-in Plan Review	$420.00	
Tap-In Plan Review – Expedited*	$740.00	
Developer Permit Revisions Review	$140.00	
Developer Permit Revisions Review – Expedited*	$250.00	
Private Construction of Public Facilities Plan Review	$680.00	
Private Construction of Public Facilities Plan Review – Expedited*	$1,190.00	
DEP Sewage Facilities Planning Review	$240.00	
DEP Sewage Facilities Planning Review – Expedited*	$410.00	

*Expedited = guaranteed review within 15 business days

b. Residential Permit – for sewer taps or reconnecting to existing sewer service

Activity	Fee
Residential Permit	$40.00

c. Other Permits (for any customer wanting to schedule an operation of a PWSA facility such as a fire hydrant or waterline shut)

Activity	Fee
Termination Only Permit	$250.00

Section I – Reserved for Future Use

Section J – New Automatic Payment Enrollment Credit

Customers enrolling in paperless billing and establishing automatic bill payments for the first time will receive a one-time credit of $5.00. For customers receiving water, wastewater, and/or storm water service from Pittsburgh Water, this credit will only be applied once per Pittsburgh Water account. (C)

Section K – E-Bill Credit (C)

Customers enrolling in e-billing for the first time will receive a one-time credit of $15.00. For customers receiving water, wastewater, and/or storm water service from Pittsburgh Water, this credit will only be applied once per Pittsburgh Water account. Customers enrolling in e-billing and receiving the credit are prohibited from switching back to paper billing for six (6) months.

Section L – Leak Credit (C)

Where a customer has received a bill for higher than usual consumption as a result of a leak that they had neither actual nor constructive notice of, and the customer has provided evidence that the leak that resulted in higher than usual consumption has been repaired, in the form of:

i. An invoice from the registered plumber who made the repair(s) describing the location of the leak(s) and the repair(s) made;
ii. A letter or email from the registered plumber who made the repair(s) describing the location of the leak(s) and the repair(s) made; or
iii. A receipt for the purchase of materials along with a letter or email from the customer who made the repair(s) describing the location of the leak(s) and the repair(s) made;

and the customer has enrolled in all of the free leak alerts within the Customer Advantage Portal to receive alerts of higher than usual consumption via text and/or email, the Authority may, in its sole discretion, reduce the initial invoice for higher than usual charges assessed under Part I of this tariff down to average monthly consumption for the customer. Average monthly consumption will be established by the average number of gallons used in the 12 months preceding the apparent beginning of the leak. Should the customer incur a second, subsequent bill for higher than usual consumption, the Authority may, in its sole discretion, additionally reduce the subsequent invoice for higher than usual charges assessed under Part I.

(D)= Decrease (I) = Increase (C)= Change

Rider BDP – Bill Discount Program (Residential)

1. Bill Discount Program: This rider is a program designed to enroll residential ratepayers who satisfy the criteria set forth below in a monthly discounted rate program

2. Availability: This rider is available for a Residential customer that meets the low-income criteria of annual household gross income at or below 200% based on the Federal Poverty Level.

   a. A residential ratepayer who meets the eligibility criteria should complete an application for the Bill Discount Program except that residential ratepayers who apply for and are granted a Hardship Grant through one of the community based organizations partnering with Dollar Energy Fund will be automatically enrolled in the Bill Discount Program. **(C)**

   b. Eligible customers may be asked to verify income every two years or, for customers on fixed incomes of social security and/or retirement benefits, every five years. **(C)**

3. Rate (Minimum or Service Charge): The Minimum or Service Charge for residential service pursuant to Rider BDP will be 0% of the prevailing Minimum Service Charge under Part I, Section A. Any other rates, fees and charges will be at the prevailing amounts under this tariff. **(C)**

4. Rate (Conveyance Charge): The Consumption Charge for residential service pursuant to Rider BDP for participants with income at or below 50% of the Federal Poverty Level will pay 40% of the prevailing Consumption Charge under Part I, Section A (which represents a 60% discount off the charge). Any other rates, fees and charges will be at the prevailing amounts under this tariff.

5. PennVest Charge ("PVC"): BDP participants will pay 50% of the PVC charge.

(D)= Decrease (I) = Increase (C)= Change

6. Fixed Discount Bill Credit: Qualifying customers will also receive a fixed bill credit up to the amounts stated as set forth below:

	Effective as of the date of supplement	**Effective January 1, 2027**
BDP Participants above 50% - 200% of FPL	$2.50 per bill for wastewater conveyance charges	$9.00 per bill for wastewater conveyance charges
CAP Customers at or below 50% of FPL	$0.00 per bill for wastewater conveyance charges	$2.98 per bill for wastewater conveyance charges

Rider AFP: Arrearage Forgiveness Program **(C)**

a. Customers receiving residential service pursuant to Rider BDP who maintain an active, income based payment plan as documented by the Authority shall be eligible to participate in the Arrearage Forgiveness Program. Customers who negotiate a payment arrangement for their pre-existing arrearages will be automatically enrolled in the Arrearage Forgiveness Program.

b. Eligible participants will have their pre-existing billed charges in arrears frozen and any remaining balance after 24 months shall be forgiven . Billed charges in arrears includes any amounts outstanding for Pittsburgh Water ’s water service, if applicable. Forgiven arrearages will be recovered through Rider AFP as part of Pittsburgh Water’s revenue requirements. **(C)** **(C)**

c. The Authority will cease assessing any interest on the arrears and pursuing collections while the customer is in an active, income based payment plan.

d. Should the participating customer default on the payment plan, he or she will have the opportunity to make two catch-up payments to continue to receive the benefits of the Arrearage Forgiveness Program. Failure to make the two catch-up payments will result in immediate removal of the customer from the Arrearage Forgiveness Program.

e. Customers removed from the Arrearage Forgiveness Program will be eligible to reenter the program if they make all missed payments incurred during their prior enrollment in the Arrearage Forgiveness Program.

6. The Authority reserves the right to propose to alter or eliminate the Arrearage Forgiveness Program in a future base rate case.

(c) = Change, (I)= Increase

PART II: Definitions:

The following words and phrases, when used in this tariff, shall have the meanings assigned below unless the context clearly indicates otherwise:

1. ALCOSAN: The Allegheny County Sanitary Sewer Authority, Allegheny County, Pennsylvania.

2. Applicant: A natural person at least 18 years of age not currently receiving service who applies for residential service provided by the Authority or any adult occupant whose name appears on the mortgage, deed or lease of the property for which the residential utility service is requested. The term does not include a person who, within 30 days after service termination or discontinuance of service, seeks to have service reconnected at the same location or transferred to another location within the service territory of the Authority.

3. Authority or PWSA or Pittsburgh Water: The Pittsburgh Water and Sewer Authority d/b/a Pittsburgh Water, a municipal authority organized and existing under the laws of the Commonwealth of Pennsylvania. **(C)**

4. Authority Collection Main: The Authority has a duty to operate, maintain, inspect, repair, replace or abandon only those Wastewater Collection Mains that are a part of or connected to the public Wastewater collection, transmission and conveyance and that fall into one of the following classifications: (1) Wastewater Collection Mains leased to the Authority by the City under the Capital Lease Agreement effective July 27, 1995, as amended; (2) Wastewater Collection Mains constructed by the City or the Authority for public use since July 27, 1995; and (3) Wastewater Collection Mains dedicated to public use and accepted by the Authority on or after July 27, 1995.

(C) - Change

6. Bona Fide Service Applicant: (For Line Extension Purposes) A person or entity applying for wastewater conveyance service to an existing or proposed structure within the Authority's certificated service territory or areas served by PWSA as of December 21, 2017 for which a valid occupancy or building permit has been issued if the structure is either a primary residence of the applicant or a place of business. An applicant shall not be deemed a bona fide service applicant if:

   a. applicant is requesting wastewater conveyance service to a building lot, subdivision or a secondary residence;
   b. the request for service is part of a plan for the development of a residential dwelling or subdivision; or
   c. the applicant is requesting special utility service.

6A. Break-In Connection: An unauthorized connection in which a Customer Lateral connects to the Main without using a factory-installed connection. (C)

7. Capital Lease Agreement: The agreement bearing that title between the City and the Authority on July 15, 1995, effective July 27, 1995, and includes any amendments thereto.

8. City: The City of Pittsburgh, Pennsylvania.

9. City Lien Verification Letter: A written letter from the City to a Person regarding any liens, claims, or taxes due the City from that Person.

10. Combination Sewer or Combined Sewer: Sewers designed and built to carry sanitary Sewage and/or industrial waste combined with Storm Water.

11. Commercial or Commercial Property: Any property used, acquired or leased for purposes of carrying on a trade, business, profession, vocation, or any commercial, service, financial, or utility business or activity including, but not limited to, hotels, office buildings, gas service stations, laundries, commercial establishments, stores, malls, car washes, and parking lots.

12. Commission or PUC: The Pennsylvania Public Utility Commission.

(C) - Change

44. Residential Tenant: A Person who leases a Dwelling Unit in a Residential Property pursuant to a current lease agreement.

45. Sanitary Sewers: Those portions of the Sewer System in the City of Pittsburgh that were designed and built to carry sanitary sewage and/or industrial waste separately from Storm Water discharge, and portions of the Sewer System designated as Sanitary Sewers by the Authority.

46. Sewage: Wastewater that contains the waste products or other discharges from the bodies of human beings or animals and any noxious or deleterious substances harmful or inimical to public health or to animal or aquatic life, or to the use of waters for domestic water supply or for recreation, or which constitutes pollution under the Pennsylvania Clean Streams Law, Act of June 22, 1937, P.L. 1987, as amended.

47. Sewer System: The entire system consisting of the Authority Collection Main and the Authority Storm Water Sewers.

48. Special Utility Service: Residential or business service which exceeds that required for ordinary residential purposes.

49. Storm Water: Drainage or runoff resulting from precipitation or snow or ice melt.

50. Storm Water Collection System or Storm Water Sewers: A separate network of pipes and inlets which receives discharges of storm water and/or conveys surface water, subsurface drainage or storm water from buildings, grounds, parking lots, streets, etc. but excludes sewage. Storm Water Collection System may be Authority Storm Water Sewers or Private Storm Water Sewers. **(C)**

51. Tariff: All the service rates, rules and regulations issued by the Authority, together with any supplements or revisions thereto, officially approved by the Commission and contained in this document.

(C) - Change

3. Customer's Responsibilities: All customer laterals, connections and fixtures furnished by the customer shall be maintained by the customer in good working order. All equipment and appliances furnished by the Authority and on property owned or leased by the customer shall be protected properly by the customer. All leaks on the customer lateral or any pipe or fixtures in or upon the customer's premises must be repaired immediately by the customer.

   a. Break-In Connections
      The Authority does not permit Break-In Connections to its Mains. If a pre-existing Break-In Connection is identified resulting in a nonfunctioning lateral, the Customer is responsible for properly terminating the Break-In Connection and connecting to the Main via a factory-installed connection. Prior to terminating the Break-In Connection, the Customer must obtain prior written authorization from the Authority approving the work to be completed. The requirements for tap-in and tap termination procedures are governed by the Authority's Manual for Developers. **(C)**

4. Right to Reject: The Authority may refuse to connect with any piping system or furnish wastewater conveyance through a lateral already connected if such system or lateral is not properly installed or maintained. The Authority, at any time, may request a Gravity Sewer Test be performed on the building lateral, at the sole expense of the owner, whenever it has evidence the lateral is leaking excessively, as determined by the Authority. Generally, leakage is considered excessive when the groundwater flow exceeds one hundred (100) gallon per inch of nominal diameter per mile of pipe per day. The Gravity Sewer Test shall be in accordance with Section 312.6 of the International Plumbing Code®

5. Individual Laterals: Except as otherwise expressly authorized by the Authority and/or as expressly approved by the Health Department, each individual customer shall be served only through a separate lateral connected directly to the Authority's conveyance main, and that lateral shall not serve any other customer or premise. No additional attachment may be made to any customer's lateral for any purpose without the express written approval of the Authority.

(C) - Change

PART V: SURCHARGES

DISTRIBUTION SYSTEM IMPROVEMENT CHARGE (DSIC)

In addition to the net charges provided for in this Tariff, a charge of 7.5% will apply consistent with the Commission Order dated TBD at Docket No. TBD, approving the DSIC cap. **(I)**

1. General Description

   a. Purpose: To recover the reasonable and prudent costs incurred to repair, improve, or replace eligible property which is completed and placed in service and recorded in the individual accounts, as noted below, between base rate cases and to provide the Utility with the resources to accelerate the replacement of aging infrastructure, to comply with evolving regulatory requirements and to develop and implement solutions to regional supply problems.

      The costs of extending facilities to serve new customers are not recoverable through the DSIC.

   b. Eligible Property: The DSIC-eligible property will consist of the following:

- Collection sewers, collecting mains and service laterals, including sewer taps, curb stops and lateral cleanouts installed as in-kind replacements for customers; Accounts (360, 361 and 363)
- Collection mains and valves for gravity and pressure systems and related facilities such as manholes, grinder pumps, air and vacuum release chambers, cleanouts, main line flow meters, valve vaults and lift stations installed as replacements or upgrades for existing facilities that have worn out, are in deteriorated condition or are required to be upgraded by law, regulation or order; Accounts (360, 361, 364 and 365)

(I)= Increase

4. Customer Safeguards

a. Cap: The DSIC is capped at 7.5% of the amount billed to customers for distribution service (including all applicable clauses and riders), inclusive of amounts billed for annual reconciliation pursuant to the "e" factor set forth above, as determined on an annualized basis **(I)**

b. Audit/Reconciliation: The DSIC is subject to audit at intervals determined by the Commission. Any cost determined by the Commission not to comply with any provision of 66 Pa C.S. §§ 1350, et seq., shall be credited to customer accounts. The DSIC is subject to annual reconciliation based on a reconciliation period consisting of the twelve months ending December 31 of each year. The revenue received under the DSIC for the reconciliation period will be compared to the Authority's eligible costs for that period. The difference between revenue and costs will be recouped or refunded, as appropriate, in accordance with Section 1307(e), over a one-year period commencing on April 1 of each year. If DSIC revenues exceed DSIC-eligible costs, such over-collections will be refunded with interest. Interest on over-collections and credits will be calculated at the residential mortgage lending specified by the Secretary of Banking in accordance with the Loan Interest and Protection Law (41 P.S. §§ 101, et seq.) and will be refunded in the same manner as an over-collection.

c. Customer Notice: Customers shall be notified of changes in the DSIC by including appropriate information on the first bill they receive following any change. An explanatory bill insert shall also be included with the first billing.

d. All customer classes: The DSIC shall be applied equally to all customer classes.

(I) = Increase

EXHIBIT JAM-17

Supplement No. 15~~4~~
Tariff Wastewater - Pa. P.U.C. No. 1

THE PITTSBURGH WATER AND SEWER AUTHORITY
d/b/a PITTSBURGH WATER

RATES, RULES AND REGULATIONS GOVERNING

THE PROVISION OF WASTEWATER CONVEYANCE SERVICE

TO THE PUBLIC IN THE TERRITORY DESCRIBED HEREIN

Issued: ~~December 13, 2024~~ June 4, 2025 Effective: ~~December 14, 2024~~ August 8, 2025

BY: William J. Pickering, Chief Executive Officer
1200 Penn Avenue, Pittsburgh, PA 15222
Tel: 412-255-8800

NOTICE

This Tariff Supplement ~~updates name to add d/b/a~~ makes changes in rates, rules and regulations as supported by the June 4, 2025 filing at Docket No. R-2025-3055011.

LIST OF CHANGES

TABLE OF CONTENTS (PAGE NO. 3):
Updated to add page numbers for new Part I Sections K and L

PART I: SCHEDULE OF RATES AND CHARGES, SECTION A – WASTEWATER CONVEYANCE – NUMBER 1 MINIMUM OR BASE CHARGE (PAGE NO. 9)
Changed "Base" to "Service" to describe fixed charge. Added rates for Minimum or Service Charges which will increase for all customer classes effective the date of this supplement and will decrease on January 1, 2027.

PART I: SCHEDULE OF RATES AND CHARGES, SECTION A – WASTEWATER CONVEYANCE – NUMBER 2 CONVEYANCE CHARGE (PAGE NO. 9A)
Added rates for Conveyance Charges which will increase for all customer classes effective the date of this supplement and change on January 1, 2027. Added language revision regarding minimum allowance effective January 1, 2027.

PART I: SCHEDULE OF RATES AND CHARGES, SECTION A–RATES FOR METERED SERVICE – NUMBER 3 PENNVEST CHARGE (PVC) (NEW PAGE NO. 9B AND 9C)
Added PVC Charge $0.88. Revised language to include all current and future PENNVEST loans in the charge and added information about the loans to being recovered.

PART I: SCHEDULE OF RATES AND CHARGES, SECTION A.1 – RATES FOR UNMETERED SERVICE (PAGE NO. 11)
Added rates for Unmetered Service for all rate classes effective as of the date of the supplement, increasing on January 1, 2027.

LIST OF CHANGES (con't)

PART I: SCHEDULE OF RATE AND CHARGES, SECTION H – MISCELLANEOUS CHARGES, FEES, AND PENALTIES, NO.4.A. (PAGE 14A)
Set to $0.00 Developer Fees for Water and Sewer Use Review Letters.

PART I: SCHEDULE OF RATES AND CHARGES, NEW SECTIONS K AND L (PAGE 14C)
Added New Section K to offer a one-time credit for enrollment in paperless billing. Add New Section L giving Pittsburgh Water discretion to offer a credit resulting from a leak for which customer has no actual or constructive notice.

RIDER BDP – BILL DISCOUNT PROGRAM(RESIDENTIAL) (PAGE NO. 17 AND NEW PAGE NO. 17AA)
Update application requirements. Change "base" to "service" charge. Add new Page No. 17A with the Fixed Discount Bill Credit effective as of the date of the supplement, increasing January 1, 2027.

RIDER AFP – ARREARAGE FORGIVENESS PROGRAM (PAGE 17A)
Updated terms of forgiveness arrearage programs and included cost recovery through Rider AFP.

PART II – DEFINITIONS (PAGES 18, 19, 24)
Updated definition No. 3 to include d/b/a Pittsburgh Water Break in connections. Updated definition no. 50 regarding Storm Water Collection System. Added No. 6A to define Break-In Connection.

PART III – RULES AND REGULATIONS, SECTION B.3 (PAGE 33)
Add new Section 3.a. to address break-in connections

PART V: SURCHARGES DISTRIBUTION SYSTEM IMPROVEMENT CHARGE (DSIC) (PAGE NOS. 64 AND 67)
Increase from 5.0% to 7.5% the DSIC charge.

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The Pittsburgh Water and Sewer Authority

Supplement No. 15
Tariff Wastewater - Pa. P.U.C. No. 1
~~Third~~ Fourth Page No. 9
Canceling ~~Second~~ Third Page No. 9

PART I: SCHEDULE OF RATES AND CHARGES

Section A – Wastewater Conveyance

1. Minimum (or Service~~Base~~) Charge: Each customer will be assessed a service charge based upon the size of the customer's water meter as follows except that residential customers residing in newly constructed townhomes who are required to install a meter larger than 5/8" for fire protection and due to City ordinance requirements, may request assessment of the 5/8" minimum charge and usage allowance: (C)

Meter Size	Minimum Gallons	Per Month	
			(C)
5/8"	1,000	$~~8.25~~ 8.37	(I)
3/4"	2,000	$~~13.19~~ 13.55	(I)
1"	5,000	$~~27.35~~ 28.60	(I)
1 1/2"	10,000	$~~52.06~~ 54.49	(I)
2"	17,000	$~~85.98~~ 90.25	(I)
3"	40,000	$~~195.00~~ 205.97	(I)
4"	70,000	$~~335.31~~ 355.54	(I)
6"	175,000	$~~817.77~~ 872.82	(I)
8"	325,000	$~~1,499.45~~ 1,606.34	(I)
10" or Larger	548,000	$~~2,500.18~~ 2,687.66	(I)

~~[text previously on page moved to next page]~~

Meter Size	Service Charge Per Month **Effective January 1, 2027**	
		(C)
5/8"	$3.99	(D)
3/4"	$4.51	(D)
1"	$5.55	(D)
1 1/2"	$8.15	(D)
2"	$11.26	(D)
3"	$19.57	(D)
4"	$28.92	(D)
6"	$54.88	(D)
8"	$86.04	(D)
10" or Larger	$122.38	(D)

(C) = Change (I)= Increase (D) = Decrease

~~*[text from previous page carried over here]*~~

2. Conveyance Charge: In addition to the Minimum or Base Charge, the following wastewater conveyance charges (based on water consumption/usage or wastewater flows, at the Authority's discretion) will apply for each 1,000 gallons above the Minimum Gallons for each meter size effective with the date of this supplement, to be changed for all metered consumption effective January 1, 2027: **(C)**

Customer Class	Conveyance Charge Rate Per 1000 Gals.		
	Effective March 1, 2026	**Effective January 1, 2027**	**(C)**
Residential	$~~6.68~~ 7.69	$7.39	**(I)/(D)**
Commercial	$~~5.94~~ 7.03	$7.42	**(I)/(I)**
Industrial	$~~6.09~~ 7.05	$7.64	**(I)/(I)**
Health or Education	$~~6.75~~ 7.88	$7.96	**(I)/(I)**

(C)= Change (I)= Increase (D) = Decrease

3. **PennVest Charge (PVC):** In addition to the charges provided in this tariff, and pursuant to the Commission's Statement of Policy at 52 Pa. Code §§ 69.361 et seq., and Section 1307(a) of the Public Utility Code, the PVC will apply uniformly to all classes of wastewater conveyance customers (with the exception of customers served pursuant to pre-existing wholesale contracts) for each 1,000 gallons conveyed. The PVC will apply to unmetered customers based on the estimated billed consumption used to determine their rate for unmetered service.

   a. **Purpose.** The purpose of the PVC is to begin timely recovery of specific interest only and principal and interest ("PI") obligations due by Pittsburgh Water ~~PWSA~~ for loans, not grants, received from the Pennsylvania Infrastructure Investment Authority ("PENNVEST") when they first become due and until fully repaid and will remain in effect until costs are fully recovered. (C) (C)

   b. The currently effective PVC is:

Customer Class	PennVest Charge Rate per 1000 Gals.
All Customers	$0.88~~00~~ (I)

The above charge per 1000 Gallons is determined as follows:

PVC = PI/ Conveyance

PVC = PennVest Charge per 1,000 gallons

PI = Annual Interest Only and/or Principal and Interest payments per PENNVEST identified below

Conveyance = total projected billed conveyance in 1000s gallons conveyed by all customers in forecast year

(C)= Change (I)= Increase (D) = Decrease

c. **Computation.** The PVC will be adjusted to conform to the specific interest only and principal and interest ("PI") obligations payable pursuant to the final PENNVEST amortization schedules. The principal on the loans may not be included in the PVC until the plant is used and useful. ~~When applicable, the final settlement date of loans funded through the PennVest Programmatic Financing (Pro-Fi) program is what will be used to determine which loans closed on or after January 1, 2025.~~ The PVC includes interest and/or interest and principal on all current and future PENNVEST loans. Currently, the PVC is recovering the following loans: (C) (C)

Loan Source	Loan Number / Identifier	Start Date of Interest Only Payments	Start of Final Amortization Schedule
PENNVEST	71362	2/16/2009	5/1/2011
PENNVEST	27772	11/16/2009	3/1/2011
PENNVEST	27784	1/7/2010	9/1/2011
PENNVEST	71396	10/17/2013	5/1/2015
PENNVEST	58113	6/3/2014	1/1/2016
PENNVEST	71404	7/10/2014	5/1/2015
PENNVEST	75373	5/14/2021	9/1/2022
PENNVEST	75385	2/18/2022	7/1/2023
PENNVEST	77104	4/19/2022	4/1/2027
PENNVEST	71452	4/19/2022	4/1/2027
PENNVEST	71459	5/22/2023	4/1/2028
PENNVEST	71465	4/16/2025	4/1/2030

d. **Semi-Annual Adjustments.** The PVC is subject to change on a semi-annual basis effective February 1 and August 1 based on the status of applicable PENNVEST loan. Semi-annual updates to be filed by Pittsburgh Water ~~WSA~~ at least ten (10) days prior to the effective date of the update. Supporting data for each semi-annual update will be provided. (C)

e. **Annual Reconciliation.** The PVC will be subject to annual reconciliation based on actual consumption for the prior 12 months ending December 31. The PVC will be adjusted to reflect either a credit, as calculated below, or an increase in the charge as determined by the reconciliation process to be effective February 1. Supporting data for each annual reconciliation will be provided.

(C)= Change (I)= Increase (D) = Decrease

Section A.1 – Wastewater Conveyance (Unmetered Service)

1. Customer Charge. As of September 1, 2018 enrollment for Unmetered Service will be closed and no new Unmetered Service customers will be accepted by the Authority. Customers who are receiving unmetered service will be assessed a monthly customer charge per unmetered connection as follows:

Customer Class	Customer Charge		
	Effective March 1, 2026	**Effective January 1, 2027**	**(C)**
Residential (per unit)	~~$28.29~~ 31.44	$33.55	**(I)/(I)**
Commercial	~~$32.01~~ 36.49	$41.09	**(I)/(I)**

~~(C)~~

2. Treatment Rate: In addition to the Customer Charge, Customers who are receiving unmetered service will be required to pay rates for Wastewater/Sewage treatment to Premises, as set forth in Section A.3.

Section B – Bulk Wastewater Conveyance

1. Application: This schedule applies to all bulk wastewater conveyance for other wastewater utilities or public authorities.

2. Rates and Terms of Service: Contracts stipulating the negotiated rate and negotiated terms of Bulk Wastewater Conveyance may be entered into between the Authority and Customer or Applicant when the Authority, in its sole discretion, deems such offering to be economically advantageous to the Authority.

(D)= Decrease (I) = Increase (C)= Change

4. Activities Related to Permits/Approvals Issued by PWSA

a. Development Permits – required for constructing or renovating a structure larger than a single-family home including single-family homes with a fire service line or multi-family homes

Activity	Fee	
Developer Fee – Water and Sewer Availability Letter	$40.00	
Developer Fee – Water and Sewer Use Review Letter	$~~32~~0.00	(C)
Developer Fee – Water and Sewer Use Review Letter – Expedited*	$~~55~~0.00	(C)
Tap-in Plan Review	$420.00	
Tap-In Plan Review – Expedited*	$740.00	
Developer Permit Revisions Review	$140.00	
Developer Permit Revisions Review – Expedited*	$250.00	
Private Construction of Public Facilities Plan Review	$680.00	
Private Construction of Public Facilities Plan Review – Expedited*	$1,190.00	
DEP Sewage Facilities Planning Review	$240.00	
DEP Sewage Facilities Planning Review – Expedited*	$410.00	

*Expedited = guaranteed review within 15 business days

b. Residential Permit – for sewer taps or reconnecting to existing sewer service

Activity	Fee
Residential Permit	$40.00

c. Other Permits (for any customer wanting to schedule an operation of a PWSA facility such as a fire hydrant or waterline shut)

Activity	Fee
Termination Only Permit	$250.00

Section I – Reserved for Future Use

Section J – New Automatic Payment Enrollment Credit

Customers enrolling in paperless billing and establishing automatic bill payments for the first time will receive a one-time credit of $5.00. For customers receiving water, wastewater, and/or storm water service from Pittsburgh Water, this credit will only be applied once per Pittsburgh Water account. (C)

Section K – E-Bill Credit (C)

Customers enrolling in e-billing for the first time will receive a one-time credit of $15.00. For customers receiving water, wastewater, and/or storm water service from Pittsburgh Water, this credit will only be applied once per Pittsburgh Water account. Customers enrolling in e-billing and receiving the credit are prohibited from switching back to paper billing for six (6) months.

Section L – Leak Credit (C)

Where a customer has received a bill for higher than usual consumption as a result of a leak that they had neither actual nor constructive notice of, and the customer has provided evidence that the leak that resulted in higher than usual consumption has been repaired, in the form of:

i. An invoice from the registered plumber who made the repair(s) describing the location of the leak(s) and the repair(s) made;
ii. A letter or email from the registered plumber who made the repair(s) describing the location of the leak(s) and the repair(s) made; or
iii. A receipt for the purchase of materials along with a letter or email from the customer who made the repair(s) describing the location of the leak(s) and the repair(s) made;

and the customer has enrolled in all of the free leak alerts within the Customer Advantage Portal to receive alerts of higher than usual consumption via text and/or email, the Authority may, in its sole discretion, reduce the initial invoice for higher than usual charges assessed under Part I of this tariff down to average monthly consumption for the customer. Average monthly consumption will be established by the average number of gallons used in the 12 months preceding the apparent beginning of the leak. Should the customer incur a second, subsequent bill for higher than usual consumption, the Authority may, in its sole discretion, additionally reduce the subsequent invoice for higher than usual charges assessed under Part I.

(D)= Decrease (I) = Increase (C)= Change

Rider BDP – Bill Discount Program (Residential)

1. Bill Discount Program: This rider is a program designed to enroll residential ratepayers who satisfy the criteria set forth below in a monthly discounted rate program

2. Availability: This rider is available for a Residential customer that meets the low-income criteria of annual household gross income at or below 200% based on the Federal Poverty Level.

   a. A residential ratepayer who meets the eligibility criteria should complete an application for the Bill Discount Program except that residential ratepayers who apply for and are granted a Hardship Grant through one of the community based organizations partnering with Dollar Energy Fund will be automatically enrolled in the Bill Discount Program. (C)

   b. Eligible customers may be asked to verify income every two years or, for customers on fixed incomes of social security and/or retirement benefits, every five years. (C)

3. Rate (Minimum or ~~Base~~ Service Charge): The Minimum or ~~Base~~ Service Charge for residential service pursuant to Rider BDP will be 0% of the prevailing Minimum Service Charge under Part I, Section A. Any other rates, fees and charges will be at the prevailing amounts under this tariff. (C)

4. Rate (Conveyance Charge): The Consumption Charge for residential service pursuant to Rider BDP for participants with income at or below 50% of the Federal Poverty Level will pay 40% of the prevailing Consumption Charge under Part I, Section A (which represents a 60% discount off the charge). Any other rates, fees and charges will be at the prevailing amounts under this tariff.

5. PennVest Charge ("PVC"): BDP participants will pay 50% of the PVC charge.

(D)= Decrease (I) = Increase (C)= Change

6. Fixed Discount Bill Credit: Qualifying customers will also receive a fixed bill credit up to the amounts stated as set forth below:

	Effective as of the date of supplement	**Effective January 1, 2027**
BDP Participants above 50% - 200% of FPL	$2.50 per bill for wastewater conveyance charges	$9.00 per bill for wastewater conveyance charges
CAP Customers at or below 50% of FPL	$0.00 per bill for wastewater conveyance charges	$2.98 per bill for wastewater conveyance charges

Rider AFP: Arrearage Forgiveness Program (C)

a. Customers receiving residential service pursuant to Rider BDP who maintain an active, income based payment plan as documented by the Authority shall be eligible to participate in the Arrearage Forgiveness Program. Customers who negotiate a payment arrangement for their pre-existing arrearages will be automatically enrolled in the Arrearage Forgiveness Program.

b. Eligible participants will have their pre-existing billed charges in arrears frozen and any remaining balance after 24 months shall be forgiven ~~in increments of $30 per each payment received~~. Billed charges in arrears includes any amounts outstanding for Pittsburgh Water~~PWSA~~'s water service, if applicable. Forgiven arrearages will be recovered through Rider AFP as part of Pittsburgh Water's revenue requirements. (C) (C)

c. The Authority will cease assessing any interest on the arrears and pursuing collections while the customer is in an active, income based payment plan.

d. Should the participating customer default on the payment plan, he or she will have the opportunity to make two catch-up payments to continue to receive the benefits of the Arrearage Forgiveness Program. Failure to make the two catch-up payments will result in immediate removal of the customer from the Arrearage Forgiveness Program.

e. Customers removed from the Arrearage Forgiveness Program will be eligible to reenter the program if they make all missed payments incurred during their prior enrollment in the Arrearage Forgiveness Program.

6. The Authority reserves the right to propose to alter or eliminate the Arrearage Forgiveness Program in a future base rate case.

(c) = Change, (I)= Increase

PART II: Definitions:

The following words and phrases, when used in this tariff, shall have the meanings assigned below unless the context clearly indicates otherwise:

1. ALCOSAN: The Allegheny County Sanitary Sewer Authority, Allegheny County, Pennsylvania.

2. Applicant: A natural person at least 18 years of age not currently receiving service who applies for residential service provided by the Authority or any adult occupant whose name appears on the mortgage, deed or lease of the property for which the residential utility service is requested. The term does not include a person who, within 30 days after service termination or discontinuance of service, seeks to have service reconnected at the same location or transferred to another location within the service territory of the Authority.

3. Authority or PWSA or Pittsburgh Water: The Pittsburgh Water and Sewer Authority d/b/a Pittsburgh Water, a municipal authority organized and existing under the laws of the Commonwealth of Pennsylvania. (C)

4. Authority Collection Main: The Authority has a duty to operate, maintain, inspect, repair, replace or abandon only those Wastewater Collection Mains that are a part of or connected to the public Wastewater collection, transmission and conveyance and that fall into one of the following classifications: (1) Wastewater Collection Mains leased to the Authority by the City under the Capital Lease Agreement effective July 27, 1995, as amended; (2) Wastewater Collection Mains constructed by the City or the Authority for public use since July 27, 1995; and (3) Wastewater Collection Mains dedicated to public use and accepted by the Authority on or after July 27, 1995.

(C) - Change

6. Bona Fide Service Applicant: (For Line Extension Purposes) A person or entity applying for wastewater conveyance service to an existing or proposed structure within the Authority's certificated service territory or areas served by PWSA as of December 21, 2017 for which a valid occupancy or building permit has been issued if the structure is either a primary residence of the applicant or a place of business. An applicant shall not be deemed a bona fide service applicant if:

   a. applicant is requesting wastewater conveyance service to a building lot, subdivision or a secondary residence;
   b. the request for service is part of a plan for the development of a residential dwelling or subdivision; or
   c. the applicant is requesting special utility service.

6A. Break-In Connection: An unauthorized connection in which a Customer Lateral connects to the Main without using a factory-installed connection. (C)

7. Capital Lease Agreement: The agreement bearing that title between the City and the Authority on July 15, 1995, effective July 27, 1995, and includes any amendments thereto.

8. City: The City of Pittsburgh, Pennsylvania.

9. City Lien Verification Letter: A written letter from the City to a Person regarding any liens, claims, or taxes due the City from that Person.

10. Combination Sewer or Combined Sewer: Sewers designed and built to carry sanitary Sewage and/or industrial waste combined with Storm Water.

11. Commercial or Commercial Property: Any property used, acquired or leased for purposes of carrying on a trade, business, profession, vocation, or any commercial, service, financial, or utility business or activity including, but not limited to, hotels, office buildings, gas service stations, laundries, commercial establishments, stores, malls, car washes, and parking lots.

12. Commission or PUC: The Pennsylvania Public Utility Commission.

(C) - Change

44. Residential Tenant: A Person who leases a Dwelling Unit in a Residential Property pursuant to a current lease agreement.

45. Sanitary Sewers: Those portions of the Sewer System in the City of Pittsburgh that were designed and built to carry sanitary sewage and/or industrial waste separately from Storm Water discharge, and portions of the Sewer System designated as Sanitary Sewers by the Authority.

46. Sewage: Wastewater that contains the waste products or other discharges from the bodies of human beings or animals and any noxious or deleterious substances harmful or inimical to public health or to animal or aquatic life, or to the use of waters for domestic water supply or for recreation, or which constitutes pollution under the Pennsylvania Clean Streams Law, Act of June 22, 1937, P.L. 1987, as amended.

47. Sewer System: The entire system consisting of the Authority Collection Main and the Authority Storm Water Sewers.

48. Special Utility Service: Residential or business service which exceeds that required for ordinary residential purposes.

49. Storm Water: Drainage or runoff resulting from precipitation or snow or ice melt.

50. Storm Water Collection System or Storm Water Sewers: A separate network of ~~gutters, ditches, swales,~~ pipes and inlets which receives discharges of storm water and/or conveys surface water, subsurface drainage or storm water from buildings, grounds, parking lots, streets, etc. but excludes sewage. Storm Water Collection System may be Authority Storm Water Sewers or Private Storm Water Sewers. **(C)**

51. Tariff: All the service rates, rules and regulations issued by the Authority, together with any supplements or revisions thereto, officially approved by the Commission and contained in this document.

(C) - Change

3. Customer's Responsibilities: All customer laterals, connections and fixtures furnished by the customer shall be maintained by the customer in good working order. All equipment and appliances furnished by the Authority and on property owned or leased by the customer shall be protected properly by the customer. All leaks on the customer lateral or any pipe or fixtures in or upon the customer's premises must be repaired immediately by the customer.

   a.Break-In Connections

   The Authority does not permit Break-In Connections to its Mains. If a pre-existing Break-In Connection is identified resulting in a nonfunctioning lateral, the Customer is responsible for properly terminating the Break-In Connection and connecting to the Main via a factory-installed connection. Prior to terminating the Break-In Connection, the Customer must obtain prior written authorization from the Authority approving the work to be completed. The requirements for tap-in and tap termination procedures are governed by the Authority's Manual for Developers. (C)

4. Right to Reject: The Authority may refuse to connect with any piping system or furnish wastewater conveyance through a lateral already connected if such system or lateral is not properly installed or maintained. The Authority, at any time, may request a Gravity Sewer Test be performed on the building lateral, at the sole expense of the owner, whenever it has evidence the lateral is leaking excessively, as determined by the Authority. Generally, leakage is considered excessive when the groundwater flow exceeds one hundred (100) gallon per inch of nominal diameter per mile of pipe per day. The Gravity Sewer Test shall be in accordance with Section 312.6 of the International Plumbing Code®

5. Individual Laterals: Except as otherwise expressly authorized by the Authority and/or as expressly approved by the Health Department, each individual customer shall be served only through a separate lateral connected directly to the Authority's conveyance main, and that lateral shall not serve any other customer or premise. No additional attachment may be made to any customer's lateral for any purpose without the express written approval of the Authority.

(C) - Change

PART V: SURCHARGES

DISTRIBUTION SYSTEM IMPROVEMENT CHARGE (DSIC)

In addition to the net charges provided for in this Tariff, a charge of ~~5~~7.5~~0~~% will apply consistent with the Commission Order dated ~~December 3, 2020~~ TBD at Docket No. TBD ~~P-2020-3019019~~, approving the DSIC cap. **(I)**

1. General Description

a. Purpose: To recover the reasonable and prudent costs incurred to repair, improve, or replace eligible property which is completed and placed in service and recorded in the individual accounts, as noted below, between base rate cases and to provide the Utility with the resources to accelerate the replacement of aging infrastructure, to comply with evolving regulatory requirements and to develop and implement solutions to regional supply problems.

The costs of extending facilities to serve new customers are not recoverable through the DSIC.

b. Eligible Property: The DSIC-eligible property will consist of the following:

- Collection sewers, collecting mains and service laterals, including sewer taps, curb stops and lateral cleanouts installed as in-kind replacements for customers; Accounts (360, 361 and 363)
- Collection mains and valves for gravity and pressure systems and related facilities such as manholes, grinder pumps, air and vacuum release chambers, cleanouts, main line flow meters, valve vaults and lift stations installed as replacements or upgrades for existing facilities that have worn out, are in deteriorated condition or are required to be upgraded by law, regulation or order; Accounts (360, 361, 364 and 365)

(I)= Increase

4. Customer Safeguards

a. Cap: The DSIC is capped at ~~5~~7.5~~0~~% of the amount billed to customers for distribution service (including all applicable clauses and riders), inclusive of amounts billed for annual reconciliation pursuant to the "e" factor set forth above, as determined on an annualized basis **(I)**

b. Audit/Reconciliation: The DSIC is subject to audit at intervals determined by the Commission. Any cost determined by the Commission not to comply with any provision of 66 Pa C.S. §§ 1350, et seq., shall be credited to customer accounts. The DSIC is subject to annual reconciliation based on a reconciliation period consisting of the twelve months ending December 31 of each year. The revenue received under the DSIC for the reconciliation period will be compared to the Authority's eligible costs for that period. The difference between revenue and costs will be recouped or refunded, as appropriate, in accordance with Section 1307(e), over a one-year period commencing on April 1 of each year. If DSIC revenues exceed DSIC-eligible costs, such over-collections will be refunded with interest. Interest on over-collections and credits will be calculated at the residential mortgage lending specified by the Secretary of Banking in accordance with the Loan Interest and Protection Law (41 P.S. §§ 101, et seq.) and will be refunded in the same manner as an over-collection.

c. Customer Notice: Customers shall be notified of changes in the DSIC by including appropriate information on the first bill they receive following any change. An explanatory bill insert shall also be included with the first billing.

d. All customer classes: The DSIC shall be applied equally to all customer classes.

(I) = Increase

EXHIBIT JAM 18

THE PITTSBURGH WATER AND SEWER AUTHORITY
d/b/a PITTSBURGH WATER

RATES, RULES AND REGULATIONS GOVERNING

THE PROVISION OF STORM WATER COLLECTION, CONVEYANCE, TREATMENT AND/OR DISPOSAL SERVICE

TO THE PUBLIC IN THE TERRITORY DESCRIBED HEREIN

Issued: June 4, 2025 Effective: August 8, 2025

By: William J. Pickering, Chief Executive Officer
1200 Penn Avenue, Pittsburgh, PA 15222
Tel: 412-255-8800

NOTICE

This Tariff Supplement makes changes in rates, rules and regulations as supported by the June 4, 2025 filing at Docket No. R-2025-3055010.

LIST OF CHANGES

TABLE OF CONTENTS (PAGE NO. 3)
Added new Section K E-Bill Credit

PART I: SCHEDULE OF RATES AND CHARGES SECTION A.1 RESIDENTIAL SERVICE, NO. 3 SERVICE CHARGE (PAGE NO. 7)
Added rates which will increase for all customer classes effective the date of the supplement and on January 1, 2027.

PART I: SCHEDULE OF RATES AND CHARGES SECTION A.2 NON-RESIDENTIAL SERVICE, NO. 3 SERVICE CHARGE (PAGE NO. 8)
Added rates which will increase for all customer classes effective as of the date of the supplement and January 1, 2027.

PART I: SCHEDULE OF RATES AND CHARGES SECTION A.3 PENNVEST CHARGE (PAGE NO. 8B)
Revised and updated text regarding computation of the PVC.

PART I: SCHEDULE OF RATES AND CHARGES NEW SECTION K – E-BILL CREDIT(PAGE NO. 16
Added text to describe E-Bill Credit

RIDER BDP – BILL DISCOUNT PROGRAM (RESIDENTIAL) (PAGE NO. 17)
Revised eligibility and verification requirements.

PART II: DEFINITIONS (PAGE NOS. 18 AND 27)
Updated definition No. 3 to include d/b/a Pittsburgh Water.
Updated definition number 67 to clarify Storm Water Collections System.

PART III: RULES AND REGULATIONS SECTION E.9 ERU ADJUSTMENTS (PAGES 38)
Revised customer notice requirements related to impervious area or annual parcel updates.

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(C)= Change

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The Pittsburgh Water and Sewer Authority
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PART I: SCHEDULE OF RATES AND CHARGES

Section A – Storm Water Management Service Charge

Section A.1 – Residential Service

1. Applicability:

The rates under this schedule apply throughout the Authority's service territory for service rendered on and after the effective date shown at the bottom of this page.

2. Availability:

The rates under this schedule are available to residential customers.

3. Rate:

Each residential customer receiving service under this schedule will be assessed a monthly service charge at the following rate. Rates shall be calculated based upon the Equivalent Residential Unit (ERU) as determined by the Authority.

Service Charge

	Effective As of date of supplement	**Effective January 1, 2027**	**(C)**
Tier 1 (Impervious area of 400 square feet to less than 1,015 square feet, 0.5 ERUs)	$6.17	$6.31	**(I)/(I)**
Tier 2 (Impervious area of 1,015 square feet to less than 2,710 square feet, 1 ERU)	$12.34	$12.62	**(I)/(I)**
Tier 3 (Impervious area greater than or equal to 2,710 square feet, 2 ERUs)	$24.68	$25.24	**(I)/(I)**

(c) = Change (I) = Increase

Supplement No. 7
The Pittsburgh Water and Sewer Authority
Tariff Storm Water – Pa. P.U.C. No. 1
Second Page No. 8
Canceling First Page No. 8

Section A.2 - Non-Residential Service

1. Applicability:

The rates under this schedule apply throughout the Authority's service territory for service rendered on and after the effective date shown at the bottom of this page.

2. Availability:

The rates under this schedule are available to non-residential customers.

3. Service Charge:

Rates for developed properties are determined on an Equivalent Residential Unit basis. Each Customer receiving service under this schedule will be assessed the following monthly service charge(s) based upon the total amount of measured impervious area contained on the property. Measured impervious area shall be divided by 1,650 square feet and rounded up to the nearest whole number to determine the number of ERUs represented on the property. The service charge applicable to each developed property shall be calculated as follows:

Calculation of Service Charge

Service Charge = (Total IA / 1,650 square feet per ERU (quotient rounded up to nearest whole number)) * ERUR

Where:

IA = The Customer's property impervious area (sq. ft.) as measured by the Authority.

ERUR = The equivalent rate in dollars and cents for one (1) ERU.

	Effective As of the date of the supplement	**Effective January 1, 2027**	
Rate per (1) ERU	$12.34	$12.62	**(I)/(I)**

(C)

The minimum service charge for any developed property is equal to that charged for Tier 2 residential properties.

(c) = Change (I) = Increase

c. **Computation.** The PVC will be adjusted to conform to the specific interest only and principal and interest ("PI") obligations payable pursuant to the final PENNVEST amortization schedules. The PVC includes interest and/or interest and principal on all current and future PENNVEST loans. Currently, the PVC is recovering the following loans: **(C)**

Loan Source	Loan Number / Identifier	Start Date of Interest Only Payments	Start of Final Amortization Schedule

The total costs identified above for recovery will be divided by the applicable ERUs for all customers in the forecast year.

d. **Semi-Annual Adjustments**. The PVC is subject to change on a semi-annual basis effective February 1 and August 1 based on the status of applicable PENNVEST loans. Semi-annual updates to be filed by Pittsburgh Water at least ten (10) days prior to the effective date of the update. Supporting data for each semi-annual update will be provided. **(C)**

e. **Annual Reconciliation**. The PVC will be subject to annual reconciliation based on actual number of ERUs assessed for the prior 12 months ending December 31. The PVC will be adjusted to reflect either a credit, as calculated below, or an increase in the charge as determined by the reconciliation process to be effective February 1. Supporting data for each annual reconciliation will be provided.

d. Land Operations Permits (may be required for construction project, administered by City of Pittsburgh but requires review by PWSA before permit will be issued)

Activity	Fee
Review of City Land Operation Permit	$80.00

e. City of Pittsburgh Department of Mobility and Infrastructure (DOMI) Approvals (PWSA required to submit approval letter if affected)

Activity	Fee
Review of City Street Vacation Permits	$100.00
Review of City Encroachment Permits	$100.00

Section I – Reserved for Future Use

Section J – New Automatic Payment Enrollment Credit

Customers enrolling in paperless billing and establishing automatic bill payments for the first time will receive a one-time credit of $5.00. For customers receiving water, wastewater, and/or storm water service from Pittsburgh Water , this credit will only be applied once per Pittsburgh Water account (c)

Section K – E-Bill Credit (c)

Customers enrolling in e-billing for the first time will receive a one-time credit of $15.00. For customers receiving water, wastewater, and/or storm water service from Pittsburgh Water, this credit will only be applied once per Pittsburgh Water account. Customers enrolling in e-billing and receiving the credit are prohibited from switching back to paper billing for six (6) months.

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The Pittsburgh Water and Sewer Authority
Tariff Storm Water – Pa. P.U.C. No. 1
Second Page No. 17
Canceling First Page No. 17

Rider BDP – Bill Discount Program (Residential)

1. Bill Discount Program: This rider is a program designed to enroll residential ratepayers who satisfy the criteria set forth below in a monthly discounted rate program.

2. Availability: This rider is available for a Residential customer that meets the low-income criteria of annual household gross income at or below 200% based on the Federal Poverty Level.

   a. A residential ratepayer who meets the eligibility criteria should complete an application for the Bill Discount Program except that residential ratepayers who apply for and are granted a Hardship Grant through one of the community based organizations partnering with Dollar Energy Fund will be automatically enrolled in the Bill Discount Program. **(C)**

   b. Eligible customers may be asked to verify income every two years or, for customers on fixed incomes of social security and/or retirement benefits, every five years... **(C)**

3. Rate (Storm Water Service Charge): The Storm Water Service Charge for residential customers pursuant to Rider BDP for participants with income at or below 200% of the Federal Poverty Level will pay 15% of the applicable Storm Water Service Charge under Part I, Section A.1 (which represents an 85% discount off the service charge). Any other rates, fees and charges will be at the prevailing amounts under this tariff.

4. PennVest Charge ("PVC"): BDP participants will pay 50% of the PVC charge.

(C) = Change

PART II: Definitions

The following words and phrases, when used in this tariff, shall have the meanings assigned below unless the context clearly indicates otherwise:

1. ALCOSAN: The Allegheny County Sanitary Authority, Allegheny County, Pennsylvania.

2. Applicant: A natural person at least 18 years of age not currently receiving service who applies for residential service provided by the Authority or any adult occupant whose name appears on the mortgage, deed or lease of the property for which the residential utility service is requested. The term does not include a person who, within 30 days after service termination or discontinuance of service, seeks to have service reconnected at the same location or transferred to another location within the service territory of the Authority.

3. Authority or PWSA or Pittsburgh Water: The Pittsburgh Water and Sewer Authority d/b/a Pittsburgh Water, a municipal authority organized and existing under the laws of the Commonwealth of Pennsylvania. **(C)**

4. Authority Collection Main: The Authority has a duty to operate, maintain, inspect, repair, replace or abandon only those Wastewater Collection Mains that are a part of or connected to the public Wastewater collection, transmission and conveyance and that fall into one of the following classifications: (1) Wastewater Collection Mains leased to the Authority by the City under the Capital Lease Agreement effective July 27, 1995, as amended; (2) Wastewater Collection Mains constructed by the City or the Authority for public use since July 27, 1995; and (3) Wastewater Collection Mains dedicated to public use and accepted by the Authority on or after July 27, 1995.

(C) - Change

does not immediately infiltrate into the ground and travels along the ground surface potentially picking up pollutants until it has infiltrated, collected or reaches a receiving water body.

59. Sanitary Sewers: Those portions of the Sewer System in the City of Pittsburgh that were designed and built to carry sanitary sewage and/or industrial waste separately from Storm Water discharge, and portions of the Sewer System designated as Sanitary Sewers by the Authority.

60. Service, Storm Water Service, or Storm Water Management Service: Operation, maintenance, monitoring, regulation, or improvement of overland or underground infrastructure that conveys, supports, or provides relief to associated infrastructure that provides conveyance of storm water, whether that infrastructure also conveys wastewater or not.

61. Service Territory: The land area where the Authority has the exclusive right to provide storm water service.

62. Sewage: Wastewater that contains the waste products or other discharges from the bodies of human beings or animals and any noxious or deleterious substances harmful or inimical to public health or to animal or aquatic life, or to the use of waters for domestic water supply or for recreation, or which constitutes pollution under the Pennsylvania Clean Streams Law, Act of June 22, 1937, P.L. 1987, as amended.

63. Sewer System: The entire system consisting of the Authority Collection Mains and the Authority Storm Water Sewers.

64. Special Utility Service: Residential or business service which exceeds that required for ordinary residential purposes.

65. Sheet Flow: Runoff which flows over the ground surface as a thin layer, not concentrated in a channel.

66. Storm Water: Drainage or runoff resulting from precipitation or snow or ice melt.

67. Storm Water Collection System or Storm Water Sewers: A separate network of pipes and **(C)**

6. Return Check Charges: The Customer will be responsible for the payment of a charge for each time a check or automatic transfer of funds presented to the Authority for payment on that Customer's utility bill is returned by the payor bank for any reason including, but not limited to, insufficient funds, account closed, payment stopped, two signatures required, post-dated, stale date, account garnished, or unauthorized signature. This charge is in addition to any charge which may be assessed against the Customer by the bank with interest. Interest shall be calculated at the applicable rate for late payment charges.

7. Disputed Bills: In the event of a dispute between the Customer and the Authority with respect to any bill, the Authority will promptly make such investigation as may be required by the particular case and report the result to the Customer. The Customer is not obligated to pay the disputed portion of the bill during the pendency of the Authority's investigation. When the Authority has made a report to the Customer sustaining the bill as rendered, the Customer shall have fifteen (15) days from the date of such report in which to pay the bill. If the Authority determines that the bill originally rendered is incorrect, the Authority will issue a corrected bill with a new due date for payment. Any amounts received by the Authority in excess of the amount determined to be due by the Authority's investigation of the dispute shall be refunded to the Customer with interest computed at 1.5% per month.

9. ERU Adjustments: The determination of the number of ERUs or tier applicable to a customer may be adjusted from time to time as more accurate information is obtained or the condition of the property is altered, consistent with the following:

   a. If an ERU adjustment will increase a Customer’s bill, the following shall apply, except when the change is initiated by the Customer: **(C)**

      i. For ERU adjustments occurring outside of a base rate case filed with the Commission as a result of impervious area updates or annual parcel updates, the Authority will provide written notice to the Customer when the change is made to the account. **(C)**

(c) - Change

EXHIBIT JAM-19

THE PITTSBURGH WATER AND SEWER AUTHORITY
d/b/a PITTSBURGH WATER

RATES, RULES AND REGULATIONS GOVERNING

THE PROVISION OF STORM WATER COLLECTION, CONVEYANCE, TREATMENT AND/OR DISPOSAL SERVICE

TO THE PUBLIC IN THE TERRITORY DESCRIBED HEREIN

Issued: ~~December 13, 2024~~ June 4, 2025 Effective: ~~December 14, 2024~~ August 8, 2025

By: William J. Pickering, Chief Executive Officer
1200 Penn Avenue, Pittsburgh, PA 15222
Tel: 412-255-8800

NOTICE

This Tariff Supplement ~~updates name to add d/b/a~~ makes changes in rates, rules and regulations as supported by the June 4, 2025 filing at Docket No. R-2025-3055010.

The Pittsburgh Water and Sewer Authority

Supplement No. 7~~6~~
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LIST OF CHANGES

TABLE OF CONTENTS (PAGE NO. 3)
Added new Section K E-Bill Credit

PART I: SCHEDULE OF RATES AND CHARGES SECTION A.1 RESIDENTIAL SERVICE, NO. 3 SERVICE CHARGE (PAGE NO. 7)
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PART I: SCHEDULE OF RATES AND CHARGES SECTION A.2 NON-RESIDENTIAL SERVICE, NO. 3 SERVICE CHARGE (PAGE NO. 8)
Added rates which will increase for all customer classes effective as of the date of the supplement and January 1, 2027.

PART I: SCHEDULE OF RATES AND CHARGES SECTION A.3 PENNVEST CHARGE (PAGE NO. 8B)
Revised and updated text regarding computation of the PVC.

PART I: SCHEDULE OF RATES AND CHARGES NEW SECTION K – E-BILL CREDIT (PAGE NO. 16
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RIDER BDP – BILL DISCOUNT PROGRAM (RESIDENTIAL) (PAGE NO. 17)
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Updated definition number 67 to clarify Storm Water Collections System.

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Revised customer notice requirements related to impervious area or annual parcel updates.

Issued: ~~December 13, 2024~~ June 4, 2025

Effective: ~~December 14, 2024~~ August 8, 2025

Supplement No. 7~~5~~

The Pittsburgh Water and Sewer Authority

Tariff Storm Water – Pa. P.U.C. No. 1

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Section C – Returned Check Charge 12

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Section F – Reserved 12

Section G – Collection Expenses and Fees described in the Authority's Supplemental Service Conditions 12

Section H – Miscellaneous Charges and Fees 13

Section I – Reserved 16

Section J – New Automatic Payment Enrollment ..... 16 (C)

Section K – E-Bill Credit ..... 16 (C)

Rider BDP – Bill Discount Program (Residential) 17

(C)= Change

Issued: ~~February 5, 2024~~ June 4, 2025

Effective: ~~February 15, 2024~~ August 8, 2025

The Pittsburgh Water and Sewer Authority

Supplement No. 7~~5~~
Tariff Storm Water – Pa. P.U.C. No. 1
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Canceling ~~Original~~ First Page No. 7

PART I: SCHEDULE OF RATES AND CHARGES

Section A – Storm Water Management Service Charge

Section A.1 – Residential Service

1. Applicability:

The rates under this schedule apply throughout the Authority's service territory for service rendered on and after the effective date shown at the bottom of this page.

2. Availability:

The rates under this schedule are available to residential customers.

3. Rate:

Each residential customer receiving service under this schedule will be assessed a monthly service charge at the following rate. Rates shall be calculated based upon the Equivalent Residential Unit (ERU) as determined by the Authority.

Service Charge

	Effective As of date of supplement	**Effective January 1, 2027**	**(C)**
Tier 1 (Impervious area of 400 square feet to less than 1,015 square feet, 0.5 ERUs)	~~$5.03~~ 6.17	$6.31	**(I)/(I)**
Tier 2 (Impervious area of 1,015 square feet to less than 2,710 square feet, 1 ERU)	~~$10.06~~ 12.34	$12.62	**(I)/(I)**
Tier 3 (Impervious area greater than or equal to 2,710 square feet, 2 ERUs)	~~$20.12~~ 24.68	$25.24	**(I)/(I)**

(c) = Change (I) = Increase

Issued: ~~February 5, 2024~~ June 4, 2025

Effective: ~~February 15, 2024~~ August 8, 2025

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The Pittsburgh Water and Sewer Authority

Tariff Storm Water – Pa. P.U.C. No. 1

Second ~~First~~ Page No. 8

Canceling First ~~Original~~ Page No. 8

Section A.2 - Non-Residential Service

1. Applicability:

The rates under this schedule apply throughout the Authority's service territory for service rendered on and after the effective date shown at the bottom of this page.

2. Availability:

The rates under this schedule are available to non-residential customers.

3. Service Charge:

Rates for developed properties are determined on an Equivalent Residential Unit basis. Each Customer receiving service under this schedule will be assessed the following monthly service charge(s) based upon the total amount of measured impervious area contained on the property. Measured impervious area shall be divided by 1,650 square feet and rounded up to the nearest whole number to determine the number of ERUs represented on the property. The service charge applicable to each developed property shall be calculated as follows:

Calculation of Service Charge

Service Charge = (Total IA / 1,650 square feet per ERU (quotient rounded up to nearest whole number)) * ERUR

Where:

IA = The Customer's property impervious area (sq. ft.) as measured by the Authority.

ERUR = The equivalent rate in dollars and cents for one (1) ERU.

	Effective As of the date of the supplement	**Effective January 1, 2027**	
Rate per (1) ERU	$~~10.06~~ 12.34	$12.62	**(I)/(I)**

(C)

The minimum service charge for any developed property is equal to that charged for Tier 2 residential properties.

(c) = Change (I) = Increase

Issued: ~~February 5, 2024~~ June 4, 2025

Effective: ~~February 15, 2024~~ August 8, 2025

c. **Computation.** The PVC will be adjusted to conform to the specific interest only and principal and interest ("PI") obligations payable pursuant to the final PENNVEST amortization schedules. ~~The loans may not be included in the PVC until the plant is used and useful. When applicable, the final settlement date of loans funded through the PennVest Programmatic Financing (Pro-Fi) program is what will be used to determine which loans closed on or after January 1, 2025.~~ The PVC includes interest and/or interest and principal on all current and future PENNVEST loans. Currently, the PVC is recovering the following loans: (C) (C)

Loan Source	Loan Number / Identifier	Start Date of Interest Only Payments	Start of Final Amortization Schedule

The total costs identified above for recovery will be divided by the applicable ERUs for all customers in the forecast year.

d. **Semi-Annual Adjustments.** The PVC is subject to change on a semi-annual basis effective February 1 and August 1 based on the status of applicable PennVest loans. Semi-annual updates to be filed by PWSA at least ten (10) days prior to the effective date of the update. Supporting data for each semi-annual update will be provided.

e. **Annual Reconciliation.** The PVC will be subject to annual reconciliation based on actual number of ERUs assessed for the prior 12 months ending December 31. The PVC will be adjusted to reflect either a credit, as calculated below, or an increase in the charge as determined by the reconciliation process to be effective February 1. Supporting data for each annual reconciliation will be provided.

d. Land Operations Permits (may be required for construction project, administered by City of Pittsburgh but requires review by PWSA before permit will be issued)

Activity	Fee
Review of City Land Operation Permit	$80.00

e. City of Pittsburgh Department of Mobility and Infrastructure (DOMI) Approvals (PWSA required to submit approval letter if affected)

Activity	Fee
Review of City Street Vacation Permits	$100.00
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Section I – Reserved for Future Use

Section J – New Automatic Payment Enrollment Credit

Customers enrolling in paperless billing and establishing automatic bill payments for the first time will receive a one-time credit of $5.00. For customers receiving water, wastewater, and/or storm water service from Pittsburgh Water ~~PWSA~~, this credit will only be applied once per Pittsburgh Water ~~PWSA~~ account (C)

Section K – E-Bill Credit (C)

Customers enrolling in e-billing for the first time will receive a one-time credit of $15.00. For customers receiving water, wastewater, and/or storm water service from Pittsburgh Water, this credit will only be applied once per Pittsburgh Water account. Customers enrolling in e-billing and receiving the credit are prohibited from switching back to paper billing for six (6) months.

The Pittsburgh Water and Sewer Authority

Supplement No. 7 ~~5~~
Tariff Storm Water – Pa. P.U.C. No. 1
~~First~~ Second Page No. 17
Canceling ~~Original~~ First Page No. 17

Rider BDP – Bill Discount Program (Residential)

1. Bill Discount Program: This rider is a program designed to enroll residential ratepayers who satisfy the criteria set forth below in a monthly discounted rate program.

2. Availability: This rider is available for a Residential customer that meets the low-income criteria of annual household gross income at or below 200% based on the Federal Poverty Level.

   a. A residential ratepayer who meets the eligibility criteria should complete an application for the Bill Discount Program except that residential ratepayers who apply for and are granted a Hardship Grant through one of the community based organizations partnering with Dollar Energy Fund will be automatically enrolled in the Bill Discount Program. (C)

   b. Eligible customers may be asked to verify income every two years or, for customers on fixed incomes of social security and/or retirement benefits, every five years... (C)

3. Rate (Storm Water Service Charge): The Storm Water Service Charge for residential customers pursuant to Rider BDP for participants with income at or below 200% of the Federal Poverty Level will pay 15% of the applicable Storm Water Service Charge under Part I, Section A.1 (which represents an 85% discount off the service charge). Any other rates, fees and charges will be at the prevailing amounts under this tariff.

4. PennVest Charge ("PVC"): BDP participants will pay 50% of the PVC charge.

(C) = Change

Issued: ~~February 5, 2024~~ June 4, 2025

Effective: ~~February 15, 2024~~ August 8, 2025

The Pittsburgh Water
and Sewer Authority

Supplement No. 7~~2~~
Tariff Storm Water – Pa. P.U.C. No. 1
~~First Revised~~ Second Page No. 18
Canceling ~~Original~~ First Revised Page
No. 18

PART II: Definitions

The following words and phrases, when used in this tariff, shall have the meanings assigned below unless the context clearly indicates otherwise:

1. ALCOSAN: The Allegheny County Sanitary Authority, Allegheny County, Pennsylvania.

2. Applicant: A natural person at least 18 years of age not currently receiving service who applies for residential service provided by the Authority or any adult occupant whose name appears on the mortgage, deed or lease of the property for which the residential utility service is requested. The term does not include a person who, within 30 days after service termination or discontinuance of service, seeks to have service reconnected at the same location or transferred to another location within the service territory of the Authority.

3. Authority or PWSA or Pittsburgh Water: The Pittsburgh Water and Sewer Authority d/b/a Pittsburgh Water, a municipal authority organized and existing under the laws of the Commonwealth of Pennsylvania. (C)

4. Authority Collection Main: The Authority has a duty to operate, maintain, inspect, repair, replace or abandon only those Wastewater Collection Mains that are a part of or connected to the public Wastewater collection, transmission and conveyance and that fall into one of the following classifications: (1) Wastewater Collection Mains leased to the Authority by the City under the Capital Lease Agreement effective July 27, 1995, as amended; (2) Wastewater Collection Mains constructed by the City or the Authority for public use since July 27, 1995; and (3) Wastewater Collection Mains dedicated to public use and accepted by the Authority on or after July 27, 1995.

(C) - Change

does not immediately infiltrate into the ground and travels along the ground surface potentially picking up pollutants until it has infiltrated, collected or reaches a receiving water body.

59. Sanitary Sewers: Those portions of the Sewer System in the City of Pittsburgh that were designed and built to carry sanitary sewage and/or industrial waste separately from Storm Water discharge, and portions of the Sewer System designated as Sanitary Sewers by the Authority.

60. Service, Storm Water Service, or Storm Water Management Service: Operation, maintenance, monitoring, regulation, or improvement of overland or underground infrastructure that conveys, supports, or provides relief to associated infrastructure that provides conveyance of storm water, whether that infrastructure also conveys wastewater or not.

61. Service Territory: The land area where the Authority has the exclusive right to provide storm water service.

62. Sewage: Wastewater that contains the waste products or other discharges from the bodies of human beings or animals and any noxious or deleterious substances harmful or inimical to public health or to animal or aquatic life, or to the use of waters for domestic water supply or for recreation, or which constitutes pollution under the Pennsylvania Clean Streams Law, Act of June 22, 1937, P.L. 1987, as amended.

63. Sewer System: The entire system consisting of the Authority Collection Mains and the Authority Storm Water Sewers.

64. Special Utility Service: Residential or business service which exceeds that required for ordinary residential purposes.

65. Sheet Flow: Runoff which flows over the ground surface as a thin layer, not concentrated in a channel.

66. Storm Water: Drainage or runoff resulting from precipitation or snow or ice melt.

67. Storm Water Collection System or Storm Water Sewers: A separate network of ~~gutters, ditches, swales,~~ pipes and (C)

6. Return Check Charges: The Customer will be responsible for the payment of a charge for each time a check or automatic transfer of funds presented to the Authority for payment on that Customer's utility bill is returned by the payor bank for any reason including, but not limited to, insufficient funds, account closed, payment stopped, two signatures required, post-dated, stale date, account garnished, or unauthorized signature. This charge is in addition to any charge which may be assessed against the Customer by the bank with interest. Interest shall be calculated at the applicable rate for late payment charges.

7. Disputed Bills: In the event of a dispute between the Customer and the Authority with respect to any bill, the Authority will promptly make such investigation as may be required by the particular case and report the result to the Customer. The Customer is not obligated to pay the disputed portion of the bill during the pendency of the Authority's investigation. When the Authority has made a report to the Customer sustaining the bill as rendered, the Customer shall have fifteen (15) days from the date of such report in which to pay the bill. If the Authority determines that the bill originally rendered is incorrect, the Authority will issue a corrected bill with a new due date for payment. Any amounts received by the Authority in excess of the amount determined to be due by the Authority's investigation of the dispute shall be refunded to the Customer with interest computed at 1.5% per month.

9. ERU Adjustments: The determination of the number of ERUs or tier applicable to a customer may be adjusted from time to time as more accurate information is obtained or the condition of the property is altered, consistent with the following:

   a. If an ERU adjustment will increase a Customer's bill, the following shall apply, except when the change is initiated by the Customer: (C)

      i. For ERU adjustments occurring outside of a base rate case filed with the Commission as a result of impervious area updates or annual parcel updates, the Authority will provide written notice to the Customer ~~at least sixty (60) days in advance of the effective date of the ERU adjustment~~when the change is made to the account. (C) (C)

(c) - Change

BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

TESTIMONY OF

CHRISTINE M. FAY

ON BEHALF OF
THE PITTSBURGH WATER
AND SEWER AUTHORITY d/b/a Pittsburgh Water

Docket Nos.
R-2025-3055010 (Water)
R-2025-3055011 (Wastewater)
R-2025-3055012 (Stormwater)

Topics:
Support for Proposed Rate Increase
Financial Policies and Goals
Capital Markets and Rating Consideration
Peer Review of Financial Metrics
Impact of Multi-Year Rate Increase

June 4, 2025

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I. INTRODUCTION

Q. PLEASE STATE YOUR NAME, POSITION AND BUSINESS ADDRESS.

A. Christine M. Fay. I am a Senior Managing Director and Partner with Public Resources Advisory Group, Inc. ("PRAG"). The business address is 39 Broadway, Suite 1210, New York, New York, 10006.

Q. PLEASE DESCRIBE PRAG.

A. PRAG is a national independent financial advisory firm, wholly owned and managed by its employees that provides independent and in-depth financial capital markets advice to state and local governments, authorities and their agencies and has continuously served governments that access the municipal finance market for the past 40 years. PRAG is a Municipal Advisor, registered with the Municipal Securities Rulemaking Board ("MSRB") (MSRB ID K0133) and the Securities and Exchange Commission ("SEC") (Municipal Advisor Registration Number 867-00146) and an Investment Adviser registered with the State of New York, with additional registrations in the states of California and Florida and the Commonwealth of Pennsylvania (CRD# 113338). PRAG provides independent financial advice to public sector clients with respect to issuance of municipal bonds, credit rating strategy, capital planning, debt portfolio management, debt capacity analysis, swaps and derivative instruments, financing options, refunding approaches and techniques, bond structure and pricing, and bond proceeds investment strategies. PRAG is one of the leading municipal advisors in the country and has been ranked by Thomson Reuters as either the top one, two or three firm by volume over the past 22 years. Our water and wastewater experience includes some of the largest and most active issuers in the country, including Washington Suburban Sanitation District, The Metropolitan Water

District of Southern California, Miami Dade County Water and Sewer Department and the City of Los Angeles Wastewater System.

Q. SUMMARIZE YOUR PROFESSIONAL QUALIFICATIONS AND EXPERIENCE.

A. I joined PRAG's Media, Pennsylvania office in 2008 and was promoted to Senior Managing Director in 2018 and Partner in 2019. At PRAG, I work with my colleagues and manage financial advisory engagements, working with a broad range of municipal clients located throughout the East and Midwest regions of the U.S.

My background includes 25 years as an independent financial advisor and as a municipal finance executive. Since joining PRAG, I have worked with similar water and sewer clients over the years, including The Bethlehem Authority (PA), Capital Region Water (formerly The Harrisburg Authority; PA), City of Chicago Department of Water Management (IL), Miami-Dade County Water and Sewer Department (FL), the City of Orlando (FL) Wastewater, the Washington Suburban Sanitary Commission (MD) and the West Virginia Water Development Authority. I have served as a financial advisor to The Pittsburgh Water & Sewer Authority ("Pittsburgh Water") since 2019.

Q. DESCRIBE YOUR EDUCATIONAL BACKGROUND.

A. I graduated Cum Laude from the University of Pennsylvania with a Bachelor of Arts degree in Economics and an MBA from UCLA Anderson School of Business. I am a registered Municipal Advisor Representative with a Series 50.

Q. HAVE YOU EVER TESTIFIED BEFORE ANY REGULATORY AGENCIES OR IN LEGAL PROCEEDINGS?

A. Yes. I provided Direct, Supplemental Direct and Rebuttal testimony in support of Pittsburgh Water's most recent base rate case at Docket Numbers R-2023-3039920 (Water), R-2023-3039921 (Wastewater) and R-2023-3039919 (Stormwater). I have also

assisted in the drafting and development of the Direct, Supplemental Direct and Rebuttal testimony in support of Pittsburgh Water's prior base rate cases at Docket Numbers R-2021-3024773 (Water), R-2021-3024774 (Wastewater) and R-2021-3024779 (Stormwater) and at Docket Numbers R-2020-3017951 (Water) and R-2020-3017970 (Wastewater). In addition, I have assisted in the preparation of various securities certificates related to the issuance of Pittsburgh Water debt for the Pennsylvania Utility Commission ("PUC")'s consideration.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to:

1) Provide expert witness testimony with respect to the credit rating agencies' criteria for evaluating public water and sewer entities including Pittsburgh Water, the rating agencies' outlooks for the water and wastewater sector especially given tariff-driven inflationary pressures, market uncertainty and sharply higher borrowing rates, the risk that Congress or the Trump administration will reduce the amount of federal capital drinking water and clean water grants that PENNVEST will receive in future, and the implications for the Authority's credit ratings both with and without the proposed rate increases;

2) Provide expert witness testimony with respect to the importance of Pittsburgh Water's credit ratings in the context of current capital market conditions, borrowing rates, and Pittsburgh Water's ability to access the capital markets to advance its capital improvement plan;

3) Discuss the Authority's credit profile and key financial metrics compared to Pittsburgh Water's peer group of large urban mid-Atlantic and Midwestern water and wastewater public utilities; and

4) Emphasize the importance of the proposed rate increases to the Authority's ability to secure additional financing to complete its substantial capital improvement plan, especially with respect to meeting its Additional Bonds Test (ABT), and the immediate and severe implications for its credit ratings, finances and operations if it is unable to do so.

This testimony will focus on setting rates at a level in which Pittsburgh Water can successfully access the capital market and achieve efficient financings at a reasonable cost of capital to fund its capital plan and maintain its existing bond ratings. This

objective has become increasingly more challenging since Pittsburgh Water's prior base rate case, since municipal market borrowing costs have remained significantly elevated post-pandemic and have sharply increased recently primarily as a result of tariff-driven uncertainty. Also, the rating agencies are increasingly more concerned about the economy and recessionary pressures and municipal utilities' ability to fund critical capital programs amid rising costs spurred by inflation and exacerbated by increased borrowing costs. In 2022, Pittsburgh Water needed to downsize its planned 2022 bond issuance from $100 million to $45 million due to affordability concerns stemming from rising borrowing costs and operating costs. The rating agencies consider access to capital markets and ability to fund capital as critical components of their rating assessment, so it is imperative Pittsburgh Water receive all or a substantial portion of the requested rate increase to avoid the need to downsize or delay planned bond issuances and access to capital markets.

Pittsburgh Water has a complex debt profile which includes several bank and swap agreements with rating-related cost increases and termination triggers which would result in significantly escalated borrowing costs in the event of rating downgrades. It is necessary for Pittsburgh Water to receive its requested rate increase to meet its annual Rate Covenant and its Additional Bonds Test and demonstrate to the rating agencies capacity to fund its capital needs and avoid rating downgrades which would result in additional costs to the rate payers.

Further, the financial metrics based on the Pittsburgh Water's proposed rates will be discussed in comparison to peer utility systems and water and sewer industry type rating criteria. I will discuss the importance of the financial metrics and the need for the

requested rate increase in order to maintain these metrics in the fully projected future test year ("FPFTY") comprised of the period from January 1, 2026 through December 31, 2026, as well as period from January 1, 2027 through December 31, 2027 (the "Forecast Period") at levels that will allow Pittsburgh Water to maintain its current credit profile. Pittsburgh Water's current financial metrics are on the low side of peer utility systems and industry standards and need to be bolstered to be more in line with its peer utility systems in order to maintain and improve its credit profile which will reduce its financial risks as described later in this testimony.

In this testimony, I have relied on my professional experience in working with similar issuers and credits entering the capital markets, as well as the experience of PRAG's other utility advisory professionals. I have also examined materials, documents, and information produced in this matter, including the testimony of other Pittsburgh Water witnesses, Pittsburgh Water bond disclosure statements, Pittsburgh Water financial statements, Pittsburgh Water bank and swap agreements and rating agency publications related to Pittsburgh Water, as well as industry and peer-related rating reports.

Q. ARE YOU SPONSORING ANY EXHIBITS?

A. Yes. I am sponsoring the following exhibits:

- **Exh. CF-1:** Exhibit CF-1 contains a summary of Pittsburgh Water's Rate Covenant and Flow of Funds from the Amended and Restated Indenture.
- **Exh. CF-2:** Exhibit CF-2 contains Peer Ratings and Comparative Financial Information
- **Exh. CF-3:** Exhibit CF-3 contains Moody's Investors Service, 21 October 2024: Water and Sewer Utilities – US Medians – Net revenues grow, supporting improved liquidity and stable coverage
- **Exh. CF-4:** Exhibit CF-4 contains Moody's Investors Service, 11 December 2024: Water and Sewer Utilities - US 2025 Outlook –Stable as higher costs will be absorbed by rate increases

- **Exh. CF-5:** Exhibit CF-5 contains S&P Global Ratings, January 15, 2025: U.S. Not-For-Profit Utilities 2025 Outlook: Rough Water Likely Will Underscore Credit Trends
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- **Exh. CF-11:** Exhibit CF-11 contains S&P Global Ratings, November 5, 2024: U.S. Municipal Water and Sewer Utilities Navigate a New Environment as Performance Drops
- **Exh. CF-12:** Moody's Rating Scorecard for Pittsburgh Water
- **Exh. CF-13:** S&P Rating Scorecard for Pittsburgh Water

II. FINANCIAL POLICIES AND GOALS

Q. PLEASE SUMMARIZE THE CREDIT AGENCIES' VIEW OF THE PITTSBURGH WATER'S DEBT PROFILE.

A. The rating agencies recognize that Pittsburgh Water's debt profile is large and complex, consisting of senior, subordinate and third liens, publicly issued bonds, federal Water Infrastructure Finance and Innovation Act (WIFIA) and Pennsylvania Infrastructure Investment Authority (PENNVEST) loans, a Capital Line of Credit, variable rate bonds and interest rate swaps. A summary of Pittsburgh Water's debt portfolio is provided in Mr. Barca's testimony as Pittsburgh Water Exhibit EB-6, and Pittsburgh Water Exhibit CF-8 & CF-9 and CF-10 provide the most recent ratings reports from Moody's Investors Service ("Moody's") and S&P Global Ratings ("S&P"), the two rating agencies that rate Pittsburgh Water's Revenue Bonds.

In addition to the overall complex nature of the debt portfolio, Pittsburgh Water is also highly leveraged compared to other systems. As stated in Exhibit CF-10, S&P's

most recent rating report dated December 19, 2024, Pittsburgh Water's "rating is limited by extremely high leverage, with $1.17 billion in capital commitments identified through fiscal 2029 that are likely to continue to pressure the financial profile." Likewise, Moody's in its credit report of May 29, 2023, Exhibit CF-8, states "credit challenges persist and high leverage will be a continued headwind for Pittsburgh Water going forward," and lists among Pittsburgh Water credit challenges both "Substantial debt burden; debt ratio is 96% and will continue to grow," and "Projected $1.8 billion in capital needs over the next five years, to be primarily funded with debt." Pittsburgh Water's debt also amortizes slowly, with debt service payments extending through 2060. This is a result of many years of structuring bond financings with deferred principal in order to minimize the then current year rate increases. The slow principal amortization combined with the structure of Pittsburgh Water's currently outstanding debt (ascending through FY2032 and generally level thereafter through FY 2040) will mean an increase of annual debt service each year as Pittsburgh Water issues additional debt for capital projects.

Q. PLEASE DESCRIBE THE RATING AGENCIES' CHARACTERIZATION OF THE PUC'S REGULATORY OVERSIGHT OF PITTSBURGH WATER.

A. Both Moody's and S&P view the PUC's regulatory oversight favorably, however they also emphasize that Pittsburgh Water's continued progress is contingent upon regular rate increases to implement its capital improvement plan. Moody's described this constructive relationship in its rating report dated May 29, 2023, Exhibit CF-8, stating "The additional operational oversight by the PUC is expected to be a credit positive going forward. Whereas the Pittsburgh Water had used capital deferment as a tool to maintain satisfactory finances and rate increases were heavily influenced by local politics in the

past, the PUC has ensured that rate increases are less politicized." In its rating report dated December 16, 2024, Exhibit CF-9, Moody's alluded to both the PUC's positive relationship vis-à-vis Pittsburgh Water and the need for continued rate increases, stating, "Servicing this [Pittsburgh Water's] capital spending *will require aggressive rate increases* (emphasis added), and the state's Public Utility Commission's role in approving rates and overseeing the utility is an important strength for this rating." In its rating report dated December 19, 2024, Exhibit CF-10, S&P similarly states "The [Pittsburgh Water's A+ rating] stable outlook reflects our expectation that when Pittsburgh Water does need to propose a rate case to PaPUC, there will generally be a credit-supportive relationship, observed by both the timing and magnitude of rate adjustments that Pittsburgh Water is likely to request…"

Q. IS THERE A RISK THAT THE RATING AGENCIES FAVORABLE VIEW OF PUC OVERSIGHT OF PITTSBURGH WATER COULD CHANGE IF NEEDED RATE INCREASES ARE NOT APPROVED?

A. Yes, I believe that failure to approve rate increases necessary to sustain Pittsburgh Water's continued operation, while also enabling continued borrowing to implement its capital plan and maintain its financial metrics would change the rating agencies view of PUC oversight to a negative credit factor and likely apply downward scoring and notching in the scorecards Exhibit CF-12 and Exhibit CF-13 resulting in rating downgrades. In Exhibit CF-9, Moody's lists among factors that could lead to a rating downgrade "Indication that the state PUC may not improve the rate increases necessary for the authority to service its needs." Likewise, in Exhibit CF-10, S&P states that given the size of Pittsburgh Water's capital improvement plan, "it is important for (credit) rating maintenance that future rate cases be approved at or near the requested levels for fiscal years 2026-2028."

Q. PLEASE DESCRIBE THE KEY FINANCIAL METRICS THAT WILL DRIVE THE REVENUE REQUIREMENT AND THE RESULTING IMPACT ON PITTSBURGH WATER'S CREDIT RATINGS.

A. Currently, Pittsburgh Water's senior debt is rated "A2" by Moody's with a "Stable" outlook. This rating represents an upgrade from "A3" since the last rate case, and according to Moody's recognized Pittsburgh Water's significantly improved coverage and liquidity, and the key importance of Pittsburgh Water good governance. In the most recent Moody's full Credit Opinion report for Pittsburgh Water in May 2023, Exhibit CF-8, the agency specifically mentions that "high leverage will be a continued headwind for Pittsburgh Water going forward. Pittsburgh Water's current debt burden is significant, and material additional debt is expected as Pittsburgh Water progresses on its capital improvement plan." With Pittsburgh Water's requested rate increase, we are hoping to mitigate these concerns by demonstrating an ability to access the capital markets and maintain debt service coverage given the ascending nature of Pittsburgh Water's existing debt service and need to issue additional debt.

Pittsburgh Water's senior debt currently is rated "A+" by S&P with a "Stable" outlook. S&P also mentioned the complex nature of Pittsburgh Water's debt and makes it clear that contingent risks are mitigated in part by the assumption of continued improvement in management, decreased exposure to interest rate risks and maintaining certain financial metrics, such as debt service coverage and strong liquidity. S&P also notes Pittsburgh Water's large capital improvement plan and the need for significant amount of debt to fund the plan in addition to what they view as an already highly leveraged system.

Q. PLEASE DESCRIBE PITTSBURGH WATER'S FINANCIAL MANAGEMENT POLICY.

A. Critical to the revenue requirement is Pittsburgh Water's Financial Management Policy, which is provided as Pittsburgh Water Exhibit EB-5, and was established in 2018. The Financial Management Policy provides a framework to maintain Pittsburgh Water's financial integrity, while serving the long-term interests of its customers and other constituencies. The Financial Management Policy applies to all financial practices within Pittsburgh Water and provides guidance to policy makers, staff and stakeholders as Pittsburgh Water seeks to maintain and improve its financial position. The scope of the guidance includes many of the key metrics that the rating agencies and other credit analysts use to evaluate Pittsburgh Water's creditworthiness, including minimum and targeted debt service coverage levels, minimum and targeted levels of liquidity and reserve funds as measured by days cash on hand, and the ability to manage future debt capacity by funding a portion of the capital program with internally generated funds and asset preservation. Both Moody's and S&P reference certain financial metrics that are key in order to maintain Pittsburgh Water's current credit profile.

Debt Service Coverage Ratio

The first important metric is the debt service coverage ratio (Net Revenue to Annual Debt Service) as it is the primary metric considered by the rating agencies. As discussed in Mr. Barca's testimony, Pittsburgh Water's Amended and Restated Trust Indenture includes a Rate Covenant with Pittsburgh Water's bondholders that requires Pittsburgh Water to maintain an annual debt service coverage ratio at 1.25 times Senior Lien debt service and 1.10 times for total debt service. Pittsburgh Water has covenanted with its bondholders

that it will establish rates for each fiscal year to at least achieve these levels. See Exhibit CF-1 for a summary of Pittsburgh Water's Rate Covenant and Flow of Funds provisions. Pittsburgh Water's Financial Management Policy is more stringent than the legal rate covenant and states that if the five year average senior lien debt service coverage is to be less than 1.35 times or less than 1.15 times on total debt service coverage basis, the Board will implement a plan which could include increasing rates, reducing expenses or other means to achieve a 1.35 times senior debt service coverage level and 1.15 times total debt service coverage level, "taking into consideration approved and pending rate increases with the Pennsylvania Public Utilit[y] Commission." It is important to note that while Pittsburgh Water's financial management debt service coverages are higher than the legal requirements, the overall municipal water and sewer utility sector wide debt service coverage is closer to 2.3 times (using Moody's most recent median report, dated October 21, 2024, which is included as Exhibit CF-3) for combined water and sewer governmental systems. While peer and rating comparisons will be discussed later in this testimony, it is clear that Pittsburgh Water's debt service coverage ratio target is still significantly below industry standards. Therefore, the 1.35 times level should not be viewed as a goal, but a minimum.

Debt Coverage Capital

Another important concept described at some length in Mr. Barca's testimony in Pittsburgh Water Statement No. 2 is Debt Coverage Capital, which is the additional amount of revenue required to meet the debt service coverage ratio. I agree with Mr. Barca's assessment that without the requested Debt Coverage Capital amount, Pittsburgh

Water's total debt service coverage level would become dangerously low and risk one or more rating downgrades.

Q. ARE THERE ADDITIONAL REASONS WHY PITTSBURGH WATER SHOULD INCREASE ITS DEBT SERVICE COVERAGE.

A. Yes, there are. It is also important to note that if Pittsburgh Water is able to increase its debt service coverage over time, it will be able to grow its financial resources to fund targeted internally generated funding capital levels with less reliance on using debt. Without increased coverage levels, Pittsburgh Water will have to continue its over reliance on debt, further leveraging an already over-leveraged system. In addition to providing internally generated funding resources, adequate debt service coverage creates critical financial resources that are needed to address potential economic and operational challenges without dipping into Pittsburgh Water's modest reserves. Lastly, Pittsburgh Water has annual obligation payments to the City of Pittsburgh pursuant to a Cooperation Agreement that are subordinate to the Senior Lien and Subordinate Lien, which are also funded from internally generated funds (debt service coverage monies).

It is extremely important to establish rates that also generate coverage at a level to protect against any unforeseen additional expenses or decreases in expected revenues, particularly in the current environment of heightened uncertainty due to tariffs and softening economy. Setting coverage at just the minimum legal requirement puts Pittsburgh Water at significant risk of violating the covenant and risking adverse action from the rating agencies. Furthermore, the ability to issue additional debt under the bond documents requires Pittsburgh Water to pass an Additional Bonds Test, remain in compliance with the rate covenant and have sufficient revenues to comply with the covenant taking into account the additional debt service. In the absence of a rate increase,

Pittsburgh Water will not be able to pass its Additional Bonds Test and be precluded from accessing the capital markets which will result in rating downgrades and deferring the funding of its Capital Plan which will escalate future costs, as later discussed in my testimony.

Q. PLEASE DESCRIBE PITTSBURGH WATER'S CURRENT AND PROJECTED FINANCIAL METRICS.

A. Although Pittsburgh Water did have a rate increase for FY 2024, the agreed to rate increase was less than the amount requested and was largely absorbed by escalating operational costs spurred by increased inflation. Thus the requested rate increase is critical to avoid breaching rate covenants debt service coverage requirements and meeting the Additional Bonds Test. Provided below is a summary table of debt service coverage levels based on existing rates. Budgeted FY 2025 figures of net revenue 1.57 times over senior lien debt service and 1.22 times over total debt service are above Pittsburgh Water's Financial Management Plan target, but projected debt service for FY 2026 (FPFTY) and 2027 Forecast Year are at levels that would violate Pittsburgh Water's rate covenant.

	FY 2024	*FY 2025*	*FY 2026 (FPFTY)*	*FY 2027*
Senior Debt Service Coverage Ratio	*1.82x*	*1.57x*	*1.22x*	*1.09x*
Total Debt Service Coverage	*1.40x*	*1.22x*	*0.94x*	*0.81x*

As described in Pittsburgh Water Exhibit EB-2, after accounting for the $84.4 million proposed rate increase, the FPFTY (FY 2026) projected debt service coverage and FY 2027 Forecast Year exceeds the minimum coverage requirements set forth in Pittsburgh

Water's bond covenants, and are improvements on the coverage levels compared to the budgeted FY 2025 figures.

	FY 2024	*FY 2025*	*FY 2026 (FPFTY)*	*FY 2027*
Senior Debt Service Coverage Ratio	*1.82x*	*1.57x*	*1.85x*	*1.87x*
Total Debt Service Coverage	*1.40x*	*1.22x*	*1.42x*	*1.39x*

While the requested rate increase results in debt service coverage higher than Pittsburgh Water's Financial Management Policy for both the senior lien debt and total debt, Pittsburgh Water must continue to improve financially to anticipate changes in capital needs and operations and meet its Additional Bonds Test (as discussed later in my testimony) and achieve metrics that are reflective of those realized by entities with similar bond ratings. In fact, on this basis, Pittsburgh Water could justify a rate increase that would produce much higher debt service coverage ratios.

Q. PLEASE DESCRIBE PITTSBURGH WATER'S CURRENT AND PROJECTED LEVELS OF RESERVES AND LIQUIDITY AND EXPLAIN THEIR RELEVANCE.

A. Certainly. The second critical metric is cash reserves and liquidity, often measured as days cash on hand (DCOH), which is calculated by taking unrestricted cash and investments times 365 divided by total annual operating and maintenance expenses. This statistic is used by both Moody's and S&P to measure liquid financial resources available for a utility to survive temporary revenue disruptions and unexpected expenses. This metric is fundamental in analyzing the financial strength of a municipal utility. Moody's has commented on Pittsburgh Water's liquidity in its most recent rating report. Moody's report asserts that "While Pittsburgh Water's management has done good work in

stabilizing the utility's financial position at an adequate level, the authority is likely to report narrow coverage and hold weaker liquidity than peers for the foreseeable future." Moody's most recent report quantifies both the positive and negative thresholds for days cash on hand, listing "Liquidity consistently exceeding 200 days" among "Factors that could lead to an upgrade," and "Liquidity below 100 days" among "Factors that could lead to a downgrade." Without improvement in Pittsburgh Water's DCOH, Pittsburgh Water will continue to be rated A2 and pay higher borrowing costs.

Pittsburgh Water's Financial Management Policy is to "[m]aintain cash reserves, including the operating reserves, rate stabilization fund, and revenue fund at a level of 100 days cash on hand with the goal of increasing to over 300 days over the next five (5) years." This goal has been communicated to the rating agencies and the agencies annually request an update on progress made towards meeting these goals.

As described in Exhibit EB-1 to Mr. Barca's testimony, Pittsburgh Water's DCOH based on existing rates is projected to drop off significantly from budgeted FY 2025 levels to 118 days in FPFTY (FY 2026) and 42 days in FY 2027, as summarized in the table below which will cause significant concerns with the rating agencies and result in rating downgrades.

	FY 2024	*FY 2025*	*FY 2026 (FPFTY)*	*FY 2027*
Days Cash on Hand ("DCOH")	*115 DCOH*	*124 DCOH*	*118 DCOH*	*42 DCOH*

It is important to know that the Capital Line of Credit is a federally tax-exempt facility, which means that it can only be used for capital purposes and therefore is not available for operating liquidity support, i.e., it cannot be included toward DCOH.

As shown in Pittsburgh Water Exhibit EB-2, after accounting for the requested rate increase, the days cash on hand is projected to be 118 days for FPFTY (FY 2026) and 116 days for FY 2027, which is still a deterioration from the FY 2025 budgeted level and is lower than Pittsburgh Water's Financial Policy target, rating agencies medians (as discussed previously), and the majority of peer utilities (as discussed later in my testimony).

	FY 2024	*FY 2025*	*FY 2026 (FPFTY)*	*FY 2027*
Days Cash on Hand ("DCOH")	*115 DCOH*	*124 DCOH*	*118 DCOH*	*116 DCOH*

Q. PLEASE EXPLAIN THE IMPORTANCE OF THE RATE STABILIZATION FUND.

A. Certainly. In my professional opinion, given the significant uncertainty in the economic outlook with the application of tariffs and potential impact to operating and capital costs it is increasingly important for municipal utilities to bolster reserves to protect against such future uncertainties. The Rate Stabilization Fund's ("RSF") current balance and requested contributions of $6 million, with $3 million in the FPFTY and another $3 million in FY 2027, will provide a nominal level of protection against such uncertainties and assist in maintaining Pittsburgh Water's credit ratings.

Q. PLEASE DESCRIBE THE FRAMEWORK THE RATING AGENCIES USE TO ASSESS PITTSBURGH WATER'S OVERALL CREDIT RATING.

A. Both Moody's and S&P publish rating criteria for water and sewer utilities, the most recent publications of which are included as Exhibit CF-6 and Exhibit CF-7, respectively. In addition to their rating criteria, both agencies have over the past several years implemented the use of a "scorecard" approach to their respective methodologies. While the methodologies are unique to each rating agency, they are similar in approach in

measuring certain financial information and ratios for numerous factors grouped into larger categories, with assigned weights to each factor and/or category to calculate an overall score that corresponds to a specific credit rating. The rating agencies can also employ qualitative judgement to determine certain factor scores and adjust, or "notch," credit ratings up or down. PRAG's estimates of Moody's and S&P's scorecards for Pittsburgh Water, both as of FY2024, and prospectively for FY2027 both with and without Pittsburgh Water's proposed rate increase, are included as Exhibit CF-12 and Exhibit CF-13, respectively. PRAG's estimated scorecard ratings for Pittsburgh Water as of FY2024 match Pittsburgh Water's current ratings of A2 using Moody's rating methodology and A+ using S&P's rating methodology. It is important to note that since the rating agencies can apply qualitative judgment in determining certain factor scores and applying notching it is possible that the rating agencies scorecard outcomes may defer slightly from PRAG's estimated scorecard outcomes but we have used our extensive professional experience in this area in preparing the scorecards.

Q. PLEASE DESCRIBE HOW PITTSBURGH WATER'S SCORECARD INDICATED RATINGS ARE EXPECTED TO CHANGE IF PITTSBURGH WATER'S PROPOSED RATE INCREASE IS APPROVED OR DENIED.

A. Assuming PUC approves Pittsburgh Water's rate increase, given the projected modest improvement in total Debt Service Coverage and moderate decline in Days Cash on Hand, coupled with no expected changes to other scorecard factors, PRAG estimates that Pittsburgh Water's ratings from Moody's would remain unchanged at A2, and for S&P would be either A+ or a one-notch lower A rating. Alternatively, if Pittsburgh Water's proposed rate increase is denied, then PRAG estimates that the corresponding sharp declines in both total Debt Service Coverage and Days Cash on Hand, as well as deteriorating assessments of rate management and oversight, would cause Pittsburgh

Water's scorecard ratings to drop four (4) notches by Moody's, from A2 to Baa3, and four (4) or five (5) notches by S&P, from A+ to BBB or BBB-, by FY 2027. These rating scorecard outcomes are illustrated in Exhibit CF-12 for Moody's, and Exhibit CF-13 for S&P.

Q. PLEASE DESCRIBE HOW THE CREDIT RATING AGENCIES VIEW TO THE OUTLOOK FOR WATER AND SEWER UTILITIES GENERALLY.

A. At the end of 2024 and beginning of 2025, Moody's and S&P published their respective annual outlook reports the water and/or sewer sector (provided as Exhibit CF-4, Exhibit CF-5 and Exhibit CF-11). Moody's maintains a stable outlook on the water and sewer utilities sector, citing the biggest credit risk being a decline in liquidity of greater than 10%. S&P's outlook is more pessimistic, with a negative sector outlook with capital and operating costs outpacing the general level of inflation, and rating downgrades exceeding rating upgrades for the sector.

Q. PLEASE DESCRIBE HOW THE CREDIT RATING AGENCIES VIEW PITTSBURGH WATER'S PROPOSED PENNVEST CHARGE (PVC) EXPANSION.

A. I believe the credit rating agencies would view the expansion of the PENNVEST Charge (PVC) as a credit positive. To date, the rating agencies have viewed the PUC and Pittsburgh Water relationship as positive to neutral to Pittsburgh Water's credit rating and this view has been predicated on the agencies understanding of the PUC approving rates sufficient for Pittsburgh Water to fund operations and continue to finance its capital plan. The PUC granting approval to Pittsburgh Water to expand the reconcilable charge to pass through the costs of opportunities of securing low-cost PENNVEST loans over the next two year period without the need to file rate cases will be further demonstration to the rating agencies of the PUC supporting Pittsburgh Water's pursuits in funding its

capital plan. S&P in its most recent reports states "The stable outlook reflects our expectation that when Pittsburgh Water does need to propose a rate case to the PUC, there will generally be a credit-supportive relationship, observed by both the timing and magnitude of rate adjustments that Pittsburgh Water is likely to request, versus what the PUC ultimately grants." The proposed expansion of the PVC is consistent with what is important to S&P--this type of reconcilable cost recovery mechanism that can be used to pass through actual costs without filing a rate case is both timely and consistent with debt service expense. In addition, the proposed expansion of the PVC is consistent with the rating agencies' positive view of preapproved rate increases (as discussed later in this testimony). S&P's criteria states that "compelling factors that would likely preserve credit quality include ***preapproved rate adjustments multiple years into the future*** *(emphasis added)*, or an existing debt service schedule that allows for the new debt to be layered on in a manner that we believe is unlikely to worsen financial performance."

Q. HAVE YOU SEEN ANY TRENDS AMONG WATER AND SEWER UTILITIES TO DECREASES LEVERAGE?

A. Yes, many water and sewer utilities are increasing the use of internally generated funds for capital to reduce reliance on debt, save interest expense and improve financial metrics. For example, the District of Columbia Water and Sewer Authority ("DC Water") is funding 33.3% of its FY2026 capital improvement plan with internally generated or "pay-as-you-go" funds, while Dallas Water targets 20% and Washington Suburban Sanitation Commission has proposed almost 20% "pay-as-you-go" funding for FY2026.

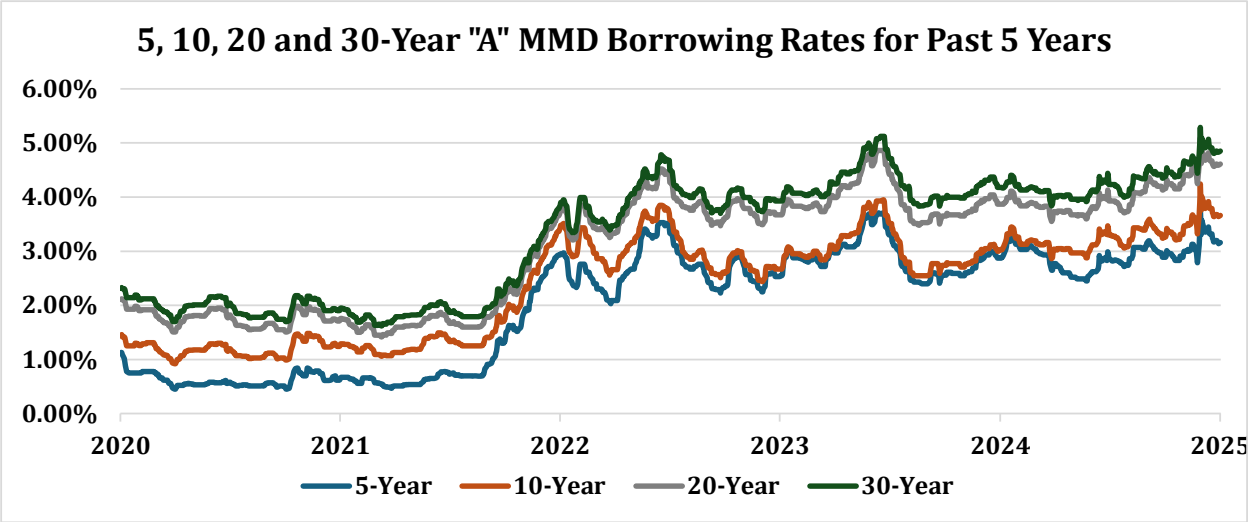
This trend of increased use of internally generated funds is consistent with Pittsburgh's Water's component of the proposed request rate increase to also increase its Distribution

System Infrastructure Charge (DSIC) from 5.0% to 7.5% of revenues, as discussed in Mr. Barca's testimony in Pittsburgh Water Statement No. 2. This is projected to bring Pittsburgh Water's percentage of internally generated funding for capital from the current 4.2% to 8.5%, much closer to Pittsburgh Water's Financial Management Policy goal of 10%.

III. CAPITAL MARKETS CONSIDERATIONS

Q. WHAT IS THE IMPACT ON PITTSBURGH WATER OF INCREASED BORROWING COSTS.

A. Municipal market borrowing costs, which are indexed to the Municipal Market Data ("MMD"), have risen sharply since the beginning of 2022 with the 5, 10, 20 and 30-year borrowing rates for "A" rated municipal issuers, such as Pittsburgh Water, increasing between 270 basis points ("bps") and 320 bps, more than doubling Pittsburgh Water's borrowing costs since the beginning of 2022. This contributed to Pittsburgh Water downsizing its 2022 bond issue from $100 million to $45 million due to affordability concerns and significantly impacted its subsequent borrowings in 2023 and 2025. Subsequent to the current Administration's tariff wars, as discussed more fully on pages 12 and 13 of Mr. Barca's Testimony, Pittsburgh Water St. No. 2, municipal borrowing rates have become extremely volatile and remain at the highest levels of the past five years. Should these high-rate levels and volatility persist for the foreseeable future, this can be expected to significantly increase the costs of Pittsburgh Water's planned 2026 and 2027 revenue bond issues.



*Municipal Market Data (MMD) is the standard index for municipal bonds. MMD publishes various yield curves (1 to 30 years) for different credits/rating categories.

Q. PLEASE EXPLAIN THE IMMEDIATE CONSEQUENCES IF ALL OR A SUBSTANTIAL PORTION OF THE PROPOSED RATE INCREASE IS NOT APPROVED.

A. As outlined in Pittsburgh Water Exhibit EB-1, which is a part of Mr. Barca's testimony, if the current rates remain in place, Pittsburgh Water will violate its covenant with bondholders, and it will be unable to meet its Additional Bonds Test, which will halt its Capital Improvement Plan starting in FY 2026 due to lack of financing.

As described previously, in order to comply with its legally required bond covenants, Pittsburgh Water must generate net revenues in an amount that exceeds senior debt service of at least 1.25 times and total debt service of at least 1.1 times and is adequate to pay all financial obligations. Without a rate increase, the debt service coverage in the FPFTY (FY 2026) is projected to be 1.22 times for senior debt service (1.25 times is the legal covenant for senior debt) and 0.94 times for total debt service (1.10 times is the legal covenant), and in FY 2027 is projected to be 1.09 times for senior debt service (1.25 times is the legal covenant) and 0.81 for total debt service (1.10 times is the legal covenant). This would cause Pittsburgh Water to be in non-compliance with its rate

covenant in FY 2026 and 2027 as well as having insufficient funds to pay its debt service obligations in both years.

If Pittsburgh Water fails to comply with the rate covenant, Pittsburgh Water is legally required to engage a consultant to prepare a report to remedy the failure and to make recommendations. Pittsburgh Water has 180 days after the tested fiscal year to revise rates, fees and charges or to petition the PUC to establish the necessary rates, fees and charges to address the rate covenant failure. If, after this time period, Pittsburgh Water continues to fail the rate covenant, then an Event of Default under the Trust Agreement will have occurred. An event of default results in certain remedies available to bond holders, including acceleration of principal. An event of default would likely result in an emergency request to the PUC to allow Pittsburgh Water to raise rates and would likely lead to a downgrade of Pittsburgh Water's credit ratings, making future borrowing more problematic and costly and requiring increased rate revenue to cover Pittsburgh Water's higher cost of borrowing. In terms of days cash on hand, without a rate increase, days cash on hand falls to 118 days in FPFTY (FY 2026) and to 42 days in FY 2027.

Q. WHAT WOULD BE THE EFFECT ON THE "ADDITIONAL BONDS TEST" OF THE FAILURE TO APPROVE A RATE INCREASE.

A. As explained in Mr. Barca's testimony, prior to issuing additional senior or subordinate lien debt under the Indenture Pittsburgh Water needs to pass an Additional Bonds Test ("ABT") which is a three-part test of senior lien coverage at 1.25x, subordinate coverage at 1.1x and total coverage at 1x. As Financial Advisor to Pittsburgh Water, and a third-party consultant as required by the Indenture, PRAG is tasked with preparing the ABT test prior to closing on Pittsburgh Water's senior and subordinate bond issuance. For purposes of providing this certification we need to provide an analysis demonstrating that

there are sufficient revenues (including rate increases previously authorized by the Authority Board and approved by the PUC) to fund operations, make debt service payments and satisfy legal debt service coverage requirements on the existing and proposed debt. Failure to pass ABT would preclude Pittsburgh Water from securing additional financing and halt its capital improvement plan. As included in Exhibits EB-7 and EB-8 and summarized in the table below, without the requested rate increase Pittsburgh Water is failing the second prong of the ABT on the subordinate lien by almost $20 million in FY 2026 and almost $39 million in FY 2027. The subordinate lien test is a key determining factor for purposes of Pittsburgh Water's ABT given the significant amount of subordinate PENNVEST and WIFIA debt service that is not included in the senior test. With the requested rate increase, Pittsburgh Water passes its ABT on the subordinate lien in FY 2026 and FY 2027. I cannot emphasize enough the importance of Pittsburgh Water receiving a substantial amount of the requested rate increase to be in a position to pass its ABT to issue bonds to fund its critical capital projects. Without a rate increase in FPFTY (FY 2026) Pittsburgh Water's ability to finance its capital plan will halt due to an inability to access the capital markets, and correspondingly be unable to maintain and improve its assets or comply with consent decrees would be of immediate and serious concern to the rating agencies, and likely result in either or both multiple ratings downgrades and/or withdrawal or suspension of ratings, only further increasing Pittsburgh Water's potential cost of financing and exacerbating its operating challenges.

Additional Bonds Test Surplus/(Deficit) Forecasts		
Pittsburgh Water's Projected Additional Bonds Test Coverage with Rate Increase		
	FY 2026	FY 2027
First Lien (1.25x) Net Surplus/(Deficit)	$59.9M	$67.6M

First Plus Subordinate Lien (1.10x) Net Surplus/(Deficit)	$33.8M	$35.1M
Total Debt Service (1.00x) Surplus/(Deficit)	$55.0M	$58.9M
Pittsburgh Water's Projected Additional Bonds Test Coverage w/o Rate Increase		
	FY 2026	FY 2027
First Lien (1.25x) Net Surplus/(Deficit)	$6.4M	**-$6.6M**
First Plus Subordinate Lien (1.10x) Net Surplus/(Deficit)	**-$19.8M**	**-$39.1M**
Total Debt Service (1.00x) Surplus/(Deficit)	**$1.5M**	**-$15.3M**

Q. WHAT ARE THE LIKELY CONSEQUENCES IF PITTSBURGH WATER FAILS TO MEET ITS BOND COVERAGE TARGETS OR FAILS TO MAINTAIN ADEQUATE CASH ON HAND?

A. The failure to maintain adequate debt service coverage levels and/or a notable deterioration in days of cash on hand would likely cause a downgrade in Pittsburgh Water's credit ratings. Credit ratings are an important component in determining the cost of debt as the ratings signal Pittsburgh Water's ability and willingness to meet financial obligations in full and on time. A downgrade of the credit ratings for Pittsburgh Water would result in an increase in Pittsburgh Water's borrowing costs and necessitate higher rate increases over time.

There are also the consequences for failure to comply with the debt service coverage requirement (rate covenant). As I explained, if there is an event of default, there are certain remedies available to bond holders, including acceleration of principal. Pittsburgh Water would have to use its cash reserves to pay its FPFTY (FY 2026) debt service and other long-term financial obligations. This would create an obligation that Pittsburgh Water could not possibly meet without extraordinary rate relief or an infusion of cash from some other sources. Additional information is provided later in my testimony regarding risks of the PUC not approving a substantial amount of the requested rate increase, including rating downgrades and the possible collateral consequences.

Failure to maintain sufficient available cash could result in a rating downgrade, and thus, increase Pittsburgh Water's borrowing costs. If sufficient revenue is not generated to cover all of Pittsburgh Water's costs and obligations, as well as not having sufficient reserves to have the cash to fully cover operating expenses, debt service and other could result in financial failure. Additionally, Pittsburgh Water could experience bondholder lawsuits related to its failure to raise sufficient rates to meet its rate covenant. With the requested rate increase, Pittsburgh Water will have higher annual coverages but still slightly declining days cash on hand for FY 2026 and FY 2027. Without the request, Pittsburgh Water will not be able to reach minimum coverages on Senior or Total Debt Service. If awarded the proposed rate increase, Pittsburgh Water can better manage its obligations, add to its RSF to be better positioned to for potential future cost pressures and perhaps even receive a rating upgrade. Thus, I strongly believe Pittsburgh Water should be granted a substantial amount of the proposed rate adjustment in order to permit the Pittsburgh Water to reach total coverage closer to the median of other single-A rated municipal water utilities and add to reserves. Pittsburgh Water's historical and projected debt service coverage and days cash on hand with and without the proposed rate increase is provided in the table below. Pittsburgh Water's Rate Covenant Requirement for coverages and Pittsburgh Water's Financial

Management Policy related to debt service coverages and Liquidity (measured in days cash on hand) are provided below:

Pittsburgh Water's Historical and Projected Financial Metrics with Rate Increase				
	FY 2024	FY 2025	FY 2026	FY 2027
Senior Debt Service Coverage	1.82	1.57	1.85	1.87
Total Debt Service Coverage	1.40	1.22	1.42	1.39
Days Cash on Hand	115	124	118	116
Pittsburgh Water's Historical and Projected Financial Metrics without Rate Increase				
	FY 2024	FY 2025	FY 2026	FY 2027
Senior Debt Service Coverage	1.82	1.57	**1.22**	**1.09**
Total Debt Service Coverage	1.40	1.22	**0.94**	**0.81**
Days Cash on Hand	115	124	118	42
Bond Indenture -- Rate Covenant Coverage Requirement				
	FY 2024	FY 2025	FY 2026	FY 2027
Senior Debt Service Coverage	1.25	1.25	1.25	1.25
Total Debt Service Coverage	1.10	1.10	1.10	1.10
Pittsburgh Water's Financial Management Policy				
	FY 2024	FY 2025	FY 2026	FY 2027
Senior Debt Service Coverage	1.35	1.35	1.35	1.35
Total Debt Service Coverage	1.15	1.15	1.15	1.15
Days Cash on Hand	100-300	100-300	100-300	100-300

As shown in table above, with the proposed rate increase, the debt service coverage metrics improve in FY 2026 and FY 2027 putting Pittsburgh Water on more stable ground. The proposed rates will permit Pittsburgh Water to have the funds it needs throughout the Forecast Period to satisfy all of its financial obligations. Projected Total Debt Service coverage in FY 2025 is 1.22, just above the legal, required coverage is 1.10 times, with rate increases Pittsburgh Water moves coverages positively away from the legal limit.

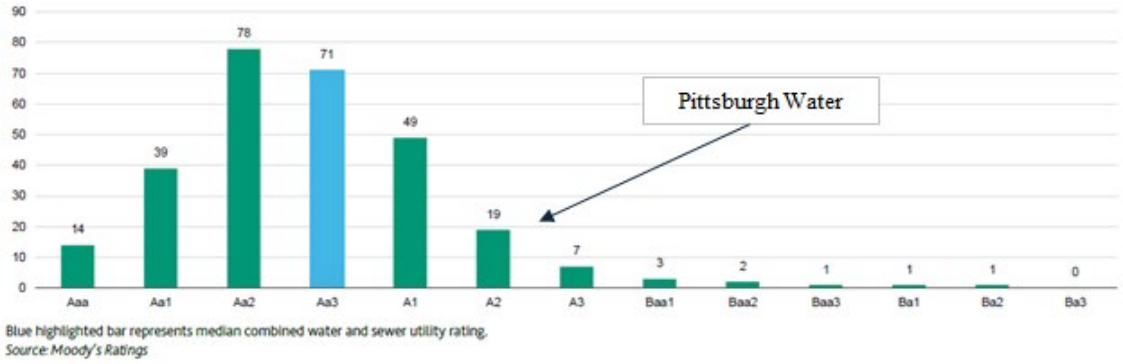
IV. PEER REVIEW OF FINANCIAL METRICS

Q. DISCUSS PITTSBURGH WATER'S CREDIT PROFILE IN COMPARISON TO OTHER PEER UTILITIES.

A. Pittsburgh Water's senior lien credit ratings are "A2" and "A+", from Moody's and S&P respectively. As can be seen within Exhibit CF-3, as well as in the graphic below, in terms of other US municipal water and sewer systems, Pittsburgh Water, with its A2 rating, is in the bottom 12 percent of all governmental water and sewer utilities that are rated by Moody's.

Distribution of Moody's Ratings for Combined Municipal Water and Sewer Issuers

(Median is Shown in Blue)



Blue highlighted bar represents median combined water and sewer utility rating.
Source: Moody's Ratings

US municipal water and sewer credits are generally well received by the investor community with rating agencies viewing the industry overall with a stable to negative outlook. Rating agencies have been reviewing and updating methodologies with a view towards transparency and a more quantitative approach. Both Moody's and S&P have published credit scorecards which identify certain rating factors, as well as assigning certain factor weighting. Both credit scorecards include some level of qualitative analysis, as well as above and below-the-line notching. While the approach is slightly different, the factors considered both include debt service coverage and liquidity measures as critical components of any credit review.

Moody's – Moody's identifies broad factors for consideration and further provides sub-factors in the scorecard. The broad categories include system characteristics (asset condition, service area and system size), financial strength (debt service coverage, days cash on hand, debt to operating revenues), management (rate management, regulatory compliance and capital plans) and legal provisions (rate covenant, debt service reserve requirements). In general, Moody's reports that the median coverage for all Moody's rated credits (using 2022 data) is 2.3x for combined water and sewer systems, 2.1x for water systems and 2.1x for sewer systems. The Moody's median for days cash on hand are 511 days for combined systems, 506 days cash on hand for water systems and 685 days cash on hand for sewer systems.

Below are Pittsburgh Water's key ratios from the most recent Moody's Median report dated October 21, 2024 (which uses 2022 data) included as Exhibit CF-3 compared to median peers for the "Aa," "A" and "Baa" rating categories that illustrates that Pittsburgh Water is below each median indicator. Increasing rates to provide cash flow available to fund an increasing number of projects on an internally generated funded basis will help mitigate Pittsburgh Water's relative position.

Moody's Key Indicators	Pittsburgh Water (2023) *	Aa Rated Medians	A Rated Medians	Baa Rated Medians
Debt Service Coverage	**1.2x**	2.4x	2.1x	1.5x
Days Cash on Hand	**118**	612	363	226

Source: Moody's Water and Sewer Median Report dated October 21, 2024
*Moody's calculations. Pittsburgh Water metrics based on FY 2023 audited financials.

Standard & Poor's – S&P has also developed a credit scorecard to provide a qualitative analysis of a systems credit profile. S&P measures credit through an enterprise risk profile (economic fundamentals, industry risk, market position and operational management assessment) and a financial risk profile ("all in" coverage, liquidity and

reserves, debt and liabilities and financial management assessment). They also provide notch adjustments for certain factors. When reviewing assessment scores for S&P "A+" rated water and sewer credits, debt service coverage averaged 1.7 times and liquidity measures averaged approximately 564 days cash on hand.

Below is a summary of Pittsburgh Water's most recent rating recent reports, full reports are included in CF-8, and CF-9 and CF-10, outlining the strengths, challenges and viewpoints of the credit agencies.

Moody's Investors Service **A2 (Stable)**	Standard & Poor's Ratings Services **A+ (Stable)**
Credit Strengths	
■ Stable service area in regionally significant economy ■ Much-improved governance ■ Strong financial management, including long-range planning ■	■ Employment base that has reinvented itself from previously relying on manufacturing and industrial jobs ■ View operational management assessment (OMA) as "good" ■ Strong on-balance sheet liquidity
Credit Challenges	
■ Coverage and liquidity lower than peers ■ History of deferred investment Significant capital plan implies increasing debt going forward	■ Extremely high leverage with $1.17 billion in capital commitments ■ Outsized risks related to each of our environmental, social, and governance factors ■ Rates for service that have been pressured over the past decade by the unfunded mandates

Regulatory Oversight: Both Moody's and S&P have stated in recent reports that PUC oversight has contributed to their stable outlooks for Pittsburgh Water. Moody's noted that the PUC oversight "brings improvement and controls," and that "the PUC has helped to ensure timely system maintenance and routine capital investment, in line with broad industry standards." S&P notes "our stable outlook reflects our expectation that when Pittsburgh Water does need to propose a rate case to PaPUC, there will generally be a credit-supportive relationship." However, as discussed previously, should PUC not approve sufficient rates increases as deemed necessary by the credit rating agencies there is a risk they can change their view of the PUC's oversight role negatively and an

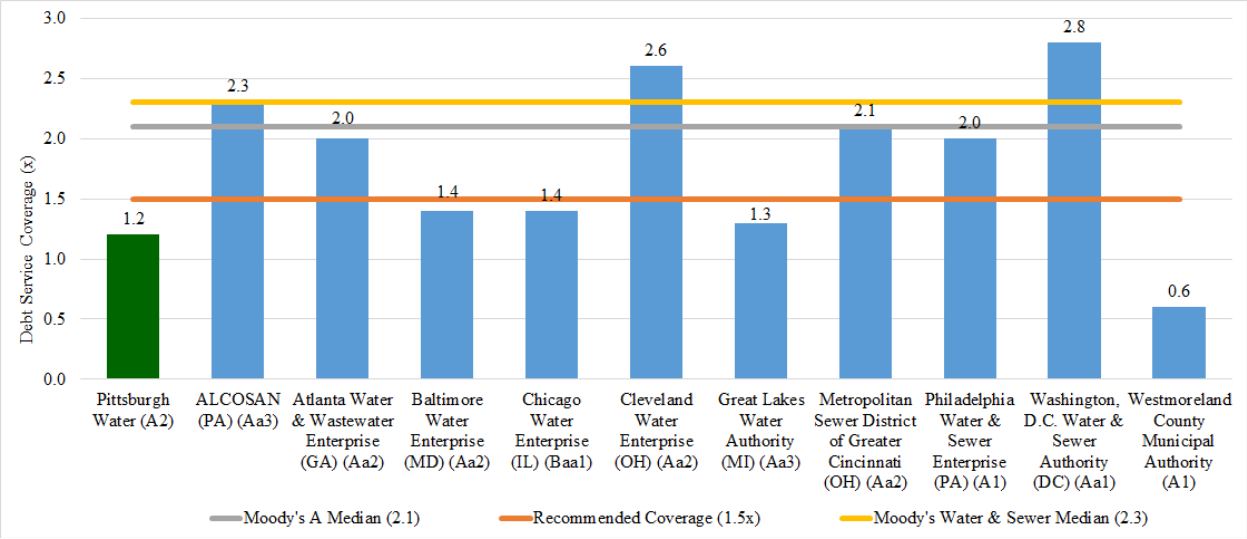
impediment to needed rate increases. As demonstrated in the scorecards as Exhibit CF-12 and Exhibit CF-13 such assessment could result in several notch downgrades by the rating agencies.

Peer Utilities: Pittsburgh Water has selected certain large city municipal peer systems to provide important benchmarking critical to organizational best practices. While systems have their own characteristics based on regions, size, and service area, the selected peers are of similar size, service areas of industrial urban centers and are located largely in the mid-Atlantic and Midwestern regions of the country. Peer comparisons and benchmarking performance indicators are a component of best practices and have been incorporated into Pittsburgh Water's financial policies. Data gathered on peer systems is provided by recent Moody's Credit Opinion reports for each respective peer.

Below are charts which indicate that Pittsburgh Water, as compared to its peers, remains on the weaker side of certain key financial metrics. It is important to note that viewing data for peer systems should be used to provide a general perspective, since each system has its own characteristics. Please see Exhibit CF-2 for additional financial data on the peer systems.

Provided below is a peer comparison chart of debt service coverage levels that compares Pittsburgh Water to other large city water and sewer entities. Higher debt service coverage levels are looked upon more favorably by the rating agencies because it indicates a better ability to pay debt service and issue further debt while maintaining a strong financial position. Pittsburgh Water's debt service coverage levels at the end of 2023 are among the lowest of its peer utilities and also compared unfavorably to Moody's overall and "A" and "Aa" rated utility medians.

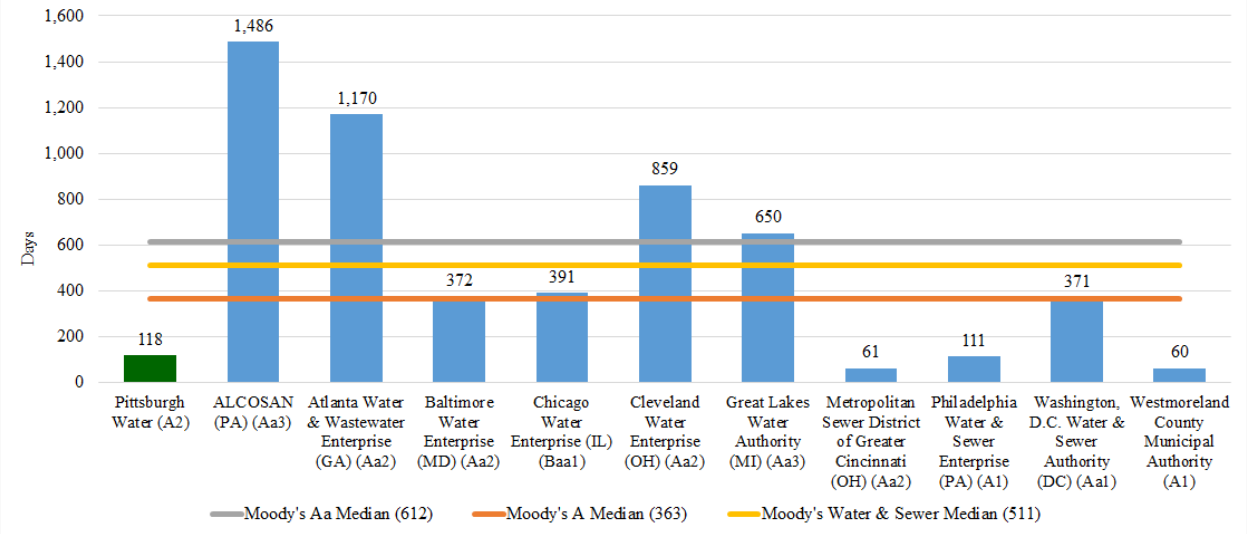
DEBT SERVICE COVERAGE*
(net revenue divided by debt service, expressed as a multiple)



*** As of 12/31/2023, except Baltimore (6/30/2023), Westmoreland (3/31/2024), Atlanta, Great Lakes and Philadelphia (6/30/2024), and Washington, D.C. (9/30/2024). (**Source: Moody's Financial Ratio Analysis (MFRA).

Provided below is a peer comparison chart of days cash on hand that compares Pittsburgh Water to other large city water and sewer entities. The rating agencies like to see more days cash on hand because it shows a better liquidity position and therefore, more financial flexibility. As previously mentioned in this testimony, the Moody's rating analyst cited Pittsburgh Water's weak DCOH as an impediment to being further upgraded. As of the end of 2023, Pittsburgh Water had 118 days cash on hand which ranked Pittsburgh Water as the fourth lowest liquidity of its peer utilities and also compared very unfavorably to Moody's overall and "A" and "Aa" rated utility medians.

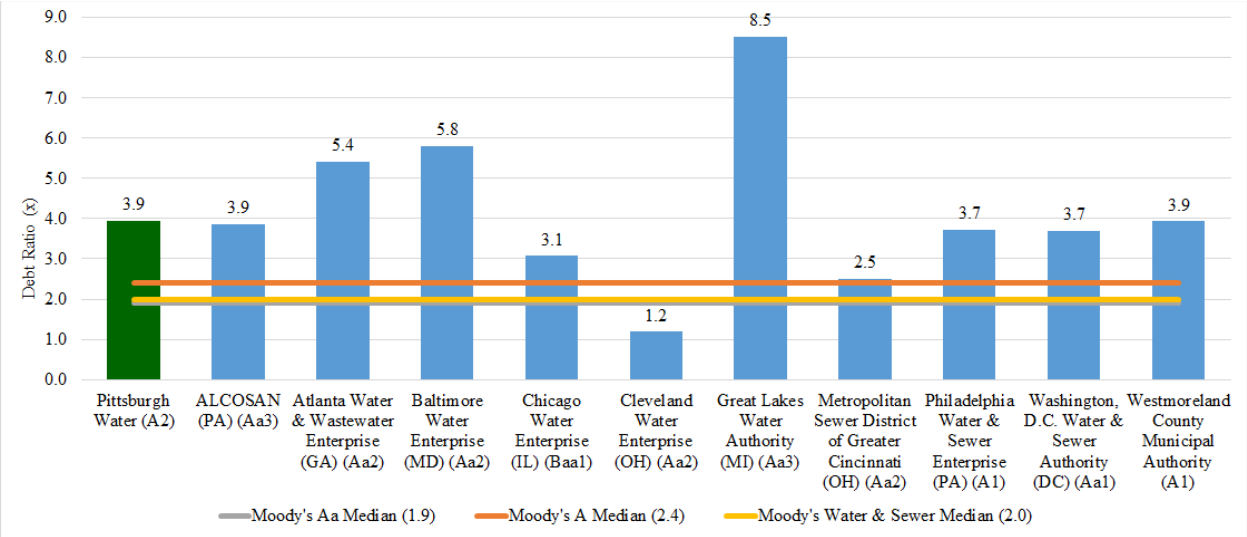
DAYS CASH ON HAND*
(unrestricted cash and liquid investments times 365 divided by operating and maintenance expenses, expressed in days)



*** As of 12/31/2023, except Baltimore (6/30/2023), Westmoreland (3/31/2024), Atlanta, Great Lakes and Philadelphia (6/30/2024), and Washington, D.C. (9/30/2024).**
Source: Moody's Financial Ratio Analysis (MFRA).

Provided below is a peer comparison chart of debt ratios that compares Pittsburgh Water to other large city water and sewer entities. The rating agencies would like to see a low debt ratio since that would indicate that the entity is not overextended in debt obligations. At the end of 2023, Pittsburgh Water ranked in the bottom half of utilities for its debt ratio compared to its peer utilities and also compared unfavorably to Moody's overall and "A" and "Aa" rated utility medians.

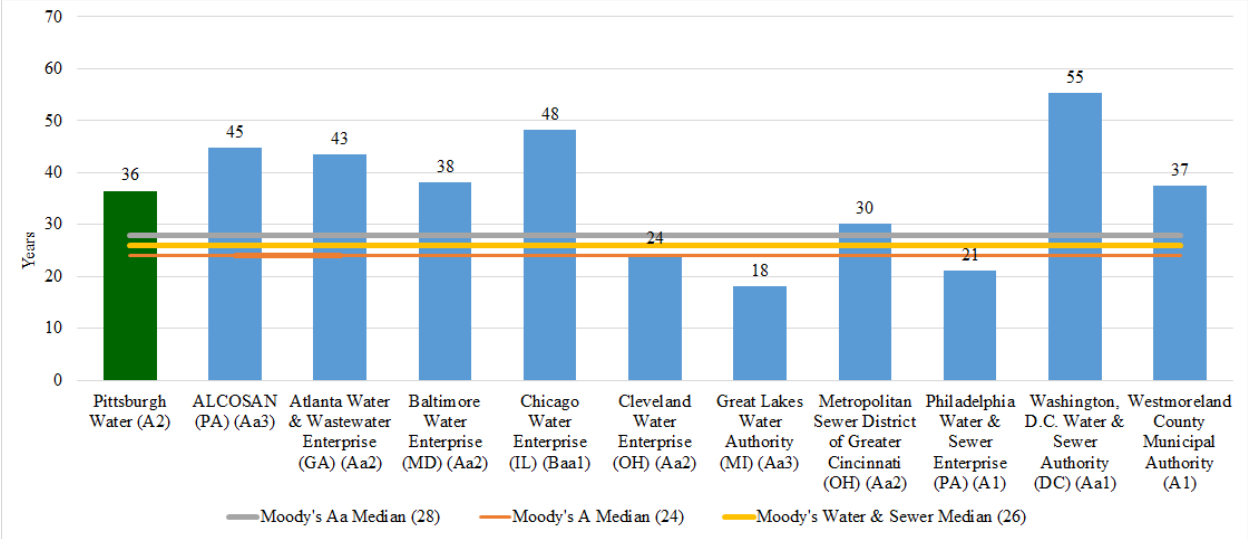
DEBT RATIO*
(net debt divided by operating revenues, expressed as a multiple)



*** As of 12/31/2023, except Baltimore (6/30/2023), Westmoreland (3/31/2024), Atlanta, Great Lakes and Philadelphia (6/30/2024), and Washington, D.C. (9/30/2024).**
Source: Moody's Financial Ratio Analysis (MFRA).

Provided below is a peer comparison chart of asset condition in years that compares Pittsburgh Water to other large city water and sewer entities. A low number indicates that the assets of an entity are nearing their end of useful life and can indicate that large maintenance and/or replacement costs are on the horizon. At the end of 2023, Pittsburgh Water compared favorably to Moody's overall and "A" and "Aa" rated utility medians in Asset Condition, however it was ranked in the bottom half compared to its peer utilities.

ASSET CONDITION*
(net fixed assets divided by depreciation, expressed in years)



*** As of 12/31/2023, except Baltimore (6/30/2023), Westmoreland (3/31/2024), Atlanta, Great Lakes and Philadelphia (6/30/2024), and Washington, D.C. (9/30/2024).** Source: Moody's Financial Ratio Analysis (MFRA).

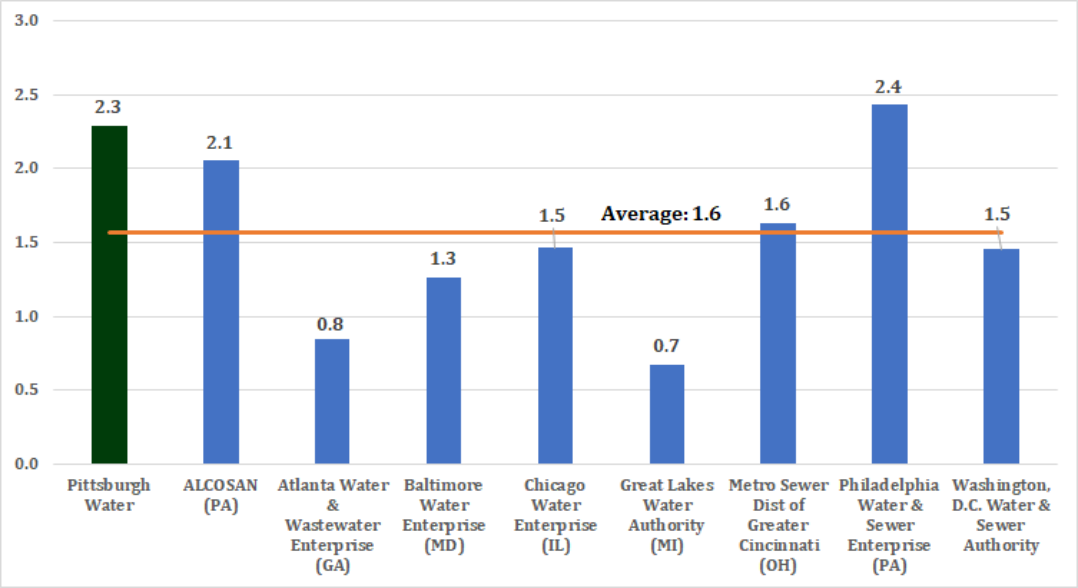
Q. DISCUSS PITTSBURGH WATER'S CAPITAL IMPROVEMENT PLAN IN COMPARISON TO OTHER PEER UTILITIES.

A. Pittsburgh Water's capital improvement plan (CIP) of approximately $1.17 billion over the five years from FY 2025 to FY 2029 is among the largest and most intensive of its peers when adjusted for both Pittsburgh Water's relative size and its financial capacity to meet this plan.

	Capital Plan (in $ 000s)	Capital Plan (# of Years)	Net Revenues (in $ 000s)	Average Annual Capital Plan to Revenues Ratio
Pittsburgh Water	**1,170,000**	**5**	**102,154**	**2.3**
ALCOSAN (PA)	4,000,000	12	162,108	2.1
Atlanta Water & Wastewater Enterprise (GA)	1,500,000	4	443,462	0.8
Baltimore Water Enterprise (MD)	709,000	5	112,086	1.3
Chicago Water Enterprise (IL)	2,625,000	5	358,764	1.5
Great Lakes Water Authority (MI)	2,400,000	6	591,679	0.7
Metro Sewer Dist of Greater Cincinnati (OH)	1,200,000	5	147,135	1.6
Philadelphia Water & Sewer Enterprise (PA)	4,800,000	6	329,102	2.4
Washington, D.C. Water & Sewer Authority	7,740,000	10	533,000	1.5

Source: Moody's rating reports for entities' capital plan dollar amounts and length in years, and net revenues

While Pittsburgh Water's CIP is not the largest of its peers, when considering the CIP's relatively short 5-year timeframe and Pittsburgh Water's relatively constrained net revenues, the CIP is significantly more intensive than almost all of its peers. To quantify this intensity, the below chart shows the ratio of average annual capital plan (dollar amount divided by years) divided by net revenues. By this measure, Pittsburgh Water's CIP is the second-highest, and almost 50% more intensive than those of its peer entities.



Q. DESCRIBE THE RISKS OF NOT APPROVING THE REQUESTED REVENUE INCREASE.

A. As I have described above, there are several risks that occur if the PUC does not approve a substantial portion of the requested rate increase. They include: the violations of Pittsburgh Water's Rate Covenant and inability to pass its ABT and issue additional debt to finance its capital program.

As mentioned in Mr. Barca's testimony, there is $68.2 million of increased debt service cost is associated with both existing debt service new debt service to fund capital improvements. If Pittsburgh Water was left without sufficient revenue to cover these costs, I understand that Pittsburgh Water would necessarily have to slow or cancel capital programs and reduce its operating budget.

Pittsburgh Water could also suffer a rating downgrade(s), which, in turn, could lead to a myriad of issues for Pittsburgh Water. Specifically, the cost of fixed-rate borrowing for infrastructure would increase, as well as rates/costs impacts to Pittsburgh Water for their current line(s) of credit and outstanding swaps. In addition, Pittsburgh Water could see a lack of options for the required regular refinancing of its existing variable bonds, which would likely lead to higher interest and support costs. Also, as Pittsburgh Water experienced in the past with its Moody's downgrade in 2018, once a ratings agency downgrades a credit rating it is reluctant to increase a credit rating for a period of time until it is assured that the factors that led to the downgrade do not persist anymore. If Pittsburgh Water was to get downgraded because it did not receive a rate increase sufficient to make its debt service requirements and required bond covenants and/or meet its ABT test the rating agencies would begin to see the PUC oversight as a credit negative

and would likely downgrade Pittsburgh Water's rating and be a factor that would prevent rating upgrades in the future.

Q. WHAT EFFECT WOULD INADEQUATE RATE RELIEF HAVE ON PITTSBURGH WATER'S COST OF CAPITAL

A. First, let me reiterate that Pittsburgh Water's rating has a direct impact on the cost of capital. This has an impact on the cost of annual debt service, as well as the cost to Pittsburgh Water of alternative financing options, such as capital lines of credit, bank loans, and implementing a commercial paper program. Higher rated credits enjoy a range of options in financing increasing Capital Improvement Programs and these short term, variable rate options can be even more advantageous in a rising rate environment. A higher credit-driven cost of capital only compounds the challenges arising from a higher interest rate environment generally which we have experienced since the end of 2021. Below is a historical representation of the range in interest rates for "A" and "Baa" rated credits provided by MMD, which corresponds to the magnitude of rating downgrades PRAG estimates that Pittsburgh Water would incur if the PUC does not approve an adequate level of rate increase. Based on data from the last five years, the average between "A" and "Baa" rates of yield curves ranged from 0.27% to 53% in the 5-year, 10-year, 20-year and 30-year timeframes.

	5-Year Rate			10-Year Rate			20-Year Rate			30-Year Rate		
Time Period	"A" MMD	"Baa" MMD	Rate Difference	"A" MMD	"Baa" MMD	Rate Difference	"A" MMD	"Baa" MMD	Rate Difference	"A" MMD	"Baa" MMD	Rate Difference
April 30, 2025	3.22%	3.61%	0.39%	3.69%	4.17%	0.48%	4.59%	5.03%	0.44%	4.83%	5.28%	0.45%
Prior 5 Year Average	2.04%	2.45%	0.42%	2.43%	2.96%	0.53%	3.10%	3.59%	0.49%	3.33%	3.82%	0.49%
Prior 5 Year Minimum	0.45%	0.72%	0.27%	0.92%	1.43%	0.51%	1.42%	1.75%	0.33%	1.42%	1.95%	0.53%
Prior 5 Year Maximum	3.79%	4.18%	0.39%	4.24%	4.72%	0.48%	4.24%	5.54%	1.30%	5.10%	5.74%	0.64%

Source: Municipal Market Data.

Pittsburgh Water expects to issue $260 million in additional revenue bond debt in FPFTY 2026 and FTY 2027. For every 0.50% increase, which is the 5-year average difference of

the 10-year borrowing rate between an A and a Baa credit, Pittsburgh Water and ultimately rate payers could expect to pay an additional $846,000 in average annual debt service or more than $26.3 million over the life of the bond issue. This increase adds up and can place additional stress on debt service coverage requirements.

Market Volatility

The Trump administration's tariff policies negatively affected the municipal market with a substantial volatility and higher base interest rates. Higher base interest rates will mean the cost of debt service will be higher, or Pittsburgh Water will have to scale back its capital program in order meet its annual rate covenant or additional bonds test.

Q. WOULD INADEQUATE RATE RELIEF HAVE AN EFFECT UPON THE COSTS OF PITTSBURGH WATER'S REVOLVING CAPITAL LINE OF CREDIT.

A. Yes. The revolving capital line of credit agreement that Pittsburgh Water executed with PNC Bank, NA, has legal language that sets the applicable spread regarding the cost of the line of credit based upon several factors, including both the number and level of Pittsburgh Water's current credit ratings as follows:

Level	Borrower Rating Moody's/S&P/Fitch	Revolving Credit SIFMA Spread (Applicable Margin)
I	A3/A-/A- or above	0.39%
II	Baa1/BBB+/BBB+	0.46%
III	Baa2/BBB/BBB	0.56%
IV	Baa3/BB-/BB- or below	Default Rate

Pittsburgh Water is currently paying the SIFMA variable-rate municipal bond index + 0.39%, based on the lower of Pittsburgh Water's current ratings of A2 from Moody's. However, if Pittsburgh Water were to be downgraded in the future to Baa1 or BBB+ by

Moody's or S&P, respectively, then Pittsburgh Water would be paying a spread to SIFMA of 0.46%, and to Baa2 or BBB a spread of 0.56%. Should Pittsburgh Water be downgraded further, or maintain only one or no credit ratings, then Pittsburgh Water would pay a Default Rate, which is the greater of the Overnight Bank Funding Rate (OBFR) plus 0.5% or the Prime Rate plus 3.00%. For reference, as of May 9, 2025 the OBFR was 4.33% and the Prime Rate was 7.50%, so the corresponding Default Rate would be 10.50%.

Q. PLEASE EXPLAIN HOW INADEQUATE RATE RELIEF WOULD AFFECT PITTSBURGH WATER'S EXISTING SWAP AGREEMENTS.

A. Pittsburgh Water's amended swap agreements for the outstanding 2017C Bonds do not have variable rate or fixed rate triggers related to credit ratings downgrades. Nevertheless, there is legal language relating to an Authority's credit rating regarding downgrades constituting an additional termination event if Pittsburgh Water's credit rating should be downgraded to Baa3 or BBB- by Moody's and/or S&P, respectively. As of April 30, 2025, the swap termination net present value for the swaps related to the 2017C Bonds was almost $16.7 million, which is quite substantial.

V. IMPACT OF MULTI-YEAR RATE ADJUSTMENT AND FUTURE RATE INCREASES

Q. HOW WILL PITTSBURGH WATER'S CREDIT PROFILE BE IMPACTED IF THE PUC APPROVES A MULTI-YEAR RATE ADJUSTMENT?

A. I believe that the Rating Agencies will react positively. Moody's scorecard has a rate management sub-factor under the management factor that is worth 10% of the overall score. According to Moody's methodology, since rates are typically the primary mechanism to pay for a utility's operations, ideally their rate would increase steadily. Management's track record at setting rates appropriately and increasing them when

necessary drives this score. Moody's also takes into account the length of time required to implement a rate increase, especially when the utility must seek approval from the Commission. The requested multi-year increase will favorably affect this factor.

S&P also uses a scorecard approach for their water and sewer rating methodology and values. "Rate Setting Practices" is 40% of the Operational Management Assessment score. Authorizing a rate increase to cover certain debt service costs in 2027 will almost certainly be viewed positively by S&P and contribute to a very positive score for "Rate Setting Practices."

In addition, multi-year planning and rate adjustments contribute to municipal utilities' stable financial performance. The table below summarizes the historical debt service coverages and days cash on hand for Pittsburgh Water and peer utilities. The peer agencies generally have stable financial metrics. In cases where metrics have deteriorated sharply for respective peers, such as the City of Baltimore in FY 2016 and Pittsburgh Water in 2017, bond ratings have been lowered following the reported results. On the contrary, when metrics increase for peers, such as Allegheny County Sanitary Sewer Authority ("ALCOSAN") or the Great Lakes Water Authority, bond ratings have been upgraded. The absence of annual rate increases has caused substantial volatility in Pittsburgh Water's financial metrics in the past and it is imperative that annual rate increases occur with an appropriate adjustment to keep or increase the financial metrics of Pittsburgh Water. Neither bond investors nor the rating agencies will look favorably on consistently deteriorating financial metrics or the variability of sporadic rate increases and/or inadequate adjustments, as these characteristics are inconsistent with highly rated municipal utilities.

Historical and Project Financial Metrics of PWSA Compared to Historical Financial Metrics of Peers

Debt Service Coverage*

	Pittsburgh Water (A2)	ALCOSAN (PA) (Aa3)	Atlanta Water & Wastewater Enterprise (GA) (Aa2)	Baltimore Water Enterprise (MD) (Aa2)	Chicago Water Enterprise (IL) (Baa1)	Cleveland Water Enterprise (OH) (Aa2)	Great Lakes Water Authority (MI) (Aa3)	Metropolitan Sewer District of Greater Cincinnati (OH) (Aa2)	Philadelphia Water & Sewer Enterprise (PA) (A1)	Washington, D.C. Water & Sewer Authority (DC) (Aa1)	Westmoreland County Municipal Authority (A1)
2015	1.1	1.6	2.1	1.8	2.5	2.2	1.3	1.5	1.5	1.8	1.2
2016	0.9	1.6	1.8	1.1	2.6	2.0	1.6	1.7	1.4	2.0	1.0
2017	0.8	2.2	1.9	0.9	2.3	1.7	1.6	1.5	1.7	2.1	1.5
2018	1.4	2.1	2.0	1.4	2.2	1.9	1.6	2.0	1.5	2.1	1.6
2019	1.7	2.0	2.6	1.4	1.8	2.0	1.5	1.9	1.8	2.0	1.3
2020	1.2	2.0	1.8	1.2	1.8	2.3	1.5	1.9	1.5	2.1	1.1
2021	1.3	2.1	1.7	2.0		2.8	1.4	2.0	1.8	2.1	1.0
2022	1.5	2.2	1.9	2.3			1.4	1.9	1.5	2.3	1.0
2023	1.2	2.3	2.0	1.4			1.4		1.8	2.4	0.9
2024	1.4									2.4[2]	
2025	1.2										
2026	1.4										
2027	1.4										

Days' Cash on Hand*

	Pittsburgh Water (A2)	ALCOSAN (PA) (Aa3)	Atlanta Water & Wastewater Enterprise (GA) (Aa2)	Baltimore Water Enterprise (MD) (Aa2)	Chicago Water Enterprise (IL) (Baa1)	Cleveland Water Enterprise (OH) (Aa2)	Great Lakes Water Authority (MI) (A1)	Metropolitan Sewer District of Greater Cincinnati (OH) (Aa2)	Philadelphia Water & Sewer Enterprise (PA) (A1)	Washington, D.C. Water & Sewer Authority (DC) (Aa1)	Westmoreland County Municipal Authority (A1)
2015	78	424	1,313	205	462	469	266	448	78	244	90
2016	53	450	1,243	113	591	781	391	564	79	268	75
2017	26	620	1,364	58	598	848	670	32	88	250	98
2018	112	684	1,232	258	480	796	912	64	88	261	115
2019	143	830	1,357	199	417	759	937	60	92	281	157
2020	130	960	1,165	233	391	781	956	68	104	349	162
2021	155	1065	1,098	460		777	920	70	151	342	175
2022	165	1145	1,291	596			602	60[1]	136	320	190
2023	118	1486	1,185	372			519		133	326	140
2024	115									321[2]	
2025	124										
2026	118										
2027	116										

*Sources: Moody's Investors Service Reports for years 2015 through 2024.
[1]Greater Cincinnati restricted accounts increase cash position to more than 700 days cash on hand
[2]Data reflects Washington, D.C. financial plan adopted March 1, 2024
Notes: Yellow shaded cells represent rating Moody's downgrades. Green shaded cells represent rating Moody's upgrade. Orange shaded cells represent years when Pittsburgh Water rate adjustment is scheduled.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes; however, I do reserve the right to supplement this testimony as may be appropriate.

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VERIFICATION

I, Christine Fay hereby state that: (1) I am Senior Managing Director and Partner with Public Resources Advisory Group, Inc.; (2) I have been retained by The Pittsburgh Water and Sewer Authority and am authorized to present testimony on its behalf; (3) the facts set forth in my testimony are true and correct (or are true and correct to the best of my knowledge, information and belief); and (4) I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa.C .S. § 4904 (relating to unsworn falsification to authorities).

6/4/25

Signed by:
Christine Fay
E1C03447089F49E...

Dated

Christine Fay, Senior Managing Director and Partner
Public Resources Advisory Group, Inc.

Consultant to:
The Pittsburgh Water and Sewer Authority d/b/a Pittsburgh Water

Appendix A

Firm Overview. PRAG is an independent financial advisory firm organized as a subchapter S corporation wholly-owned and managed by its employees. The firm was founded in 1985 to provide in-depth financing, investment and derivative advice to state and local governments, authorities and agencies and has continuously served governmental entities for the 40 years that our firm has been in business. PRAG's only business is providing independent financial and investment advisory services to municipal clients. Today, PRAG has five offices around the country, including our New York City headquarters, and in suburban Philadelphia, Los Angeles, Oakland, CA and Tampa, FL.

National Experience. PRAG has been consistently ranked among the top three financial advisors in the nation since 2010 for all long-term municipal issuance, as illustrated in the table below. Our success is built on a history of providing comprehensive, high-quality, and independent advice to public sector issuers with respect to capital planning, debt portfolio management, debt capacity, swaps and derivative instruments, financing options, refunding approaches and techniques, bond structure and pricing, and bond proceeds investment strategies.

PRAG's Financial Advisory Rankings (2010 –First Quarter 2025)

	Long-Term Municipal Issuance Rankings		Competitive Sale Rankings		Negotiated Sale Rankings	
Year	Total Amount*	Rank	Total Amount*	Rank	Total Amount*	Rank
1Q 2025	$11.5	2	***$5.1***	***1***	$6.4	2
2024	$53.1	2	***$11.6***	***1***	$41.5	2
2023	$34.7	2	$7.6	2	$27.1	2
2022	$35.2	2	$10.5	2	$24.7	2
2021	$44.5	2	***$17.1***	***1***	$27.4	2
2020	$43.4	2	***$13.5***	***1***	$29.9	2
2019	$40.6	2	***$19.4***	***1***	$21.2	3
2018	$36.1	2	***$17.4***	***1***	$18.7	2
2017	$52.4	2	***$20.2***	***1***	$32.2	2
2016	$33.4	3	$12.6	2	$20.8	3
2015	$30.9	3	$12.4	2	$18.5	3
2014	$27.9	2	***$11.4***	***1***	$16.4	3
2013	$31.0	2	$9.9	2	$21.1	2
2012	$26.5	2	$8.2	2	$18.2	3
2011	$20.9	2	$8.1	2	$12.8	3
2010	$31.1	2	$6.7	2	$24.4	2

**$'s in billions.* *Source: LSEG.*

Water and Wastewater Experience. Since 2000, PRAG has advised water and wastewater authorities and agencies on their complex needs, including over $50.8 billion in financings through 2024. Our water and wastewater transactions include fixed and variable rate bonds, negotiated transactions, public sales and private placements, new money and refundings. In addition to our water and wastewater transaction experience, we also have ample experience with general financial advisory services, such as review of feasibility studies, credit rating strategies, long-term financial plans, debt affordability studies, advising in an IRMA role, monitoring legislation and more. Provided below is a list of selected water and wastewater clients. PRAG has also advised a number of its water and wastewater clients on executing WIFIA loans.

PRAG has advised the Pittsburgh Water and Sewer Authority ("PWSA") on twelve (12) bond, loan and credit transactions totaling almost $1.2 billion in par amount since 2019.

Most recently, PRAG acted as financial advisor for PWSA's $129.22 million Water and Sewer System First Lien Revenue Bonds, Series A of 2025 and $12.825 million Water and Sewer System Subordinate Revenue

Bonds, Series B of 2025 the proceeds of which paid down a portion of principal on PWSA's 2022 Capital Line Note, and funded certain capital improvements to PWSA's facilities.

PRAG is also currently assisting PWSA in in competitively soliciting, negotiating and executing a 3-year renewal of a $150 million line of credit that is expected to close by June 2025.

Provided below is a list of select water and wastewater clients.

Summary of PRAG's Water and Wastewater Experience	Bond Issuance	Innovative Debt Products	Structuring & Restructuring	Long-Term Financial Plan	Investments	Swaps & Derivatives	Credit Rating Strategy	Special Studies & Reports	Financial Policies	Inter-Agency Agreements	WIFIA Loan
Jefferson County	✓	✓	✓	✓			✓	✓	✓		
Anne Arundel County	✓		✓	✓			✓		✓		
Baltimore County	✓		✓	✓			✓	✓	✓		
Bethlehem Authority	✓		✓	✓	✓	✓	✓	✓	✓	✓	
Beverly Hills Water & Wastewater	✓		✓		✓		✓	✓			
Broward County	✓	✓	✓				✓				
Capital Region Water (Harrisburg)	✓		✓	✓	✓		✓	✓	✓	✓	
City of Chicago Department of Water	✓		✓	✓			✓				
City of Los Angeles	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
City of Millbrae Wastewater	✓		✓		✓		✓				
City of Richmond Wastewater	✓	✓	✓	✓	✓	✓	✓				
City of San Diego Water	✓		✓		✓		✓				
City of San Jose Wastewater	✓	✓	✓	✓	✓		✓				
Hillsborough County	✓						✓		✓		
LA Dept. of Water & Power	✓	✓	✓		✓	✓	✓	✓	✓	✓	
Metropolitan Water District of Southern California	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Miami-Dade County Water & Sewer	✓	✓	✓	✓		✓	✓		✓	✓	✓
Orange County Sanitation District	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Pasadena Water & Power	✓	✓	✓	✓	✓		✓	✓	✓	✓	
Pinellas County	✓	✓	✓				✓				
Pittsburgh Water and Sewer Authority	✓		✓			✓	✓				✓
San Francisco Public Utilities Commission	✓		✓	✓	✓		✓		✓		
San Jose / Santa Clara Clean Water Financing Authority	✓	✓	✓		✓		✓				
Santa Clara Valley Water District	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Santa Monica Water and Wastewater Systems	✓		✓		✓		✓	✓			✓
Washington Suburban Sanitation District	✓		✓	✓			✓		✓		
West Basin Municipal Water District	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
West Virginia Water Development Authority	✓						✓				

Christine Fay
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Ms. Fay brings twenty-five years of municipal finance experience to the engagement. Ms. Fay provides overall project management and quantitative analysis for various state and local issuers, including several municipalities and water and sewer issuers. She has serves as the Project Manager for the Pittsburgh Water and Sewer Authority, as well as the states of Illinois, Michigan, Minnesota, Vermont and West Virginia and the City of Detroit. Her role includes advising clients on structuring debt consistent with statute and long-term objectives of clients, the debt issuance process on both competitive and negotiated transactions, document drafting and review, rating agency strategy and credit support, market outreach and research, evaluations of various requests for proposals and overall day to day project management.

Ms. Fay has worked with a variety of PRAG clients on water, sewer and storm water financings including serving as Project Manager to Pittsburgh Water and Sewer Authority on its financings since 2019 and is currently assisting the Authority on renewing its $150 million line of credit. Additionally, Ms. Fay has also worked with the Bethlehem Authority, Capital Regional Water (formerly The Harrisburg Authority), City of Chicago Department of Water Management, the Metropolitan Council (MN), Miami-Dade County, New Castle County (DE), the Washington Suburban Sanitary Commission (MD) and the West Virginia Water Development Authority. In addition to her water and sewer clients, as previously noted, Ms. Fay serves as the day-to-day Project Manager for the states of Illinois, Michigan, Minnesota, Vermont and West Virginia. Ms. Fay has worked with the State of West Virginia since 2009. She has advised on the issuance of general obligation bonds, lease revenues bonds, lottery backed revenue bonds, moral obligation bonds, revenue bonds, and GARVEE notes. Ms. Fay has been advising the State of Illinois since 2009. She has worked on both competitive and negotiated transactions, bidding escrow securities for a refunding transaction, advised on credit approach, structuring and marketing the bonds and assisted in preparing investor materials. In addition, Ms. Fay advised the State of Illinois on its $6 billion of general obligation bonds to reduce the State's backlog of unpaid bills. Ms. Fay has worked on all bond issuances that PRAG has advised the State of Minnesota on since 2009. She has sized the State's Various Purpose, Trunk Highway and Refunding bonds consistent with the State's constitution and capital guidelines and was involved in all aspects of the financings.

Prior to joining PRAG, Ms. Fay served as the Debt Finance Manager at the County of San Diego, where she oversaw a $2.4 billion debt portfolio, managed the County's debt issuance process, was on the capital planning committee, and served as the point of contact to the rating agencies. As the Debt Finance Manager at the County of San Diego, Ms. Fay successfully managed lease revenue transactions, conduit financings, formed the County's first special tax district, and was instrumental in the County getting upgraded to AAA by Standard and Poor's.

Ms. Fay received her MBA from UCLA Anderson School of Business and a Bachelor of Arts degree in Economics from the University of Pennsylvania. *Certifications/Licenses: Series 50, Municipal Advisor Representative.*

Exhibit CF-1

Rate Covenant

The Rate Covenant in the Amended and Restated Indenture that the Authority made with bondholders requires the Authority to satisfy the three requirements below:

1. Net Revenues shall be sufficient in each Fiscal Year to pay Annual Senior Debt Service, Annual Subordinate Debt Service, all deposits to satisfy Reserve Requirements and any additional Authority Indebtedness in that Fiscal Year.
2. Net Revenues shall not be less than 125% of Annual Senior Debt Service, plus 110% of aggregate Annual Debt Service in that Fiscal Year.
3. Rate Covenant Net Revenues, excluding transfers from the Rate Stabilization Fund, shall equal not less than 100% of aggregate Annual Debt Service.

Rate Covenant Net Revenues include Net Revenues plus any transfers from the Rate Stabilization Fund to the Revenue Fund; less any transfers to the Rate Stabilization Fund to the Revenue Fund.

It should be noted that the City's Cooperation Payment is specifically not included as an operating expense for purposes of calculating the rate covenant.

Flow of Funds

1. Revenue Fund - All revenues received by the Authority must be deposited into Revenue Fund.
2. Operating Fund - The Authority shall transfer from the Revenue Fund to the Operating Fund from time to time amounts needed to pay Current Expenses.
3. Debt Service Fund - On the 2O' day of each month before debt service is due, the Authority shall transfer to: (1) senior debt service fund (including periodic payments of swap agreements); (2) the senior debt service reserve fund, if needed; (3) the subordinated debt service fund (including periodic payments of swap agreements); the subordinated debt service reserve fund, if needed; (5) any payments owed to swap providers other than periodic payments.
4. Operating Reserve Fund - Amounts necessary to restore the operating reserve requirement of 116th of current expenses of the most recent annual audited financial statements. Such amounts shall be restored if drawn upon within 24 months of the withdrawal by depositing 1/24 of the operating reserve requirement monthly.
5. City Cooperation Agreement - Amounts owed to the City pursuant to the Agreement.
6. Any funds remaining in the Revenue Fund after all of the previous required payments have been made can be transferred to the Rate Stabilization Fund; the Debt Service Fund; the Operating Fund to pay for construction or capital projects.

Exhibit CF-2

Peer Ratings and Comparative Financial Information

	Pittsburgh Water	ALCOSAN (PA)	Atlanta Water & Wastewater Enterprise (GA)	Baltimore Water Enterprise (MD)	Chicago Water Enterprise (IL)	Cleveland Water Enterprise (OH)	Great Lakes Water Authority (MI)	Metropolitan Sewer District of Greater Cincinnati (OH)	Philadelphia Water & Sewer Enterprise (PA)	Washington, D.C. Water & Sewer Authority (DC)	Westmoreland County Municipal Authority
Most Recent Available as of:	12/31/2023	12/31/2023	6/30/2024	6/30/2023	12/31/2023	12/31/2023	6/30/2024	12/31/2023	6/30/2024	9/30/2024	3/31/2024
Current Senior Most Rating	A2	Aa3	Aa2	Aa2	Baa1	Aa2	Aa3	Aa2	A1	Aa1	A1
Total Current Cash, Cash Equivalents and Investments ($000)	67,966	382,535	969,790	134,199	541,797	446,409	276,591	22,216	159,455	388,889	13,869
Total Revenue Bonds ($000)	N/A	873,560	2,446,170	1,353,322	N/A	294,900	N/A	N/A	3,153,000	N/A	N/A
Total Long Term Debt ($000)	1,178,963	873,560	2,749,641	1,353,322	2,468,909	379,157	3,058,169	714,088	3,153,000	3,616,503	427,982
Total Operating Revenues ($000)	298,716	225,649	507,279	232,752	803,610	317,379	358,551	284,462	846,280	977,982	108,502
Total O&M Expenses ($000)	210,353	93,933	302,500	131,623	506,269	189,603	155,408	132,707	525,921	382,371	84,744
Net Revenues ($000)	102,154	162,108	469,879	112,086	351,963	162,757	261,584	172,147	397,343	623,368	28,772
Total Annual Senior Lien Debt Service ($000)	61,663	N/A	205,377	41,350	N/A	41,587	139,731	52,078	199,000	63,379	50,138
Total Annual Debt Service ($000)	67,796	67,796	67,796	67,796	67,796	67,796	67,796	67,796	67,796	67,796	67,796
Operating Ratio (%)	70.4	41.6	59.6	56.6	63.0	59.7	43.3	46.7	62.1	39.1	78.1
Debt Ratio (%)	91.8	54.8	38.0	47.8	41.1	15.3	128.5	28.9	81.2	38.4	61.5
Total Annual Senior Lien DSC (x)	1.7	N/A	2.3	2.7	N/A	3.9	1.9	3.3	2.0	9.8	0.6
Total Annual Debt Service Coverage (x)	1.2	2.3	2.0	1.4	1.4	2.6	1.3	2.1	2.0	2.8	0.6

Sources: Moody's Financial Ratio Analysis (MFRA) reports for each issuer.

Exhibit CF-3

MOODY'S RATINGS

SECTOR PROFILE
21 October 2024

Send Your Feedback

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Water & Sewer Utilities – US

Medians - Net revenues grow, supporting improved liquidity and stable coverage

Summary

Municipal water and sewer utilities benefited from steady net revenue growth, strong and stable debt service coverage and further growth in robust liquidity on a sectorwide basis in fiscal 2022, according to our medians data. Continued improvement in financial results highlights utilities' ability to raise rates and the essentiality of their services. Following delayed rate increases in the wake of the pandemic, many utilities have since raised rates and saw increases in net revenue that led to significant growth in liquidity and stable coverage. Aging assets remain a long-term concern as median asset life continued a slight decline, signaling that utilities will need to continue investing in capital. Data in this report is derived from more than 640 water and sewer utilities we rate; most are enterprises of a city or county. Other water and sewer systems are standalone authorities.

» **Revenue was relatively flat in fiscal 2022, following significant growth the year prior.** Sectorwide, more than half of water and sewer utilities we rate had revenue growth of about 4.9% or greater in fiscal 2022, while the sector median declined by 1.3%. Sewer utilities, in particular, saw a larger median revenue increase of 11.6%.

» **Operating and maintenance (O&M) costs declined slightly, supporting net revenue growth.** Sewer utilities experienced a median growth in O&M costs of 11.5%, while water and combined utilities saw stable to declining costs.

» **Net revenue improved sectorwide.** Net revenue rose by at least 1.5% for most utilities in fiscal 2022, which helped systems maintain strong coverage and bolster liquidity.

» **Strong, stable debt service coverage provided a buffer against potential shocks.** Median coverage held steady at 2.3x in fiscal 2022, indicating good capacity to pay debt even under stressed scenarios.

» **Liquidity continued to improve, enhancing financial flexibility.** Total cash grew by more that 7% for most utilities in fiscal 2022, and median days cash on hand rose to a robust 549.

» **Leverage declined slightly.** The median debt-to-revenue ratio improved to a modest 2.1x in fiscal 2022, largely due to an increase in revenue. Careful debt management enables utilities to address their most pressing concerns, though projected needs are significant.

» **Reported asset condition continues steady decline.** Utilities continued to invest in infrastructure, with median useful life remaining solid at 28 years in fiscal 2022. Aging assets remain a common risk and most utilities saw a decline of 1% in remaining useful life.

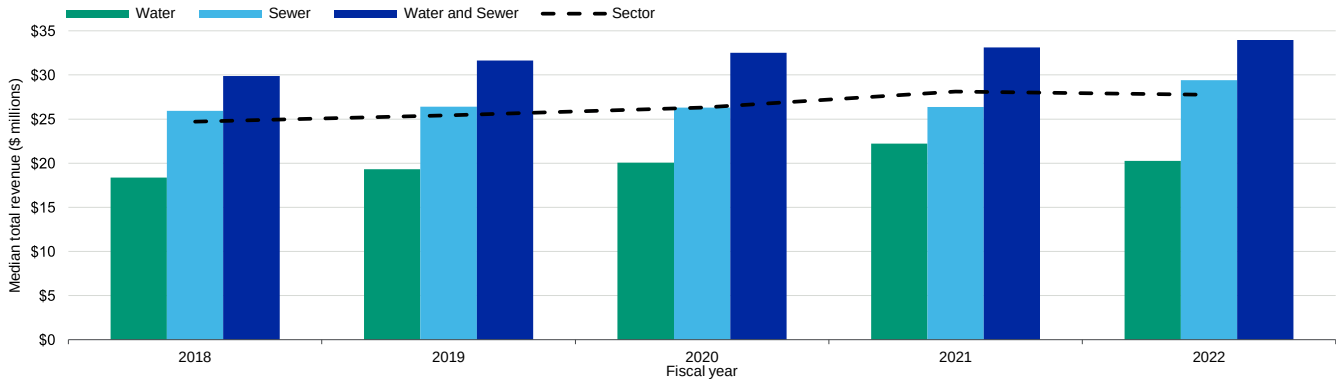
Revenue moderated in fiscal 2022, but remains strong

» Independent rate-setting authority, essentiality of services and fixed charges continue to underpin the strength of utilities' revenue. More than half of utilities we rate experienced revenue growth of 4.9% of higher in fiscal 2022, while sectorwide median revenue declined by 1.3%. Sewer median revenue grew by 11.6%, while water median revenue fell by 8.7%. Lower water utility revenue may in part reflect conservation measures and more efficient water use that does not have as large an impact on sewer revenue that tend to rely more on fixed charges.

» Following many pandemic-related delays in rate adjustments, many utilities have implemented larger than historical rate increases to account for these deferments and high inflation. Continued rate increases will be necessary to fund significant capital needs, though ratepayer affordability will remain a concern for the sector.

Exhibit 1

Revenue improved for sewer and combined systems, while water declined from previous highs



Source: Moody's Ratings

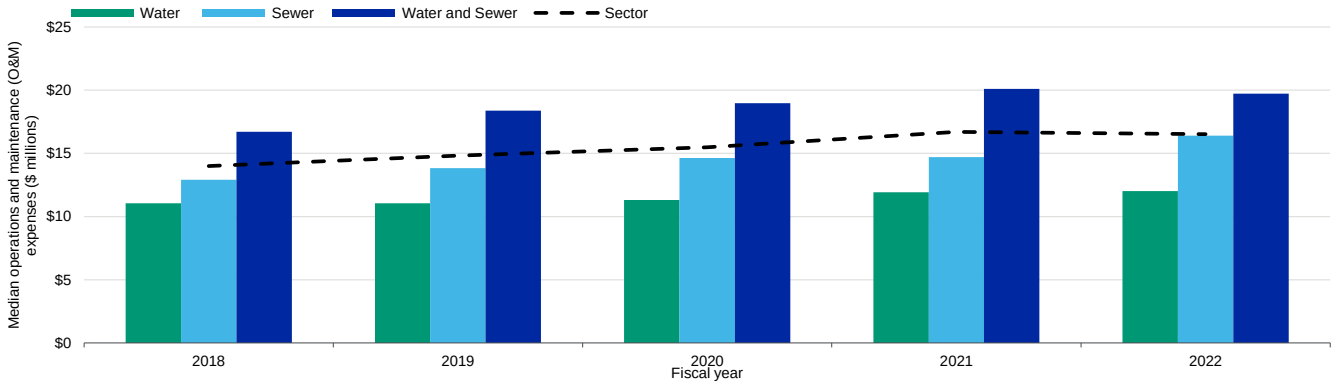
O&M expenses grew for sewer utilities, largely driven by inflation

» Operating and maintenance (O&M) expenses largely leveled off in fiscal 2022 after consistent increases, with the exception of sewer utilities where median O&M expenses increased by 11.5%.

» Rising costs for construction materials and treatment chemicals driven by steep inflation and supply chain disruptions have led to particularly high costs for repairs and large capital projects for some utilities. Sharp expense increases can strain affordability and hinder capital investment.

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Exhibit 2
Operations and maintenance (O&M) expenses grew for sewer systems while declining sectorwide



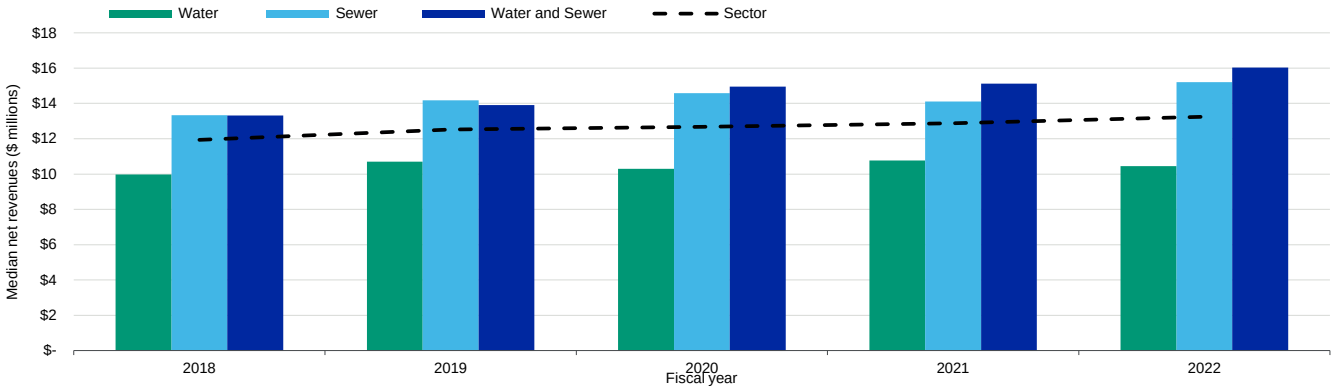
Source: Moody's Ratings

Consistent annual net revenue growth highlights sector strength

» Net revenue improved as growth in revenue outpaced expenses, providing additional capacity to cash finance capital improvements or the opportunity to build liquidity. Across the sector, fiscal 2022 net revenue rose by at least 1.5% versus the prior year for most utilities. Median net revenue was up for sewer and combined utilities, but declined modestly for water utilities.

» Net revenue has consistently grown in recent years, highlighting the benefits of the sector's independent rate-raising ability, essentiality of services and strength with multi-year planning for future capital needs.

Exhibit 3
Sectorwide net revenue improved as revenue outpaced expenditures



Source: Moody's Ratings

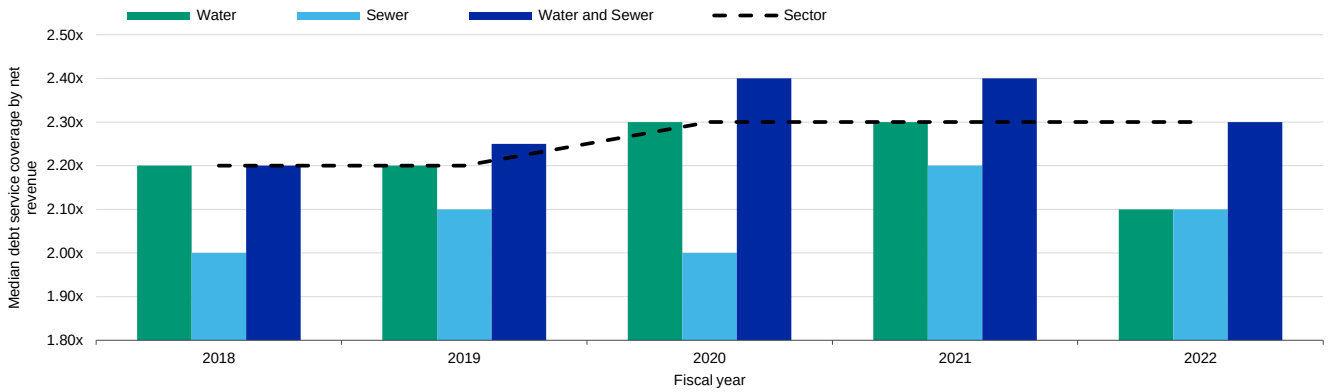
Strong debt service coverage continued to provide buffer

» Sectorwide debt service coverage — annual net revenue divided by annual debt service — held steady at 2.3x in fiscal 2022. Coverage remained well in excess of standard rate covenants that are usually between 1.0x and 1.5x annual debt service.

» Water and sewer utilities saw a median decrease in coverage to 2.1x, while over half of all utilities sectorwide experienced no change in coverage in fiscal 2022.

» Very strong debt service coverage and liquidity provide utilities with a substantial ability to withstand shocks. We previously reported that even under a stress scenario of a 10% decline in revenue due to the pandemic, the median debt service coverage ratio for water and sewer utilities we rate would remain strong at 1.7x.

Exhibit 4
Debt service coverage remained above 2.1x across the sector



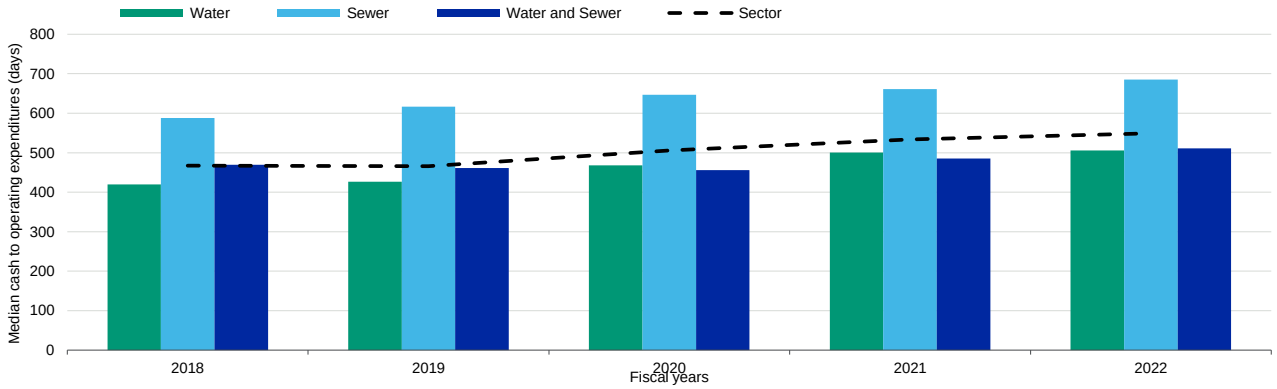
Source: Moody's Ratings

Another year of steady liquidity growth enhances financial flexibility

» Sectorwide liquidity remains robust and continues to strengthen, providing flexibility to manage potential revenue swings, address unanticipated expenses or fund certain capital projects. Median liquidity continued to improve in fiscal 2022 by 2.9% sectorwide.

» Total cash grew by more than 7% for most utilities in fiscal 2022, and the median days cash on hand rose to a robust 549 days. Sewer utilities continue to maintain the highest levels of cash, with median liquidity of 685 days in fiscal 2022.

Exhibit 5
Liquidity grew across the sector with all system types maintaining more than a year and a half of operating cash



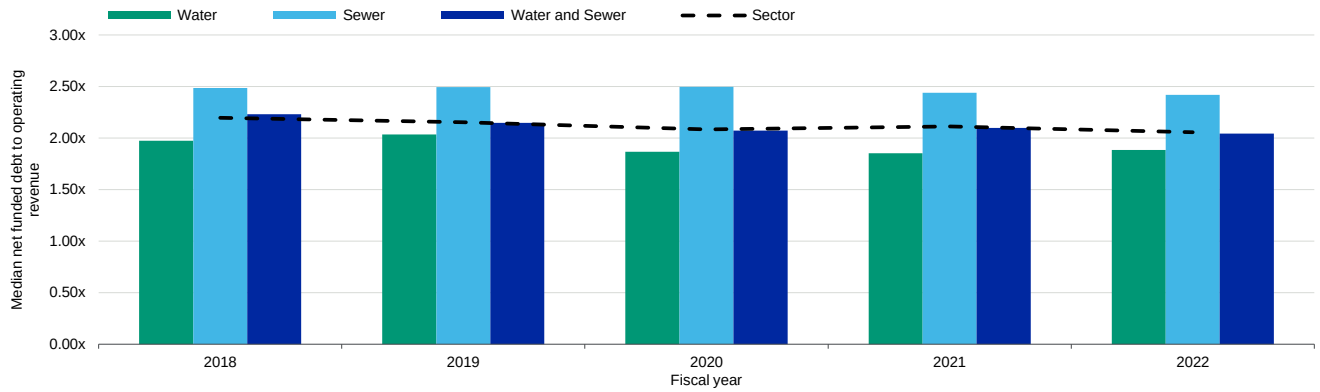
Source: Moody's Ratings

Leverage continued slight annual decline, signaling good borrowing capacity

» Net funded debt to revenue saw a moderate decrease by 2.7% sectorwide to 2.1x in fiscal 2022, largely driven by growth in revenue. The median debt-to-revenue figure for water, sewer and combined utilities all remained fairly steady. Sewer utilities saw a median 28% increase in net funded debt, coupled with strong revenue growth that resulted in a stable median debt-to-revenue ratio of 2.4x compared with 1.9x for water and 2.0x for combined systems.

» Careful management of debt provides utilities with good capacity to address their most pressing needs, though projected costs to address aging infrastructure, remain in compliance with laws and regulations, and mitigate growing environmental risks are significant. New Environmental Protection Agency regulations for PFAS and lead and copper levels will also result in the need to issue debt.

Exhibit 6
Leverage remained low in fiscal 2022 across the sector



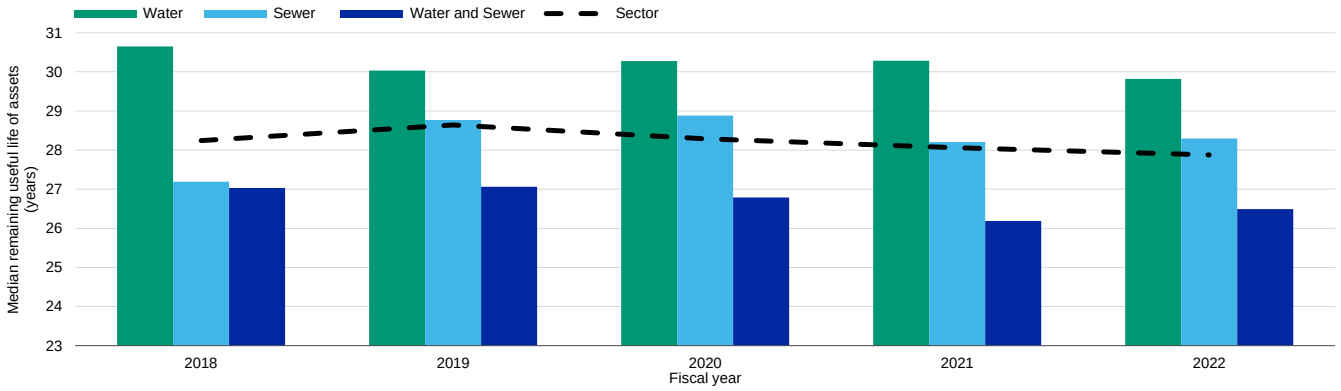
Source: Moody's Ratings

Asset condition continues steady decline as depreciation outpaces investment

» Median sectorwide asset condition — net fixed assets divided by depreciation expense — weakened slightly to 27.9 years in fiscal 2022, a decline of less than 1% over the prior year. A long term trend of continued deferral of maintenance is indicative of underinvestment in infrastructure.

» Continued usage of fully depreciated system components, particularly pipes, is common in the sector, but typically not reflected in a utility's reported capital asset figures. The projected cost to replace aging infrastructure is significant and presents a major credit challenge for the sector.

Exhibit 7
Asset condition continued its gradual decline, though combined utilities improved modestly



Source: Moody's Ratings

Basis for medians

This report conforms to our US Municipal Utility Revenue Debt methodology published in March 2024. As such, the medians presented here are based on the key metrics outlined in the methodology and the associated scorecard. The appendix of this report provides additional metrics broken out by sector and rating category.

We use data from a variety of sources to calculate the medians, some of which have differing reporting schedules. The median family income data (see below) was derived from the 2022 US Census American Community Survey.

Medians for some rating levels, namely Aaa- and Baa-rated issuers (see below), are based on relatively small sample sizes. These medians may therefore be subject to substantial year-over-year variation.

Our ratings reflect our forward-looking opinion derived partly from forecasts of financial performance and qualitative factors, as opposed to strictly historical quantitative data. Our expectation of future performance, combined with the relative importance of certain metrics on individual utility ratings, account for the range of values that can be found within each rating category.

Key ratios

- Net revenue: operating revenue minus operating expenditures net of depreciation
- Debt service coverage: net revenue divided by annual debt service
- Days cash on hand: unrestricted cash and liquid investments multiplied by 365 and divided by operating and maintenance expenses (net of depreciation), expressed in days
- Debt to operating revenue: net long-term debt less debt service reserve funds divided by annual operating revenue
- Asset condition: net fixed assets divided by depreciation expense, expressed in years

Appendix A: Water, sewer and combined utilities

Exhibit 8

Medians for US water utilities

Fiscal 2018-2022

Selected Indicators	2018	2019	2020	2021	2022
Moody's Median Senior Revenue Rating					Aa3
Median Family Income (% of US Median)	98%	99%	100%	100%	98%
Asset Condition: (Remaining Useful Life)	31	30	30	30	30
Debt to Operating Revenue	2.0	2.0	1.9	1.9	1.9
Annual Debt Service Coverage	2.2	2.2	2.3	2.3	2.1
Days Cash on Hand	420	426	468	500	506
System Size: (O&M, $000)	11,062	11,041	11,310	11,919	12,011
Net Revenue ($000)	9,969	10,696	10,292	10,776	10,441
Net Funded Debt ($000)	36,857	36,450	38,515	40,250	41,343
Total Revenue ($000)	18,379	19,319	20,045	22,213	20,272

Source: Moody's Ratings

Exhibit 9

Medians for US sewer utilities

Fiscal 2018-2022

Selected Indicators	2018	2019	2020	2021	2022
Moody's Median Senior Revenue Rating					Aa3
Median Family Income (% of US Median)	101%	100%	101%	101%	100%
Asset Condition: (Remaining Useful Life)	27	29	29	28	28
Debt to Operating Revenue	2.5	2.5	2.5	2.4	2.4
Annual Debt Service Coverage	2.0	2.1	2.0	2.2	2.1
Days Cash on Hand	588	617	647	661	685
System Size: (O&M, $000)	12,920	13,825	14,646	14,714	16,404
Net Revenue ($000)	13,332	14,179	14,586	14,117	15,199
Net Funded Debt ($000)	58,875	60,981	63,200	59,662	76,835
Total Revenue ($000)	25,918	26,408	26,287	26,366	29,421

Source: Moody's Ratings

Exhibit 10

Medians for US combined water and sewer utilities

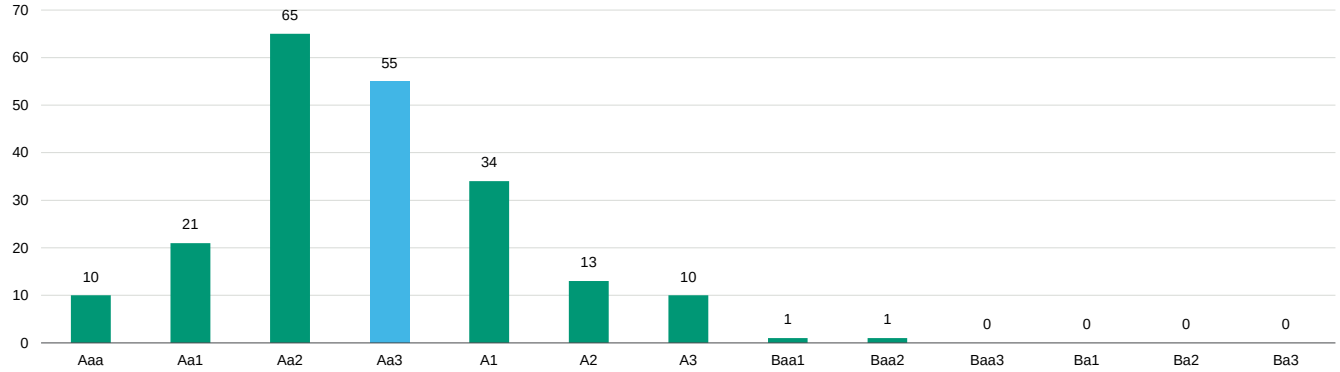
Fiscal 2018-2022

Selected Indicators	2018	2019	2020	2021	2022
Moody's Median Senior Revenue Rating					Aa3
Median Family Income (% of US Median)	92%	93%	93%	92%	93%
Asset Condition: (Remaining Useful Life)	27	27	27	26	26
Debt to Operating Revenue	2.2	2.1	2.1	2.1	2.0
Annual Debt Service Coverage	2.2	2.3	2.4	2.4	2.3
Days Cash on Hand	470	461	456	486	511
System Size: (O&M, $000)	16,720	18,382	18,975	20,100	19,733
Net Revenue ($000)	13,319	13,902	14,961	15,129	16,041
Net Funded Debt ($000)	60,019	59,636	57,415	56,805	58,364
Total Revenue ($000)	29,890	31,619	32,498	33,103	33,946

Source: Moody's Ratings

Appendix B: Water utilities by rating category

Exhibit 11
Rating distribution for US water utilities
Fiscal 2022



Blue highlighted bar represented median water utility rating.
Source: Moody's Ratings

Exhibit 12
Medians for US water utilities by rating category
Fiscal 2022

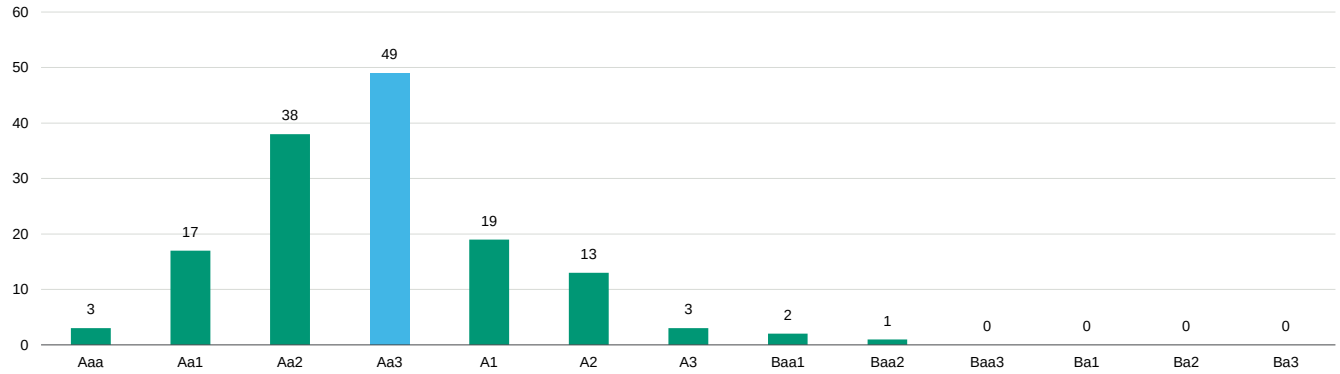
Selected Indicators	Aaa	Aa	A	Baa	Ba
Count	10	141	57	2	0
Median Family Income (% of US Median)	123%	102%	82%	71%	NA
Asset Condition: (Remaining Useful Life)	38	31	26	39	NA
Debt to Operating Revenue	2.3	1.8	2.0	2.1	NA
Annual Debt Service Coverage	2.6	2.3	1.7	1.9	NA
Days Cash on Hand	698	522	469	225	NA
System Size: (O&M, $000)	96,529	19,694	4,015	221,904	NA
Net Revenue ($000)	101,317	14,299	2,835	137,857	NA
Net Funded Debt ($000)	425,130	59,971	13,294	1,178,041	NA
Total Revenue ($000)	184,930	36,240	6,723	391,193	NA

Source: Moody's Ratings

Appendix C: Sewer utilities by rating category

Exhibit 13

Rating distribution for US sewer utilities
Fiscal 2022



Blue highlighted bar represented median sewer utility rating.
Source: Moody's Ratings

Exhibit 14

Medians for US sewer utilities by rating category
Fiscal 2022

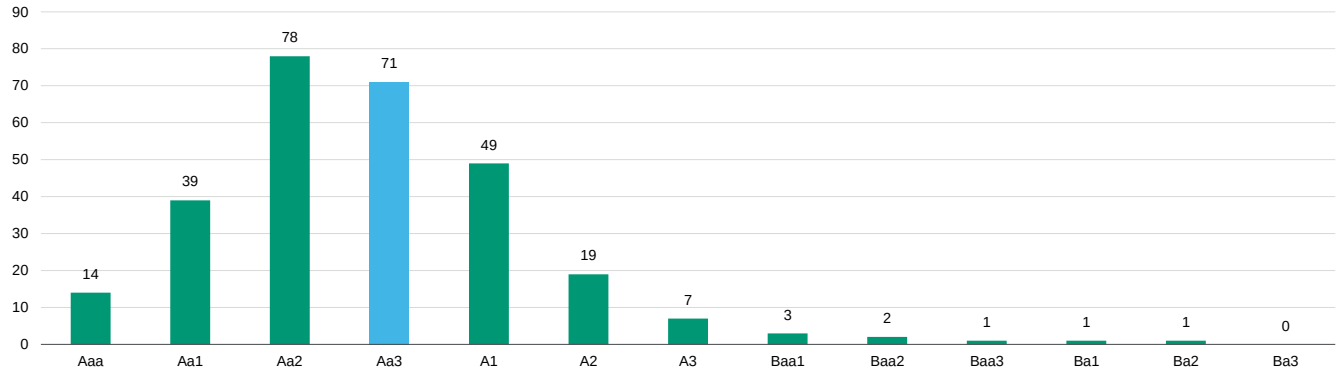
Selected Indicators	Aaa	Aa	A	Baa	Ba
Count	3	104	35	3	0
Median Family Income (% of US Median)	134%	103%	78%	92%	NA
Asset Condition: (Remaining Useful Life)	27	29	27	23	NA
Debt to Operating Revenue	2.5	2.3	2.6	5.3	NA
Annual Debt Service Coverage	2.9	2.2	1.7	1.5	NA
Days Cash on Hand	1705	683	685	540	NA
System Size: (O&M, $000)	105,273	24,999	7,756	101,332	NA
Net Revenue ($000)	142,846	20,820	3,718	124,405	NA
Net Funded Debt ($000)	659,373	107,917	20,343	1,937,959	NA
Total Revenue ($000)	231,214	37,160	12,579	259,238	NA

Source: Moody's Ratings

Appendix D: Combined utilities by rating category

Exhibit 15

Rating distribution for US combined water and sewer utilities
Fiscal 2022



Blue highlighted bar represents median combined water and sewer utility rating.
Source: Moody's Ratings

Exhibit 16

Medians for US combined water and sewer utilities by rating category
Fiscal 2022

Selected Indicators	Aaa	Aa	A	Baa	Ba
Count	14	188	75	6	2
Median Family Income (% of US Median)	113%	96%	83%	72%	91%
Asset Condition: (Remaining Useful Life)	27	28	24	24	29
Debt to Operating Revenue	1.8	1.9	2.4	2.2	7.5
Annual Debt Service Coverage	3.5	2.4	2.1	1.5	1.0
Days Cash on Hand	960	612	363	226	374
System Size: (O&M, $000)	114,019	25,075	9,593	12,888	689
Net Revenue ($000)	86,257	21,434	6,224	8,764	859
Net Funded Debt ($000)	351,054	73,958	32,196	40,506	11,926
Total Revenue ($000)	207,627	44,797	14,605	21,509	1,558

Source: Moody's Ratings

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Exhibit CF-4

MOODY'S RATINGS

OUTLOOK
11 December 2024

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Water & Sewer Utilities – US

2025 Outlook - Stable as higher costs will be absorbed by rate increases

Summary

The outlook for US municipal water and sewer utilities is stable over the next 12 months as rate increases will provide sufficient revenue growth to support increased capital and operating costs from new federal regulations. Liquidity will decline modestly from recent peaks as utilities begin substantial capital projects necessary to comply with regulations limiting forever chemicals and accelerating the timeline for replacing lead service lines. The increased costs associated with these investments will largely be passed on to customers through rate hikes. The strong balance sheets utilities built up over the last few years will also support capital investment and stable credit conditions.

» **Liquidity will remain strong, with revenue growth insulating against escalating costs.** Median liquidity (days cash on hand) will decline modestly, by about 2%, as utilities use cash reserves for infrastructure investment and to achieve compliance with new regulations. Liquidity declines will be softened by rate increases that will produce sufficient revenue growth to offset some of the cash outlays.

» **Debt burdens will stay flat in 2025, reversing a long trend of declines, and coverage will remain stable.** Many utilities are likely to increase debt issuance in 2025 to finance capital improvements aimed at addressing regulations and aging infrastructure. State and federal loan programs and lower interest rates will also drive increased leverage.

» **Asset condition will remain flat, but may begin to improve after 2025 as utilities increase capital spending.** Improvement in asset condition will necessarily lag initial capital spending due to the scale and time frame for completion of typical utility infrastructure projects.

» **Strong governance and rate-setting authority provide foundational strengths to mitigate longer-term risks, though rate affordability concerns remain.** Prudent management and close ties to municipal governments will continue to support the utility sector as physical climate risks persist. Autonomous rate-setting will remain a key strength of the sector, though affordability concerns present practical limits to rate increases.

» **What could change the outlook.** We could revise our outlook to positive if liquidity improves by over 8% or if additional federal programs are established that significantly reduce the cost of complying with new regulatory requirements. The outlook could change to negative if changes in operating conditions suggest liquidity will decline by over 10%.

Outlook definition

The stable outlook reflects our view of credit fundamentals in the US municipal water and sewer utility sector over the next 12 months. Sector outlooks are distinct from rating outlooks, which, in addition to sector dynamics, also reflect issuers' specific characteristics and actions. A sector outlook does not represent a sum of upgrades, downgrades or ratings under review, or an average of rating outlooks.

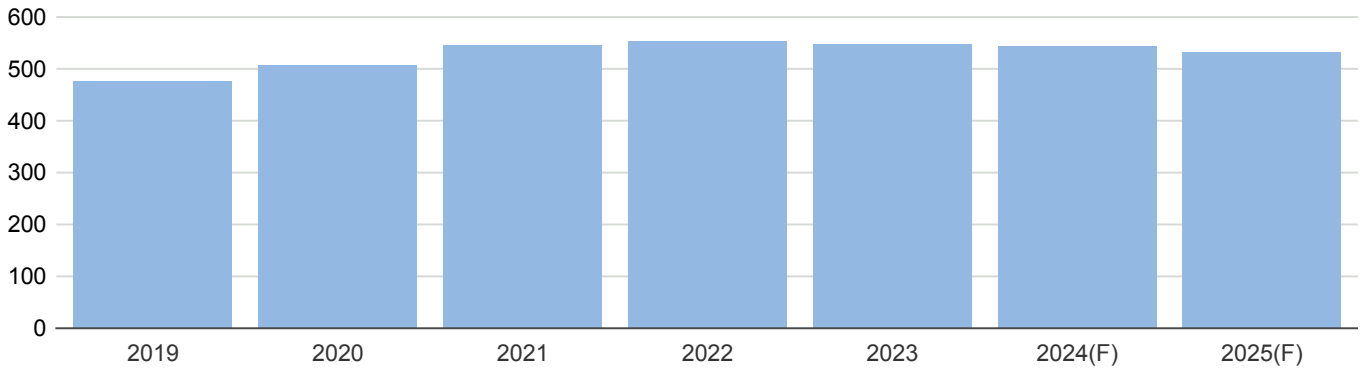
Liquidity will remain strong, with revenue growth insulating against escalating costs

The stable outlook for the sector reflects our expectation that liquidity will remain robust, despite slight declines driven by capital investment to comply with new regulatory requirements and to address aging infrastructure. Median liquidity, as measured by days cash on hand (DCOH), is likely to decline by 2% in 2025 (see Exhibit 1). The decline in liquidity would be much greater if not for revenue growth that will replenish some of the cash outlays, softening the overall impact on liquidity.

Exhibit 1

Liquidity will decline modestly in 2025 as utilities begin upfront investment to comply with new EPA rules

Median days cash on hand



Source: Moody's Ratings

The US Environmental Protection Agency (EPA) made two regulatory rule changes in 2024 that affect water utilities and will soften liquidity in the outlook period. In April, the EPA finalized regulations that limit the concentration of per- and polyfluoroalkyl substances (PFAS), also known as forever chemicals, in drinking water. In October, the EPA also strengthened the existing Lead and Copper Rule to require utilities to replace all lead service lines (LSLs) within 10 years compared with the prior timeline of 30 years.

These two regulatory changes come with considerable capital costs for some utilities. The total cost to comply with the PFAS rule is likely to be between $30 billion and $60 billion, and only impacts about 15% of the sector, while LSL replacement is projected to cost between $20 billion and $30 billion. While these additional capital costs do not impact the whole sector uniformly, they come in addition to the sectorwide trend of aging infrastructure. The EPA's most recent survey of needs estimates that the water and sewer sector will require about $1.2 trillion in infrastructure investment over the next 20 years ($625 billion for water and $630 billion for sewer).

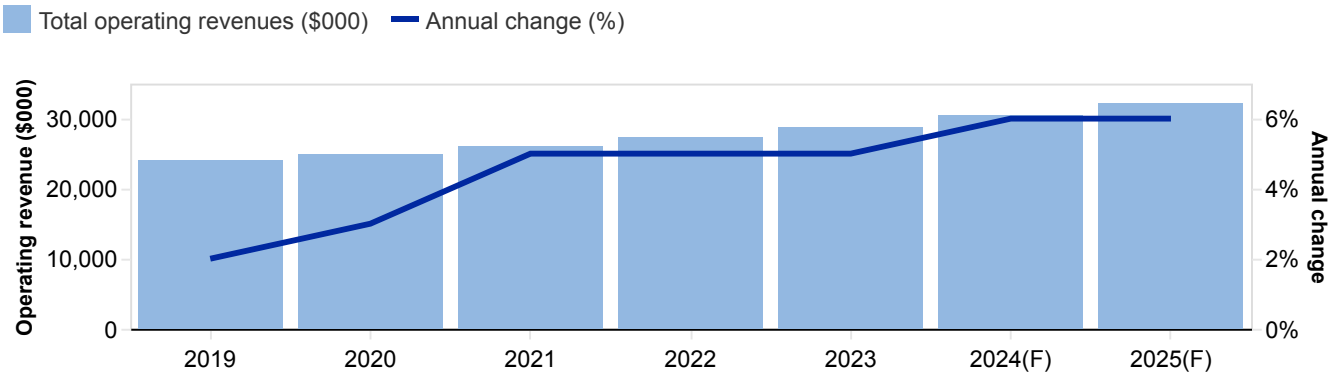
Favorably, the new EPA rules are accompanied by considerable external funding sources, including federal grants, low/no interest loans and proceeds from PFAS-related settlements. The Infrastructure Investment and Jobs Act of 2021 provides about $12 billion in grant funding to address PFAS contamination ($5 billion) and LSL replacement, coupled with a similar amount available for low-interest loans through the Drinking Water State Revolving Fund (DWSRF) program. Other state revolving funds (separate from the DWSRF), Water

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Infrastructure Finance and Innovation Act (WIFIA) loans, and over $12 billion in currently agreed upon settlement proceeds from PFAS manufacturers provide additional funding sources to address infrastructure improvements needed to comply with EPA rules. However, the lengthy application process for these external funding sources makes it likely many utilities will use cash reserves to get capital projects started in 2025.

Utilities have bolstered liquidity levels over the last five years, which will provide ample ability to absorb these upfront costs. Additionally, rate increases will remain utilities' most important tool for cost recovery and will drive sufficient revenue growth in 2025 to largely offset the use of cash. We expect median operating revenue to grow by 6% in 2025, above the average growth rate of about 4% for the prior five years (see Exhibit 2).

Exhibit 2
Operating revenue will grow by 6% in 2025, primarily driven by rate increases
Median total operating revenue



Source: Moody's Ratings

According to the American Water Works Association's (AWWA) annual survey of water utility executives, about 78% of utility executives identify rate increases as a key financing mechanism to fund necessary capital improvements; rate increases were the most-cited funding mechanism. We expect most utilities to implement increases of between 3% and 8% in 2025 to help cover inflation of general operating costs. However, utilities exposed to PFAS contamination or high concentration of lead service lines will likely implement much larger rate increases to recover these costs.

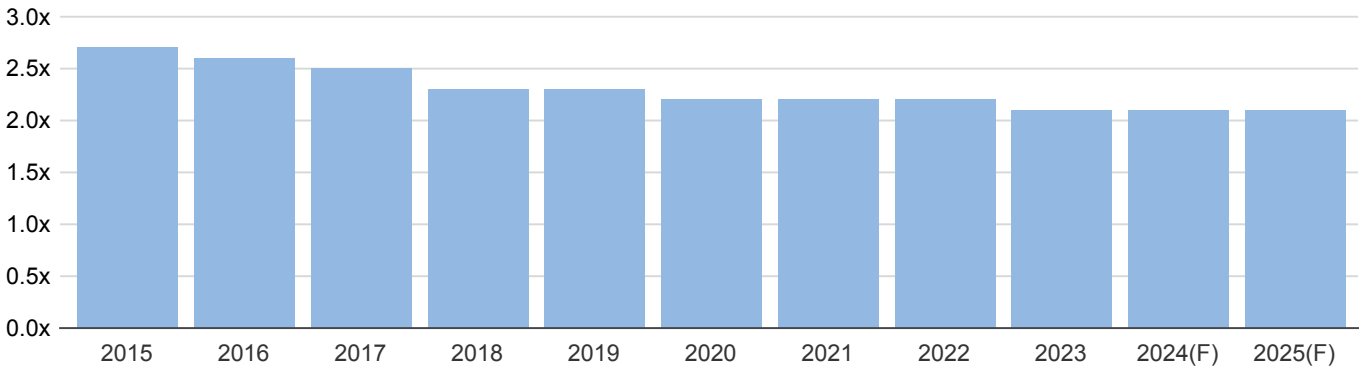
It is uncertain how the new EPA regulations will be viewed by the incoming Trump administration, but recent actions by Trump-aligned members of the Senate and House of Representatives suggest efforts will be made to ease the recent EPA regulations. If the administration does weaken or withdraw the new EPA rules, we expect most utilities will carry on with their current capital plans aimed at attaining compliance with the existing EPA rules.

While our outlook for the sector is stable, we could revise it to positive if liquidity improves by over 8% or if additional federal programs are established that significantly reduce the cost of complying with new regulatory requirements. The outlook could change to negative if changes in operating conditions suggest liquidity will decline by over 10%.

Debt burdens will stay flat in 2025, reversing a long trend of declines, and coverage will remain stable

We expect debt burdens to remain level in 2025, if not increase slightly, as utilities begin increasing capital investment to address additional regulatory requirements and aging infrastructure. This is counter to a decadelong trend of moderating debt burdens in the sector (see Exhibit 3). Over half of the federal and state funding available to address water and wastewater infrastructure comes in the form of loan programs, which will increase utilities' balance sheet leverage if used. Lower interest rates relative to prior years will further support increased borrowing by utilities in 2025.

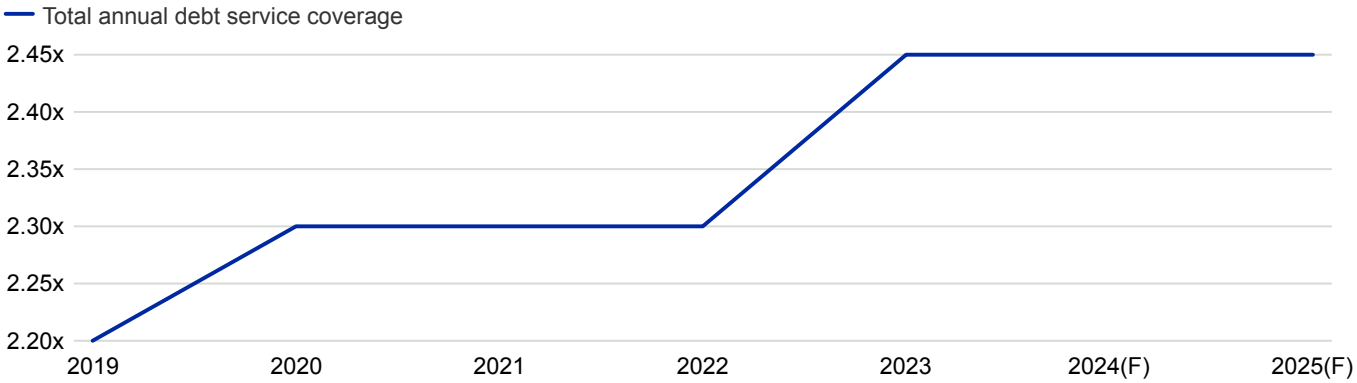
Exhibit 3
A moderating trend in debt burdens will shift as issuance rises to finance capital projects
Median total debt to operating revenues



Source: Moody's Ratings

Despite the increased debt issuance, annual debt service coverage will remain strong for the year, at around 2.5x (see Exhibit 4). Our expectation of unchanging coverage for 2025 reflects marginal changes in annual debt service requirements from prior years, coupled with steady net system revenue as rate increases will offset rising operating expenditures.

Exhibit 4
Debt service coverage will stay strong, supported by revenue growth that will outpace expenditures
Median total annual debt service coverage

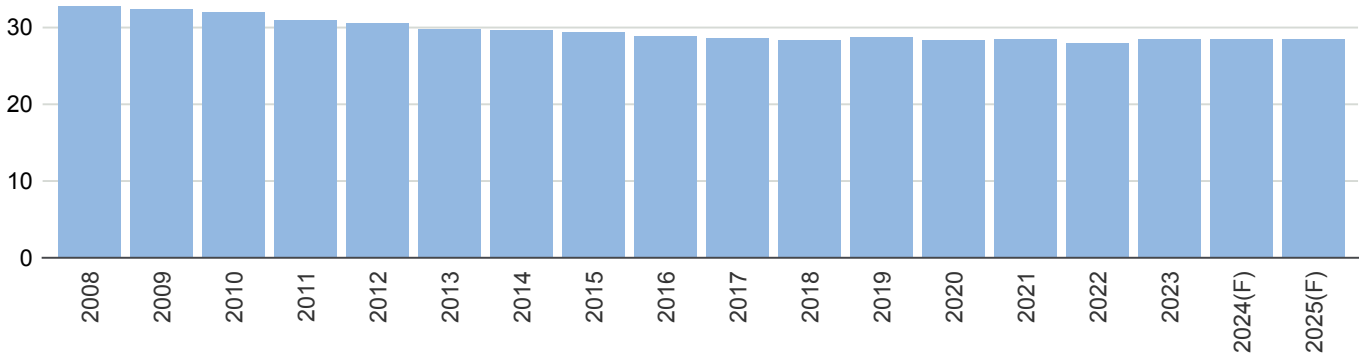


Source: Moody's Ratings

Asset condition will remain flat through 2025, but may begin to improve thereafter as utilities increase capital spending

Despite significant capital investment, asset condition will remain relatively flat through 2025, staying at currently adequate levels (see Exhibit 5). Because water and sewer utility capital projects are typically large and have lengthy timelines for completion, the projects started in the next year are unlikely to be captured in 2025 financial statements. However, the increased capital investment in 2025 will produce improved asset conditions in future years, a reversal of a decadeslong trend of aging assets.

Exhibit 5
Asset condition will remain flat through 2025
Median years remaining useful life of assets



Source: Moody's Ratings

Improving asset conditions after 2025 will be a step forward from the stabilization that has occurred since 2020. An increase in the volume of capital projects initiated since the large influx of federal funding during the pandemic, as well as the passage of the Infrastructure Investment and Jobs Act in late 2021, stalled the trend of declining asset condition seen in almost every year since at least 2007. Federal and state funding for utility infrastructure will be a key mitigant of deteriorating asset condition during the outlook period and over the longer term.

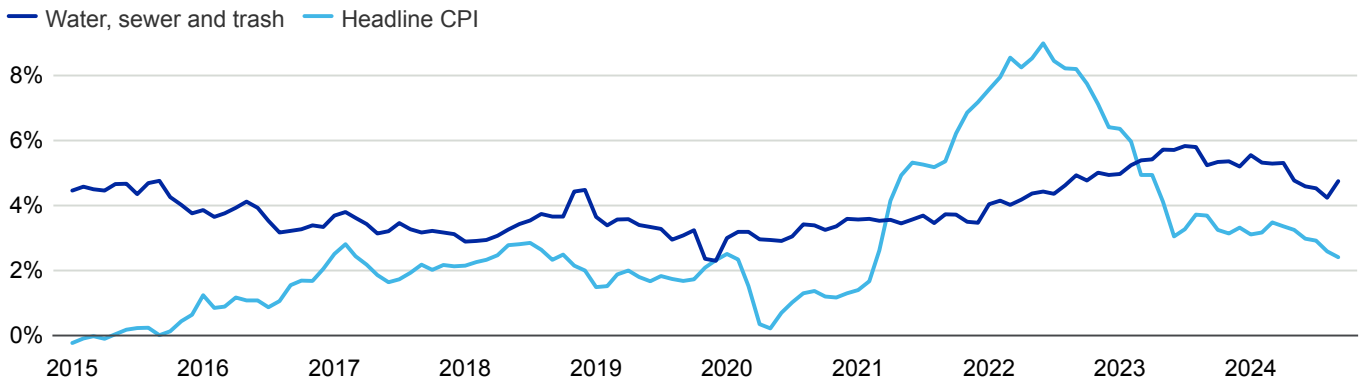
Strong governance and rate-setting authority provide foundational strengths to mitigate longer-term risks, though affordability questions remain

The municipal water and sewer sector benefits greatly from strong governance and a long record of successfully managing through challenges. Most public utilities have close ties with municipal governments, often wholly owned and operated as a department of the municipality. The stable outlook for US Cities and Counties in 2025 supports the stable outlook for water and sewer utilities for a variety of reasons. Public utilities benefit from the additional resources and financing sources that are available to a municipal government, including taxing authority that may supplement utility operations, the ability to issue tax-backed debt to finance utility infrastructure, and sharing of general admin services, which reduces operating costs.

Strong governance will remain a vital mitigant of the multitude of long-term risks facing the sector, including environmental risks, cyber threats and concerns about utility rate affordability. Utilities are increasingly exposed to environmental risks in the form of drought, heat stress, flooding and extreme weather events/natural disasters, with the risk severity varying by region. Utilities in the Eastern and Southern US are particularly exposed to severe flooding, which could cause significant damage to system infrastructure and service disruptions. Utilities in drought-prone regions, including the West and Southwest, will continue to struggle with water scarcity and face operating headwinds over the longer term as water use restrictions will curtail sales volume, necessitating rate increases to maintain level revenues. Some utilities experiencing water supply challenges have developed alternative, drought-resistant sources like desalination and recycled wastewater treatment, which are typically more expensive than traditional surface and ground water sources. While we do not expect environmental risks to manifest themselves across the sector over the next 12 months, individual utilities may be acutely affected by severe events.

Rate affordability will remain a challenge for utilities in the next 12 months and over the longer term. With the sector facing rising operating and capital costs, new regulatory requirements, aging infrastructure and water conservation goals, among other challenges, rate increases will remain the most used funding mechanism to address these concerns. Although water and sewer utilities typically have autonomous rate-setting authority, there are practical limits on the amount of costs that can be absorbed by rate payers. Utility rates have historically grown at a greater rate than general inflation (see Exhibit 6), and we expect the gap to widen further over the next 12 months as overall inflation abates and utilities raise rates.

Exhibit 6
Residential utility bills will continue to run ahead of general inflation
Annual percent change in consumer price index (CPI)

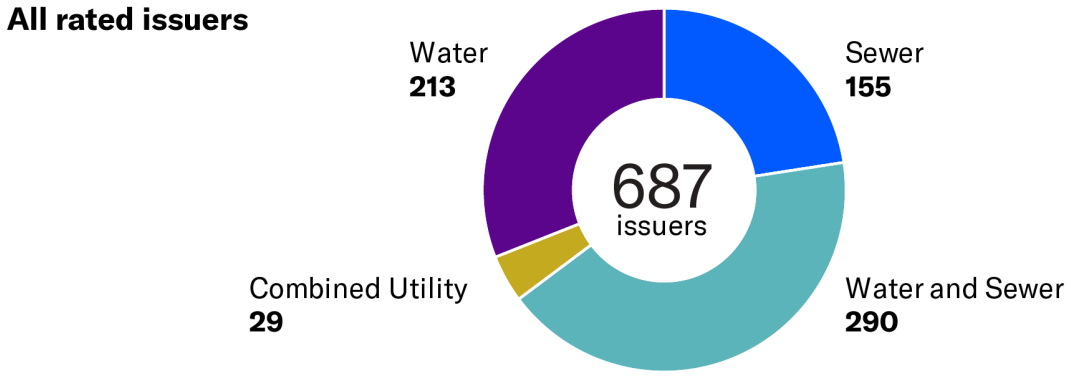


Source: Bureau of Labor Statistics

Utilities with growing customer bases and supplemental revenue from development-related connection fees and capital contributions from property developers will be better poised to absorb cost increases and can lessen the cost burden on existing ratepayers. Conversely, utilities located in areas experiencing population loss will find it harder to take on increased costs and ratepayers will shoulder most of the costs.

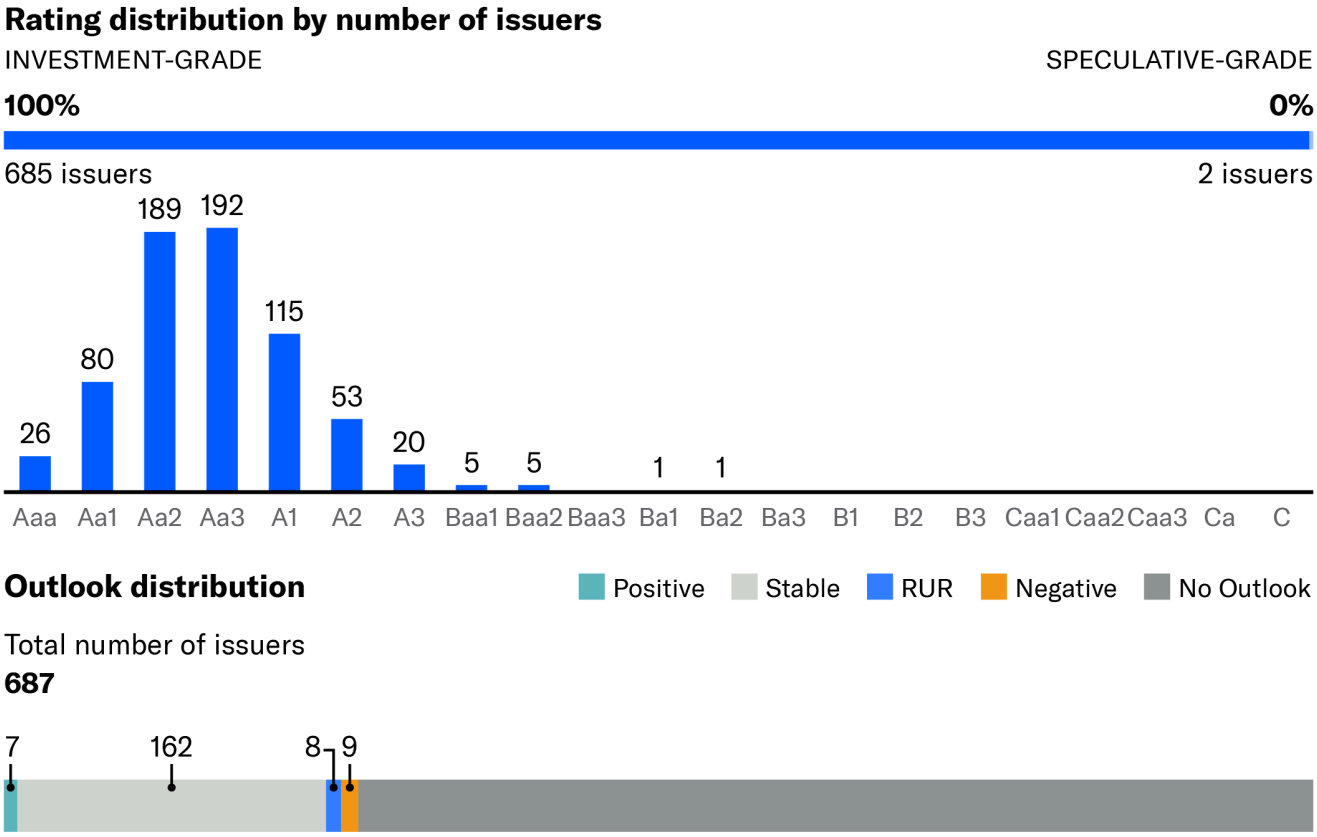
Appendix

Exhibit 7
Number of rated US water and sewer utilities by type
As of December 2, 2024



Combined utilities are issuers with water/sewer systems plus other non-water related enterprises like electric transmission or solid waste.
Source: Moody's Ratings

Exhibit 8
Distribution of ratings and outlooks in the water and sewer utilities sector
As of December 2, 2024



Source: Moody's Ratings

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Asia Pacific	852-3551-3077
Japan	81-3-5408-4100
EMEA	44-20-7772-5454

Exhibit CF-5

S&P Global
Ratings

RatingsDirect®

U.S. Not-For-Profit Utilities 2025 Outlook: Rough Water Likely Will Underscore Credit Trends

January 15, 2025

Sector View: Negative

- Rising costs will continue to pressure margins. Sector-specific capital and operating costs continue to outpace broad inflation measures and, in many cases, have not been fully passed through to ratepayers. Although some costs have abated relative to recent years, payroll growth, staffing shortages, construction costs, and higher baseline interest rates will continue to drive expenditure increases.
- Capital investment needs are accelerating. Aging infrastructure is one of the most pressing matters in the water utility sector, with many assets nearing or exceeding their useful lives. Asset failures have led to rapid liquidity deterioration, and regulatory and climate hazards will exacerbate capital needs and require proactive operational management.
- Affordability is a widening credit issue, especially for the most vulnerable portion of the population. The sector has historically been underpinned by strong rate-setting flexibility, but we have observed a greater reluctance to fully pass through costs to ratepayers. This has resulted in narrowing margins and weaker liquidity, which we expect will continue in 2025, given rising revenue requirements and economic headwinds from potential federal policy shifts.

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U.S. municipal water and sewer utilities: What we're watching



Regulations
We expect the regulatory pace to slow, given new administrative priorities and the recent Supreme Court case overturning the Chevron doctrine.



Governance
Management is the most significant driver of credit quality for entities facing tough operating environments. Institutionalized financial management practices, asset management, and succession planning provide stability during critical management transitions.



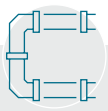
Rate affordability
Rising costs will pressure affordability, especially for service areas with weaker income characteristics and minimal economies of scale, increasing the importance of customer service programs and cost recovery mechanisms.



Weather
Variability in hydrology, extreme heat, severe storms, and wildfires threaten assets and reliability but also influence operating and capital costs.



Labor
Labor shortages at utilities pose critical operating, financial, and compliance hurdles. Fewer construction workers may result from changes to immigration policy, influencing project costs and timing.



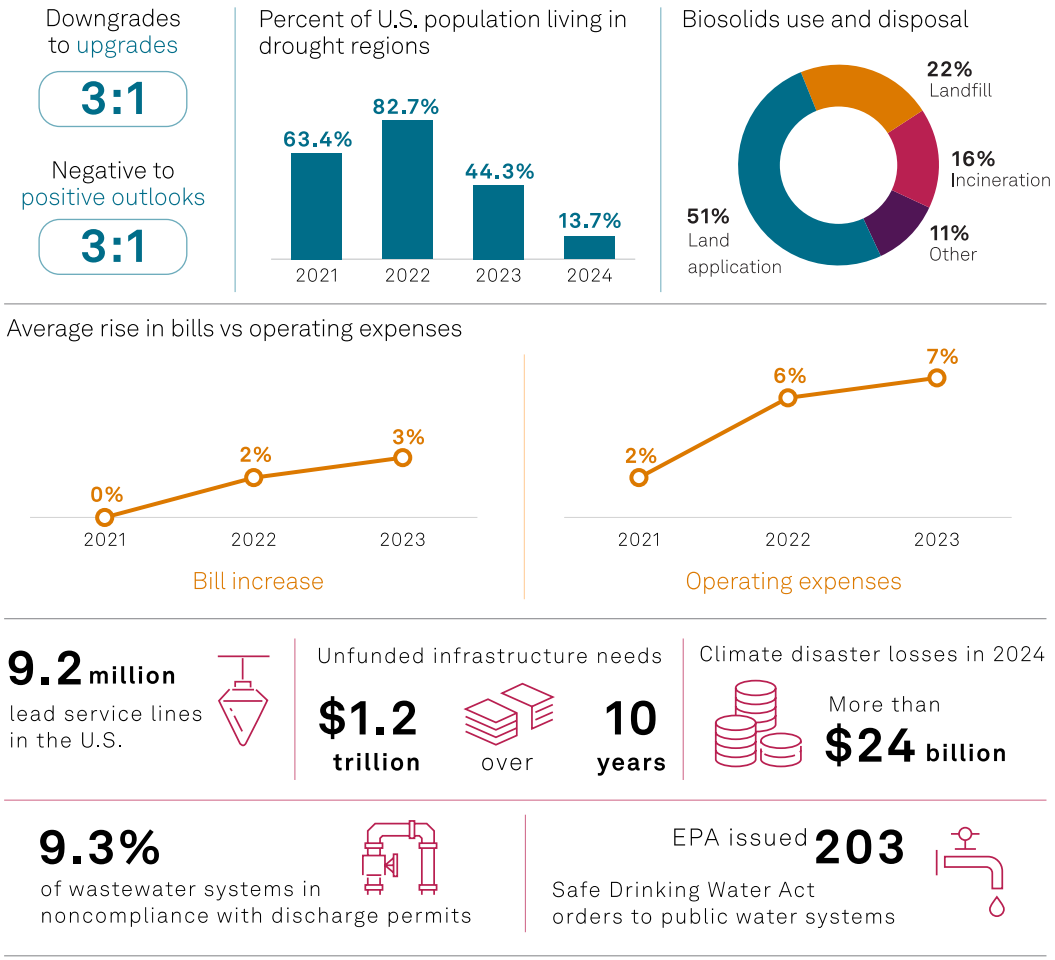
Aging infrastructure
Deferred maintenance exposes utilities to substantial operational and financial vulnerabilities. We'll continue to focus on asset management as a critical credit factor.

Source: S&P Global Ratings.
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Chart 1

U.S. not-for-profit utilities: By the numbers



Source: S&P Global Ratings.
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What's Behind Our Sector View

Deferred maintenance will remain a driver of infrastructure deficiencies and likely result in impaired financial performance. In 2024, S&P Global Ratings downgraded several water and wastewater utilities due to inadequate maintenance that influenced financial and operational performance. Both large and small systems are facing major asset deficiencies that could reduce access to water, create health and safety issues, or violate regulatory guidelines. The Environmental Protection Agency's (EPA) Drinking Water Infrastructure Needs Survey and Assessment recently reported that the 20-year need for water infrastructure is $625 billion. When including wastewater, the needs assessments total $1.2 trillion. Post-pandemic deferred maintenance has boosted unbudgeted capital expenses as well as reduced project flexibility, which we believe will increase capital costs. Given the essentiality of water service, infrastructure deficiencies typically require immediate remediation. Therefore, ongoing deferrals shift the urgency of projects, making utilities "price takers" in a tough construction and cost environment,

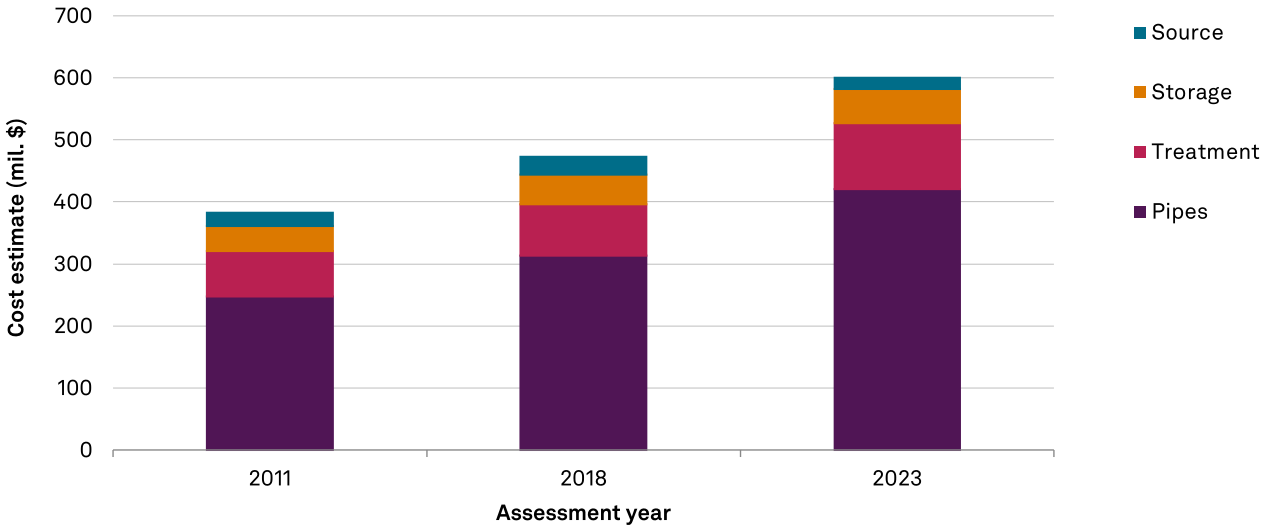
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which leads to exponentially more expensive repairs. These expenses can crowd out other system needs, compromise financial health, and create a liquidity crisis, which was a contributor to the Clyde, Texas, default in 2024 and to a quarter of the multinotch downgrades we took last year.

A critical aspect of our operational management assessment will remain evaluating whether there is a minimal level of asset management planning, including an asset inventory, identification of required maintenance, and a connection to financial planning to ensure cost recovery and sufficient liquidity to meet risks.

Chart 2

Drinking water infrastructure 20-year needs assessment



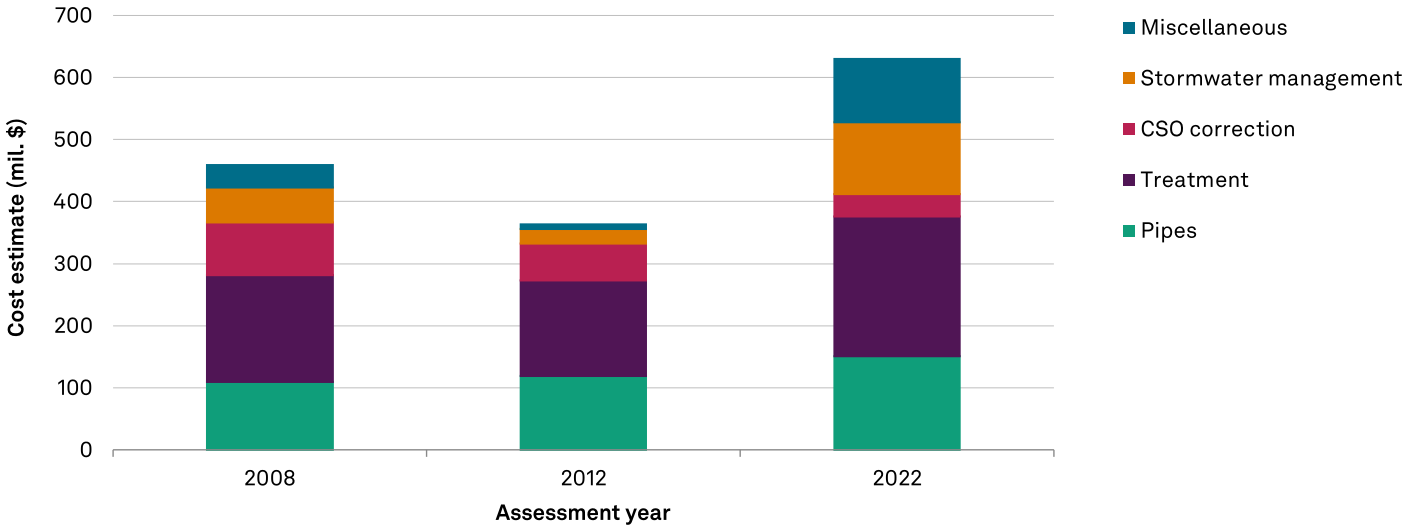
Source: Environmental Protection Agency.

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Chart 3

Clean water infrastructure 20-year needs assessment



CSO--Combined sewer overflow. Source: Environmental Protection Agency.

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Climate hazards could stress system resiliency and increase leverage as utilities address mitigation and adaptation goals. As witnessed during Hurricane Helene, "Green Swan" events (that is, weather-related events with an extreme impact) are becoming more common and can have catastrophic effects on infrastructure and communities, even in areas where such risks are less common. Although some regions have greater vulnerability to climate-related hazards, we view all utilities as having weather-related risk, which is becoming increasingly unpredictable. That said, utilities have been relatively resilient, generally returning to full service within a short time and receiving substantial support from the Federal Emergency Management Agency (FEMA). As an example, Asheville, N.C., was able to rehabilitate its system in two months, a notable feat given the nature of the damage.

However, it remains unclear how such disruptions will influence the customer base and infrastructure in the future. Furthermore, FEMA disaster relief funding is increasingly strained by the rising incidence of climate disasters and risk and underwriting standards that are evolving. We expect acute physical risks such as flooding, storms, and wildfires will still require infrastructure hardening, increased redundancy, and changes to operational and emergency response. In addition to causing evaporation, extreme temperatures have severely compromised existing assets, shortening their useful life, especially when these assets aren't properly maintained.

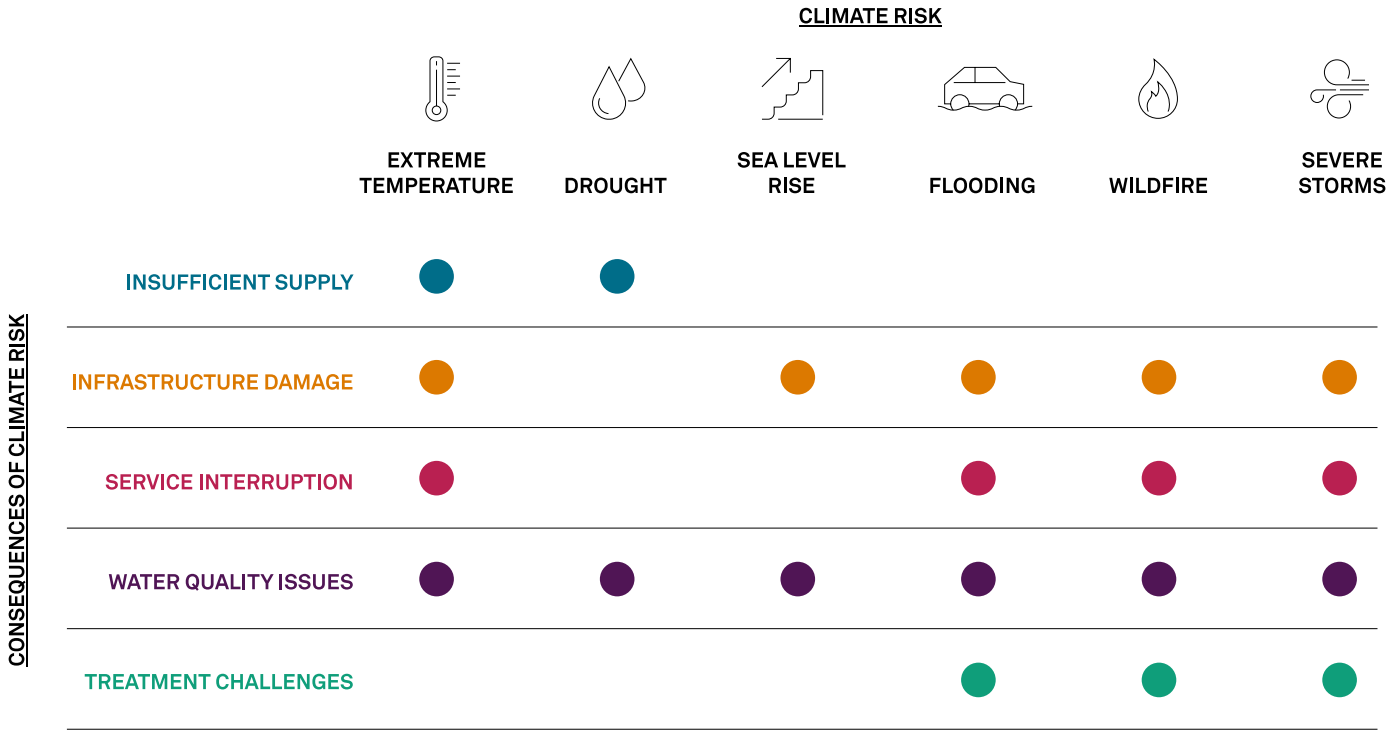
Longer-term risks such as sea-level rise and water scarcity aren't imminent for most utilities, but may threaten reliability in the future. Sea-level rise will influence water quality and treatment costs and may spur costly relocation of critical assets. Water stress has been compounded by dwindling groundwater basins and population growth throughout the western U.S. and we expect this will continue. For example, the Colorado River's ongoing supply imbalance, caused by both reduced snowpack and evaporation, will likely necessitate meaningful curtailments after Dec. 31,

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2026, when key operating guidelines expire.

Climate variability has been a perennial credit risk, consistently driving utility performance, which we expect will continue. Addressing climate vulnerability will remain an integral aspect of our operational management assessment, including sound emergency planning, vulnerability assessments, and building in system redundancy. Failure to adequately plan and respond will negatively affect credit quality, as we have observed that such omissions can expose utilities to significantly greater recovery and litigation costs and inadequate planning can drive higher insurance costs and liabilities following a climate-related catastrophe, potentially stressing liquidity needs.

Climate risks affecting U.S. not-for-profit water utilities



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We expect the pace of regulatory activity will moderate, which could be neutral to positive for utilities. Utilities have faced several years of heightened regulatory mandates, including replacing lead service lines (LSL) and addressing emerging contaminants and nutrient removal, as well as several other mandates. While dedicated funds are available through the Investment Infrastructure and Jobs Act and Inflation Reduction Act, we expect more than 90% of the cost will fall to the rate base, furthering affordability pressures.

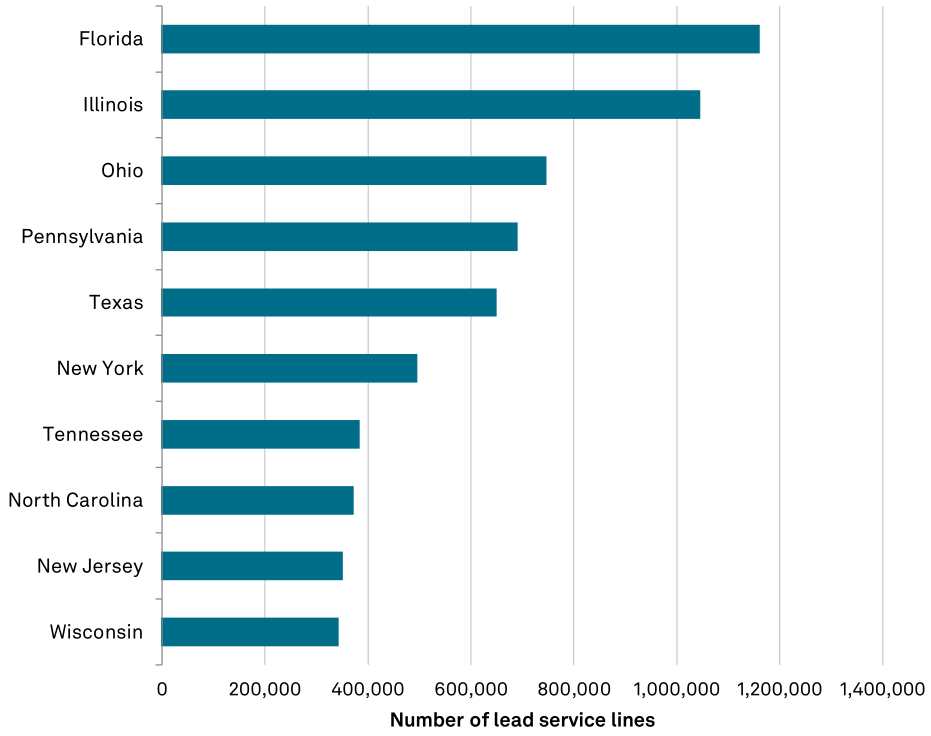
If past practice is indicative of future priorities, we believe lead lines and per- and polyfluoroalkyl substances (PFAS) will remain strategic priorities since the former Trump administration issued the initial rule on LSL and was evaluating and advising on PFAS. However, we expect the pace and approach to these regulations will shift, given the incoming administration's regulatory philosophy and ongoing litigation and legislation related to the existing PFAS rule. Given the complexity and

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associated costs, the sector might benefit from slowing the implementation timeline to allow for continued evaluation and to address existing concerns. Legislation has been introduced both in the Senate and House (Senate Bill 1430 and HR 7944) that aims to provide utilities with liability protection from Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) liability. In the interim, we expect state standards will remain influential, guiding compliance requirements.

Chart 4

Concentration of lead and copper service lines in the U.S.



Source: Environmental Protection Agency.

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In addition to the federal government's slowing the pace of some regulation, a rollback of federal protections for streams and wetlands seems likely. The resulting shift of oversight back to the states may transfer costs from polluters to utilities, raising future treatment burdens. We expect this will be litigated, as has been the case in the past, especially given the Supreme Court's recent decision overturning the Chevron doctrine (see "What The Loper Decision May Mean For U.S. Public Finance," published Aug. 14, 2024, on RatingsDirect). Overall, we believe slowing the pace of some of the regulatory initiatives could benefit utilities' budgets in the near term, but it's too soon to tell if this will introduce future costs or lead to negative implications for longer-term water quality, environmental health, and public safety.

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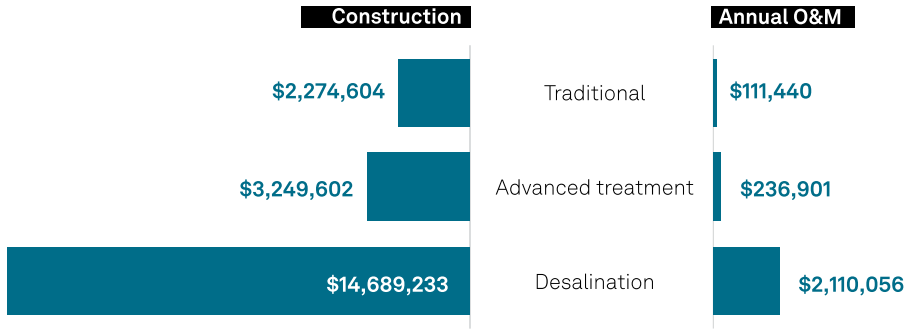
Sector Top Trends

Regulations and climate-related risks will remain top of mind and continue to underpin operating pressures. Shifts in regulation and climate patterns generally require both capital investment and higher operating costs. For example, the Colorado River renegotiations are intensifying with significant competing interests and limited resources. Although we don't believe supply sufficiency will be a credit driver, we do think developing alternative supply, such as recycled or desalinated water, will be a critical part of the solution. This will significantly alter the cost of water in the region, given that resilient supply options are magnitudes more expensive than traditional supply sources, which could pressure affordability, and thus credit quality. This has already occurred in California, where the cost of water has increased threefold in southern California. Given projected water stress in Arizona, Florida, and Texas, more expensive supply augmentation will likely raise costs in these states as well. Other physical risks such as flooding and wildfires also increase operating costs by contaminating existing supply, adding operating difficulties that persist for years after the event.

Beyond climate issues, meeting regulatory standards also increases the expense burden. The processes to treat emerging contaminants or remove nutrients such as phosphorous likely will be more expensive than current treatment processes. We expect this to be a critical and emerging risk, given the recent designation of PFAS as a hazardous substance under CERCLA.

Furthermore, the cost of biosolids handling for wastewater systems probably will increase if systems are forced to shift from biosolids application to incineration or landfill waste. This will be compounded by insufficient landfill capacity and relatively few incineration options, given that biosolids application has been the primary approach for decades.

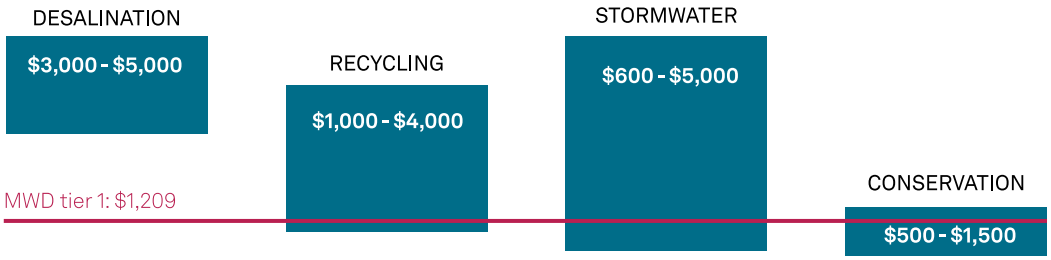
Treatment technology price comparison



O&M--Operations and maintenance. Source: S&P Global Ratings.
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Cost of California's future water supply
Estimated amounts (2023 dollars)



MWD tier 1 -- Metropolitan Water District of Southern CA 2023 tier 1 treated water rate. Sources: 7th Drinking Water Infrastructure Needs Survey and Assessment, April 2023, 2022 Clean Watersheds Needs Survey, California Department of Water Resources, S&P Global Ratings.
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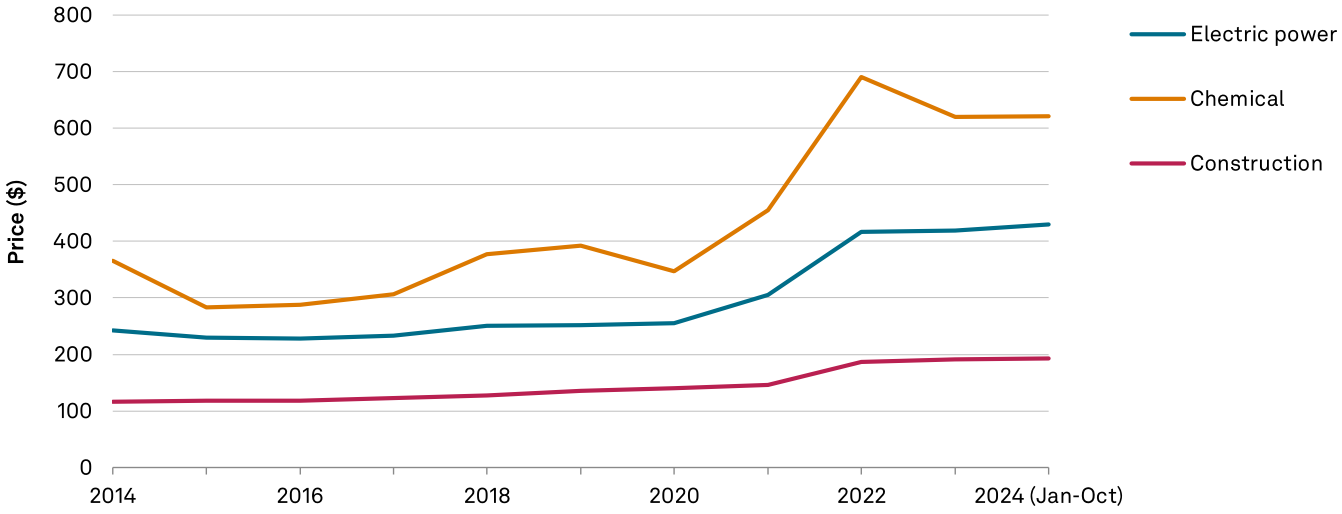
Project execution and construction difficulties could persist, necessitating changes to procurement and project delivery. Although S&P Global Economics forecasts the rate of inflation for construction materials will moderate to 4% net growth, proposed immigration policies may serve as a headwind to the economy. Labor supply, which rose 1.6% on average in the past two years, is projected to slow in the coming years, especially in the construction sector (see "Economic Outlook U.S. Q1 2025: Steady Growth, Significant Policy Uncertainty," published Nov. 26, 2024. In addition, although delivery times have moderated, some items, such as sophisticated electrical gear and generation equipment, are still struggling with extended delivery delays.

In response to the supply chain issues of recent years, the most sophisticated utilities have made changes to procurement and inventory practices, which we view favorably. In addition, the bidding environment remains tough/intense given labor shortages, supply chain uncertainty, and fewer bids. In general, we've observed an increase in design-build engineering to mitigate some of these risks. For utilities that leverage federal funding, prevailing wage and "Build America, Buy America" requirements will continue to pressure costs; and for FEMA, administrative and reimbursement complexities influence project execution.

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Chart 5

Rising prices in water utility cost centers



Source: Bureau of Labor Statistics.

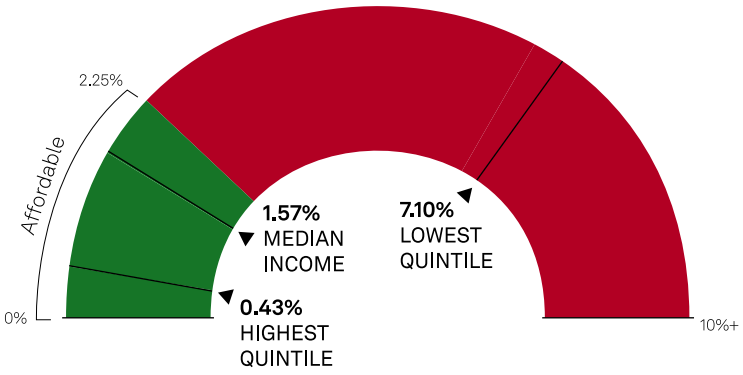
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Affordability struggles will require thoughtful management practices. In the past decade, water and wastewater rates have outpaced inflation and wage gains, increasing over 40% over the past decade. While rates for the average ratepayer remain affordable, the more vulnerable 20% of the income spectrum faces significant affordability struggles. Affordability sharply diminishes further down the income distribution scale (see chart 6).

Chart 6

Affordability varies by income quintiles

Average utility bill as a percentage of household buying income



As of 2023. Source: S&P Global Ratings.

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The most sophisticated management teams are taking a multipronged approach to addressing affordability, incorporating customer support programs, innovative technology, and SMART infrastructure design. Given the essentiality of water, ensuring access for the most vulnerable portion of the population is an emerging focus for water managers. In 2020, this was also a focus of the federal government, with approval of the Low-Income Household Water Assistance Program (LIHWAP) legislation, which was signed into law by the previous administration. LIHWAP supported nearly 2 million low-income households and 13,000 utilities. The program was unfunded in 2023, and we believe reinstituting it would be beneficial for utility credit quality and would align it with the energy sector.

Managing affordability supports better rate-setting flexibility and reduces political risk. Building funding for customer assistance into the basic cost recovery model improves budget predictability and transparency and broadens affordability throughout the income spectrum. In general, we believe that in addition to financial support, implementing alternative and sophisticated technologies can provide long-term operational cost savings but there could be up-front capital costs. Leveraging the use of production byproducts such as reclaimed water and methane gas could also provide compelling economic and environmental benefits. We expect some margin compression to meet affordability goals and as long as sophisticated forecasting underpins the performance, it's not necessarily a credit risk.

Rate structure is important to cost recovery and revenue stability. Several downgrades in 2024 were related to the inability to recover rising costs in a timely manner. Rate structures with automatic pass-throughs to support energy, chemical, or wholesaler costs, for example, fared better than those that were reliant on only a preapproved rate increase that may have been set well before the current operating environment became stressed. In addition, given flat consumption trends and hydrological volatility, increasing fixed revenue composition has increased revenue stability and budget predictability.

In addition, several innovative issuers have leveraged passive revenue sources such as property and sales taxes to support resiliency projects because the benefit is spread uniformly regardless of use. We view these innovative financing structures favorably, as they can mitigate the cost burden on individual retail customers and diversify revenues. We believe aligning cost recovery structures with long-term capital, operational, and strategic needs provides utilities with funding advantages because projects can be funded through incremental rate adjustments rather than large, one-time hikes to the customer base.

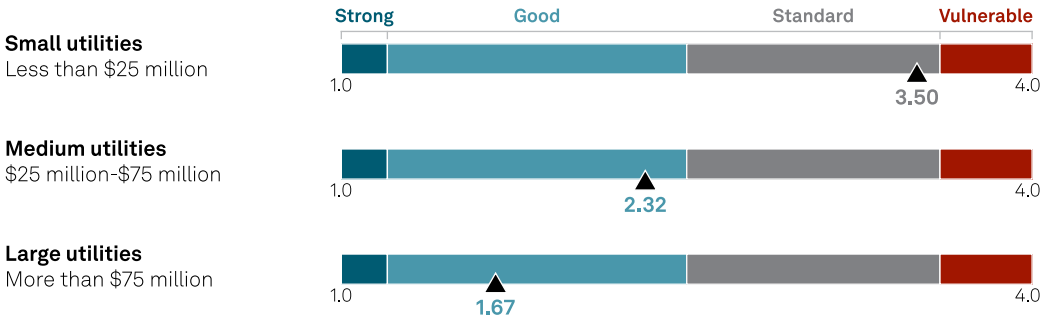
Small systems continue exhibiting greater vulnerability from lesser economies of scale and staffing limitations. Most downgrades this year were to systems with less than $25 million in revenues. Financial performance, particularly coverage and liquidity, for smaller systems tends to be nearly 20% more volatile than for larger systems year over year.

Furthermore, management teams for small systems have greater key person risk and typically demonstrate weaker management practices, exposing the systems to greater event risk and often rate-setting problems during management transition. Given the complexity of regulatory mandates, the construction environment, and lesser economies of scale benefits, we believe small systems will continue to face credit quality stress. Regionalization and privatization could provide benefits for smaller systems but there hasn't been large-scale adoption of this to date.

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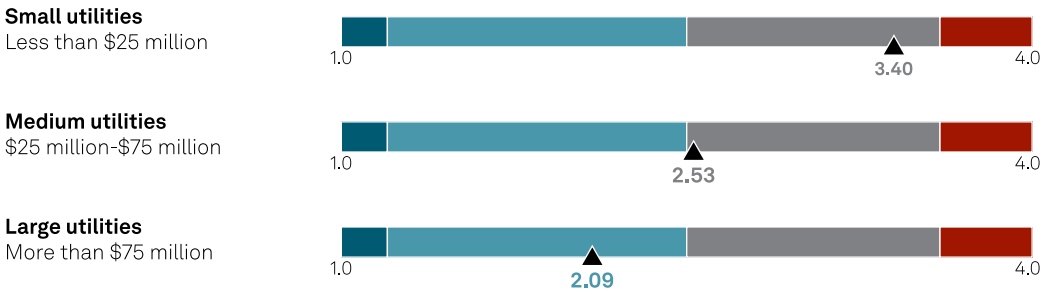
Average financial management assessment

Utilities categorized by gross revenue



Average operational management assessment

Utilities categorized by gross revenue



Source: S&P Global Ratings.

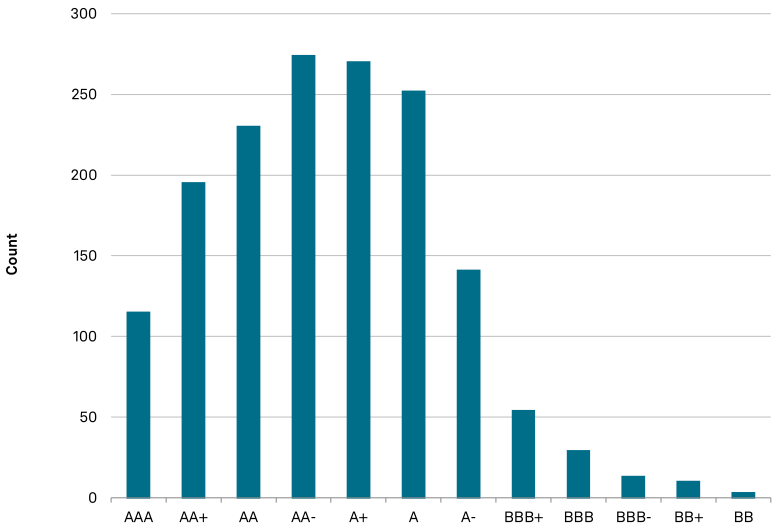
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Ratings Performance

Chart 7

U.S. not-for-profit water utilities rating distribution

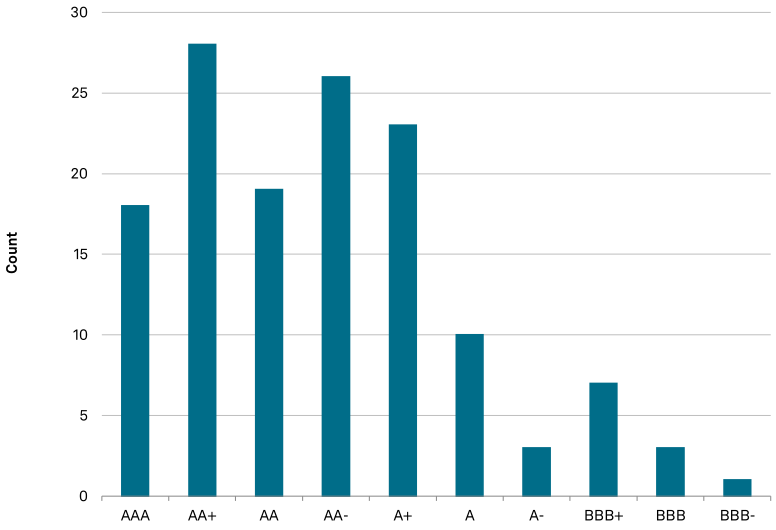


Source: S&P Global Ratings.

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Chart 8

U.S. not-for-profit wholesale water utilities rating distribution



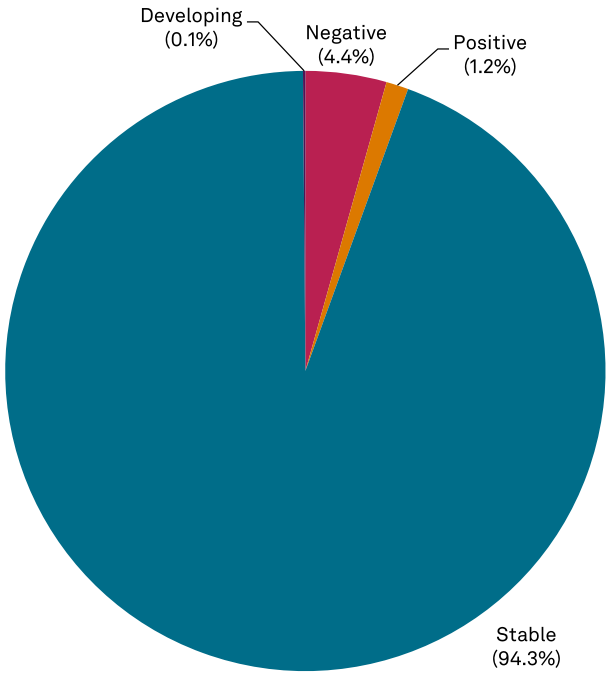
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Chart 9

U.S. not-for-profit water utilities outlook distribution



Source: S&P Global Ratings.

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Exhibit CF-6

MOODY'S INVESTORS SERVICE

RATING METHODOLOGY
7 March 2024

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Rating Methodology

US Municipal Utility Revenue Debt

This rating methodology replaces the *US Municipal Utility Revenue Debt Methodology* published in April 2022. We have revised the title and reformatted the text, exhibits and footnote presentation to align with a new publishing platform. These revisions do not change our methodological approach.

Introduction

In this rating methodology, we explain our general approach to assessing credit risk of essential service US municipal utility revenue bonds, including the qualitative and quantitative factors that are likely to affect rating outcomes in this sector.

The primary factors that drive our credit analysis of revenue bonds issued by municipal utilities that provide essential services are the size and health of the system and its service area, the financial strength of its operations, the legal provisions governing its management, and the strength of its rate management and regulatory compliance.

We discuss the scorecard used for this sector. The scorecard[1] is a relatively simple reference tool that can be used in most cases to approximate credit profiles in this sector and to explain, in summary form, many of the factors that are generally most important in assigning issuer-level ratings to issuers in this sector. The scorecard factors may be evaluated using historical or forward-looking data or both.

We also discuss other considerations, which are factors that are assessed outside the scorecard, usually because the factor's credit importance varies widely among the issuers in the sector or because the factor may be important only under certain circumstances or for a subset of issuers. In addition, some of the methodological considerations described in one or more cross-sector rating methodologies may be relevant to ratings in this sector.[2] Furthermore, since ratings are forward-looking, we often incorporate directional views of risks and mitigants in a qualitative way.

As a result, the scorecard-indicated outcome is not expected to match the actual rating for each issuer.

Our presentation of this rating methodology proceeds with (i) the scope of this methodology; (ii) the sector overview; (iii) the scorecard framework; (iv) a discussion of the scorecard factors; and (v) other considerations not reflected in the scorecard. The appendix shows the full view of the scorecard factors, sub-factors, weights and thresholds.

Scope

This methodology is used to assign ratings to debt instruments where the primary pledge and source of repayment are revenues generated by US municipal utilities providing monopolistic services essential to public health and functional economies. The approach described in this methodology applies to six basic categories of US municipal utilities: water distribution, gas distribution,[3] electric distribution,[4] sanitary sewerage, stormwater disposal, and solid waste disposal.

This methodology does not apply to debt issued by regulated water utilities, regulated electric and gas utilities and networks, electric generation and transmission cooperatives, power generation projects; nor does it apply to other types of public utilities, such as telephone, cable television, or parking. This methodology also does not apply to utility revenue debt whose rating is based on a general promise of a state or local government to pay the debt (e.g., a general obligation pledge or a full faith and credit pledge).[5]

Sector Overview

The pledge and source of repayment for a municipal utility revenue bond is typically defined in a bond resolution or a trust indenture, which acts as a contract between the utility and its bondholders. The resolution or indenture most often includes a lien on the net revenues of the utility system after the payment of regular operating and maintenance expenses.

US municipal utilities provide many different services whose rates or fees are pledged to the repayment of debt. The utilities mostly fall into one or more of six basic categories:

» **Water utilities** take water from the ground, a river, a lake, or in special cases the ocean, treat it to a potable standard, and distribute it to customers for drinking, cleaning, and commercial, industrial, or agricultural use. These utilities can be involved in any or all of the functions of water supply: water treatment, long-distance transmission and retail water distribution. Some water utilities have no treatment capacity and purchase potable water wholesale.

» **Gas utilities** take natural gas from a wholesale pipeline, odorize it for safety detection and pressurize it for delivery to customers through a pipe network for uses such as heating, cooking or commercial and industrial applications.

» **Electric utilities** purchase electricity from wholesale suppliers and deliver it to residential, commercial and industrial customers for a wide range of power uses.

» **Sanitary sewer** utilities collect and treat wastewater, discharging it into a waterway or injecting it underground, and landfilling or incinerating the residual sludge. Some sewer utilities with no treatment capacity gather wastewater and transmit it to another utility that treats it.

» **Stormwater** utilities collect and treat rainwater before discharging it into a body of water such as an ocean or a river. While every city or county addresses stormwater drainage as an integral element of its streets and highways, the stormwater systems that require capital markets financing are typically large in scale and are necessary to avert flooding from heavy seasonal rainfall.

» **Solid waste** utilities collect residential or commercial refuse and dispose of it through landfills, waste-to-energy plants, or other waste-disposal processes. A solid waste system can be complete or collection-only, relying on another municipal or private entity for long-haul removal and disposal through landfill or incineration.

Essential-service utilities typically operate as departments, boards or independent authorities of US states or local governments.

States and subdivisions of states, such as counties and cities, often issue bonds where the primary pledge and source of repayment are the net revenues generated by a utility system operated directly under government auspices, such as a city water department. In other cases, states or state subdivisions create an independent authority or special purpose district that operates the system and issues the bonds.

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the issuer/deal page on https://ratings.moodys.com for the most updated credit rating action information and rating history.

The credit quality of essential-service utility revenue bonds has generally been strong, based on the fundamental strength of utilities, which include the following characteristics:

» The provision of essential services, usually in a government-protected monopoly;

» Typically unregulated and independent rate-setting authority;

» The ability to discontinue service to delinquent accounts and in many cases to put a lien on the property for nonpayment;

» Utility cost burdens that are typically low relative to household income and to tax burdens;

» A generally strong federal and state regulatory framework that is designed to keep utilities functioning in order to protect public health and achieve environmental goals;

» A "special revenue" designation that may insulate a utility from a parent's bankruptcy.

Scorecard Framework

The scorecard in this rating methodology is composed of four factors. All of the sub-factors comprise a number of sub-factors. The scorecard also includes 20 notching factors, also known as below-the-line adjustments, which may result in upward or downward adjustments in half-notch or whole notch increments to the preliminary scorecard-indicated outcome.

Exhibit 1
US Municipal Utility Revenue Debt Scorecard Overview

Factor	Factor Weighting	Sub-factor	Sub-factor Weighting
System Characteristics	30%	Asset Condition (Remaining Useful Life)	10%
		System Size (O&M)	7.5%
		Service Area Wealth (Median Family Income)	12.5%
Financial Strength	40%	Annual Debt Service Coverage	15%
		Days Cash on Hand	15%
		Debt to Operating Revenues	10%
Management	20%	Rate Management	10%
		Regulatory Compliance and Capital Planning	10%
Legal Provisions	10%	Rate Covenant	5%
		Debt Service Reserve Requirement	5%
Total	100%	Total	100%

Source: Moody's Investors Service

The scorecard does not include or address every factor that a rating committee may consider in assigning ratings in this sector. We may use the scorecard over various historical or forward-looking time periods. Furthermore, in our ratings we often incorporate directional views of risks and mitigants in a qualitative way. Please see the "Other Considerations" section.

Discussion of the Scorecard Factors

In this section, we explain our general approach for scoring each scorecard factor or sub-factor, and we describe why they are meaningful as credit indicators.

To arrive at a scorecard-indicated outcome, we begin by assigning a score for each weighted sub-factor. Based on the scores and weights for each sub-factor, a preliminary scorecard-indicated outcome before notching factors is produced.

We also assess the notching factors. Our assessment of these notching factors may result in upward or downward adjustments to the preliminary outcome that results from the weighted scorecard factors. The most common notching factors related to each of

the weighted scorecard factors are discussed below. In some circumstances, there may be notching for a credit event or trend that is not captured by the weighted scorecard sub-factors or the listed notching factors. We may also choose to make adjustments to the historical inputs to reflect our forward-looking views of how these statistics may change.

Below, we discuss each factor and subfactor, as well as the notching factors that we consider within each category of this methodology.

Factor: System Characteristics (30%)

Exhibit 2

System Characteristics (30%)		Aaa	Aa	A	Baa	Ba	B and Below
Asset Condition (10%)	Net Fixed Assets/Annual Depreciation :	> 75 years	75 years ≥ n > 25 years	25 years ≥ n > 12 years	12 years ≥ n > 9 years	9 Years ≥ n > 6 Years	≤ 6 Years
System Size (7.5%)	Water and/or sewer / Solid Waste:	O&M > $65M	$65M ≥ O&M > $30M	$30M ≥ O&M > $10M	$10M ≥ O&M > $3M	$3M ≥ O&M > $1M	O&M ≤ $1M
	Stormwater:	O&M > $30M	$30M ≥ O&M > $15M	$15M ≥ O&M > $8M	$8M ≥ O&M > $2M	$2M ≥ O&M > $750K	O&M ≤ $750K
	Gas or Electric:	O&M > $100M	$100M ≥ O&M > $50M	$50M ≥ O&M > $20M	$20M ≥ O&M > $8M	$8M ≥ O&M > $3M	O&M ≤ $3M
Service Area Wealth (12.5%)		> 150% of US median	150% ≥ US median > 90%	90% ≥ US median > 75%	75% ≥ US median > 50%	50% ≥ US median > 40%	≤ 40% of US median

Source: Moody's Investors Service

Why It Matters

This factor on the scorecard assesses a utility's capacity to fund its operations and capital needs based on the health of its capital assets, the size and diversity of its operations, and the strength and resources of its service base.

The scope of this factor is broad. Each of the sub-factors contributes to an analysis of what magnitude of expenditures is necessary to keep the system functioning, and how large, diverse, and flexible the available resources are to meet those expenditures.

Sub-factor: Asset Condition (10%)

Input: Net fixed assets divided by most recent year's depreciation, expressed in years

The condition of a utility's capital assets determines its ability to comply with environmental regulations and continue delivering adequate service with existing resources.

Depreciation is an accounting concept that acts as a proxy for the rate at which a utility's plant and equipment are aging. Central to our analysis of capital adequacy is an assessment of how utilities "fund depreciation," meaning make capital replacements and repairs to address aging plant and equipment.

The consequences of failing to fund depreciation can be costly. Implicit in this measure is the concept of deferred capital investment. Utilities that delay investing in their systems, replacing aging plant and equipment, and modernizing their facilities often find it more expensive to do so later. Capital investments are ordinarily more expensive when deferred.

Further, systems whose facilities deteriorate often run afoul of environmental regulations. The failure to fund depreciation, which will manifest as a declining useful remaining life, can lead to sewage overflows, inflow and infiltration problems, or non-compliant wastewater discharges, resulting in civil fines, litigation, or regulatory consent decrees. These are usually more expensive than funding depreciation through a prudent multi-year capital plan that replaces assets as they deteriorate or break down.

The inherent differences between types of utilities are manifested in their component parts, which can have very different useful lives. Because a solid waste utility is largely automotive-based, with collection vehicles and earth-moving equipment at the landfill, the useful life of its assets will be well under 20 years, compared to a water utility whose distribution mains and reservoir have useful lives of 40 to 100 years. We generally acknowledge these differences, which may be reflected in our scoring of notching factors.

For utilities whose asset condition ratios are not determinable, such as utilities that utilize cash accounting and do not report net fixed assets or depreciation, we are likely to assess the sufficiency of capital assets based on other available information.

Sub-factor: Service Area Wealth (12.5%)

Input: Median family income of the service area, expressed as a percentage of the US median

Most of the costs of operating a utility and maintaining its capital assets are borne by ratepayers. The income of the residents of the service base conveys the capacity of its rate-payers to bear higher rates to fund operations and capital upgrades.

Utilities that serve lower-income ratepayers may have more difficulty implementing higher rates, if utility costs consume a considerable share of residents' budgets. The US Environmental Protection Agency (EPA) considers wastewater costs exceeding 2% of median household income to be a heavy burden, for example, a threshold that would be reached more quickly for a utility serving lower-income ratepayers.

We believe MFI is the best proxy for the wealth of a service base, but other indicators such as the poverty rate, unemployment, home foreclosures, per capita income, and median home value supplement our analysis of ratepayer capacity.

Sub-factor: System Size (7.5%)

Input: Most recent year operations and maintenance expenditures, expressed in dollars

Larger systems tend to be more diverse and enjoy economies of scale. The size of a system implies the flexibility and resilience not only of its operations, but also of its service base.

Small systems present a number of risks. They are less likely to have redundancies, which allow a system to shut down some of its operations in an emergency or to make repairs without interrupting service. Small standalone water or sewer systems will typically depend upon a single supply of water or a single sewage treatment plant. They are more likely to be exposed to a concentrated customer base. They are more susceptible to the departure of a single large customer. An unexpected capital need is likely to be more costly relative to its annual budget. The collective engineering and scientific expertise is likely to be less robust than a larger system's.

We use different breakpoints for different types of systems in this subfactor, recognizing that not all types of utilities have the same cost structure. For instance, an electric distribution system is more expensive to run than a stormwater system. A distribution-only water system is likely to have a lower, more predictable cost base, but also depend on an external system for water supply and pay prices largely out of its control.

Utilities that are wholesalers to municipal government customers may exhibit operating stability not captured by size or service area wealth. Many of a utility's risks may be shifted to its municipal customers if their service contracts prevent these customers from switching providers or decreasing payments. If service contracts are so strongly worded and unconditional that municipal customers would have to pay the utility's debt service under any circumstances, then the utility's bonds may effectively represent a claim on the combined credit quality of the municipal governments.

For utilities that are exclusively wholesalers to municipal customers, we typically consider the credit quality of large customers ("participants") and the nature of the participants' pledge to the utility. For bonds secured by a utility's net revenue pledge, we incorporate the strength of the large municipal customers' credit quality as an important factor in the utility's revenue base. For utilities whose pledges are essentially a pass-through of the municipal customers' underlying pledges, we may rate their bonds using our public sector pool programs and financings methodology, recognizing that bondholders enjoy a direct claim on the underlying municipalities' ability and willingness to pay.[6]

Notching Factors Related to System Characteristics

Additional service area economic strength or diversity: We would use this adjustment, upward or downward, if the MFI statistic incompletely or inaccurately depicts that capacity of the service base to bear higher rates.

Significant customer concentration: A large exposure to a single user or industry, or a small number of users, poses substantial risks that might not be captured in MFI. We may notch down if a large share of a utility's revenues comes from one or a small number of customers, or from a single industry. We would be more likely to use this adjustment for volatile, unpredictable, and mobile industries than for longer-standing, more stable ones. We are less likely to consider a wholesale customer as a factor contributing to concentration, as it is purchasing on behalf of end-users.

Revenue per customer greatly over/under regional average: Revenue per customer conveys additional information about users' capacity for higher rates that might not be captured in MFI. We might notch upward or downward if revenue per customer implies higher or lower ability to increase rates than MFI suggests.

Exposure to weather volatility, extreme conditions or market fluctuations: Large amounts of rain that infiltrate pipes or storms that destroy equipment are examples of credit risks that could result in downward notching. Weather can also affect the prices that distribution systems pay third-party providers for electricity or natural gas.

Resource vulnerability: Water, gas, and electric distribution utilities sell a product whose availability can be limited or expensive in some cases. For instance, a water provider in a drought-stricken region may have to purchase expensive third-party water, resulting in declines in billable flow due to conservation efforts. We may notch down if the availability of water, an adequate gas supply, or a dependable source of electricity is vulnerable or in doubt.

Sizeable or insufficient capacity margin: Our useful remaining life calculation is designed to assess the quality of existing capital assets, but it does not measure the adequacy of a system's capacity relative to demand. Areas that are growing need more water, gas, and electricity, and place greater demands on wastewater and trash disposal utilities. Systems that are close to capacity may face greater capital costs to expand in the future, suggesting larger debt burdens and posing additional risks that may result in downward notching. Alternately, systems with ample capacity may be notched up, given the lack of capital spending requirements implied by the excess capacity. Further, excess capacity can sometimes imply a revenue-generating opportunity, since utilities can often sell their product or service to other parties. We are less likely to view excess capacity as a positive if it is caused by a declining user base.

Unusual depreciation practices relative to industry norms: Utilities typically have some flexibility to determine the depreciation schedules of their assets. Utilizing unreasonably long useful lives or employing other practices that distort depreciation schedules would also distort our remaining useful life calculation. We may notch down if an unreasonable depreciation schedule is inflating a utility's remaining useful life. Likewise, we may notch up if an unusually rapid depreciation schedule understates remaining useful life.

Factor: Financial Strength (40%)

Exhibit 3

Financial Strength (40%)	Aaa	Aa	A	Baa	Ba	B and Below
Annual Debt Service Coverage (15%)	> 2.00x	2.00x ≥ n > 1.70x	1.70x ≥ n > 1.25x	1.25x ≥ n > 1.00x	1.00x ≥ n > 0.70x	≤ 0.70x
Days Cash on Hand (15%)	> 250 Days	250 Days ≥ n > 150 Days	150 Days ≥ n > 35 Days	35 Days ≥ n > 15 Days	15 Days ≥ n > 7 Days	≤ 7 Days
Debt to Operating Revenues (10%)	< 2.00x	2.00x < n ≤ 4.00x	4.00x < n ≤ 7.00x	7.00x < n ≤ 8.00x	8.00x < n ≤ 9.00x	≥ 9.00x

Source: Moody's Investors Service

Why It Matters

The financial health of a utility determines its flexibility to respond to contingencies, resilience against potential short-term shocks, and cushion against a long-term unfavorable trend.

We measure or estimate utilities' financial health by looking at cash and other liquid reserves, the burden that debt places on operations, and the magnitude by which revenues are sufficient to meet expenditures.

Sub-factor: Annual Debt Service Coverage (15%)

Input: Most recent year's net revenues divided by most recent year's debt service, expressed as a multiple

Debt service coverage is a core statistic assessing the financial health of a utility revenue system. The magnitude by which net revenues are sufficient to cover debt service shows a utility's margin to tolerate business risks or declines in demand while still assuring repayment of debt. Higher coverage levels indicate greater flexibility to withstand volatile revenues, unexpected outflows, or customer resistance to higher rates.

Utilities usually enter into a rate covenant under which they pledge to achieve a given level of debt service coverage each year. The covenant helps ensure that the utility utilizes its assets to generate sufficient income to pay bondholders.

The analysis of a utility system's debt service coverage demands ample context. If debt service escalates in future years, then the utility's current net revenues may be sufficient to cover debt service this year, but not in the future. Systems with greater revenue stability can operate comfortably at lower coverage levels. Systems with greater capital needs are likely to incur more debt, which will lead to increased debt service and decreased coverage. The debt service coverage calculation is the basis for a comprehensive analysis of a utility's financial flexibility and trend over the long term.

Rate covenants define a calculation method. These calculation methods vary, for example in the inclusion or exclusion of connection fees. Our coverage calculation will frequently differ from the coverage utilities report for purposes of complying with their rate covenants. Frequently, our analysis will consider several types of coverage, including maximum annual debt service (MADS) coverage, annual debt service coverage, coverage with and without connection fees, and coverage as calculated for the rate covenant. For entry on the scorecard, we include connection fees (when pledged) in revenues, recognizing that these are pledged revenues that are usually generated annually and are an important source of funding for expansion. If connection fees are particularly volatile, or if they represent an inordinate share of revenues, we may adjust below the line.

Sub-factor: Days Cash on Hand (15%)

Input: Unrestricted cash and liquid investments times 365 divided by operating and maintenance expenses, expressed in days

Cash is the paramount resource utilities have to meet expenses, cope with emergencies, and navigate business interruptions. Utilities with a lot of cash and cash equivalents are able to survive temporary disruptions and cash flow shortfalls without missing important payments. A large cash balance can also partially compensate for the lack of a debt service reserve fund. A low cash balance indicates poor flexibility to manage contingencies.

We include in this measure any cash or cash-equivalent that is both unrestricted and liquid. The measure does not include cash held in a debt service reserve fund, unspent bond proceeds, or cash that is restricted for capital.

Sub-factor: Debt to Operating Revenues (10%)

Input: Net debt divided by most recent year's operating revenues, expressed as a multiple

A utility's debt profile determines its leverage and fixed costs. Systems that carry a lot of debt have less ability to reduce costs if demand shrinks, and are generally more challenged to achieve higher debt service coverage.

A greater debt burden may also prohibit a utility from funding necessary capital upgrades, if a covenant prevents the issuer from incurring the debt necessary to fund those upgrades.

"Net debt" is a utility's long-term debt minus its debt service reserve funds.

Notching Factors Related to Financial Strength

Debt service coverage (annual or MADS) below key thresholds: A debt service coverage ratio below 1 times is an important threshold, because coverage below 1 times indicates the utility is not fully covering debt service with income generated from operations. If a utility fails to achieve 1 times coverage, we may notch down to reflect the financial imbalance of the utility's operations. Another key threshold that would likely prompt us to notch down is if coverage were to fall below the utility's coverage covenant, even if that

covenant is higher than 1 times. Management's willingness and ability to operate the system for bondholders' benefit is a crucial credit consideration, and a breach of covenant calls that willingness and ability into question. A coverage level that impedes the issuance of additional bonds under the utility's additional bonds covenant could also prompt us to notch score down, if we think it would prevent the utility from funding necessary capital upgrades.

Constrained liquidity position due to oversized transfers: It is common for utilities to transfer cash to their general governments regularly, either to share overhead costs, make payments in lieu of taxes for occupied property, or to help fund shared infrastructure. It is also common for parent governments to tap utilities' cash to fund General Fund operations. We may notch down if these types of transfers are large and begin to strain its own liquidity. We are more likely to make this adjustment if the general government is operationally reliant on utility transfers and has the authority to increase them, particularly if the general government is struggling financially. Even if a utility has never transferred cash to its parent, such transfers remain a possibility,[7] one of the reasons for the relationship between a revenue rating and the GO rating of its general government.

Outsized capital needs: A utility with significant capital needs will likely need to incur additional debt not communicated in the existing debt metric. We may notch downward for utilities under regulatory consent decree, or otherwise with great capital needs, that are likely to increase their debt levels.

Oversized adjusted net pension liability relative to debt, or significant actuarial required contribution underpayment: Employees of public utilities are usually members of a municipal pension plan. Most utilities either sponsor their own plan or participate in another entity's plan and are responsible for funding their share of the plan's pension liabilities. We may notch down if this liability is especially large, or if the utility has underfunded its contributions.[8]

Significant exposure to puttable debt and/or swaps, or other unusual debt structure: The risks of a debt portfolio can be magnified if it is significantly composed of puttable debt. Utilities generally set rates with the intention of covering operating expenses and debt service in the current year. A debt put, accelerated amortization under a term-out, or other unexpected calls on a utility's resources can impose immediate and substantial, unbudgeted cash outflows and upend that intention. We may notch down, potentially by several notches, if the composition of a debt portfolio, or cash-flow demands or unfavorable valuation of a swap, indicates a greater degree of risk than the scorecard debt metric.

Factor: Management (20%)

Exhibit 4

Management (20%)	Aaa	Aa	A	Baa	Ba	B and Below
Rate Management (10%)	Excellent rate-setting record; no material political, practical, or regulatory limits on rate increases	Strong rate-setting record; little political, practical, or regulatory limits on rate increases	Average rate-setting record; some political, practical, or regulatory limits on rate increases	Adequate rate-setting record; political, practical, or regulatory impediments place material limits on rate increases	Below average rate-setting record; political, practical, or regulatory impediments place substantial limits on rate increases	Record of insufficiently adjusting rates; political, practical, or regulatory obstacles prevent implementation of necessary rate increases
Regulatory Compliance and Capital planning (10%)	Fully compliant OR proactively addressing compliance issues; Maintains sophisticated and manageable Capital Improvement Plan that addresses more than a 10-year period	Actively addressing minor compliance issues; Maintains comprehensive and manageable 10-year Capital Improvement Plan	Moderate violations with adopted plan to address issues; Maintains manageable 5-year Capital Improvement Plan	Significant compliance violations with limited solutions adopted; Maintains single year Capital Improvement Plan	Not fully addressing compliance issues; Limited or weak capital planning	Not addressing compliance issues; No capital planning

Source: Moody's Investors Service

Why It Matters

While the legal provisions of the indenture or other bond documents may establish the minimum level of financial margin at which a utility must be run, the utility's management determines the actual level at which it is run.

Utility management refers to the dynamics of setting rates, planning for capital spending, budgeting for annual expenditures, and complying with environmental regulations. All of these factors interplay with one another to determine the credit strength of a utility system.

The scorecard captures two crucial aspects of management: rate-setting and capital planning. These two aspects encompass most of what is important in running a utility: keeping the system in good working order, and paying for it.

Sub-factor: Rate Management (10%)

User rates are the primary, and sometimes only, mechanism utilities employ to pay for their operations.

Ideally, rates increase marginally and steadily, rather than choppily. It is common for utilities to split their rates into a "base" charge (flat rate charged to all users) plus a "volumetric" charge (per unit costs based on flow/usage). Utilities funded to a greater extent by the volumetric charge face greater risks, since volume can be economically sensitive or decline because of a shift in consumption patterns.

Management's track record at setting rates appropriately and increasing them when necessary drives this score. We tend to give higher scores to utilities that set rate structures under which increases are automatic, and do not require annual approval for implementation.

Embedded into this factor is the length of time required to implement a rate increase. Many public utilities enjoy the authority to set their own rates and can enact a rate increase in short order by majority vote of the governing board. Some utilities must give the public a few weeks' or months' notice before increasing rates, or choose to do so by policy or practice. Some utilities require state approval to increase rates. Utilities that need state approval often have to file a rate case subject to public objection, and in some cases the state takes a long time to approve them or denies the full rate increase.

The longer it takes a utility to implement a rate increase, the less flexibility it has to quickly generate new revenues when faced with cash flow shortfalls.

Sub-factor: Regulatory Compliance and Capital Planning (10%)

The public utility sector is heavily regulated. Most public utilities are regulated by federal as well as state agencies.

The EPA enforces the Safe Drinking Water Act for water distribution utilities, the Clean Water Act for sanitary sewer and stormwater utilities, the Resource Conservation and Recovery Act for solid waste disposal systems, and the Clean Air Act for electric utilities. These statutes, and the methods employed to enforce them, are continually evolving, often intensifying over time. Additionally, many states have passed their own environmental regulations and are active enforcers.

This scorecard factor assesses utilities' compliance with relevant regulations and their plans for the capital expenditures required to comply in the future.

In addition to achieving environmental compliance, proper capital planning ensures the continued delivery of the product or service and the ongoing generation of revenues.

In our assessment, we look for indications of potential compliance gaps, such as environmental litigation, a delay in renewing a permit, or a consent decree with a state or federal enforcement body.

Notching Factors Related to Management

Unusually strong or weak capital planning: Continued violations of environmental laws and the associated litigation can impose extraordinary costs on utilities. We may notch down if these costs threaten to overwhelm a system's resources, in the form of a large consent decree, lawsuit, or other costs. Alternately, we may notch up if a utility's capital planning is particularly sophisticated or forward-looking. More sophisticated and forward-looking capital management is more important for systems facing resource vulnerability or extreme weather volatility.

Factor: Legal Provisions (10%)

Exhibit 5

Legal Provisions (10%)	Aaa	Aa	A	Baa	Ba	B and Below
Rate Covenant (5%)	> 1.30x	1.30x ≥ n > 1.20x	1.20x ≥ n > 1.10x	1.10x ≥ n > 1.00x	≤ 1.00x	
Debt Service Reserve Requirement (5%)	DSRF funded at MADS	DSRF funded at lesser of standard 3-prong test	DSRF funded at less than 3-prong test OR springing DSRF	NO explicit DSRF; OR funded with speculative grade surety		

Source: Moody's Investors Service

Why It Matters

The legal provisions of a public utility revenue bond form the backbone of its security.

When a municipality assigns its General Obligation pledge to a bond, it has promised to use any revenues or resources at its disposal to pay debt service.

A utility revenue bond enjoys no such open-ended pledge, making the legal edifice of the bond critical to bondholder security. Most commonly, the pledge for municipal utility revenue bonds is a lien on the net revenues of the system. Occasionally, bondholders

enjoy a lien on the gross revenues of a system. We ordinarily do not consider a gross revenue pledge as materially stronger than a net revenue pledge, because systems need to pay operating and maintenance costs in order to remain functional.

The linchpin of a bond's legal structure is its covenants: the contractual compulsions the municipal utility agrees to when issuing the bonds.

Utilities abide by many different types of covenants. We consider three to be the most important: the rate covenant, the additional bonds test, and the debt service reserve fund. Also crucial in the analysis of a revenue bond's legal structure is whether the flow of funds is open-loop (accessible by another government entity) or closed-loop.

Strong covenants bind the utility to utilize its assets to benefit bondholders by operating with a comfortable financial margin, not taking on too much debt, and maintaining adequate cash available to pay debt service. Weak or nonexistent covenants allow the utility to operate on a thin margin or even at a net loss, incur a lot of leverage, transfer its money to other government entities, or maintain inadequate cash, in ways that are detrimental to bondholders.

Covenants specify the minimum factors management must contractually abide by. Utilities frequently exceed the minimum. Many of our ratings represent the expectation of performance at levels that exceed the covenants.

Sub-factor: Rate Covenant (5%)

Input: Covenant governing net revenues (operating revenues minus operating expenditures net of depreciation) divided by annual debt service, expressed as a multiple

The rate covenant is a pledge to set rates such that net revenues will be sufficient to cover debt service at a prescribed level. For example, a covenant may bind a utility to ensure that net revenues cover debt service by 1.2 times. If net revenues fall short of this covenant in one year, the utility must raise rates to achieve a compliant coverage level the following year.

The rate covenant takes many forms. Some utilities pledge for net revenues to cover current year annual debt service by a given level. Others pledge to cover average annual debt service throughout the life of the bonds at that level. A strong coverage requirement would be for net revenues to cover maximum annual debt service (MADS) by a certain level.

Some rate covenant formats are materially weaker than this. Some utilities allow a "rolling" calculation, which includes outstanding cash from prior years' surpluses as part of the resources available to cover debt service. Many rate covenants allow connection fees to be included in available operating revenues.

The rate covenant coverage thresholds are based on a covenant that is an annual debt service coverage calculation. Using the notching factors described below, we may adjust, upward or downward, for any departures from this format.

Sub-factor: Debt Service Reserve Requirement (5%)

Input: Debt service reserve requirement

Many issuers agree to hold a specified amount of cash or other resources in a debt service reserve fund (DSRF), which the trustee can tap to pay debt service in the event that net revenues are inadequate. The DSRF covenant ordinarily requires the utility to replenish any draws from the DSRF.

The DSRF protects bondholders by assuring the payment of debt service even if net revenues fall short in one year.

DSRF funds can be funded with cash, or with surety policies from an insurer. We generally consider cash to be superior to a surety, although this is unlikely to materially affect the assigned rating as long as the surety provider is rated investment grade.

One commonly used DSRF requirement is known as the "three-pronged test." Under tax law, the Internal Revenue Service limits the earning of interest on proceeds of a tax-exempt bond unless the invested proceeds comply with the three-pronged test. Under that test, the DSRF must be the lesser of 10% of principal, MADS, or 1.25 times average annual debt service. A DSRF set at the three-pronged test is usually weaker than one funded at MADS.

Revenue bonds have been issued without a DSRF in the past. This has resulted in a number of utilities with some bonds secured by a DSRF and other parity bonds secured by the same lien but no DSRF. We have rarely distinguished ratings between these parity bonds.

The DSRF is a last-resort security measure, and most utilities comply with their coverage covenants and never have to tap their DSRF. We are most likely to distinguish between DSRF-secured bonds and bonds with no DSRF if the system holds narrow liquidity. A system operating with abundant liquidity can use its operating cash to meet debt service shortfalls, effectively executing a similar function to the DSRF. The combination of narrow liquidity and no DSRF exposes bondholders to greater risks of interrupted debt service payments and is therefore more likely to be reflected in ratings.

For a utility whose debt is mostly, but not all, secured by a DSRF, we will still enter the DSRF requirement into the scorecard. For a utility whose debt is mostly not secured by a DSRF, we will adjust the DSRF entry downward.[9]

Notching Factors Related to Legal Provisions

Coverage covenant other than annual debt service: The thresholds for the rate covenant sub-factor is based on net revenue coverage of annual debt service. A "rolling" coverage covenant that includes outstanding cash, or some other modification that weakens the meaning of the covenant, may prompt us to notch down. Conversely, a MADS coverage covenant may prompt us to notch up.

Structural enhancements/complexities: The scorecard is designed to capture covenants as they are most commonly constituted but cannot account for the myriad structures and complexities that arise in bond transactions throughout the sector. Enhancements such as a lock-box structure for debt service may lead us to notch up. Other shortcomings, such as a weak additional bonds test or the inclusion of cash in a coverage covenant, may lead us to notch down. Any characteristic of the legal provisions of a bond transaction may lead us to conclude that the scorecard does not adequately capture its risk profile, resulting notching or on a rating that is different from the scorecard-indicated outcome.

Other Considerations

Ratings may reflect consideration of additional factors that are not in the scorecard, usually because the factor's credit importance varies widely among the issuers in the sector or because the factor may be important only under certain circumstances or for a subset of issuers. Such factors include financial controls and the quality of financial reporting; the quality and experience of management; assessments of governance as well as environmental and social considerations; and possible interference from other levels of government. Regulatory, litigation, liquidity and technology risk as well as changes in demographic and macroeconomic trends also affect ratings.

Following are some examples of additional considerations that may be reflected in our ratings and that may cause ratings to be different from scorecard-indicated outcomes.

Environmental, Social and Governance Considerations

Environmental, social and governance (ESG) considerations may affect the ratings of municipal utilities. For information about our approach to assessing ESG issues, please see our methodology that describes our general principles for assessing these risks.[10]

Municipal utilities may be directly exposed to extreme weather events due to climate change, such as flooding or droughts, and this may affect credit quality. Government facilities or investments in physical assets could be affected by physical risks and by other sources of environmental risk. Utility systems providing service to coastal communities or communities that are greatly susceptible to drought are highly exposed to environmental risks. Environmental hazards, such as hurricanes, can result in significant system damage requiring unexpected capital spending for repairs, while longer-term environmental trends, such as rising sea levels or prolonged drought conditions, can cause more prolonged pressure on system budgeting and spending priorities.

Social considerations such as staff turnover, aging workforce, labor shortages or unrest or changes in the demographics of a municipal utility's service area, the income level of its customers and the affordability of housing may influence credit strength.

Some governance considerations are reflected in the Rate Management and Regulatory Compliance and Capital Planning qualitative sub-factors, including revenue-raising flexibility and capital planning. Additional considerations may include debt management, multi-year fiscal planning and the timeliness of information disclosure. Weak or opaque governance can negatively affect a municipal utility's performance, which can reduce customer willingness to support rate increases and can also constrain a municipal utility's access to capital markets. Conversely, very strong governance can lead to high customer satisfaction that reduces public resistance to rate increases and capital investment.

ESG considerations are not always negative, and they can be a source of credit strength in some instances. For example, access to clean water, options for the safe disposal of wastewater, and a strong labor market and generally affordable housing can drive strong revenue trends and foster utility system growth. External support, such as state or federal government funds for natural disaster relief, can help mitigate the credit impact of ESG exposures.

Regulatory Considerations

Issuers in the municipal utility sector are subject to varying degrees of regulatory oversight. Effects of these regulations may entail limitations on operations, higher costs, and higher potential for technology disruptions and demand substitution. Regional differences in regulation, implementation or enforcement may advantage or disadvantage particular issuers.

Our view of future regulations plays an important role in our expectations of future financial metrics as well as our confidence level in the ability of an issuer to generate sufficient cash flows relative to its debt burden over the medium and longer term. Regulatory considerations also play a role in our assessment of an issuer's cost recovery framework, competitiveness and willingness to recover costs with sound financial metrics. In some circumstances, regulatory considerations may also be a rating factor outside the scorecard, for instance when regulatory change is swift.

Likelihood of Receiving Extraordinary or Ongoing Support

Some municipal utilities receive extraordinary support from their component local government or a higher level of government, such as the state, typically to help the municipal utility avoid a default on debt obligations. The circumstances surrounding extraordinary support for a municipal utility are often specific to the situation. In some cases, a state or local government may provide meaningful financial or managerial support to a municipal utility undergoing stress, thereby bolstering a weak fundamental credit profile and materially lowering the risk of a payment default. Conversely, a temporary infusion of funds may bolster financial performance in the short term but leave a municipal utility exposed to rapid financial deterioration if the aid does not continue. We typically assess whether the support will be ongoing and sufficient to stabilize the municipal utility. We also consider the associated benefits or risks of dependence on such support. Alternatively, many municipal utilities receive annual funding or low-interest loans from the federal, state or local government. This type of funding is often earmarked, and we do not consider it to be extraordinary support.

Parent Government Credit Quality

While some public utility systems are independent of a particular municipality,[11] municipally-owned utility systems typically have enduring credit linkages with their parent government. Important linkages often include a legal structure that could draw the utility system into a general government municipal bankruptcy, combined or intermingled financial operations, shared debt or pension obligations, and mutual or affiliated governance or management. Additional linkages that typically pertain to municipally-owned utility systems, including common boundaries, a common economic environment, and common demographics and income levels, may also apply to some independent utilities. As a result of these credit linkages, the credit quality of a municipally-owned utility's parent government and that government's ability to meet its general obligations are important considerations in the rating assigned to a municipally-owned utility.

Shared credit characteristics between a municipality and an owned utility often affect the metrics used to assess scorecard factors, including the notching factors. For example, a utility system's practice of transferring excess funds to its parent government is likely to be reflected in the assessment of its financial strength, especially in the Days Cash on Hand sub-factor. However, there can be credit linkages between a utility and its parent government that are not fully reflected in the scorecard. Based on these linkages, a municipally-owned utility's revenue rating is typically not higher than two notches above the issuer or general obligation rating of the parent government. Scenarios where a utility's revenue rating may exceed the issuer or general obligation rating of the parent government would be in cases where there is clear information indicating a de-linkage of credit profiles, for example in a distress scenario where it is clear that debt service will continue to be paid on the revenue debt despite a default or impending default of the municipality's general obligation debt. An additional potential example could be a case where a utility has a meaningfully larger service territory than the parent government's boundaries and benefits from a more robust economic environment than the parent.

Financial Controls

We rely on the accuracy of audited financial statements to assign and monitor ratings in this sector. The quality of financial statements may be influenced by internal controls, including the proper tone at the top, centralized oversight of operations, and consistency in

accounting policies and procedures. Auditors' reports on the effectiveness of internal controls, auditors' comments in financial reports and unusual restatements of financial statements or delays in regulatory filings may indicate weaknesses in internal controls.

Additional Metrics

The metrics included in the scorecard are those that are generally most important in assigning ratings to issuers in this sector; however, we may use additional metrics to inform our analysis in specific cases. These additional metrics may be important to our forward view of metrics that are in the scorecard or other rating factors.

Event Risk

We also recognize the possibility that an unexpected event could cause a sudden and sharp decline in a municipal utility's fundamental creditworthiness, which may cause actual ratings to be lower than the scorecard-indicated outcome. Event risks — which are varied and can include natural disasters, sudden changes in state law or regulation, material litigation, pandemics or cybercrime events — can have a material credit impact on even a stable municipal utility.

Treatment of Different Liens on a US Municipal Utility's Net Revenues

It is common for utilities to issue debt secured by different liens on their net revenues. Senior bonds are secured by a first lien on net revenues, and subordinate bonds or loans secured by a subordinate, or junior, lien. Sometimes, utilities will issue debt secured by a third lien or lower.

Our practice is to evaluate the likelihood of default and the expected recovery in the event of default for each lien independently.

This will most commonly result in a rating distinction of one notch for each lien of subordination. In other words, if a municipal utility's senior lien is rated Aa3, its subordinate lien will most likely be rated A1 and the third lien will most likely be rated A2.

The reason for the typical one-notch-per-lien distinction is that subordinate liens are marginally more likely to default than senior liens, and subordinate liens' expected recovery in the event of default would be lower. Senior liens are typically afforded stronger legal protections under utilities' indentures, senior-lien debt service is usually paid earlier in the flow of funds, and the first lien would likely enjoy a better claim in bankruptcy.

For most investment grade municipal utilities, the probability of default for any lien is small, and so the notching distinction is driven primarily by a greater expected loss severity in the unlikely event of a default. This is comparable to our approach for ratings distinctions for different debt classes of investment grade corporations, where ratings distinctions are driven by differences in expected loss severities.[12] In contrast to corporates, however, there often is not an explicit cross-default of senior municipal debt in the event of a subordinate payment default.

In some instances, we may conclude that an investment grade municipal utility's subordinate lien has a default probability and expected loss severity that is nearly as low or just as low as the senior lien (in which case we may not make a ratings distinction), or a default probability and expected loss severity that is materially higher than the senior lien (in which case we may make a ratings distinction of more than one notch).

Such a conclusion would be based on the municipal utility's management of its system with respect to its liens, and the characteristics of the legal framework governing the liens: rate covenants, additional debt provisions, and cross-default and acceleration provisions in a senior lien's variable rate debt resulting from a default on the subordinate lien, for example. If a utility has only a very small amount of senior lien debt, we may choose not to distinguish between liens.

The distinctions among a municipal utility's liens become starker when it faces a material likelihood of default or bankruptcy. For these situations, the different characteristics of the liens are likely to drive greater disparities in default probabilities and expected recoveries for disparate liens. Thus, we are more likely to employ ratings distinctions other than one notch for speculative grade municipal utilities' different liens as the Loss Given Default approach drives more of the analysis.

In nearly all instances, the ratings on the different liens of the same utility will remain closely related. The reason for this is that municipal utilities are actively managed enterprises that continually need to generate net revenues sufficient not only to cover debt service but also to fund capital needs. Even if senior lien coverage is strong, a utility that is unable to pay its junior lien debt service is not generating excess funds for capital investment and does not have capacity for capital borrowing. Thus, while subordinate liens

face greater default probability and higher loss expectations based on their first-loss positions, an increased likelihood of default on a subordinate lien implies an increased likelihood of insolvency for the utility as a whole.

For this reason, we enter the debt-oriented inputs into the scorecard on a consolidated basis. For the debt to revenues factor, we enter total debt (senior and junior). For the debt service coverage factor, we enter total debt service coverage. It is the municipal utility's ability to cover all of its debt service with net revenues that determines its viability as a going concern. Even for a senior lien with a large coverage factor by net revenues, a narrow coverage of all debt service implies pressure to maintain healthy operations and generate funds sufficient for capital reinvestment.

Limitations

In the preceding sections, we have discussed the scorecard factors and many of the other considerations that may be important in assigning ratings. In this section, we discuss limitations that pertain to the scorecard and to the overall rating methodology.

Limitations of the Scorecard

There are various reasons why scorecard-indicated outcomes may not map closely to actual ratings.

The scorecard in this rating methodology is a relatively simple tool focused on indicators for relative credit strength. Credit loss and recovery considerations, which are typically more important as an issuer gets closer to default, may not be fully captured in the scorecard. The scorecard is also limited by its upper and lower bounds, causing scorecard-indicated outcomes to be less likely to align with ratings for issuers at the upper and lower ends of the rating scale.

The weights for each factor and sub-factor in the scorecard represent an approximation of their importance for rating decisions across the sector, but the actual importance of a particular factor may vary substantially based on an individual issuer's circumstances.

Factors that are outside the scorecard, including those discussed above in the "Other Considerations" section, may be important for ratings, and their relative importance may also vary from issuer to issuer or from instrument to instrument. In addition, certain broad methodological considerations described in one or more cross-sector rating methodologies may be relevant to ratings in this sector.[13] Examples of such considerations include the following: how sovereign credit quality affects non-sovereign issuers, the assessment of credit support from other entities, and the assignment of short-term ratings.

We may use the scorecard over various historical or forward-looking time periods. Furthermore, in our ratings we often incorporate directional views of risks and mitigants in a qualitative way.

General Limitations of the Methodology

This methodology document does not include an exhaustive description of all factors that we may consider in assigning ratings in this sector. Municipal utilities may face new risks or new combinations of risks, and they may develop new strategies to mitigate risk. We seek to incorporate all material credit considerations in ratings and to take the most forward-looking perspective that visibility into these risks and mitigants permits.

Ratings reflect our expectations for an issuer's future performance; however, as the forward horizon lengthens, uncertainty increases and the utility of precise estimates, as scorecard inputs or in other considerations, typically diminishes. Our forward-looking opinions are based on assumptions that may prove, in hindsight, to have been incorrect. Reasons for this could include unanticipated changes in any of the following: the macroeconomic environment, general financial market conditions, disruptive technology, or regulatory and legal actions. In any case, predicting the future is subject to substantial uncertainty.

Appendix: US Municipal Utility Revenue Debt Scorecard

Exhibit 6

		Aaa	Aa	A	Baa	Ba	B and Below
Numerical score		**0.5 to 1.5**	**1.5 to 2.5**	**2.5 to 3.5**	**3.5 to 4.5**	**4.5 to 5.5**	**5.5 to 6.5**
System Characteristics (30%)							
Asset Condition (10%)	Net Fixed Assets/Annual Depreciation:	> 75 years	75 years ≥ n > 25 years	25 years ≥ n > 12 years	12 years ≥ n > 9 years	9 Years ≥ n > 6 Years	≤ 6 Years
System Size (7.5%)	Water and/or Sewer/ Solid Waste:	O&M > $65M	$65M ≥ O&M > $30M	$30M ≥ O&M > $10M	$10M ≥ O&M > $3M	$3M ≥ O&M > $1M	O&M ≤ $1M
	Stormwater:	O&M > $30M	$30M ≥ O&M > $15M	$15M ≥ O&M > $8M	$8M ≥ O&M > $2M	$2M ≥ O&M > $750K	O&M ≤ $750K
	Gas or Electric:	O&M > $100M	$100M ≥ O&M > $50M	$50M ≥ O&M > $20M	$20M ≥ O&M > $8M	$8M ≥ O&M > $3M	O&M ≤ $3M
Service Area Wealth (12.5%)		> 150% of US median	150% ≥ US median > 90%	90% ≥ US median > 75%	75% ≥ US median > 50%	50% ≥ US median > 40%	≤ 40% of US median
Financial Strength (40%)							
Annual Debt Service Coverage (15%)		> 2.00x	2.00x ≥ n > 1.70x	1.70x ≥ n > 1.25x	1.25x ≥ n > 1.00x	1.00x ≥ n > 0.70x	≤ 0.70x
Days Cash on Hand (15%)		> 250 Days	250 Days ≥ n > 150 Days	150 Days ≥ n > 35 Days	35 Days ≥ n > 15 Days	15 Days ≥ n > 7 Days	≤ 7 Days
Debt to Operating Revenues (10%)		< 2.00x	2.00x < n ≤ 4.00x	4.00x < n ≤ 7.00x	7.00x < n ≤ 8.00x	8.00x < n ≤ 9.00x	≥ 9.00x
Management (20%)							
Rate Management (10%)		Excellent rate-setting record; no material political, practical, or regulatory limits on rate increases	Strong rate-setting record; little political, practical, or regulatory limits on rate increases	Average rate-setting record; some political, practical, or regulatory limits on rate increases	Adequate rate-setting record; political, practical, or regulatory impediments place material limits on rate increases	Below average rate-setting record; political, practical, or regulatory impediments place substantial limits on rate increases	Record of insufficiently adjusting rates; political, practical, or regulatory obstacles prevent implementation of necessary rate increases
Regulatory Compliance and Capital Planning (10%)		Fully compliant OR proactively addressing compliance issues; Maintains sophisticated and manageable Capital Improvement Plan that addresses more than a 10-year period	Actively addressing minor compliance issues; Maintains comprehensive and manageable 10-year Capital Improvement Plan	Moderate violations with adopted plan to address issues; Maintains manageable 5-year Capital Improvement Plan	Significant compliance violations with limited solutions adopted; Maintains single year Capital Improvement Plan	Not fully addressing compliance issues; Limited or weak capital planning	Not addressing compliance issues; No capital planning
Legal Provisions (10%)							
Rate Covenant (5%)		> 1.30x	1.30x ≥ n > 1.20x	1.20x ≥ n > 1.10x	1.10x ≥ n > 1.00x	≤ 1.00x*	
Debt Service Reserve Requirement (5%)		DSRF funded at MADS	DSRF funded at lesser of standard 3-prong test	DSRF funded at less than 3-prong test OR springing DSRF	NO explicit DSRF; OR funded with speculative grade surety**		

* Scores as a Ba.
** Scores as a Baa.
Source: Moody's Investors Service

Adjustments/Notching Factors

Factor: System Characteristics
Additional service area economic strength or diversity
Significant customer concentration
Revenue-per-Customer greatly over/under regional average
Exposure to weather volatility, extreme conditions or market fluctuations
Resource vulnerability
Sizable or insufficient capacity margin
Unusual depreciation practices relative to industry norms
Other analyst adjustment to System Characteristics (Specify)
Factor: Financial Strength
Debt Service Coverage (Annual or MADS) below key thresholds
Constrained liquidity position due to oversized transfers
Outsized capital needs
Oversized adjusted net pension liability relative to debt, or significant under-payment of actuarial funding requirement
Significant exposure to puttable debt and/or swaps or other unusual debt structure
Other analyst adjustment to Financial Strength factor (Specify)
Factor: Management
Unusually strong or weak capital planning
Other analyst adjustment to Management factor (Specify)
Factor: Legal Provisions
Coverage covenant other than annual debt service
Structural Enhancements/Complexities
Other analyst adjustment to Legal Provisions factor (Specify)
Other
Credit Event/Trend not yet reflected in existing data set

Source: Moody's Investors Service

Exhibit 7

Scorecard-Indicated Outcome

Scorecard-Indicated Outcome	Aggregate Numeric Score
Aaa	0.5 to 1.5
Aa1	1.5 to 1.83
Aa2	1.83 to 2.17
Aa3	2.17 to 2.5
A1	2.5 to 2.83
A2	2.83 to 3.17
A3	3.17 to 3.5
Baa1	3.5 to 3.83
Baa2	3.83 to 4.17
Baa3	4.17 to 4.5
Ba1	4.5 to 4.83
Ba2	4.83 to 5.17
Ba3	5.17 to 5.5
B1	5.5 to 5.83
B2	5.83 to 6.17
B3 and below	6.17 to 6.5

Source: Moody's Investors Service

Moody's Related Publications

Credit ratings are primarily determined through the application of sector credit rating methodologies. Certain broad methodological considerations (described in one or more cross-sector rating methodologies) may also be relevant to the determination of credit ratings of issuers and instruments. A list of sector and cross-sector credit rating methodologies can be found here.

For data summarizing the historical robustness and predictive power of credit ratings, please click here.

For further information, please refer to *Rating Symbols and Definitions*, which is available here.

Endnotes

1 In our methodologies and research, the terms "scorecard" and "grid" are used interchangeably.

2 A link to a list of our sector and cross-sector methodologies can be found in the "Moody's Related Publications" section.

3 This methodology covers municipal gas distribution utilities. These utilities typically purchase their supply from natural gas producers or intermediaries, and the gas is delivered via natural gas pipeline to the municipality's distributions system. A link to a list of our sector and cross-sector methodologies can be found in the "Moody's Related Publications" section.

4 Only those municipal electric utilities that generate less than 20% of their own power are rated using this methodology. We rate public power utilities using different methodologies. For information, see our methodology that discusses US public power electric utilities with generation ownership exposure and also our methodology that discusses US municipal joint action agencies. A link to a list of our sector and cross-sector methodologies can be found in the "Moody's Related Publications" section.

5 A link to a list of our sector and cross-sector methodologies can be found in the "Moody's Related Publications" section.

6 A link to an index of our sector and cross-sector methodologies can be found in the "Moody's Related Publications" section.

7 Unless the utility's flow of funds is closed-loop. A closed-loop flow of funds is stronger than an open one for this reason.

8 For a description of how we calculate or estimate adjusted net pension liability, please see our cross-sector methodology that describes our adjustments to pension data reported by Governmental Accounting Standards Board (GASB) issuers.

9 For example, if 1/3 of a utility's debt is secured by a DSRF funded at MADs and 2/3 is not secured by a DSRF at all, we may enter the DSRF requirement as a Baa.

10 A link to a list of our sector and cross-sector methodologies can be found in the "Moody's Related Publications" section.

11 For example, we typically consider a stand-alone utility authority or special purpose district utility system that is not directly owned by a state or local government to be independent of a municipality.

12 For more information, see our cross-sector methodology that describes the alignment of corporate instrument ratings based on differences in security and priority of claim. A link to a list of our sector and cross-sector methodologies can be found in the "Moody's Related Publications" section.

13 A link to a list of our sector and cross-sector methodologies can be found in the "Moody's Related Publications" section.

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REPORT NUMBER 1396729

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Exhibit CF-7

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U.S. Municipal Water, Sewer, And Solid Waste Utilities: Methodology And Assumptions

April 14, 2022

OVERVIEW AND SCOPE

1. These criteria apply to ratings on and refer to all utilities in scope as municipal water and sewer utilities, including waterworks, sanitary sewer, drainage, stormwater, solid waste systems, and irrigation districts. Also included in the scope of these criteria are combined water and sewer systems for which the above-mentioned services predominate. The issuers and issues in scope typically do not benefit from a guarantee from a state or local government nor are they secured by a general obligation (GO) of a state or local government. In-scope utilities may be units of U.S. local and regional governments (LRGs) or comparable political subdivisions provided that they:
   - Maintain discrete operations, and
   - There are ongoing operations to deliver water and sewer services directly to retail customers.
2. The public or municipal enterprises within the scope of these criteria include, generally, those with the following characteristics:
   - The entity is an autonomous political subdivision or a wholly owned department of a political subdivision that may have shared governance and financial reporting, including entities where there is a concession agreement with a private operator;
   - The entity has a public policymaking role, mission, or mandate to deliver an essential service deemed necessary for public health, and is not a commercial entity such as an investor-owned utility or a corporation (whether a bankruptcy-remote or single-purpose entity or not);
   - The entity may receive some contractual payments or appropriations from a related political subdivision such as the general fund of the LRG; and
   - The entity is not registered as a commercial enterprise or public corporation and does not pay dividends (other than to its affiliated general government), establish ownership shares, or access the equity markets.
3. While not an exhaustive list, examples of debt rated under these criteria are bonds issued by a city, utility board, retail raw-water service providers such as irrigation districts, and a regional authority that provides primarily retail water and sewer service or solid waste collection, handling, and removal services. Examples of entities that are not rated under these criteria include development districts, investor-owned utilities, project finance, master limited partnerships, and

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limited liability corporations. Investor-owned utilities and corporations are rated using "Corporate Methodology," published Nov. 19, 2013, and "Key Credit Factors For The Regulated Utilities Industry," published Nov. 19, 2013. Master limited partnerships are rated based on "Methodology: Master Limited Partnerships And General Partnerships," published Sept. 22, 2014.

4. Entities whose revenues are derived entirely from sales for resale to other entities, such as traditional wholesale providers or joint action agencies, continue to be evaluated based on the "Wholesale Utilities" criteria, published May 24, 2005.

5. LRGs often own and/or operate other enterprises such as electric systems, gas distribution utilities, or other utility services. Although many of the themes addressed by these criteria could apply in part to those other enterprises, we typically assess non-water and sewer utility operations using other industry-specific criteria. We believe related governments, while generally not directly linked, can directly influence credit quality. If a municipal utility is receiving or could receive financial support from the LRG or, conversely, if the municipal utility is providing or could provide support to the LRG, we account for this in the financial profile.

6. Many LRGs issue their own GO or other tax-secured debt on behalf of the utility. In those cases, this debt, even if practically paid by water revenues, continue to be evaluated using the applicable LRG criteria.

7. We generally believe that in cases of distress utilities do not benefit from an explicit or implicit level of extraordinary support from the U.S. federal government or state government in which they operate. In cases where we consider a utility to be a GRE, these criteria are used to determine the stand-alone credit profile (SACP), which is used as an input to the GRE criteria (see "Rating Government-Related Entities: Methodology And Assumptions," published March 25, 2015) to arrive at an issuer credit rating (ICR).

8. We consider the strength of lease revenue or certificates of participation issued by utilities as equivalent to a pledge of the same lien of revenues. Therefore, we do not distinguish between these securities. If a utility were to issue appropriation-secured debt that did not meet the above assumptions, we apply "Issue Credit Ratings Linked To U.S. Public Finance Obligors' Creditworthiness," published Nov. 20, 2019.

9. This article is related to "Principles Of Credit Ratings," published Feb. 16, 2011.

KEY PUBLICATION INFORMATION

- Effective date: These criteria are effective April 14, 2022, except in jurisdictions that require local registration. In those jurisdictions, the criteria are effective only after the local registration process is completed.
- This updated methodology follows our request for comment, titled "Request for Comment: U.S. Municipal Water And Sewer Utilities: Methodology And Assumptions," published Dec., 14, 2021. For the changes between the RFC and the final criteria, see "U.S. Municipal Water, Sewer, And Solid Waste Utilities: Methodologies And Assumptions," April 14, 2022.
- These criteria supersede the criteria articles listed in the "Fully superseded criteria" section at the end of this article.

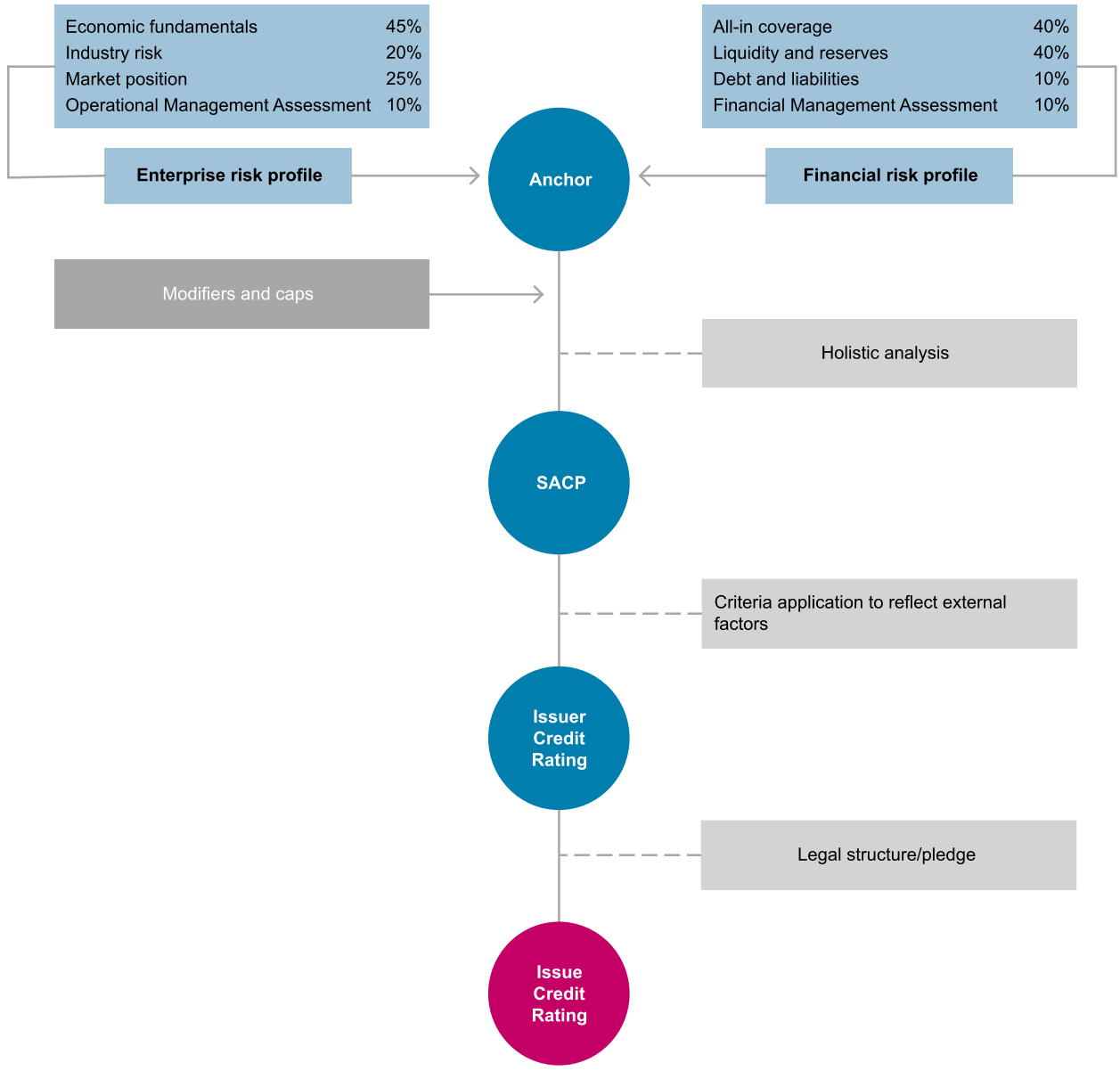
METHODOLOGY

10. These criteria use the same general framework as our criteria for other municipal enterprise sectors. Specifically, these criteria assign ratings using a framework that considers enterprise risk (enterprise risk profile) and financial risk (financial risk profile). Chart 1 depicts how the enterprise and financial risk profile assessments interact to arrive at the anchor.

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Chart 1

Analytical Framework For Municipal Water And Sewer Utility Ratings



Source: S&P Global Ratings.

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11. The anchor results from the combination of the enterprise and financial risk profile assessments in table 1. We use lower-case letters in table 1 to highlight that the anchors are not ratings themselves, but rather initial indicative credit levels suggested by the enterprise and financial risk profile assessments. In cases where table 1 presents two anchors, the choice between the two anchors is based on our view of the future performance of the factors in the enterprise and

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financial risk profiles.

12. After we determine the anchor, we use modifiers. Such modifiers can positively or negatively affect the anchor suggested by table 1. Then we apply our holistic analysis to reach an SACP. A holistic analysis is part of determining the SACP because that helps us capture a comprehensive analysis of creditworthiness. The holistic analysis can have a one-notch impact up or down. When we determine an adjustment of one notch up or down is warranted, it may be based on factors including our forward-looking view of an issuer's operating and financial performance. It may also reflect a comparable ratings analysis when relevant, or strengths or weaknesses not fully reflected through application of the criteria framework as it pertains specifically to the issuer.

13. We use the term SACP to reflect the outcome from table 1 plus any relevant modifiers and caps described in the Primary Credit Factors section and the holistic analysis described earlier. For more information about SACPs, see our criteria "Stand-Alone Credit Profiles: One Component Of A Rating," published Oct. 1, 2010. Next, we analyze the influence of external factors such as sovereign risk (i.e., ratings may be constrained by the sovereign rating on the country in which the utility is domiciled) -- see "Ratings Above The Sovereign: Corporate And Government Ratings—Methodology And Assumptions," published Nov. 19, 2013; and the potential for extraordinary support or intervention from a related government or entity -- see "General Criteria: Rating Government-Related Entities: Methodology And Assumptions," published March 25, 2015.

14. Once the effect of any external factors is incorporated, we arrive at the ICR. The ICR reflects the general creditworthiness of the entity and does not incorporate the pledge or covenants provided to bondholders for any particular debt instrument. In the final step of our analysis, if we are rating a specific debt instrument, we review the legal structure of the instrument, including the pledge and covenants, to determine the issue credit rating. This analysis most often results in an issue credit rating that is the same as the ICR. However, the two may differ in some circumstances. For ratings below 'B-', see "Criteria For Assigning 'CCC+', 'CCC', 'CCC-', And 'CC' Ratings," published Oct. 1, 2012, as well as "Timeliness Of Payments: Grace Periods, Guarantees, And Use Of 'D' And 'SD' Ratings," published Oct. 24, 2013.

15. Issue credit ratings, including subordinate-lien debt, are determined based on our view of the ICR and the legal/covenant package, as more fully described in "Assigning Issue Credit Ratings Of Operating Entities," published May 20, 2015. Further information regarding our view of debt security and covenants is provided below.

OVERALL FRAMEWORK FOR RATING MUNICIPAL UTILITIES

16. These criteria are used to assign credit ratings to utilities based on quantitative and qualitative analysis of a range of economic, financial, operational, management, and debt factors, including those related to environmental, social, and governance (ESG). The analytical framework is articulated around two major components: the enterprise risk profile and the financial risk profile. The enterprise and financial risk profile assessments are determined by combining (see chart 1) and then rounding to the whole number the weighted average of the individual factors. The anchor results from the combination of the enterprise and financial risk assessments as shown in table 1.

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Table 1

Determining The Anchor

Enterprise risk profile	Financial risk profile 1	2	3	4	5	6
	Extremely strong	Very strong	Strong	Adequate	Vulnerable	Highly vulnerable
1 Extremely strong	aaa	aa+	aa-	a	bbb+/bbb	bb+/bb
2 Very strong	aa+	aa/aa-	a+	a-	bbb/bbb-	bb/bb-
3 Strong	aa-	a+	a	bbb+/bbb	bbb-/bb+	bb-
4 Adequate	a	a/a-	a-/bbb+	bbb/bbb-	bb	b+
5 Vulnerable	bbb+	bbb/bbb-	bbb-/bb+	bb	bb-	b
6 Highly vulnerable	bbb-	bb	bb-	b+	b	b-

1.The anchor results from the interaction between the enterprise and financial risk profile assessments. Potential adjustments to the anchor are noted in tables 31 and 32 including a holistic adjustment. 2. For ratings below 'B-', see "Criteria For Assigning 'CCC+', 'CCC', 'CCC-', And 'CC' Ratings," published Oct. 1, 2012, as well as "S&P Global Ratings Definitions." 3. In certain cases, the anchor in table 1 contains two options for a given combination of enterprise and financial risk profile assessments. In those cases, we would use our expected view of the utility's future performance to determine which of the two anchors to use.

17. Where the enterprise and financial risk profiles contain subfactors, each factor and subfactor will be assessed on a numerical scale, with '1' being the strongest outcome, and '6' the weakest.

18. If the quantitative metric evaluating a particular factor falls at or near a cut-off point, we may assign the stronger assessment if trends are improving or we believe future metrics or attributes will improve, or weaken the assessment if trends are weakening or we believe future metrics or attributes will deteriorate.

19. The initial assessment for each factor may be adjusted based on qualitative factors that may be present or lacking for each characteristic or condition. Tables 4, 17, 19, 21, and 22 describe some of the most common qualitative factors that could adjust each of the respective initial assessments. The maximum net adjustment to the initial assessment is generally two points. For example, if the initial assessment is '3' and there are two favorable adjustments and one unfavorable adjustment identified, the final assessment for that factor would be '2.' The liquidity and reserves assessment, however, can be capped at '5' or worse regardless of the initial assessment.

20. The criteria also include various modifiers and caps (see tables 31 and 32) as well as the ability to raise or lower the anchor by one notch based on our holistic adjustment to establish the SACP. The ICR may be influenced by the rating on the U.S. or its associated country risk, as well as the assignment of issue credit ratings and use of subordinate-lien debt.

ENTERPRISE RISK PROFILE ASSESSMENT

21. The factors that are evaluated for the enterprise risk profile assessment are summarized in table 2. We combine these assessments to determine the initial enterprise risk profile assessment.

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Table 2

Description Of Enterprise Risk Profile Factors

Economic fundamentals (45% of enterprise risk profile assessment)
Economic fundamentals measure the strength of the utility's service area economy, including the utility's demographics; trends related to the customer base; and how crucial the utility's principal customers are to operating revenues.
Industry risk (20%)
The industry risk evaluation aims to evaluate the external environment in which municipal utilities operate and its relevant characteristics, including cyclicality, competitive risk, and growth environment.
Market position (25%)
The market position measures the relative affordability of utility rates given the income indicators and relative poverty of the service area, as well as comparability of rates with those of peers in the region or state.
Operational Management Assessment (OMA; 10%)
The OMA evaluates our view of the effectiveness of utility management in ensuring that there is alignment of operational, environmental, strategic, and financial goals to support the system's success.

22. The descriptors of outcomes for the overall enterprise risk profile are based on the scale shown in table 3. The criteria do not round to a whole number until arriving at a final enterprise risk profile.

Table 3

Descriptors For Enterprise Risk Profile Factors

Assessment	Description
1	Extremely strong
2	Very strong
3	Strong
4	Adequate
5	Vulnerable
6	Highly vulnerable

FACTORS THAT AFFECT THE ENTERPRISE RISK PROFILE

Assessing economic fundamentals

23. The assessment of economic fundamentals provides insight into the employment, socioeconomic, and demographic environment in which the utility operates as well as the health of the service area economy relative to that of the U.S. as a whole.

24. The assessment of economic fundamentals is based on two measures: median household effective buying income (MHHEBI) of the service area as a percentage of the U.S. and the trend in economic output of the service area, as measured by its real (inflation-adjusted) gross county product. If the service area spans multiple counties, these criteria pro rate the metrics based on the estimated population in each county as a percent of the total service area population.

25. The two components are combined (see table 4) to determine an initial economic fundamentals assessment. Positive and negative qualitative factors are then evaluated for applicability to achieve the final economic fundamentals assessment. The cumulative net effect of all

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adjustments is limited to an improvement or worsening of two points to the initial assessment.

Table 4

Assessment Of Economic Fundamentals

	Real gross county product, relative rate of change last two years, plus projected next two years*		
Current median household effective buying income (% of U.S.)	**Stronger than U.S. rate of GDP annual growth by 1% or more**	**Within +/- 1% of U.S. rate of GDP annual growth**	**Weaker than U.S. rate of GDP annual growth by 1% or more**
125% or more	1	1	2
100%-125%	1	2	3
75%-100%	2	3	4
35%-75%	3	4	5
35% or lower	4	5	6
Examples of qualitative factors positively affecting the initial assessment include:			
Efficiencies and natural economies of scale associated with being a larger utility.			
Broad and diverse employment base, or ratepayers living in the service area have access to such a base.			
Unique key local employer, such as a university or military base, that serves to stabilize the economy, even if skewing income indicators unfavorably.			
Examples of qualitative factors negatively affecting the initial assessment include:			
Unemployment rate of the county of 10% or worse.			
A steadily declining population, or dependent population of more than 55%. These social capital issues typically indicate an outsized percentage of the population that is not part of the labor force and may therefore have heightened sensitivities to utility bill affordability concerns.			
The lack of efficiencies and natural economies of scale because the utility is smaller.			
Employment sector concentration, or inauspicious prospects exist for a key major local employer within the next 36 months.			
The 10 largest customers account for 25% or more of operating revenues, or the top one is 10% or more.			

Each applicable qualitative factor changes the initial assessment by one point (with the exception of the economies of scale adjustor, which can result in a one-half point change), but the net total of all adjustments would generally improve or worsen the initial assessment by no more than two points. *For example, if the base/current year is Y0, the time period examined would be Y0-1 (actual, full-year); Y0 (annualized estimate); Y0+1 (forecast) and Y0+2 (forecast).

26. For service areas in which there are no specific MHHEBI data available, the data from the next-largest measurable geographic unit will be used. For example, if the service area is that of a small unincorporated portion of a county and if those data are not available, the MHHEBI of that county will be used. An exception could be if there is clear evidence that the service area incomes and macroeconomic trends are materially and measurably different from the geographical unit at large, in which case we will use the best available data. Certain natural operating efficiencies and economies of scale are often present in larger utilities. Examples may include physical redundancies or the ability to spread fixed costs over a greater number of gallons sold or solid waste transported, processed, or buried. These criteria define a utility's size based on average

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annual gross operating revenues of the three most recent audited fiscal years. In our calculation of operating revenue, we may also include real or potential property tax revenue and the revenue of combined systems, such as electric and water revenues if the water/sewer utility is the predominant entity. Table 5 outlines the applicable adjuster that is combined with the result from table 4. Typically, we apply the simple average of the three years. However, should there be, in our view, a sustained trend indicating a divergence from the average, we will generally assign a stronger assessment if revenues are increasing, or we believe they will increase. A weaker assessment generally is assigned if revenue trends are weakening, or we believe they will decline.

27. Drainage-only utilities are excluded from this adjuster, as we believe they have inherently lower operating risk and usually smaller revenues by their nature. Irrigation districts are addressed separately below.

Table 5

Economies Of Scale Qualitative Factor

Total operating revenues (mil. $)	Change to initial assessment
More than 150	(1.0)
Between 75 and 150	(0.5)
Between 25 and 75	0
Between 5 and 25	0.5
Less than 5	1

28. Solid waste systems tend to be smaller, on average, relative to other utilities. When the negative characteristic associated with smaller size, reflected in relatively lower operating revenue, is offset by comparably better efficiency due to a system's affiliation with a larger family of systems (such as water and sewer), it may partially or fully offset an initial negative assessment but will not result in an assessment better than neutral ('0' in table 5).

29. We assess whether the utility's service area participates in a larger, broad, and diversified economy at the federally defined metropolitan statistical area (MSA) level. The determination is based on an evaluation of employment diversity, employment growth, and the employment base. Participation in a strong MSA would generally lead to a one-point improvement in the initial assessment. Conversely, no adjustment would be applied if we deem the MSA as weak or if the service area is not within a defined MSA. If the MSA is described as moderate, applying the broad and diverse positive adjustment may still be applicable if the macroeconomic trends of the MSA and our expectations for future performance in the next two years are reasonably likely to cause existing metrics to improve.

30. The diversification of the utility's service area's economic structure is important to assess the potential volatility of its employment base and its resilience to stresses. An example of a deep, broad, and well-diversified economy would be employment-sector distribution that closely resembles that of the U.S. at large. This depth and diversity could lessen the impact on the utility's operating revenues better than an economy with more exposure to a single employer or industry, or only a few employment sectors. A small and concentrated, or shallow economic base also tends to be more exposed to external factors and macroeconomic cycles.

31. If employment in an individual sector--excluding education and health; government; and transportation, trade, and utilities--represents more than 30% of the nonfarm employment base, the local economy is deemed to be highly susceptible to that employment sector. Therefore, a one-point weakening of the assessment would be applied. An example would be a small town that does not participate in an MSA and has a major manufacturing component in the local labor force.

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32. Regardless of the employment sector or nature of its business, if a major local employer has publicly announced that within the next 36 months it will reduce or completely shutter operations within the service area or we expect it to do so, a one-point unfavorable adjustment would be warranted.

33. If we determine there is not a broad and diverse economy, the presence of a major employer can still sometimes act as a stabilizing force, possibly even adding context to lower income indicators. In such a case, a favorable adjustment of one point may be applied. Examples of major employers include higher education institutions; health care facilities; military installations; or even, more rarely, a large and stable corporate presence. Employment and customer base characteristics typically have a close correlation with a utility's operating revenues. If a small number of customers provide a large amount of revenues, the utility could be exposed to revenue volatility. Therefore, when the top 10 customers contribute 25% or more of total operating revenues, or the top customer accounts for 10% or more of total operating revenues, the assessment is weakened by one point.

34. For irrigation districts and comparable raw-water providers for which the end-use customer is agriculture or agriculture-related--such as ranches or dairy farms--MHHEBI and relative economic performance are less meaningful. These economies commonly have inherent limitations given the dominance of farming in the local economy, and non-municipal consumptive use patterns. Therefore, for these issuers, our default initial economic fundamentals assessment is '3', although negative, but not positive, qualitative factors that adjust the initial assessment could still be applicable.

Assessing industry risk

35. Consistent with "Methodology: Industry Risk," published Nov. 19, 2013, we consider industry risk for water and sewer utilities covered under these criteria based on a scale of '1' to '6' with '1' being the strongest. The industry risk assessment applies to all entities rated under these criteria regardless of the state in which they operate. We generally consider the industry risk for water and sewer utilities, including irrigation districts but excluding solid waste systems, as very low, the most favorable assessment possible. We derive the industry risk assessment based on a (2) low risk cyclicality and a (1) low competitive risk and growth assessment based on the following characteristics of the water and sewer utilities industry as relevant to the industry risk factors:

- Cyclicality risk assessment of '2' based on S&P Global Ratings' review of historical economic cycles and peak-to-trough changes in revenues and margins for regulated utilities. Economic cycles can affect nonrecurring revenues such as impact fees and spur priorities in the capital improvement plan (CIP) but weather, not the economy, is generally the largest single determinant of a favorable or unfavorable variance to budget in any single fiscal year; and
- Very low competitive risk of '1', owing to legal and practical barriers to entry in almost all jurisdictions, and that as an essential service there is no substitution risk.

36. For solid waste systems, we consider the industry risk assessment as low, which equates to '2', or very strong, on the six-point scale we use for these criteria. We derive the industry risk assessment from the (2) low risk cyclicality risk assessment and (2) low competitive risk and growth assessment and characteristic of:

- Cyclicality risk assessment of '2' based on S&P Global Ratings' review of historical economic cycles and peak-to-trough changes in revenues and margins for environmental services;
- Economic cycles can spur priorities in the CIP. Population and business growth are generally the largest determinants of a favorable or unfavorable variance to budget in any single fiscal

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year; and

- Low competitive risk of '2', owing to legal and practical barriers to entry in almost all jurisdictions. However, while solid waste systems are an essential service, there is some substitution risk. Solid waste systems' peer industry is environmental services, as described in our industry risk criteria. This reflects both the slightly lower, although still high, essentiality of solid waste services, as well as the breadth of issuers in scope, ranging from traditional carting to recycling services.

37. Although uncommon, limitations on rate autonomy would likely be measured elsewhere, such as in financial performance if the timeliness and magnitude of requested versus granted rate cases leads to deterioration in credit quality.

Assessing market position

38. The relative poverty rate is an important social credit factor because service areas that have not just lower MHHEBI levels, but disproportionately higher percentages of the population located in the lowest quintiles of the MHHEBI distribution curve, may exhibit greater sensitivity to perceived affordability even if adjusted for low inflation or a favorable cost of living. Therefore, it is possible that the impact of utility bills and related rate increases is even more profound in those communities compared with communities with stronger economic fundamentals.

39. For water and sewer utilities, consumption patterns are based mainly on climate, precipitation, use of demand-side management and water conservation measures, and economic factors. In addition, solid waste system disposal activity varies from region to region based mainly on population and business growth, use of demand-side management, recycling measures, and economic factors. The market position assessment is based on the actual average monthly residential water and sewer or solid waste bill. The information generally will be based on the most recent audited fiscal year, unless we believe that historical rates are not indicative of future rates. In those cases, we will base the assessment on projected rates.

40. There could be practical limitations to these calculations such as transparent and timely financial reporting and disclosure details, the sophistication of the utility's customer information system database, and the possibility that the utility may deem this information as competitively sensitive and nonpublic. For water and sewer utilities, if the actual average monthly water or sewer bill is not readily available, the market position assessment assumes a residential customer that in one month has used 6,000 gallons of both treated water and sanitary sewer service, conceptually similar to the Environmental Protection Agency's residential indicator. In cases where the utility's chosen unit of billing is measured in hundred cubic feet (ccf), the closest rounded equivalent of 8 ccf is used. For solid waste systems, a monthly household rate is based on estimates using tipping fees and a combination of available factors such as disposal capacity and house size. Any minimum, or base charge or "lifeline rate" is also included in the calculation, as are any related fees, surcharges, or taxes regardless of who is levying them, since the burden ultimately still lays with the customer to pay it.

41. To gauge the annual utility burden on the household, the assumed monthly bill, as calculated above, is multiplied by 12 to estimate the total annual cost to the household for utility service.

42. Relative rate affordability is calculated by dividing as follows: in the numerator is the annual household utility burden as calculated above, and in the denominator the actual MHHEBI of the service area of the utility (or the closest approximation), then multiplied by 100. This produces the cost to the household of its utility expense as a percentage of total disposable income.

43. For irrigation districts, the customer base is primarily farms in agricultural production rather than

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residential customers that rely on the system for essential public health needs, and in this context, poverty rates do not apply. However, the pricing power of many irrigation districts is constrained by the more elastic demand for water from these businesses, and in many cases the availability of alternative supply sources, such as groundwater produced from privately owned wells. Therefore, for these issuers, the default initial market position assessment is '3', although negative, but not positive, qualitative factors that adjust the initial assessment could still be applicable should they, in our view, affect the system's revenue-raising flexibility.

44. For drainage utilities rated under these criteria, rate structures tend to be exclusively either one of two types:

- A flat monthly charge tied to a residential property as the base unit of billing, with larger properties or parcels assessed as if they were equivalent to multiple residential properties. For example, a strip mall may be treated for billing purposes as if it were five equivalent residential units. For those utilities whose charges are based on a flat fee, we assume the fee assessed to a single-family residential property; or
- A fee based on the actual impervious surface area of the property. S&P Global Ratings' assumption for the monthly bill is based on a residential property. For those utilities whose charges are based on impervious surface area rather than a flat fee, we assume 2,000 square feet of impervious surface area.

45. Tables 6, 7, and 8 summarize how the criteria evaluate the market position of the utility, driven by the rate affordability and relative poverty rate. Table 6 applies to water, drainage, or solid waste systems. Table 7 applies to sewer-only utilities. Table 8 applies to water and sewer/drainage utilities. Positive and negative qualitative factors are then evaluated for applicability to achieve the final market position assessment. The cumulative net effect of all adjustments is limited to an improvement or weakening of two points to the initial assessment.

Table 6

Market Position Assessment, Water-Only, Drainage-Only, Or Solid Waste Systems

	Annual utility bill as a percentage of median household effective buying income		
Percentage of county's population living in poverty	**Less than 1%**	**1%-2%**	**More than 2%**
Less than 10%	1	2	3
10%-20%	2	3	4
20%-30%	3	4	5
More than 30%	4	5	6

For utilities with an initial assessment of 5 or 6 that have recently completed or achieved substantial completion of a historically capital-intensive period, the initial assessment may generally improve by one point.

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Table 7

Market Position Assessment, Sewer-Only Utilities

	Annual utility bill as a percentage of median household effective buying income		
Percent of county's population living in poverty	**Less than 1.25%**	**1.25%-2.5%**	**More than 2.5%**
Less than 10%	1	2	3
10%-20%	2	3	4
20%-30%	3	4	5
More than 30%	4	5	6

For utilities with an initial assessment of 5 or 6 that have recently completed or achieved substantial completion of a historically capital-intensive period, the initial assessment may generally improve by one point.

Table 8

Market Position Assessment, Water And Sewer/Drainage Utilities

	Annual utility bill as a percentage of median household effective buying income		
Percent of county's population living in poverty	**Less than 2.25%**	**2.25%-4.5%**	**More than 4.5%**
Less than 10%	1	2	3
10%-20%	2	3	4
20%-30%	3	4	5
More than 30%	4	5	6

For utilities with an initial assessment of 5 or 6 that have recently completed or achieved substantial completion of a historically capital-intensive period, the initial assessment may generally improve by one point.

46. Rate affordability without context may under- or over-represent credit strengths. For example, a utility with rates much higher than those of comparable issuers that has already made the capital commitments to address a regulatory mandate driven by past noncompliance with environmental permits would be viewed more favorably than a utility with similarly high rates but that is facing a huge unfunded regulatory mandate. For utilities that have relatively high rates--as defined by an initial assessment of '5' or '6'--but have recently completed or substantially completed an extraordinarily capital-intensive period, the initial market position assessment generally will be improved by one point.

47. The criteria do not establish a preference for a particular water and sewer or solid waste rate structure. For example, management may use a flat or fixed rate, volume-based rates, or some combination thereof. We view positively rate structures that allow for cost recovery and stability. In contrast, for solid waste systems, an example of a negative adjustment of typically one point could be applied when a solid waste system relies on flow control ordinances.

Assessing operational risk management

48. The OMA consists of a review of the following subfactors, assessed from (1) strong; (2) good; (3) standard; to (4) vulnerable and weighted as shown below to calculate the OMA:

- Asset adequacy and identification of operational risks (40%);

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- Organizational effectiveness, management expertise, drought management, or volume variation risk plan, as applicable (20%); and
- Rate-setting practices (40%).

49. The OMA refers to risks associated with the operation of the utility; financial policy is covered by the FMA. For combined utilities where retail electric is a significant component of revenues, we also reference the retail electric criteria, "U.S. Municipal Retail Electric and Gas Utilities: Methodology and Assumptions," published Sept. 27, 2018.

50. The results from the observed evaluations are converted to a '1' to '6' scale as shown in table 9.

Table 9

Operational Management Assessment (OMA) Conversion To Six-Point Scale

Observed evaluation	OMA	Characterization
1.0-1.2	1	Strong
1.2-1.8	2	Good
1.8-2.5	3	Good
2.5-3.1	4	Standard
3.1-3.6	5	Standard
3.6-4.0	6	Vulnerable

51. The assessment of all subfactors is based on a preponderance of evidence. A utility receives a neutral assessment of standard for any subfactors for which there is insufficient evidence to assign either a positive or negative assessment. However, some subfactors may receive a negative assessment if a utility has a record of failing to disclose key relevant information.

52. There is no favored governance structure for the utility within the criteria. Some municipal utilities are a department or component unit of the local political subdivision, governed by the same locally elected officials as the LRG. Other utilities are governed by an independent or quasi-independent board. The governance structure will be credit-neutral so long as there is demonstration of the ability for management to operate the utility as an ongoing, viable enterprise, largely independent from politics, with professionals who are capably engaged in risk oversight and can balance interests appropriately.

53. Compliance with environmental regulations to ensure public health and safety is one of the basic purposes of a utility. Asset adequacy and identification of operational risks examines how successfully management is faring by owning and operating a public water, sewer, drainage enterprise, or solid waste system (table 11). Water and sewer utilities are subject to federal, state, and municipal regulations and permitting requirements (table 10). However, all utilities may be in various degrees of compliance or readiness. Examples include a long-term water supply that is appropriate in both quantity and quality to serve the existing and likely future customer base, or treatment capacity that is sufficient to meet average and peak day demand. Maintenance of existing assets, including climate resilience, is also a significant component of asset adequacy. Also assessed in this subfactor is the materiality of nonrevenue water.

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Table 10

Asset Adequacy And Identification Of Operational Risks Assessment for Water, Sewer, And Drainage Systems

Strong	The utility has in place or is in the process of securing a raw-water supply that is reasonably projected to be sufficient through the life of the bonds. The integrity of the distribution and/or collection system, meters, and raw-water delivery assets is strong, or efforts are ongoing to rehabilitate them. Treatment capacity to meet average and peak day demand is sufficient in virtually every circumstance. Climate risk assessment is incorporated into planning and operations as a potential risk to the system. Water audits based on industry-accepted performance standards are incorporated into the annual budget such that nonrevenue water physical and economic losses are not material. A thorough vulnerability assessment across all critical assets has been performed to industry standards and been completed and incorporated into operations as much as reasonably possible.
Good	The existing raw-water supply is sufficient for the current customer base. The utility may need to enhance the supply sometime beyond the next 20 years, depending on growth and climatology/hydrology, but management has identified this risk in its long-term plans. Inflow, infiltration, and/or raw-water delivery are generally not problematic, or efforts are ongoing to rehabilitate them. Treatment capacity to meet average and peak day demand or flow is sufficient with only rare exceptions. Climate risk assessment is addressed in some key areas, such as supply planning or flood protection. Water audits based on industry-accepted performance standards are done on a regular, if not annual, basis such that nonrevenue water physical and economic losses are small. A vulnerability assessment has been completed to industry standards in most key areas and incorporated where management most deems relevant.
Standard	The existing raw-water supply will likely need to be enhanced within the next 10-20 years, but options for addressing the need have not yet been identified or, if so, have not been fully priced. Inflow, infiltration, and/or raw-water delivery are pronounced but not yet material or are problematic but will be addressed within the current capital improvement plan. Treatment capacity to meet average day demand is sufficient, but peak day demand or wet weather flows create constraints until ongoing projects are completed. Climate risks are identified, but other priorities preclude any immediate actions. Water audits based on industry-accepted performance standards are done only when management deems them necessary, likely evidenced by nonrevenue water economic and physical losses that are material. A vulnerability assessment has been done, perhaps only partially or perhaps not in accordance with industry standards, and implementation has been either partial or not at all.
Vulnerable	The existing raw-water supply and/or treatment capacity cannot currently and consistently meet peak day demand or flows. The raw-water supply is subject to a high degree of regulation and/or litigation, which can quickly introduce long-term uncertainty. Inflow, infiltration, and/or raw-water delivery are problematic and material, or the utility is highly dependent on or susceptible to another water purveyor. Climate risk is not explicitly addressed either in plans or operations. Water audits based on industry-accepted performance standards are not done and nonrevenue water economic and physical losses are problematic. No vulnerability assessment has been done.

Table 11

Asset Adequacy And Identification Of Operational Risks Assessment For Solid Waste Systems

Strong	The system has in place or is in the process of securing disposal capacity that is reasonably projected to be at least 25 years or more. The integrity of the distribution and/or collection system, transfer station, landfill, materials recovery facility, and/or resource recovery facility assets is strong, or efforts are ongoing to rehabilitate them. Treatment capacity to meet average and peak day demand is sufficient in virtually every circumstance. Climate risk assessment is incorporated into planning and operations as a potential risk to the system. Other potential risks to the system are identified and mitigated, including among others, waste flow diversions. Relationships with private haulers, where necessary, are amendable and nonlitigious. Postclosure costs, if applicable, are already being fully funded or plans are to fund them long before closure of the landfill. A thorough vulnerability assessment across all critical assets has been performed to industry standards and been completed and incorporated into operations.

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Table 11

Asset Adequacy And Identification Of Operational Risks Assessment For Solid Waste Systems (cont.)

Good	The existing disposal capacity is sufficient for the current customer base. The system may need to enhance the disposal useful life sometime beyond the next 20-25 years, depending on growth, but management has identified this risk in its long-term plans. Climate risk assessment is addressed in some key areas. Relationships with haulers have had one or more periods of strain; however, waste flow trends tend to be stable. Postclosure costs are being funded as needed with a reserve that is currently being funded from operating revenues. A vulnerability assessment has been completed in most key areas and incorporated where management most deems relevant.
Standard	The existing solid waste system operations will likely need to be enhanced within the next 10-20 years, but options for addressing the need have not yet been identified or, if so, have not been fully priced. Climate risks are identified, but other priorities preclude any immediate actions. Relationship with haulers shows signs of strain and waste flow trends have been erratic. Postclosure costs are not being reserved for but the system has indicated a willingness to fund them before the closure of the landfill. A vulnerability assessment has been done, but perhaps only partially or not in accordance with industry standards, and implementation has been either partial or not at all.
Vulnerable	The existing disposal capacity cannot currently and consistently meet daily demand. The relationship with haulers or other stakeholders is strained and litigious. The system's management relies upon flow control regulations to ensure waste flow trends. The system has no plans to deal with postclosure costs. It is highly dependent on/susceptible to another waste flow purveyor. Climate risk is not explicitly addressed either in plans or operations. No vulnerability assessment has been done. The municipality waste flow has been strained in the past, making it difficult to meet contractual obligations.

54. Organizational effectiveness informs our view of governance, management expertise, and risk mitigation through an assessment of policies and practices of key decision makers and staff. Examples include an evaluation of risks associated with cyber security, emergency preparedness, resource planning, drought management or volume variation, and succession planning (table 12). This subfactor also assesses how well utility leaders are able to convey the needs of the utility to external and internal stakeholders in a manner that is likely to allow the utility to maintain stability.

Table 12

Organizational Effectiveness And Management Expertise

Strong	Management communicates the utility's long-term needs and strategic goals, such as funding requirements, approval of crucial projects, and resource planning, to internal and external key officials on a regular, credible, and transparent basis, putting the utility in the best reasonable position for operational continuity. Examples might include ongoing public education campaigns, town halls, dedicated web sites, and social media. Management has considerable knowledge, experience, or a track record of success in operating all of the utility's key business units in an integrated fashion. Internal mentoring and succession plans are common. Management is able to put its strategic planning into practice; therefore, the utility is successful relative to peers. For water, sewer, and drainage utilities, it has its own drought management plan that details how much conservation it would seek depending on a drought's severity while still ensuring revenue requirements are met. For solid waste systems, there is a clear understanding of the composition of the municipality's waste flows and disposal resources.
Good	Public outreach and transparency is a common part of the organizational culture, even if not comprehensive across all key business units. Management has reasonable expertise and experience and has established pathways for succession and continuity where it can; therefore, operational surprises are rare. Management has a good track record of successfully converting strategic decisions into constructive action. For water, sewer, and drainage utilities, it has its own drought management plan that details how much conservation it would seek depending on a drought's severity although how it might meet its revenue requirements in such a scenario is uncertain.

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Table 12

Organizational Effectiveness And Management Expertise (cont.)

Standard	Management depth or breadth is limited in some areas, such that the loss of key personnel would create, only temporarily, a learning curve for the new staff but not likely to measurably affect the utility for long. Public outreach is done generally only when necessary, often associated with a large or controversial project. Operational and financial strategies are generally aligned. For water, sewer, and drainage utilities, there is no drought management plan but does operate in a state with a clearly detailed plan that already exists.
Vulnerable	The utility relies on one or only a few key employees or perhaps relies on external consultants. Negative variances are not uncommon. The utility has a history of regulatory or legal infractions beyond an isolated episode or outside industry norms, which introduced an as-yet-unaddressed challenge. Operational and financial strategies may have had one or more major misalignments, limiting the ability to move forward on something important. For water, sewer, and drainage utilities, neither the utility nor the state in which it operates has an existing drought management plan, making resource sustainability as well as meeting financial obligations uncertain.

55. Most, but not all, utilities are monopolies with autonomy over their own rates. All have a mission of public health and safety, requiring continuously meeting regulatory standards and also implementing corrective actions when deficiencies occur, all of which spur the need to make adjustments to rates. If the utility is rate-regulated, the history of timeliness on rate cases and the magnitude of what was granted versus requested will be examined. The evaluation of rate-setting practices looks beyond magnitude or frequency of rate adjustments. Instead, we evaluate whether management has acted, in our opinion, in a manner generally supportive of credit quality when tough decisions have needed to be made. Such credibility can also aid community support when such increases are needed, and help protect future rate-making decisions from short-term political manipulation and decrease the potential for rate shock (table 13).

Table 13

Rate-Setting Practice Assessment

Strong	When rate increases have been needed, the decision-making body has been supportive and timely, even to the extent that multiyear, preapproved rate increases are common, if not standard. Financial decisions are prudent, in our view, rather than simply politically expedient and that could possibly be to the detriment of the utility's near-term financial health. Periodic rate studies (internal or external) are common.
Good	Rate considerations are done on a year-to-year planning horizon rather than over a long-term time frame, but generally are apolitically approved if and when necessary.
Standard	The rate covenant and/or additional bonds test are the de facto guide as to when rate adjustments are necessary, but that is still enough for the political decision makers to agree to a rate increase.
Vulnerable	Rate increases are often in reaction to a weakened financial position, including a technical default or some other legal covenant violation, even if the recent debt service payments were made on time and in full. There is clear evidence of recent political decisions to defer or downsize needed rate increases.

Adjusting the initial enterprise risk profile assessment

56. Table 14 outlines examples of situations where we would generally adjust the initial enterprise risk profile assessment. On an exceptional basis, there may be additional situations we have not yet observed that could also result in an adjustment to the initial enterprise risk profile assessment.

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Table 14

Examples Of Adjustments To The Initial Enterprise Risk Profile Assessment

If	Then
Country risk assessment is '4', '5', or '6'.	Enterprise risk profile assessment generally would be capped at adequate, vulnerable, or highly vulnerable, respectively.

57. The relevant credit risks for utilities are also influenced by country-specific risks (see "Country Risk Assessments Methodology And Assumptions," published Nov. 19, 2013). Country risk is the risk an entity faces by having some of its operations or assets exposed to one or more countries. The country risk assessment is determined on a scale from '1' (very low risk) to '6' (very high risk). If the weighted-average country risk assessment is '3' or better, there is generally no positive or negative impact. However, if the country risk assessment were to weaken to '4' or worse, this could affect the enterprise risk profile assessment. Specifically, if the country risk assessment is '4', '5', or '6', the criteria generally assign an enterprise risk profile assessment of no better than adequate, vulnerable, or highly vulnerable, respectively.

FINANCIAL RISK PROFILE ASSESSMENT

58. The factors that are evaluated for the financial risk profile assessment are summarized in table 15. We combine these factors to determine the initial financial risk profile assessment.

Table 15

Description Of Financial Risk Profile Factors

All-in coverage (40% of financial risk profile assessment)
Analysis includes examination of historical and preferably generally accepted accounting principles (GAAP)-based results, the current financial condition of the utility, and projected scenarios for the next one to three fiscal years. The focus is on total financial capacity versus total revenue requirements.
Liquidity and reserves (40%)
This factor incorporates all lawfully available cash reserves and external working capital or liquidity sources, including bank lines in force within the life of any short-term obligations.
Debt and liabilities (10%)
This factor incorporates mainly quantitative, but also qualitative, analyses about not just the absolute measure of the utility's indebtedness but also the capacity to incur and support additional debt, especially in relation to maintaining any minimum financial metrics as covenanted to bondholders. Measurable liabilities such as pension and other postemployment benefits (OPEB) can lead to adjustments to this initial factor.
Financial Management Assessment (FMA; 10%)
Analysis includes an evaluation of ongoing management practices and policies that can be supportive of financial performance and continuity, as well as internal controls and reporting. Examples include establishing a minimum level of acceptable working capital, predictability of cash transfers from the utility system, and creating and perpetually updating a long-term financial forecast.

59. The descriptors for the overall financial risk profile are based on the scale in table 16.

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Table 16

Descriptors For Financial Risk Profile Factors

Description	Corresponding assessment
Extremely strong	1
Very strong	2
Strong	3
Adequate	4
Vulnerable	5
Highly vulnerable	6

60. These criteria use assessments derived from historical and projected financial performance. In most cases, the ratio calculations are based on the three most recent independently audited financial statements. Our analytical assessment of pro forma or projected data will be used for those ratios affected by additional debt issuance or funded from cash reserves, or when we believe that historical financial performance is not representative of expected future performance.

61. For all-in coverage or liquidity and reserve assessments that use multiple years of historical and projected data, each single year receives a preliminary assessment. The preliminary assessments from each applicable year are averaged together to derive one single assessment for that factor.

FACTORS THAT AFFECT THE FINANCIAL RISK PROFILE

Significant additional upcoming debt

62. If a utility has potentially sizable, but as yet unspecified, capital plans that could result in material additional debt and/or the use of reserves--including when there is or will be high levels of nondiscretionary capital funding, and we determine that such plans have a reasonable likelihood of occurrence but are not specific enough yet to determine pro forma or projected financial metrics--we generally will weaken the entire financial profile by one point. Compelling factors that would likely preserve credit quality include preapproved rate adjustments multiple years into the future, or an existing debt service schedule that allows for the new debt to be layered on in a manner that we believe is unlikely to worsen financial performance.

Assessing all-in coverage

63. All-in coverage is our internally adjusted debt service coverage (DSC) metric that we believe best tracks the use of every dollar of utility operating revenues, regardless of lien position, accounting treatment, or ultimate purpose. It also incorporates recognition of fixed charges or costs, which we define as certain long-term recurring items that are debt-like in nature, even if legally treated as an operating expense. Vertically integrated utilities may not have any fixed costs. An example of a fixed cost would be the take-or-pay minimum payment to the utility's wholesale provider of treated water. Other examples of fixed costs would include rental expenses for a sale-leaseback arrangement, GO debt that we consider self-supporting debt, or other situations that reflect support of off-balance-sheet debt. An example of off-balance-sheet debt is when a related government issues GO debt that is supported by the utility's revenue. We will generally include this portion of the debt that is not supported by any alternative source of revenue in the utility's all-in coverage calculation. All-in coverage also excludes adjustments to fixed costs for small or

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nonmaterial financing obligations such as a capital equipment lease for a vehicle or copy machine.

64. These criteria also look to total revenues less expenses (but excluding noncash items), even if the pledge to bondholders is based on gross operating revenues. This is because we assume that the utility must be a viable, ongoing, cash flow-positive enterprise.

65. We deem net transfers out that legally or by practice support debt service of another governmental fund as part of the denominator's self-supporting debt. Cash that does not truly leave the utility, such as a set-aside into a rate stabilization reserve or pay-as-you-go fund are not included as transfers out. Similarly, the application of a rate stabilization fund (RSF) or other cash on hand as a transfer in would not be included in the all-in coverage calculation, although we would note the presence and use of the RSF as a qualitative adjustment to the all-in coverage assessment.

66. The accounting treatments and even provisions in the bond documents vary; for example, transfers are usually a use of surplus net revenues, but sometimes may be treated as an operating expense. The criteria would treat recurring transfers as an operating expense. An annual transfer payment that is consistent in nature, such as one based on a percentage of operating revenues or a fixed dollar amount, is more predictable than one that is not defined and therefore could be as big as the general government decides it should be. For example, an all-in coverage calculation of less than 1x might suggest a net cash withdrawal from the utility fund. Table 17 summarizes the all-in coverage evaluation.

67. In cases where an unconditional take-or-pay minimum, capacity payment, or demand charge does not exist or is not explicit, we will impute what we believe to be a logical and reasonable equivalent for the purpose of calculating all-in coverage. We use the utility's relative contribution to its wholesaler provider's total operating revenues as the basis for the fixed-cost imputation. For example, if the utility being rated accounts for 15% of its wholesale provider's total annual operating revenues, and the wholesaler's total annual debt service payments are $10 million, then $1.5 million will be imputed as fixed costs for all-in coverage calculation purposes.

Table 17

Assessment Of All-In Coverage

Initial assessment	All-in coverage
1	1.60x or above
2	1.40x-1.60x
3	1.20x-1.40x
4	1.10x-1.20x
5	1.00x-1.10x
6	Below 1.00x
Examples of qualitative factors positively affecting the initial assessment include:	
A significant portion of operating revenues have a high degree of certainty, such as from wholesale sales with take-or-pay minimums, even if those wholesale sales serve to depress total DSC due to cost-of-service rates.	
The presence of an RSF that tempers revenue variability and helps ensure adequate fiscal resources during unexpected low revenue periods, so long as the use is infrequent and not offsetting structural budget deficiencies.	
Examples of qualitative factors negatively affecting the initial assessment include:	
A debt service schedule with large bullet maturities that introduces refinancing risk, or that makes it extremely likely the utility will need significant growth or large rate increases to meet future requirements, such as a deferral of principal repayment far into the future.	

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Table 17

Assessment Of All-In Coverage (cont.)

Initial assessment	All-in coverage
DSC that is reliant on new customer fees or nonrecurring nonoperating cash inflows just to achieve a ratio of at least 1x.	
Exposure to interest-rate sensitivity via variable-rate debt that is enough to lead to a weaker initial assessment.	
A material increase or anticipated increase in required pension or OPEB costs. In making this assessment, we consider risk of acceleration of pension and OPEB payments and likelihood of budgetary stress due to the increase in such payments.	
For solid waste systems, the majority of the waste is delivered by the largest customer, generally measured by revenue or tonnage, and we believe that this level of concentration could negatively affect all-in coverage; the majority of revenues are not from tax assessments or collected as part of a combined utility bill and we believe the collection method has or will significantly affect the revenue collection rate; or there is a significant amount of revenue from spot market waste and recyclable sales.	

Each applicable qualitative factor changes the initial assessment by one point, but the net total of all adjustments would generally improve or worsen the initial assessment by no more than two points.

68. Some utilities provide mostly retail service directly to the consumptive-use customer, but may also generate operating revenues via sales for resale, or wholesale sales. Wholesale sales are often at a cost-recovery rate with much smaller net operating margins, serving to depress total all-in coverage. For utilities that generally have between 20% and 49% of operating revenues coming from firm (contractual) wholesale sales, a one-point improvement in the all-in coverage assessment would be applied to put the depressed all-in coverage into better context.

69. The planned use of RSF or equivalent designated reserves from time to time could, analytically, temper measurable declines from a trend of stronger financial performance. However, recurring reliance on an RSF in lieu of other measures such as rate adjustments to address imbalances among revenues, expenses, and debt service can be evidence of credit weakness. Utilities that perform down to the level of permissive legal covenants, such as allowing the use of certain cash balances toward satisfying a rate covenant or additional bonds test and potentially creating a weak alignment between revenues and expenses, would see the initial assessment lowered by one point. This is especially true when actual performance indicates insufficient pledged revenues without the use of cash.

70. It is not uncommon for utilities to charge a one-time fee as new accounts are added to the customer base (exclusive of any deposit that may be required), often called a connection or impact fee. The all-in coverage ratio will be stressed by hypothetically removing these nonrecurring items from total revenues, to gauge a utility's relative dependence on these fees just to achieve sufficient financial performance. Such fees are strongest during periods of high growth in the number of accounts. While perhaps they are pledged revenues, impact fees can overstate revenues available for debt service. Conversely, a slowdown or cessation of such growth--especially if not expected by management--could create a precipitous drop in the utility's financial performance and expose vulnerability in the financial risk profile. Achieving a ratio of less than 1x solely from recurring revenues on a consistent basis indicates structural budgetary imbalance and generally would weaken the assessment by one point.

71. These criteria do not establish a guideline as to an allocation of variable-rate debt as a percentage of total long-term debt. However, if all-in coverage by our projections would change between one of the initial assessments to another in table 17 as a result of a change in interest rates, the all-in coverage assessment will reflect the lower/weaker of the two possible outcomes.

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Assessing liquidity and reserves

72. The liquidity and reserves analysis measure is days' cash available to the utility as well as the available reserves. As noted above in Assessing Economic Fundamentals for the enterprise risk profile assessment, size is also a factor in the utility's financial risk profile. A utility may have available reserves, for example, that are equivalent to a high days' cash number, yet these reserves may be nominally very small. Both days' cash and available reserves are evaluated based on table 18. The resultant preliminary evaluations are applied to table 19 to produce the initial liquidity and reserves assessment.

73. For example, a utility with $1.2 million of cash on hand, which for this example equated to 74 days of operating expenses, would receive a '3' for the days' cash ratio, and a '4' for the available reserve levels, based on table 18. When each preliminary evaluation is applied to the matrix in table 19, the initial liquidity and reserves assessment would be at the intersection of (3, 4), or an assessment result of '4.' Qualitative factors, if any, would then be applied to improve or weaken the '4' to arrive at the final liquidity and reserves assessment.

74. The liquidity and reserves assessment is intended to measure how the utility's internal sources, such as cash reserves and cash flow generation, and external sources--namely undrawn capacity under committed lines of credit--provide the working capital to fund immediate needs on an ongoing basis. The undrawn, available portion of committed bank lines maturing beyond the next 12 months is included in available reserves when applying tables 18 and 19; draws are included as a liability in both long-term debt and, if due within the next 12 months, debt service calculations.

75. The liquidity analysis looks not only to cash and equivalents that are unrestricted or unassigned (that is, unencumbered by legally enforceable agreements and not earmarked for specific purposes) and immediately available, but also gives credit to reserves that are designated, but ultimately available, for any lawful purpose. Examples include renewal and replacement funds, RSF, or other similar set-aside (but not truly restricted) cash. The criteria make no distinction between reserves that can only be appropriated by action of the highest decision-making body, or reserves that can be appropriated by simple administrative action, so long as the reserves are ultimately lawfully available for any purpose regardless of the reporting entity's label on it as determined by GAAP. Issuers that do not use a GAAP basis of presentation, or for which the financial statements do not provide a transparent and explicit breakdown of cash, must provide details of their cash position.

76. Cash that we deem to be restricted--for example, a debt service payment to be made, customer deposits, a fiduciary responsibility like a pension or decommissioning fund, and unspent bond proceeds, or that is related to a posting of collateral, among other restrictions--will generally not be included in the analysis of liquidity. Any debt service reserve fund (DSRF) will also be excluded.

77. Intragovernmental borrowing sometimes occurs between the utility and its associated general government, or sometimes even between one division of the utility and another. Cash in other funds in most cases would not be used to calculate the liquidity ratios, since those other funds likely have their own operating requirements. If a utility pools its cash with other major operating funds or governmental units, only cash that is truly the utility's will be counted in the calculation.

Table 18

Liquidity And Reserves Preliminary Evaluation

Preliminary assessment	Days' cash	Available reserves
1	Greater than 150	More than $75 million
2	90-150	$20 million-$75 million

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Table 18

Liquidity And Reserves Preliminary Evaluation (cont.)

Preliminary assessment	Days' cash	Available reserves
3	60-90	$5 million-$20 million
4	30-60	$1 million-$5 million
5	15-30	$500,000-$1 million
6	Less than 15	Less than $500,000

Table 19

Liquidity And Reserves Assessment

Days' cash ratio, preliminary evaluation	Available reserves, preliminary evaluation					
	1	**2**	**3**	**4**	**5**	**6**
1	1	1	2	2	3	4
2	1	2	2	3	3	4
3	2	2	3	4	4	5
4	2	3	4	4	5	5
5	3	3	4	5	5	6
6	4	4	5	5	6	6
Examples of qualitative factors positively affecting the initial assessment include:						
The utility is a distribution- and/or collection-only system with predictable wholesale costs, reducing the level of working capital the utility needs to maintain.						
Examples of qualitative factors negatively affecting the initial assessment include:						
Liquidity is skewed by seasonality or is otherwise not indicative of actual average daily working capital levels.						
High refinancing risk over the next two-three years.						
Exposure to contingent liabilities can cap this assessment at a '5' or a '6'.						
For water, sewer, and drainage utilities, the lack of a "pass-through" component to the rate structure if the utility could face the potential of rapid volatility in operating costs, such as raw-water or commodity costs, implying the utility is using its own cash to subsidize changes in expenses.						
For solid waste systems, those that contract out one or more operational responsibilities and we believe that the systems are at risk for increases in contracts costs.						
For solid waste systems, underfunding of a post-closure care cost fund when, in our view, the cost creates a near-term financial pressure.						

Each applicable qualitative factor changes the initial assessment by one point, but the net total of all adjustments would generally improve or worsen the initial assessment by no more than two points unless an assessment cap of '5' or '6' is applicable.

78. In cases where the utility is a distribution- and/or collection-only system and off-balance-sheet obligations are predictable, the utility's working capital requirements, and therefore liquidity levels, may not need to be as high. In those cases, the liquidity and reserves assessment may be improved by one point.

79. As described in "Contingent Liquidity Risks," published March 5, 2012, contingent liabilities

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correspond to explicit or implicit obligations that a utility may incur under certain circumstances. These risks could affect the utility's financial position if they materialize and if not otherwise offset by factors such as available liquidity, undrawn capacity under committed lines of credit, or market access. Furthermore, contingent liabilities might arise from a series of smaller risks that, by themselves, may not otherwise appear material, but could cascade in magnitude as proximity to the trigger or timing becomes less remote. These criteria measure both contingent liabilities as a percentage of total long-term debt, as well as available reserves that generally are legally available to mitigate some or all of the potential claims on the utility's available reserves.

80. For utilities assessed as '5' in our contingent liabilities assessment (table 20), the liquidity and reserves assessment is the lower of a one-point worsening of the initial assessment or a cap of '5'. For utilities whose contingent liabilities initial assessment results in '6', the liquidity and reserves assessment is capped at '6'. Any other result is not impactful to the liquidity and reserves assessment.

Table 20

Contingent Liabilities Assessment

Available reserves/contingent liabilities (%)	Contingent liabilities/total long-term debt (%)					
	Less than 20	20-30	30-40	40-50	50-60	More than 60
Above 250	--	--	--	--	--	--
200-250	--	--	--	--	--	--
150-200	--	--	--	--	--	--
100-150	--	--	--	--	--	5
50-100	--	--	--	--	5	6
Below 50	--	--	--	5	6	6

Assessing debt and liabilities

81. For the debt and liabilities assessment, we use debt to capitalization. In cases where the obligor uses securitization debt that meets S&P Global Ratings' criteria for enterprise securitization, see Appendix III.

82. The debt and liabilities assessment is summarized in table 21.

Table 21

Assessment Of Debt And Liabilities

Initial assessment	Debt to capitalization
1	Up to 20%
2	20%-35%
3	35%-50%
4	50%-65%
5	65%-80%
6	Greater than 80%

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Table 21

Assessment Of Debt And Liabilities (cont.)

Initial assessment	Debt to capitalization
Examples of qualitative factors positively affecting the initial assessment include:	
A relatively rapid roll-off of the long-term debt, with 65% or more coming due in 10 years or less, assuming there are no bullet maturities within that schedule that would realistically need to be refinanced. Total debt is not reduced by the presence of a DSRF.	
Examples of qualitative factors negatively affecting the initial assessment include:	
For solid waste systems, underfunding of a post-closure care cost fund when, in our view, the cost creates long-term financial pressure.	
An enterprise has large, unfunded defined-benefit pension plan and OPEB obligations. Our assessment includes a forward-looking view of the funding requirements and management's plans to address such risks. We may make an adjustment if we consider these obligations sizable relative to the overall balance sheet and income statement. We believe a low pension funding ratio could signal elevated risks after incorporating the appropriateness of actuarial assumptions. Similarly, a negative adjustment is more likely to occur when pension contributions are not actuarially determined, based on weak actuarial methods, or when required contributions are not regularly funded. If the enterprise's pension and OPEB are reported as part of a larger general government, we generally assume the enterprise's funded ratio is the same, unless more specific information is available for the enterprise (that is, we may use the city's pension funded ratio when assessing a city-owned and operated system if there is not specific information available).	

Each applicable qualitative factor changes the initial assessment by one point, but the net total of all adjustments would generally improve or worsen the initial assessment by no more than two points.

Assessing financial risk management

83. S&P Global Ratings evaluates established and ongoing management practices and policies in the seven areas under control of management that are most likely to affect credit quality. The FMA, like the OMA, ranges from (1) strong; (2) good; (3) standard; or (4) vulnerable. These areas and their weights are:

- Revenue and expense assumptions (10% of total FMA),
- Budget monitoring and interim reporting (10%),
- Long-term financial planning (15%),
- Long-term capital planning and asset management (20%),
- Investment and liquidity policies (20%),
- Debt management policies (10%),
- Transparency and accountability (15%).

84. To convert the FMA to a '1' to '6' scale, see table 22.

Table 22

Financial Management Assessment (FMA) Conversion To Six-Pont Scale

Observed evaluation	FMA	Characterization
1.0-1.2	1	Strong
1.2-1.8	2	Good

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Table 22

Financial Management Assessment (FMA) Conversion To Six-Pont Scale (cont.)

Observed evaluation	FMA	Characterization
1.8-2.5	3	Good
2.5-3.1	4	Standard
3.1-3.6	5	Standard
3.6-4.0	6	Vulnerable
Examples of qualitative factors negatively affecting the initial assessment include:		
Weak legal provisions when assigning issue credit ratings.		

85. The ability of a utility's management team to implement measures on a timely basis that will, in our opinion, proactively shape the utility's financial and operating condition can be crucial to maintaining creditworthiness. The assessment looks at the environment in which financial decisions affecting the utility occur. For example, we would view favorably a utility that exhibits strong risk management aspects including asset management and prioritizing operational needs that are aligned with requisite financial resources and the support of the governing body.

86. This assessment is based on a preponderance of evidence. A utility receives a neutral assessment of standard for any subfactors for which there is insufficient evidence to assign either a positive or negative assessment. However, some subfactors may receive a negative assessment if a utility has a record of failing to disclose key relevant information.

87. By focusing on a utility's policies and practices, the FMA is not an evaluation of the competency or aptitude of individual finance professionals; nor is it an evaluation of management's ability to handle unique challenges. Moreover, the nature of the utility's governing body, the effectiveness of its governance practices, and issues of public policy involved in utility-related decisions are beyond the scope of this analysis. The FMA analyzes the environment in which financial decisions are made, including how both the ordinary and extraordinary are identified and addressed as relevant to the utility's ability to fund them and to what degree those risks are transparently reviewed and reported to ensure ongoing continuity. Financial results are assumed to manifest themselves in other visible ways and are addressed elsewhere in these criteria. The purpose of the focus on policies and practices is to evaluate the potential for credit quality to move away from what the results currently indicate.

88. Transparency and accountability in reporting, regardless of governance structure, is important in order to ascertain key quantitative data. States that require annual audited financial statements increase the likelihood that financial information will be available, and late audits will be noted. The use of GAAP usually enhances reporting detail and consistency across the sector, making it easier to have a sufficiently uniform method of interpretation. States that allow cash accounting tolerate a lower degree of completeness and consistency, and transparency suffers. We believe the review of alternative financings and exposure to contingencies is a key component in understanding the entirety of all the risks and revenue requirements to which the utility is exposed.

89. We believe that creditor security can be weakened without a minimum set of covenants that constrains the utility's behavior. If we view the utility's legal provisions as sufficiently weak, the initial FMA would generally be weakened by one point. We believe that in the municipal utility sector those minimums generally include the following covenants:

- A rate covenant to maintain an annual DSCR of at least 1.0x or higher from recurring or ongoing

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revenues. However, where indentures permit the utility to use cash balances to achieve rate covenants, whether the cash is in the form of a rate stabilization account or other available funds, we factor the use of such funds into the rating evaluation as specified above in Assessing All-In Coverage;

- An additional bonds test that places some limits on the amount of increased leverage that will otherwise impair the credit quality of the entity; and
- Provisions establishing remedies for when a rate covenant is violated, such as a review of the current rates.

90. In addition, when the liquidity and reserves assessment for existing rated utilities is '4' or weaker, we generally weaken the FMA by one point if there is no DSRF in an amount equivalent to at least half of the average annual debt service requirements. A DSRF typically provides immediately available supplemental liquidity in the event of pledged revenue insufficiency for the payment on the obligations then due.

- We generally would not recognize the utility as having a DSRF at all if it is only conditionally funded, such as a so-called "springing" DSRF. In such cases, this is, in our view, associated with conditions likely to occur at a time when the utility is least able to afford additional demands on its cash flow.
- A DSRF may be satisfied with an unconditional surety policy or similar arrangement with another financial counterparty. If we believe that the counterparty would be unable to provide funding for the DSRF in a stress scenario, and the counterparty could not be easily replaced on a timely basis, we typically would not recognize the utility as having a DSRF.

91. The following tables detail each of the seven financial practice areas examined by the FMA.

92. The revenue and expense assumptions assessment evaluates if the organization's financial assumptions that support the annual budget and any financial forecast are realistic and well grounded from both long-term and recent trend perspectives.

Table 23

Revenue And Expense Assumptions Assessment

Strong	Weather-normalized, formal historical trend analysis is performed and updated annually for both revenue and expenses; regular effort is made to determine whether one or more factors will cause revenues or expenses to deviate from their long-term trends over the next few years.
Good	Assumptions for most key line items in pro forma reports are analyzed and updated regularly, while others may assume simplistic changes over time such as linear or inflationary growth or flat from year to year.
Standard	Optimistic assumptions exist that, while supportable, add risk; assumptions are based on recent performance, but little evidence of questioning or validating assumptions exists.
Vulnerable	Assumptions neglect likely shortfalls, expense pressures, or other pending issues; assumptions lack prudent validation.

93. The evaluation of budget monitoring and interim reporting examines how, if at all, management reconciles year-to-date progress versus the budget adopted at the beginning of the fiscal year. This component evaluates if there are procedures for reviewing the budget based on updated information and actual-to-date performance to ensure fiscal targets and revenue requirements are met, and to what degree the interim reporting is disclosed.

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Table 24

Budget Monitoring And Interim Reporting Assessment

Strong	At least quarterly budget surveillance is maintained to identify problem areas, which are publicly report to the system's governing body.
Good	Semiannual budget reviews exist; management identifies causes for variances between budget and actual performance and reports them to the system's governing body.
Standard	A deviation from the budget is only reported because it has occurred; material variances between budget and actual performance are identified after they have occurred but not captured in projections for the remainder of the fiscal period.
Vulnerable	No formal process exists for regular review and timely updating of budget during the year.

94. The long-term financial planning assessment focuses on whether or not a financial forecast exists, the length of the planning horizon, and if it includes a comprehensive identification of all reasonably likely upcoming revenue requirements to determine how the utility will meet them, such as adjusting rates or implementing cost-containment measures.

Table 25

Long-Term Financial Planning Assessment

Strong	A regularly updated pro forma financial projection exists with a planning horizon of at least three years beyond the current budget year. The forecast includes future impacts onto operating and maintenance (O&M) expenses and total financing obligations--both existing and probable--are identified. Impacts to rates or the ability to generate appropriate levels of pledged revenues through cost containment measures, for example, are clear. Planned use of designated cash reserves may occur infrequently, but structural balance is a clear goal.
Good	Pro forma projections exist and are comprehensive as described for a strong assessment, but are typically over a planning horizon of no more than the upcoming budget year plus one-two years into the future.
Standard	Multiyear projections are done but not updated until the last year of the current forecast. Multiyear projections are done, but with focus only on existing revenue requirements and exclude debt financing that is likely to be issued within the planning horizon, or ignore looming infrastructure investment needs such as growth or regulatory mandates.
Vulnerable	No long-term financial planning exists; O&M planning is done on a year-to-year (or budget-to-budget) basis. Near-term challenges are met with short-term fixes.

95. The asset management and long-term capital planning subfactor assesses if a CIP exists, the length of the planning horizon, how and why projects make the list, and a summary of the most likely funding sources for the identified projects.

Table 26

Asset Management And Long-Term Planning Assessment

Strong	Strategic and comprehensive planning focusing on the utility's infrastructure requirements, physical and other assets, and ability to continue to meet service levels is combined with likely sources of funding for identified projects; the plan and its priorities are regularly updated and transparently communicated. A characterization of strong will include planning not only the current budget year but also for at least five years beyond that.
Good	A comprehensive multiyear capital improvement program exists as described for a strong assessment but the planning horizon is less than five years.
Standard	The current-year capital expenditures are identified in the budget, but any future projects are currently nothing more than a wish list; a multiyear capital plan exists but funding sources are unclear or absent.

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Table 26

Asset Management And Long-Term Planning Assessment (cont.)

Vulnerable	Capital planning is done as needs arise, but no more frequently than on a year-to-year (or budget-to-budget) basis.

96. Seasonal cash flow needs, capital requirements, unbudgeted or unanticipated items, and contingency hedges all suggest at least some level of working capital cushion to be maintained. The investments and liquidity policies assessment evaluates if management has identified preferred cash reserves by way of an adopted policy or even a target. Liquidity policies and targets must be grounded in reality; these criteria would not give credit for a liquidity policy if it is set at a level so far above current or recent financial performance that we would not view it as attainable. Furthermore, this subfactor identifies if there are locally adopted permitted investment guidelines, and if management reconciles and reports on cash and investments with any regularity.

Table 27

Investment And Liquidity Policies Assessment

Strong	The utility has embedded policies on the maintenance of minimum reserves, regardless of whether such reserves are deemed by management to be unrestricted or designated yet available for any lawful purpose; the policies are reflective of realistically attainable and sustainable levels. Permitted investments guidelines or policies exist, even if the utility's policies reflect or even mimic the state's policies. Reports on the utility's investment portfolio are prepared and reported to the utility's governing body at least quarterly.
Good	Targets for reserve levels exist by practice, are tied to meaningful levels, and are generally met or exceeded. While the utility's de facto cash management guidelines may defer to the state's permitted investment statutes, no local policy exists. The utility's management reports on its investments at least semiannually to its governing body.
Standard	Management has a target for a preferred level of cash reserves but it seems to be unrealistic given financial performance, or is so newly defined that it may be many years before such reserves are accumulated. Informal or nonpublished investment policies exist, are tracked by administrative staff but only irregularly or at the end of the fiscal year.
Vulnerable	Absence of informal reserve policies; even if they exist, they have been suspended or ignored. Weakness in cash flow adequacy has resulted in a greater appetite for risk in its investments. Investments are monitored irregularly and an external auditor deems there to be weakness or risk in cash handling and monitoring duties.

97. The debt management assessment evaluates if the utility has in place robust guidelines on the use of debt, excluding any covenant already established in its legal provisions. Examples include minimum savings thresholds for refunding bonds; stated preferences regarding final maturity, structure, and overall tenor of its debt, and the use of variable-rate debt, derivative products, floating-rate notes, or direct placement arrangements. If the debt instrument requires a financial institution counterpart, this assessment looks to any policies the utility may have regarding counterparty risk.

Table 28

Debt Management Policies Assessment

Strong	Debt policies exist and are thorough and well-defined, even if they reflect or mimic state statutes. These policies are widely communicated and followed. While management has a general tendency toward risk-aversion, robust policies and sophistication among key finance officials make it likely that debt instruments that may require heightened levels of monitoring will make surprises a remote occurrence.

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Table 28

Debt Management Policies Assessment (cont.)

Good	Policies exist but may not address some key areas. In the absence of policies, management defers to state statutes that themselves are strong; some of the utility's financing obligations may be of the type that require a heightened level of monitoring, and management has some reliance on external consultants to help ensure remoteness of risks associated with those particular debt instruments.
Standard	Legal provisions and state laws are the sole guiding influences on management's use of and attitudes toward debt, or any internal guidelines are not meaningful beyond very basic or minimum debt management or are identified as unwritten goals.
Vulnerable	Absence of basic policies or clear evidence that basic policies are not being followed. Nontraditional financing options are utilized but there is no internalized knowledge, or utility management relies very heavily on consultants to monitor or manage the risk.

98. The transparency and accountability subfactor assesses whether or not management has established the independent review of important financial and operational data as well as the quality, regularity, and timeliness of its continuing disclosure practices, even for things that the utility may not be legally required to disclose. Even with annual audited financial statements produced according to GAAP, nonpublic disclosure of an alternative financing such as a direct-placement arrangement would result in an assessment of vulnerable for this subfactor.

Table 29

Transparency And Accountability Assessment

Strong	Management produces annual independently audited financial statements that comply with GAAP. Alternative financings and exposure to contingent risks are voluntarily disclosed as they are entered into, and overall continuing disclosure is deemed as robust and timely.
Good	Management produces annual independently audited financial statements that comply with GAAP. Alternative financings, exposure to contingent risks, and overall continuing disclosure are done, but generally only on an annual basis.
Standard	Management produces independently audited annual financial statements, but on a cash or other non-GAAP basis of presentation. Audits typically are released more than 180 days after fiscal year-end. The disclosure of alternative financings and contingent risk is not always timely but generally updated on an annual basis
Vulnerable	Management produces independently audited financial statements, but cash or other non-GAAP basis of presentation is permitted. Audits typically are late or not produced each year. Regardless of frequency and quality of the audited financial statements, alternative financings and contingent risk are not voluntarily disclosed or overall continuing disclosure is poor and not timely.

Adjusting the initial financial risk profile assessment

99. Table 30 outlines examples of situations where we would generally adjust the initial financial risk profile assessment. On an exceptional basis, there may be situations that haven't yet been observed that could result in an adjustment to the initial financial risk profile assessment.

Table 30

Examples Of Adjustments To The Initial Financial Risk Profile Assessment

If	Then
Total indebtedness is likely to increase substantially, but magnitude, scope, and timing are not fully defined.	Final financial risk profile assessment generally will be weakened by one point.

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RATING MODIFIERS AND CAPS

100. In certain conditions, the SACP may move a specified number of notches above or below the anchor. Other conditions place a specific cap on the SACP. Examples of these are outlined in table 31 and table 32. In cases when multiple modifiers and caps exist, we would generally adjust the anchor by the net effect of those conditions. In those cases, we typically consider entity-level modifiers and caps before we consider related government modifiers and caps. However, rating caps are absolute, meaning that positive relative adjustments, other than any holistic adjustment, do not allow ratings to exceed the cap. Depending on the severity of the condition, we could assign a rating below the cap. On an exceptional basis, there may be additional situations we have not yet observed that could also result in rating modifiers or caps.

Table 31

Examples Of Modifiers That Generally Cap The SACP

Modifier/cap* that would generally:	Additional comments
Cap the SACP in the 'a' category	
Either the Operational or the Financial Management Assessment is vulnerable.	
Cap the SACP in the 'bbb' category	
Both the Operational and the Financial Management Assessments are vulnerable.	
There is a going concern opinion.	
Negative extraordinary intervention	SACP is generally capped at the lower of the 'bbb' category and the GO rating of the related government.
Cap the SACP in the 'bb' category	
Utility or its related government is recovering from a financial crisis, emerging out of a recent bankruptcy or receivership, or has significant consultant oversight following an event of default.	
Both the all-in coverage and liquidity and reserve assessments result in a ‘5’ or weaker.	SACP is generally capped in the 'bb' category although if we view liquidity as especially vulnerable, the final rating would generally be capped in the 'b' category.
Either the Operational or the Financial Management Assessment is vulnerable and the liquidity and reserve assessment is a ‘5’ or weaker.	
Cap the SACP in the 'b' category	
Both the Operational and Financial Management Assessment are vulnerable and the liquidity and reserve assessment is a ‘5’ or weaker.	
Management demonstrates a lack of willingness to support financial obligations, or we believe the utility may be considering bankruptcy or receivership filing.	SACP on any rated debt not in default generally is capped at ‘b’ category.

*Depending on the severity of the condition, we could assign a rating below the cap.

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EXAMPLES OF MODIFIERS THAT GENERALLY CAP THE SACP

Weak management

101. The decentralized and autonomous nature of U.S. LRGs creates a stronger link between management and credit quality. In cases where either the operational management assessment (OMA) or the financial management assessment (FMA) is characterized as vulnerable, the SACP will generally be no higher than the 'a' category. In cases where both the OMA and FMA are characterized as vulnerable or if an auditor has delivered a going-concern opinion with the most recent review of the utility's or related government's financial position, the SACP will generally be no higher than the 'bbb' category.

Emergence from bankruptcy or receivership

102. A water/sewer utility that has just emerged from bankruptcy or receivership or a period of consultant or governmental oversight, by definition, has just been in a period where the financial risk profile--and possibly the enterprise risk profile as well--is extremely weak. Although an issuer may emerge with an improved financial risk profile after debt forgiveness or other negotiated settlements or restructuring, or under a new management team, the SACP will generally be limited to the 'bb' category until the utility has re-established a two- or three-year record of audited financial performance, at which time we would re-evaluate it using that new financial history as part of the analysis.

Negative extraordinary intervention

103. The line between what may be termed extraordinary and ongoing negative intervention is not always clear. However, examples of negative extraordinary intervention typically occur when the related government exhibits signs of financial weakness or uses various measures to divert resources from the utility. These measures affect the utility's ability to operate as a stand-alone system and may include cash stripping, increased transfers, withholding or delaying payments or appropriations, or adversely changing funding formulas, as a related government's needs rise. In such cases, the utility's SACP will generally be capped at the lower of the 'bbb' category and the GO debt rating of a related government.

Weak total liquidity combined with weak all-in coverage

104. If the utility's all-in coverage as well as liquidity and reserves assessments are both '5' or worse, we will cap the SACP in the 'bb' category, although if we view liquidity as a weakness that cannot be rectified by other available resources, the rating would generally be no higher than the 'b' category. In our view, poor assessments on both these factors imply that the utility has no margin for error in any of its operating, debt service, or capital funds in the event of an unfavorable or unplanned variance to its annual budget.

Weak management of liquidity and reserves

105. Strong management alone can lend itself to operational and fiscal continuity and can serve as a credit stabilizer. In addition, liquidity and reserves provide working capital, funding for unexpected

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operational problems, and general budgetary flexibility. In contrast, as when the OMA or FMA is characterized as vulnerable and the liquidity and reserves assessment is '5' or higher, the SACP is generally capped in the 'bb' category. If both management assessments are characterized as vulnerable and the liquidity and reserves assessment is '5' or higher, the indicative and final ratings are generally capped at no higher than the 'b' category.

Weak willingness or capacity to support financial obligations

106. If the utility's or sponsoring governmental entities' representatives take actions that indicate active consideration of bankruptcy in the near term, or if there is a perceived change in the willingness or lack of capacity to honor all long-term, legally binding financial obligations in full and on a timely basis, the indicative and final ratings will generally be capped in the 'b' category. If applicable, we would apply "Criteria For Assigning 'CCC+', 'CCC', 'CCC-', And 'CC' Ratings," published Oct. 1, 2012. Such a condition might be evidenced by way of conversations with management or governance, verifiable reports in the media, public disclosure, or other informational sources we judge to be relevant. The utility's issuer ratings would be 'D' or 'SD' following a default on an actual financial obligation, or in a distressed exchange.

MODIFIERS THAT GENERALLY NOTCH FROM THE ANCHOR

Table 32

Examples Of Modifiers

Modifier/cap* that would generally:	Additional comments
Notch the anchor up	
Median household effective buying income is among the top quintile of the U.S.	SACP generally will be one notch above that suggested by table 1.
Median household effective buying income is among the top 10% of the U.S.	SACP generally will be two notches above that suggested by table 1.
Utility benefits from tax levies.	SACP may be up to four notches higher than that suggested by table 1.
All-in coverage is at or above 3x or days' cash on hand is equivalent to at least 24 months of operating expenses.	SACP generally will be one notch above that suggested by table 1.
Notch the anchor down	
Median household effective buying income is among the lowest quintile of the U.S.	SACP generally will be one notch below that suggested by table 1.
Exceptional operational risk	SACP generally will be one or more notches below that suggested by table 1.
Cap the enterprise risk profile or financial risk profile	
U.S. country risk assessment of '4', '5', or '6'	Final enterprise risk profile assessment is generally capped at '4', '5', or '6'
Total indebtedness is likely to increase substantially, but magnitude, scope, and timing are not fully defined.	Final financial risk profile assessment generally will be weakened by one point.

*Depending on the severity of the condition, we could assign a rating below the cap.

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Exceptionally strong or weak income indicators

107. Extremely favorable or unfavorable demographics--measured as well above or below the strongest or weakest initial assessments, respectively--could imply extraordinary flexibility or limitation in a utility's ability to enhance its operating revenues on an ongoing basis. MHHEBI at or above the highest quintile of distribution according to the U.S. Census Bureau's and Bureau of Labor Statistics' joint "Current Population Survey" would generally result in a one-notch rating uplift from the anchor. MHHEBI at or above the top 10% of all households would receive a two-notch rating uplift. MHHEBI in the lowest quintile in the U.S. would generally lower the SACP by one notch.

Benefit from tax levies

108. The number of notches is generally determined by a combination of size and wealth of the district population to the extent that it differs from the economic fundamentals assessment, diversity of the tax base, growth rate of assessment base, significance of tax revenues to total revenues, capacity for increased tax levies (both legally and politically), and durability of the taxing authority. In general, higher notching benefits are applied to those utilities with a strong and growing tax base and where there is a willingness and ability to increase tax levies for operations.

Exceptionally strong financial risk profile

109. We use the term exceptionally strong as defined specifically to mean: all-in coverage at or above 3x or days' cash on hand is equivalent to at least 24 months of operating expenses (without giving favor to an already-existing DSRF, and calculated consistent with our definition of days' cash). In such cases, the SACP will generally be one notch higher.

Exceptional operational risk

110. Generally, the risk associated with value-added processes is captured in our analysis. Should there be, in our view, the presence of exceptional risk associated with the system's activities that is not captured fully in our credit analysis, we generally would lower the indicative rating. The amount of any downward notching would depend upon our assessment of the severity of the operational risk, but would typically be one notch, although in extraordinary cases it could be more.

APPENDIX I: GLOSSARY OF KEY TERMS

111. In our criteria, "utility" refers to a municipally owned utility or other legally authorized political subdivision that provides raw and/or potable water, sanitary sewer, solid waste systems, and/or drainage services at the retail level, or with wholesale (sales for resale) service representing not more than 49% of total operating revenues. The utility is most often, but not always, an enterprise within a larger general government, or an independent utility with its own governing board.

112. "Sewer", "sanitary sewer", and "wastewater" are used as interchangeable terms. "Drainage", "stormwater", and "storm sewer" are used as interchangeable terms.

113. The following terms are based on the definitions provided in "Methodology: Definitions And Related Analytic Practices For Covenant And Payment Provisions In U.S. Public Finance Revenue

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Obligations," published on Nov. 29, 2011:

114. **Actual average monthly residential bill.** The total annual residential operating revenues plus any related fees, surcharges and taxes divided by the number of active residential metered accounts. The result is divided by 12 to arrive at the monthly bill.

115. **All-in coverage.** [(revenues – expenses – total net transfers out) + fixed costs]/(all revenue bond debt service + fixed costs + self-supporting debt service). Total net transfers from the utility fund minus transfers into the utility fund, include among other things:

- Transfers that are viewed as general fund resources, such as a payment in lieu of taxes, indirect cost reimbursements, and open-ended transfers;
- Transfers that reimburse the general fund for pension and OPEB payments the general fund made on behalf of utility employees and retirees;
- Transfers that fund pay-as-you-go capital expenditures in another governmental fund; and
- Transfers to support any other governmental operations regardless of the destination fund.

116. **Available reserves.** Unrestricted cash and equivalents plus any working capital that resides on the utility's balance sheet and is lawfully available for any purpose plus any undrawn capacity under committed lines of credit. Examples include emergency and contingency funds, rate stabilization reserves, and other cash that may be designated in purpose but not restricted for debt service, fiduciary purposes, or asset retirement obligations.

117. **Contingent liabilities.** Variable-rate demand bonds, commercial paper, bullet payments due within five years, bonds with mandatory tender dates in five years or less, direct bank debt with acceleration clauses, the potential for a wholesale provider to reallocate its costs to the utility in an unbudgeted or otherwise unpredictable manner or the obligation is not based on an availability payment structure, swap or related termination payments if the current rating is two notches or less from the termination trigger, and other identifiable contingencies.

118. **Days' cash.** A measure of cash, investments, and equivalents, calculated as follows:

- Numerator: Available reserves.
- Denominator: 1/365th of income statement operating expenses. For operating expenses, depreciation, amortization, and other noncash items, such as those that update a fair value on a derivative or pension obligation, are excluded. Transfers are included in operating expenses.

119. **Debt to capitalization.** A measure of the relative leverage of the utility, as follows:

- Numerator: The sum total of all short- and long-term debt both on the utility's balance sheet and that is allocable to the utility, including draws on credit lines, commercial paper notes and other loans, debt or material obligations, even if not rated by S&P Global Ratings.
- Denominator: The total debt as calculated in the numerator plus the utility's net position, which we view as public sector accounting's closest approximation of equity.

120. **Dependent population.** The total population of the service area that is younger than 15 years old plus the total population of the same area older than 65 years old.

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121. **GAAP.** Generally accepted accounting principles are the common set of accounting principles, standards, and procedures that most governments and utilities in the U.S. follow.

122. **Nonrevenue water.** The sum total of leaks, water that is incorrectly billed (whether because of an inaccurate meter or human error), theft, unbilled, and unmetered water such as that which is used for fire protection or line flushing, and unbilled-but-metered water such as water provided to schools or churches that because of local policy is provided free of charge.

123. **Off-balance sheet.** An obligation for which the utility is legally responsible, but which may appear only in the rated utility's financial statement notes, or another entity's balance sheet, but not within the long-term debt of the rated utility itself.

124. **Other postemployment benefits.** Health care, along with dental, vision, disability, long-term care, and life insurance benefits offered to qualified retirees of the utility.

125. **Self-supporting debt.** Debt is considered self-supported if the debt issued by the related unit of government on behalf of the utility--such as a city issuing GO or priority-lien debt to fund projects for the betterment of its water system--is fully paid by practice from the utility's surplus net revenues. Full self-support means surplus net revenues must be at least as large as the principal and interest payments then-due on that tax-secured debt.

126. **Solid waste systems.** Municipal enterprises that include, generally, one or more of the following characteristics:

- Collection and transport of solid waste;
- Intermediate handling of solid waste (transfer stations, waste-to-energy systems, material recovery facilities); and
- Providing final disposal of solid waste (landfill services).

APPENDIX II: AN OVERVIEW OF IRRIGATION DISTRICTS

127. Irrigation districts are special districts that share a broad range of common features with other water districts that we rate; however, certain credit characteristics are materially different and therefore affect our evaluation of credit quality. In contrast to water utilities that primarily provide water for municipal and industrial uses, irrigation districts often have operations that are limited to the production and distribution of water supply for agricultural purposes. Customers of these districts are predominantly farms of varying size for which the cost of water supply is one input into the production of agricultural goods ranging from cotton to almonds. In this context, the service area's income levels and unemployment rates are less meaningful, and we focus more broadly on the fact that the customer base is concentrated in a single industry--agriculture--that can be susceptible to unique risks from poor weather conditions such as drought and frost, or pests, which may materially affect the ability of customers to pay their bills on time and in full.

128. Operationally, irrigation districts often provide a supplemental source of supply rather than a primary source of supply for customers. District activity typically focuses on the distribution of raw water with no treatment required because customers use the water for agricultural production rather than potable consumption. Many, although not all, farms have private groundwater wells that serve as a source of supply, and the cost of water from this source is typically calculated based on the depth to groundwater in the aquifer, the electricity cost to operate pumps to extract groundwater, and a nominal allocation of maintenance expense for the pumps. We believe that the availability of an inexpensive alternative water supply materially constrains an irrigation district's

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revenue-raising flexibility, since in the short term we expect that businesses will select the lowest cost of supply, all else being equal. Also, while irrigation districts often have some of the oldest established water rights to a given surface water source, others depend on contractual rights or permanent water rights to supply from large-scale water projects--such as the U.S. Bureau of Reclamation's Central Valley Project or the California State Water Project--that may be subject to allocation methodologies that prioritize supply for municipal uses over agricultural uses due to public health concerns.

129. We have observed that limitations on sources of supply during drought periods may result in volatile DSC patterns, including periods of insufficiency, that are generally inconsistent with the vast majority of rated water utilities and we view as a material credit weakness for this portion of the sector. Furthermore, while capital needs for irrigation districts are often limited to renewal and replacement of existing infrastructure, we have observed that irrigation districts may have unexpected and sizable capital needs for the acquisition of additional water rights or development of water banking capabilities--either internal capability development or participation in an external water bank--that make it very difficult to predict future capital spending patterns.

APPENDIX III: METHODOLOGY FOR ASSESSING THE IMPACT OF SECURITIZED DEBT

130. This appendix addresses the financial adjustments we may make when the issuer's debt portfolios include securitization debt. When the securitization financing meets the elements of our securitization criteria, and there is statutory provision for a mandated recovery of the securitization costs, the securitization effectively makes all consumers responsible for principal and interest payments, and the utility is simply a pass-through entity for servicing the debt. As such, we deconsolidate securitization debt. The rating evaluation of the securitization debt is distinct from these criteria, and is addressed exclusively by our securitization criteria, "Global Methodology And Assumptions For Nonfinancial Future Flow Transactions," published Jan. 16, 2020.

131. Segregated securitized debt that securitizes a portion of an enterprise's revenue debt reduces an issuer's exposure to direct debt obligations because securitization financings create a revenue pledge that is legally separate from the revenues that fund utility operations and debt service because of a statutory authorization that mandates recovery, even when securitization and nonsecuritization charges are billed together on customers' billing statements. At the same time, even where utility financial statements consolidate securitization debt, a securitization financing does not have a claim on utility revenues that fund utility operations and unsecuritized debt service.

132. When securitization financings contain the structural features described in this paragraph, we deconsolidate segregated securitized debt from the utility's financial statements, meaning we remove securitization debt, revenues, and expenses from the utility's financial statements, and we remove the securitization-related debt service from our debt service calculations. The securitization financing must be pursuant to statutes enacted by a government entity constitutionally authorized to mandate recovery of securitization financing costs that are segregated for specialized recovery. Also, the securitization financing structure needs to exhibit protective features, including: an irrevocable, non-bypassable charge and an absolute transfer and first-priority security interest in transition property; periodic adjustments ("true-up") of the charge to remediate over- or under-collections compared with the debt service obligation to ensure collections match debt service over time and do not diverge significantly in the short run; and reserve accounts to cover any temporary shortfall in collections.

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133. Specifically, S&P Global Ratings makes the following financial adjustments for segregated securitized debt:

- Adjustment to debt: We subtract the securitized debt from total debt.
- Adjustment to revenues: We reduce revenue allocated to securitized debt principal and interest. The adjustment is the sum of securitization interest and principal payments made during the year.
- Adjustment to interest expense: We remove the interest expense of the securitized debt from total interest expense.
- Adjustment to debt service: We reduce debt service by netting out the securitization debt's principal and interest payments.

134. After deconsolidating segregated securitized debt, we assign our ratings to the utility's unsecuritized debt in accordance with these criteria.

135. Utilities generally act as the servicers for segregated securitized debt and collect securitization debt service requirements for the benefit of securitization debt bondholders. Utilities aggregate these charges on customer bills together with ordinary charges covering operating expenses and unsecuritized debt service. It is our view that customers focus on the total amount of a utility bill, rather than its component parts. We believe that customers do not disaggregate securitization charges from traditional utility charges in assessing whether the utility's traditional charges are favorable or onerous following a securitization. Consequently, while we exclude securitization-related revenue collections, debt, and debt service from the analysis of a utility's financial metrics, we do not make any adjustment for securitization in our qualitative assessments of financial and rate-making flexibility. Therefore, the analysis of a utility's capacity to adjust rates, a fundamental element of the qualitative analysis of utility credit quality, takes into consideration the entire amount of the customer bill, including securitization-related charges.

CHANGES FROM PREVIOUS CRITERIA

136. The criteria fully supersede our previous criteria article, "ARCHIVE: U.S. Public Finance Waterworks, Sanitary Sewer, And Drainage Utility Systems: Rating Methodology And Assumptions," Jan. 19, 2016, by restating that criteria in full and incorporating the targeted changes described in "Request for Comment: U.S. Municipal Water and Sewer Utilities: Methodologies and Assumptions," published Dec. 14, 2021.

137. Specifically, we expanded the scope to include all entities with water and sewer operations, including tax-secured debt issuances that were previously rated under "GO Debt," Oct. 12, 2006. We also consolidated solid waste systems previously rated under "ARCHIVE: Solid Waste System Financings," Jan. 29, 2018 (now fully superseded) into the scope of the criteria by incorporating their sector-specific considerations herein. In addition to several editorial changes to aid readability, we increased clarity around the framework used to drive the SACP and ICR and applied a flexible approach to the caps and notching assessments, which better captures the relevant credit factors associated with the sector.

IMPACT ON OUTSTANDING RATINGS

138. S&P Global Ratings maintains approximately 2,100 ratings on water and sewer utilities. This includes approximately 70 water and sewer utilities previously rated under "GO Debt," Oct. 12,

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2006, and approximately 50 solid waste systems previously rated under "Solid Waste System Financings," Jan. 29, 2018. Assuming that the providers maintain their current credit characteristics, testing indicates that approximately 98% of the ratings will remain unchanged; approximately 1% will be raised, generally by no more than two notches; and approximately 1% will be lowered, generally by no more than two notches.

Related Publications

Fully superseded criteria

- Solid Waste System Financings, Jan. 29, 2018
- U.S. Public Finance Waterworks, Sanitary Sewer, And Drainage Utility Systems: Rating Methodology And Assumptions, Jan. 19, 2016

Related Criteria

- Environmental, Social, And Governance Principles In Credit Ratings, Oct. 10, 2021
- Global Methodology And Assumptions For Nonfinancial Future Flow Transactions, Jan. 16, 2020
- Issue Credit Ratings Linked To U.S. Public Finance Obligors' Creditworthiness, Nov. 20, 2019
- USPF Criteria: Assigning Issue Credit Ratings Of Operating Entities, May 20, 2015
- General Criteria: Rating Government-Related Entities: Methodology And Assumptions, March 25, 2015
- Methodology: Master Limited Partnerships And General Partnerships, Sept. 22, 2014
- General Criteria: Methodology: Industry Risk, Nov. 19, 2013
- Corporate Methodology, Nov. 19, 2013
- Country Risk Assessment Methodology And Assumptions, Nov. 19, 2013
- Key Credit Factors For The Regulated Utilities Industry, Nov. 19, 2013
- Ratings Above The Sovereign: Corporate And Government Ratings—Methodology And Assumptions, Nov. 19, 2013
- Criteria For Assigning 'CCC+', 'CCC', 'CCC-', And 'CC' Ratings, Oct. 1, 2012
- Contingent Liquidity Risks In U.S. Public Finance Instruments: Methodology And Assumptions, March 5, 2012
- Methodology: Definitions And Related Analytic Practices For Covenant And Payment Provisions In U.S. Public Finance Revenue Obligations, Nov. 29, 2011
- Methodology: Rating Approach To Obligations With Multiple Revenue Streams, Nov. 29, 2011
- Principles Of Credit Ratings, Feb. 16, 2011
- Stand-Alone Credit Profiles: One Component Of A Rating, Oct. 1, 2010
- Wholesale Utilities, May 24, 2005

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Related Research

- Credit FAQ: All-In Coverage, Transfer Payments, And Credit Quality, Jan. 19, 2016
- Credit FAQ: An Overview Of Standard & Poor's Updated Methodology For Rating U.S. Public Finance Waterworks, Sanitary Sewer, And Drainage Utility Systems, Jan. 19, 2016
- Management Is Key For U.S. Water Utilities To Align Operations And Finances, Jan. 19, 2016
- The Broad And Diverse Economy Adjustment: 2015 Updated Scores For U.S. Metropolitan Statistical Areas Based On Local Government GO Criteria, Dec. 15, 2015
- Alternative Financing: Disclosure Is Critical To Credit Analysis In Public Finance, Feb. 18, 2014
- Credit FAQ: U.S. Public Finance Ratings And Criteria For Ratings Above The Sovereign, Dec. 19, 2013

This report does not constitute a rating action.

This article is a Criteria article. Criteria are the published analytic framework for determining Credit Ratings. Criteria include fundamental factors, analytical principles, methodologies, and /or key assumptions that we use in the ratings process to produce our Credit Ratings. Criteria, like our Credit Ratings, are forward-looking in nature. Criteria are intended to help users of our Credit Ratings understand how S&P Global Ratings analysts generally approach the analysis of Issuers or Issues in a given sector. Criteria include those material methodological elements identified by S&P Global Ratings as being relevant to credit analysis. However, S&P Global Ratings recognizes that there are many unique factors / facts and circumstances that may potentially apply to the analysis of a given Issuer or Issue. Accordingly, S&P Global Ratings Criteria is not designed to provide an exhaustive list of all factors applied in our rating analyses. Analysts exercise analytic judgement in the application of Criteria through the Rating Committee process to arrive at rating determinations.

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Exhibit CF-8

MOODY'S INVESTORS SERVICE

CREDIT OPINION
29 May 2023

Send Your Feedback

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Pittsburgh Water & Sewer Authority, PA

Update to credit opinion following outlook revised to positive

Summary

The Pittsburgh Water and Sewer Authority ("PWSA" or "the Authority") (A3 positive) benefits from a large and diverse service area, primarily serving the city of Pittsburgh (A1 stable), with notably stable top customers primarily in education and healthcare industries. The Authority has also benefitted from proactive steps to strengthen two key credit areas - its management and governance and its financial position. PWSA's governance structure has been materially improved by oversight from the Pennsylvania Public Utility Commission (PUC), initiated in 2018. Though the PUC's rate approval process is a lengthy 270 days, the commission has committed to allowing for rate increases that will both satisfy bond covenants and allow for needed capital improvements. Further, the PUC has helped to ensure timely system maintenance and routine capital investment, in line with broad industry standards. At the same time, PWSA has taken steps to strengthen its internal management structure and build its workforce; also a credit positive.

The Authority's financial position has also improved considerably over the past several years and continues to strengthen. Liquidity has reached a satisfactory 165 days cash on hand as of fiscal 2022 year-end, up from just 23 days cash in 2017. Debt service coverage has likewise strengthened, to 1.49 times when all liens of debt are considered. These metrics compare well to peers and also to the Authority's own past performance.

Yet certain credit challenges persist and high leverage will be a continued headwind for the Authority going forward. The Authority's current debt burden is significant and material additional debt is expected as the Authority progresses on its capital improvement plan. The Authority's current five year plan assumes an additional $1 billion in debt, before consideration of a yet-to-be-determined consent order for combined sewer overflow remediation. The Authority's ability to maintain a healthy financial position while increasing leverage will be key to future credit reviews. Future reviews will also consider the potential challenges associated with the expected consent order and its impact on overall leverage and customer affordability.

Credit strengths

» Diverse, urban Pittsburgh service area, supported by strong "eds & meds" presence

» Considerable size; system assets include water conveyance and treatment, and sewer conveyance that ties to ALCOSAN

» Significant, recently implemented rate increases boost revenues; PUC oversight brings improvements and controls

Credit challenges

» Substantial debt burden; debt ratio is 96% and will continue to grow

» Narrow, though improved, liquidity versus similarly sized peers

» Projected $1.8 billion in capital needs over the next five years, to be primarily funded with debt

» Consent decree to remediate combined sewer overflows not yet finalized

Rating outlook

The positive outlook reflects the expectation of continued improvement to liquidity and coverage as PWSA progresses in its capital plans and continues to mature in its internal governance structure and relationship with the PUC. The positive outlook also reflects the expectation that, while the settlement of PWSA's consent decree with the EPA is still a large unknown, improved governance controls and a continued track record of adequate rate setting with the PUC will enable PWSA to readily and reasonably manage its future capital plans.

Factors that could lead to an upgrade

» Substantial improvement in liquidity that is maintained over several reporting periods

» Meaningful reduction of debt

» Sustained improvements in debt service coverage

Factors that could lead to a downgrade

» Material narrowing of debt service coverage and liquidity position

» Inability to raise rates sufficiently to meet debt service coverage covenants while also funding significant deferred capital improvements

» Failure to effectively deploy new revenues to address near term infrastructure and operating needs

» Substantial new or worsening long-term environmental concerns

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the issuer/deal page on https://ratings.moodys.com for the most updated credit rating action information and rating history.

Key indicators

Exhibit 1

Pittsburgh Water & Sewer Authority					
System Characteristics					
Asset Condition (Net Fixed Assets / Annual Depreciation)	40 years				
System Size - O&M (in $000s)	$184,743				
Service Area Wealth: MFI % of US median	92%				
Legal Provisions					
Rate Covenant (x)	1.10				
Debt Service Reserve Requirement	DSRF funded at lesser of standard 3-prong test (Aa)				
Management					
Rate Management	A				
Regulatory Compliance and Capital Planning	A				
Financial Strength					
	2018	2019	2020	2021	2022
Operating Revenue ($000)	$231,734	$249,049	$241,997	$269,121	$287,166
System Size - O&M ($000)	$153,180	$165,230	$169,507	$179,900	$184,743
Net Revenues ($000)	$81,565	$87,280	$79,692	$90,592	$112,035
Net Funded Debt ($000)	$871,040	$915,696	$978,458	$1,064,365	$1,136,955
Annual Debt Service ($000)	$59,406	$52,010	$64,774	$67,796	$75,038
Annual Debt Service Coverage (x)	1.4x	1.7x	1.2x	1.3x	1.5x
Days Cash on Hand	111.80	142.88	129.65	155.05	165.36
Debt to Operating Revenues (x)	3.76	3.68	4.04	3.95	3.96

Source: Moody's Investors Service, Pittsburgh Water & Sewer Authority

Profile

PWSA is an authority of the city of Pittsburgh, providing water treatment and conveyance to 84% of the city's population of roughly 305,000 residents and sewer conveyance for the entire city.

Detailed credit considerations

Service area and system characteristics: large, stable customer base in Pittsburgh

The Authority provides water distribution and wastewater collection and conveyance for the city of Pittsburgh and neighboring municipalities. The city's diverse economy is a credit positive for the Authority. Favorably, PWSA reported strong revenue collections throughout the coronavirus pandemic and did not experience large scale delinquencies that effected some regional peers, signaling resiliency in the customer base. The Authority's 10 largest customers (3.7% of revenues) include major Pittsburgh institutions, such as the Fox Chapel Water Authority, Allegheny County (Aa3 stable) and the University of Pittsburgh (Aa1 stable). All of the Authority's five largest customers have been in the system for at least 75 years. Notably, given a renegotiated cooperation agreement with the city of Pittsburgh in 2019, most city buildings are now metered for water, with the city paying for water usage - something it had not done previously.

The Authority continues to maintain an ample water supply, providing water to a population of approximately 305,000. The system is permitted to draw up to 100 million gallons per day (MGD) from the Allegheny River, its sole water source, though average demand for water is well below that level, at 70 MGD. The Authority treats drinking water at one plant located on the river, as well as a microfiltration plant at one of its reservoirs. The Authority has capacity to store approximately 3 days' worth of finished water for uninterrupted supply to its customers.

The Authority does not treat wastewater. It transmits all of its sewage to the Allegheny County Sanitary Authority (Aa3 stable). There is no contractual limit to the amount of sewage that can be conveyed, however, during wet weather events, the existing system frequently overflows. ALCOSAN is projecting annual rate increases over the next twenty years that will pass through to PWSA customers.

PWSA has made significant strides in improving its governance and management of its organization as well as its physical assets. Ordinary system updates and routine infrastructure improvements had been sorely lacking at PWSA and years of deferred maintenance have led to cost inefficiencies and exacerbated the natural wear and tear on an already aged system. PUC oversight since 2018 has already served to remediate some of this by establishing guidelines for system improvements based on industry-wide standards. The Authority has also hired more than 167 employees over the last five years - a 68% increase, and has filled key management roles with qualified personnel. This is a significant improvement over Authority operations of just a few years ago where management was mostly outsourced and employment was insufficient to provide for the day to day operations.

The additional operational oversight by the PUC is expected to be a credit positive going forward. Whereas the Authority had used capital deferment as a tool to maintain satisfactory finances and rate increases were heavily influenced by local politics in the past, the PUC has ensured that rate increases are less politicized. Further, while certain capital projects may be slowed to accommodate softening revenue if necessary, a complete sidelining of the capital plan and required maintenance is unlikely.

Debt service coverage and liquidity: recent history of satisfactory financial performance

The Authority's net revenues have been fairly stable since 2018, averaging a net take-down (net revenue / gross revenue) of about 35% over the past five years, as increased revenues have been matched by increased spending for maintenance and capital improvements. PWSA's operating margins are well in line with peers and are expected to remain stable as rate increases and further revenue growth is used to fund needed capital spending and a growing workforce payroll.

At fiscal 2022 year-end, the Authority reported senior debt service coverage of 1.8 times and total coverage of 1.41 times, well within covenant requirements and satisfactory versus peers. Moody's reports a slightly higher 1.87 times senior lien debt service coverage and 1.49 times all-in coverage, based on a net income figure that includes non-operating grant revenue. Favorably, coverage has continually improved since 2018, when PUC rate oversight went into effect, signaling that rate increases have been effective to maintain sufficient coverage while providing for more normalized operations and investment in system infrastructure.

The Authority is expecting an operating surplus of about $6 million for 2023. PWSA expects all-in coverage to stay in the range of 1.2 times to 1.4 times over the next five years, though the Authority assumes rather significant rate increases in order to keep coverage stable. Moody's expects that the PUC will be supportive of rate increases that will allow for satisfactory coverage levels while PWSA continues to execute its capital plan. Future reviews will consider whether the Authority is able to maintain satisfactory coverage and adhere to projected financial performance while supporting increased leverage to execute the Authority's sizeable capital plan.

Liquidity

The Authority's liquidity is satisfactory, at 165 days unrestricted cash on hand as of fiscal year end 2022, equating to about $84 million. PWSA's cash position is considerably weaker than national water and sewer system median days cash of 450 days as of 2021, though continues to strengthen. Further, when pass-through revenues and expenditures attributable to ALCOSAN are excluded from O&M, the Authority's days cash metric strengthens to 306 days cash, which is a somewhat more accurate view of liquidity relative to PWSA's own expenditure needs.

Debt and pensions: elevated debt burden continued credit challenge

The Authority continues to face material pressure to improve its infrastructure given years of disinvestment. Coupled with its own consent decree pertaining to combined sewer overflows during wet weather events, which is in negotiation since 2021, the Authority will necessarily add to its already elevated debt burden in the near term. PWSA anticipates roughly $1.8 billion in capital spending over the next five years, largely funded by debt. This will add to leverage substantially and future credit reviews will focus on the Authority's ability to manage additional debt while maintaining satisfactory cash and coverage metrics; largely dependent on PWSA's ability to increase rates as needed. The Authority's total debt is equal to 96% of fixed assets as of 2022 year-end, well above similarly sized peers. The outstanding debt amortizes slowly, with only 36% of principal scheduled to be repaid in the next 10 years.

Legal security

PWSA's first lien revenue debt benefits from a limited obligation revenue pledge backed by a first lien security interest in and to the revenues of the authority after payment of current expenses.

Debt structure

The majority - 49% - of Authority debt benefits from a first lien pledge on net revenues. Another 7% is subordinate-lien bonds, and the remainder is backed by a third lien, which is shared on a parity basis between PennVest and PNC Bank, NA (A2) which provides a revolving credit facility to PWSA. Roughly 14% of the Authority's current debt outstanding (as of May 2023) is hedged variable rate.

The Authority introduced a new indenture in 2017, which strengthened the rate covenant. The requirement is now 125% of senior debt service coverage plus 110% of subordinate debt service coverage. Free cash is no longer used in the coverage calculation. The debt service reserve is funded at the lesser of the three-pronged test.

The Authority materially reduced its variable rate debt outstanding with its Series 2019 A&B issuance. Variable rate debt has been reduced to 14% of the total debt portfolio today, down from 44% prior to 2019. There is one variable rate issuance outstanding currently - the Authority's senior lien Series 2017C bonds, which were last remarketed in December 2020 and are subject to mandatory tender in December 2023. The bonds were remarketed with a rate indexed to SIFMA. Since the fixed-to-floating rate swaps associated with the 2017C bonds were LIBOR-based, the Authority layered on a basis swap alongside the remarketing in order to convert the variable rate received on the swaps to SIFMA from LIBOR, creating an effective hedge for the bonds. The Series 2023 ABCD issuance eliminates the basis swap, as both the variable rate debt and associated swaps will now be indexed to SOFR. Further the 2023 issuance contemplates a private placement of two-thirds of the variable rate debt with a soft put in 2028. The remaining one-third of variable rate debt will either be fixed for a five-year period or will be refinanced as fully fixed rate bonds with a full swap termination.

Assured Guaranty Municipal Corp. (A1 stable insurance financial strength) insures the Authority's variable rate bonds and all of the Authority's swaps, except the 2020 basis swap, and provides the surety policy for all debt service reserve funds, except the reserve associated with PWSA's 2013 bonds, which is cash funded. This counterparty concentration may adversely impact the Authority should AGM's credit quality deteriorate.

The Authority maintains $535 million in outstanding PennVest loans as of May 2023 and an $150 million revolving credit facility, of which $131 million is currently drawn. The Authority will apply proceeds from its Series 2023 A issuance to pay down the credit line. Given an intercreditor agreement, PennVest and PNC Bank, NA share a third lien priority on system revenues.

Debt-related derivatives

The Authority maintains floating-to-fixed rate swaps in support of its Series 2017C issuance under ISDA Master Agreements with JP Morgan Chase Bank N.A. (Aa2 Sr. Unsecured) (64%) and Merrill Lynch Capital Services (36%), whereby the authority pays a fixed interest rate semiannually (3.79% weighted average) and receives 70% of LIBOR. The Authority layered on a basis swap in 2020 to convert the LIBOR received rate to SIFMA.

AGM provides swap insurance for all swaps. The aggregate swap mark to market is a negative ($20 million) as of fiscal year end 2022.

The floating-to-fixed rate swaps are included in the parameters of a credit support annex (CSA), though there is no collateral posting requirement unless an Insurer Event occurs. The basis swap is excluded from the CSA. The amortization schedule for each swap mirrors that of the corresponding bonds and the swaps terminate at bond maturity. The basis swap terminates in December 2023 with the next mandatory tender of the Series 2017 C bonds. For all of the swaps, per the 2017 indenture, regularly scheduled swap payments are subordinate to subordinate bond debt service. Early termination is optional for the Authority only, and termination by the counterparty depends upon specified termination events, including the downgrade of PWSA's underlying rating below investment grade. An Authority termination payment would be subordinate to first and second lien debt service payments.

Pensions and OPEB

Most of the Authority's employees participate in the city's pension program. The Authority's share of its pension contribution is now accurately provided for through its renegotiated cooperation agreement with the city. Beginning in 2019, all new full time non-union PWSA employees are eligible to participate in a 401(a) retirement plan and do not have the option of enrolling in the city's municipal pension fund plan.

ESG considerations

Environmental

The Pittsburgh metropolitan area faces a high risk of elevated rainfall levels. Demonstrated elevated rainfall levels in the region have directly impacted PWSA, as wet weather events overwhelm the system's current combined sewer infrastructure. This is the reason for the Authority's consent decree related to combined sewer overflows.

Social

Pittsburgh's population is relatively stable at roughly 301,000 and the five year average annual growth rate of the city's full value is a strong 4.5% as of fiscal 2021, well above the US median of -0.5%. Nevertheless, the city's wealth indicators remain below average with median family income at just 89% of the nation. Poverty is also elevated at 20%. As PWSA has increased rates, it has also implemented a rate relief program for qualifying residents, acknowledging this weakness in its rate base.

Governance

The Authority's current management team has developed a comprehensive plan to bring operations to good working order and to proceed with much needed capital improvements. Strong governance controls at the Authority are evidenced by several years of improved financial performance.

Management views its relationship with the PUC as well as the DEP and EPA as an opportunity for partnership and has proactively sought to engage these agencies as PWSA moves forward with its substantial CIP. This is a definitive, positive change from the Authority's prior actions, and informs our stable outlook on PWSA's current credit profile.

The Authority's Board consists of nine members recommended by a nominating committee, appointed by the Mayor, and approved by City Council. Currently, eight of the nine Board seats are filled. Starting in 2020, city water charges were phased in pursuant to a cooperation agreement; the Authority had provided water to the city at no cost prior to 2020. Among other things, the cooperation agreement also provides for payments between the city and the PWSA to be based upon actual, verifiable, direct expenses, and in accordance with customary utility practices under the PUC Code, and importantly, confirms that payments by the PWSA to the city will continue to be subordinate to all debt obligations of the PWSA.

Pennsylvania's Public Utility Commission began oversight of the authority in April 2018. The PUC is responsible for regulating the Authority's rate making, operating effectiveness, and debt issuance. We expect that the PUC will bring standardization and effective governance to the Authority's future operations. The PUC is required to approve rate increases that will ensure PWSA complies with its bondholder covenants, though we note that the approval process for increases can be lengthy.

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Japan	81-3-5408-4100
EMEA	44-20-7772-5454

Exhibit CF-9

MOODY'S RATINGS

U.S. Public Finance

CREDIT OPINION
16 December 2024

Send Your Feedback

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Pittsburgh Water & Sewer Authority, PA

Update to credit analysis

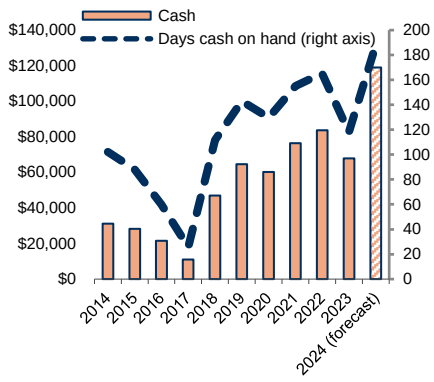
Summary

The Pittsburgh Water and Sewer Authority, PA (A2 stable) will for the foreseeable future report weak but stable coverage (coverage of all debt service including subordinate liens is ikely to stay in a 1.2x to 1.4x range on a Moody's-adjusted basis) and liquidity (days cash on hand is forecast to be roughly 190 as of 2024). While weaker than most peers, this represents a substantial improvement from its history, when coverage was several times below 1x and liquidity was very low.

The rating is below the median for US water and sewer utilities, which captures several credit weaknesses: the authority is entering into a major ramp-up of capital spending that will probably push debt to revenue above 6x by 2030. Servicing this capital spending will require aggressive rate increases, and the state's Public Utility Commission's role in approving rates and overseeing the utility is an important strength for this rating.

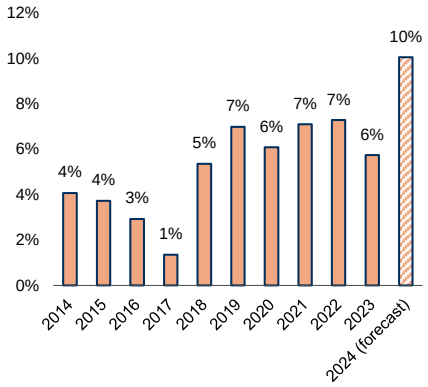
Finally, the rating acknowledges the solid service area consisting mainly of the City of Pittsburgh (A1 stable), which is a regionally significant economy with a number of substantial employers, particularly in the eds and meds categories.

Exhibit 1
Cash is much-improved



Source: Pittsburgh Water, Moody's Ratings

Exhibit 2
Cash to debt has improved but remains low
Ratio of cash to debt



Source: Moody's Ratings

This report was republished on December 23, 2024 with several corrections of typographical errors, as well as a minor update to Exhibit 7.

Credit strengths

» Stable service area in regionally significant economy

» Much-improved governance

» Strong financial management, including long-range planning

Credit challenges

» Coverage and liquidity lower than peers

» History of deferred investment

» Significant capital plan implies increasing debt going forward

Rating outlook

The stable outlook reflects the likelihood that a strong management team will prevent the authority's credit profile from deteriorating from the current level.

Factors that could lead to an upgrade

» Coverage consistently exceeding 1.5x

» Liquidity consistently exceeding 200 days

» Successful implementation of capital investment program while keeping debt levels moderate

Factors that could lead to a downgrade

» Indication that the state PUC may not improve the rate increases necessary for the authority to service its needs

» Coverage below 1.1x

» Liquidity below 100 days

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the issuer/deal page on https://ratings.moodys.com for the most updated credit rating action information and rating history.

Key indicators

Exhibit 3

Pittsburgh Water & Sewer Authority, PA					
System Characteristics					
Asset Condition (Net Fixed Assets / Annual Depreciation)	36 years				
System Size - O&M (in $000s)	$210,353				
Service Area Wealth: MFI % of US median	93%				
Legal Provisions					
Rate Covenant (x)	1.10				
Debt Service Reserve Requirement	DSRF funded at lesser of standard 3-prong test (Aa)				
Management					
Rate Management	A				
Regulatory Compliance and Capital Planning	A				
Financial Strength					
	2019	2020	2021	2022	2023
Operating Revenue ($000)	249,049	241,997	269,121	287,166	298,716
System Size - O&M ($000)	165,230	169,507	179,900	184,743	210,353
Net Revenues ($000)	$87,280	$79,692	$90,592	$112,035	$102,154
Net Funded Debt ($000)	925,314	988,256	1,075,256	1,148,542	1,183,205
Annual Debt Service ($000)	52,010	64,774	67,796	75,038	82,174
Annual Debt Service Coverage (x)	1.7x	1.2x	1.3x	1.5x	1.2x
Cash on Hand	143	130	155	165	118
Debt to Operating Revenues (x)	3.72	4.08	4.00	4.00	3.96

Source: Pittsburgh Water, Moody's Ratings, US Census Bureau

Profile

Pittsburgh Water is an authority of the City of Pittsburgh, providing water treatment and distribution to 84% of the city's population of roughly 305,000 residents and sewer conveyance for the entire city.

Detailed credit considerations

System characteristics: large, stable customer base in Pittsburgh; substantial capital investments over the coming years

Pittsburgh Water's service area consisting largely of the City of Pittsburgh is an important strength overall, as the city is a regionally significant economy with a substantial eds and meds presence.

With a population of about 300,000, Pittsburgh is home to numerous major companies, and the city's largest employers include the University of Pittsburgh (Aa1 stable), the University of Pittsburgh Medical Center (A2 stable), as well as banks, retailers, and state and national governments.

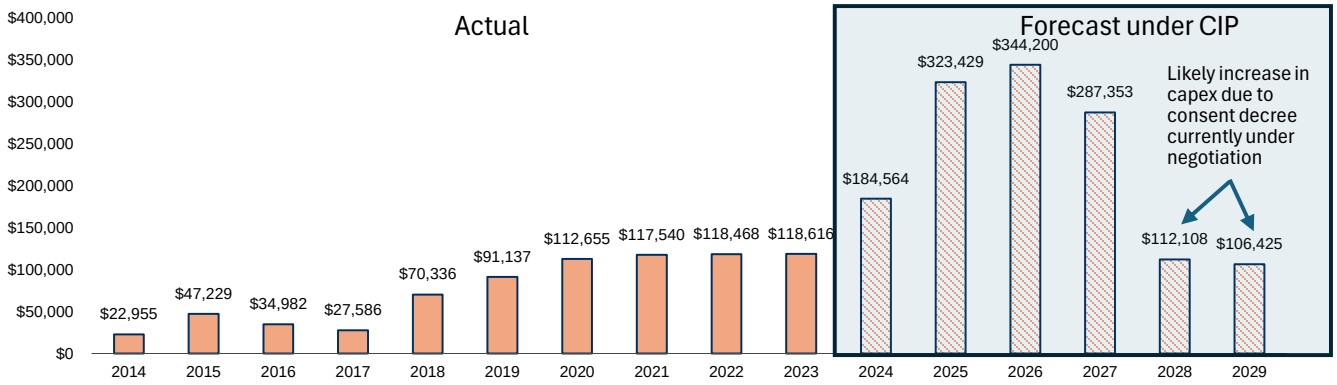
Pittsburgh Water is entering a phase of greatly increased capital expenditures. Under prior leadership, the utility deferred capital investments and we believe generally underinvested in its system, leading to numerous consent orders with the state and a deterioration of its capital adequacy.

In 2014, Pittsburgh Water recorded just $23 million of capex. In 2024, that number was forecast to be more than $180 million under the system's Capital Improvement Plan. That was likely only the beginning of several years of significant capital outlays, as the utility catches up on infrastructure investment and complies with a pending wastewater overflow consent decree with the US Environmental Protection Agency.

Exhibit 4

Capital outlays set to ramp up significantly

Capital investments, $ in thousands



Source: Pittsburgh Water

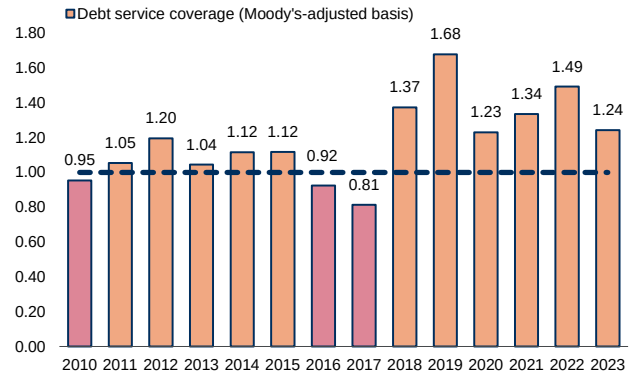
The increased capital outlays are necessary to bring the system into good working order and to comply with state and federal regulation, but will augur an increase in debt (see financial strength).

Financial strength: Narrow coverage, weak liquidity will be the norm

While Pittsburgh Water's management has done good work in stabilizing the utility's financial position at an adequate level, the authority is likely to report narrow coverage and hold weaker liquidity than peers for the foreseeable future.

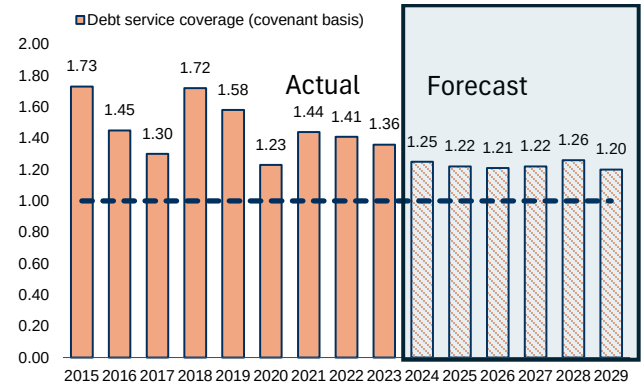
Resistance to significant rate increases led the authority's coverage in some historical years to be below 1x on a Moody's-adjusted basis[1]. Under new management, and under the oversight of the Pennsylvania Public Utility Commission, the authority began to raise rates more aggressively in 2017. That has led to debt service coverage that is better and more consistent – though still low compared to most utilities.

Exhibit 5
Moody's-basis coverage



Source: Moody's Ratings

Exhibit 6
Covenant-basis coverage



Source: Pittsburgh Water

Coverage is unlikely to improve by much from here. The authority is going to be issuing significant debt to fund its CIP, meaning debt service will be increasing. Debt service on the authority's existing debt escalates, so some rate increases are necessary just to keep coverage at existing levels.

Debt

The authority issues debt on three liens, of which we only rate the senior lien. Officially, the authority has about $1.2 billion of debt outstanding, though that amount rises to closer to $1.8 billion when including approved loans that have not yet been drawn down.

Exhibit 7

Debt class	Par (11/1/2024)
First lien	$763,931,391
Second lien	$124,346,507
Third lien	$294,737,166
Total	**$1,183,015,064**

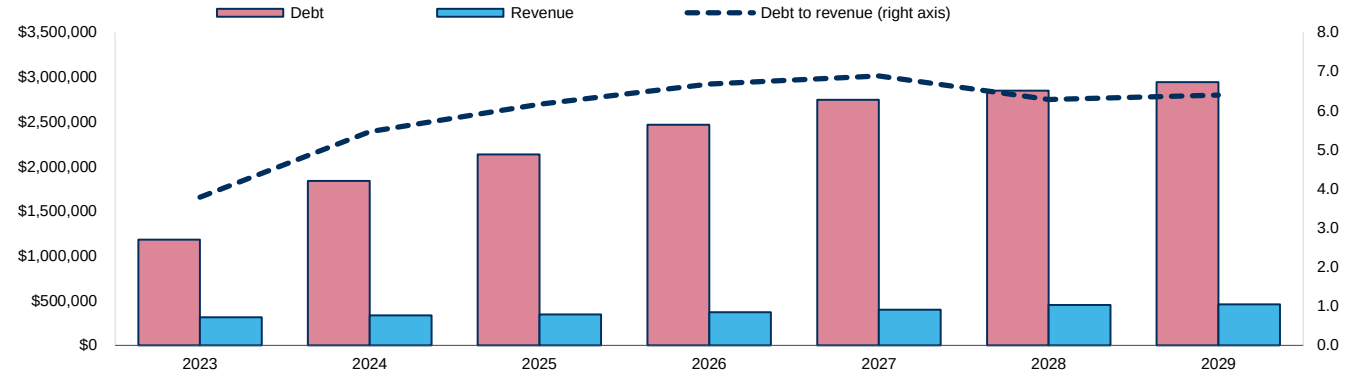
Source: Pittsburgh Water

The authority's debt is currently moderate at about 4x revenue. We anticipate that this ratio will increase over the coming years, as the authority issues capital debt.

Exhibit 8

Debt forecast

Forecast debt outstanding, $ in millions

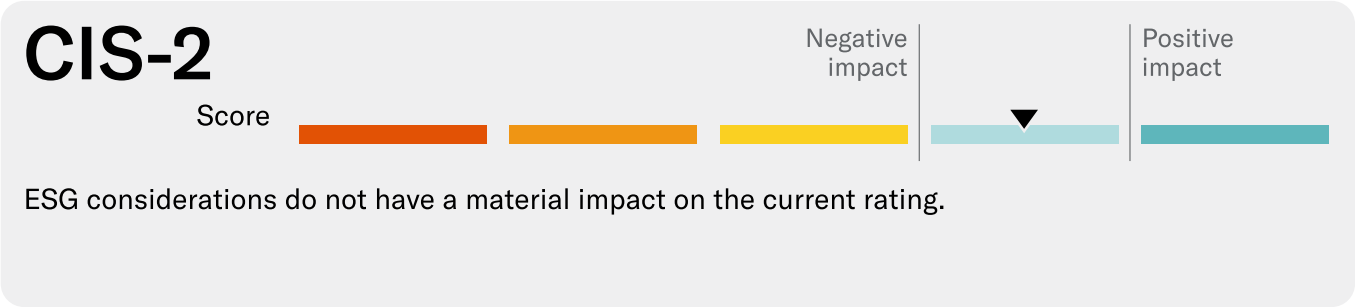


Source: Pittsburgh Water, Moody's Ratings

ESG considerations

Pittsburgh Water & Sewer Authority, PA's ESG credit impact score is CIS-2

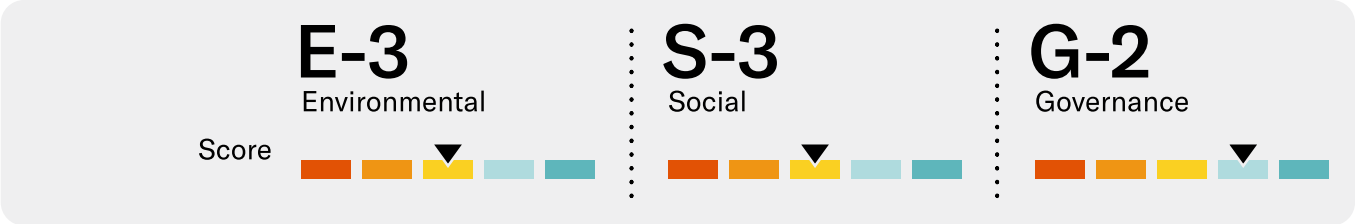
Exhibit 9
ESG credit impact score



Source: Moody's Ratings

Pittsburgh Water & Sewer Authority, PA's ESG credit impact score of **CIS-2** indicates that ESG considerations have a limited impact on its credit rating.

Exhibit 10
ESG issuer profile scores



Source: Moody's Ratings

Environmental

The authority has moderate credit exposure to environmental risks. Enterprises with wastewater utilities have slightly negative exposure to water management considerations given the risk of regulatory violations associated with wastewater disposal. Wastewater operations face risks of increased operating costs or capital requirements to address violations. Exposure to other environmental risks, including physical climate risk, carbon transition, natural capital and waste and pollution is low.

Social

The authority has moderate credit exposure to social risks, primarily reflecting that enterprises with water utilities have negative exposure to responsible production risk. This is viewed as moderately negative across the sector. Testing results reported to the Environmental Protection Agency indicate that most utilities provide clean and safe drinking water. However, water utilities are at risk of health violations resulting from catastrophic events, changes in source water quality, failures in treatment or transmission processes or revised regulations. The authority has low exposure to customer relations, demographic and social trends, health and safety, and human capital considerations.

Governance

The authority has low exposure to risk related to governance considerations. The system has solid financial strategy and risk management, as well as management credibility and track record considerations. Exposure to organizational structure and compliance and reporting considerations are low. The system has slightly negative exposure to board structure and policies risk resulting from concentrated control by the city government. Notwithstanding their monopoly service provision, the system faces the risk of public opposition to required rate increases or capital investment.

ESG Issuer Profile Scores and Credit Impact Scores for the rated entity/transaction are available on Moodys.com. In order to view the latest scores, please click here to go to the landing page for the entity/transaction on MDC and view the ESG Scores section.

Endnotes

1 There are two primary differences between Moody's-adjusted coverage and coverage as determined under the authority's rate covenant: 1) Moody's uses accrued interest rather than cash-basis interest, and 2) the covenant includes transfers from the rate stabilization fund as a revenue.

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REPORT NUMBER 1432179

CLIENT SERVICES

Americas	1-212-553-1653
Asia Pacific	852-3551-3077
Japan	81-3-5408-4100
EMEA	44-20-7772-5454

Exhibit CF-10

S&P Global
Ratings

RatingsDirect®

Summary:

Pittsburgh Water & Sewer Authority; Water/Sewer

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Summary:

Pittsburgh Water & Sewer Authority; Water/Sewer

Credit Profile		
US$118.62 mil wtr and swr sys 1st lien rev bnds ser 2025A dtd 01/29/2025 due 09/01/2055		
Long Term Rating	A+/Stable	New
US$23.385 mil wtr and swr sys sub rev bnds ser 2025B dtd 01/29/2025 due 09/01/2055		
Long Term Rating	A/Stable	New

Credit Highlights

- S&P Global Ratings affirmed its 'A+' rating on the Pittsburgh Water and Sewer Authority's (Pittsburgh Water) first-lien revenue bonds.
- At the same time, we affirmed our 'A' rating on Pittsburgh Water's subordinate-lien revenue bonds.
- Additionally, we assigned our 'A+' rating to Pittsburgh Water's upcoming approximately $144.7 million water and sewer system first-lien revenue and revenue refunding bonds series 2025A, and our 'A' rating on the water and sewer system subordinate revenue bonds series 2025B.
- The outlook is stable.
- Total debt outstanding will be approximately $1.8 billion.

Security

The first-lien bonds are secured by a senior-lien pledge on the net revenue of the authority's waterworks and sanitary sewer system. Bond provisions are credit neutral.

We have applied our primary utility revenue bond criteria to determine the authority's general creditworthiness, and have applied this rating to its senior-lien issues. We rate Pittsburgh Water's subordinate lien one notch lower, based on the application of our criteria "Assigning Issue Credit Ratings Of Operating Entities" (published May 20, 2015, on RatingsDirect), given the open status of the senior lien and the likelihood that Pittsburgh Water will continue to use the senior lien from time to time adds additional risk to the subordinate-lien bonds.

Proceeds of the bonds will be used to pay down the authority's capital line of credit.

Credit overview

A very conservative approach to long-term planning has enabled management to successfully get four rate increases from the Pennsylvania Public Utility Commission (PaPUC), with the last being for fiscal 2024. These rate increases have enabled management to continue funding the capital improvement program (CIP) while dealing with rising costs from its suppliers and will continue doing so. In the past, management was successful in getting a new stormwater fee approved to assist in funding some of those projects. Given the CIP, it is important for rating maintenance that future rate cases be approved at or near the requested levels for fiscal years 2026-2028.

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Other factors that support the rating include:

- Pittsburgh's role as the anchor and economic engine for western Pennsylvania, based on an employment base that has reinvented itself from one that once relied heavily on manufacturing and industrial jobs;
- Rates for service that have been pressured over the past decade by the unfunded mandates, and will need to be reviewed by the state's rate regulator, but remain affordable;
- Operational management assessment (OMA) that we view as good, even despite the above-mentioned challenges;
- Strong coverage levels of all-in debt service historically and projected;
- Strong on-balance-sheet liquidity, supported further by the available credit line; and
- Financial management practices and policies we consider good.

The rating is limited by extremely high leverage, with $1.17 billion in capital commitments identified through fiscal 2029 that are likely to continue to pressure the financial profile.

Environmental, social, and governance

In our view, Pittsburgh Water has outsized risks related to each of our environmental, social, and governance factors, although each of these are generally stable or improving. In previous years, the authority faced scrutiny from local and state elected officials who voiced concerns over its operations. An auditor general's opinion, released in November 2017, cited "aging and deteriorating infrastructure issues and financial and operational long-term viability issues," and was an important factor in legislation that ultimately placed Pittsburgh Water under PaPUC oversight as of April 1, 2018. PaPUC regulates the authority's rates and fees and must approve additional debt. Pittsburgh Water's management team has worked closely with regulators and other stakeholders, and has already achieved several measures that are likely to improve operations and financial capacity. This includes recent approval of a distribution system improvement charge that will be dedicated to underground infrastructure rehabilitation.

Pittsburgh Water has also implemented various socially directed programs, such as lead service-line replacements and customer bill-pay assistance programs. We view the latter as a credit quality stabilizer that could allay affordability concerns. Pittsburgh Water's own environmental compliance mandates, as well as drinking water efficiency, are key programs in its capital budget and have been the major generators for the need to consider additional rate adjustments; the authority has the ability to administratively pass through and recover costs from its wholesale wastewater treatment provider. The authority, under its Green First plan, is also piloting approximately a dozen projects to experiment with different approaches to green infrastructure and overflow reduction that could also present capital budget cost savings.

Outlook

The stable outlook reflects our expectation that when Pittsburgh Water does need to propose a rate case to PaPUC, there will generally be a credit-supportive relationship, observed by both the timing and magnitude of rate adjustments that Pittsburgh Water is likely to request, versus what PaPUC ultimately grants. We are assuming that the financial profile will be further stabilized by the sufficiency test in the rate covenant, which does not allow for the use of cash

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transfers. We will also likely keep in place the one-notch distinction between the first- and subordinate-lien debt.

Downside scenario

Should inflationary and supply-chain issues significantly boost the cost of the CIP, which is expected to be mostly debt-funded and thereby cause additional debt that pressures financial metrics, the rating could be lowered.

Upside scenario

Management has represented that total debt service coverage (DSC) will generally move toward about 1.25x, with on-balance-sheet available reserves equivalent to four-to-five months' operating expenses. Consistently outperforming financial projections while meeting the long-term challenges presented by an aging system, which are compounded by regulatory pressures, primarily by successfully progressing through the CIP, would be the key to Pittsburgh Water achieving a higher rating.

Credit Opinion

Enterprise risk

Based on our OMA, we view Pittsburgh Water to be good. An assessment of good, in our opinion, implies that overall alignment between the system's operational characteristics and its management is sufficient, although there are areas of opportunity. Management's plans to rehabilitate and build reliability into the operations have improved our view of this assessment. The CIP contains projects that are based on both Pittsburgh Water's prioritization and those reflecting consent decrees.

Much of the existing infrastructure was built to serve a much larger population and a workforce different from that of today. While we note, for example, that the city has an essentially unlimited raw-water supply from the Allegheny River and overall system capacity that could support a population several times the size of the current one, it is also the case that the authority's focus remains the renewal and replacement of its aging underground infrastructure. The water distribution system is also an identified area of opportunity, given the high nonrevenue water percentage, which reflects line losses. However, under a 2019 cooperation agreement, the city will no longer receive free service, which alone should help improve nonrevenue water. The renegotiated agreement will not affect the capital lease agreement, and Pittsburgh Water still intends to purchase the system from the city for $1 in 2025 under the terms of the current agreement.

Pittsburgh Water can administratively fully pass through and recover Allegheny County Sanitary Authority (ALCOSAN) billings and the surcharge for distribution system improvements. Management instituted stormwater charges in fiscal 2022. For fiscal 2021, the average customer--using 3,000 gallons of both water and sewer service plus ALCOSAN's treatment surcharge--pays about $137.19 per month, or 3.1% of median household effective buying income (MHHEBI). As costs increase over time to support the CIP, headroom for affordability, especially for lower-income customers, could diminish.

Financial risk

A Financial Management Assessment (FMA) of good indicates that we consider management's practices currently good, but not comprehensive. The authority maintains many best practices we believe are critical to supporting credit

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quality, particularly in the finance department. These practices, however, may not be institutionalized or formalized in policy, or may not be as robust as those of comparable utilities with an FMA of strong. The FMA of good includes a long-term financial plan that management intends to implement in partnership with PaPUC to support its identified capital commitments. The authority also has implemented new, more comprehensive, and conservative budgeting assumptions that better capture annual revenue requirements. We understand that the authority's management team regularly tracks budget-to-actual performance, and that the new management team is instituting several additional best practices to target consistently higher levels of financial performance.

Pittsburgh Water & Sewer Authority, Pennsylvania--Economic and financial data

		Fiscal year-end			
	Most recent	**2023**	**2022**	**2021**	**Median (A+)**
Economic data					
MHHEBI of the service area as % of the U.S.	80.0				94.0
Unemployment rate (%)	3.5				3.8
Poverty rate (%)	11.3				11.7
Water rate (6,000 gallons or actual) ($)	64.3				41.5
Sewer rate (6,000 gallons or actual) ($)	72.9				40.9
Annual utility bill as % of MHHEBI	3.2				1.3
Operational management assessment	Good				Good
Financial data					
Total operating revenues ($000s)		298,716	287,166	269,121	7,991
Total operating expenses less depreciation ($000s)		210,353	184,743	179,900	5,921
Net revenues available for debt service ($000s)		90,253	102,771	89,245	
Debt service ($000s)		70,387	67,885	62,312	
S&P Global Ratings-adjusted all-in DSC (x)		1.3	1.5	1.4	1.7
Unrestricted cash ($000s)		123,822	101,983	130,630	7,687
Days' cash of operating expenses		215	201	265	564
Total on-balance-sheet debt ($000s)		1,268,549	1,215,941	1,146,271	16,465
Debt-to-capitalization ratio (%)		93.8	95.0	97.8	36.0
Financial management assessment	Good				Good

Note: Most recent economic data available from our vendors. MHHEBI--Median household effective buying income. DSC--Debt service coverage.

Ratings Detail (As Of December 19, 2024)

Pittsburgh Water & Sewer Authority W/S (AGI)		
Unenhanced Rating	A+(SPUR)/Stable	Affirmed
Pittsburgh Water & Sewer Authority W/S (AGI)		
Unenhanced Rating	A+(SPUR)/Stable	Affirmed
Pittsburgh Wtr & Swr Auth WS (AGI)		
Unenhanced Rating	A+(SPUR)/Stable	Affirmed
Pittsburgh Wtr & Swr Auth WS (AGI)		
Unenhanced Rating	A(SPUR)/Stable	Affirmed

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Ratings Detail (As Of December 19, 2024) (cont.)		
Pittsburgh Wtr & Swr Auth WS (AGI)		
Unenhanced Rating	A+(SPUR)/Stable	Affirmed
Pittsburgh Wtr & Swr Auth WTRSWR		
Long Term Rating	A+/Stable	Affirmed
Pittsburgh Wtr & Swr Auth WTRSWR (AGI)		
Unenhanced Rating	A+(SPUR)/Stable	Affirmed
Pittsburgh Wtr & Swr Auth WTRSWR (AGI)		
Unenhanced Rating	A(SPUR)/Stable	Affirmed
Pittsburgh Wtr & Swr Auth WTRSWR (AGI)		
Unenhanced Rating	A+(SPUR)/Stable	Affirmed
Pittsburgh Wtr & Swr Auth WTRSWR (AGI)		
Unenhanced Rating	A+(SPUR)/Stable	Affirmed

Many issues are enhanced by bond insurance.

Certain terms used in this report, particularly certain adjectives used to express our view on rating relevant factors, have specific meanings ascribed to them in our criteria, and should therefore be read in conjunction with such criteria. Please see Ratings Criteria at www.spglobal.com/ratings for further information. Complete ratings information is available to RatingsDirect subscribers at www.capitaliq.com. All ratings affected by this rating action can be found on S&P Global Ratings' public website at www.spglobal.com/ratings.

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Exhibit CF-11

S&P Global Ratings

RatingsDirect®

U.S. Municipal Water And Sewer Utilities Navigate A New Environment As Performance Drops

November 5, 2024

PRIMARY CREDIT ANALYST

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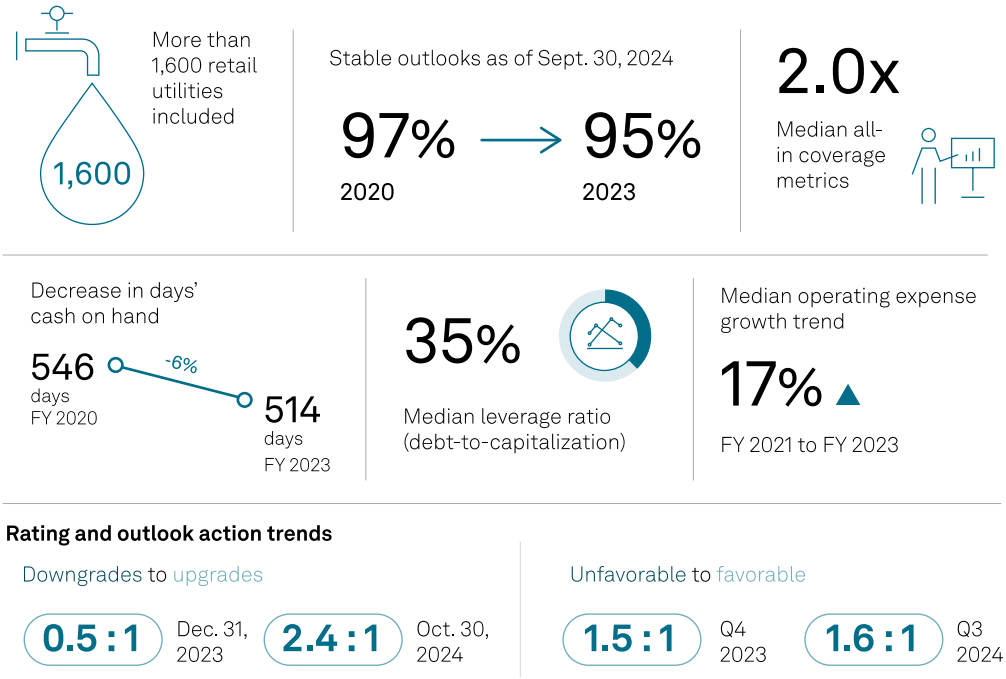
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U.S. municipal water and sewer utilities medians: by the numbers



Source: S&P Global Ratings.

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Key Takeaways

- U.S. water and wastewater utilities' median financial performance diminished in fiscal 2023, while downgrades outpaced upgrades in 2024, consistent with S&P Global Ratings' negative sector view.
- Flat-to-declining median financial metrics reflect tightening margins as most utilities were operating in a new-baseline environment, with higher cost-of-service requirements. Balance-sheet metrics were mostly stable, but expense growth continued to pressure operating performance.
- Accelerating capital spending could further pressure margins as utilities address aging infrastructure, asset hardening, investing in new sources of supply, and complying with increasingly stringent regulations.
- Asset resiliency and long-term environmental-risk mitigation will continue to be integral to assessing utilities' financial outlook.

Most key financial median ratios diminished slightly compared with recent historical periods, reflecting the rated municipal water and sewer utility sector's increased pressure from rising costs. This is evident in median liquidity levels declining to a still robust 514 days' cash on hand in fiscal 2023 from 546 days in the previous fiscal year, due primarily to a growing expense base and limited strengthening of reserves, while median coverage declined 10 basis points year over year. Upcoming budgets for water and sewer utilities are already reflecting higher operating costs, and while larger utilities have benefited from economies of scale, smaller utilities faced challenges in a rising cost-of-service environment.

S&P Global Ratings continues to affirm most of its ratings, but a negative bias on rating actions remains in 2024. These actions are generally due to strained cash flow, with financial metrics that no longer provide adequate financial capacity. During the first three quarters through 2024, rating actions skewed more negatively as the utility sector experienced more downgrades than upgrades. We expect the utility sector credit quality will be tempered by emerging regulatory requirements, affordability pressures associated with accelerating capital spending, and the relatively high cost of operations. Consistent with our negative sector view, we anticipate potential weakening of financial performance in the near term, and increased risk for structural imbalance for any utility without a close alignment between demand and fixed-cost recovery.

S&P Global Ratings maintains long-term ratings on more than 1,600 municipal water and wastewater utilities in the U.S. Our ratings in the sector include utilities that use a combined pledge (consisting of both water and sewer revenues), as well as those that issue separately secured utility debt (for example, water-only or sewer-only revenue bonds). Our data set excludes debt issued by wholesalers or state agencies to fund water and wastewater projects, and solid waste utilities. We base our median ratios on statistical information from our municipal retail water and sewer utility public ratings. These medians are not requirements for any particular rating but rather reflect the sector's general credit trends at the specified levels. As economic conditions and the number of rated utilities change, so will the reported medians.

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Utility Sector View Remains Negative

We maintained our negative sector view starting mid-2024 for the municipal water and sewer sector, given our unfavorable trend of rating and outlook actions, and limited improvement or uneven performance trends for many utilities. However, management actions on rate adjustments, easing of inflationary pressures, and recent federal policy rate cuts that could lower borrowing costs could provide some stability to utilities in the medium term. Conversely, labor costs are expected to continue to rise given the persistent above-average vacancy rates and regulatory uncertainty remains which could further pressure margins. Our view of the retail water and sewer utility rating trends, which influence our sector view, along with consideration to revise our sector view, could be informed by:

- Underlying financial performance trends, including expense and revenue drivers as well as key assumptions in forecasts;
- The magnitude of capital spending needs and funding sources, supported by adequate financial and debt capacity; and
- Outlook revision trends and the pace and resolution of ratings that already carry a negative outlook.

There will likely continue to be a negative bias on our rating actions this year, given negative rating actions exceeded positive ones in the third quarter of 2024.

Rating Distribution Is Stable, But Rating Activity Has Been Net Negative

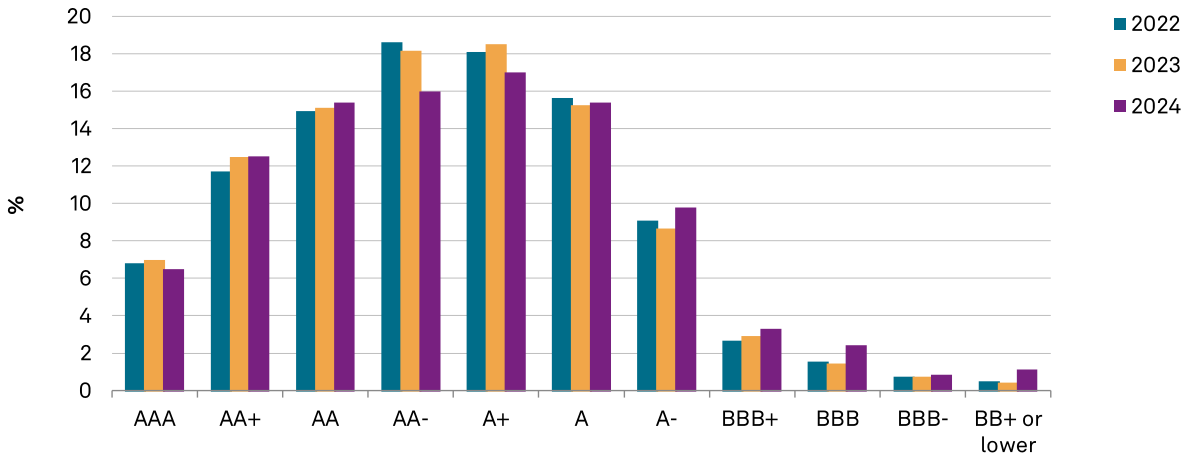
The number of ratings at the higher end of the spectrum fell slightly

Although the number of rating changes or the addition of new issuers can change the rating distribution from year to year, significant movement between rating categories is unusual, and our rating distribution remains fairly similar to that of previous years (see chart 1). However, the number of ratings in the 'AAA' and 'AA' categories fell 2%, while the 'A' category was net neutral (as those gains were offset by a similar shift to the 'BBB' category). As a result, the number of ratings in the 'BBB' category or lower rose nearly 2% in 2024, indicating a weakening in overall credit quality at the higher end of the spectrum. Our most common rating nationally remains 'A+', which is consistent with previous years.

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Chart 1

Ratings distribution



Data as of Sept. 30, 2024. Source: S&P Global Ratings.

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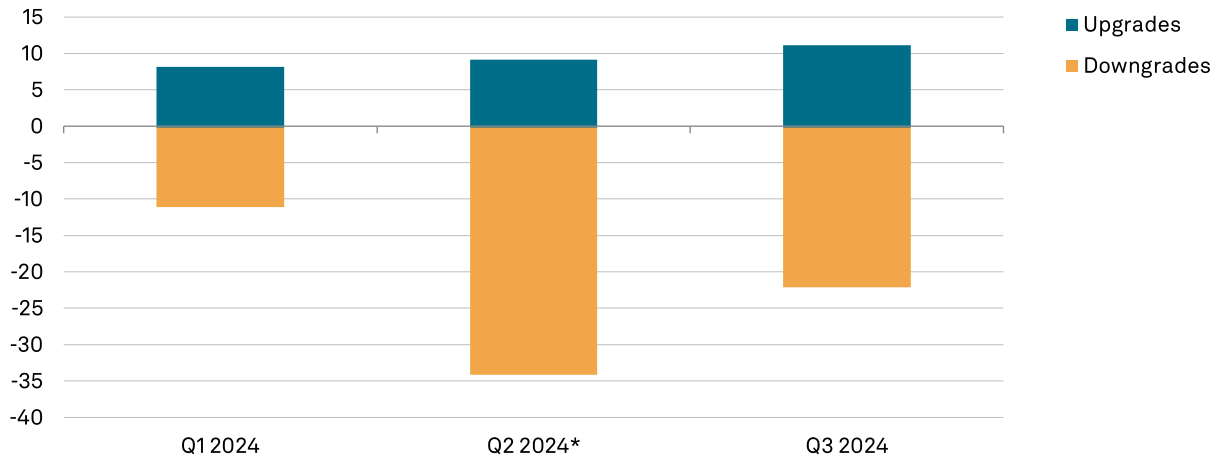
Downgrades continue to outpace upgrades

During the first three quarters of 2024, the ratio of downgrades to upgrades increased to 1.7-to-1.0, mostly due to weakening credit quality (see chart 2). Medians across rating categories have not been immune from sector difficulties and have exhibited a slight weakening in financial metrics. Amid this backdrop, we expect the credit quality of smaller utility providers could remain volatile, while that of larger utilities will likely be more stable as they leverage their greater financial cushion to improve cash flow and reinvest in asset hardening. We view smaller utilities as having greater exposure to credit pressures given, on average, staff limitations, infrastructure deficiencies, and smaller rate bases across which to spread fixed costs.

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Chart 2

2024 downgrades versus upgrades



*For Q2 2024, a portion of our negative rating actions were tied to our review of credit fundamentals following an error correction. For more information, see "Error In Our Economic Fundamentals Assessment Triggers Review Of Public Municipal Utility Sector Ratings," published Feb. 23, 2024, on RatingsDirect. The review resulted in 22 downgrades as a result of the effects of previously overstated gross county product growth combined with weakness in financial metrics.
Source: S&P Global Ratings.
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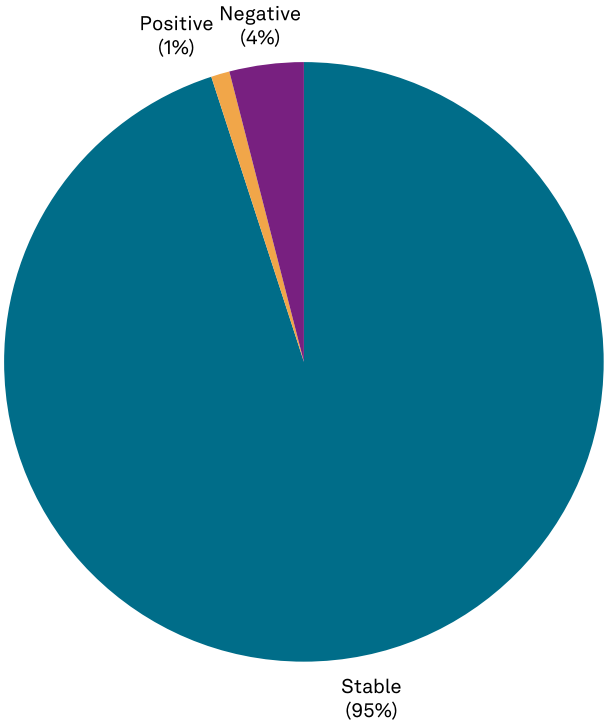
Outlook revisions have a negative bias, but most ratings carry a stable outlook

The ratio of unfavorable to favorable outlook revisions was 1.2-to-1.0 through the first three quarters of 2024. Although negative outlook revisions increased in 2024 compared with the relative stability of previous years, the negative bias had a modest effect on our percentage of negative outlooks for the sector, which was nearly 4% as of Sept. 30, 2024, compared with 3% at the end of 2023. Nearly 95% of utility ratings had a stable outlook (see chart 3). Negative outlooks mostly reflect weakening financial metrics due to weak long-term risk-mitigation strategies.

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Chart 3

Outlook distribution as of Sept. 30, 2024



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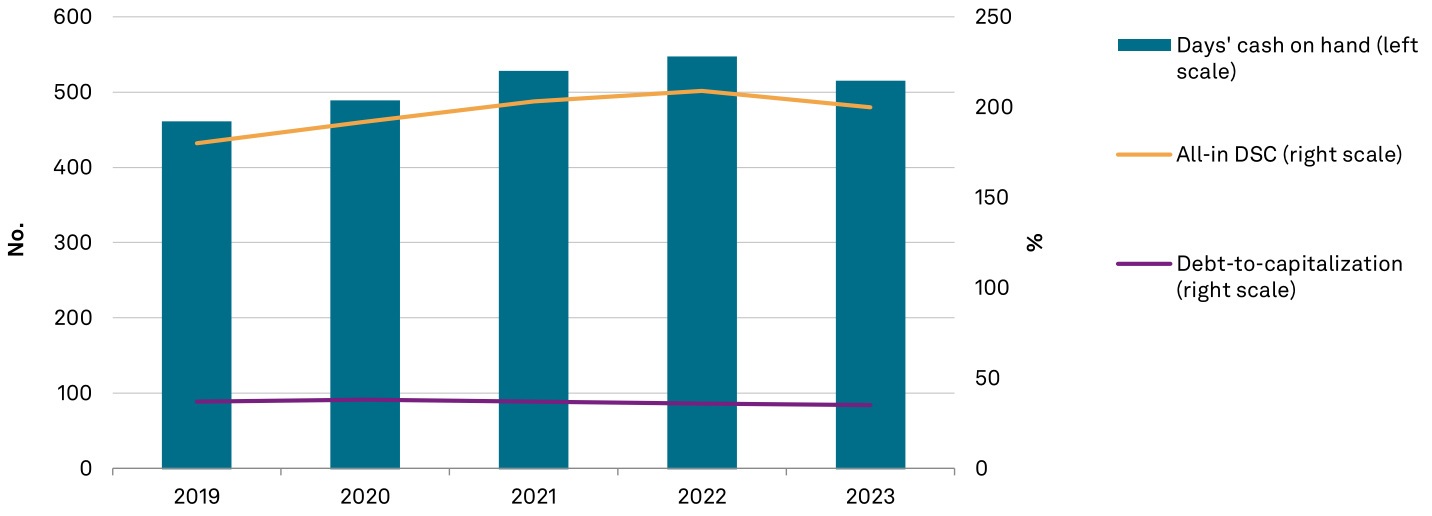
Balance-sheet ratios remain sound, but capital spending is increasing and could influence leverage ratios

In our view, despite financial performance weakening from the peak of 2022, utility sector balance sheets are still a principal credit strength (see chart 4). In addition, despite the rising operating cost environment in recent years, median financial metrics slightly weakened compared with recent historical levels: For example, national medians for all-in debt service coverage (DSC) dropped to 2.0x in fiscal 2023 from 2.1x in fiscal 2022. Utilities are starting to make progress on deferred and strategic projects, and capital spending is expected to increase based on recent Environmental Protection Agency (EPA) surveys, which reflect costly regulatory mandates and aging infrastructure needs. With this, utility debt activity saw a rise in revenue bond issuance in the third quarter of 2024, and we expect it will continue for many utilities into 2025. Given median leverage ratio (debt-to-capitalization) of 35%, there's likely some debt capacity, but depending on cash flow trends, increases to debt service could pressure all-in DSC.

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Chart 4

Trend of select balance-sheet ratios



DSC--Debt service coverage. Source: S&P Global Ratings.

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Operational Challenges And Financial Performance Can Vary By Region

The U.S. Census Bureau defines four statistical regions: Northeast, Midwest, South, and West, and is the most commonly used classification system for utilities in the U.S. based on commonalities like climate, hydrology, consumption, agriculture, sources of water supply, regional environmental regulations, and economic attributes. By regions, the modal, or most common rating only differs slightly and is within a three-notch range of 'A' to 'AA-' (see chart 5 for regional ratings distribution). The Northeast's common rating is 'A+', while the Midwest is concentrated at the 'A' rating. The West and South have modal ratings at 'AA-', and generally, favorable economic conditions, coupled with strong financial and operational management, skew ratings higher in the West and South. In addition, we note the strong management acumen offsets some of the above-average climate exposure within these regions.

Operational challenges and financial performance can also vary across regions (see heat map for regional ratios). We observe that many utilities east of the Mississippi River tend to have all-in DSC metrics that are below the national median combined with higher leverage (debt-to-capitalization ratio). Utilities east of the Mississippi tend to have ample water supply but deal more with aging infrastructure issues including lead and copper service line replacement, particularly in older urban New England, Midwest, Mid-Atlantic, and New York areas. One of the major sources of costs for sewer utilities in recent decades has been the EPA consent decrees for sanitary sewer and combined sewer overflows in many of the major Midwest and Northeast cities. Due to aging pipeline infrastructure and more stringent quality standards, we anticipate capital spending will primarily focus on infrastructure replacements in the Northeast and Midwest.

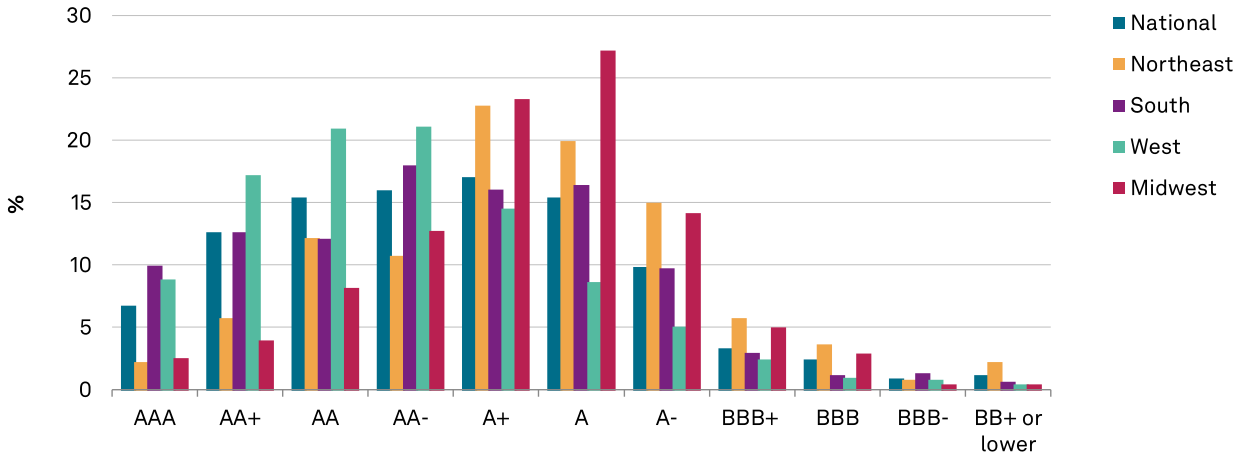
Utilities west of the Mississippi tend to have stronger financial metrics compared with the

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national median and lower leverage ratios, which should somewhat buffer the effects of higher cost-of-service backed by better financial capacity to support additional debt needs that are necessary to pay for asset resiliency and growth. Utilities west of the Mississippi also tend to have a greater focus on drought, water scarcity, and supply reliability and diversification. Furthermore, many of these utilities face the challenges of a growing population, and a limited and vulnerable water supply, which necessitates higher investments in diverse supplies and storage. Economic growth and improvement in income metrics are factors that are helpful to long-term credit quality, while conversely, they can also create growth-fueled infrastructure requirements. While few utilities can realistically change the macroeconomic and operating conditions under which they function, we believe that strong management of long-term operational and capital requirements will likely be a key factor supporting rating stability.

Chart 5

Ratings distribution by region as of Sept. 30, 2024

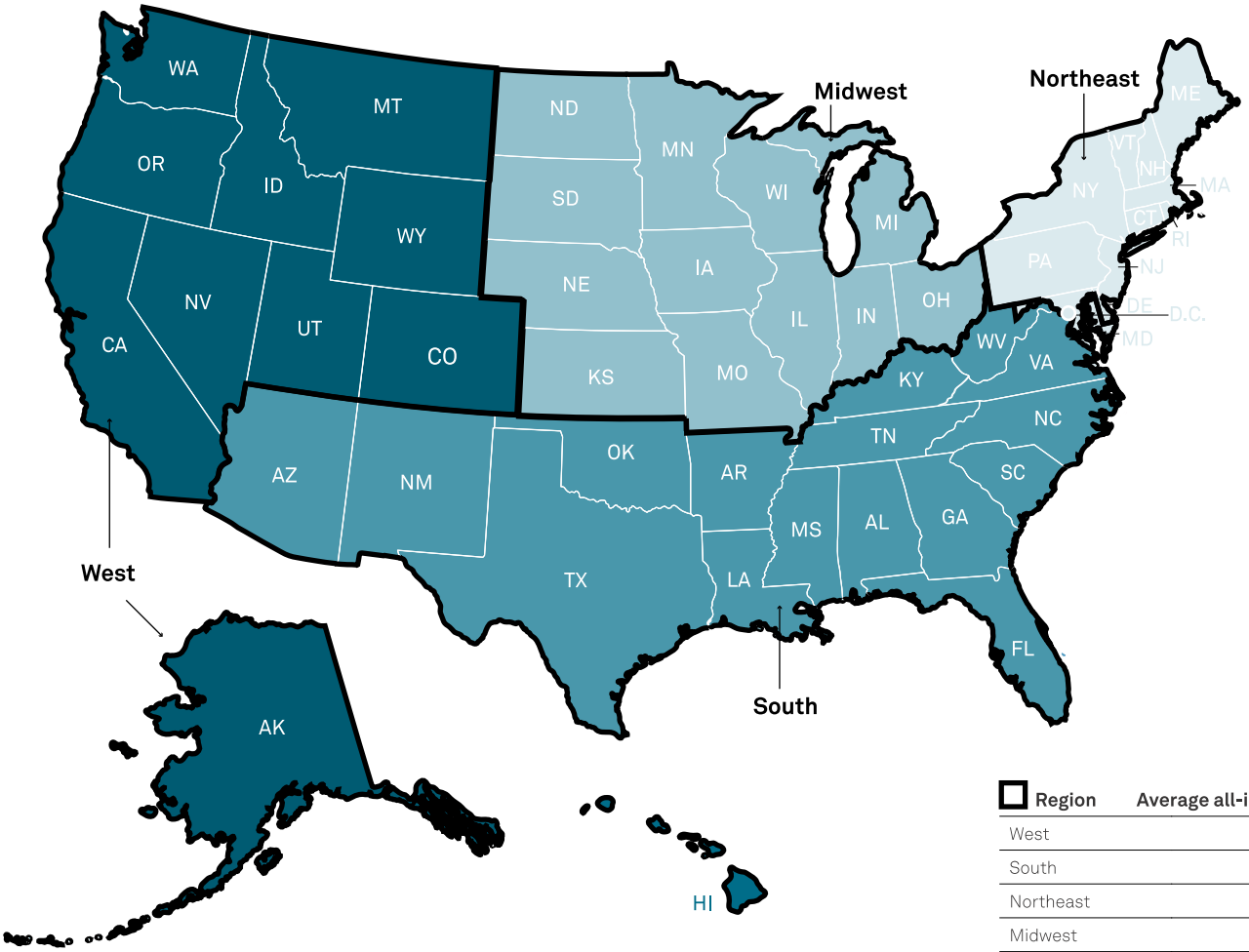


Source: S&P Global Ratings.

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All-in DSC of utilities across regions in the U.S.



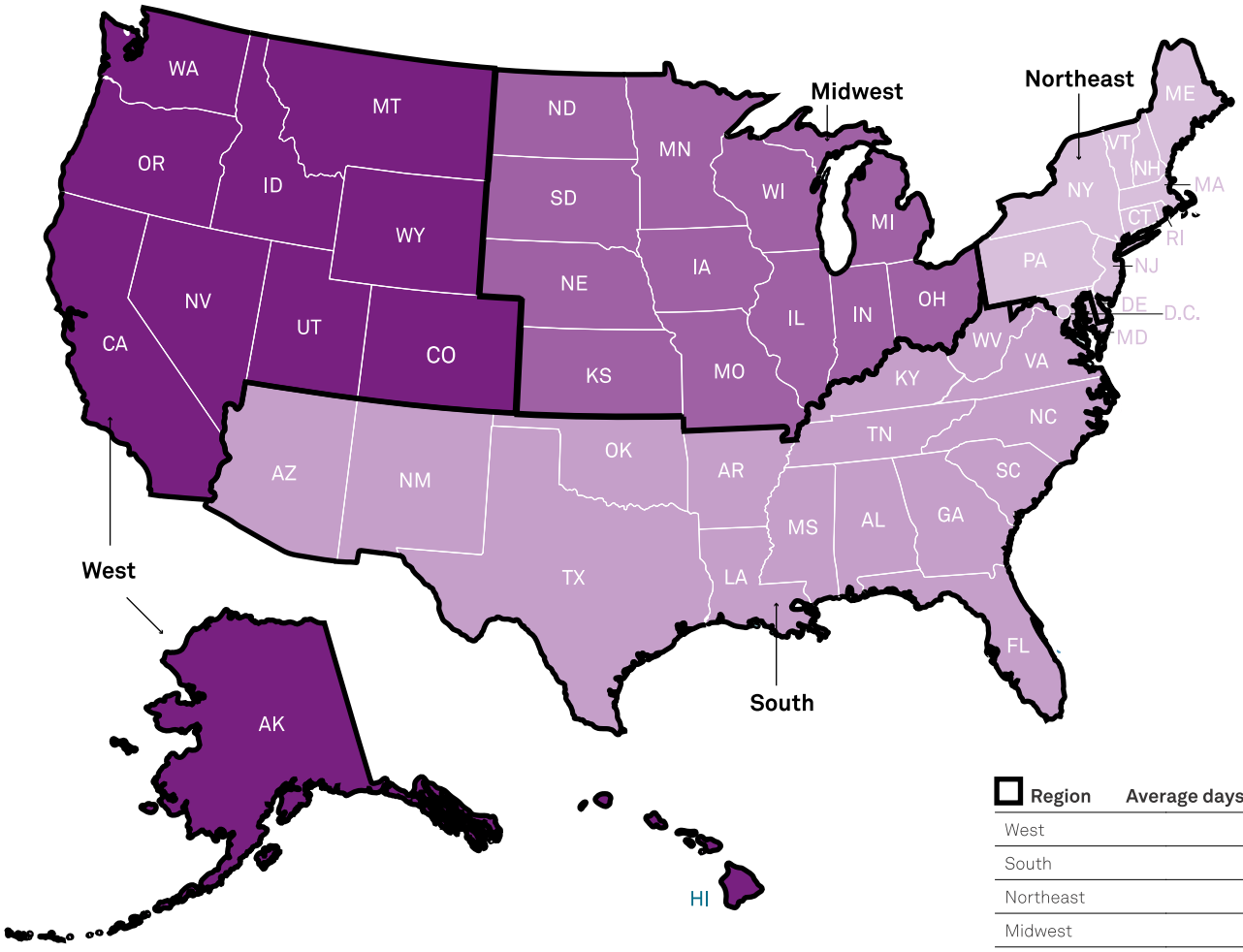
Region	Average all-in DSC ratio in x
West	2.35
South	1.95
Northeast	1.75
Midwest	1.65

Sources: S&P Global Ratings

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Median liquidity levels of utilities across regions in the U.S.



Region	Average days' cash on hand
West	627
South	410
Northeast	360
Midwest	450

Sources: S&P Global Ratings
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Key Credit Drivers And Regional Sector Trends

Increasing climate issues and tightening regulations stress infrastructure resiliency

Most utilities continue to deal with aging infrastructure needs but are also grappling with stringent regulatory requirements and the need to prepare for climate resiliency, while maintaining affordable rate structures. In our view, an increasing exposure to physical climate risks for water and sewer utilities will likely require additional capital plan expenditure associated with asset hardening and resiliency. The National Oceanic and Atmospheric Administration estimated 24 confirmed weather and climate disaster events in 2024 (year-to-date), with losses exceeding $1 billion each. 2023 was a historic year, with 28 weather and climate disasters with a

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price tag of at least $93 billion that surpassed the previous record of 22 in 2020. Disaster costs over the past 10 years (2014-2023) exceeded a record $1.2 trillion for any 10-year period, reflecting the increased exposure and vulnerability to extreme weather and climate events. Greater focus on climate-resilience and adaptation projects would increase investment in flood control and drought-tolerant sources of supplies and water storage. Likewise, the EPA's latest drinking-water and clean-water infrastructure surveys point to growing infrastructure needs (approximately $1 trillion over the next 20 years) that far exceed the influx of funding. We anticipate that regulatory mandates and enforcement actions will probably continue at an increased pace. The EPA has continued to raise awareness on its final Lead and Copper Rule Improvements (LCRI), and nutrient pollution entering watersheds at excess levels. The LCRI will mandate lead service line replacement within a 10-year timeframe, and we continue to track the development and costs associated with proposed drinking- and clean-water regulations for contaminants such as per-and polyfluoroalkyl substances (PFAS). Although the risks vary by region, our rating analyses incorporate a utility's mitigation plans through review of long-term financial and capital-planning documents as well as any specific resiliency plans. We expect the cost of building resiliency into operations and infrastructure to address these rising risks will be borne by ratepayers, which could heighten affordability risks in the long term.

From hydrology to conservation, water could have significant effects on West region utilities

West region utilities face the paradox of utility-led conservation partially due to water scarcity and hydrological volatility. In addition, the Colorado River's ongoing supply imbalance suggests that ongoing negotiations between users will result in meaningful curtailments after Dec. 31, 2026, when key operating guidelines for lower-basin shortages established in 2007 expire. Add to that the evolution of demand-side management, such as voluntary and mandatory water-conservation measures; and improved water efficiency. The result is that often the utility's fixed costs are spread over static or even declining sales. This creates the paradoxical business model and political challenge of raising rates to cover not only increasing costs but declining sales. In our view, strong long-term financial and operational planning at the local and regional level can foster operational certainty and can lead to credit stability. Many utilities in the West have active long-term water supply planning and drought-management, conservation, and risk-management plans. In our view, successful conservation programs have allowed utilities to avoid, or at least defer, large capital costs. Lower water sales from conservation don't necessarily have to reduce a utility's net pledged revenues. The largest operating costs for most utilities are usually electricity (for treatment and pumping) and chemicals (for treatment), and even with lower water sales, a utility could find some corresponding relief in its operating budget. That, in turn, can factor directly into a utility's financial risk profile stability, with an alignment between demand and fixed-cost recovery via rates. Therefore, rate-making and financial flexibility could improve a utility's ability to react to these challenges, which, in our view, would preserve consistent financial performance.

Weather can significantly affect financial risk profiles

In our experience, weather-related effects are the main reasons for a utility to miss its budgeted DSC ratio. Although on average, the climate in the U.S. continues to warm, leading to more intense and prolonged heatwaves, which typically influences demand and revenues favorably, the trend is nonlinear, such that in any typical year, many utilities also may face a cooler, wetter spring relative to historical trends, which can have an offsetting effect to demand that drives sales revenues.

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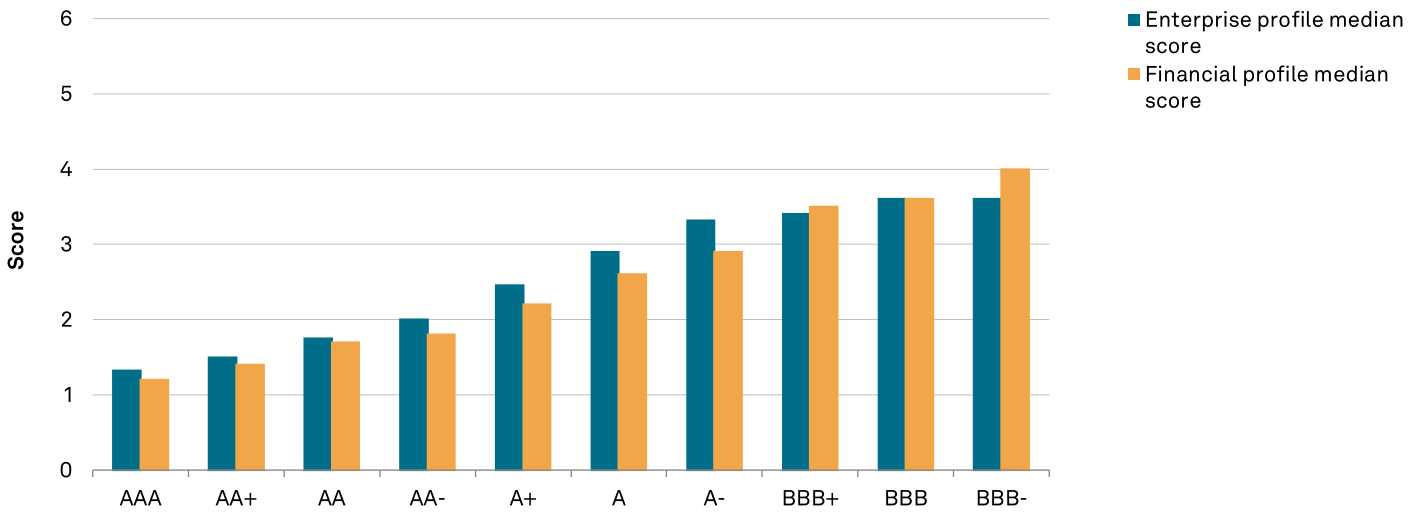
Therefore, weather and its influence on revenues are interrelated and remain important to credit quality. Across regions there could be a compounding effect of revenue softness due to recent weather shifts and a new baseline in operating environment based on recent increases in commodity and energy prices. A rate structure that promotes alignment closely with a utility's changing revenue and cost profile along with a credible history of adjusting rates proactively is a factor that will continue to support rating stability.

Medians By Rating

We generally see that many of the enterprise and financial risk profile medians tend to improve with credit quality (see chart 6). Not surprisingly, higher-rated utilities will have enterprise and financial risk profile scores at the lower (more favorable) end of the scale. Many higher-rated utilities tend to be in major metropolitan areas and can spread fixed costs across a larger customer base; others are newer systems with fewer capital needs associated with maintaining aging infrastructure. Lower-rated utilities have higher (less favorable) enterprise and financial risk profile scores, and their common credit weaknesses include limited economies, low incomes, slim coverage, and lower liquidity levels especially on an absolute basis. They also tend to have below-average operational and financial management assessment scores, stemming from reactive policies and a lack of best practices. Charts 7 and 8 provide more detailed information regarding the specific criteria areas that comprise the broader enterprise and financial risk profiles. (Note that '1' is the most favorable assessment score on a six-point scale.)

Chart 6

Enterprise and financial risk profile scores by rating level



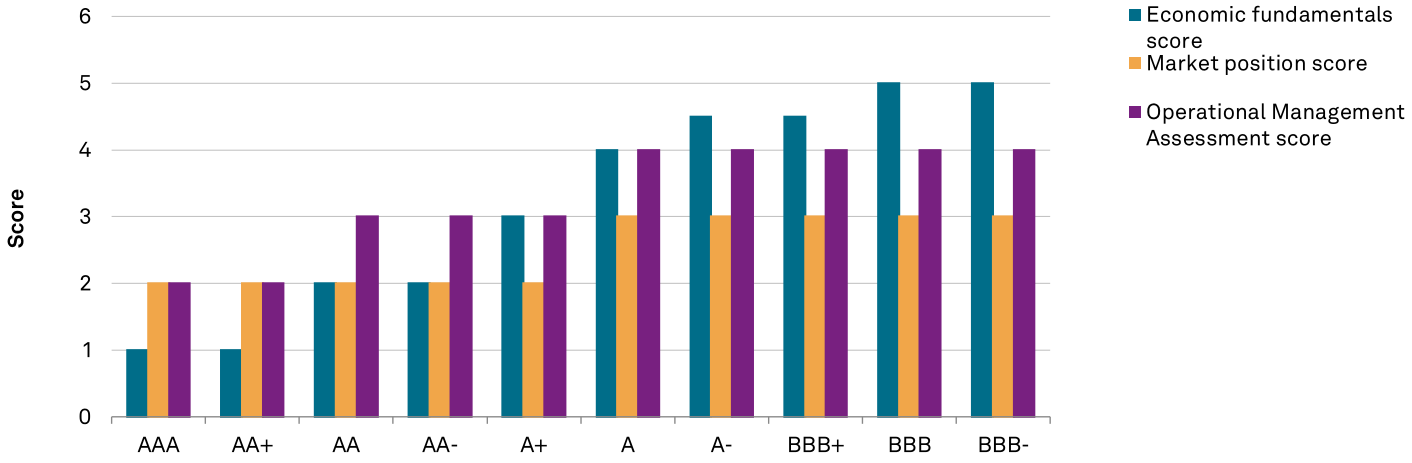
'1' is the most favorable assessment score on a six-point scale. Source: S&P Global Ratings.

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Chart 7

Median enterprise risk profile subfactor scores by rating level

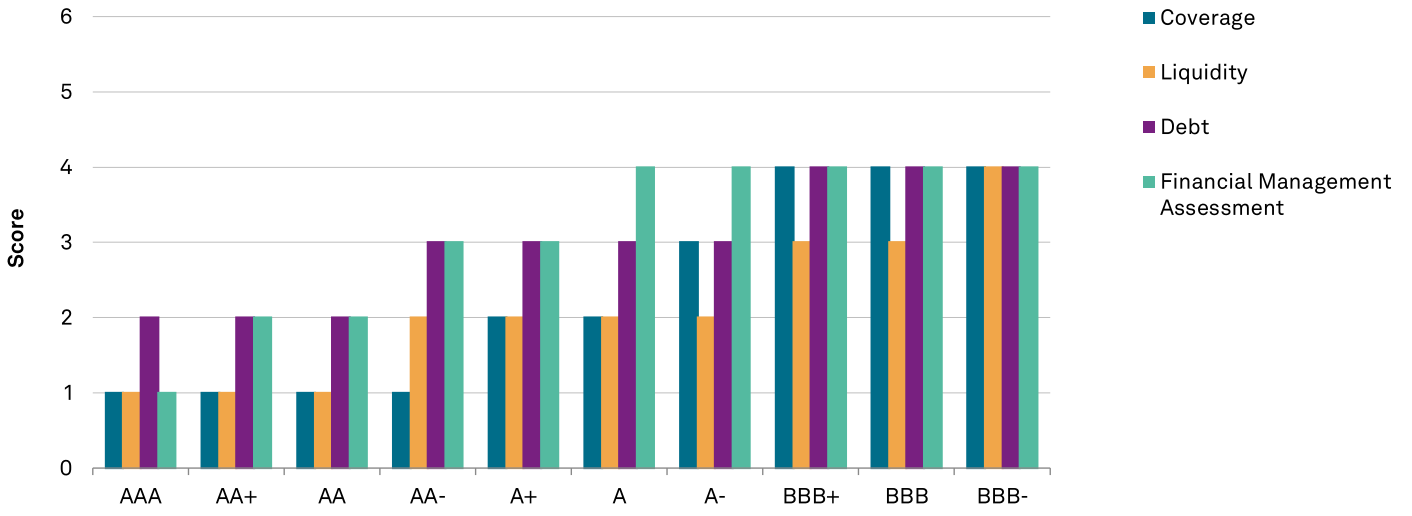


'1' is the most favorable assessment score on a six-point scale. Source: S&P Global Ratings.

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Chart 8

Median financial risk profile subfactor scores by rating level



'1' is the most favorable assessment score on a six-point scale. Source: S&P Global Ratings.

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U.S. municipal water and wastewater utilities--medians by ratings

	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-
Enterprise risk profile										
Overall, S&P Global Ratings' enterprise risk profile assessment score	1.3	1.5	1.8	2.0	2.5	2.9	3.3	3.4	3.6	3.6
Economic fundamentals										
MHHEBI (as % of US level)	114	112	110	105	94	86	79	80	75	71
Top 10 customers as % of operating revenues	4.2	5.2	5.7	6.8	7.0	7.3	7.7	9.6	9.8	10.3
Economies of scale (based on annual operating revenues ($000s), three-year average)	73,371	41,982	24,286	15,647	7,991	4,663	2,853	2,655	1,933	1,707
Overall, S&P Global Ratings' economic fundamentals assessment score	1.0	1.0	2.0	2.0	3.0	4.0	4.5	4.5	5.0	5.0
Market position										
Individual water or sewer utility rates as % of MHHEBI	1.0	1.0	1.1	1.2	1.3	1.3	1.4	1.5	1.6	1.8
County poverty rate (%)	10.3	10.2	10.0	11.3	11.7	13.1	13.2	14.1	13.1	15.8
Overall, S&P Global Ratings' market position assessment score	2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0	3.0
Operational management										
Overall, S&P Global Ratings' Operational Management Assessment score	2.0	2.0	3.0	3.0	3.0	4.0	4.0	4.0	4.0	4.0
Financial risk profile										
Overall, S&P Global Ratings' financial risk profile assessment score	1.2	1.4	1.7	1.8	2.2	2.6	2.9	3.5	3.6	4.0
All-in coverage										
All-in DSC--most recent year (x)	2.6	2.5	2.2	2.0	1.7	1.6	1.4	1.3	1.3	1.2
Overall, S&P Global Ratings' all-in coverage assessment score	1.0	1.0	1.0	1.0	2.0	2.0	3.0	4.0	4.0	4.0
Liquidity and reserves										
Available reserves--most recent year ($'000's)	90,711	55,536	24,667	16,768	7,687	3,895	2,105	1,162	1,032	554
Days' cash on hand--most recent year	713	650	631	610	564	502	418	264	278	105
Overall, S&P Global Ratings' liquidity and reserves assessment score	1.0	1.0	1.0	2.0	2.0	2.0	2.0	3.0	3.0	4.0
Debt and liabilities										
Debt-to-capitalization (%)	26	25	27	31	36	45	50	50	50	51
Overall, S&P Global Ratings' debt and liabilities assessment score	2.0	2.0	2.0	3.0	3.0	3.0	4.0	4.0	4.0	4.0

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U.S. municipal water and wastewater utilities--medians by ratings (cont.)

	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-
Financial Management Assessment										
Overall, S&P Global Ratings' financial management assessment score	1.0	2.0	2.0	3.0	3.0	4.0	4.0	4.0	4.0	4.0

'1' is the most favorable assessment score on a six-point scale. We did not include industry risk, because we score this factor as extremely strong ('1') for all utilities, and it is not subject to analytic discretion per utility.

What We're Watching

Management challenges: funding of long-term needs will pose the biggest test for utilities. Utility managers face pressure as they navigate the increased scrutiny of the current regulatory environment, aging systems, and migrating populations trends. Utilities will likely have a challenging year addressing these issues due to funding constraints given the sector's well-documented needs and limited federal or state capital dollars among competing high-priority projects. In addition, the operating environment appears to be stabilizing, and water and sewer utility officials seem to have greater certainty around budgeting. That said, meaningful cost decreases are not likely, resulting in a "new normal" environment for the water and sewer utility sector.

Continued credit variation between small and large utilities. We expect smaller utilities will continue to face greater operating challenges, while larger utilities with robust financial resources and economies of scale will maintain their positions. Overall, large utilities seem to be better positioned to manage regulatory demands given healthier financial profiles and more sophisticated management teams, while smaller utilities could be vulnerable to changing regulations and are showing signs of weakening margins in a rising cost-of-service environment.

Increased capital spending and debt issuance are likely. Debt issuances in 2023 slowed as many utilities defended their balance sheet or delayed the commencement of larger capital projects amid operating pressure and significantly increased borrowing costs. However, utilities can't continue to delay capital-intensive strategic or maintenance projects indefinitely and could begin to accelerate capital spending. We observed increased utility revenue debt activity in the latter half of 2024 that will likely continue into 2025.

Event risks place ongoing pressure on utilities for both financial and management resources. Cyber events, along with weather and other physical risks, require planning and investment to minimize financial and operating disruption. The unexpected nature of these events, which appear to be increasing, requires ongoing attention at a time when management resources are already stretched. Although these increasingly recurring events are often considered one-time in nature within fiscal year performance, they can constrain operating flexibility.

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Exhibit CF-12

Pittsburgh Water Moody's Scorecard		FY 2024				FY 2027 with Rate Increase				FY 2027 without Rate Increase			
MOODY'S INVESTORS SERVICE	Weight	Statistics	Score		Weighted Score	Statistics	Score		Weighted Score	Statistics	Score		Weighted Score
System Characteristics (30%)													
Asset Condition (Remaining Useful Life)	10%	36	Aa	2	0.20	36	Aa	2	0.20	36	Aa	2	0.20
System Size (O&M)	7.5%	$213,213	Aaa	1	0.08	$213,213	Aaa	1	0.08	$213,213	Aaa	1	0.08
Service Area Wealth (Median Family Income)	12.5%	93.0%	Aa	2	0.25	93.0%	Aa	2	0.25	93.0%	Aa	2	0.25
Financial Strength (40%)													
Annual Debt Service Coverage	15%	1.6x	A	3	0.45	1.4x	A	3	0.45	0.7x	Ba	5	0.75
Days Cash on Hand	15%	137	A	3	0.45	116	A	3	0.45	28	Baa	4	0.60
Debt to Operating Revenues	10%	3.75	Aa	2	0.20	3.75	Aa	2	0.20	4.65	A	3	0.30
Management (20%)													
Rate Management	10%	Adequate	Baa	4	0.40	Adequate	Baa	4	0.40	Insufficient	B	6	0.60
Regulatory Compliance and Capital Planning	10%	Moderate	A	3	0.30	Moderate	A	3	0.30	Limited	Baa	4	0.40
Legal Provisions (10%)													
Rate Covenant	5%	1.10x	Baa	4	0.20	1.10x	Baa	4	0.20	1.10x	Baa	4	0.20
Debt Service Reserve Requirement	5%	Aa	Aa	2	0.10	Aa	Aa	2	0.10	Aa	Aa	2	0.10
Total Score	**100%**				**2.63**				**2.63**				**3.48**
Unadjusted Indicated Rating					***A1***				***A1***				***A3***
Notch Down: Outsized Capital Needs					***-1***				***-1***				***-1***
Notch Down: Coverage Below ABT or 1.00x													***-1***
Notch Down: Weak Management/Oversight													***-1***
Adjusted Indicated Rating					***A2***				***A2***				***Baa3***
Current Rating					***A2***								
Outlook					Stable								

Sources: Pittsburgh Water's FY 2024 ACFR; Pittsburgh Water's most recent Moody's report (1/23/2025); Moody's US Municipal Utility Revenue Debt Methodology (3/7/2024).

Exhibit CF-13

Pittsburgh Water S&P Scorecard			FY 2024			FY 2027 with Rate Increase			FY 2027 without Rate Increase		
STANDARD & POOR'S RATINGS SERVICES **Enterprise Risk Profile**	**Weight**	**Metric**	**Statistic**	**Score**	**Weighted Score**	**Statistic**	**Score**	**Weighted Score**	**Statistic**	**Score**	**Weighted Score**
Economic fundamentals	45%	MHHEBI I GDP Rate	80% I within 1% of U.S.	3	1.35	80% I within 1% of U.S.	3	1.35	80% I within 1% of U.S.	3	1.35
Industry risk	20%	Macro Factors	Very Low	1	0.20	Very Low	1	0.20	Very Low	1	0.20
Market position	25%	Avg. Bill/MHHEBI I Poverty Rate	3.2% I 11.3%	3	0.75	3.2% I 11.3%	3	0.75	3.2% I 11.3%	3	0.75
Operational management assessment	10%	Management Review	Good	2	0.20	Good	2	0.20	Good	3	0.30
Total	100%				2.50			2.50			2.60
Financial Risk Profile											
All-in coverage	40%	All-in Coverage	1.3x	3	1.20	1.4x	3	1.20	0.7x	6	2.40
Liquidity and reserves	40%	Reserves I DCOH	$100 MM I 175 days	1	0.40	$68 MM I 116 days	2	0.80	$17 MM I 28 days	4	1.60
Debt and liabilities	10%	Debt to Capitalization	92%	6	0.60	92%	6	0.60	92%	6	0.60
Financial management assessment	10%	Financial Performance	Good	2	0.20	Good	2	0.20	Good	2	0.20
Total	100%				2.40			2.80			4.80
Scorecard Indicated Rating					***A+***			***A+/A***			***BBB/BBB-***
Current Rating					***A+***						

Sources: Pittsburgh Water's 2024 ACFR; Pittsburgh Water's most recent S&P report (12/19/2024); S&P's U.S. Municipal Water, Sewer, and Solid Waste Utilities: Methodologies and Assumptions (4/14/2022); and the U.S. Bureau of Economic Analysis.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

DIRECT TESTIMONY OF

HAROLD J. SMITH

ON BEHALF OF
THE PITTSBURGH WATER AND SEWER AUTHORITY d/b/a Pittsburgh Water

Docket Nos.
R-2025-3055010 (Water)
R-2025-3055011 (Wastewater)
R-2025-3055012 (Stormwater)

TOPICS:
Allocation of Revenue Requirements
Rate Design
Gradualism
Multi-Year Rate Plan

June 4, 2025

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I. INTRODUCTION AND QUALIFICATIONS

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Harold J. Smith, and my business address is 383 Corona Street, #204, Denver, Colorado 80218.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY.

A. I am a Senior Principal at Raftelis Financial Consultants, Inc. (Raftelis), a consulting firm specializing in the areas of water and wastewater finance and pricing. Raftelis was established in 1993 in Charlotte, North Carolina, by George A. Raftelis to provide financial and management consulting services to public and private sector clients. Raftelis is a national leader in the development of water, wastewater, and stormwater rates.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND WORK EXPERIENCE.

A. I obtained a Master of Business Administration from Wake Forest University in 1997 and a Bachelor of Science in Natural Resources from the University of the South in 1987. As an employee of Raftelis, I have been involved in numerous projects for public utilities including a number of studies involving a wide range of technical specialties including water utility cost of service and rate structure studies and water utility financial planning studies.

Q. DO YOU BELONG TO ANY PROFESSIONAL ORGANIZATIONS OR COMMITTEES?

A. Yes. I am a member of the American Water Works Association where I serve on the Rates & Charges Committee.

Q. HAVE YOU PREVIOUSLY TESTIFIED IN PROCEEDINGS BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION (PAPUC) ON BEHALF OF PITTSBURGH WATER?

A. Yes, I provided testimony for the Pittsburgh Water and Sewer Authority's (Pittsburgh Water) first four water (Docket Nos. R-2018-3002645, R-2020-3017951, R-2021-3024772 and R-2023-3039920) and wastewater conveyance (Docket Nos. R-2018-3002647, R-2020-3017970, R-2021-3024774 and R-2023-3039921) and first two stormwater (Docket No.R-2021-3024779 and R-2023-3039919) rate filings before the Pennsylvania Public Utility Commission (PAPUC or Commission).

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE ANY OTHER REGULATORY AGENCIES ON UTILITY RATE RELATED MATTERS?

A. Yes. I have provided testimony before the Rhode Island Public Utilities Commission (RIPUC) in Providence Water Supply Board's ten most recent filings before the Rhode Island Public Utility Commission (RIPUC) (Docket Nos. 3832, 4061, 4070, 4080, 4287, 4406, 4571, 4618, 4994 and 24-51-WW) and in Newport Water's ten most recent filings (RIPUC Docket Nos. 3578, 3675, 3818, 4025, 4128, 4243, 4355, 4595, 4933 and 24-30-WW). I have also provided testimony on water, sewer and stormwater rate related matters before the Tennessee Regulatory Authority as well as in court proceedings in Arizona, Connecticut, Indiana, Maryland and Maine.

II. PURPOSE OF TESTIMONY

Q. PLEASE DESCRIBE YOUR ROLE IN THIS PROCEEDING?

A. I have worked with the staff of Pittsburgh Water to prepare a class cost of service study (CCOSS) and develop cost-based rates and charges for water, wastewater conveyance and stormwater service. The results of my analyses are included in the schedules incorporated herein with my testimony.

Q. PLEASE DESCRIBE THE PURPOSE OF YOUR TESTIMONY.

A. I am sponsoring Pittsburgh Water's CCOSS and rate designs for the water, wastewater conveyance and stormwater tariffs. The purpose of the CCOSS is to allocate Pittsburgh Water's costs of providing service to each utility and rate class. The rate design analysis results in water and wastewater conveyance rates that help ensure that Pittsburgh Water's costs are recovered from each class in a fair and equitable manner and in a way that reflects the demands that each class place on the systems. This testimony provides an explanation for each schedule attached to my testimony. The schedules use revenue requirements developed by Mr. Barca for the Fiscal Year Ending December 31, 2026, and 2027. The FY 2026 revenue requirement forms the basis for the cost-of-service analysis and FY 2026 rates. The schedules also include rates for FY 2027. The proposed rates for FY 2026 include the modification of the PENNVEST surcharge (PVC) to include all debt service on existing and future PENNVEST loans and assume that the DSIC will be increased from 5% to 7.5%. To the extent that either of these changes are not approved, base rates would need to be adjusted in order to recover additional revenue. The proposed rates for FY 2027 are adjusted to recover increased revenue bond debt service-related costs and to accommodate the elimination of the monthly minimum allowance in the water and wastewater conveyance base charges.

Q. WHAT ARE YOUR GENERAL CONCLUSIONS?

A. Pittsburgh Water needs additional rate revenue to properly fund O&M and capital costs related to providing safe and reliable service to its customers. Pittsburgh Water is

seeking to address this need through a multi-year rate increase. The proposed increases in overall rate revenue, inclusive of the DSIC and PVC, are as follows:

- FY 2026 – $63.7 million (25.9%)
- FY 2027 – $20.7 million (6.7%)

Q. HAVE YOU PERFORMED SIMILAR ANALYSES FOR PITTSBURGH WATER IN THE PAST?

A. Yes, Raftelis performed a water and wastewater conveyance rate study for Pittsburgh Water in 2016 and again in 2017. Raftelis also prepared the CCOSS that supported Pittsburgh Water's first four rate filings before the PAPUC.

Q. WILL ALL RATES INCREASE BY THE PERCENTAGE INDICATED FOR EACH FISCAL YEAR?

A. No, the percent increase represents the increase in total overall rate revenue needed in each fiscal year. The breakdown of current rates, proposed rates, and the associated percentage changes will be discussed in more detail below and detailed in my water, wastewater conveyance, and stormwater schedules. Rate adjustments will vary and are based on the cost-of-service analysis and rate design described herein.

Q. HOW WILL THE INCREASE IN FY 2027 BE APPLIED?

A. The rate development process for each year will be described in detail in my testimony. In general, the adjustments for FY 2027 will reflect the percent increase in revenue requirements by service and will be applied based on the COSS performed for the FY 2026 rates; however, rate design adjustments are needed to accommodate the elimination of the minimum allowance.

Q. HAVE YOU EVER PREPARED A MULTI-YEAR FILING FOR A REGULATED UTILITY?

A. Yes, I have prepared multi-year filings for two municipal regulated utilities in Rhode Island in accordance with R.I. Gen. Laws § 39-15.1-4, which allows utilities to file a rate

plan for a period not to exceed six years. The City of Newport Water Department has filed three multi-year rate plans. The first of these was a four-year plan filed in April of 2011 (RIPUC Docket No. 4243). The second was a two-year rate plan filed in February of 2019 (RIPUC Docket No. 4933). The third was a four-year plan filed in June of 2024 and approved in February of 2025 (RIPUC Docket No. 24-30-WW).

Similar to Pittsburgh Water's proposal in this case, in Docket 4243, the rates for years two through four of the plan were designed to recover additional debt service costs associated with a series of three borrowings used to fund the replacement of and upgrades to Newport's water treatment facilities. The rates approved for Steps 2 through Step 4 of the plan were based on assumptions regarding the anticipated borrowing schedule and the interest rates associated with future borrowings and did not recover additional operating and maintenance costs.

In Docket 24-30-WW, the rate adjustments in years two through four of the plan will be based on increases in salaries, wages and benefits resulting from contracts being negotiated with two labor unions.

In December of 2019, Providence Water filed a three-year rate plan (RIPUC Docket No. 4994). Rates for the first year of the plan were based on a cost-of-service study. Proposed rate increases for years two and three of the plan were applied on an across-the-board basis to recover additional revenue needed to offset increases in O&M and capital costs.

Q. WHAT ARE THE BENEFITS OF HAVING A MULTI-YEAR RATE PLAN?

A. The primary benefit is that multi-year filings allow for scrutiny of the utility's rate request, but the amount of time and effort on the part of the utility and regulators is

significantly less than would be required if the utility was required to prepare, submit, and defend a full rate filing for each year of the multi-year plan.

An approved multi-year plan also provides lenders and rating agencies with a greater level of certainty that the utility will be able to implement the rates necessary to ensure that its debt service obligations will be met. This greater level of certainty should result in more favorable borrowing terms, thereby reducing the utility's cost of providing service.

Q. DID PITTSBURGH WATER PROPOSE A MULTI-YEAR RATE PLAN IN ITS LAST RATE FILING BEFORE THE PAPUC?

A. Yes, in Dockets R-2023-3039920, R-2023-3039921 and R-2023-3039919 Pittsburgh Water proposed a three-year rate plan.

Q. WAS THE MULTI-YEAR PLAN PROPOSED IN THOSE DOCKETS APPROVED BY THE COMMISSION?

A. No, several of the intervenors in those dockets had issues with the concept of a multi-year plan and Pittsburgh Water agreed to withdraw the multi-year aspect of its rate proposal during settlement negotiations.

Q. PLEASE SUMMARIZE THE OTHER PARTIES' POSITION WITH RESPECT TO PITTSBURGH WATER'S REQUEST TO IMPLEMENT A MULTI-YEAR RATE PLAN IN THE PRIOR PROCEEDING.

A. Witnesses for some of the other parties recommended that the Commission reject Pittsburgh Water's request for a Multi-Year Rate Plan (MYRP), citing a number of specific concerns, including the difficulty associated with forecasting future costs and Pittsburgh Water's failure to propose mechanisms to ensure that rates in years 2 and 3 of the MYRP were fair and reasonable and not in excess of cost of service.

Q. DO YOU AGREE WITH THE CONCERNS EXPRESSED BY THE OTHER PARTIES WITH RESPECT TO THE MYRP?

A. I do not. As discussed in my direct and rebuttal testimonies in those previous dockets, I have worked with utilities in Rhode Island that have successfully implemented MYRPs that were approved by the RIPUC and believe that if the PAPUC were to implement processes similar to those employed by the RIPUC, utility customers in Pennsylvania could reap the benefits of MYRPs as they have done in Rhode Island.

Q. DO YOU AGREE THAT THE DIFFICULTIES ASSOCIATED WITH FORECASTING FUTURE COSTS ARE SO GREAT THAT THEY SHOULD PRECLUDE THE USE OF A MYRP FOR PITTSBURGH WATER?

A. I do not. In a traditional rate filing, the Fully Projected Future Test Year (FPFTY) is based on forecasted debt related costs for a period one year in the future. Pittsburgh Water's current MYRP proposal involves no increases in O&M costs with the rate adjustments to recover only additional debt related costs in year two of the plan. If the Commission implements reasonable review mechanisms prior to the final approval of rates in future years, the risk of having rates that generate revenue that is materially in excess of actual costs is all but eliminated.

Q. DO YOU HAVE A PROPOSAL WITH RESPECT TO REGULATORY PROCESSES THAT COULD BE IMPLEMENTED TO REDUCE THE RISK OF MYRPS RESULTING IN RATES THAT WERE NOT JUST AND REASONABLE?

A. Mr. Barca provides a general description of a review process in his testimony which is similar to the process employed by the RIPUC. Since adjustments to rates for FY 2027 are driven solely by increases in debt service and related coverage costs, the only information that would require review is information related to the actual debt service payments resulting from the issuance of new revenue bonds. This information can then be compared to the debt service assumptions in the utility's projection of debt service

included in the initial filing and rates can be adjusted such that they recover only the actual debt service and coverage costs.

Q. ONE OF THE WITNESSES INVOLVED IN PITTSBURGH WATER'S LAST RATE CASE IMPLIED THAT APPROVING A MYRP WOULD RESULT IN PITTSBURGH WATER BEING SUBJECT TO LESS OVERSIGHT THAN THEY WOULD BE IF THE COMMISSION APPROVED A SINGLE SET OF RATES BASED ON A SINGLE FPFTY. DO YOU AGREE WITH THIS IMPLICATION?

A. I do not. If the Commission mandates review mechanisms similar to those suggested by Mr. Barca, Pittsburgh Water's revenue requirement projections and rates would face scrutiny prior to final approval of its proposed rates for the upcoming rate year. Under a traditional scenario in which the Commission approves rates based on a single FPFTY, Pittsburgh Water would only be subject to a thorough review of its projected revenue requirements and rates during the initial rate case and would not face serious scrutiny until it submits its next rate filing which could be several years in the future.

Q. DID PITTSBURGH WATER AGREE TO ADDRESS CERTAIN ISSUES WITH THE CCOSS AS PART OF THE MOST RECENT RATE CASE SETTLEMENT ENTERED IN DOCKET NO. R-2023-3039920 (WATER), R-2023-3039921 (WASTEWATER) AND R-2023-3039919 (STORMWATER)?

A. Yes, as part of the last rate case settlement, Pittsburgh Water agreed to address the following issues related to cost allocation and rate design:

- Include a proposal to remove the minimum allowance and include a customer bill impact analysis that illustrates the effect on customer rates of the rate structure change;[1]
- A customer cost analysis and rate proposals that fully eliminate usage allowances;[2]
- Removal of the readiness-to-serve component from its monthly water and wastewater conveyance customer charges.[3]

[1] *Pennsylvania Public Utility Commission v. Pittsburgh Water and Sewer Authority*, Docket Nos. R-2023-3039920 (water); R-2023-3039921 (Wastewater); R-2023-3039919 (Stormwater), Recommended Decision dated November 28, 2023. Terms and Conditions of Settlement, Section 9.A.3.a.ii at p. 26.

[2] *Id*. At Section 9.A.3.a.iii at p. 26.

[3] *Id.* At Section 9.A.3.d at p. 27.

Q. HAVE ALL OF THESE ISSUES BEEN ADDRESSED IN THIS DOCKET?

A. Yes. All items have been addressed in this rate case.

- *Include a proposal to remove the minimum allowance and include a customer bill impact analysis that illustrates the effect on customer rates of the rate structure change proposal to remove the minimum allowance and include a customer bill impact analysis:* The water and wastewater rate proposals for FY 2027 include removal of the minimum allowance. The proposal and the bill impact analysis are provided herein.
- *A customer cost analysis and rate proposals that fully eliminate usage allowances:* The customer cost analysis and rate proposals for FY 2027, that includes fully eliminating usage allowances are discussed herein and shown on schedules HJS-19W-25W and 18WW-24WW. HJS-21W and 20WW show the calculation of the Customer Service Charge, excluding the usage allowance.
- *Removal of the readiness-to-serve component from its monthly water and wastewater conveyance customer charges:* This is discussed herein and shown in HJS-12W and 11WW.

Q. HOW DOES YOUR TESTIMONY RELATE TO THAT OF OTHER PITTSBURGH WATER WITNESSES?

A. Mr. Barca's testimony supports Pittsburgh Water's revenue requirements for the total system revenue requirements. My testimony uses Pittsburgh Water's revenue requirements for the Fully Projected Future Test Year ("FPFTY") as a starting point. Ms. Mechling's testimony relies on our analysis to discuss proposed changes to the low-income customer assistance programs.

Q. PLEASE DESCRIBE HOW YOUR TESTIMONY IS ORGANIZED.

A. I will first describe the process used to allocate Pittsburgh Water's FY 2026 revenue requirements to each utility service. I will then describe the process used to develop FY 2026 rates that will recover revenue requirements for water, wastewater conveyance and stormwater services. Next, I will address the use of gradualism to help ensure that no single rate class experiences rate shock once the approved rates are implemented. Lastly, I will describe the development of the proposed rates for FY 2027. As noted previously,

proposed rates for FY 2027 accommodate the elimination of the monthly volume allowance.

Q. PLEASE PROVIDE A BRIEF DESCRIPTION OF THE EXHIBITS THAT YOU ARE SPONSORING.

A. My testimony includes four separate sets of exhibits, one set for total system revenue requirements, a second set for water rates, a third set for wastewater conveyance rates and a fourth set for stormwater conveyance rates. They are as follows:

Allocation of Total System Revenue Requirements Exhibits:

a. **HJS-1 Allocation of Total System FPFTY Revenue Requirements:** This schedule shows the total system revenue requirements for the FPFTY. It also provides the allocation of the total system revenue requirements to the water, wastewater conveyance, and stormwater utility services.

b. **HJS-2 Total System Allocation Factor Summary:** This schedule provides a summary of the factors used to assign costs to the water, wastewater conveyance, and stormwater utility services.

Water Cost of Service Allocation and Rate Design Methodology Exhibits:

a. **HJS-1W FPFTY Water Revenue Requirements:** This schedule shows the water revenue requirements that must be recovered from the various water rates and charges assessed by Pittsburgh Water.

b. **HJS-2W Assignment to Functional Categories:** This schedule shows the way in which the FPFTY revenue requirements are allocated to different functional categories.

c. **HJS-3W Allocation to Base/Extra Capacity Categories:** This schedule shows the way in which the FPFTY revenue requirements are allocated to different cost of service categories.

d. **HJS-4W Allocation Factor Summary:** This schedule provides a summary of the factors used to assign costs to functional categories and to allocate costs to the cost-of-service categories.

e. **HJS-5W Allocation Factor Detail:** This shows the derivation of the allocation factors presented in Schedule HJS-2.

f. **HJS-6W Water Units of Service:** Projected water consumption and peaking factors for each customer class are shown on this schedule.

g. **HJS-7W Fire Protection Cost Allocation and Units of Service**: This schedule shows the derivation of allocation factors for allocating costs to public and private fire protection service as well as the equivalent units of service for fire charge calculations.

h. **HJS-8W Water Unit Cost of Service:** This schedule shows the calculation of the unit costs of providing service to meet the various base and extra capacity demands placed on the water system as well as the unit cost of the various fixed cost components.

i. **HJS-9W Cost Distribution to Customer Classes:** The allocation of categorized costs to customer classes based on their demand characteristics is shown on this schedule.

j. **HJS-10W Adjustments to Allocated Cost of Service**: This schedule shows the adjustments Pittsburgh Water is required to make to the allocated cost of service by customer class.

k. **HJS-11W Forgone Revenue Cost of the Bill Discount Program:** This schedule calculates the forgone revenue cost of the Bill Discount Program for assignment to customer classes.

l. **HJS-12W Rate Design:** This schedule demonstrates the calculation of the Minimum Charges and Volumetric Charges under both Cost of Service and Adjusted Cost of Service.

m. **HJS-13W Proposed Rates:** This schedule shows the proposed water Minimum Charges and Volume Charges for each customer class, Fire System Charges, DSIC, and the changes that the proposed charges represent over existing rates.

n. **HJS-14W Comparison of Revenues by Customer Class:** This schedule provides a comparison of revenue generated from each customer class under both the existing and proposed rates. Also shown is the percent difference between revenues

under existing and proposed rates. This schedule also provides a comparison of revenue by class with the indicated class cost of service and adjusted cost of service.

o. **HJS-15W FPFTY CCOS Summary:** This schedule summarizes the differences in revenue at existing rates, revenue at proposed rates, and the unadjusted cost of service.

p. **HJS-16W Typical Bill Comparison:** This schedule provides a comparison of typical monthly bills under the existing and proposed rates for typical customers from each customer class.

q. **HJS-17W Revenue Proof:** This schedule provides a summary of the revenue requirements and revenue to be recovered under both the unadjusted Cost of Service rates and proposed rates.

r. **HJS-18W Projected Units of Service:** This schedule summarizes consumption data for each of Pittsburgh Water's customer classes for the HTY, FTY, FPFTY and the previous two fiscal years.

s. **HJS-19W FY 2027 Water Revenue Requirements:** This schedule shows the FY 2027 water revenue requirements that must be recovered from the various water rates and charges assessed by Pittsburgh Water.

t. **HJS-20W Revenue Increase Needed for 2027**: This schedule summarizes the rate revenue increases required to meet revenue requirements in FY 2027.

u. **HJS-21W 2027 Service Charge Calculation**: This schedule shows the calculations used to determine a Service Charge in FY 2027 for different customers based on meter size without usage allowances.

v. **HJS-22W 2027 Volume Charge Calculation**: This schedule shows the calculations used to determine a volume charge in FY 2027 for different customers based on customer class. Additionally, it shows the calculation of the PVC.

w. **HJS-23W 2027 Proposed Rates**: This schedule shows the proposed water Service Charges and Volume Charges for each customer class, the proposed Fire System Charges, and DSIC. The schedule also shows how the proposed charges compare to charges for the prior year.

x. **HJS-24W Water Revenue Proof –2027**: This schedule provides a summary of the revenue to be recovered under proposed rates for the second year of the multi-year rate plan.

y. **HJS-25W Typical Water Bill Comparison –2027:** This schedule provides a comparison of typical monthly water bills under the FY 2026-2027 proposed rates for typical customers from each customer class.

Wastewater Conveyance Cost of Service Allocation and Rate Design Methodology Exhibits:

a. **HJS-1WW FPFTY Wastewater Conveyance Revenue Requirements:** This schedule shows the wastewater conveyance revenue requirements that must be recovered from the various rates and charges assessed by Pittsburgh Water.

b. **HJS-2WW Assignment to Functional Categories:** This schedule shows the way in which the FPFTY revenue requirements are allocated to different functional categories.

c. **HJS-3WW Allocation to Cost Categories:** This schedule shows the way in which the FPFTY revenue requirements are allocated to different cost of service categories.

d. **HJS-4WW Allocation Factor Summary:** This schedule provides a summary of the allocation factors used to assign costs to functional categories and to allocate costs to the cost of services categories.

e. **HJS-5WW Allocation Factor Detail:** This shows the derivation of the allocation factors presented in Schedule HJS-2.

f. **HJS-6WW Wastewater Conveyance Units of Service:** Projected wastewater flow for each customer class is shown on this schedule.

g. **HJS-7WW Wastewater Conveyance Unit Cost of Service:** This schedule shows the calculation of the unit costs of providing service to meet the demands placed on the wastewater conveyance system as well as the unit cost of the components of the Minimum Charge.

h. **HJS-8WW Cost Distribution to Customer Classes:** The allocation of categorized costs to customer classes based on their demand characteristics is shown on this schedule.

i. **HJS-9WW Adjustments to Allocated Cost of Service:** This schedule shows the adjustments Pittsburgh Water is required to make to the allocated cost of service by customer class.

j. **HJS-10WW Forgone Revenue Cost of the Bill Discount Program:** This schedule calculates the forgone revenue cost of the Bill Discount Program for assignment to customer class.

k. **HJS-11WW Rate Design:** This schedule demonstrates the calculation of the Minimum Charges and Volumetric Charges under both Cost of Service and Adjusted Cost of Service.

l. **HJS-12WW Proposed Rates:** This schedule shows the proposed wastewater conveyance Minimum Charges and Volume Charges for each customer class and the percent change that the proposed charges represent over existing rates.

m. **HJS-13WW Comparison of Revenues by Customer Class:** This schedule provides a comparison of revenue generated from each customer class under both the existing and proposed rates. Also shown is the percent difference between revenues under existing and proposed rates. This schedule also provides a comparison of revenue by class with the indicated class cost of service and adjusted cost of service.

n. **HJS-14WW FPFTY CCOS Comparison – Wastewater Conveyance:** This schedule summarizes the differences in revenue at existing rates, revenue at proposed rates, and the unadjusted cost of service.

o. **HJS-15WW Typical Bill Comparison:** This schedule provides a comparison of typical monthly bills under the existing and proposed rates for typical customers from each customer class.

p. **HJS-16WW Revenue Proof:** This schedule provides a summary of the revenue requirements and revenue to be recovered under both the cost-of-service rates and proposed rates.

q. **HJS-17WW Projected Units of Service:** This schedule summarizes consumption data for each of Pittsburgh Water's customer classes for the HTY, FTY, FPFTY and the previous two fiscal years.

r. **HJS-18WW Wastewater Conveyance Revenue Requirements:** This schedule shows the FY 2027 wastewater conveyance revenue requirements that must be recovered from the various rates and charges assessed by Pittsburgh Water.

s. **HJS-19WW Revenue Increase Needed for 2027**: This schedule summarizes the rate revenue increases required to meet revenue requirements in FY 2027.

t. **HJS-20WW 2027 Service Charge Calculation**: This schedule shows the calculations used to determine the Service Charge in FY 2027 for different customers based on meter size without usage allowances.

u. **HJS-21WW 2027 Volume Charge Calculation**: This schedule shows the calculations used to determine a volume charge and the PVC in FY 2027 for different customers based on class.

v. **HJS-22WW 2027 Proposed Rates**: This schedule shows the proposed sewer Minimum Charges, Volume Charges, and DSIC, and compares the proposed charges to charges for the prior year.

w. **HJS-23WW Sewer Revenue Proof – FY 2027**: This schedule provides a summary of the revenue to be recovered under the proposed rates for FY 2027.

x. **HJS-24WW Typical Sewer Bill Comparison – FY 2027:** This schedule provides a comparison of typical monthly wastewater bills under the FTY, FPFTY, and FY 2027 proposed rates for typical customers from each customer class.

Stormwater Cost of Service Allocation and Rate Design Methodology Exhibits:

a. **HJS-1SW FPFTY Stormwater Revenue Requirements:** This schedule shows the stormwater revenue requirements that must be recovered from the stormwater rates assessed by Pittsburgh Water.

b. **HJS-2SW Net Revenue Requirements:** This schedule shows revenue requirements under a "full cost-of-service" and a net revenue requirement proposed for ratemaking.

y. **HJS-3SW Stormwater Units of Service:** Projected stormwater parcels and equivalent residential units (ERUs) for each customer class are shown on this schedule.

c. **HJS-4SW Stormwater COS by Customer Class:** This schedule shows the calculation of the unit cost per ERU of providing service to meet the demands placed on the stormwater conveyance system and the assignment to customer classes.

z. **HJS-5SW Adjustments to Allocated Cost of Service:** This schedule shows the adjustments Pittsburgh Water made to the allocated cost of service by customer class.

aa. **HJS-6SW Rate Design:** This schedule demonstrates the calculation of the monthly stormwater rate under the Adjusted Cost of Service.

bb. **HJS-7SW FPFTY CCOS Comparison – Stormwater:** This schedule summarizes the differences in revenue at existing rates, revenue at proposed rates, and the unadjusted cost of service.

cc. **HJS-8SW Revenue Proof:** This schedule provides a summary of the revenue requirements and revenue to be recovered under both the cost-of-service rates and proposed rates.

dd. **HJS-10SW Revenue Increase Needed for FY 2027**: This schedule summarizes the rate revenue increases required to meet revenue requirements in FY 2027.

ee. **HJS-11SW 2027 Rate Design**: This schedule demonstrates the calculation of the ERU rates necessary to meet FY 2027 revenue requirements.

ff. **HJS-12SW Stormwater Revenue Proof – FY 2027**: This schedule provides a summary of the revenue requirements and revenue to be recovered under the proposed rates for FY 2027.

gg. **HJS-13SW Typical Stormwater Bill Comparison – FY 2027:** This schedule provides a comparison of typical monthly bills under the FTY, FPFTY, and FY 2027 proposed rates for typical customers from each customer class.

III. ALLOCATION OF TOTAL SYSTEM REVENUE REQUIREMENTS

Q. WHAT IS THE LEVEL OF TOTAL SYSTEM REVENUE REQUIREMENTS?

A. Mr. Barca's testimony supports Pittsburgh Water's revenue requirements for the total system. The total system revenue requirements for the FPFTY is $313.7 million, as shown on Schedule HJS-1. This produces an overall rate increase of $63.7 million.

Q. AFTER DETERMINING THE TOTAL SYSTEM REVENUE REQUIREMENTS, HOW ARE THE WATER, WASTEWATER CONVEYANCE, AND STORMWATER UTILITY SERVICE REVENUE REQUIREMENTS DETERMINED?

A. The revenue requirements are designated as water only, wastewater only, stormwater only or allocated between water, wastewater and stormwater based on a set of allocation factors. The allocation of total system revenue requirements to water, wastewater and stormwater for the FPFTY are shown on Schedule HJS-1.

Q. WHAT COSTS ARE DESIGNATED AS WATER ONLY?

A. The majority of the operating budgets for the water laboratory, water treatment plant, and water operations are designated as water only costs. Exceptions to this are:

- **Energy costs -** Electricity and natural gas, are allocated 63.2% to water, 25.6% to wastewater and 11.2% to stormwater. This allocation reflects the fact that while most energy costs are incurred to treat and pump water, some energy costs are also incurred to pump wastewater and stormwater and are based on each utility's proportionate share of revenue.

- **Hardware in inventory** - The costs of hardware in inventory are allocated 80% to water, and 10% each to wastewater conveyance and stormwater to reflect that while the majority of the hardware is used at the water treatment plant and for the water distribution system, some is used on the wastewater conveyance and stormwater management systems.

Q. WHAT COSTS ARE DESIGNATED AS WASTEWATER CONVEYANCE ONLY?

A. The majority of the operating budget for sewer operations is designated as wastewater only with the exception of the costs associated with catch basin cleaning which are designated as stormwater only costs.

Q. HOW ARE THE REMAINING COSTS OF THE OPERATIONS DIVISION ALLOCATED BETWEEN WATER, WASTEWATER CONVEYANCE AND STORMWATER?

A. Warehouse costs are allocated based on each utility's proportionate share of projected operating costs. With the exception of flow monitoring, line televising, operating contract and construction management costs, one-third of the environmental compliance costs are allocated to each utility. Each of the exceptions noted above are allocated 50% to wastewater conveyance and 50% to stormwater to recognize that these costs are only related to the wastewater conveyance system which is used to convey both wastewater and stormwater.

Q. HOW ARE THE COSTS OF THE ADMINISTRATIVE DIVISION ALLOCATED BETWEEN WATER, WASTEWATER CONVEYANCE AND STORMWATER?

A. The majority of the Administrative Division expenses, including all costs for the Technology Services, Human Resources, Legal, Safety and Security and Public Affairs departments, were allocated between water, wastewater and stormwater based on each utility's proportionate share of operations costs. The exceptions are:

- **CEO Office - Professional Services –** These are costs related to professional services contracts that relate to the operations and/or governance of Pittsburgh Water as a whole. The services provided impact all three services and are allocated based on each utility's proportionate share of revenue.

- **Finance - Vehicles and Vehicle repair –** These costs are allocated 50% to water, 35% to wastewater conveyance and 15% to stormwater which reflects a growth in the number of vehicles used to perform wastewater and stormwater work and the fact that vehicles used for wastewater and stormwater tasks tend to be more expensive than those used on the water system.

Q. HOW ARE CUSTOMER SERVICE COSTS ALLOCATED BETWEEN WATER, WASTEWATER AND STORMWATER?

A. The majority of Customer Service costs are allocated based on the number of bills generated, or expected to be generated, for each utility. The only exception is the Meter Service line item which is allocated 50% to water and 50% to wastewater. Since stormwater is not a metered service, no meter costs are allocated to stormwater, as shown on Schedule HJS-2.

Q. HOW ARE THE ENGINEERING & CONSTRUCTION DIVISION'S COSTS ALLOCATED BETWEEN WATER, WASTEWATER AND STORMWATER?

The majority of Engineering & Construction Division salaries and benefits are allocated 50% to water, 35% to wastewater and 15% to stormwater based on input from Pittsburgh Water management regarding the way in which employees of this division spend their time. Most of the other Engineering & Construction Division costs are allocated based on an average of the actual capital spend for FY 2021 through FY 2024 and proposed capital spend for FY 2025 through FY 2027. Exceptions to this are:

- Emergency water line repair and pump motor contract costs are allocated 100% to water;
- The annual sewer contract and consultant costs are allocated 50% to wastewater and 50% to stormwater to recognize that these costs are related to compliance with the sanitary and combined sewer overflow related consent decree currently under negotiation;
- The manhole and point repair contract costs are allocated 75% to wastewater and 25% to stormwater; to reflect the work that is anticipated to be done in the rate year.
- One-third of the construction management costs are allocated to each utility; to reflect that work is typically evenly spread between the three utilities;
- Operating contract – other costs impact all three services and are allocated based on each utility's proportionate share of revenue;
- Landscape (Grounds) costs under the Engineering & Construction division are allocated 25% to wastewater and 75% to stormwater based on input from

Pittsburgh Water management and reflect the costs associated with in-house green infrastructure maintenance work;

- Miscellaneous Services-Non-capital are allocated 50% to water, 25% to wastewater and 25% to stormwater based on input from Pittsburgh Water management; and
- Lastly, Pittsburgh Water's capitalization of operating costs which is reflected as a debit to the Engineering & Construction operating budget is allocated 52.1% to water, 28.2% to wastewater and 19.7% to stormwater. This allocation is based on the distribution of all other engineering costs that are allocated to water, wastewater, and stormwater, respectively.

Excluding Pennvest loans, existing debt issued prior to 2022 is allocated to the utilities by fixed assets. Series 2025B is also allocated to the utilities by fixed assets. All other existing debt is allocated 70% to water and 30% to wastewater based on staff estimations of what the funds were used for. Similarly, all Pennvest loans, existing and future, are estimated to be 70% to water and 30% to wastewater. Proposed future revenue bond debt for FY 2026 is allocated 68% to water, 17% to wastewater, and 14% to stormwater and for FY 2027, 57% to water, 35% to wastewater, and 8% to stormwater based on anticipated capital projects and activities.

Q. HAVE YOU IDENTIFIED THE LEVEL OF PROJECTED STORMWATER COSTS FOR THE FPFTY?

A. Yes. As previously mentioned, the breakdown is presented on Schedule HJS-1, which shows Pittsburgh Water's total revenue requirements allocated between water, wastewater conveyance and stormwater. These costs were derived using the allocation factors provided in HJS-2. The allocation factors were applied to the total system revenue requirements in some cases, to only water-related costs, and to only the wastewater conveyance costs in other cases, as shown in the allocation tables.

WATER COST ALLOCATION

Q. WHAT IS THE LEVEL OF REVENUE REQUIREMENTS TO BE RECOVERED BY WATER RATES AND CHARGES?

A. Mr. Barca's testimony supports Pittsburgh Water's total revenue requirements, and HJS-1 and HJS-2 support the allocation of total revenue requirements for water service. As shown on HJS-1W, the total water system revenue requirements for the FPFTY is $205.2 million (including bad debt expense). A portion is projected to be recovered by the proposed Distribution System Improvement Charge (DSIC) at 7.5% of water revenues, which will be used to fund capital projects as outlined in Mr. King's and Mr. Barca's testimony. The water system revenue requirements net of DSIC are $191.3 million.

IV. ALLOCATION OF WATER REVENUE REQUIREMENTS

Q. HOW ARE WATER REVENUE REQUIREMENTS ALLOCATED TO COST CATEGORIES AND CUSTOMER CLASSES?

A. Costs are allocated in a manner consistent with the methodology described in the American Water Works Association (AWWA) Manual M-1 "Principle of Water Rates, Fees and Charges" using the Base/Extra Capacity cost allocation methodology which is a three step process that involves first assigning costs to functional categories, then assigning the costs from each functional category to Base/Extra Capacity cost categories based on system demand characteristics and then allocating the Base/Extra Capacity cost categories to customer classes based on customer class demand patterns.

Q. HOW ARE PITTSBURGH WATER'S OPERATING AND MAINTENANCE COSTS ASSIGNED TO FUNCTIONAL CATEGORIES?

A. The process of assigning costs to functional categories allows costs to be recovered from customer classes based on the way that Pittsburgh Water utilizes the resources within

each function to meet the demands of each customer class. The functions to which costs are assigned are:

- Supply
- Treatment
- Storage
- Transmission
- Distribution
- Meters
- Billing
- Fire Protection
- Administrative Support

As shown on HJS-2W, the FPFTY water operating and maintenance (O&M) expenses are accounted for in a manner consistent with Pittsburgh Water's O&M budget. With the exception of Customer Service, Water Operations and Engineering & Construction, all of the budget divisions relate directly to one functional category. Costs that are incurred in support of only one function are assigned directly to that function, while costs that are incurred in support of two or more functions are assigned to functions using allocation factors that reflect the way a particular budget division supports each function. The allocation factors used to assign costs to functional categories are listed and described on Schedules HJS 4W and 5W. Schedules HJS 4W and 5W also show allocation factors used to allocate costs to Base/Extra Capacity cost categories as described later.

Q. HOW ARE CUSTOMER SERVICE COSTS ASSIGNED TO FUNCTIONAL CATEGORIES?

A. Since the Customer Service division supports both the Meters and Billing functions, Customer Service costs are assigned to these two functional categories using factor W-I. This factor was developed based on an analysis of each of the cost line items in the division's budget as shown on Schedule HJS-5W.

Q. HOW ARE WATER OPERATIONS COSTS ASSIGNED TO FUNCTIONAL CATEGORIES?

A. Since the Water Operations department supports both the transmission and distribution functions, Water Operations costs are assigned to functional categories using factor W-K. This factor was developed based on an analysis of the water pipe inventory as shown on Schedule HJS-5W.

Q. HOW ARE ENGINEERING & CONSTRUCTION COSTS ASSIGNED TO FUNCTIONAL CATEGORIES?

A. The Engineering & Construction division is responsible for planning and executing Pittsburgh Water's capital projects; therefore, the division's costs are allocated using factor W-J which is based on the composition of the utility's FY 2026 CIP as shown on HJS-5W.

Q. HOW ARE CAPITAL COSTS ASSIGNED TO FUNCTIONAL CATEGORIES?

A. Pittsburgh Water's capital costs consist of three components: (1) Internally Generated Funds (DSIC funded capital projects); (2) annual debt service; and (3) debt coverage capital. To properly assign these costs to Base/Extra Capacity cost categories they must first be assigned to functional categories. All water capital costs are assigned to functions based on the make-up of the fixed assets that currently comprise Pittsburgh Water's water system. This process involved assigning each of Pittsburgh Water's fixed assets to the appropriate functional category and determining the percentage of the total value of the assets that is assigned to each function. These percentages are then applied to the capital costs to determine the appropriate distribution of capital costs across the functional categories. Schedule HJS-2W shows the break-down of water fixed assets by functional categories and the resulting allocation of water capital costs to functional categories.

Q. WHAT IS THE NEXT STEP IN THE COST ALLOCATION PROCESS?

A. Once costs have been assigned to functional categories, the next step is to allocate the functionalized costs to Base/Extra Capacity cost categories.

Q. HOW ARE PITTSBURGH WATER'S COSTS ALLOCATED TO THE DIFFERENT BASE/EXTRA CAPACITY COST CATEGORIES?

A. O&M and capital costs are assigned to one or more of five Base/Extra Capacity costs categories based on how costs are incurred to meet the demands of the water system as a whole. The assignment of costs to the Base/Extra Capacity categories is shown on Schedule HJS-3W, Allocation to Base/Extra Capacity Categories. The six cost categories consist of:

- Base – Base costs are those costs that are incurred to meet the average or "base" demands of the system.
- Max Day – Max Day costs are those costs that are incurred to meet peak daily demands of the system.
- Max Hour – Max Hour costs are those costs that are incurred to meet peak hourly demands of the system.
- Meters – Meter costs are the costs associated with installing, maintaining, repairing and replacing water meters.
- Billing – Billing costs are those costs associated with determining each customers consumption and then billing them for that consumption.
- Fire Protection –Fire protection costs are the costs associated with providing and maintaining the hydrants and associated infrastructure throughout the system and ensuring that the system is capable of meeting fire flow demands when needed.

Costs are assigned to cost categories using the allocation factors listed and described on Schedules HJS 4W and 5W. Most of the allocation factors are developed using system wide demand data and others are developed based on other analyses.

Q. PLEASE DESCRIBE HOW EACH OF THE ALLOCATION FACTORS SHOWN ON SCHEDULE HJS 4W WAS DEVELOPED.

A. Each of the allocation factors was developed as follows:

- The Base allocator (W-AA) simply assigns all of the costs to the Base cost category in recognition that these costs are incurred solely to meet the average demands placed on the system.
- The Maximum Day allocation factor (W-BB) recognizes the way in which costs are incurred to meet the peak day demands placed on the system by all of the customer classes. This factor also allocates a portion of costs to Fire protection in recognition of the potential peak day demand that fire protection service could place on the system. This allocation factor is based on plant production data and is developed by dividing average day plant production by peak day plant production.
- The Peak Hour allocation factor (W-CC) was developed in the same way as the Maximum Day allocation factor except that average day plant production is divided by the peak hour plant production. Similar to factor W-BB, this factor also allocates a portion of costs to Fire Protection in recognition of the potential peak demands that fire protection service places on the system.
- The Customer-Meters allocation factor (W-DD) simply allocates all meter related costs to the meter component of the Minimum Charge.
- The Customer-Billing allocation factor (W-EE) allocates all billing related costs to the billing component of the Minimum Charge.
- The Fire Protection allocation factor (W-FF) assigns all costs it is used to allocate to the Fire Protection category in recognition that these costs are incurred to meet the potential demands placed on the system by the public fire protection system and private fire connections.
- The Administrative Support allocation factor (W-GG) is used to allocate costs that do not readily fall into a specific functional category. This allocation factor is based on the percentages of overall costs that are allocated to each Base/Extra Capacity cost categories once all other allocations have been performed.

Q. PLEASE DESCRIBE HOW THE COSTS ARE ALLOCATED TO THE BASE EXTRA CAPACITY COST CATEGORIES.

A. In the cost allocation model, allocation factors are applied to costs in each functional category such that costs are allocated in a way that reflects the type of demand being met by the function to which the costs have been assigned, as shown in Schedule HJS-3W. For instance, the costs in the Treatment function are allocated using the Allocation Factor W-BB which allocates costs in a way that reflects that the treatment facilities are operated in a way to meet average day demand as well as peak demands. Allocation Factor W-BB

allocates costs to Base and Max Day based on the relationship between the system peak day and the system average day demand.

Q. PLEASE DESCRIBE SOME OF THE OTHER PRIMARY ALLOCATION FACTORS THAT ARE USED TO ALLOCATE COSTS TO BASE/EXTRA CAPACITY CATEGORIES.

A. In addition to Allocation Factor W-BB, which is used to allocate approximately 36.5% of the water revenue requirements, the two factors used to allocate the majority of the revenue requirements are Allocation Factors W-CC and W-GG.

- Allocation Factor W-CC is used to allocate costs associated with facilities used to meet average day, maximum day and peak hour demands, primarily costs associated with the distribution system.
- Allocation Factor W-GG is a composite allocator based on the distribution of non-Administrative Support costs allocated to each of the cost categories and is used to allocate Administrative Support costs.

Q. WHAT IS THE NEXT STEP IN THE COST ALLOCATION PROCESS?

A. The next step in the allocation of water costs is the distribution of costs to each customer class in a manner that reflects the way each class demands service.

Q. HOW ARE THE REVENUE REQUIREMENTS ALLOCATED TO EACH OF PITTSBURGH WATER'S CUSTOMER CLASSES?

A. As demonstrated on Schedule HJS-8W, the revenue requirements from each cost category are used to determine the unit cost of providing service to meet both average day and peak demands. For example, approximately $106.7 million in water revenue requirements were allocated to the Base cost category. This amount is reduced by approximately $1.3 million to reflect revenue from miscellaneous revenue, resulting in approximately $105.4 million in Base revenue requirements to be recovered through retail and wholesale rates. This amount is used to determine the unit cost to meet average day demand for retail classes and the wholesale class. For example, the unit cost for

average day demand for retail classes is determined by first taking the net revenue requirement of $105.4 million less $27.4 million for Distribution related costs (which wholesale isn't responsible for) and dividing by the FPFTY projected water sales volume to arrive at a unit cost for average day demand for all costs except Distribution related costs. The Distribution related costs of $27.4 million are divided by the FPFTY projected water sales volume for retail classes only and the two sub unit costs are combined to arrive at the retail classes unit cost to meet average day demand of $14.21 per kgal. This unit cost is then multiplied by each class's projected annual water sales volume required to meet average day demand to arrive at the amount of Base costs to be recovered from each retail class, as shown in HJS-9W. For example, the Residential class is projected to purchase approximately 2.5 million kgal to meet its average day demands. This amount is multiplied by the unit cost of $14.210 to arrive at the total Base costs to be recovered from the Residential class. The same process is applied to the wholesale class but with a reduced unit cost of average day demand of $10.216, reflecting the removal of the Distribution-related costs.

This process is repeated for each of the Base/Extra Capacity cost categories and customer classes to arrive at the total costs to be recovered from each class.

Q. ARE COSTS ALLOCATED TO THE WHOLESALE CUSTOMERS?

A. Yes, costs have been allocated to the Wholesale customer class as shown on HJS-9W. As shown, the Wholesale class is allocated an appropriate share of Base, Max Day and Max Hour costs based on their demand characteristics.

Q. ARE ANY ADJUSTMENTS MADE TO THE CLASS COST OF SERVICE?

A. Yes. Adjustments to class cost of service were based on several factors.

Q. WHAT ADJUSTMENTS WERE MADE TO THE ALLOCATED WATER COST OF SERVICE BY CUSTOMER CLASS?

A. Pittsburgh Water is required to make five adjustments to the cost of service allocated to each customer class. These adjustments are shown on Schedule HJS-10W. The adjustments are described below:

1. **Public Fire Protection** – Pittsburgh Water is required to reduce the costs allocated to public fire protection for two reasons. Pittsburgh Water is limited to only recovering no more than 25% of public fire costs based on section 1328 of the Public Utility Code. Public fire costs that cannot be recovered through hydrant charges are reallocated among customer classes by equivalent meters and recovered through the Minimum Charge in FY 2026 and the Service Charge in FY 2027.
2. **Wholesale Contracts** – While rates that reflect the full cost of service for Wholesale customers are developed in this rate filing, Pittsburgh Water currently maintains separate contracts for wholesale water service with each of their existing wholesale customers. Rates are set per each agreement and cannot be changed until the contracts expire or are due for renewal. Pittsburgh Water is currently in negotiations with Fox Chapel, and it is anticipated that Fox Chapel will phase into paying the full wholesale cost of service rate over a period of years. The rates proposed by Pittsburgh Water assume that this phase in will begin halfway through 2025. At this time, Pittsburgh Water is unable to modify any rates with the other existing customers beyond what is legally allowed in the individual agreements. As such, costs that were allocated to wholesale service that Pittsburgh Water is unable to recover through wholesale rates are allocated among retail customers by unadjusted cost of service.
3. **Bad Debt Expense** – The CCOSS introduces Bad Debt Expense Schedule HJS-12W since it must be allocated directly to customer classes. Bad Debt Expense is allocated among the customer classes based on each class's historical contribution for such costs over a three-year period (2019-2021).

4. **Customer Assistance Program** –The cost of the Customer Assistance Program is allocated among customer classes based on the unadjusted cost of service, as shown on Schedule HJS-11W.
5. **PENNVEST Surcharge (PVC) Revenue** –This adjustment recognizes the revenue generated by the PVC and reduces each class's cost of service by the revenue the PVC will generate from that class.

Q. HOW ARE PROJECTED AVERAGE DAY AND EXTRA CAPACITY DEMANDS DETERMINED FOR EACH CUSTOMER CLASS?

A. Demand projections were developed using the customer class demand data from the three most recent complete years available (FY 2022 – FY 2024).

Q. PLEASE EXPLAIN HOW THE CUSTOMER CLASS DEMAND DATA WAS USED TO DEVELOP THE DEMAND PROJECTIONS.

A. FPFTY demand by class was set equal to the average annual demand exhibited by each class based on averaging annual demand by class in FY 2022, FY 2023 and FY 2024. The average day demand for each class was then determined by dividing each class's projected annual demand by 365 days. In order to determine the units of service for allocating base/extra capacity costs between customer classes, peaking factors were developed that recognize the level of peak demands placed on the system by each customer class. Pittsburgh Water customer class data from FY 2022 through FY 2024 was used to establish peaking factors by customer class.

We calculated Maximum Month to Average Day factors for each class as shown on HJS-6W. These factors were then adjusted by a system Maximum Day to Maximum Month factor (1.14) which was derived using a three-year average of Pittsburgh Water treatment plant production data for 2022-2024. Multiplying those two factors together provided Maximum Day peaking factors for each class. In order to estimate peak hour factors, we

utilized an estimated Maximum Hour to Maximum Day factor which was 1.33 for industrial and 1.66 for all other customer classes. This factor was utilized to recognize that industrial customers typically have stable usage patterns and thus exhibit lower peak usage. Multiplying the estimated Maximum Hour to Maximum Day factor by the Maximum Day factor provided the Maximum Hour peaking factor, as shown on Schedule HJS-6W. FPFTY demands and historical demand data are shown on HJS-18W.

V. WATER RATE DESIGN

Q. PLEASE DESCRIBE PITTSBURGH WATER'S EXISTING WATER RATE STRUCTURE.

A. Pittsburgh Water's current rate structure for retail customers consists of a monthly Minimum Charge that varies by meter size and a Volume Charge that varies by customer class, as shown on Schedule HJS-13W. The Minimum Charge is used to recover Pittsburgh Water's customer costs as well as some of Pittsburgh Water's costs associated with providing capacity to meet customer demand. Additionally, the Minimum Charge recovers the cost of a water usage allowance that also varies by meter size.

The Volume Charge is designed to recover Pittsburgh Water's costs that vary based on customer demand as well as the portion of Pittsburgh Water's fixed costs that are not recovered through the Minimum Charge. The volumetric rate per thousand gallons (kgal) of water consumed varies by customer class based on the way in which each class demands service. The water customer classes are:

- Residential (which includes Residential CAP and Municipal Residential),
- Commercial (which includes Municipal Commercial),
- Industrial,
- Health or Education,
- Fire, and
- Wholesale

Pittsburgh Water assesses a monthly Fire System Charge to non-residential customers with fire suppression systems connected to Pittsburgh Water's water system and a public fire protection charge, in the form of a per hydrant charge, to the City of Pittsburgh.

Pittsburgh Water also assesses a number of miscellaneous charges for various services and activities that it performs periodically at the request of its customers.

Q. ARE YOU PROPOSING TO MAKE CHANGES TO THE EXISTING RATE STRUCTURE?

A. No rate structure changes are proposed for the FY 2026 rates; however, Pittsburgh Water is proposing to eliminate the minimum allowance for the second step of the multi-year rate increase in FY 2027.

Q. IN RECENT RATE FILINGS, PITTSBURGH WATER CITED CHALLENGES CREATED BY REMOVING THE MINIMUM ALLOWANCE FROM THE RATE STRUCTURE AS A REASON FOR NOT ELIMINATING THE MINIMUM ALLOWANCE. DO THESE CHALLENGES STILL EXIST?

A. These challenges, which include a significant drop in fixed revenue and adverse bill impacts for certain customers, still exist, but it is believed that the benefits of eliminating the minimum allowance will outweigh the drawbacks. First, removing the minimum allowance from the rate structure would result in a significant drop in total fixed revenue for Pittsburgh Water. Since the Minimum Charge includes the recovery of the cost to provide the minimum allowance, the Minimum Charge currently generates approximately 40% of Pittsburgh Water's water and wastewater conveyance user charge revenue. When the minimum allowance is eliminated and the costs of providing the allowance are removed from the Minimum Charge, Pittsburgh Water's fixed revenue would drop to approximately 20%. Higher fixed revenue recovery yields a more stable and reliable cashflow for the utility and higher fixed revenue recovery can lead to a more favorable bond rating, as discussed by witness Christine Fay.

Second, removal of the minimum allowance would result in class disparity in the bill impacts experienced by customers as shown in the table below.

Bill Impacts After Removal of Minimum Allowance

% Increase on Customer Bill (FY26 vs. FY27)	Residential	% of class	CAP-BDP	% of class	Non-Residential	% of class
Bill Decrease	10,077	15%	-	0%	3,006	37%
0%-20%	49,793	76%	3,709	77%	3,373	42%
20%-40%	6,015	9%	473	10%	1,692	21%
>40%	-	0%	605	13%	47	1%
Total Customers	65,885	100%	4,787	100%	8,118	100%

Q. IS PITTSBURGH WATER PROPOSING TO TAKE ANY ACTIONS TO ALTER SPECIFIC CUSTOMER CLASS RATE CHANGES RESULTING FROM A REALLOCATION OF COSTS DUE TO THE REMOVAL OF THE MINIMUM ALLOWANCE?

A. No, attempting to address the results of the removal of the minimum charge for specific customer classes would require a complex set of intraclass and interclass rate subsidies that would likely be difficult to implement and would cause a great deal of customer confusion. Importantly, the removal of the minimum charge will not generate any additional revenue for Pittsburgh Water but rather will reallocate the existing costs in a different manner because of the rate structure change. Pittsburgh Water is proposing to make changes to its customer assistance program as described by Julie Mechling that should provide relief to any customers that have difficulty paying their bill once the minimum allowance is removed.

Q. HOW ARE THE MINIMUM CHARGES CALCULATED?

A. As shown on Schedule HJS-12W the Minimum Charges for rates proposed for FY 2026 are comprised of four components, the Meter component; the Billing component; the

Usage component; and Adjustments. Note that the Readiness-to-Serve Component that is included in the current Minimum Charge has been eliminated per the Settlement Agreement for the last rate case.

Q. HOW IS EACH OF THESE COMPONENTS CALCULATED?

A. The Meter component is calculated by dividing all costs allocated to the Meter category by the number of 5/8" equivalent meters in the system to determine a cost per 5/8" equivalent meter. The meter size specific service charges are determined by then multiplying the cost per 5/8" equivalent meter by the appropriate AWWA meter equivalency ratio (shown on HJS-5W) to determine the appropriate charge for each meter size.

The Billing component is calculated by dividing the costs allocated to the Billing category by the total number of bills prepared each year to determine a unit cost per bill.

The Usage component is used to recover the costs of providing the volume allowance included in the Minimum Charge. It is calculated, as shown on Schedule HJS-12W, by multiplying the allowance for each meter size by the retail volumetric unit cost. For example, accounts with a ¾" meter receive a 2 kgal/month allowance. Therefore, the Usage component for a ¾" meter is equal to 2 kgal times the volumetric unit cost of $17.18, or $34.37 (including rounding). As was the case in the last docket, to mitigate some of the bill impacts resulting from the elimination of the minimum allowance in FY 2027, only 75% of the cost of providing the allowance is included in the Usage component in FY 2026

The final component is the adjustments. One adjustment is made for the standard customer classes:

1) Public fire protection. The amount of public fire protection costs that are not recovered from the public hydrant charge are recovered on an equivalent meter basis in rate design.

Once each of the four components of the Minimum Charge are calculated, they are added together to arrive at the Minimum Charge for each meter size. For example, the proposed Minimum Charge for an account with a ¾" meter is $58.65/month. This charge is comprised of a metering component of $13.11, plus a billing component of $2.91, plus a usage component of $34.37, plus $8.26 of adjustments. The resulting amount is then rounded up to the nearest cent. This process is demonstrated on HJS-12W, and the proposed Minimum Charges are shown on HJS-13W. HJS-13W also provides a comparison of the proposed Minimum Charges to the existing Minimum Charges.

Q. IS PITTSBURGH WATER PROPOSING A NAME CHANGE FOR THE CHARGE THAT WILL REMAIN FOLLOWING THE REMOVAL OF THE MINIMUM ALLOWANCE?

A. Yes. With the proposed elimination of the minimum allowance for FY 2027, the name of the charge will be changed to Service Charge, but it is calculated in the same way as the Minimum Charge except that there is no usage component included in the charge.

Q. HOW ARE VOLUME CHARGES CALCULATED?

A. Volumetric charges are calculated by dividing the total of the base and extra capacity costs allocated to each customer class, adjusted by the remaining adjustment factors described above and net of revenues provided by the assessment of the minimum charges, by the projected FPFTY consumption of that customer class as demonstrated on HJS-12W. For example, the rate for the Health or Education class is determined by dividing the total adjusted base and extra capacity costs allocated to the Health or Education class, net of the revenues provided by the minimum charge, by projected Health or Education

class consumption in the FPFTY to arrive at the consumption rate. The resulting value, rounded to the nearest cent, is the proposed rate for the Health or Education class. HJS-12W shows the calculation of volumetric rates and HJS-13W shows the proposed Volume Charges as well as a comparison of the proposed charges to the existing charges. As a reminder, the wholesale rate will only be applicable to new wholesale customers while existing contracts remain in effect for current wholesale customers. Additionally, the metered City accounts will be paying a rate equivalent to either the Residential or Commercial class, depending on how the City account is designated.

Q. DOES PITTSBURGH WATER ASSESS FIRE PROTECTION CHARGES?

A. Monthly fixed Fire System charges are assessed to non-residential customers that have private fire suppression systems connected to Pittsburgh Water's system. Pittsburgh Water also assesses a Volumetric Charge for all water used by all fire system customers for purposes other than firefighting. Pittsburgh Water assesses a public fire protection charge, in the form of a per hydrant charge, to the City of Pittsburgh.

Q. HOW ARE THE FIXED FIRE SYSTEM CHARGES CALCULATED?

A. Fire System Charges are comprised of four components, the Meter component; the Billing component; the Fire component, and the adjustment, as shown on Schedule HJS-12W. The Billing and Meter components are calculated in the same manner as for the Minimum Charge, but the Meter component is derived for meters larger than 5/8". The Fire component is calculated by dividing the costs allocated to the Fire Protection cost category by the number of 5/8" meter equivalents represented by the projected number of fire suppression connections and hydrant connections during the FPFTY. The adjustment represents reallocated private fire costs from the Volumetric Rate to the fixed Fire System Charges. The adjustment was made to mitigate an increase greater than 100% to

the Private Fire volume rate. The adjustment does not impact any other customer class. The Fire System Charge for each group of meter sizes is the sum of the four components for each group of meter sizes.

Q. PLEASE EXPLAIN WHY METERS ARE GROUPED FOR FIRE SYSTEM CHARGES?

A. The fire system charge is based on four groupings of meter sizes, which were used when Raftelis first developed water rates for Pittsburgh Water in 2016. The exact origin of these groupings is not known, but we propose to continue to use these groupings in the interest of rate stability.

Q. HOW ARE THE PROPOSED VOLUMETRIC FIRE SYSTEM CHARGES CALCULATED?

A. The volumetric Fire System Charges are calculated in the same manner as the other Volumetric Charges, by dividing the adjusted base and extra capacity costs allocated to fire protection by the projected demand for water from fire systems that is not used for fighting fires. The volume charge calculation is shown on Schedule HJS-12W.

Q. HOW ARE PUBLIC FIRE PROTECTION CHARGES CALCULATED?

A. Public Fire Protection Charges are assessed on a per hydrant basis, and each hydrant is set at the equivalent of a six-inch meter, which is standard in the water industry. The Public Fire Protection Charges are first calculated based on the allocated fire costs for a six-inch meter. In accordance with Public Utility Code Section 1328, they are then adjusted so that only 25% of public fire protection costs are assessed in the form of a Public Fire Protection Charge.

Q. AT WHAT LEVEL IS THE DSIC BEING INCORPORATED INTO THE RATE PACKAGE?

A. As explained in the testimony of Mr. Pickering and Mr. Barca, Pittsburgh Water is proposing to increase the DSIC to 7.5% This is included on Schedule HJS-13W.

Q. DO THE PROPOSED CHARGES GENERATE REVENUE BY CLASS THAT IS CONSISTENT WITH EACH CLASS' COST OF SERVICE AS INDICATED BY THE CCOSS?

A. No. Revenue recovery from the proposed charges for the aforementioned Wholesale, CAP customer classes and Public fire Protection are lower than each class's unadjusted cost of service. This is the result of intentionally under recovering because of a discount or agreements in place. However, after the adjustments are made as described above, the proposed charges generate revenue consistent with the adjusted class cost of service.

Q. HAVE YOU PROVIDED INFORMATION ON WHAT THE CUSTOMER IMPACTS ARE PROJECTED TO BE?

A. Yes, Schedule HJS-16W shows example monthly bills under existing and proposed rates and the percentage impacts that are likely to occur for typical customers in each class. For a typical residential customer using 3 kgal per month, their monthly water bill would increase from $67.52 to $83.24 which represents a 23.3% increase.

Q. WHAT CONSIDERATION HAS BEEN GIVEN AS TO WHETHER THE REVENUES FROM THE RATES AND CHARGES ARE SUFFICIENT TO COVER REVENUE REQUIREMENTS FOR PITTSBURGH WATER?

A. Schedule HJS-17W serves as a revenue proof to determine revenue sufficiency of the proposed rates and charges. The revenues that would be generated under the proposed rates and charges are shown along with the anticipated revenue from the DSIC. As shown on this schedule, revenue generated by the proposed rates and charges recovers the full water system revenue requirements.

VI. WASTEWATER COST ALLOCATION

Q. WHAT IS THE LEVEL OF REVENUE REQUIREMENTS TO BE RECOVERED BY WASTEWATER CONVEYANCE RATES AND CHARGES?

A. Mr. Barca's testimony supports Pittsburgh Water's total revenue requirements, and HJS-1 and HJS-2 support the allocation of total revenue requirements for wastewater conveyance service. As shown on HJS-1WW, the total wastewater conveyance system revenue requirements for the FPFTY is $72.6 million (including bad debt expense). A portion is projected to be recovered by a Distribution System Improvement Charge (DSIC) at 7.5% of wastewater conveyance revenues, which will be used to fund capital projects as outlined in Mr. King's and Mr. Barca's testimony. The wastewater conveyance system revenue requirements net of DSIC are $67.6 million.

Q. HOW ARE WASTEWATER CONVEYANCE REVENUE REQUIREMENTS ALLOCATED TO COST CATEGORIES AND CUSTOMER CLASSES?

A. Wastewater conveyance costs are allocated according to standard industry practice as described in the Water Environment Federation's (WEF) Manual of Practice No. 27, "Financing and Charges for Wastewater Systems". Similar to the allocation methodology used for determining Pittsburgh Water's water rates, the allocation process involves three steps: 1) assigning costs to functional categories; 2) assigning the costs from each functional category to cost categories; and 3) allocating the costs from each cost category to customer classes.

Q. HOW ARE PITTSBURGH WATER'S OPERATING AND MAINTENANCE COSTS ASSIGNED TO FUNCTIONAL CATEGORIES?

A. The process of assigning costs to functional categories allows costs to be recovered from customer classes based on the way that Pittsburgh Water utilizes the resources within

each function to meet the demands of each customer class. The functions to which costs are assigned are:

- Conveyance & Collection
- Meters
- Billing
- Administrative Support

Similar to the water expenses, the FPFTY operating and maintenance (O&M) expenses are accounted for in a manner consistent with Pittsburgh Water's O&M budget. The wastewater conveyance revenue requirements are shown on HJS-2WW. With the exception of Customer Service, all of the budget divisions relate directly to one functional category. Costs that are incurred in support of only one function are assigned directly to that function, while costs that are incurred in support of two or more functions are assigned to functions using allocation factors that reflect the way a particular budget division supports each function. The allocation factors used to assign costs to functional categories are listed and described on Schedules HJS 4WW and 5WW.

Q. HOW ARE CUSTOMER SERVICE COSTS ASSIGNED TO FUNCTIONAL CATEGORIES?

A. Since the Customer Service division supports both the Meters and Billing functions, customer Service costs are assigned to functional categories using factor WW-E. This factor, as shown on Schedule HJS-5WW, was developed based on an analysis of each of the cost line items in the division's budget.

Q. HOW ARE ENGINEERING & CONSTRUCTION COSTS ASSIGNED TO FUNCTIONAL CATEGORIES?

A. The Engineering & Construction division is responsible for planning and executing Pittsburgh Water's capital projects; therefore, as was the case with the water expenses, the division's costs are allocated based on the composition of the utility's CIP. Unlike

the water CIP, all of the wastewater conveyance projects are related to the improvement, repair, replacement and expansion of the wastewater conveyance and collection system; therefore, all of the Engineering & Construction expenses are allocated to Conveyance & Collection as shown on Schedule HJS-2WW.

Q. HOW ARE CAPITAL COSTS ASSIGNED TO FUNCTIONAL CATEGORIES?

A. Pittsburgh Water's capital costs consist of three components: (1) Internally Generated Funds (DSIC funded capital projects); (2) annual debt service; and (3) debt coverage capital. To properly assign these costs to cost categories they must first be assigned to functional categories. All capital costs are assigned to functions based on the make-up of the fixed assets that currently comprise Pittsburgh Water's wastewater conveyance system. This process involved assigning each of Pittsburgh Water's fixed assets to the appropriate functional category and determining the percentage of the total value of the assets that is assigned to each function. These percentages are then applied to the capital costs to determine the appropriate distribution of capital costs across the functional categories. Schedule HJS-2WW shows the break-down of wastewater conveyance fixed assets by functional categories.

Q. WHAT IS THE NEXT STEP IN THE COST ALLOCATION PROCESS?

A. Once costs have been assigned to functional categories, the next step is to allocate the functionalized costs to cost categories.

Q. HOW ARE PITTSBURGH WATER'S COSTS ALLOCATED TO THE DIFFERENT COST CATEGORIES?

A. O&M and capital costs are assigned to one or more of three cost categories based on how costs are incurred to meet the demands of the wastewater conveyance system as a whole. The assignment of costs to the cost categories is shown on Schedule HJS-3WW,

Allocation to Cost Categories. Since all of the wastewater collected and conveyed by Pittsburgh Water's wastewater conveyance system is treated at the ALCOSAN wastewater treatment facilities, the process of assigning costs to cost categories is greatly simplified because no costs need to be allocated to any of the treatment related categories addressed in WEF Manual No. 27.

The three cost categories consist of:

- **Volume** – Volume costs are those costs that are a function of the amount of wastewater that is collected and conveyed by the system
- **Meters** – Meter costs are the costs associated with installing, maintaining, repairing and replacing water meters. While the water meters are not used to measure wastewater flow, the water flow measured by the meters serves as a proxy for the volume of wastewater discharged by each customer and therefor the meters serve a vital role in the process of assessing wastewater conveyance charges to Pittsburgh Water's customers.
- **Billing** – Billing costs are those costs associated with billing Pittsburgh Water wastewater conveyance customers for wastewater collection and conveyance.

Costs are assigned to cost categories using the allocation factors listed and described on Schedules HJS 4WW and 5WW. Most of the allocation factors are developed using system wide demand data and others are developed based on other analyses.

Q. PLEASE DESCRIBE HOW EACH OF THE ALLOCATION FACTORS SHOWN ON SCHEDULE HJS 4WW WAS DEVELOPED.

A. The Volume allocator (WW-AA) assigns all of the costs to which it is applied to the Volume cost category in recognition that these costs are driven by the volume of wastewater collected and conveyed by the wastewater conveyance system.

The Customer-Meters allocation factor (WW-BB) allocates all meter related costs to the meter component of the Minimum Charge.

The Customer-Billing allocation factor (WW-CC) allocates all billing related costs to the Billing component of the Minimum Charge.

The Administrative Support allocation factor (WW-DD) is used to allocate costs that do not readily fall into a specific functional category. This allocation factor is based on the percentages of overall costs that are allocated to each of the other cost categories once all other allocations have been performed.

Q. PLEASE DESCRIBE HOW THE COSTS ARE ALLOCATED TO THE COST CATEGORIES.

A. In the cost allocation model, allocation factors are applied to costs in each functional category such that costs are allocated in a way that reflects the type of demand being met by the function to which the costs have been assigned, as shown on Schedule HJS-7WW. For instance, the costs in the Collection & Conveyance function are allocated using the Allocation Factor WW-AA which allocates costs in a way that recognizes that all of the costs in this function are to some degree dependent upon the volume of wastewater collected and conveyed by the wastewater conveyance system. Over seventy percent (75%) of Pittsburgh Water's wastewater conveyance costs are allocated using the WW-AA allocation factor.

Q. HOW ARE THE COSTS ALLOCATED TO EACH OF PITTSBURGH WATER'S CUSTOMER CLASSES?

A. As demonstrated on Schedule HJS-7WW, the revenue requirements from each cost category are used to determine the unit cost of providing wastewater collection and conveyance service. For example, approximately $55.2 million in wastewater conveyance revenue requirements were allocated to the Volume cost category. This amount is reduced by approximately $1.0 million to reflect revenue from miscellaneous revenue, resulting in approximately $54.2 million in Volume revenue requirements to be

recovered through retail rates. This amount is divided by the FPFTY projected billable flows (approximately 8.0 million kgal) to arrive at the unit cost of $6.80 per kgal. This unit cost is then multiplied by each class's projected billable wastewater flows to arrive at the amount of Volume costs to be recovered from each class as shown on Schedule HJS-8WW. For example, the Residential class is projected to discharge approximately 3.2 million kgal. This amount is multiplied by the unit cost of $6.80 to arrive at the total Volume costs to be recovered from the Residential class. This process is repeated for each of the customer classes to arrive at the total costs to be recovered from each class.

Q. ARE ANY ADJUSTMENTS MADE TO THE CLASS COST OF SERVICE?

A. Yes. Adjustments to class cost of service were based on several factors, PVC, gradualism, bad debt and customer assistance program forgone revenue.

Q. WHAT ADJUSTMENTS WERE MADE TO THE ALLOCATED WASTEWATER CONVEYANCE COST OF SERVICE BY CUSTOMER CLASS?

A. Pittsburgh Water is required to make two adjustments to the cost of service allocated to each customer class. All four adjustments are shown on Schedule HJS-9WW and the forgone revenue for the CAP customers is derived on HJS-10WW. The adjustments are described below:

1. **Customer Assistance Program** – The cost of the Customer Assistance Program, derived on Schedule HJS-10WW, is allocated among customer classes on Schedule HJS-9WW. These costs are allocated to classes based on the unadjusted cost of service.
2. **PENNVEST Surcharge (PVC) Revenue** –This adjustment recognizes the revenue generated by the PVC and reduces each class's cost of service by the revenue the PVC will generate from that class.
3. **Bad Debt Expense** – The CCOSS introduces Bad Debt Expense Schedule HJS-11WW since it must be allocated directly to customer classes. Bad Debt Expense is allocated

among the customer classes based on each class's historical contribution for such costs over a three-year period (2019-2021).

Q. PLEASE EXPLAIN HOW THE FY 2022 -FY 2024 DATA WAS USED TO DEVELOP THE DEMAND PROJECTIONS.

A. FPFTY demand by class was set equal to the average annual demand exhibited by each class based on averaging annual demand by class from 2022, 2023 and 2024, as shown on HJS-17WW.

VII. WASTEWATER CONVEYANCE RATE DESIGN

Q. PLEASE DESCRIBE PITTSBURGH WATER'S EXISTING WASTEWATER CONVEYANCE RATE STRUCTURE.

A. Pittsburgh Water's current wastewater conveyance rate structure for retail customers consists of a monthly Minimum Charge that varies by meter size and a Volume Charge that varies by customer class. The Minimum Charge is used to recover Pittsburgh Water's customer costs and the cost of a wastewater usage allowance that also varies by meter size.

The Volume Charge is designed to recover Pittsburgh Water's costs that vary based on customer demand as well as the portion of Pittsburgh Water's fixed costs that are not recovered through the Minimum Charge. The volumetric rate per thousand gallons (kgal) of wastewater demand varies by customer class based on the way in which each class demands service. The water customer classes are:

- Residential (which includes Residential CAP and Municipal Residential),
- Commercial (which includes Municipal Commercial),
- Industrial, and
- Health or Education.

Q. IS PITTSBURGH WATER PROPOSING TO MAKE ANY CHANGES TO THE EXISTING WASTEWATER CONVEYANCE RATE STRUCTURE?

A. Not for FY 2026, but as mentioned previously, Pittsburgh Water is proposing to eliminate the minimum allowance in FY 2027.

Q. HOW ARE THE MINIMUM CHARGES CALCULATED?

A. As shown on Schedule HJS-11WW the Minimum Charges are comprised of three components, the Meter component; the Billing component, and the Usage component.

Q. HOW IS EACH OF THESE COMPONENTS CALCULATED?

A. The Meter component is calculated by dividing all costs allocated to the Meter category by the number of 5/8" equivalent meters in the system to determine a cost per 5/8" equivalent meter. The meter size specific service charges are determined by then multiplying the cost per 5/8" equivalent meter by the appropriate AWWA meter equivalency ratio to determine the appropriate charge for each meter size.

The Billing component is calculated by dividing the costs allocated to the Billing category by the total number of bills prepared each year to determine a unit cost per bill.

The Usage component is used to recover the costs of providing the volume allowance included in the Minimum Charge. It is calculated, as shown on Schedule HJS-11WW, by multiplying the allowance for each meter size by the retail volumetric unit cost. For example, accounts with a ¾" meter receive a 2 kgal/month allowance. Therefore, the Usage component for a ¾" meter is equal to 2 kgal times the volumetric unit cost of $4.70, or $9.40.

Once each of the four components of the Wastewater Conveyance Minimum Charge are calculated, they are added together to arrive at the Wastewater Conveyance Minimum Charge for each meter size. For example, the proposed Wastewater Conveyance Minimum Charge for an account with a ¾" meter is $13.55/month. This charge is comprised of a metering component of $1.43, plus a billing component of

$2.72, plus a usage component of $9.40. The resulting amount is then rounded up to the nearest cent.

Q. HOW ARE WASTEWATER CONVEYANCE VOLUME CHARGES CALCULATED?

A. As shown on HJS-11WW, wastewater conveyance Volume Charges are calculated by dividing the net volumetric revenue requirements for each class by the projected volume of wastewater discharged by each class. Net volumetric revenue requirements are determined by first subtracting the revenue generated from Wastewater Conveyance Minimum Charges by each class from the total revenue requirements allocated to each class. The result is the costs that must be recovered from each class through the volume charge. For example, the rate for the Residential class is determined by dividing the net volumetric revenue requirements allocated to the Residential class ($17.9M) by the projected wastewater volume discharged by the Residential class (2.3M kgal) to arrive at the volumetric rate of $7.69 per kgal. The resulting rates and charges are shown on HJS-12WW.

Q. AT WHAT LEVEL IS THE DSIC BEING INCORPORATED INTO THE RATE PACKAGE?

A. Pittsburgh Water is proposing to increase the DISC to 7.5% of the customer bill as discussed in Mr. Barca's testimony. This is included on Schedule HJS-12WW.

Q. HAVE YOU PROVIDED INFORMATION ON WHAT THE CUSTOMER IMPACTS ARE PROJECTED TO BE?

A. Yes, HJS-15WW shows bills under existing and proposed rates and the percentage impacts that are likely to occur for typical residential, commercial, and industrial customers. For a typical residential customer using 3 kgal per month, their monthly

wastewater conveyance bill increases from $22.69 to $27.43 which represents a 20.9% increase.

Q. WHAT CONSIDERATION HAS BEEN GIVEN AS TO WHETHER THE REVENUES FROM THE WASTEWATER CONVEYANCE RATES AND CHARGES ARE SUFFICIENT TO COVER WASTEWATER CONVEYANCE REVENUE REQUIREMENTS FOR PITTSBURGH WATER?

A. HJS-16WW serves as a revenue proof to determine revenue sufficiency of the proposed rates and charges. The revenues that would be generated under the proposed rate structure are shown along with the anticipated revenue from the DSIC.

Q. ACCORDING TO THE RATE MODEL, ARE THE RATES AND CHARGES CALCULATED SUFFICIENT TO MEET REVENUE REQUIREMENTS?

A. Yes. As shown in HJS-16WW, the revenues generated by the proposed rates and charges recovers the full adjusted wastewater conveyance system revenue requirements.

VIII. STORMWATER COST ALLOCATION

Q. WHAT IS THE LEVEL OF REVENUE REQUIREMENTS TO BE RECOVERED BY STORMWATER RATES AND CHARGES?

A. Mr. Barca's testimony supports Pittsburgh Water's total revenue requirements and HJS-1 and HJS-2 supports the allocation of total revenue requirements for stormwater service. As shown on HJS-1SW, the total stormwater system revenue requirements for the FPFTY is $41.8 million (including bad debt expense and the cost of the stormwater credit program).

Q. WHAT ADJUSTMENTS WERE MADE TO THE ALLOCATED STORMWATER COST OF SERVICE BY CUSTOMER CLASS?

A. Pittsburgh Water has made three adjustments to the cost of service allocated to stormwater, which are shown on Schedule HJS-5SW. The adjustments are described below:

1. **Bad Debt Expense** – The CCOSS introduces Bad Debt Expense with the other adjustments on Schedule HJS-5SW. Bad Debt Expense is allocated among the customers based the unadjusted cost of service.
2. **Customer Assistance Program** – The forgone revenue as a result of the Customer Assistance program, estimated at approximately $1,040,309 is allocated among customer classes on Schedule HJS-5SW, based on the unadjusted cost of service. Mr. Barca and Ms. Mechling discuss this issue further.
3. **Credits and Incentives Program** – The cost of the credits and incentives program of approximately $288,000 is allocated among customer classes on Schedule HJS-5SW, based on the unadjusted cost of service.

IX. STORMWATER RATE DESIGN

Q. PLEASE PROVIDE AN OVERVIEW OF PITTSBURGH WATER'S PROPOSED STORMWATER FEE.

A. The proposed fee will be based on the amount of impervious area on a property. Impervious surface area is the most common rate structure among those communities with stormwater fees because it is a good surrogate for directly measuring a ratepayer's demand on the stormwater system. For single-family residential (SFR) customers, Pittsburgh Water implemented a three-tiered rate structure which is described in further detail below. For non-residential customers, Pittsburgh Water bills per ERU of impervious area.

Q. PLEASE DESCRIBE THE STORMWATER FEE FOR SINGLE FAMILY RESIDENTIAL CUSTOMERS.

A. Pittsburgh Water implemented a three-tiered rate structure for SFR customers. Statistical analysis was performed by Raftelis to analyze and determine the most appropriate residential tiering structure. Of the tiering structures considered, Pittsburgh Water decided on a structure in which the middle tier contains 70% of all the SFR properties, making it by far the largest group. Properties with less than 1,015 square feet of

impervious area are considered the low tier and are billed for the median amount of impervious area found on parcels in that tier, which is about 830 square feet of impervious area, or 0.5 ERUs. Properties in the middle tier are billed for 1 ERU. Those properties with 2,710 square feet or more of impervious area fall into the high tier and are billed for the median amount of impervious area found on parcels in that tier, which is about 3,355 square feet of impervious area, or 2 ERUs.

Q. WHAT TYPES OF PROPERTIES ARE CLASSIFIED AS "SINGLE FAMILY RESIDENTIAL"?

A. For purposes of the stormwater fee, residential customers include single family homes, townhouses, rowhouses, mobile homes, and two-, three-, or four-family buildings.

Q. WHY IS PITTSBURGH WATER PROPOSING A TIERED STORMWATER FEE FOR SINGLE FAMILY RESIDENTIAL CUSTOMERS?

A. The impervious area found on a residential lot in Pittsburgh varies from about 400 square feet to more than 4,000 square feet. Using tiers instead of one flat rate allows Pittsburgh Water to differentiate among SFR ratepayers and maintain an equitable approach across the various types of development and homes.

Q. HOW DID PITTSBURGH WATER DETERMINE THE APPROPRIATE BREAKPOINTS BETWEEN THESE TIERS?

A. We considered three tiering alternatives, where the middle tiers encompassed 50%, 60% and 70% of the SFR properties, respectively. The 70% middle tier option was selected because it recognized similarity among parcels within the center of the impervious area frequency histogram with only significantly smaller and larger properties being included in Tier 1 and Tier 3, respectively. A summary of the parcels and ERUs by tier is presented on HJS-3SW.

Q. WHAT TYPES OF PROPERTIES ARE CLASSIFIED AS "NON-SINGLE FAMILY RESIDENTIAL"?

A. Non-single family residential properties are any properties not included in the definition of single-family residential property described above. This includes apartment buildings, commercial properties, industrial properties, condominiums, schools, and railroad properties. Specifically, these properties are customers in the existing Commercial, Industrial, and Health and Education Classes. City parcels are mostly non-residential with the exception of those existing accounts already classified as Residential.

Q. FOR NON-SINGLE FAMILY RESIDENTIAL CUSTOMERS, HOW IS THE TOTAL ERU DETERMINED?

A. The ERUs for non-single family residential customers are calculated by dividing the impervious area on the property (in square feet) by the ERU value of 1,650 square feet. This number is then rounded up to the nearest integer to provide their total ERU. A summary of the parcels and ERUs is presented on HJS-3SW. To calculate a monthly charge, the total ERU is multiplied by the per ERU fee to calculate the total monthly stormwater charge.

Q. WHY DID PITTSBURGH WATER PROPOSE THIS APPROACH FOR NON-SINGLE FAMILY RESIDENTIAL CUSTOMERS?

A. This approach for non-single-family customers strikes a balance between fairness and technical simplicity. While SFR properties are fairly similar in size and composition, non-single-family properties can vary greatly among those categories and encompass a wide range of customer classifications. A flat rate or tiered rate such as used with SFR properties is not equitable across such a wide range of classifications.

Q. HOW IS THE MONTHLY STORMWATER RATE DETERMINED?

A. The process for calculating the stormwater rate to be assessed to all customers follows a similar process as the water and wastewater conveyance CCOSS. First, the unadjusted cost of service rate is determined so that stormwater costs can be assigned to customer

classes. The determination of cost of service by customer class is presented in HJS-4SW. Once the unadjusted cost of service by customer class is determined, appropriate adjustments are made to determine the adjusted cost of service by customer class, as presented on HJS-5SW. The adjustments, which are described throughout this testimony, include:

- **Gradualism Between Sewer and Stormwater** – This adjustment reduces the total revenue requirement by $6.0 million which helps mitigate customer impacts.
- **Bad Debt Expense** – Bad debt expense for stormwater-only and non-stormwater-only customers.
- **Cost of Credits and Incentives** – The credit program results in forgone revenue that must be recovered from all customer classes.
- **Cost of Bill Discount Program Forgone Revenue** – As specified in the Direct Testimony of Ms. Quigley, Pittsburgh Water is an 85% discount on the stormwater fee for enrolled CAP-BDP customers.

Once costs had been appropriately allocated to customer classes, Raftelis designed rates to recover the adjusted net stormwater revenue requirement. Pittsburgh Water is proposing a uniform stormwater rate per ERU. The proposed rate is $12.34 per ERU for the FPFTY. The rate design process and proposed rates for residential and non-residential customers are shown in HJS-6SW.

Q. HOW ARE STORMWATER FEES DEVELOPED FOR YEAR TWO OF THE MULTI-YEAR PLAN?

A. Stormwater rates to recover the revenue requirements for FY 2026 and FY 2027 shown on Schedule HJS-9SW were developed in a manner similar to the way in which water and wastewater conveyance rates were developed for FY 2026 and FY 2027 as described in the testimony of Mr. Smith.

As shown on Schedule HJS-10SW, rate revenue requirements are determined by first making a stormwater gradualism adjustment and then subtracting the miscellaneous revenue.

Lastly, the stormwater rate per ERU for FY 2027 is determined by dividing the net revenue requirements to be recovered through stormwater fees by the projected number of ERUs as shown on HJS-11SW.

Q. ARE UNDEVELOPED PROPERTIES ASSESSED A STORMWATER FEE?

A. Yes. A property is not charged a stormwater fee if the impervious area on the property is less than 400 square feet. The minimum stormwater fee that can be charged for SFR properties with impervious area greater than or equal to 400 square feet is for those properties that fall into Tier 1 and are billed for 0.5 ERU. The minimum stormwater fee for non-single family residential properties with impervious area greater than or equal to 400 square feet is 1 ERU.

Q. WILL PITTSBURGH WATER'S PROPOSED STORMWATER RATES RECOVER ALL OF THE REVENUE REQUIREMENTS ALLOCATED TO STORMWATER?

A. As was the case when Pittsburgh Water's stormwater fee was first implemented, the proposed rates will not generate enough revenue to fund the full $41.8 million stormwater program as described.

The intentional underrecovery of the total revenue requirement such that severe customer impacts are mitigated is consistent with Pittsburgh Water's use of the "gradualism" ratemaking practice. Gradualism provides another benefit; it accounts for the fact that Pittsburgh Water does not plan to dramatically expand its stormwater program in the near term; costs that were previously recovered through the wastewater fee are shifting to the

stormwater fee. Based on my experience implementing new stormwater rates, customers expect to see new projects or initiatives when charged a substantially higher overall fee. As Pittsburgh Water is not dramatically enhancing its stormwater program, I did not advise Pittsburgh Water to pursue full recovery of revenue requirements from the stormwater fee in the first year.

X. STORMWATER CREDIT PROGRAM

Q. DOES PITTSBURGH WATER OFFER A CREDIT PROGRAM THAT ALLOWS CUSTOMERS TO REDUCE THEIR MONTHLY STORMWATER FEE?

A. Yes. For the initial filing, Pittsburgh Water proposed a credit program that would allow residential or non-residential customers to reduce their stormwater fee by taking specific actions to reduce their demand for stormwater service. That program is in place.

Q. WHAT ARE THE OVERALL GOALS OF A CREDIT PROGRAM?

A. One goal is to refine the stormwater fee for an individual ratepayer to account for things that happen on their site that cause their true stormwater demand to be different than that computed from impervious area. Another is to encourage customers to undertake or maintain helpful best management practices. In designing the credit program, Pittsburgh Water has sought to create a program that can achieve meaningful benefits in terms of stormwater reduction and recognize customers' efforts to reduce stormwater runoff, while also imposing minimal administrative burden on ratepayers or the Authority.

Q. WHAT CREDITS DOES PITTSBURGH WATER MAKE AVAILABLE TO NON-SINGLE FAMILY RESIDENTIAL CUSTOMERS?

A. Pittsburgh Water offers a Stormwater Control Structures Credit which is available to non-single family residential properties with well-maintained, functioning structural

stormwater controls that meet either the 2019 City of Pittsburgh stormwater standards (up to 60% credit) or the 2016 City of Pittsburgh stormwater standards (up to 45% credit).

Q. WHY DID PITTSBURGH WATER BASE ITS NON-RESIDENTIAL CREDIT ON THE 2019 DEVELOPMENT STANDARDS?

A. Pittsburgh Water based its non-residential credit primarily on the 2019 Development Standards because these are the standards that were in place when the stormwater fee went into effect (Ord. No. 12-2019, art. I, § 13101, eff. 3-20-19). Similarly, the 2016 Development Standards were recently in place. By tying the performance of stormwater controls to an existing or recent past standard we hoped to minimize the administrative burden that the credits program would place on ratepayers and the Authority. Using these standards provides clear guidance for both Pittsburgh Water and its customers as to whether requirements for a credit have been met and ensures that the stormwater controls will meaningfully reduce stormwater runoff from a property.

Q. WHAT CREDITS DID PITTSBURGH WATER MAKE AVAILABLE TO SINGLE FAMILY RESIDENTIAL CUSTOMERS?

A. Pittsburgh Water offers a Residential Downspout Disconnection and Street Planters Credit for residential customers. Additionally, residential customers can get a credit for capturing and slowly releasing the runoff from ¾-inch of rain from the impervious surfaces on the property.

Q. WHY DID PITTSBURGH WATER PROPOSE THIS TYPE OF CREDIT FOR RESIDENTIAL CUSTOMERS?

A. Downspout disconnection and rerouting of roof drainage to street planters can divert runoff from significant amounts of impervious area on residential properties, which would be very beneficial to the proper function of Pittsburgh Water's infrastructure in some areas of the City where planters are available. While Pittsburgh Water recognized

that not all properties would be able to disconnect downspouts or reroute to street planters due to limitations at the property, this initial residential credit offering was intended to recognize customers who meaningfully reduced their demand for stormwater service by disconnecting downspouts or rerouting drainage to street planters while limiting the administrative burden for Pittsburgh Water.

Although it is not technically a credit, I would also note that customers can simply remove impervious area in order to potentially qualify for a lower tier of the stormwater fee.

Q. IS PITTSBURGH WATER UPDATING THE CREDIT PROGRAM TO OFFER OTHER TYPES OF CREDITS?

A. Yes, Pittsburgh Water has updated the credit program. See exhibit KR-2. One update is to more explicitly show that non-residential properties can receive the 45% and 60% credits through passive management of stormwater via the property's green space. This would require an engineering analysis but may be demonstrable for lightly developed properties with runoff patterns where runoff from impervious surfaces is routed to green areas. The other update is to offer a one-time $40 credit for installed rain barrels that capture and retain roof runoff from single family properties.

Q. DOES PITTSBURGH WATER VERIFY THAT STORMWATER MITIGATION MEASURES ARE INSTALLED AND MAINTAINED?

A. Continued eligibility for credits is contingent on the proper function of stormwater controls. This function will be verified by periodic field reviews by Pittsburgh Water or through coordination with City staff.

Q. OVER WHAT TIME PERIOD DO CREDITS APPLY?

A. Credits are valid for up to three (3) years. Customers can reapply every three years to continue receiving a credit as long as the stormwater mitigation measure remains in place and is working properly, thereby reducing the property's demand for stormwater service.

Q. WHAT IMPACT DOES PITTSBURGH WATER EXPECT THE UPDATED CREDIT PROGRAM WILL HAVE ON STORMWATER REVENUE?

A. Pittsburgh Water anticipates participation in the credit program to result in revenue offsets of less than 1% of full billings. Now that we have credit participation rates from 2022, we see that the value of credits issued is so far lower than expected. Estimates for "forgone revenues" from the credit program have been included in the stormwater rate calculation.

XI. GRADUALISM ADJUSTMENT IN ADDITION TO STORMWATER

Q. OTHER THAN THE STORMWATER CHARGE, DO PITTSBURGH WATER'S PROPOSED RATES INCORPORATE ANY OTHER INSTANCES OF THE IMPLEMENTATION OF GRADUALISM?

A. Yes, we have made gradualism adjustments to both the wastewater conveyance rate for the Health or Education class and to the water rate for the Industrial class.

Q. PLEASE DESCRIBE ALL INSTANCES OF THE IMPLEMENTATION OF GRADUALISM.

A. The mechanism for affecting each instance of gradualism is described below.

- **Stormwater Gradualism Adjustment –** The cost of gradualism between stormwater and wastewater conveyance ($6.0 million) is allocated for recovery from all classes of wastewater conveyance customers as shown on Schedule HJS-9WW. These costs are allocated to classes based on the unadjusted cost of service for each customer class.

- **Health or Education Water and Wastewater Conveyance Gradualism Adjustment –** Based on a long-standing policy decision, water and wastewater rates for Health or Education have been set higher than the estimated cost of service for the Health or

Education class. The cost of the subsidy is allocated from Residential to Health or Education as shown on Schedules HJS-10W and HJS-9WW.

- **Industrial Water Gradualism Adjustment**– In Pittsburgh Water's 2020 Rate Case, Pittsburgh Water and the parties agreed to impose gradualism adjustments for any customer classes experiencing a 1.5x increase above the system average increase. Pittsburgh Water has continued this convention here and has made such an adjustment for Industrial customers. As shown on HJS-10W, the gradualism "costs" are assigned proportionally for recovery to other customer classes based on unadjusted cost of service for each class.

XII. MULTI-YEAR RATE PLAN

Q. IS PITTSBURGH WATER PROPOSING A MULTI-YEAR RATE PLAN IN THIS FILING?

A. Yes, as mentioned in Mr. Pickering's testimony Pittsburgh Water is proposing a two-year rate plan. Proposed water, wastewater conveyance and stormwater rates for FY 2026 will be set at a level that will generate revenue sufficient to cover the utility's FY 2026 O&M and capital expenses. The rate proposal for FY 2027 will include the elimination of the minimum allowance. Schedules HJS-19W, 18WW, and 9SW show the proposed FY 2027 rates.

I should note that, to the extent that Pittsburgh Water is not allowed to adjust the PVC to recover additional PENNVEST debt service,, base rates for FY 2026 and FY 2027 will need to be higher than the proposed FY 2026 and FY 2027 rates in order to recover the existing and new PENNVEST debt service.

YEAR TWO RATES

Q. HOW ARE RATES FOR YEAR TWO OF THE MULTI-YEAR PLAN DETERMINED?

A. Water and sewer rates for Year 2 of the rate plan (FY 2027) are based on the cost-of-service analysis performed for the Year 1 rates. As shown in Schedules HJS-21W and HJS-20WW, the Service Charge (previously Minimum Charge) is calculated as described previously, except that there is no usage component. Therefore, starting in FY 2027, the Service Charge is comprised of the Billing component, the Meters/Services component, and adjustments. Costs previously recovered through the Usage component are now recovered through Volume Charges. The Meters/Service and Billing Components for the FY 2027 Service Charge are the same as those for FY 2026, however the adjustment to include public fire protection costs is slightly higher in FY 2027 than in FY 2026.

As shown in Schedules HJS-22W and HJS-21WW, Volume Charges are determined by first increasing the total revenue requirements allocated to each customer class in 2026 by the same percent such that the sum of the total revenue requirements allocated to the customer classes is equal to the total revenue requirements for FY 2027. The total revenue requirements are then reduced by the base charge revenue by class and the revenue from the PVC to determine the volumetric revenue requirements by class. The volumetric revenue requirements for each class are then divided by that class's projected FY 2027 demand to arrive at the rate per thousand gallons for the class.

XIII. CONCLUSION

Q. MR. SMITH, DOES THAT CONCLUDE YOUR TESTIMONY?

A. Yes; however, I do reserve the right to supplement this testimony as may be appropriate.

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VERIFICATION

I, Harold J. Smith, hereby state that: (1) I am a Vice President of Raftelis Financial Consultants, Inc.; (2) I have been retained by The Pittsburgh Water and Sewer Authority d/b/a Pittsburgh Water and am authority to present testimony on its behalf; (3) the facts set forth in my rebuttal testimony are true and correct (or are true and correct to the best of my knowledge, information and belief); and, (4) I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa. C.S. § 4904 (relating to unsworn falsification to authorities).

DocuSigned by:
Harold J. Smith
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Dated: 6/4/25

Harold J. Smith, Vice President
Raftelis Financial Consultants, Inc.

Consultant to:
The Pittsburgh Water and Sewer Authority d/b/a Pittsburgh Water

Exhibits

HJS-1 – HJS-2

Pittsburgh Water
Revenue Requirements by Utility

	FPFTY 2026			
Base Rate Revenue Requirements	*Water*	*Wastewater Conveyance*	*Stormwater*	*Total*
Operating Expenses				
Direct Operating Expenses				
Administrative Division				
Chief Executive Office	$ 2,546,673	$ 641,805	$ 392,353	$ 3,580,831
Customer Service	3,325,785	4,298,578	4,184,904	11,809,266
Technology Services	7,358,052	988,367	1,003,694	9,350,113
Finance	11,495,605	2,740,279	1,914,009	16,149,892
Human Resources	2,209,600	296,804	301,406	2,807,810
Legal	3,644,888	489,598	497,190	4,631,676
Safety & Security	2,120,671	284,858	289,276	2,694,805
Public Affairs	1,486,785	199,712	202,809	1,889,305
Operations Division				
Environmental Compliance	1,034,777	1,749,467	1,749,467	4,533,711
Warehouse	467,317	62,772	63,746	593,835
Laboratory	2,451,574	-	-	2,451,574
Water Treatment Plant	21,463,532	1,859,445	828,007	24,150,984
Sewer Operations	-	2,211,990	3,335,355	5,547,344
Water Operations	19,182,029	107,100	107,100	19,396,229
Engineering & Construction Division				
Engineering & Construction	20,879,180	11,326,951	7,919,659	40,125,790
Subtotal: Direct Operating Expenses	$ 99,666,467	$ 27,257,726	$ 22,788,974	$ 149,713,166
Other Operating Expenses				
Loss / (Gain) on ALCOSAN Billings	$ -	$ 2,383,047	$ -	$ 2,383,047
City Services	-	-	-	-
Non-City Water Payments	-	-	-	-
Covid Expenses	-	-	-	-
Subtotal: Other Operating Expenses	$ -	$ 2,383,047	$ -	$ 2,383,047
Subtotal: Operating Expenses	$ 99,666,467	$ 29,640,773	$ 22,788,974	$ 152,096,214
Debt Service				
Existing Debt				
Senior Debt Service	$ 46,517,270	$ 17,004,505	$ 10,164,108	$ 73,685,883
Subordinate Debt Service	15,316,971	6,246,457	1,102,441	22,665,869
Subtotal: Existing Debt	$ 61,834,241	$ 23,250,962	$ 11,266,549	$ 96,351,752
Proposed Debt				
Revolving Line of Credit Interest	$ 2,486,355	$ 444,299	$ 69,347	$ 3,000,000
Revenue Bonds	7,652,119	1,963,920	1,625,764	11,241,803
SRF Loans	302,669	129,715	-	432,384
Subtotal: Proposed Debt	$ 10,441,142	$ 2,537,934	$ 1,695,111	$ 14,674,187
Subtotal: Debt Service	$ 72,275,384	$ 25,788,896	$ 12,961,660	$ 111,025,939
Capital Expenditures & Transfers				
DSIC Capital	$ 13,903,179	$ 4,995,365	$ -	$ 18,898,544
Debt Coverage Capital - Existing Senior	11,062,153	3,679,659	3,679,659	18,421,471
Debt Coverage Capital - Existing Total	-	-	-	-
Debt Coverage Capital - Future Senior	2,329,259	416,227	64,965	2,810,451
Debt Coverage Capital - Future Total	-	-	-	-
Other Transfers to Reserves	1,896,102	768,212	335,686	3,000,000
Reimbursements from Municipalities	-	-	-	-
Remarketing & Liquidity Charges	-	-	-	-
Water and Wastewater Leak Credit	662,322	-	-	662,322
Hardship	-	-	-	-
Arrearage	140,047	140,047	-	280,094
Stormwater Credits Cost	-	-	288,016	288,016
Subtotal: Capital Expenditures & Transfers	$ 29,993,063	$ 9,999,509	$ 4,368,326	$ 44,360,898
Total: Base Rate Revenue Requirements	**$ 201,934,913**	**$ 65,429,178**	**$ 40,118,960**	**$ 307,483,051**
Bad Debt Costs	$ 3,303,160	1,201,906	1,693,944	$ 6,199,010
Total Revenue Requirement	**$ 205,238,073**	**$ 66,631,084**	**$ 41,812,903**	**$ 313,682,060**

Pittsburgh Water
Allocation Factors - Between Utilities

Allocations to Utilities (Revenue Requirements & Assets)				
Code	*Description*	*Water*	*Sewer*	*Stormwater*
A	Water Only	100.0%	0.0%	0.0%
B	Wastewater Only	0.0%	100.0%	0.0%
C	Stormwater Only	0.0%	0.0%	100.0%
D	Customer Service - Meters	50.0%	50.0%	0.0%
E	Customer Bills	26.6%	35.5%	37.9%
F	Operations Cost	78.7%	10.6%	10.7%
G	Engineering and Construction	76.5%	15.6%	8.0%
H	Environmental Compliance	33.3%	33.3%	33.3%
I	Customer Service - Composite	28.2%	36.4%	35.4%
J	Wastewater - Conveyance	0.0%	50.0%	50.0%
K	Existing Debt Service - Assets	60.1%	20.0%	20.0%
L	2022-2024 Actual Revenue	63.2%	25.6%	11.2%

Sewer / Stormwater Allocation Factor Detail	**Sewer**	**Stormwater**
Conveyance	50.0%	50.0%
Debt Service	50.0%	50.0%

Pittsburgh Water
Allocation Factor Detail

Factor Derivations - Allocation to Utilities					
Code(s)	*Description*	*Calculations*			
D	Customer Service - Meters				
					Factor
	- This factor equally splits costs between water and	Water			50.00%
	wastewater to allocate meter costs between utilities	Wastewater			50.00%
E	Customer Bills				
				2026	Factor
	- This factor uses water, sewer, and stormwater bills	Water Bills		952,944	26.65%
	to allocate billing costs between utilities. Stormwater	Sewer Bills		1,267,944	35.46%
	parcels are used to estimate the number of bills issued.	Stormwater		1,355,112	37.89%
				3,576,000	
F	Operations Costs			2026	Factor
		Water	$	44,131,911	78.69%
	- This factor uses the allocation of the operations	Wastewater		5,928,001	10.57%
	budget category as a composite allocation for	Stormwater		6,019,928	10.73%
	allocating administrative costs to the utilities		$	56,079,841	
G	Engineering & Construction			Factor	
		Water		76.49%	
	- This factor uses the average of 2021-2027 CIP to allocate	Wastewater		15.56%	
	engineering and construction costs between	Stormwater		7.95%	
	utilities.				
H	Environmental Compliance			Factor	
		Water		33.34%	
	- This factor is based on PWSA Staff estimates	Wastewater		33.33%	
	of 35% of Environmental Compliance costs being	Stormwater		33.33%	
	water-related. The wastewater portion is				
	allocated 50/50 to wastewater/stormwater.				
I	Customer Service - Composite			2026	
		Water	$	3,325,785	28.16%
	- This factor is a composite allocation of the allocated	Wastewater		4,298,578	36.40%
	Customer Service (911) budget between to allocate	Stormwater		4,184,904	35.44%
	Customer Service assets between the utilities.		$	11,809,266	
K	Existing Debt Service - Assets			Factor	
		Water		60.05%	
	- Existing system debt service is allocated between	Wastewater		19.97%	
	utilities by using system fixed assets. Non-water assets	Stormwater		19.97%	
	are allocated to wastewater conveyance.				

Exhibits

HJS-1W – HJS-25W

Water System Revenue Requirements	**2026 FPFTY Revenue Requirements**	**2027 Revenue Requirements**
Operating Expenses		
Direct Operating Expenses		
Administrative Division		
Chief Executive Office	$ 2,546,673	$ 2,546,673
Customer Service	3,325,785	3,325,785
Technology Services	7,358,052	7,358,052
Finance	11,495,605	11,495,605
Human Resources	2,209,600	2,209,600
Legal	3,644,888	3,644,888
Safety & Security	2,120,671	2,120,671
Public Affairs	1,486,785	1,486,785
Operations Division		
Environmental Compliance	1,034,777	1,034,777
Warehouse	467,317	467,317
Laboratory	2,451,574	2,451,574
Water Treatment Plant	21,463,532	21,463,532
Sewer Operations	-	-
Water Operations	19,182,029	19,182,029
Engineering & Construction		
Engineering & Construction	20,879,180	20,879,180
Total Operating Expenses	$ 99,666,467	$ 99,666,467
Debt Service		
Existing Debt	$ 61,834,241	67,287,997
Future Debt	10,441,142	15,860,823
Subtotal: Debt Service	$ 72,275,384	$ 83,148,820
Other Expenditures & Transfers		
DSIC Capital	$ 13,903,179	14,889,285
Debt Coverage Capital - Existing Senior	11,062,153	11,377,342
Debt Coverage Capital - Future Senior	2,329,259	4,510,182
Other Transfers to Reserves	1,896,102	1,896,102
Water and Wastewater Leak Credit	662,322	662,322
Rider AFP	140,047	140,047
Subtotal: Other Expenditures & Transfers	$ 29,993,063	$ 33,475,280
Total: Water System Revenue Requirements	**$ 201,934,913**	**$ 216,290,566**
Less: Capital Costs to be Recovered through DSIC	$ (13,903,179)	$ (14,889,285)
Add: Bad Debt Expense	3,303,160	3,303,241
Total: Water System Revenue Requirement (Excl DSIC)	**$ 191,334,894**	**$ 204,704,522**

Pittsburgh Water
FPFTY 2026 COS & Rate Design Model
Assignment to Functional Categories

Water Operating Costs		**FY 2026**	**Allocation**	**Water Functional Categories**								
				Supply	*Treatment*	*Storage*	*Transmission*	*Distribution*	*Meters/Services*	*Billing*	*Fire Protection*	*Admin Support*
Operating Expenses		*FPFTY*										
Direct Operating Expenses												
Administrative Division												
Chief Executive Office	$	2,546,673	W-H									100.0%
Customer Service		3,325,785	W-I						32.7%	67.3%		
Technology Services		7,358,052	W-H									100.0%
Finance		11,495,605	W-H									100.0%
Human Resources		2,209,600	W-H									100.0%
Legal		3,644,888	W-H									100.0%
Safety & Security		2,120,671	W-H									100.0%
Public Affairs		1,486,785	W-H									100.0%
Operations Division												
Environmental Compliance		1,034,777	W-H									100.0%
Warehouse		467,317	W-H									100.0%
Laboratory		2,451,574	W-H									100.0%
Water Treatment Plant		21,463,532	W-B		100.0%							
Sewer Operations		-	n/a									100.0%
Water Operations		19,182,029	W-K				34.7%	58.6%	6.7%			
Engineering & Construction Division												
Engineering & Construction		20,879,180	W-J		7.8%	34.3%	18.5%	31.3%	3.6%			4.5%
Subtotal: Direct Operating Expenses	$	99,666,467										
Other Operating Expenses												
Loss / (Gain) on ALCOSAN Billings		-	n/a									100.0%
Total: Operating Expenses	**$**	**99,666,467**										

Pittsburgh Water
FPFTY 2026 COS & Rate Design Model
Assignment to Functional Categories

Water Operating Expenses	FY 2026 FPFTY	Allocation	Water Functional Categories: Supply	Treatment	Storage	Transmission	Distribution	Meters/Services	Billing	Fire Protection	Admin Support
Direct Operating Expenses											
Administrative Division											
Chief Executive Office	$ 2,546,673	W-H	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,546,673
Customer Service	3,325,785	W-I	-	-	-	-	-	1,086,092	2,239,692	-	-
Technology Services	7,358,052	W-H	-	-	-	-	-	-	-	-	7,358,052
Finance	11,495,605	W-H	-	-	-	-	-	-	-	-	11,495,605
Human Resources	2,209,600	W-H	-	-	-	-	-	-	-	-	2,209,600
Legal	3,644,888	W-H	-	-	-	-	-	-	-	-	3,644,888
Safety & Security	2,120,671	W-H	-	-	-	-	-	-	-	-	2,120,671
Public Affairs	1,486,785	W-H	-	-	-	-	-	-	-	-	1,486,785
Operations Division											
Environmental Compliance	1,034,777	W-H	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,034,777
Warehouse	467,317	W-H	-	-	-	-	-	-	-	-	467,317
Laboratory	2,451,574	W-H	-	-	-	-	-	-	-	-	2,451,574
Water Treatment Plant	21,463,532	W-B	-	21,463,532	-	-	-	-	-	-	-
Sewer Operations	-	n/a	-	-	-	-	-	-	-	-	-
Water Operations	19,182,029	W-K	-	-	-	6,651,427	11,246,022	1,284,580	-	-	-
Engineering & Construction Division											
Engineering & Construction	20,879,180	W-J	-	1,622,585	7,156,340	3,870,476	6,544,079	747,499	-	-	938,202
Subtotal: Direct Operating Expenses	$ 99,666,467		$ -	$ 23,086,117	$ 7,156,340	$ 10,521,903	$ 17,790,101	$ 3,118,171	$ 2,239,692	$ -	$ 35,754,143
Other Operating Expenses											
Loss / (Gain) on ALCOSAN Billings	-	n/a	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Allocated Water Operating Costs	**$ 99,666,467**		**$ -**	**$ 23,086,117**	**$ 7,156,340**	**$ 10,521,903**	**$ 17,790,101**	**$ 3,118,171**	**$ 2,239,692**	**$ -**	**$ 35,754,143**

Allocated Water Assets			Water Functional Categories									
Row Labels	**Allocated Costs**	**Allocation**	*Supply*	*Treatment*	*Storage*	*Transmission*	*Distribution*	*Meters/Services*	*Billing*	*Fire Protection*	*Admin Support*	*Total*
Struc. and Improvements - Source of Supply and Pumping	5,043,183	W-A	100.00%									100.00%
Structures and Improvements - WTP	30,820,327	W-B		100.00%								100.00%
Structures and Improvements - Transmission and Distribution	-	W-D				37.16%	62.84%					100.00%
Pumping Equipment	41,426,307	W-D				37.16%	62.84%					100.00%
Water Treatment Equipment	112,111,497	W-B		100.00%								100.00%
Distribution Reservoirs and Standpipes	80,973,457	W-C			100.00%							100.00%
Transmission and Distribution Mains	470,080,781	W-K				34.68%	58.63%	6.70%				100.00%
Meters and Meter Installations	33,873,288	W-E						100.00%				100.00%
Fire Hydrants	16,914,413	W-G								100.00%		100.00%
Office Furniture and Equipment	117,283	W-H									100.00%	100.00%
Office Furniture and Equipment - Computer Hardware	3,293,295	W-H									100.00%	100.00%
Office Furniture and Equipment - ERP System	6,423,182	W-H									100.00%	100.00%
Transportation Equipment	9,779,694	W-H									100.00%	100.00%
Tools, Shop and Garage Equipment	292,770	W-H									100.00%	100.00%
Laboratory Equipment	124,112	W-B		100.00%								100.00%
Collection Sewers - Gravity	-	n/a										0.00%
Manholes	-	n/a										0.00%
Wastewater Plant	-	n/a										0.00%
Power Operated Equipment	-	n/a										
Total	**811,273,589**		$ 5,043,183	$ 143,055,936	$ 80,973,457	$ 178,397,652	$ 301,629,119	$ 65,353,605	$ -	$ 16,914,413	$ 19,906,224	**$ 811,273,589**
Allocation Factors for Capital Costs			**0.62%**	**17.63%**	**9.98%**	**21.99%**	**37.18%**	**8.06%**	**0.00%**	**2.08%**	**2.45%**	**100.00%**

		Supply	*Treatment*	*Storage*	*Transmission*	*Distribution*	*Meters/Services*	*Billing*	*Fire Protection*	*Admin Support*
Allocation of Capital Costs										
Debt Service	$ 72,275,384	$ 449,291	$ 12,744,680	$ 7,213,827	$ 15,893,231	$ 26,871,774	$ 5,822,274	$ -	$ 1,506,885	$ 1,773,421
Debt Coverage Capital - Existing Senior	11,062,153	68,767	1,950,645	1,104,117	2,432,548	4,112,876	891,132	-	230,637	271,432
Debt Coverage Capital - Future Senior	2,329,259	14,480	410,730	232,484	512,200	866,012	187,638	-	48,563	57,153
Other Transfers to Reserves	1,896,102	11,787	334,349	189,250	416,949	704,965	152,744	-	39,532	46,525
Bad Debt Expense (1)		-	-	-	-	-	-	-	-	-
Rider AFP	140,047	871	24,695	13,978	30,796	52,069	11,282	-	2,920	3,436
Water and Wastewater Leak Credit	662,322	4,117	116,790	66,107	145,643	246,249	53,355	-	13,809	16,251
Total: Allocated Capital Costs	$ 88,365,267	$ 549,312	$ 15,581,890	$ 8,819,763	$ 19,431,368	$ 32,853,944	$ 7,118,423	$ -	$ 1,842,346	$ 2,168,219

(1) Bad Debt Expense allocated directly to customer classes based on each classes responsibility for historical bad debt and included as an adjustment in Rate Design.

Pittsburgh Water
FPFTY 2026 COS & Rate Design Model
Allocation to Base/Extra Capacity Categories

	FY 2026 FPFTY	Allocation	Water Cost Drivers: Base	Max Day	Peak Hour	Meters / Services	Bills	Fire Protection
Water Revenue Requirement								
Functional Categories								
Supply	$ 549,312	W-AA	100.00%					
Treatment	38,668,007	W-BB	70.73%	27.51%				1.75%
Storage	15,976,103	W-CC	54.12%	17.20%	20.30%			8.38%
Transmission	29,953,271	W-BB	70.73%	27.51%				1.75%
Distribution	50,644,045	W-CC	54.12%	17.20%	20.30%			8.38%
Meters/Services	10,236,594	W-DD				100.00%		
Billing	2,239,692	W-EE					100.00%	
Fire Protection	1,842,346	W-FF						100.00%
Admin Support	37,922,362	W-GG	56.72%	20.21%	9.01%	6.82%	1.49%	5.75%
Total: Water Revenue Requirements	$ 188,031,734							

	FY 2026 FPFTY	Allocation	Water Cost Drivers: Base	Max Day	Peak Hour	Meters / Services	Bills	Fire Protection
Water Revenue Requirement								
Functional Categories								
Supply	$ 549,312	W-AA	$ 549,312	$ -	$ -	$ -	$ -	$ -
Treatment	38,668,007	W-BB	27,351,354	10,638,900	-	-	-	677,753
Storage	15,976,103	W-CC	8,646,073	2,747,235	3,243,804	-	-	1,338,992
Transmission	29,953,271	W-BB	21,187,089	8,241,176	-	-	-	525,006
Distribution	50,644,045	W-CC	27,407,942	8,708,700	10,282,816	-	-	4,244,586
Meters/Services	10,236,594	W-DD	-	-	-	10,236,594	-	-
Billing	2,239,692	W-EE	-	-	-	-	2,239,692	-
Fire Protection	1,842,346	W-FF	-	-	-	-	-	1,842,346
Admin Support	37,922,362	W-GG	21,509,497	7,663,834	3,417,251	2,586,087	565,817	2,179,877
Total: Water Revenue Requirements	$ 188,031,734		$ 106,651,266	$ 37,999,846	$ 16,943,871	$ 12,822,681	$ 2,805,509	$ 10,808,560
Costs to Recover from Water Charges	**$ 188,031,734**		$ 106,651,266	$ 37,999,846	$ 16,943,871	$ 12,822,681	$ 2,805,509	$ 10,808,560
			56.7%	20.2%	9.0%	6.8%	1.5%	5.7%

Cost Functionalization: Water										
Code	*Description*	*Supply*	*Treatment*	*Storage*	*Transmission*	*Distribution*	*Meters/Services*	*Billing*	*Fire Protection*	*Admin Support*
W-A	Supply Only	100.00%								
W-B	Treatment Only		100.00%							
W-C	Storage Only			100.00%						
W-D	Transmission & Distribution Only				37.16%	62.84%				
W-E	Meters Only						100.00%			
W-F	Billing Only							100.00%		
W-G	Fire Protection Only								100.00%	
W-H	Admin Support Only									100.00%
W-I	Customer Service						32.66%	67.34%		
W-J	Engineering & Construction		7.77%	34.28%	53.46%					4.49%
W-K	Transmission, Distribution and Services				34.68%	58.63%	6.70%			

Allocation to Cost Drivers: Water								
Code	*Description*	*Base*	*Max Day*	*Peak Hour*	*Meters/Services*	*Bills*	*Readiness-to-Serve*	*Fire Protection*
W-AA	Base	100.00%						
W-BB	Maximum Day	70.73%	27.51%					1.75%
W-CC	Peak Hour	54.12%	17.20%	20.30%				8.38%
W-DD	Customer - Meters				100.00%			
W-EE	Customer - Billing					100.00%		
W-FF	Fire Protection							100.00%
W-GG	Admin Support (Composite)	56.72%	20.21%	9.01%	6.82%	1.49%	0.00%	5.75%
W-HH	Readiness-to-Serve						100.00%	

Factor Derivations - Allocation to Functional Categories & Cost Components

Code(s)	*Description*	*Calculations*			
W-I	Customer Service	2026 Customer Service Budget	FPFTY	Meter	Billing
WW-E		Salary Wages	4,779,622	30.00%	70.00%
	- This factor allocates the 2026 customer service budget between meter- and billing-related costs.	OT Premium Pay	128,750	30.00%	70.00%
		Shift Differential	12,000	30.00%	70.00%
		Holiday Pay	278,234	30.00%	70.00%
		Vacation Pay	410,188	30.00%	70.00%
		Personal Time Pay	232,808	30.00%	70.00%
		Fed Ins Contr Act Tx	360,538	30.00%	70.00%
		Medicare	84,688	30.00%	70.00%
		Med Health Ins	1,296,465	30.00%	70.00%
		Med Hlth Ins Waiver	8,800	30.00%	70.00%
		Short Term Disability	52,953	30.00%	70.00%
		Long Term Disability	8,396	30.00%	70.00%
		Life Ins <50k	6,146	30.00%	70.00%
		Accident Death Dismember	1,298	30.00%	70.00%
		Dental Ins	38,867	30.00%	70.00%
		Vision Insur	7,252	30.00%	70.00%
		Tuition Reimburse	20,000	30.00%	70.00%
		Retirement Benefit	105,621	30.00%	70.00%
		Misc Benefits	(14,520)	30.00%	70.00%
		Annual Software Support	52,458	50.00%	50.00%
		Customer CC Fees	-	0.00%	100.00%
		Postage	698,256	0.00%	100.00%
		Equip Rental	1,700	100.00%	0.00%
		Billing Contract	289,250	0.00%	100.00%
		Meter Services	765,740	100.00%	0.00%
		Prof Service Other	212,668	20.00%	80.00%
		Water Liens	105,000	50.00%	50.00%
		Office Supplies	2,000	50.00%	50.00%
		Uniforms	1,200	50.00%	50.00%
		TE Airfare	1,550	50.00%	50.00%
		TE Auto Rentals	825	50.00%	50.00%
		TE Lodging	2,575	50.00%	50.00%
		TE Training	2,060	50.00%	50.00%
		Customer Refund AP	750,000	0.00%	100.00%
		Education & Outreach	5,000	0.00%	100.00%
		Miscellaneous General Administrative Expense	900,000	50.00%	50.00%
		One Call	30,000	0.00%	100.00%
		Publication Subscription	3,600	0.00%	100.00%
		Non.City Water Reimburse	167,280	100.00%	0.00%
		Total	$ 11,809,266	$ 3,856,519	$ 7,952,747
		Allocation Factors		*32.66%*	*67.34%*

W-D Water Pipe Inventory

- Allocate costs between transmission and distribution functional categories. Assumes Pipes less than or equal to 16" are Distribution-related.

Breakdown		
Distribution	35,272,466	62.8%
Transmission	20,861,796	37.2%
Total	56,134,262	100.0%

Factor Derivations - Allocation to Functional Categories & Cost Components

Code(s)	*Description*	*Calculations*

W-K Water Pipe Inventory with Service Lines

Allocate Water Distribution costs between Transmission, Distribution, and Service Lines
**No size records: assumption is all are 1"*

Breakdown		
Distribution	35,272,466	58.63%
Transmission	20,861,796	34.68%
Service Lines	4,029,007	6.70%
Total	60,163,269	100.00%

Inch-Foot Analysis		
Diameter (in)	*Linear Feet*	*Inch-Feet*
0.75	810	608
1	1,320	1,320
1.5	753	1,130
2	10,258	20,515
2.5	13	33
3	168	504
4	87,802	351,206
6	2,033,436	12,200,615
8	1,264,995	10,119,962
10	81,364	813,641
12	625,288	7,503,452
14	1,297	18,154
15	11,300	169,496
16	254,489	4,071,831
18	469	8,433
20	210,028	4,200,554
24	83,897	2,013,539
28	98	2,732
30	115,161	3,454,840
36	83,123	2,992,444
42	10,891	457,431
42.5	13,295	565,022
48	19,308	926,762
50	23,271	1,163,533
50.25	10,474	526,323
54	1,494	80,662
60	54,641	3,278,473
66	1,492	98,501
72	3,619	260,603
84	3,969	333,392
96	4,554	437,215
120	511	61,337
	5,013,588	56,134,262

Water Service Lines		
1	4,029,007	4,029,007

W-J Engineering & Construction

- This factor uses the 2026 Water CIP costs to allocate Engineering & Construction costs to the various functional categories.

2026 Water CIP Costs	$$ Amount	Allocation
Treatment	$ 22,116,205	7.77%
Storage	97,542,544	34.28%
Trans. & Distr.	152,141,343	53.46%
Admin	12,787,903	4.49%
Total Water CIP	$ 284,587,995	100.00%

W-BB Maximum Day

- Maximum day costs are allocated using a peak day determined using system daily production records. Fire demands are determined in HJS-7W.

Plant Production Data		
2022-2024 Avg Plant Production	64.43	mgd
2022-2024 Avg. Peak Day	82.16	mgd
Peak Hour Factor (1.6)	103.09	mgd

Base	70.73%
Maximum Day	27.51%
Fire Protection	1.75%

Factor Derivations - Allocation to Functional Categories & Cost Components

Code(s)	*Description*	*Calculations*

W-CC Peak Hour

- Peak hour costs are allocated using an estimated peak hour compared to system average and maximum day processed. Fire demands are determined in HJS-7W.

Plant Production Data		
2022-2024 Avg Plant Production	64.43	mgd
2022-2024 Avg. Peak Day	82.16	mgd
Peak Hour Factor (1.6)	103.09	mgd

Peak Hour / Avg	54.12%
Max Day (Plug)	17.20%
Peak Hr / Peak Day	20.30%
Fire Protection	8.38%

Equivalency Flow Ratios

- Used to escalate metering and readiness-to-serve costs, these ratios are industry standard and obtained from the American Waterworks Association

Equivalency Ratios					
	Flow			*Fire Flow*	Fire Equiv
5/8"	1.00		1" or Less	2.50	1.00
3/4"	1.50		1 1/2"-3"	8.00	6.19
1"	2.50		4"	25.00	38.32
1 1/2"	5.00		6" or Greater	50.00	111.31
2"	8.00				
3"	16.00				
4"	25.00				
6"	50.00				
8"	80.00				
10"	115.00				
Unmetered	1.00				

Factor Derivations - Allocation to Functional Categories & Cost Components

Code(s)	*Description*	*Calculations*

WW-DD Wastewater Pipe Inventory

- Allocate costs between conveyance and collection functional categories. Assumes Pipes less than or equal to 16" are Collection-related.

Breakdown

Collection	57,630,168	50.7%
Conveyance	56,095,821	49.3%
Total	113,725,990	100.0%

Inch-Foot Analysis

Diameter (in)	*Linear Feet*	*Inch-Feet*
4	1,220	4,881
6	8,404	50,423
8	814,960	6,519,681
9	40,085	360,768
10	96,454	964,544
12	633,952	7,607,422
13	71	928
14	264	3,700
15	2,804,878	42,073,176
16	2,790	44,645
18	594,732	10,705,177
20	243,154	4,863,074
21	25,299	531,282
22	1,366	30,049
23	51	1,168
24	357,856	8,588,555
26	1,383	35,960
27	17,864	482,325
28	1,635	45,774
29	360	10,439
30	142,595	4,277,850
31	1,382	42,848
33	22,202	732,674
34	675	22,934
35	287	10,047
36	205,322	7,391,598
37	889	32,889
38	411	15,619
39	8,494	331,264
39.5	1,334	52,700
40	3,826	153,058
42	90,722	3,810,329
44	265	11,680
45	5,037	226,666
46	45	2,079
48	98,876	4,746,029
50	2,168	108,418
51	2,665	135,896
52	395	20,538
53	2,498	132,392
54	49,666	2,681,944
56	671	37,599
57	7,950	453,127
58	493	28,614
60	49,017	2,941,035
64	1,023	65,494
66	23,731	1,566,254
68	8,026	545,802
69	1,720	118,707
72	60,124	4,328,927
74	157	11,653
75	1,446	108,427
78	18,830	1,468,760
81	3,428	277,680
84	16,551	1,390,274
85	1,109	94,299
87	658	57,250
88	607	53,435
90	6,946	625,155
92	899	82,706
96	32,723	3,141,431
99	4,480	443,481
102	6,944	708,286
108	7,636	824,708
114	1,509	172,023
120	5,567	668,047
121	162	19,576
132	2,854	376,735
135	6	868
138	471	65,037
144	1,526	219,756
155	1,028	159,382
156	6,010	937,623

	Collection Factor	FY 2026 Consumption	Allocated Consumption	Average Day	Maximum Day			Peak Hour			Equivalent Meters	Total Bills	Fire Equivalents
					Cap. Factor	Total Cap.	Extra Cap.	Cap. Factor	Total Cap.	Extra Cap.			
Units of Service													
Retail Service													
Residential (1)	100.0%	2,468,974	2,468,974	6,764	130.0%	8,794	2,029	215.0%	14,543	5,750	844,302	780,780	-
Residential - CAP	100.0%	170,316	170,316	467	130.0%	607	140	215.0%	1,003	397	60,882	59,952	-
Commercial (1)	100.0%	2,869,903	2,869,903	7,863	140.0%	11,008	3,145	230.0%	18,084	7,076	390,708	86,484	-
Industrial	100.0%	180,447	180,447	494	175.0%	865	371	235.0%	1,162	297	9,006	396	-
Health or Education	100.0%	1,043,462	1,043,462	2,859	145.0%	4,145	1,286	240.0%	6,861	2,716	80,160	5,280	-
Municipal - Residential	100.0%	619	619	1.70	130.0%	2	1	215.0%	4	1	1,764	1,752	-
Municipal - Commercial	100.0%	119,961	119,961	328.66	140.0%	460	131	230.0%	756	296	6,438	1,176	-
Private Fire Systems	100.0%	7,364	7,364	20	230.0%	46	26	380.0%	77	30	54,894	17,124	42,466
Public Fire	100.0%	-	-	-	100.0%	-	-	100.0%	-	-	-	-	10,088,777
Subtotal: Retail Service		6,861,045	6,861,045	18,797		25,927	7,130		42,490	16,563	1,448,154	952,944	10,131,243
		12,072											
Wholesale & Bulk													
Wholesale	100.0%	773,156	773,156	2,118	130.0%	2,754	635	215.0%	4,554	1,801	1,170	84	
Bulk	100.0%	-	-	-	0.0%	-	-	0.0%	-	-	-	-	
Subtotal: Wholesale & Bulk		773,156	773,156	2,118		2,754	635		4,554	1,801	1,170	84	-
Total: Water Units of Service		7,646,273	7,634,201	20,916		28,681	7,765		47,044	18,363	1,449,324	953,028	10,131,243

(1) Includes unmetered units and equivalent usage.

	Maximum Day				Peak Hour	
	Class MM/AD	System MD/MM	Weekly Use Adjustment	**MD Peaking Factor (2)**	Estimated MH/MD	**MH Peaking Factor (2)**
Peaking Factors (1)						
Residential	1.13	1.14	1.00	**1.30**	1.66	**2.15**
Commercial	1.23	1.14	1.00	**1.40**	1.66	**2.30**
Industrial	1.56	1.14	1.00	**1.75**	1.33	**2.35**
Health or Education	1.25	1.14	1.00	**1.45**	1.66	**2.40**
Fire System	2.00	1.14	1.00	**2.30**	1.66	**3.80**
Wholesale	1.14	1.14	1.00	**1.30**	1.66	**2.15**

(1) Peaking factors determined using customer billing information from 2022-2024.
(2) Maximum Day and Maximum Hour peaking factors are rounded.

Determination of Allocation Factors for Public & Private Fire Costs

Required Fire Flow	6,000	GPM
Required Duration for Fire Flow (Hours)	4	hours
Maximum Day - Fire	1,440,000	gallons
Maximum Day - System	82,156,655	gallons
% of Maximum Day for Fire	1.75%	
Peak Hour - Fire	360,000	gallons
Peak Hour - System	4,295,320	gallons
% of Maximum Day for Fire	8.38%	

Fire Service Units	Connections	Equivalent Factor	Equivalent Units	Percent
Allocation to Public/Private				
Public Hydrants	7,553	111.31	840,731	99.58%
Private Fire				
1" or Less	1,383	1.00	1,383	
1 1/2"-3"	24	6.19	149	
4"	3	38.32	115	
6" or Greater	17	111.31	1,892	
Subtotal: Private Fire	1,427		3,539	0.42%
Total	8,980		844,270	

Development of Unit Costs of Service	**FY 2026** *FPFTY*	**Unit Costs**					
		Base	**Extra Capacity** *Max Day*	**Extra Capacity** *Peak Hour*	*Meters / Services*	*Bills*	*Fire Protection*
Units of Service							
Retail		6,861,045	7,130	16,563	1,448,154	952,944	10,131,243
Wholesale		773,156	635	1,801	1,170	84	-
Total System Units		7,634,201	7,765	18,363	1,449,324	953,028	10,131,243
Units		*kgal*	*kgal/day*	*kgal/day*	*Eq. Cost Meter*	*Total Bills*	*Eq. Fire Cnx*
Allocated Revenue Requirement							
Supply	$ 549,312	$ 549,312	$ -	$ -	$ -	$ -	$ -
Treatment	38,668,007	27,351,354	10,638,900	-	-	-	677,753
Storage	15,976,103	8,646,073	2,747,235	3,243,804	-	-	1,338,992
Transmission	29,953,271	21,187,089	8,241,176	-	-	-	525,006
Distribution	50,644,045	27,407,942	8,708,700	10,282,816	-	-	4,244,586
Meters/Services	10,236,594	-	-	-	10,236,594	-	-
Billing	2,239,692	-	-	-	-	2,239,692	-
Fire Protection	1,842,346	-	-	-	-	-	1,842,346
Admin Support	37,922,362	21,509,497	7,663,834	3,417,251	2,586,087	565,817	2,179,877
Total: Revenue Requirements	$ 188,031,734	$ 106,651,266	$ 37,999,846	$ 16,943,871	$ 12,822,681	$ 2,805,509	$ 10,808,560
Revenue Offsets	(2,212,168)	$ (1,254,738)	$ (447,063)	$ (199,342)	$ (150,857)	$ (33,006)	$ (127,161)
Total: Costs of Service	**$ 185,819,566**	**$ 105,396,528**	**$ 37,552,783**	**$ 16,744,529**	**$ 12,671,824**	**$ 2,772,503**	**$ 10,681,399**
Gross Unit Cost		**$ 13.81**	**$ 4,835.98**	**$ 911.85**	**$ 8.74**	**$ 2.91**	**$ 1.05**
Unit Cost - Retail ($ / Unit) (Includes Distribution)		$ 14.21	$ 4,935.94	$ 972.72	$ 8.74	$ 2.91	$ 1.05
Unit Cost - Wholesale ($ / Unit) (Excludes Distribution)		$ 10.22	$ 3,714.49	$ 351.88	$ 8.74	$ 2.91	$ 1.05

Customer Class Cost of Service	**Unit Costs**						**Total**
	Base	**Extra Capacity**		*Meters / Services*	*Bills*	*Fire Protection*	
		Max Day	*Peak Hour*				
Residential							
Unit Costs ($/unit)	$ 14.210	$ 4,935.937	$ 972.723	$ 8.743	$ 2.909	$ 1.054	
Units of Service	2,468,974	2,029	5,750	844,302	780,780	-	
Cost of Service	$ 35,085,116	$ 10,016,466	$ 5,592,832	$ 7,381,956	$ 2,271,407	$ -	$ 60,347,778
Residential - CAP							
Unit Costs ($/unit)	$ 14.210	$ 4,935.937	$ 972.723	$ 8.743	$ 2.909	$ 1.054	
Units of Service	170,316	140	397	60,882	59,952	-	
Cost of Service	$ 2,420,254	$ 690,959	$ 385,807	$ 532,307	$ 174,409	$ -	$ 4,203,738
Commercial							
Unit Costs ($/unit)	$ 14.210	$ 4,935.937	$ 972.723	$ 8.743	$ 2.909	$ 1.054	
Units of Service	2,869,903	3,145	7,076	390,708	86,484	-	
Cost of Service	$ 40,782,479	$ 15,524,011	$ 6,883,448	$ 3,416,064	$ 251,595	$ -	$ 66,857,597
Industrial							
Unit Costs ($/unit)	$ 14.210	$ 4,935.937	$ 972.723	$ 8.743	$ 2.909	$ 1.054	
Units of Service	180,447	371	297	9,006	396	-	
Cost of Service	$ 2,564,220	$ 1,830,151	$ 288,534	$ 78,742	$ 1,152	$ -	$ 4,762,798
Health or Education							
Unit Costs ($/unit)	$ 14.210	$ 4,935.937	$ 972.723	$ 8.743	$ 2.909	$ 1.054	
Units of Service	1,043,462	1,286	2,716	80,160	5,280	-	
Cost of Service	$ 14,828,016	$ 6,349,885	$ 2,641,779	$ 700,860	$ 15,360	$ -	$ 24,535,901
Municipal - Residential							
Unit Costs ($/unit)	$ 14.210	$ 4,935.937	$ 972.723	$ 8.743	$ 2.909	$ 1.054	
Units of Service	619	1	1	1,764	1,752	-	
Cost of Service	$ 8,796	$ 2,511	$ 1,402	$ 15,423	$ 5,097	$ -	$ 33,230
Municipal - Commercial							
Unit Costs ($/unit)	$ 14.210	$ 4,935.937	$ 972.723	$ 8.743	$ 2.909	$ 1.054	
Units of Service	119,961	131	296	6,438	1,176	-	
Cost of Service	$ 1,704,689	$ 648,896	$ 287,725	$ 56,289	$ 3,421	$ -	$ 2,701,020
Private Fire System							
Unit Costs ($/unit)	$ 14.210	$ 4,935.937	$ 972.723	$ 8.743	$ 2.909	$ 1.054	
Units of Service	7,364	26	30	54,894	17,124	42,466	
Cost of Service	$ 104,641	$ 129,454	$ 29,436	$ 479,953	$ 49,816	$ 44,772	$ 838,071
Public Fire Protection							
Unit Costs ($/unit)	$ 14.210	$ 4,935.937	$ 972.723	$ 8.743	$ 2.909	$ 1.054	
Units of Service						10,088,777	
Cost of Service	$ -	$ -	$ -	$ -	$ -	$ 10,636,627	$ 10,636,627
Wholesale							
Unit Costs ($/unit)	$ 10.216	$ 3,714.489	$ 351.883	$ 8.743	$ 2.909	$ 1.054	
Units of Service	773,156	635	1,801	1,170	84		
Cost of Service	$ 7,898,318	$ 2,360,449	$ 633,565	$ 10,230	$ 244	$ -	$ 10,902,806
Bulk							
Unit Costs ($/unit)	$ 10.216	$ 3,714.489	$ 351.883	$ 8.743	$ 2.909	$ 1.054	
Units of Service	-	-	-				
Cost of Service	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total: Costs of Service	**$ 105,396,528**	**$ 37,552,783**	**$ 16,744,529**	**$ 12,671,824**	**$2,772,503**	**$ 10,681,399**	**$ 185,819,566**

Pittsburgh Water
FPFTY 2026 COS & Rate Design Model
Adjustments to Allocated Cost of Service

COS Adjustments	Allocation Method	Residential	Residential - CAP	Commercial	Industrial	Health or Education	Municipal - Residential	Municipal - Commercial	Private Fire System	Public Fire Protection	Wholesale	Total
Adjustments to Cost of Service												
Public Fire (Title 66 § 1328)	Equivalent Meters	58.3%	4.2%	27.0%	0.6%	5.5%	0.1%	0.4%	3.8%			100.0%
Wholesale Contracts	Unadj. COS	36.9%	2.6%	40.9%	2.9%	15.0%	0.0%	1.7%				100.0%
BDP Forgone Revenue	Unadj. COS	37.9%		42.0%	3.0%	15.4%	0.0%	1.7%				100.0%
Pennvest Surcharge	Unadj. COS	29.3%	1.0%	38.7%	2.9%	15.4%	0.0%	1.9%	0.1%		10.63%	100.0%
Gradualism: Industrial Class	Unadj. COS	38.0%	2.6%	42.1%		15.5%	0.0%	1.7%				100.0%
Adjustment: Health & Education (2)	Unadj. COS	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%				100.0%
Cost of Service by Class												
Allocated Cost of Service (Unadjusted)		$ 60,347,778	$ 4,203,738	$ 66,857,597	$ 4,762,798	$ 24,535,901	$ 33,230	$ 2,701,020	$ 838,071	$ 10,636,627	$ 10,902,806	$ 185,819,566
% of COS		*32.5%*	*2.3%*	*36.0%*	*2.6%*	*13.2%*	*0.0%*	*1.5%*	*0.5%*	*5.7%*	*5.9%*	*100.0%*
Adjustments to Cost of Service	Adjustment											
Public Fire (Title 66 § 1328)	7,977,470	4,651,021	335,382	2,152,300	49,612	441,579	9,717	35,465	302,396	(7,977,470)	-	(0)
Wholesale Contracts	3,897,457	1,439,060	100,243	1,594,293	113,574	585,086	792	64,409	-	-	(3,897,457)	-
BDP Forgone Revenue	2,711,475	1,027,589	(2,711,475)	1,138,436	81,100	417,792	566	45,992	-	-	-	(0)
Pennvest Surcharge	(12,305,372)	(3,599,437)	(128,994)	(4,766,207)	(362,733)	(1,890,086)	(1,197)	(232,727)	(15,671)	-	(1,308,319)	(12,305,372)
Gradualism - Industrial (1)	140,000	53,244	3,709	58,987	(140,000)	21,648	29	2,383	-	-	-	(0)
Adjustment: Health & Education (2)	3,000,000	(3,000,000)	-	-	-	3,000,000	-	-	-	-	-	-
Total: Adjusted Cost of Service		**$ 60,919,254**	**$ 1,802,601**	**$ 67,035,406**	**$ 4,504,350**	**$ 27,111,919**	**$ 43,138**	**$ 2,616,543**	**$ 1,124,796**	**$ 2,659,157**	**$ 5,697,030**	**$ 173,514,194**
% of COS		*35.1%*	*1.0%*	*38.6%*	*2.6%*	*15.6%*	*0.0%*	*1.5%*	*0.6%*	*1.5%*	*3.3%*	*100.0%*

(1) Gradualism adjusted such that class increase does not exceed 1.5x overall water system increase
(2) Adjustment to mitigate impact to residential class

Forgone Revenue Cost of the Bill Discount Program

Units	Bills	CAP Usage	CAP - 50FPL Usage	CAP Bills	CAP - 50FPL Bills
5/8"	58,896	89,556	31,670	45,468	13,428
3/4"	636	-	-	480	156
1"	408	-	-	336	72
Unmetered	12	n/a	n/a	12	-
	59,952	89,556	31,670	46,296	13,656

Forgone Revenue Cost	Revenue At Full Rates	Revenue at CAP Rates	Difference
Fixed Charges	$ 2,110,978	$ -	$ 2,110,978
Fixed Bill Discount	$ -	$ (231,480)	$ 231,480
Volume Charges	615,029	246,012	369,018
Total Forgone Revenue Cost	2,726,007	14,532	2,711,475

Volume Discount 60.0%

Pittsburgh Water
FPFTY 2026 COS & Rate Design Model
Minimum Charge Calculation

Water	Min. Usage Proposed	COS Rate Build-Up - Test Year: 2026							
		Meters/Services	*Billing*	*Usage*	*Total COS Rates*	*Adjustments*			
						Public Fire	Private Fire Adj	CAP-BDP	Proposed Rates
Minimum Charge									
5/8"	1	$ 8.74	$ 2.91	$ 17.18	$ 28.84	$ 5.50	$ -	$ -	34.34
3/4"	2	13.11	2.91	34.37	50.39	8.26	-	-	58.65
1"	5	21.86	2.91	85.92	110.69	13.76	-	-	124.45
1 1/2"	10	43.72	2.91	171.85	218.47	27.52	-	-	246.00
2"	17	69.95	2.91	292.14	365.00	44.03	-	-	409.03
3"	40	139.89	2.91	687.39	830.20	88.07	-	-	918.26
4"	70	218.58	2.91	1,202.94	1,424.43	137.61	-	-	1,562.04
6"	175	437.16	2.91	3,007.35	3,447.42	275.21	-	-	3,722.63
8"	325	699.46	2.91	5,585.07	6,287.44	440.34	-	-	6,727.79
10" & Above	548	1,005.48	2.91	9,417.29	10,425.68	632.99	-	-	11,058.67
Unmetered	1	8.74	2.91	17.18	28.84	5.50	-	-	34.34
Residential - CAP									
5/8"	1	$ 8.74	$ 2.91	$ 17.18	$ 28.84	$ 5.50	$ -	$ (34.34)	$ -
3/4"	2	13.11	2.91	34.37	50.39	8.26	-	(58.65)	-
1"	5	21.86	2.91	85.92	110.69	13.76	-	(124.45)	-
Unmetered	1	8.74	2.91	17.18	28.84	5.50	-	(34.34)	-

Monthly Fire Protection	*Meters/Services*	*Billing*	*Fire*	*Total*	*Adjustments*			
					Public Fire	Private Fire Adj	CAP-BDP	Proposed Rates
Public								
Per Hydrant	$ -	$ -	$ 117.36	$ 117.36	$ (88.02)	$ -	$ -	$ 29.34
Private								
1" or Less	$ 21.86	$ 2.91	$ 1.05	$ 25.82	$ -	$ 15.49	$ -	$ 41.31
1 1/2"-3"	69.95	2.91	6.53	79.38	-	47.63	-	127.01
4"	218.58	2.91	40.40	261.89	-	157.13	-	419.03
6" or Greater	437.16	2.91	117.36	557.43	-	334.46	-	891.88

	Unadjusted COS-Based Rates				
	Unadjusted Revenue Requirement	Fixed Charge Revenue	Total Volumetric Rev Req	Billed Volume	Proposed Rates
Volume Charge (per kgal)					
Residential	$ 60,347,778	$ 25,776,941	$ 34,570,837	1,703,327	$ 20.30
Residential - CAP	4,203,738	1,372,583	2,831,155	121,262	23.35
Commercial	66,857,597	19,460,875	47,396,722	2,239,641	21.16
Industrial	4,762,798	648,850	4,113,948	170,445	24.14
Health or Education	24,535,901	4,669,010	19,866,891	888,132	22.37
Municipal - Residential	33,230	51,040	(17,811)	562	(31.67)
Municipal - Commercial	2,701,020	321,814	2,379,207	109,356	21.76
Private Fire System	838,071	574,541	263,531	7,364	35.79
Public Fire	10,636,627	10,636,627	-	-	n/a
Wholesale	10,902,806	-	10,902,806	773,156	14.10
Totals	185,819,566	63,512,279	122,307,287	6,013,245	$ 20.34

	Determination of Proposed Rates						
	Adjusted Revenue Requirement	Bad Debt	Total Adjusted Revenue Requirement	Fixed Charge Revenue	Total Volumetric Rev Req	Equivalent Volume (for Ratemaking)	Proposed Rates
Volume Charge (per kgal)							
Residential + CAP + City Res	$ 62,764,993	$ 2,778,669	$ 65,543,662	$ 30,483,786	$ 35,059,876	1,806,150	$ 19.42
Commercial + City Com	69,651,949	416,803	70,068,752	21,968,617	48,100,135	2,348,997	20.48
Industrial	4,504,350	6,062	4,510,412	698,421	3,811,991	170,445	22.37
Health or Education	27,111,919	60,528	27,172,447	5,110,229	22,062,218	888,132	24.85
Municipal - Commercial							
Municipal - Residential							
Private Fire System	1,124,796	41,099	1,165,895	919,188	246,706	7,364	33.51
Public Fire	2,659,157		2,659,157	2,659,260	(103)	-	n/a
Wholesale	9,594,487		9,594,487	-	9,594,487	773,156	12.41
Totals	$ 177,411,651	$ 3,303,160	$ 180,714,811	61,839,501	118,875,309	5,994,243	$ 19.83

	Adjusted Revenue Requirement	Bad Debt	Total Adjusted Revenue Requirement	Fixed Charge Revenue	Total Volumetric Rev Req	Equivalent Volume (for Ratemaking)	Proposed Rates
Pennvest Volume Surcharge (per kgal)							
Existing PENNVEST	$ 12,002,703	-	$ 12,002,703	$ -	$ 12,002,703	5,782,170	$ 2.08
Future PENNVEST	302,669	-	302,669	-	302,669	5,782,170	0.05
Total	$ 12,305,372	$ -	$ 12,305,372	$ -	$ 12,305,372		$ 2.13

Proposed Rates

	2025 FTY Prior Tariff Rates	2026 FPFTY Calculated Rates	2026 FPFTY Proposed Rates
Existing & Proposed Rates			
Minimum Charge			
5/8"	$ 31.54	$ 34.34	$ 34.34
3/4"	55.26	58.65	58.65
1"	121.38	124.45	124.45
1 1/2"	240.01	246.00	246.00
2"	401.04	409.03	409.03
3"	911.28	918.26	918.26
4"	1,562.27	1,562.04	1,562.04
6"	3,774.85	3,722.63	3,722.63
8"	6,877.76	6,727.79	6,727.79
10" & Above	11,393.44	11,058.67	11,058.67
Minimum Charge - CAP (1)			
5/8"	$ -	$ -	$ -
3/4"	-	-	-
1"	-	-	-
Fire System Charges			
Private			
1" or Less	$ 31.39	$ 41.31	$ 41.31
1 1/2"-3"	97.60	127.01	127.01
4"	314.87	419.03	419.03
6" or Greater	654.54	891.88	891.88
Public			
Per Hydrant	$ 20.69	$ 29.34	$ 29.34
Volume Charge			
Residential	$ 16.38	$ 19.42	$ 19.42
Residential - CAP	16.38	19.42	19.42
Residential - CAP (<50% FPL)	6.55	7.77	7.77
Commercial	16.58	20.48	20.48
Industrial	16.50	22.37	22.37
Health or Education	20.70	24.85	24.85
Municipal - Residential	16.38	19.42	19.42
Municipal - Commercial	16.58	20.48	20.48
Fire System	27.11	33.51	33.51
Wholesale	12.96	12.41	12.41
Unmetered Charges (per Unit)			
Residential	$ 80.68	$ 92.60	$ 92.60
Residential - CAP	49.14	58.26	58.26
Commercial	97.86	116.26	116.26
DSIC (Applies to all retail customers)	5.0%	7.5%	7.5%

(1) Proposed 100% discount on Minimum Charge for CAP-BDP customers in all years.

	FPFTY Revenue at Existing Rates	FPFTY Indicated COS by Customer Class (1)	Percent Difference	Dollar Difference
Base Rate Revenues				
Residential	$ 56,108,058	$ 60,347,778	7.6%	$ 4,239,720
Residential - CAP	1,675,022	4,203,738	151.0%	2,528,715
Commercial	58,478,739	66,857,597	14.3%	8,378,858
Industrial	3,522,467	4,762,798	35.2%	1,240,331
Health or Education	23,503,188	24,535,901	4.4%	1,032,713
Municipal (Residential & Commercial)	2,231,231	2,734,250	22.5%	503,019
Private Fire System	893,548	838,071	-6.2%	(55,476)
Public Fire Protection	1,875,259	10,636,627	100.0%	8,761,368
Wholesale	4,526,103	10,902,806	140.9%	6,376,703
Total: Base Rate Revenues	**$ 152,813,615**	**$ 185,819,566**	**21.6%**	**$ 33,005,951**

	FPFTY Indicated COS by Customer Class	FPFTY Adjusted COS by Customer Class (2)	Percent Difference	Dollar Difference
Base Rate Revenues				
Residential	$ 60,347,778	$ 60,919,254	0.9%	$ 571,476
Residential - CAP	4,203,738	1,802,601	-57.1%	(2,401,136)
Commercial	66,857,597	67,035,406	0.3%	177,810
Industrial	4,762,798	4,504,350	-5.4%	(258,448)
Health or Education	24,535,901	27,111,919	10.5%	2,576,018
Municipal (Residential & Commercial)	2,734,250	2,659,681	-2.7%	(74,569)
Private Fire System	838,071	1,124,796	34.2%	286,724
Public Fire Protection	10,636,627	2,659,157	-75.0%	(7,977,470)
Wholesale	10,902,806	5,697,030	-47.7%	(5,205,776)
Total: Base Rate Revenues	**$ 185,819,566**	**$ 173,514,194**	**-6.6%**	**$ (12,305,372)**

	FPFTY Revenue at Existing Rates	FPFTY Adjusted COS by Customer Class (2)	Percent Difference	Dollar Difference
Base Rate Revenues				
Residential	$ 56,108,058	$ 60,919,254	8.6%	$ 4,811,196
Residential - CAP	1,675,022	1,802,601	7.6%	127,579
Commercial	58,478,739	67,035,406	14.6%	8,556,668
Industrial	3,522,467	4,504,350	27.9%	981,883
Health or Education	23,503,188	27,111,919	15.4%	3,608,730
Municipal (Residential & Commercial)	2,231,231	2,659,681	19.2%	428,450
Private Fire System	893,548	1,124,796	25.9%	231,248
Public Fire Protection	1,875,259	2,659,157	41.8%	783,898
Wholesale	4,526,103	5,697,030	25.9%	1,170,927
Total: Base Rate Revenues	**$ 152,813,615**	**$ 173,514,194**	**13.5%**	**$ 20,700,579**

	FPFTY Revenue at Existing Rates	FPFTY Revenue at Proposed Rates (3)	Percent Difference	Dollar Difference
Base Rate Revenues				
Residential	$ 56,108,058	$ 63,501,649	13.2%	$ 7,393,591
Residential - CAP	1,675,022	1,985,893	18.6%	310,871
Commercial	58,478,739	67,479,206	15.4%	9,000,467
Industrial	3,522,467	4,511,268	28.1%	988,801
Health or Education	23,503,188	27,180,317	15.6%	3,677,129
Municipal (Residential & Commercial)	2,231,231	2,668,528	19.6%	437,297
Private Fire System	893,548	1,165,945	30.5%	272,397
Public Fire Protection	1,875,259	2,659,260	100.0%	784,001
Wholesale	4,526,103	5,697,030	25.9%	1,170,927
Total: Base Rate Revenues	**$ 152,813,615**	**$ 176,849,096**	**15.7%**	**$ 24,035,481**

(1) Includes Pennvest surcharge, excludes bad debt
(2) Excludes Pennvest surcharge and bad debt
(3) Excludes Pennvest surcharge, includes bad debt and minor rounding adjustment

Pittsburgh Water
FPFTY 2026 COS & Rate Design Model
Cost of Service Summary

	Unadjusted COS (1)		Revenue at Existing Rates		Revenue at Proposed Rates		Proposed Increase	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
Base Rate Revenues								
Residential	$ 60,347,778	32.5%	$ 56,108,058	36.7%	$ 63,501,649	35.9%	$ 7,393,591	13.2%
Residential - CAP	4,203,738	2.3%	1,675,022	1.1%	1,985,893	1.1%	310,871	18.6%
Commercial	66,857,597	36.0%	58,478,739	38.3%	67,479,206	38.2%	9,000,467	15.4%
Industrial	4,762,798	2.6%	3,522,467	2.3%	4,511,268	2.6%	988,801	28.1%
Health or Education	24,535,901	13.2%	23,503,188	15.4%	27,180,317	15.4%	3,677,129	15.6%
Municipal - Residential	33,230	0.0%	65,038	0.0%	71,668	0.0%	6,629	10.2%
Municipal - Commercial	2,701,020	1.5%	2,166,193	1.4%	2,596,860	1.5%	430,667	19.9%
Private Fire System	838,071	0.5%	893,548	0.6%	1,165,945	0.7%	272,397	30.5%
Public Fire Protection	10,636,627	5.7%	1,875,259	1.2%	2,659,260	1.5%	784,001	41.8%
Wholesale & Bulk	10,902,806	5.9%	4,526,103	3.0%	5,697,030	3.2%	1,170,927	25.9%
Subtotal: Base Rate Revenues	**$ 185,819,566**	100.0%	**$ 152,813,615**	100.0%	**$ 176,849,096**	100.0%	**$ 24,035,481**	15.7%
Pennvest Surcharge Revenues								
Residential	n/a	n/a	$ -		$ 3,599,437		$ 3,599,437	
Residential - CAP	n/a	n/a	-		128,994		128,994	
Commercial	n/a	n/a	-		4,766,207		4,766,207	
Industrial	n/a	n/a	-		362,733		362,733	
Health or Education	n/a	n/a	-		1,890,086		1,890,086	
Private Fire System	n/a	n/a	-		15,671		15,671	
Municipal - Residential	n/a	n/a	-		1,197		1,197	
Municipal - Commercial	n/a	n/a	-		232,727		232,727	
Wholesale - Fox Chapel	n/a	n/a	-		1,308,319		1,308,319	
Subtotal: Pennvest Surcharge Revenues	n/a	n/a	**$ -**		**$ 12,305,372**		**$ 36,340,853**	
DSIC Revenues								
Residential	n/a	n/a	$ 2,805,403		$ 5,032,581		$ 2,227,179	
Residential - CAP	n/a	n/a	83,751		158,617		74,865	
Commercial	n/a	n/a	2,923,937		5,418,406		2,494,469	
Industrial	n/a	n/a	176,123		365,550		189,427	
Health or Education	n/a	n/a	1,175,159		2,180,280		1,005,121	
Private Fire System	n/a	n/a	44,677		88,621		43,944	
Municipal - Residential	n/a	n/a	3,252		5,465		2,213	
Municipal - Commercial	n/a	n/a	108,310		212,219		103,909	
Public Fire	n/a	n/a	-		-			
Wholesale - Fox Chapel	n/a	n/a	175,503		441,440		265,937	
Subtotal: DSIC Revenues	n/a	n/a	**$ 7,496,115**		**$ 13,903,179**		**$ 18,712,436**	
Total: User Charge Revenues	**$ 185,819,566**		**$ 160,309,730**		**$ 203,057,647**		**$ 42,747,917**	**26.7%**
Other Revenues								
Miscellaneous Revenues	2,212,168		2,212,168		2,212,168		-	0.0%
Total: Water Revenues	**$ 188,031,734**		**$ 162,521,898**		**$ 205,269,815**		**$ 42,747,917**	**26.3%**

(1) Difference between COS & proposed base rate revenue is attributed to BDE, the PVC charge, and rounding

Typical Bill Comparison

	Customer Usage	FTY Existing Rates	FPFTY Proposed Rates	Percent Difference	Dollar Difference
Customer Impacts (1)					
Residential					
5/8"	1 kgal	$ 33.12	$ 36.92	11.5%	$ 3.80
5/8"	3 kgal	67.52	83.24	23.3%	15.73
5/8"	5 kgal	101.91	129.57	27.1%	27.66
5/8"	7 kgal	136.31	175.90	29.0%	39.59
5/8"	12 kgal	222.31	291.72	31.2%	69.42
1"	20 kgal	385.43	481.25	24.9%	95.81
Commercial					
5/8"	3 kgal	$ 67.94	$ 85.52	25.9%	$ 17.59
5/8"	5 kgal	102.75	134.13	30.5%	31.38
5/8"	12 kgal	224.62	304.26	35.5%	79.64
1"	13 kgal	266.72	328.21	23.1%	61.49
2"	80 kgal	1,517.86	1,970.84	29.8%	452.99
4"	160 kgal	3,207.19	3,866.53	20.6%	659.34
Industrial					
1"	30 kgal	$ 560.57	$ 792.17	41.3%	$ 231.60
1"	60 kgal	1,080.32	1,582.24	46.5%	501.91
2"	100 kgal	1,859.07	2,625.56	41.2%	766.49
4"	680 kgal	12,208.63	17,743.86	45.3%	5,535.23
6"	400 kgal	7,861.72	9,927.32	26.3%	2,065.60
8"	800 kgal	15,451.02	19,741.75	27.8%	4,290.72
Health or Education					
5/8"	5 kgal	$ 120.06	$ 152.92	27.4%	$ 32.86
5/8"	10 kgal	228.73	297.93	30.3%	69.20
1"	40 kgal	888.17	1,148.84	29.3%	260.66
2"	50 kgal	1,138.35	1,396.76	22.7%	258.41
4"	200 kgal	4,465.93	5,449.39	22.0%	983.46
6"	650 kgal	14,287.72	17,777.55	24.4%	3,489.83

(1) Customer bills at existing rates include a 5% DSIC and proposed rates include a 7.5% DSIC.

	2026 Revenue @ Existing Rates			2026 Revenue @ COS Rates			2026 Revenue @ Proposed Rates		
	Units	Rates	Revenue	Units	Rates	Revenue	Units	Rates	Revenue
Base Rate Revenues									
Minimum Charges									
Residential									
5/8"	715,644	$ 31.54	$ 22,571,412	715,644	$ 28.84	$ 20,637,213	715,644	$ 34.34	$ 24,575,215
3/4"	30,876	55.26	1,706,208	30,876	50.39	1,555,957	30,876	58.65	1,810,877
1"	29,376	121.38	3,565,659	29,376	110.69	3,251,675	29,376	124.45	3,655,843
1 1/2"	732	240.01	175,687	732	218.47	159,923	732	246.00	180,072
2"	156	401.04	62,562	156	365.00	56,940	156	409.03	63,809
Unmetered	3,996	80.68	322,397	3,996	28.84	115,234	3,996	92.60	370,030
Subtotal: Residential	780,780		$ 28,403,925	780,780		$ 25,776,941	780,780		$ 30,655,846
Residential - CAP and CAP - 50FPL									
5/8"	58,896	$ -	$ -	58,896	$ 28.84	$ 1,698,399	58,896	$ -	$ -
3/4"	636	-	-	636	50.39	32,050	636	-	-
1"	408	-	-	408	110.69	45,162	408	-	-
Unmetered	12	49.14	590	12	28.84	346	12	58.26	699
Subtotal: Residential - CAP and CAP - 50FPL	59,952		$ 590	59,952		$ 1,775,958	59,952		$ 699
Commercial									
5/8"	33,960	$ 31.54	$ 1,071,098	33,960	$ 28.84	$ 979,313	33,960	$ 34.34	$ 1,166,186
3/4"	8,484	55.26	468,826	8,484	50.39	427,540	8,484	58.65	497,587
1"	17,532	121.38	2,128,034	17,532	110.69	1,940,644	17,532	124.45	2,181,857
1 1/2"	9,960	240.01	2,390,500	9,960	218.47	2,176,000	9,960	246.00	2,450,160
2"	9,840	401.04	3,946,234	9,840	365.00	3,591,577	9,840	409.03	4,024,855
3"	3,120	911.28	2,843,194	3,120	830.20	2,590,209	3,120	918.26	2,864,971
4"	2,412	1,562.27	3,768,195	2,412	1,424.43	3,435,725	2,412	1,562.04	3,767,640
6"	1,056	3,774.85	3,986,242	1,056	3,447.42	3,640,476	1,056	3,722.63	3,931,097
8"	108	6,877.76	742,798	108	6,287.44	679,044	108	6,727.79	726,601
10" & Above	-	11,393.44	-	-	10,425.68	-	-	11,058.67	-
Unmetered	12	97.86	1,174	12	28.84	346	12	116.26	1,395
Subtotal: Commercial	86,484		$ 21,346,294	86,484		$ 19,460,875	86,484		$ 21,612,351
Industrial									
5/8"	72	$ 31.54	$ 2,271	72	$ 28.84	$ 2,076	72	$ 34.34	$ 2,472
3/4"	12	55.26	663	12	50.39	605	12	58.65	704
1"	72	121.38	8,739	72	110.69	7,970	72	124.45	8,960
1 1/2"	-	240.01	-	-	218.47	-	-	246.00	-
2"	60	401.04	24,062	60	365.00	21,900	60	409.03	24,542
3"	36	911.28	32,806	36	830.20	29,887	36	918.26	33,057
4"	72	1,562.27	112,483	72	1,424.43	102,559	72	1,562.04	112,467
6"	24	3,774.85	90,596	24	3,447.42	82,738	24	3,722.63	89,343
8"	24	6,877.76	165,066	24	6,287.44	150,899	24	6,727.79	161,467
10" & Above	24	11,393.44	273,443	24	10,425.68	250,216	24	11,058.67	265,408
Subtotal: Industrial	396		$ 710,130	396		$ 648,850	396		$ 698,421
Health or Education									
5/8"	336	$ 31.54	$ 10,597	336	$ 28.84	$ 9,689	336	$ 34.34	$ 11,538
3/4"	84	55.26	4,642	84	50.39	4,233	84	58.65	4,927
1"	228	121.38	27,675	228	110.69	25,238	228	124.45	28,375
1 1/2"	744	240.01	178,567	744	218.47	162,545	744	246.00	183,024
2"	1,560	401.04	625,622	1,560	365.00	569,396	1,560	409.03	638,087
3"	1,068	911.28	973,247	1,068	830.20	886,648	1,068	918.26	980,702
4"	792	1,562.27	1,237,318	792	1,424.43	1,128,148	792	1,562.04	1,237,136
6"	408	3,774.85	1,540,139	408	3,447.42	1,406,547	408	3,722.63	1,518,833
8"	36	6,877.76	247,599	36	6,287.44	226,348	36	6,727.79	242,200
10" & Above	24	11,393.44	273,443	24	10,425.68	250,216	24	11,058.67	265,408
Subtotal: Health or Education	5,280		$ 5,118,849	5,280		$ 4,669,010	5,280		$ 5,110,229
Municipal - Residential									
5/8"	1,728	$ 31.54	$ 54,501	1,728	$ 28.84	$ 49,831	1,728	$ 34.34	$ 59,340
3/4"	24	55.26	1,326	24	50.39	1,209	24	58.65	1,408
1"	-	121.38	-	-	110.69	-	-	124.45	-
1 1/2"	-	240.01	-	-	218.47	-	-	246.00	-
Subtotal: Municipal - Residential	1,752		$ 55,827	1,752		$ 51,040	1,752		$ 60,747
Municipal - Commercial									
5/8"	372	$ 31.54	$ 11,733	372	$ 28.84	$ 10,727	372	$ 34.34	$ 12,774
3/4"	36	55.26	1,989	36	50.39	1,814	36	58.65	2,111
1"	240	121.38	29,131	240	110.69	26,566	240	124.45	29,868
1 1/2"	168	240.01	40,322	168	218.47	36,704	168	246.00	41,328
2"	264	401.04	105,875	264	365.00	96,359	264	409.03	107,984
3"	60	911.28	54,677	60	830.20	49,812	60	918.26	55,096
4"	12	1,562.27	18,747	12	1,424.43	17,093	12	1,562.04	18,744
6"	24	3,774.85	90,596	24	3,447.42	82,738	24	3,722.63	89,343
8"	-	6,877.76	-	-	6,287.44	-	-	6,727.79	-
10" & Above	-	11,393.44	-	-	10,425.68	-	-	11,058.67	-
Subtotal: Municipal - Commercial	1,176		$ 353,070	1,176		$ 321,814	1,176		$ 357,249
Subtotal: Minimum Charges	935,820		$ 55,988,687	935,820		$ 52,704,486	935,820		$ 58,495,542

	2026 Revenue @ Existing Rates			2026 Revenue @ COS Rates			2026 Revenue @ Proposed Rates		
	Units	Rates	Revenue	Units	Rates	Revenue	Units	Rates	Revenue
Fire Protection Charges									
Public (per Hydrant)	90,636	$ 20.69	$ 1,875,259	90,636	$ 117.36	$ 10,636,627	90,636	$ 29.34	$ 2,659,260
Private									
1" or Less	16,596	$ 31.39	$ 520,948	16,596	$ 25.82	$ 428,536	16,596	$ 41.31	$ 685,581
1 1/2"-3"	288	97.60	28,109	288	79.38	22,862	288	127.01	36,579
4"	36	314.87	11,335	36	261.89	9,428	36	419.03	15,085
6" or Greater	204	654.54	133,526	204	557.43	113,715	204	891.88	181,944
Subtotal: Fire Protection Charges			$ 2,569,178			$ 11,211,168			$ 3,578,448
Pennvest Volume Charge									
Residential	1,691,339	$ -	$ -	1,691,339	$ -	$ -	1,691,339	$ 2.13	$ 3,599,437
Residential - CAP	89,556	-	-	89,556	-	-	89,556	1.06	95,295
Residential - CAP - 50FPL	31,670	-	-	31,670	-	-	31,670	1.06	33,699
Commercial	2,239,593	-	-	2,239,593	-	-	2,239,593	2.13	4,766,207
Industrial	170,445	-	-	170,445	-	-	170,445	2.13	362,733
Health or Education	888,132	-	-	888,132	-	-	888,132	2.13	1,890,086
Private Fire System	7,364	-	-	7,364	-	-	7,364	2.13	15,671
Municipal - Residential	562	-	-	562	-	-	562	2.13	1,197
Municipal - Commercial	109,356	-	-	109,356	-	-	109,356	2.13	232,727
Wholesale - Fox Chapel	614,766	-	-	614,766	-	-	614,766	2.13	1,308,319
Subtotal: Pennvest Volume Charge	5,842,783		$ -	5,842,783		$ -	5,842,783		$ 12,305,372
Volume Charge									
Residential	1,691,339	$ 16.38	$ 27,704,132	1,691,339	$ 20.30	$ 34,334,181	1,691,339	$ 19.42	$ 32,845,803
Residential - CAP	89,556	16.38	1,466,931	89,556	23.35	2,091,139	89,556	19.42	1,739,182
Residential - CAP - 50FPL	31,670	6.55	207,501	31,670	21.16	670,135	31,670	7.77	246,012
Commercial	2,239,593	16.58	37,132,444	2,239,593	21.16	47,389,778	2,239,593	20.48	45,866,855
Industrial	170,445	16.50	2,812,337	170,445	24.14	4,114,534	170,445	22.37	3,812,847
Health or Education	888,132	20.70	18,384,339	888,132	22.37	19,867,520	888,132	24.85	22,070,088
Private Fire System	7,364	27.11	199,629	7,364	35.79	263,546	7,364	33.51	246,756
Municipal - Residential	562	16.38	9,211	562	(31.67)	(17,809)	562	19.42	10,921
Municipal - Commercial	109,356	16.58	1,813,122	109,356	21.76	2,379,587	109,356	20.48	2,239,611
Subtotal: Volume Charge	5,228,017		$ 89,729,648	5,228,017		$ 111,092,610	5,228,017		$ 109,078,076
Wholesale									
Fox Chapel	614,766	$ 7.78	$ 3,510,055	614,766	$ 14.10	$ 8,668,201	614,766	$ 7.45	$ 4,577,548
All Others (Set by Contract)	158,390		1,016,048	158,390	14.10	2,233,299	158,390		1,119,482
Subtotal: Wholesale	773,156		$ 4,526,103	773,156		$ 10,901,500	773,156		$ 5,697,030
Total: Base Rate Revenues			$ 152,813,615			$ 185,909,764			$ 189,154,468
DSIC Revenues									
Residential		5.0%	$ 2,805,403			$ 4,508,334		7.5%	$ 5,032,581
Residential - CAP		5.0%	83,751			290,032		7.5%	158,617
Commercial		5.0%	2,923,937			5,013,799		7.5%	5,418,406
Industrial		5.0%	176,123			357,254		7.5%	365,550
Health or Education		5.0%	1,175,159			1,840,240		7.5%	2,180,280
Private Fire System		5.0%	44,677			62,856		7.5%	88,621
Municipal - Residential		5.0%	3,252			3,220		7.5%	5,465
Municipal - Commercial		5.0%	108,310			205,263		7.5%	212,219
Public Fire		5.0%	-			-		7.5%	-
Wholesale - Fox Chapel		5.0%	175,503			-		7.5%	441,440
Total: DSIC Revenues			$ 7,496,115			$ 12,280,998			$ 13,903,179
Other Revenues									
Other Revenues			2,212,168			2,212,168			2,212,168
Total: System Revenues			**$162,521,898**			**$ 200,402,930**			**$ 205,269,815**
FPFTY Water System Revenue Requirements						**$ 205,238,073**			**$ 205,238,073**
Difference (1)						**$ (4,835,143)**			**$ 31,742**

(1) Note difference in COS rates is due to bad debt, the PVC charge, and different DSIC revenue recovery on COS rates.

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FPFTY 2026 COS & Rate Design Model

Projected Units of Service

	FY 2022 *Actual*	FY 2023 *Actual*	HTY FY 2024 *Actual*	FTY FY 2025 *Projected*	FPFTY FY 2026 *Projected*
Units of Service					
Number of Bills					
Residential	758,074	791,748	780,780	780,780	780,780
Residential - CAP	37,174	41,652	46,296	46,296	46,296
Residential - CAP - 50FPL	10,324	11,928	13,656	13,656	13,656
Commercial	83,843	86,424	86,484	86,484	86,484
Industrial	371	396	396	396	396
Health or Education	5,266	5,328	5,280	5,280	5,280
Private Fire System	16,671	16,932	17,124	17,124	17,124
Municipal - Residential	243	696	1,752	1,752	1,752
Municipal - Commercial	2,549	480	1,176	1,176	1,176
Public Fire Hydrants	90,636	90,636	90,636	90,636	90,636
Total	1,005,151	1,046,220	1,043,580	1,043,580	1,043,580
Billable Consumption (kgal)					
Residential	1,766,983	1,690,452	1,616,582	1,691,339	1,691,339
Residential - CAP	80,155	90,674	97,840	89,556	89,556
Residential - CAP - 50FPL	26,271	31,460	37,279	31,670	31,670
Commercial	2,073,132	2,260,754	2,384,892	2,239,593	2,239,593
Industrial	103,883	147,953	259,498	170,445	170,445
Health or Education	831,073	885,442	947,882	888,132	888,132
Private Fire System	6,856	7,410	7,825	7,364	7,364
Municipal - Residential	1,574	50	63	562	562
Municipal - Commercial	209,870	40,170	78,028	109,356	109,356
Total	5,099,796	5,154,365	5,429,889	5,228,017	5,228,017
Total Consumption (kgal) (1)					
Residential	2,540,544	2,458,025	2,372,389	2,456,986	2,456,986
Residential - CAP	114,183	128,607	140,545	127,778	127,778
Residential - CAP - 50FPL	35,568	42,178	49,758	42,501	42,501
Commercial	2,676,992	2,901,903	3,030,670	2,869,855	2,869,855
Industrial	112,736	157,584	271,020	180,447	180,447
Health or Education	981,167	1,043,736	1,105,483	1,043,462	1,043,462
Private Fire System	6,856	7,410	7,825	7,364	7,364
Municipal - Residential	1,691	67	99	619	619
Municipal - Commercial	232,154	43,370	84,358	119,961	119,961
Total	6,701,891	6,782,880	7,062,147	6,848,973	6,848,973
Wholesale & Contract Consumption					
Aspinwall	155,301	83,685	47,515	47,515	47,515
Fox Chapel	622,966	588,191	614,766	614,766	614,766
PAWC	2,100	18,517	5,769	5,769	5,769
RSRV - 10"	85,537	81,131	93,468	93,468	93,468
RSRV - 6"	14,723	12,181	11,566	11,566	11,566
Westview	-	2	72	72	72
Total	880,627	783,707	773,156	773,156	773,156

(1) Total consumption represents actual customer usage including the usage captured in minimum allowance.

Pittsburgh Water HJS-19W

FPFTY 2026 COS & Rate Design Model

FPFTY Water Revenue Requirements

Water System Revenue Requirements	**2026 FPFTY Revenue Requirements**	**2027 Revenue Requirements**
Operating Expenses		
Direct Operating Expenses		
Administrative Division		
Chief Executive Office	$ 2,546,673	$ 2,546,673
Customer Service	3,325,785	3,325,785
Technology Services	7,358,052	7,358,052
Finance	11,495,605	11,495,605
Human Resources	2,209,600	2,209,600
Legal	3,644,888	3,644,888
Safety & Security	2,120,671	2,120,671
Public Affairs	1,486,785	1,486,785
Operations Division		
Environmental Compliance	1,034,777	1,034,777
Warehouse	467,317	467,317
Laboratory	2,451,574	2,451,574
Water Treatment Plant	21,463,532	21,463,532
Sewer Operations	-	-
Water Operations	19,182,029	19,182,029
Engineering & Construction		
Engineering & Construction	20,879,180	20,879,180
Total Operating Expenses	$ 99,666,467	$ 99,666,467
Debt Service		
Existing Debt	$ 61,834,241	67,287,997
Future Debt	10,441,142	15,860,823
Subtotal: Debt Service	$ 72,275,384	$ 83,148,820
Other Expenditures & Transfers		
DSIC Capital	$ 13,903,179	14,889,285
Debt Coverage Capital - Existing Senior	11,062,153	11,377,342
Debt Coverage Capital - Future Senior	2,329,259	4,510,182
Other Transfers to Reserves	1,896,102	1,896,102
Water and Wastewater Leak Credit	662,322	662,322
Rider AFP	140,047	140,047
Subtotal: Other Expenditures & Transfers	$ 29,993,063	$ 33,475,280
Total: Water System Revenue Requirements	**$ 201,934,913**	**$ 216,290,566**
Less: Capital Costs to be Recovered through DSIC	$ (13,903,179)	$ (14,889,285)
Add: Bad Debt Expense	3,303,160	3,303,241
Total: Water System Revenue Requirement (Excl DSIC)	**$ 191,334,894**	**$ 204,704,522**

		2026		**2027**
O&M Expenses	$	99,666,467	$	99,666,467
Debt Service		72,275,384		83,148,820
Debt Service Coverage		13,391,412		15,887,524
DSIC Capital		13,903,179		14,889,285
Other Expenditures		2,698,471		2,698,471
Net Rate Revenue Requirement	$	201,934,913	$	216,290,566
Less: Misc Revenues	$	2,212,168	$	2,259,272
Adjusted Revenue Requirement for Ratemaking	**$**	**199,722,745**	**$**	**214,031,294**
Increase				*7.16%*

Service Charge Calculation - 2027

Water FY 27 Rate Adjustment: 7.16%

	Min. Usage	COS Rate Build-Up - Test Year: 2027							
						Adjustments			
Water	*Proposed*	*Meters/Services*	*Billing*	*Usage*	*Total COS Rates*	Public Fire	*Private Fire Adj*	CAP-BDP	Proposed Rates
Service Charge									
5/8"		$ 8.74	$ 2.91	$ -	$ 11.65	$ 5.90	$ -	$ -	18.81
3/4"		13.11	2.91	-	16.02	8.85	-	-	26.65
1"		21.86	2.91	-	24.77	14.75	-	-	42.34
1 1/2"		43.72	2.91	-	46.63	29.49	-	-	81.57
2"		69.95	2.91	-	72.86	47.19	-	-	128.64
3"		139.89	2.91	-	142.80	94.38	-	-	254.17
4"		218.58	2.91	-	221.49	147.47	-	-	395.39
6"		437.16	2.91	-	440.07	294.93	-	-	787.66
8"		699.46	2.91	-	702.37	471.89	-	-	1,258.39
10" & Above		1,005.48	2.91	-	1,008.38	678.34	-	-	1,807.56
Unmetered		8.74	2.91	-	11.65	5.90	-	-	18.81
Residential - CAP									
5/8"	0	$ 8.74	$ 2.91	$ -	$ 11.65	$ 5.90	$ -	$ (17.55)	$ -
3/4"	0	13.11	2.91	-	16.02	8.85	-	(24.87)	-
1"	0	21.86	2.91	-	24.77	14.75	-	(39.51)	-
Unmetered	0	8.74	2.91	-	11.65	5.90	-	(17.55)	-

						Adjustments			
Monthly Fire Protection		*Meters/Services*	*Billing*	*Fire*	*Total*	Public Fire	*Private Fire Adj*	CAP-BDP	Proposed Rates
Public									
Per Hydrant		$ -	$ -	$ 117.36	$ 117.36	$ (88.02)	$ -	$ -	$ 31.44
Private									
1" or Less		$ 21.86	$ 2.91	$ 1.05	$ 25.82	$ -	$ 15.49	$ -	$ 44.27
1 1/2"-3"		69.95	2.91	6.53	79.38	-	47.63	-	136.11
4"		218.58	2.91	40.40	261.89	-	157.13	-	449.05
6" or Greater		437.16	2.91	117.36	557.43	-	334.46	-	955.78

	Unadjusted COS-Based Rates				
	Unadjusted Revenue Requirement	Fixed Charge Revenue	Total Volumetric Rev Req	Total Volume	Proposed Rates
Volume Charge (per kgal)					
Residential	$ 64,671,217	$ 9,653,364	$ 55,017,853	2,468,974	$ 22.28
Residential - CAP	4,504,902	545,837	3,959,065	170,316	23.25
Commercial	71,647,413	3,667,659	67,979,754	2,869,903	23.69
Industrial	5,104,015	79,894	5,024,121	180,447	27.84
Health or Education	26,293,704	716,220	25,577,483	1,043,462	24.51
Municipal - Residential	35,610	20,520	15,090	619	24.38
Municipal - Commercial	2,894,527	59,710	2,834,817	119,961	23.63
Private Fire System	898,113	574,541	323,572	7,364	43.94
Public Fire	11,398,657	10,636,627	762,030	-	n/a
Wholesale	11,683,906	-	11,683,906	773,156	15.11
Totals	199,132,062	25,954,372	173,177,690	7,634,201	$ 22.68

	Determination of Proposed Rates						
	Adjusted Revenue Requirement	Bad Debt	Total Adjusted Revenue Requirement	Fixed Charge Revenue	Total Volumetric Rev Req	Equivalent Volume (for Ratemaking)	Proposed Rates
Volume Charge (per kgal)							
Residential + CAP + City Res	$ 65,154,063	$ 2,778,737	$ 67,932,800	$ 15,715,974	$ 52,216,826	2,614,408	$ 19.98
Commercial + City Com	72,549,501	416,813	72,966,314	6,504,720	66,461,595	2,989,864	22.23
Industrial	4,914,372	6,062	4,920,434	142,546	4,777,889	180,447	26.48
Health or Education	28,262,010	60,529	28,322,539	1,274,230	27,048,309	1,043,462	25.93
Municipal - Commercial							
Municipal - Residential							
Private Fire System	1,205,744	41,100	1,246,844	985,050	261,794	7,364	35.56
Public Fire	2,849,664		2,849,664	2,849,596	68	-	n/a
Wholesale	10,312,348		10,312,348	-	10,312,348	773,156	13.34
Totals	$ 185,247,703	$ 3,303,241	$ 188,550,943	$ 27,472,115	$ 161,078,829	7,608,700	$ 21.17

	Adjusted Revenue Requirement	Bad Debt	Total Adjusted Revenue Requirement	Fixed Charge Revenue	Total Volumetric Rev Req	Equivalent Volume (for Ratemaking)	Proposed Rates
Pennvest Volume Surcharge (per kgal)							
Existing PENNVEST	$ 15,692,843	-	$ 15,692,843	$ -	$ 15,692,843	7,378,599	$ 2.13
Future PENNVEST	768,988	-	768,988	-	768,988	7,378,599	0.10
Total	$ 16,461,831	$ -	$ 16,461,831	$ -	$ 16,461,831		$ 2.23

Proposed Rates

	2026 FPFTY Proposed Rates	2027 Calculated Rates (2)	2027 Proposed Rates (2)
Existing & Proposed Rates			
Minimum Charge / Service Charge (2027)			
5/8"	$ 34.34	$ 18.81	$ 18.81
3/4"	58.65	26.65	26.65
1"	124.45	42.34	42.34
1 1/2"	246.00	81.57	81.57
2"	409.03	128.64	128.64
3"	918.26	254.17	254.17
4"	1,562.04	395.39	395.39
6"	3,722.63	787.66	787.66
8"	6,727.79	1,258.39	1,258.39
10" & Above	11,058.67	1,807.56	1,807.56
Minimum Charge / Service Charge (2027) - CAP (1)			
5/8"	$ -	$ -	$ -
3/4"	-	-	-
1"	-	-	-
Fire System Charges			
Private			
1" or Less	$ 41.31	$ 44.27	$ 44.27
1 1/2"-3"	127.01	136.11	136.11
4"	419.03	449.05	449.05
6" or Greater	891.88	955.78	955.78
Public			
Per Hydrant	$ 29.34	$ 31.44	$ 31.44
Volume Charge			
Residential	$ 19.42	$ 19.98	$ 19.98
Residential - CAP	19.42	19.98	19.98
Residential - CAP (<50% FPL)	7.77	7.99	7.99
Commercial	20.48	22.23	22.23
Industrial	22.37	26.48	26.48
Health or Education	24.85	25.93	25.93
Municipal - Residential	19.42	19.98	19.98
Municipal - Commercial	20.48	22.23	22.23
Fire System	33.51	35.56	35.56
Wholesale	12.41	13.34	13.34
Unmetered Charges (per Unit)			
Residential	$ 92.60	$ 98.73	$ 98.73
Residential - CAP	58.26	79.92	79.92
Commercial	116.26	129.96	129.96
DSIC (Applies to all retail customers)	7.5%	7.5%	7.5%

(1) Proposed 100% discount on Minimum Charge for CAP-BDP customers in all years.
(2) Minimum allowance removed

	2027 Revenue @ 2026 Rates			2027 Revenue @ Proposed Rates		
	Units	**Rates**	**Revenue**	**Units**	**Rates**	**Revenue**
Base Rate Revenues						
Minimum Charges						
Residential						
5/8"	715,644	$ 34.34	$ 24,575,215	715,644	$ 18.81	$ 13,461,264
3/4"	30,876	58.65	1,810,877	30,876	26.65	822,845
1"	29,376	124.45	3,655,843	29,376	42.34	1,243,780
1 1/2"	732	246.00	180,072	732	81.57	59,709
2"	156	409.03	63,809	156	128.64	20,068
Unmetered	3,996	92.60	370,030	3,996	98.73	394,525
Subtotal: Residential	780,780		$ 30,655,846	780,780		$ 16,002,191
Residential - CAP and CAP - 50FPL						
5/8"	58,896	$ -	$ -	58,896	$ -	$ -
3/4"	636	-	-	636	-	-
1"	408	-	-	408	-	-
Unmetered	12	58.26	699	12	79.92	959
Subtotal: Residential - CAP and CAP - 50FPL	59,952		$ 699	59,952		$ 959
Commercial						
5/8"	33,960	$ 34.34	$ 1,166,186	33,960	$ 18.81	$ 638,788
3/4"	8,484	58.65	497,587	8,484	26.65	226,099
1"	17,532	124.45	2,181,857	17,532	42.34	742,305
1 1/2"	9,960	246.00	2,450,160	9,960	81.57	812,437
2"	9,840	409.03	4,024,855	9,840	128.64	1,265,818
3"	3,120	918.26	2,864,971	3,120	254.17	793,010
4"	2,412	1,562.04	3,767,640	2,412	395.39	953,681
6"	1,056	3,722.63	3,931,097	1,056	787.66	831,769
8"	108	6,727.79	726,601	108	1,258.39	135,906
10" & Above	-	11,058.67	-	-	1,807.56	-
Unmetered	12	116.26	1,395	12	129.96	1,560
Subtotal: Commercial	86,484		$ 21,612,351	86,484		$ 6,401,372
Industrial						
5/8"	72	$ 34.34	$ 2,472	72	$ 18.81	$ 1,354
3/4"	12	58.65	704	12	26.65	320
1"	72	124.45	8,960	72	42.34	3,048
1 1/2"	-	246.00	-	-	81.57	-
2"	60	409.03	24,542	60	128.64	7,718
3"	36	918.26	33,057	36	254.17	9,150
4"	72	1,562.04	112,467	72	395.39	28,468
6"	24	3,722.63	89,343	24	787.66	18,904
8"	24	6,727.79	161,467	24	1,258.39	30,201
10" & Above	24	11,058.67	265,408	24	1,807.56	43,381
Subtotal: Industrial	396		$ 698,421	396		$ 142,546
Health or Education						
5/8"	336	$ 34.34	$ 11,538	336	$ 18.81	$ 6,320
3/4"	84	58.65	4,927	84	26.65	2,239
1"	228	124.45	28,375	228	42.34	9,654
1 1/2"	744	246.00	183,024	744	81.57	60,688
2"	1,560	409.03	638,087	1,560	128.64	200,678
3"	1,068	918.26	980,702	1,068	254.17	271,454
4"	792	1,562.04	1,237,136	792	395.39	313,149
6"	408	3,722.63	1,518,833	408	787.66	321,365
8"	36	6,727.79	242,200	36	1,258.39	45,302
10" & Above	24	11,058.67	265,408	24	1,807.56	43,381
Subtotal: Health or Education	5,280		$ 5,110,229	5,280		$ 1,274,230
Municipal - Residential						
5/8"	1,728	$ 34.34	$ 59,340	1,728	$ 18.81	$ 32,504
3/4"	24	58.65	1,408	24	26.65	640
1"	-	124.45	-	-	42.34	-
1 1/2"	-	246.00	-	-	81.57	-
Subtotal: Municipal - Residential	1,752		$ 60,747	1,752		$ 33,143
Municipal - Commercial						
5/8"	372	$ 34.34	$ 12,774	372	$ 18.81	$ 6,997
3/4"	36	58.65	2,111	36	26.65	959
1"	240	124.45	29,868	240	42.34	10,162
1 1/2"	168	246.00	41,328	168	81.57	13,704
2"	264	409.03	107,984	264	128.64	33,961
3"	60	918.26	55,096	60	254.17	15,250
4"	12	1,562.04	18,744	12	395.39	4,745
6"	24	3,722.63	89,343	24	787.66	18,904
8"	-	6,727.79	-	-	1,258.39	-
10" & Above	-	11,058.67	-	-	1,807.56	-
Subtotal: Municipal - Commercial	1,176		$ 357,249	1,176		$ 104,682
Subtotal: Minimum Charges	935,820		$ 58,495,542	935,820		$ 23,959,122

	2027 Revenue @ 2026 Rates			2027 Revenue @ Proposed Rates		
	Units	**Rates**	**Revenue**	**Units**	**Rates**	**Revenue**
Fire Protection Charges						
Public (per Hydrant)	90,636	$ 29.34	$ 2,659,260	90,636	$ 31.44	$ 2,849,596
Private						
1" or Less	16,596	$ 41.31	$ 685,581	16,596	$ 44.27	$ 734,705
1 1/2"-3"	288	127.01	36,579	288	136.11	39,200
4"	36	419.03	15,085	36	449.05	16,166
6" or Greater	204	891.88	181,944	204	955.78	194,979
Subtotal: Fire Protection Charges			$ 3,578,448			$ 3,834,645
Pennvest Surcharge						
Residential	1,691,339	$ 2.13	$ 3,599,437	2,456,986	$ 2.23	$ 5,481,595
Residential - CAP	89,556	1.06	95,295	127,778	1.12	142,538
Residential - CAP - 50FPL	31,670	1.06	33,699	42,501	1.12	47,411
Commercial	2,239,593	2.13	4,766,207	2,869,855	2.23	6,402,715
Industrial	170,445	2.13	362,733	180,447	2.23	402,581
Health or Education	888,132	2.13	1,890,086	1,043,462	2.23	2,327,989
Private Fire System	7,364	2.13	15,671	7,364	2.23	16,429
Municipal - Residential	562	2.13	1,197	619	2.23	1,381
Municipal - Commercial	109,356	2.13	232,727	119,961	2.23	267,635
Wholesale - Fox Chapel	614,766	2.13	1,308,319	614,766	2.23	1,371,558
Subtotal: Pennvest Surcharge	5,842,783		$ 12,305,372	7,463,739		$ 16,461,831
Volume Charge						
Residential	1,691,339	$ 19.42	$ 32,845,803	2,456,986	$ 19.98	$ 49,090,581
Residential - CAP	89,556	19.42	1,739,182	127,778	19.98	2,553,011
Residential - CAP - 50FPL	31,670	7.77	246,012	42,501	7.99	339,671
Commercial	2,239,593	20.48	45,866,855	2,869,855	22.23	63,796,877
Industrial	170,445	22.37	3,812,847	180,447	26.48	4,778,228
Health or Education	888,132	24.85	22,070,088	1,043,462	25.93	27,056,970
Private Fire System	7,364	33.51	246,756	7,364	35.56	261,852
Municipal - Residential	562	19.42	10,921	619	19.98	12,368
Municipal - Commercial	109,356	20.48	2,239,611	119,961	22.23	2,666,724
Subtotal: Volume Charge	5,228,017		$ 109,078,076	6,848,973		$ 150,556,280
Wholesale						
Fox Chapel	614,766	$ 7.45	$ 4,577,548	614,766	$ 10.67	$ 6,560,783
All Others (Set by Contract)	158,390		1,119,482	158,390		1,174,094
Subtotal: Wholesale	773,156		$ 5,697,030	773,156		$ 7,734,877
Total: Base Rate Revenues			$ 189,154,468			$ 202,546,756
DSIC Revenues						
Residential		7.5%	$ 5,032,581		7.5%	$ 5,293,077
Residential - CAP		7.5%	158,617		7.5%	231,269
Commercial		7.5%	5,418,406		7.5%	5,745,072
Industrial		7.5%	365,550		7.5%	399,252
Health or Education		7.5%	2,180,280		7.5%	2,299,439
Private Fire System		7.5%	88,621		7.5%	94,750
Municipal - Residential		7.5%	5,465		7.5%	3,517
Municipal - Commercial		7.5%	212,219		7.5%	227,928
Public Fire		7.5%	-		7.5%	-
Wholesale - Fox Chapel		7.5%	441,440		7.5%	594,926
Total: DSIC Revenues			$ 13,903,179			$ 14,889,230
Other Revenues						
Other Revenues			2,259,272			2,259,272
Total: System Revenues			**$ 205,316,919**			**$ 219,695,257**
2027 Water System Revenue Requirements						**$ 219,593,807**
Difference						**$ 101,451**

Pittsburgh Water HJS-25W

FPFTY 2026 COS & Rate Design Model

Typical Bill Comparison

	FTY 2025	FPFTY 2026	FPFTY 2027
Customer Impacts			
Residential - 5/8" / 3 Kgal			
Water Base Rates	$ 64.30	$ 73.18	$ 78.75
Pennvest Surcharge	-	4.26	6.69
Water DSIC	3.22	5.81	6.41
Total Monthly Bill	$ 67.52	$ 83.24	$ 91.85
$ Change		$ 15.73	$ 8.61
% Change		*23.3%*	*10.3%*
Commercial - 1" / 13kgal			
Water Base Rates	$ 254.02	$ 288.29	$ 331.33
Pennvest Surcharge	-	17.03	29.00
Water DSIC	12.70	22.90	27.02
Total Monthly Bill	$ 266.72	$ 328.21	$ 387.36
$ Change		$ 61.49	$ 59.14
% Change		*23.1%*	*18.0%*
Industrial - 4" / 680kgal			
Water Base Rates	$ 11,627.27	$ 15,207.74	$ 18,401.79
Pennvest Surcharge	-	1,298.18	1,517.10
Water DSIC	581.36	1,237.94	1,493.92
Total Monthly Bill	$ 12,208.63	$ 17,743.86	$ 21,412.80
$ Change		$ 5,535.23	$ 3,668.94
% Change		*45.3%*	*20.7%*
Health or Education - 2" / 50kgal			
Water Base Rates	$ 1,084.14	$ 1,229.08	$ 1,425.14
Pennvest Surcharge	-	70.23	111.55
Water DSIC	54.21	97.45	115.25
Total Monthly Bill	$ 1,138.35	$ 1,396.76	$ 1,651.94
$ Change		$ 258.41	$ 255.19
% Change		*22.7%*	*18.3%*

Exhibits

HJS-1WW – HJS-24WW

Revenue Requirements	**2026 FPFTY Revenue Requirements**	**2027 Revenue Requirements**
Operating Expenses		
Direct Operating Expenses		
Administrative Division		
Chief Executive Office	$ 641,805	$ 641,805
Customer Service	4,298,578	4,298,578
Technology Services	988,367	988,367
Finance	2,740,279	2,740,279
Human Resources	296,804	296,804
Legal	489,598	489,598
Safety & Security	284,858	284,858
Public Affairs	199,712	199,712
Operations Division		
Environmental Compliance	1,749,467	1,749,467
Warehouse	62,772	62,772
Laboratory	-	
Water Treatment Plant	1,859,445	1,859,445
Sewer Operations	2,211,990	2,211,990
Water Operations	107,100	107,100
Engineering & Construction		
Engineering & Construction	11,326,951	11,326,951
Other Operating Expenses		
Loss / (Gain) on ALCOSAN Billings	2,383,047	$ 2,383,047
Covid-Related Expenses	-	-
Total Operating Expenses	$ 29,640,773	$ 29,640,773
Debt Service		
Existing Debt	$ 23,250,962	$ 25,557,867
Future Debt	2,537,934	5,419,998
Subtotal: Debt Service	$ 25,788,896	$ 30,977,866
Other Expenditures & Transfers		
DSIC Capital	$ 4,995,365	5,381,850
Debt Coverage Capital - Existing Senior	3,679,659	3,784,502
Debt Coverage Capital - Future Senior	416,227	326,609
Other Transfers to Reserves	768,212	768,212
Rider AFP	140,047	140,047
Gradualism - Stormwater	6,000,000	6,000,000
Subtotal: Other Expenditures & Transfers	$ 15,999,509	$ 16,401,219
Total: Wastewater Conveyance System Revenue Requirements	**$ 71,429,178**	**$ 77,019,858**
Less: Capital Costs to be Recovered through DSIC	(4,995,365)	(5,381,850)
Add: Bad Debt Expense	1,201,906	1,201,906
Total: Wastewater Conveyance System Base Rate Revenue Requirement	**$ 67,635,719**	**$ 72,839,914**

Pittsburgh Water
FPFTY 2026 COS & Rate Design Model
Assignment to Functional Categories

Wastewater Conveyance Operating Costs		**FY 2026**	**Allocation**	**Wastewater Conveyance Functional Categories**			
				Collection & Conveyance	*Meters*	*Billing*	*Admin Support*
Operating Expenses		*FPFTY*					
Direct Operating Expenses							
Administrative Division							
Chief Executive Office	$	641,805	WW-D				100.0%
Customer Service		4,298,578	WW-E		32.7%	67.3%	
Technology Services		988,367	WW-D				100.0%
Finance		2,740,279	WW-D				100.0%
Human Resources		296,804	WW-D				100.0%
Legal		489,598	WW-D				100.0%
Safety & Security		284,858	WW-D				100.0%
Public Affairs		199,712	WW-D				100.0%
Operations Division							
Environmental Compliance		1,749,467	WW-D				100.0%
Warehouse		62,772	WW-D				100.0%
Laboratory		-	WW-D				100.0%
Water Treatment Plant		1,859,445	WW-A	100.0%			
Sewer Operations		2,211,990	WW-A	100.0%			
Water Operations		107,100	WW-A	100.0%			
Engineering & Construction Division							
Engineering & Construction		11,326,951	WW-A	100.0%			
Subtotal: Direct Operating Expenses	$	27,257,726					
Other Operating Expenses							
Loss / (Gain) on ALCOSAN Billings		2,383,047	WW-D				100.0%
Total: Operating Expenses	**$**	**29,640,773**					

Pittsburgh Water
FPFTY 2026 COS & Rate Design Model
Assignment to Functional Categories

Wastewater Conveyance Operating Costs	**FY 2026**	**Allocation**	**Wastewater Conveyance Functional Categories**			
			Collection & Conveyance	*Meters*	*Billing*	*Admin Support*
Operating Expenses	*FPFTY*					
Direct Operating Expenses						
Administrative Division						
Chief Executive Office	$ 641,805	WW-D	$ -	$ -	$ -	$ 641,805
Customer Service	4,298,578	WW-E	-	1,403,775	2,894,804	-
Technology Services	988,367	WW-D	-	-	-	988,367
Finance	2,740,279	WW-D	-	-	-	2,740,279
Human Resources	296,804	WW-D	-	-	-	296,804
Legal	489,598	WW-D	-	-	-	489,598
Safety & Security	284,858	WW-D	-	-	-	284,858
Public Affairs	199,712	WW-D	-	-	-	199,712
Operations Division						
Environmental Compliance	1,749,467	WW-D	-	-	-	1,749,467
Warehouse	62,772	WW-D	-	-	-	62,772
Laboratory	-	WW-D	-	-	-	-
Water Treatment Plant	1,859,445	WW-A	1,859,445	-	-	-
Sewer Operations	2,211,990	WW-A	2,211,990	-	-	-
Water Operations	107,100	WW-A	107,100	-	-	-
Engineering & Construction Division						
Engineering & Construction	11,326,951	WW-A	11,326,951	-	-	-
Subtotal: Direct Operating Expenses	$ 27,257,726		$ 4,178,535	$ 1,403,775	$ 2,894,804	$ 7,453,662
Other Operating Expenses						
Loss / (Gain) on ALCOSAN Billings	2,383,047	WW-D	-	-	-	2,383,047
Total: Wastewater Conveyance Operating Costs	**$ 29,640,773**		**$ 15,505,486**	**$ 1,403,775**	**$ 2,894,804**	**$ 9,836,709**
Allocation Percentage			52.31%	4.74%	9.77%	33.19%

Assignment to Functional Categories

Allocated Wastewater Conveyance Assets			Wastewater Conveyance Functional Categories			
System Fixed Assets	**Allocated Costs**	**Allocation**	*Collection & Conveyance*	*Meters*	*Billing*	*Admin Support*
Structures and Improvements - Source of Supply and Pumping	-	n/a				
Structures and Improvements - Water Treatment	-	n/a				
Structures and Improvements - Transmission and Distribution Plant	7,273,263	WW-A	100.00%			
Pumping Equipment	2,501,434	WW-A	100.00%			
Water Treatment Equipment	-	n/a				
Distribution Reservoirs and Standpipes	-	n/a				
Transmission and Distribution Mains	-	n/a				
Meters and Meter Installations	-	n/a				
Fire Hydrants	-	n/a				
Office Furniture and Equipment	2,251,604	WW-D				100.00%
Office Furniture and Equipment - Computer Hardware	-	n/a				
Office Furniture and Equipment - ERP System	2,602,374	WW-D				100.00%
Transportation Equipment	1,666,304	WW-D				100.00%
Tools, Shop and Garage Equipment	26,216	WW-D				100.00%
Laboratory Equipment	-	n/a				
Collection Sewers - Gravity	219,831,907	WW-A	100.00%			
Manholes	24,909,881	WW-A	100.00%			
Wastewater Plant	9,489,158	WW-A	100.00%			
Power Operated Equipment	38,414	WW-D				100.00%
Total	**270,590,553**		$ 264,005,642	$ -	$ -	$ 6,584,911
Allocation Factors for Capital Costs			**97.57%**	**0.00%**	**0.00%**	**2.43%**

		Collection & Conveyance	*Meters*	*Billing*	*Admin Support*
Allocation of Capital Costs					
Debt Service	$ 25,788,896	$ 25,161,314	$ -	$ -	$ 627,581
Debt Coverage Capital - Existing Senior	3,679,659	3,590,113	-	-	89,546
Debt Coverage Capital - Future Senior	416,227	406,098	-	-	10,129
Other Transfers to Reserves	768,212	749,517	-	-	18,695
Bad Debt Expense (1)		-	-	-	-
Rider AFP	140,047	136,639	-	-	3,408
Total: Allocated Capital Costs	$ 30,793,040	$ 30,043,681	$ -	$ -	$ 749,359

(1) Bad Debt Expense allocated directly to customer classes based on each classes responsibility for historical bad debt and included as an adjustment in Rate Design.

Note: Pittsburgh Water records electricity costs for its water, wastewater, and stormwater utilities within its Water Treatment Plant cost center. Due to this accounting procedure, some costs from the Water Treatment Plant are allocated to Wastewater in the model. However, this is purely superficial; the wastewater utility is not in actuality recovering any part of the water utility revenue requirement. The cost allocated from the WTP to WW is actually representative of the electricity and natural gas costs incurred via wastewater operations.

	FY 2026	Allocation	Wastewater Conveyance Cost Drivers		
			Volume	*Meter*	*Billing*
	FPFTY				
Wastewater Conveyance Revenue Requirements					
Functional Categories					
Collection & Conveyance	$ 45,549,167	WW-AA	100.00%		
Meters	1,403,775	WW-BB		100.00%	
Billing	2,894,804	WW-CC			100.00%
Admin Support	10,586,068	WW-DD	91.38%	2.82%	5.81%
Total: Wastewater Conveyance Revenue Requirements	$ 60,433,813				

	FY 2026	Allocation	*Volume*	*Meter*	*Billing*
	FPFTY				
Wastewater Conveyance Revenue Requirements					
Functional Categories					
Collection & Conveyance	$ 45,549,167	WW-AA	$ 45,549,167	$ -	$ -
Meters	1,403,775	WW-BB	-	1,403,775	-
Billing	2,894,804	WW-CC	-	-	2,894,804
Admin Support	10,586,068	WW-DD	9,673,187	298,117	614,764
Infiltration & Inflow Costs	-	WW-EE	-	-	-
Total: Wastewater Conveyance Revenue Requirements	$ 60,433,813		$ 55,222,354	$ 1,701,892	$ 3,509,567
Costs to Recover from Wastewater Conveyance Charges	**$ 60,433,813**		$ 55,222,354	$ 1,701,892	$ 3,509,567
			91.4%	2.8%	5.8%

Cost Functionalization: Wastewater Conveyance					
Code	*Description*	*Coll. & Convey.*	*Meters*	*Billing*	*Admin Support*
WW-A	Collection & Conveyance Only	100.00%			
WW-B	Meters Only		100.00%		
WW-C	Billing Only			100.00%	
WW-D	Admin Support Only				100.00%
WW-E	Customer Service		32.66%	67.34%	

Allocation to Cost Drivers: Wastewater Conveyance					
Code	*Description*	*Volume*	*Meter*	*Billing*	*Readiness-to-Serve*
WW-AA	Volume	100.00%			
WW-BB	Customer - Meters		100.00%		
WW-CC	Customer - Billing			100.00%	
WW-DD	Admin Support (Composite)	91.38%	2.82%	5.81%	
WW-EE	Infiltration & Inflow Costs	33.00%		67.00%	
WW-FF	Readiness-to-Serve				0.00%

Factor Derivations - Allocation to Functional Categories & Cost Components					
Code(s)	*Description*	*Calculations*			
W-I WW-E	Customer Service - This factor allocates the 2026 customer service budget between meter- and billing-related costs.	2026 Customer Service Budget	FPFTY	Meter	Billing
		Salary Wages	4,779,622	30.00%	70.00%
		OT Premium Pay	128,750	30.00%	70.00%
		Shift Differential	12,000	30.00%	70.00%
		Holiday Pay	278,234	30.00%	70.00%
		Vacation Pay	410,188	30.00%	70.00%
		Personal Time Pay	232,808	30.00%	70.00%
		Fed Ins Contr Act Tx	360,538	30.00%	70.00%
		Medicare	84,688	30.00%	70.00%
		Med Health Ins	1,296,465	30.00%	70.00%
		Med Hlth Ins Waiver	8,800	30.00%	70.00%
		Short Term Disability	52,953	30.00%	70.00%
		Long Term Disability	8,396	30.00%	70.00%
		Life Ins <50k	6,146	30.00%	70.00%
		Accident Death Dismember	1,298	30.00%	70.00%
		Dental Ins	38,867	30.00%	70.00%
		Vision Insur	7,252	30.00%	70.00%
		Tuition Reimburse	20,000	30.00%	70.00%
		Retirement Benefit	105,621	30.00%	70.00%
		Misc Benefits	(14,520)	30.00%	70.00%
		Annual Software Support	52,458	50.00%	50.00%
		Customer CC Fees	-	0.00%	100.00%
		Postage	698,256	0.00%	100.00%
		Equip Rental	1,700	100.00%	0.00%
		Billing Contract	289,250	0.00%	100.00%
		Meter Services	765,740	100.00%	0.00%
		Prof Service Other	212,668	20.00%	80.00%
		Water Liens	105,000	50.00%	50.00%
		Office Supplies	2,000	50.00%	50.00%
		Uniforms	1,200	50.00%	50.00%
		TE Airfare	1,550	50.00%	50.00%
		TE Auto Rentals	825	50.00%	50.00%
		TE Lodging	2,575	50.00%	50.00%
		TE Training	2,060	50.00%	50.00%
		Customer Refund AP	750,000	0.00%	100.00%
		Education & Outreach	5,000	0.00%	100.00%
		Miscellaneous General Administrative Expense	900,000	50.00%	50.00%
		One Call	30,000	0.00%	100.00%
		Publication Subscription	3,600	0.00%	100.00%
		Non.City Water Reimburse	167,280	100.00%	0.00%
		Total	$ 11,809,266	$ 3,856,519	$ 7,952,747
		Allocation Factors		*32.66%*	*67.34%*

Factor Derivations - Allocation to Functional Categories & Cost Components

Code(s)	*Description*	*Calculations*

W-D Water Pipe Inventory

- Allocate costs between transmission and distribution functional categories. Assumes Pipes less than or equal to 16" are Distribution-related.

Breakdown		
Distribution	35,272,466	62.8%
Transmission	20,861,796	37.2%
Total	56,134,262	100.0%

W-K Water Pipe Inventory with Service Lines

Allocate Water Distribution costs between Transmission, Distribution, and Service Lines
**No size records: assumption is all are 1"*

Breakdown		
Distribution	35,272,466	58.63%
Transmission	20,861,796	34.68%
Service Lines	4,029,007	6.70%
Total	60,163,269	100.00%

Inch-Foot Analysis		
Diameter (in)	*Linear Feet*	*Inch-Feet*
0.75	810	608
1	1,320	1,320
1.5	753	1,130
2	10,258	20,515
2.5	13	33
3	168	504
4	87,802	351,206
6	2,033,436	12,200,615
8	1,264,995	10,119,962
10	81,364	813,641
12	625,288	7,503,452
14	1,297	18,154
15	11,300	169,496
16	254,489	4,071,831
18	469	8,433
20	210,028	4,200,554
24	83,897	2,013,539
28	98	2,732
30	115,161	3,454,840
36	83,123	2,992,444
42	10,891	457,431
42.5	13,295	565,022
48	19,308	926,762
50	23,271	1,163,533
50.25	10,474	526,323
54	1,494	80,662
60	54,641	3,278,473
66	1,492	98,501
72	3,619	260,603
84	3,969	333,392
96	4,554	437,215
120	511	61,337
	5,013,588	56,134,262

Water Service Lines		
1	4,029,007	4,029,007

Factor Derivations - Allocation to Functional Categories & Cost Components

Code(s)	*Description*	*Calculations*

W-J Engineering & Construction

- This factor uses the 2026 Water CIP costs to allocate Engineering & Construction costs to the various functional categories.

2026 Water CIP Costs	$$ Amount	Allocation
Treatment	$ 22,116,205	7.77%
Storage	97,542,544	34.28%
Trans. & Distr.	152,141,343	53.46%
Admin	12,787,903	4.49%
Total Water CIP	$ 284,587,995	100.00%

W-BB Maximum Day

- Maximum day costs are allocated using a peak day determined using system daily production records. Fire demands are determined in HJS-7W.

Plant Production Data		
2022-2024 Avg Plant Production	64.43	mgd
2022-2024 Avg. Peak Day	82.16	mgd
Peak Hour Factor (1.6)	103.09	mgd

Base	70.73%
Maximum Day	27.51%
Fire Protection	1.75%

W-CC Peak Hour

- Peak hour costs are allocated using an estimated peak hour compared to system average and maximum day processed. Fire demands are determined in HJS-7W.

Plant Production Data		
2022-2024 Avg Plant Production	64.43	mgd
2022-2024 Avg. Peak Day	82.16	mgd
Peak Hour Factor (1.6)	103.09	mgd

Peak Hour / Avg	54.12%
Max Day (Plug)	17.20%
Peak Hr / Peak Day	20.30%
Fire Protection	8.38%

Equivalency Flow Ratios

- Used to escalate metering and readiness-to-serve costs, these ratios are industry standard and obtained from the American Waterworks Association

Equivalency Ratios					
	Flow			*Fire Flow*	Fire Equiv
5/8"	1.00		1" or Less	2.50	1.00
3/4"	1.50		1 1/2"-3"	8.00	6.19
1"	2.50		4"	25.00	38.32
1 1/2"	5.00		6" or Greater	50.00	111.31
2"	8.00				
3"	16.00				
4"	25.00				
6"	50.00				
8"	80.00				
10"	115.00				
Unmetered	1.00				

Factor Derivations - Allocation to Functional Categories & Cost Components

Code(s)	*Description*	*Calculations*
WW-DD	Wastewater Pipe Inventory	
	- Allocate costs between conveyance and collection functional categories. Assumes Pipes less than or equal to 16" are Collection-related.	

Breakdown		
Collection	57,630,168	50.7%
Conveyance	56,095,821	49.3%
Total	113,725,990	100.0%

Inch-Foot Analysis

Diameter (in)	*Linear Feet*	*Inch-Feet*
4	1,220	4,881
6	8,404	50,423
8	814,960	6,519,681
9	40,085	360,768
10	96,454	964,544
12	633,952	7,607,422
13	71	928
14	264	3,700
15	2,804,878	42,073,176
16	2,790	44,645
18	594,732	10,705,177
20	243,154	4,863,074
21	25,299	531,282
22	1,366	30,049
23	51	1,168
24	357,856	8,588,555
26	1,383	35,960
27	17,864	482,325
28	1,635	45,774
29	360	10,439
30	142,595	4,277,850
31	1,382	42,848
33	22,202	732,674
34	675	22,934
35	287	10,047
36	205,322	7,391,598
37	889	32,889
38	411	15,619
39	8,494	331,264
39.5	1,334	52,700
40	3,826	153,058
42	90,722	3,810,329
44	265	11,680
45	5,037	226,666
46	45	2,079
48	98,876	4,746,029
50	2,168	108,418
51	2,665	135,896
52	395	20,538
53	2,498	132,392
54	49,666	2,681,944
56	671	37,599
57	7,950	453,127
58	493	28,614
60	49,017	2,941,035
64	1,023	65,494
66	23,731	1,566,254
68	8,026	545,802
69	1,720	118,707
72	60,124	4,328,927
74	157	11,653
75	1,446	108,427
78	18,830	1,468,760
81	3,428	277,680
84	16,551	1,390,274
85	1,109	94,299
87	658	57,250
88	607	53,435
90	6,946	625,155
92	899	82,706
96	32,723	3,141,431
99	4,480	443,481
102	6,944	708,286
108	7,636	824,708
114	1,509	172,023
120	5,567	668,047
121	162	19,576
132	2,854	376,735
135	6	868
138	471	65,037
144	1,526	219,756
155	1,028	159,382
156	6,010	937,623

Pittsburgh Water
FPFTY 2026 COS & Rate Design Model
Wastewater Conveyance Units of Service

	Collection Factor	FY 2026 Consumption	Allocated Consumption	Average Day	Equivalent Meters	Total Bills
Retail Units of Service						
Residential (1)	100.0%	3,181,630	3,181,630	8,717	1,130,664	1,066,452
Residential - CAP (1)	100.0%	242,811	242,811	665	87,534	86,568
Commercial (1)	100.0%	3,203,919	3,203,919	8,778	433,062	106,284
Industrial	100.0%	188,428	188,428	516	9,498	432
Health or Education	100.0%	1,044,248	1,044,248	2,861	80,160	5,280
Municipal - Residential	100.0%	682	682	2	1,764	1,752
Municipal - Commercial	100.0%	119,661	119,661	328	6,438	1,176
Total: Wastewater Conveyance Units of Service		7,981,378	7,981,378	21,867	1,749,120	1,267,944

(1) Includes unmetered units and equivalent usage.

	FY 2026	Unit Costs			Total
		Volume	*Meter*	*Billing*	
Development of Unit Costs of Service	*FPFTY*				
Units of Service					
Total System Units		7,981,378	1,749,120	1,267,944	
Units		*kgal*	*Eq. Cost Meters*	*Total Bills*	
Revenue Requirements					
Collection & Conveyance	$ 45,549,167	$ 45,549,167	$ -	$ -	$ 45,549,167
Meters	1,403,775	-	1,403,775	-	1,403,775
Billing	2,894,804	-	-	2,894,804	2,894,804
Admin Support	10,586,068	9,673,187	298,117	614,764	10,586,068
Infiltration & Inflow Costs	-	-	-	-	-
Total: Revenue Requirements	$ 60,433,813	$ 55,222,354	$ 1,701,892	$ 3,509,567	$ 60,433,813
Revenue Requirement Unit Costs ($/unit)		**$ 6.9189**	**$ 0.9730**	**$ 2.7679**	
Revenue Offsets					
Wastewater Miscellaneous Revenue	(1,064,777)	(972,956)	(29,985)	(61,835)	(1,064,777)
Total: Revenue Offsets	$ (1,064,777)	$ (972,956)	$ (29,985)	$ (61,835)	$ (1,064,777)
Offset Unit Costs ($/unit)		$ (0.1219)	$ (0.0171)	$ (0.0488)	
Total Unit Costs ($/unit)		**$ 6.80**	**$ 0.96**	**$ 2.72**	
Total: Costs of Service		**$ 54,249,398**	**$ 1,671,906**	**$ 3,447,733**	**$ 59,369,037**

	Unit Costs			Total
	Volume	*Meter*	*Billing*	
Customer Class Cost of Service				
Residential				
Unit Costs ($/unit)	$ 6.797	$ 0.956	$ 2.719	
Units of Service	3,181,630	1,130,664	1,066,452	
Cost of Service	$ 21,625,528	$ 1,080,752	$ 2,899,845	$ 25,606,125
Residential - CAP				
Unit Costs ($/unit)	$ 6.797	$ 0.956	$ 2.719	
Units of Service	242,811	87,534	86,568	
Cost of Service	$ 1,650,382	$ 83,670	$ 235,392	$ 1,969,444
Commercial				
Unit Costs ($/unit)	$ 6.797	$ 0.956	$ 2.719	
Units of Service	3,203,919	433,062	106,284	
Cost of Service	$ 21,777,027	$ 413,945	$ 289,002	$ 22,479,974
Industrial				
Unit Costs ($/unit)	$ 6.797	$ 0.956	$ 2.719	
Units of Service	188,428	9,498	432	
Cost of Service	$ 1,280,744	$ 9,079	$ 1,175	$ 1,290,998
Health or Education				
Unit Costs ($/unit)	$ 6.797	$ 0.956	$ 2.719	
Units of Service	1,044,248	80,160	5,280	
Cost of Service	$ 7,097,750	$ 76,621	$ 14,357	$ 7,188,728
Municipal - Residential				
Unit Costs ($/unit)	$ 6.797	$ 0.956	$ 2.719	
Units of Service	682	1,764	1,752	
Cost of Service	$ 4,632	$ 1,686	$ 4,764	$ 11,082
Municipal - Commercial				
Unit Costs ($/unit)	$ 6.797	$ 0.956	$ 2.719	
Units of Service	119,661	6,438	1,176	
Cost of Service	$ 813,334	$ 6,154	$ 3,198	$ 822,686
Total: Wastewater Cost of Service	**$ 54,249,398**	**$ 1,671,906**	**$ 3,447,733**	**$ 59,369,037**

Adjustments to Allocated Cost of Service

COS Adjustments	Allocation Method	Residential	Residential - CAP	Commercial	Industrial	Health or Education	Municipal - Residential	Municipal - Commercial	NRG (Contract)	Total
Adjustments to Cost of Service										
Wholesale/Contract Adjustment	Unadj. COS	43.1%	3.3%	37.9%	2.2%	12.1%	0.0%	1.4%		100.0%
BDP Forgone Revenue	Unadj. COS	44.6%		39.2%	2.2%	12.5%	0.0%	1.4%		100.0%
Rider AFP	Unadj. COS	44.6%		39.2%	2.2%	12.5%	0.0%	1.4%		100.0%
Customer Assistance Charge	Unadj. COS	43.1%	3.3%	37.9%	2.2%	12.1%		1.4%		100.0%
Pennvest Surcharge	Unadj. COS	36.5%	1.5%	42.4%	3.0%	14.9%	0.0%	1.8%		100.0%
Adjustments - Health and Education (1)	Unadj. COS	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%		100.0%
Adjustments - Industrial (1)	Unadj. COS	0.0%		0.0%	100.0%	0.0%	0.0%	0.0%		100.0%
Gradualism - Stormwater (2)	Unadj. COS	44.6%		39.2%	2.2%	12.5%	0.0%	1.4%		100.0%
Cost of Service by Class										
Allocated Cost of Service (Unadjusted)		$ 25,606,125	$ 1,969,444	$ 22,479,974	$ 1,290,998	$ 7,188,728	$ 11,082	$ 822,686	$ -	$ 59,369,037
% of COS		*43.1%*	*3.3%*	*37.9%*	*2.2%*	*12.1%*	*0.0%*	*1.4%*	*0.0%*	*100.0%*
Adjustments to Cost of Service	Adjustment									
Wholesale/Contract Adjustment	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
BDP Forgone Revenue	1,108,806	494,642	(1,108,806)	434,253	24,939	138,867	214	15,892	-	0
Pennvest Surcharge	(5,273,731)	(1,922,488)	(77,632)	(2,233,949)	(156,894)	(785,791)	(549)	(96,428)	-	(5,273,731)
Adjustments - Health and Education (1)	850,000	(850,000)	-	-	-	850,000	-	-	-	-
Adjustments - Industrial (1)	125,000	(125,000)	-	-	125,000	-	-	-	-	-
Gradualism - Stormwater (2)	6,000,000	2,676,617	-	2,349,840	134,948	751,440	1,158	85,996	-	6,000,000
Total: Adjusted Cost of Service		**$ 25,879,895**	**$ 783,006**	**$ 23,030,118**	**$ 1,418,991**	**$ 8,143,245**	**$ 11,906**	**$ 828,145**	**$ -**	**$ 60,095,306**
% of COS		*43.1%*	*1.3%*	*38.3%*	*2.4%*	*13.6%*	*0.0%*	*1.4%*		*100.0%*

(1) Adjustment to mitigate residential impacts
(2) Transfer from Stormwater to Wastewater such that new Stormwater fee is phased in

Forgone Revenue Cost of the Bill Discount Program

Units	Bills	CAP Usage	CAP - 50FPL Usage	CAP Bills	CAP - FPL50 Bills
5/8"	85,488	130,947	44,633	65,652	19,836
3/4"	636	-	-	480	156
1"	432	-	-	360	72
Unmetered	12	n/a	n/a	12	-
	86,568	130,947	44,633	66,504	20,064

Forgone Revenue Cost	Revenue At Full Rates	Revenue at CAP Rates	Difference
Fixed Charges	$ 736,608	$ -	$ 736,608
Fixed Bill Discount	-	(166,260)	166,260
Volume Charges	343,230	137,292	205,938
Total Forgone Revenue Cost	1,079,838	(28,968)	1,108,806

Volume Discount 60.0%

Pittsburgh Water
FPFTY 2026 COS & Rate Design Model
Minimum Charge Calculation

	Min. Usage	COS Rate Build-Up - Test Year: 2026					
		Meter	*Billing*	*Usage*	*Total COS Rates*	*Adjustments* CAP-BDP	*Proposed Rates*
Wastewater Conveyance	*Existing*						
Minimum Charge							
5/8"	1	$ 0.96	$ 2.72	$ 4.70	$ 8.37	$ -	$ 8.37
3/4"	2	1.43	2.72	9.40	13.55	-	13.55
1"	5	2.39	2.72	23.49	28.60	-	28.60
1 1/2"	10	4.78	2.72	46.99	54.49	-	54.49
2"	17	7.65	2.72	79.88	90.25	-	90.25
3"	40	15.29	2.72	187.96	205.97	-	205.97
4"	70	23.90	2.72	328.93	355.54	-	355.54
6"	175	47.79	2.72	822.31	872.82	-	872.82
8"	325	76.47	2.72	1,527.15	1,606.34	-	1,606.34
10" & Above	548	109.92	2.72	2,575.01	2,687.66	-	2,687.66
Unmetered	1	0.96	2.72	4.70	8.37	-	8.37
Residential - CAP							
5/8"	1	$ 0.96	$ 2.72	$ 4.70	$ 8.37	(8.37)	$ -
3/4"	2	1.43	2.72	9.40	13.55	(13.55)	-
1"	5	2.39	2.72	23.49	28.60	(28.60)	-
Unmetered	1	0.96	2.72	4.70	8.37	(8.37)	-

Pittsburgh Water
FPFTY 2026 COS & Rate Design Model
Volume Charge Calculation

Unadjusted COS-Based Rates

	Unadjusted Revenue Requirement	Fixed Charge Revenue	Total Vol Revenue Requirement	Billed Volume	Proposed Rates
Volume Charge (per kgal)					
Residential	$ 25,606,125	$ 9,739,532	$ 15,866,592	2,186,032	$ 7.26
Residential - CAP	1,969,444	566,668	1,402,776	175,616	7.99
Commercial	22,479,974	5,417,085	17,062,890	2,526,306	6.75
Industrial	1,290,998	171,690	1,119,308	177,423	6.31
Health or Education	7,188,728	1,171,808	6,016,920	888,611	6.77
Municipal - Residential	11,082	14,795	(3,713)	620	(5.98)
Municipal - Commercial	822,686	81,020	741,666	109,046	6.80
Totals	$ 59,369,037	$ 17,162,598	$ 42,206,439	6,063,655	6.96

Determination of Proposed Rates

	Adjusted Revenue Requirement	Bad Debt	Total Adjusted Revenue Requirement	Fixed Charge Revenue	Total Volumetric Rev Req	Equivalent Volume (for Ratemaking)	Proposed Rates
Volume Charge (per kgal)							
Residential + CAP + City Res	$ 26,674,807	$ 1,023,800	$ 27,698,607	$ 9,750,238	$ 17,948,369	2,335,489	7.69
Commercial + City Com	23,858,263	153,571	24,011,834	5,497,874	18,513,960	2,635,352	7.03
Industrial	1,418,991	2,233	1,421,224	171,689	1,249,535	177,423	7.05
Health or Education	8,143,245	22,301	8,165,546	1,171,808	6,993,738	888,611	7.88
Municipal - Commercial							
Municipal - Residential							
Totals	$ 60,095,306	$ 1,201,906	$ 61,297,212	$ 16,591,609	$ 44,705,603	6,036,875	$ 7.41

Pennvest Volume Surcharge (per kgal)	Adjusted Revenue Requirement	Bad Debt	Total Adjusted Revenue Requirement	Fixed Charge Revenue	Total Volumetric Rev Req	Equivalent Volume (for Ratemaking)	Proposed Rates
Existing PENNVEST	$ 5,144,016	-	$ 5,144,016	$ -	$ 5,144,016	5,963,793	$ 0.86
Future PENNVEST	129,715	-	129,715	-	129,715	5,963,793	0.02
Total	$ 5,273,731	$ -	$ 5,273,731	$ -	$ 5,273,731		$ 0.88

	2025 FTY Prior Tariff Rates	2026 FPFTY Calculated Rates	2026 FPFTY Proposed Rates
Existing & Proposed Rates			
Minimum Charge			
5/8"	$ 8.25	$ 8.37	$ 8.37
3/4"	13.19	13.55	13.55
1"	27.35	28.60	28.60
1 1/2"	52.06	54.49	54.49
2"	85.98	90.25	90.25
3"	195.00	205.97	205.97
4"	335.31	355.54	355.54
6"	817.77	872.82	872.82
8"	1,499.45	1,606.34	1,606.34
10" & Above	2,500.18	2,687.66	2,687.66
Minimum Charge - CAP (1)			
5/8"	$ -	$ -	$ -
3/4"	-	-	-
1"	-	-	-
Volume Charge			
Residential	$ 6.68	$ 7.69	$ 7.69
Residential - CAP	6.68	7.69	7.69
Residential - CAP (<50% FPL)	4.01	4.61	3.08
Commercial	5.94	7.03	7.03
Industrial	6.09	7.05	7.05
Health or Education	6.75	7.88	7.88
Municipal - Residential	6.68	7.69	7.69
Municipal - Commercial	5.94	7.03	7.03
Unmetered Charges (per Unit)			
Residential	$ 28.29	$ 31.44	$ 31.44
Residential - CAP	20.04	23.07	23.07
Commercial	32.01	36.49	36.49
DSIC (Applies to all retail customers)	5.0%		7.5%

(1) Proposed 100% discount on Minimum Charge for CAP-BDP customers in all years.

Comparison of Base Rate Revenues by Customer Class

	FPFTY Revenue at Existing Rates	FPFTY Indicated COS by Customer Class (1)	Percent Difference	Dollar Difference
Base Rate Revenues				
Residential	$ 24,166,775	$ 25,606,125	6.0%	$ 1,439,349
Residential - CAP	994,227	1,969,444	98.1%	975,217
Commercial	20,154,024	22,479,974	11.5%	2,325,950
Industrial	1,241,254	1,290,998	4.0%	49,744
Health or Education	7,102,562	7,188,728	1.2%	86,167
Municipal - Residential	18,717	11,082	-40.8%	(7,635)
Municipal - Commercial	724,636	822,686	13.5%	98,049
Total: Base Rate Revenues	**$ 54,402,195**	**$ 59,369,037**	**9.1%**	**$ 4,966,842**

	FPFTY Indicated COS by Customer Class	FPFTY Adjusted COS by Customer Class (2)	Percent Difference	Dollar Difference
Base Rate Revenues				
Residential	$ 25,606,125	$ 25,879,895	1.1%	$ 273,771
Residential - CAP	1,969,444	783,006	-60.2%	(1,186,438)
Commercial	22,479,974	23,030,118	2.4%	550,144
Industrial	1,290,998	1,418,991	9.9%	127,993
Health or Education	7,188,728	8,143,245	13.3%	954,516
Municipal - Residential	11,082	11,906	7.4%	824
Municipal - Commercial	822,686	828,145	0.7%	5,459
Total: Base Rate Revenues	**$ 59,369,037**	**$ 60,095,306**	**1.2%**	**$ 726,269**

	FPFTY Revenue at Existing Rates	FPFTY Adjusted COS by Customer Class (2)	Percent Difference	Dollar Difference
Base Rate Revenues				
Residential	$ 24,166,775	$ 25,879,895	7.1%	$ 1,713,120
Residential - CAP	994,227	783,006	-21.2%	(211,221)
Commercial	20,154,024	23,030,118	14.3%	2,876,094
Industrial	1,241,254	1,418,991	14.3%	177,737
Health or Education	7,102,562	8,143,245	14.7%	1,040,683
Municipal - Residential	18,717	11,906	-36.4%	(6,811)
Municipal - Commercial	724,636	828,145	14.3%	103,509
Total: Base Rate Revenues	**$ 54,402,195**	**$ 60,095,306**	**10.5%**	**$ 5,693,111**

	FPFTY Revenue at Existing Rates	FPFTY Revenue at Proposed Rates (3)	Percent Difference	Dollar Difference
Base Rate Revenues				
Residential	$ 24,166,775	$ 26,546,034	9.8%	$ 2,379,259
Residential - CAP	994,227	1,144,552	15.1%	150,325
Commercial	20,154,024	23,176,789	15.0%	3,022,765
Industrial	1,241,254	1,422,522	14.6%	181,268
Health or Education	7,102,562	8,174,063	15.1%	1,071,501
Municipal - Residential	18,717	19,560	4.5%	843
Municipal - Commercial	724,636	847,612	17.0%	122,975
Total: Base Rate Revenues	**$ 54,402,195**	**$ 61,331,131**	**12.7%**	**$ 6,928,936**

(1) Includes Pennvest surcharge, excludes gradualism and bad debt
(2) Includes gradualism, excludes pennvest surcharge and bad debt
(3) Includes gradualism, bad debt, and a minor rounding adjustment, excludes pennvest surcharge

	Unadjusted COS (1)		Revenue at Existing Rates		Revenue at Proposed Rates		Proposed Increase	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
Base Rate Revenues								
Residential	$ 25,606,125	43.1%	$ 24,166,775	44.4%	$ 26,546,034	43.3%	$ 2,379,259	9.8%
Residential - CAP	1,969,444	3.3%	994,227	1.8%	1,144,552	1.9%	150,325	15.1%
Commercial	22,479,974	37.9%	20,154,024	37.0%	23,176,789	37.8%	3,022,765	15.0%
Industrial	1,290,998	2.2%	1,241,254	2.3%	1,422,522	2.3%	181,268	14.6%
Health or Education	7,188,728	12.1%	7,102,562	13.1%	8,174,063	13.3%	1,071,501	15.1%
Municipal - Residential	11,082	0.0%	18,717	0.0%	19,560	0.0%	843	4.5%
Municipal - Commercial	822,686	1.4%	724,636	1.3%	847,612	1.4%	122,975	17.0%
Wholesale & Bulk	-	0.0%	-	0.0%	-	0.0%	-	#DIV/0!
Subtotal: Base Rate Revenues	**$ 59,369,037**	100.0%	**$ 54,402,195**	100.0%	**$ 61,331,131**	100.0%	**$ 6,928,936**	12.7%
Pennvest Surcharge Revenues								
Residential	n/a	n/a	$ -	0.0%	$ 1,922,488	38.5%	$ 1,922,488	
Residential - CAP	n/a	n/a	-	0.0%	77,632	1.6%	77,632	
Commercial	n/a	n/a	-	0.0%	2,233,949	44.7%	2,233,949	
Industrial	n/a	n/a	-	0.0%	156,894	3.1%	156,894	
Health or Education	n/a	n/a	-	0.0%	785,791	15.7%	785,791	
Municipal - Residential	n/a	n/a	-	0.0%	549	0.0%	549	
Municipal - Commercial	n/a	n/a	-	0.0%	96,428	1.9%	96,428	
Subtotal: DSIC Revenues	n/a	n/a	**$ 54,402,195**	0.0%	**$ 5,273,731**	105.6%	**$ 5,273,731**	
DSIC Revenues								
Residential	n/a	n/a	$ 1,208,339	44.4%	$ 2,135,139	42.7%	$ 926,800	
Residential - CAP	n/a	n/a	49,711	1.8%	91,664	1.8%	41,952	
Commercial	n/a	n/a	1,007,701	37.0%	1,905,805	38.2%	898,104	
Industrial	n/a	n/a	62,063	2.3%	118,456	2.4%	56,393	
Health or Education	n/a	n/a	355,128	13.1%	671,989	13.5%	316,861	
Municipal - Residential	n/a	n/a	936	0.0%	1,508	0.0%	572	
Municipal - Commercial	n/a	n/a	36,232	1.3%	70,803	1.4%	34,571	
Subtotal: DSIC Revenues	n/a	n/a	**$ 2,720,110**	100.0%	**$ 4,995,365**	100.0%	**$ 2,275,255**	
Total: User Charge Revenues	**$ 59,369,037**		**$ 57,122,305**		**$ 71,600,226**		**$ 14,477,921**	**25.3%**
Other Revenues								
Miscellaneous Revenues	1,064,777		1,064,777		1,064,777		-	0.0%
Total: Wastewater Conveyance Revenues	**$ 60,433,813**		**$ 58,187,081**		**$ 72,665,003**		**$ 14,477,921**	**24.9%**

(1) Difference between COS & proposed base rate revenue is attributed to BDE, stormwater gradualism, the PVC charge, and rounding.

Typical Bill Comparison

	Customer Usage	FTY Existing Rates	FPFTY Proposed Rates	Percent Difference	Dollar Difference
Customer Impacts (1)					
Residential					
5/8"	1 kgal	$ 8.66	$ 9.00	3.9%	$ 0.34
5/8"	3 kgal	22.69	27.43	20.9%	4.74
5/8"	5 kgal	36.72	45.87	24.9%	9.15
5/8"	7 kgal	50.75	64.30	26.7%	13.56
5/8"	12 kgal	85.82	110.39	28.6%	24.57
1"	20 kgal	133.93	169.01	26.2%	35.08
Commercial					
5/8"	3 kgal	$ 21.14	$ 26.01	23.1%	$ 4.88
5/8"	5 kgal	33.61	43.03	28.0%	9.42
5/8"	12 kgal	77.27	102.58	32.8%	25.31
1"	13 kgal	78.61	98.81	25.7%	20.19
2"	80 kgal	483.21	633.01	31.0%	149.80
4"	160 kgal	913.41	1,147.91	25.7%	234.51
Industrial					
1"	30 kgal	$ 188.58	$ 243.98	29.4%	$ 55.40
1"	60 kgal	380.42	499.86	31.4%	119.44
2"	100 kgal	621.02	804.96	29.6%	183.93
4"	680 kgal	4,252.72	5,585.12	31.3%	1,332.40
6"	400 kgal	2,297.42	2,857.39	24.4%	559.97
8"	800 kgal	4,611.81	5,778.26	25.3%	1,166.45
Health or Education					
5/8"	5 kgal	$ 37.01	$ 46.68	26.1%	$ 9.67
5/8"	10 kgal	72.45	93.79	29.5%	21.34
1"	40 kgal	276.78	360.50	30.2%	83.72
2"	50 kgal	324.17	407.93	25.8%	83.77
4"	200 kgal	1,273.45	1,607.02	26.2%	333.56
6"	650 kgal	4,225.22	5,413.55	28.1%	1,188.33

(1) Customer bills at existing rates include a 5% DSIC and proposed rates include a 7.5% DSIC.

	2026 Revenue @ Existing Rates			2026 Revenue @ COS Rates			2026 Revenue @ Proposed Rates		
	Units	Rates	Revenue	Units	Rates	Revenue	Units	Rates	Revenue
Base Rate Revenues									
Minimum Charges									
Residential									
5/8"	1,000,620	$ 8.25	$ 8,255,115	1,000,620	$ 8.37	$ 8,379,131	1,000,620	$ 8.37	$ 8,375,189
3/4"	31,296	13.19	412,794	31,296	13.55	424,086	31,296	13.55	424,061
1"	29,640	27.35	810,654	29,640	28.60	847,806	29,640	28.60	847,704
1 1/2"	732	52.06	38,108	732	54.49	39,885	732	54.49	39,887
2"	168	85.98	14,445	168	90.25	15,162	168	90.25	15,162
Unmetered	3,996	28.29	113,047	3,996	8.37	33,462	3,996	31.44	125,634
Subtotal: Residential	1,066,452		$ 9,644,163	1,066,452		$ 9,739,532	1,066,452		$ 9,827,637
Residential - CAP and CAP - 50FPL									
5/8"	85,488	$ -	$ -	85,488	$ 8.37	$ 715,871	85,488	$ -	$ -
3/4"	636	-	-	636	13.55	8,618	636	-	-
1"	432	-	-	432	28.60	12,357	432	-	-
Unmetered	12	20.04	240	12	-	-	12	23.07	277
Subtotal: Residential - CAP and CAP - 50FPL	86,568		$ 240	86,568		$ 736,846	86,568		$ 277
Commercial									
5/8"	47,712	$ 8.25	$ 393,624	47,712	$ 8.37	$ 399,537	47,712	$ 8.37	$ 399,349
3/4"	9,900	13.19	130,581	9,900	13.55	134,153	9,900	13.55	134,145
1"	20,664	27.35	565,160	20,664	28.60	591,062	20,664	28.60	590,990
1 1/2"	10,332	52.06	537,884	10,332	54.49	562,967	10,332	54.49	562,991
2"	10,776	85.98	926,520	10,776	90.25	972,511	10,776	90.25	972,534
3"	3,120	195.00	608,400	3,120	205.97	642,627	3,120	205.97	642,626
4"	2,424	335.31	812,791	2,424	355.54	861,831	2,424	355.54	861,829
6"	1,236	817.77	1,010,764	1,236	872.82	1,078,812	1,236	872.82	1,078,806
8"	108	1,499.45	161,941	108	1,606.34	173,485	108	1,606.34	173,485
10" & Above	-	2,500.18	-	-	2,687.66	-	-	2,687.66	-
Unmetered	12	32.01	384	12	8.37	100	12	36.49	438
Subtotal: Commercial	106,284		$ 5,148,050	106,284		$ 5,417,085	106,284		$ 5,417,193
Industrial									
5/8"	72	$ 8.25	$ 594	72	$ 8.37	$ 603	72	$ 8.37	$ 603
3/4"	12	13.19	158	12	13.55	163	12	13.55	163
1"	72	27.35	1,969	72	28.60	2,059	72	28.60	2,059
1 1/2"	-	52.06	-	-	54.49	-	-	54.49	-
2"	84	85.98	7,222	84	90.25	7,581	84	90.25	7,581
3"	36	195.00	7,020	36	205.97	7,415	36	205.97	7,415
4"	84	335.31	28,166	84	355.54	29,865	84	355.54	29,865
6"	24	817.77	19,626	24	872.82	20,948	24	872.82	20,948
8"	24	1,499.45	35,987	24	1,606.34	38,552	24	1,606.34	38,552
10" & Above	24	2,500.18	60,004	24	2,687.66	64,504	24	2,687.66	64,504
Subtotal: Industrial	432		$ 160,747	432		$ 171,690	432		$ 171,689
Health or Education									
5/8"	336	$ 8.25	$ 2,772	336	$ 8.37	$ 2,814	336	$ 8.37	$ 2,812
3/4"	84	13.19	1,108	84	13.55	1,138	84	13.55	1,138
1"	228	27.35	6,236	228	28.60	6,522	228	28.60	6,521
1 1/2"	744	52.06	38,733	744	54.49	40,539	744	54.49	40,541
2"	1,560	85.98	134,129	1,560	90.25	140,787	1,560	90.25	140,790
3"	1,068	195.00	208,260	1,068	205.97	219,976	1,068	205.97	219,976
4"	792	335.31	265,566	792	355.54	281,588	792	355.54	281,588
6"	408	817.77	333,650	408	872.82	356,113	408	872.82	356,111
8"	36	1,499.45	53,980	36	1,606.34	57,828	36	1,606.34	57,828
10" & Above	24	2,500.18	60,004	24	2,687.66	64,504	24	2,687.66	64,504
Subtotal: Health or Education	5,280		$ 1,104,437	5,280		$ 1,171,808	5,280		$ 1,171,808
Municipal - Residential									
5/8"	1,728	$ 8.25	$ 14,256	1,728	$ 8.37	$ 14,470	1,728	$ 8.37	$ 14,463
3/4"	24	13.19	317	24	13.55	325	24	13.55	325
1"	-	27.35	-	-	28.60	-	-	28.60	-
1 1/2"	-	52.06	-	-	54.49	-	-	54.49	-
2"	-	85.98	-	-	90.25	-	-	90.25	-
3"	-	195.00	-	-	205.97	-	-	205.97	-
4"	-	335.31	-	-	355.54	-	-	355.54	-
6"	-	817.77	-	-	872.82	-	-	872.82	-
8"	-	1,499.45	-	-	1,606.34	-	-	1,606.34	-
10" & Above	-	2,500.18	-	-	2,687.66	-	-	2,687.66	-
Subtotal: Municipal - Residential	1,752		$ 14,573	1,752		$ 14,795	1,752		$ 14,789
Municipal - Commercial									
5/8"	372	$ 8.25	$ 3,069	372	$ 8.37	$ 3,115	372	$ 8.37	$ 3,114
3/4"	36	13.19	475	36	13.55	488	36	13.55	488
1"	240	27.35	6,564	240	28.60	6,865	240	28.60	6,864
1 1/2"	168	52.06	8,746	168	54.49	9,154	168	54.49	9,154
2"	264	85.98	22,699	264	90.25	23,825	264	90.25	23,826
3"	60	195.00	11,700	60	205.97	12,358	60	205.97	12,358
4"	12	335.31	4,024	12	355.54	4,266	12	355.54	4,266
6"	24	817.77	19,626	24	872.82	20,948	24	872.82	20,948
8"	-	1,499.45	-	-	1,606.34	-	-	1,606.34	-
10" & Above	-	2,500.18	-	-	2,687.66	-	-	2,687.66	-
Subtotal: Municipal - Commercial	1,176		$ 76,903	1,176		$ 81,020	1,176		$ 81,018
Subtotal: Minimum Charges	1,267,944		$ 16,149,113	1,267,944		$ 17,332,776	1,267,944		$ 16,684,411

	2026 Revenue @ Existing Rates			2026 Revenue @ COS Rates			2026 Revenue @ Proposed Rates		
	Units	**Rates**	**Revenue**	**Units**	**Rates**	**Revenue**	**Units**	**Rates**	**Revenue**
Pennvest Volume Charge									
Residential	2,174,044	$ -	$ -	2,174,044	$ -	$ -	2,174,044	$ 0.88	$ 1,922,488
Residential - CAP	130,947	-	-	130,947	-	-	130,947	0.44	57,898
Residential - CAP - 50FPL	44,633	-	-	44,633	-	-	44,633	0.44	19,734
Commercial	2,526,258	-	-	2,526,258	-	-	2,526,258	0.88	2,233,949
Industrial	177,423	-	-	177,423	-	-	177,423	0.88	156,894
Health or Education	888,611	-	-	888,611	-	-	888,611	0.88	785,791
Municipal - Residential	620	-	-	620	-	-	620	0.88	549
Municipal - Commercial	109,046	-	-	109,046	-	-	109,046	0.88	96,428
Subtotal: Pennvest Volume Charge	6,051,583		$ -	6,051,583		$ -	6,051,583		$ 5,273,731
Volume Charge									
Residential	2,174,044	$ 6.68	$ 14,522,613	2,174,044	$ 7.26	$ 15,783,558	2,174,044	$ 7.69	$ 16,718,397
Residential - CAP	130,947	6.68	874,726	130,947	7.99	1,046,267	130,947	7.69	1,006,983
Residential - CAP - 50FPL	44,633	2.67	119,260	44,633	6.75	301,275	44,633	3.08	137,292
Commercial	2,526,258	5.94	15,005,974	2,526,258	6.75	17,052,243	2,526,258	7.03	17,759,596
Industrial	177,423	6.09	1,080,506	177,423	6.31	1,119,539	177,423	7.05	1,250,832
Health or Education	888,611	6.75	5,998,124	888,611	6.77	6,015,896	888,611	7.88	7,002,255
Municipal - Residential	620	6.68	4,145	620	(5.98)	(3,710)	620	7.69	4,771
Municipal - Commercial	109,046	5.94	647,733	109,046	6.80	741,513	109,046	7.03	766,593
Subtotal: Volume Charge	6,051,583		$ 38,253,082	6,051,583		$ 42,056,582	6,051,583		$ 44,646,719
Wholesale and Contract Revenues			$ -			$ -			$ -
Total: Base Rate Revenues			$ 54,402,195			$ 59,389,358			$ 66,604,861
DSIC Revenues									
Residential		5.0%	1,208,339			$ 1,914,232		7.5%	$ 2,135,139
Residential - CAP		5.0%	49,711			133,733		7.5%	91,664
Commercial		5.0%	1,007,701			1,685,200		7.5%	1,905,805
Industrial		5.0%	62,063			96,842		7.5%	118,456
Health or Education		5.0%	355,128			539,078		7.5%	671,989
Municipal - Residential		5.0%	936			831		7.5%	1,508
Municipal - Commercial		5.0%	36,232			61,690		7.5%	70,803
Total: DSIC Revenues			$ 2,720,110			$ 4,431,606			$ 4,995,365
Other Revenues									
Other Revenues			1,064,777			1,064,777			1,064,777
Total: System Revenues			**$ 58,187,081**			**$ 64,885,740**			**$ 72,665,003**
FPFTY Wastewater Conveyance Revenue Requirements						**$ 71,429,178**			**$ 72,631,084**
Difference						**$ (6,543,437)**			**$ 33,919**

(1) Note difference in COS rates is combination of bad debt, DSIC, the PVC charge, and Stormwater gradualism.

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FPFTY 2026 COS & Rate Design Model

Projected Units of Service

	FY 2022 *Actual*	FY 2023 *Actual*	HTY FY 2024 *Actual*	FTY FY 2025 *Projected*	FPFTY FY 2026 *Projected*
Units of Service					
Number of Bills					
Residential	1,029,504	1,082,460	1,066,452	1,066,452	1,066,452
Residential - CAP	64,452	75,588	86,568	86,568	86,568
Commercial	102,150	106,320	106,284	106,284	106,284
Industrial	408	432	432	432	432
Health or Education	5,269	5,328	5,280	5,280	5,280
Municipal	3,135	1,176	2,928	2,928	2,928
Total	1,204,918	1,271,304	1,267,944	1,267,944	1,267,944
Billable Consumption (kgal)					
Residential	2,303,751	2,156,593	2,061,787	2,174,044	2,174,044
Residential - CAP	146,068	177,619	203,054	175,580	175,580
Commercial	2,308,112	2,579,844	2,690,819	2,526,258	2,526,258
Industrial	110,428	153,371	268,470	177,423	177,423
Health or Education	832,509	885,442	947,882	888,611	888,611
Municipal	210,688	40,220	78,091	109,666	109,666
Total	5,911,557	5,993,089	6,250,103	6,051,583	6,051,583
Total Consumption (kgal) (1)					
Residential	3,312,153	3,153,081	3,043,692	3,169,642	3,169,642
Residential - CAP	201,247	245,396	281,681	242,775	242,775
Commercial	2,955,185	3,270,576	3,385,853	3,203,871	3,203,871
Industrial	120,345	163,896	281,043	188,428	188,428
Health or Education	983,525	1,043,736	1,105,483	1,044,248	1,044,248
Municipal	233,133	43,437	84,457	120,342	120,342
Total	7,805,587	7,920,122	8,182,209	7,969,306	7,969,306
Wholesale & Contract Consumption					
NRG	15,794	47,012	47,012	-	-

(1) Total consumption represents actual customer usage including the usage captured in minimum allowa

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FPFTY 2026 COS & Rate Design Model

FPFTY Wastewater Conveyance Revenue Requirements

Revenue Requirements	**2026 FPFTY Revenue Requirements**	**2027 Revenue Requirements**
Operating Expenses		
Direct Operating Expenses		
Administrative Division		
Chief Executive Office	$ 641,805	$ 641,805
Customer Service	4,298,578	4,298,578
Technology Services	988,367	988,367
Finance	2,740,279	2,740,279
Human Resources	296,804	296,804
Legal	489,598	489,598
Safety & Security	284,858	284,858
Public Affairs	199,712	199,712
Operations Division		
Environmental Compliance	1,749,467	1,749,467
Warehouse	62,772	62,772
Laboratory	-	
Water Treatment Plant	1,859,445	1,859,445
Sewer Operations	2,211,990	2,211,990
Water Operations	107,100	107,100
Engineering & Construction		
Engineering & Construction	11,326,951	11,326,951
Other Operating Expenses		
Loss / (Gain) on ALCOSAN Billings	2,383,047	$ 2,383,047
Covid-Related Expenses	-	-
Total Operating Expenses	$ 29,640,773	$ 29,640,773
Debt Service		
Existing Debt	$ 23,250,962	$ 25,557,867
Future Debt	2,537,934	5,419,998
Subtotal: Debt Service	$ 25,788,896	$ 30,977,866
Other Expenditures & Transfers		
DSIC Capital	$ 4,995,365	5,381,850
Debt Coverage Capital - Existing Senior	3,679,659	3,784,502
Debt Coverage Capital - Future Senior	416,227	326,609
Other Transfers to Reserves	768,212	768,212
Rider AFP	140,047	140,047
Gradualism - Stormwater	6,000,000	6,000,000
Subtotal: Other Expenditures & Transfers	$ 15,999,509	$ 16,401,219
Total: Wastewater Conveyance System Revenue Requirements	**$ 71,429,178**	**$ 77,019,858**
Less: Capital Costs to be Recovered through DSIC	(4,995,365)	(5,381,850)
Add: Bad Debt Expense	1,201,906	1,201,906
Total: Wastewater Conveyance System Base Rate Revenue Requirement	**$ 67,635,719**	**$ 72,839,914**

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FPFTY 2026 COS & Rate Design Model
Revenue Increase Needed for 2027

	2026	2027
O&M Expenses	$ 27,257,726	$ 27,257,726
Loss / (Gain) on ALCOSAN Billings	2,383,047	2,383,047
Debt Service	25,788,896	30,977,866
Debt Service Coverage	4,095,885	4,111,110
DSIC Capital	4,995,365	5,381,850
Other Expenditures	908,259	908,259
Net Rate Revenue Requirement	$ 65,429,178	$ 71,019,858
Less: Misc Revenues	$ 1,064,777	$ 1,088,933
Adjusted Revenue Requirement for Ratemaking	$ 64,364,401	$ 69,930,925
Increase		*8.65%*

Service Charge Calculation - 2027

Wastewater FY 27 Rate Adjustment: 8.65%

Wastewater Conveyance	**Min. Usage** *Existing*	**COS Rate Build-Up - Test Year: 2027**						
		Meter	*Billing*	*Usage*	*Total COS Rates*	*Adjustments* *Placeholder*	*Adjustments* CAP-BDP	*Proposed Rates*
Service Charge								
5/8"		$ 0.96	$ 2.72	$ -	$ 3.68	$ -	$ -	$ 3.99
3/4"		1.43	2.72	-	4.15	-	-	4.51
1"		2.39	2.72	-	5.11	-	-	5.55
1 1/2"		4.78	2.72	-	7.50	-	-	8.15
2"		7.65	2.72	-	10.37	-	-	11.26
3"		15.29	2.72	-	18.01	-	-	19.57
4"		23.90	2.72	-	26.62	-	-	28.92
6"		47.79	2.72	-	50.51	-	-	54.88
8"		76.47	2.72	-	79.19	-	-	86.04
10" & Above		109.92	2.72	-	112.64	-	-	122.38
Unmetered		0.96	2.72	-	3.68	-	-	3.99
Residential - CAP								
5/8"	0	$ 0.96	$ 2.72	$ -	$ 3.68	$ -	(3.68)	$ -
3/4"	0	1.43	2.72	-	4.15	-	(4.15)	-
1"	0	2.39	2.72	-	5.11	-	(5.11)	-
Unmetered	0	0.96	2.72	-	3.68	-	(3.68)	-

	Unadjusted COS-Based Rates				
	Unadjusted Revenue Requirement	Fixed Charge Revenue	Total Vol Revenue Requirement	Billed Volume	Proposed Rates
Volume Charge (per kgal)					
Residential	$ 27,820,658	$ 3,980,597	$ 21,625,528	3,181,630	$ 6.80
Residential - CAP	2,139,770	245,148	1,724,296	242,811	7.10
Commercial	24,424,144	702,947	21,777,027	3,203,919	6.80
Industrial	1,402,649	10,253	1,280,744	188,428	6.80
Health or Education	7,810,442	90,979	7,097,750	1,044,248	6.80
Municipal - Residential	12,041	6,450	4,632	682	6.80
Municipal - Commercial	893,835	9,352	813,334	119,661	6.80
Totals	$ 64,503,539	$ 5,045,726	$ 54,323,311	7,981,378	6.81

	Determination of Proposed Rates						
	Adjusted Revenue Requirement	Bad Debt	Total Adjusted Revenue Requirement	Fixed Charge Revenue	Total Volumetric Rev Req	Equivalent Volume (for Ratemaking)	Proposed Rates
Volume Charge (per kgal)							
Residential + CAP + City Res	$ 28,338,858	$ 1,023,800	$ 29,362,659	$ 4,328,925	$ 25,033,733	3,389,418	7.39
Commercial + City Com	25,280,915	153,571	25,434,486	773,740	24,660,746	3,323,580	7.42
Industrial	1,446,730	2,233	1,448,963	11,140	1,437,824	188,428	7.64
Health or Education	8,381,965	22,301	8,404,266	98,845	8,305,421	1,044,248	7.96
Municipal - Commercial							
Municipal - Residential							
Totals	63,448,468	1,201,906	64,650,374	5,212,650	59,437,724	7,945,674	$ 7.48

	Adjusted Revenue Requirement	Bad Debt	Total Adjusted Revenue Requirement	Fixed Charge Revenue	Total Volumetric Rev Req	Equivalent Volume (for Ratemaking)	Proposed Rates
Pennvest Volume Surcharge (per kgal)							
Existing PENNVEST	$ 6,725,504	-	$ 6,725,504	$ -	$ 6,725,504	7,847,919	$ 0.86
Future PENNVEST	329,566	-	329,566	-	329,566	7,847,919	0.04
Total	$ 7,055,070	$ -	$ 7,055,070	$ -	$ 7,055,070		$ 0.90

	2026 FTY Prior Tariff Rates	2027 Calculated Rates	2027 Proposed Rates
Existing & Proposed Rates			
Minimum Charge			
5/8"	$ 8.37	$ 3.99	$ 3.99
3/4"	13.55	4.51	4.51
1"	28.60	5.55	5.55
1 1/2"	54.49	8.15	8.15
2"	90.25	11.26	11.26
3"	205.97	19.57	19.57
4"	355.54	28.92	28.92
6"	872.82	54.88	54.88
8"	1,606.34	86.04	86.04
10" & Above	2,687.66	122.38	122.38
Minimum Charge - CAP (1)			
5/8"	$ -	$ -	$ -
3/4"	-	-	-
1"	-	-	-
Volume Charge			
Residential	$ 7.69	$ 7.39	$ 7.39
Residential - CAP	7.69	7.39	7.39
Residential - CAP (<50% FPL)	4.61	4.43	2.96
Commercial	7.03	7.42	7.42
Industrial	7.05	7.64	7.64
Health or Education	7.88	7.96	7.96
Municipal - Residential	7.69	7.39	7.39
Municipal - Commercial	7.03	7.42	7.42
Unmetered Charges (per Unit)			
Residential	$ 31.44	$ 33.55	$ 33.55
Residential - CAP	23.07	29.56	29.56
Commercial	36.49	41.09	41.09
DSIC (Applies to all retail customers)	7.5%		7.5%

(1) Proposed 100% discount on Minimum Charge for CAP-BDP customers in all years.

	2027 Revenue @ 2026 Rates			2027 Revenue @ Proposed Rates		
	Units	**Rates**	**Revenue**	**Units**	**Rates**	**Revenue**
Base Rate Revenues						
Minimum Charges						
Residential						
5/8"	1,000,620	$ 8.37	$ 8,375,189	1,000,620	$ 3.99	$ 3,992,474
3/4"	31,296	13.55	424,061	31,296	4.51	141,145
1"	29,640	28.60	847,704	29,640	5.55	164,502
1 1/2"	732	54.49	39,887	732	8.15	5,966
2"	168	90.25	15,162	168	11.26	1,892
Unmetered	3,996	31.44	125,634	3,996	33.55	134,066
Subtotal: Residential	1,066,452		$ 9,827,637	1,066,452		$ 4,440,044
Residential - CAP						
5/8"	85,488	$ -	$ -	85,488	$ -	$ -
3/4"	636	-	-	636	-	-
1"	432	-	-	432	-	-
Unmetered	12	23.07	277	12	29.56	355
Subtotal: Residential - CAP	86,568		$ 277	86,568		$ 355
Commercial						
5/8"	47,712	$ 8.37	$ 399,349	47,712	$ 3.99	$ 190,371
3/4"	9,900	13.55	134,145	9,900	4.51	44,649
1"	20,664	28.60	590,990	20,664	5.55	114,685
1 1/2"	10,332	54.49	562,991	10,332	8.15	84,206
2"	10,776	90.25	972,534	10,776	11.26	121,338
3"	3,120	205.97	642,626	3,120	19.57	61,058
4"	2,424	355.54	861,829	2,424	28.92	70,102
6"	1,236	872.82	1,078,806	1,236	54.88	67,832
8"	108	1,606.34	173,485	108	86.04	9,292
10" & Above	-	2,687.66	-	-	122.38	-
Unmetered	12	36.49	438	12	41.09	493
Subtotal: Commercial	106,284		$ 5,417,193	106,284		$ 764,026
Industrial						
5/8"	72	$ 8.37	$ 603	72	$ 3.99	$ 287
3/4"	12	13.55	163	12	4.51	54
1"	72	28.60	2,059	72	5.55	400
1 1/2"	-	54.49	-	-	8.15	-
2"	84	90.25	7,581	84	11.26	946
3"	36	205.97	7,415	36	19.57	705
4"	84	355.54	29,865	84	28.92	2,429
6"	24	872.82	20,948	24	54.88	1,317
8"	24	1,606.34	38,552	24	86.04	2,065
10" & Above	24	2,687.66	64,504	24	122.38	2,937
Subtotal: Industrial	432		$ 171,689	432		$ 11,140
Health or Education						
5/8"	336	$ 8.37	$ 2,812	336	$ 3.99	$ 1,341
3/4"	84	13.55	1,138	84	4.51	379
1"	228	28.60	6,521	228	5.55	1,265
1 1/2"	744	54.49	40,541	744	8.15	6,064
2"	1,560	90.25	140,790	1,560	11.26	17,566
3"	1,068	205.97	219,976	1,068	19.57	20,901
4"	792	355.54	281,588	792	28.92	22,905
6"	408	872.82	356,111	408	54.88	22,391
8"	36	1,606.34	57,828	36	86.04	3,097
10" & Above	24	2,687.66	64,504	24	122.38	2,937
Subtotal: Health or Education	5,280		$ 1,171,808	5,280		$ 98,845
Municipal - Residential						
5/8"	1,728	$ 8.37	$ 14,463	1,728	$ 3.99	$ 6,895
3/4"	24	13.55	325	24	4.51	108
1"	-	28.60	-	-	5.55	-
1 1/2"	-	54.49	-	-	8.15	-
2"	-	90.25	-	-	11.26	-
3"	-	205.97	-	-	19.57	-
4"	-	355.54	-	-	28.92	-
6"	-	872.82	-	-	54.88	-
8"	-	1,606.34	-	-	86.04	-
10" & Above	-	2,687.66	-	-	122.38	-
Subtotal: Municipal - Residential	1,752		$ 14,789	1,752		$ 7,003

	2027 Revenue @ 2026 Rates			2027 Revenue @ Proposed Rates		
	Units	**Rates**	**Revenue**	**Units**	**Rates**	**Revenue**
Municipal - Commercial						
5/8"	372	$ 8.37	$ 3,114	372	$ 3.99	$ 1,484
3/4"	36	13.55	488	36	4.51	162
1"	240	28.60	6,864	240	5.55	1,332
1 1/2"	168	54.49	9,154	168	8.15	1,369
2"	264	90.25	23,826	264	11.26	2,973
3"	60	205.97	12,358	60	19.57	1,174
4"	12	355.54	4,266	12	28.92	347
6"	24	872.82	20,948	24	54.88	1,317
8"	-	1,606.34	-	-	86.04	-
10" & Above	-	2,687.66	-	-	122.38	-
Subtotal: Municipal - Commercial	1,176		$ 81,018	1,176		$ 10,159
Subtotal: Minimum Charges	1,267,944		$ 16,684,411	1,267,944		$ 5,331,572
Pennvest Surcharge						
Residential	2,174,044	$ 0.88	$ 1,922,488	3,169,642	$ 0.90	$ 2,849,424
Residential - CAP	130,947	0.44	57,898	183,268	0.45	82,377
Residential - CAP - 50FPL	44,633	0.44	19,734	59,507	0.45	26,747
Commercial	2,526,258	0.88	2,233,949	3,203,871	0.90	2,880,195
Industrial	177,423	0.88	156,894	188,428	0.90	169,392
Health or Education	888,611	0.88	785,791	1,044,248	0.90	938,751
Municipal - Residential	620	0.88	549	682	0.90	613
Municipal - Commercial	109,046	0.88	96,428	119,661	0.90	107,572
Subtotal: Pennvest Surcharge	6,051,583		$ 5,273,731	7,969,306		$ 7,055,070
Volume Charge						
Residential	2,174,044	$ 7.69	$ 16,718,397	3,169,642	$ 7.39	$ 23,423,655
Residential - CAP	130,947	7.69	1,006,983	183,268	7.39	1,354,350
Residential - CAP - 50FPL	44,633	3.08	137,292	59,507	2.96	175,901
Commercial	2,526,258	7.03	17,759,596	3,203,871	7.42	23,772,724
Industrial	177,423	7.05	1,250,832	188,428	7.64	1,439,590
Health or Education	888,611	7.88	7,002,255	1,044,248	7.96	8,312,214
Municipal - Residential	620	7.69	4,771	682	7.39	5,036
Municipal - Commercial	109,046	7.03	766,593	119,661	7.42	887,883
Subtotal: Volume Charge	6,051,583		$ 44,646,719	7,969,306		$ 59,371,354
Wholesale and Contract Revenues			$ -			$ -
Total: Base Rate Revenues			$ 66,604,861			$ 71,757,996
DSIC Revenues						
Residential		7.5%	$ 2,135,139		7.5%	$ 2,303,484
Residential - CAP		7.5%	91,664		7.5%	122,980
Commercial		7.5%	1,905,805		7.5%	2,056,271
Industrial		7.5%	118,456		7.5%	121,509
Health or Education		7.5%	671,989		7.5%	701,236
Municipal - Residential		7.5%	1,508		7.5%	949
Municipal - Commercial		7.5%	70,803		7.5%	75,421
Total: DSIC Revenues			$ 4,995,365			$ 5,381,850
Other Revenues						
Other Revenues			1,088,933			1,088,933
Total: System Revenues			**$ 72,689,159**			**$ 78,228,779**
FPFTY Wastewater Conveyance Revenue Requirements						**$ 78,221,764**
Difference						**$ 7,015**

(1) Note difference in COS rates is combination of bad debt, DSIC, and Stormwater gradualism.

Pittsburgh Water and Sewer Authority HJS-24WW

FPFTY 2026 COS & Rate Design Model

Typical Bill Comparison

	FTY 2025	FPFTY 2026	2027
Customer Impacts			
Residential - 5/8" / 3 Kgal			
Wastewater Base Rates	$ 21.61	$ 23.75	$ 26.16
Pennvest Surcharge	-	1.77	2.70
Wastewater DSIC	1.08	1.91	2.16
Total Monthly Bill	$ 22.69	$ 27.43	$ 31.02
$ Change		$ 4.74	$ 3.59
% Change		*20.9%*	*13.1%*
Commercial - 1" / 13kgal			
Wastewater Base Rates	$ 74.87	$ 84.84	$ 102.01
Pennvest Surcharge	-	7.07	11.69
Wastewater DSIC	3.74	6.89	8.53
Total Monthly Bill	$ 78.61	$ 98.81	$ 122.22
$ Change		$ 20.19	$ 23.42
% Change		*25.7%*	*23.7%*
Industrial - 4" / 680kgal			
Wastewater Base Rates	$ 4,050.21	$ 4,656.04	$ 5,224.12
Pennvest Surcharge	-	539.42	611.30
Wastewater DSIC	202.51	389.66	437.66
Total Monthly Bill	$ 4,252.72	$ 5,585.12	$ 6,273.08
$ Change		$ 1,332.40	$ 687.96
% Change		*31.3%*	*12.3%*
Health or Education - 2" / 50kgal			
Wastewater Base Rates	$ 308.73	$ 350.29	$ 409.26
Pennvest Surcharge	-	29.18	44.95
Wastewater DSIC	15.44	28.46	34.07
Total Monthly Bill	$ 324.17	$ 407.93	$ 488.27
$ Change		$ 83.77	$ 80.34
% Change		*25.8%*	*19.7%*

Exhibits

HJS-1SW – HJS-13SW

Stormwater Revenue Requirements	**2026 FPFTY Revenue Requirements**	**2027 Revenue Requirements**
Operating Expenses		
Direct Operating Expenses		
Administrative Division		
Chief Executive Office	$ 392,353	$ 392,353
Customer Service	4,184,904	4,184,904
Technology Services	1,003,694	1,003,694
Finance	1,914,009	1,914,009
Human Resources	301,406	301,406
Legal	497,190	497,190
Safety & Security	289,276	289,276
Public Affairs	202,809	202,809
Operations Division		
Environmental Compliance	1,749,467	1,749,467
Warehouse	63,746	63,746
Laboratory	-	-
Water Treatment Plant	828,007	828,007
Sewer Operations	3,335,355	3,335,355
Water Operations	107,100	107,100
Engineering & Construction Division		
Engineering & Construction	7,919,659	7,919,659
Subtotal: Direct Operating Expenses	$ 22,788,974	$ 22,788,974
Other Operating Expenses		
Loss / (Gain) on ALCOSAN Billings	$ -	$ -
Subtotal: Other Operating Expenses	$ -	$ -
Subtotal: Operating Expenses	$ 22,788,974	$ 22,788,974
Debt Service		
Existing Debt	11,266,549	11,372,016
Proposed Debt	1,695,111	2,303,525
Subtotal: Debt Service	$ 12,961,660	$ 13,675,541
Other Expenditures & Transfers		
Debt Coverage Capital - Existing Senior	$ 3,679,659	$ 3,784,502
Debt Coverage Capital - Future Senior	64,965	34,658
Other Transfers to Reserves	335,686	335,686
Subtotal: Other Expenditures & Transfers	$ 4,080,310	$ 4,154,846
Total: Stormwater Revenue Requirements	**$ 39,830,944**	**$ 40,619,361**
Less: Capital Costs to be Recovered through DSIC	-	-
Add: Bad Debt Costs	1,693,944	1,693,944
Add: Stormwater Credit Costs	288,016	288,016
Total: Stormwater System Base Rate Revenue Requirement	**$ 41,812,903**	**$ 42,601,320**

Pittsburgh Water HJS-2SW

FPFTY 2026 COS & Rate Design Model

Net Revenue Requirements

	FY 2026 *Proposed*	FY 2027 *Proposed*
Determination of Revenue Requirement		
Operating Expenses	$ 22,788,974	$ 22,788,974
Debt Service		
Existing	$ 11,266,549	$ 11,372,016
Proposed	1,695,111	2,303,525
Subtotal: Debt Service	$ 12,961,660	$ 13,675,541
Other Capital Costs		
Debt Coverage Capital - Existing Senior	$ 3,679,659	$ 3,784,502
Debt Coverage Capital - Future Senior	64,965	34,658
Other Transfers to Reserves	335,686	335,686
Subtotal: Other Capital Costs	$ 4,080,310	$ 4,154,846
Total: Revenue Requirements	**$ 39,830,944**	**$ 40,619,361**
Revenue Adjustments		
Allocated Offsets	$ (1,050,743)	$ (1,071,758)
Less: Gradualism Adjustment	(6,000,000)	(6,000,000)
Bad Debt	1,693,944	1,693,944
Total: Net Revenue Requirements for Ratemaking	**$ 34,474,145**	**$ 35,241,547**

Units of Service

Billable Units - Non Stormwater Only	Parcels	Equivalencies	Equivalent Units
Residential Rate (per ERU)			
Tier 1	11,169	0.5	5,737
Tier 2	59,330	1.0	59,084
Tier 3	13,393	2.0	26,174
Other	6	1.0	6
Subtotal: Residential Units	83,898		91,001
Residential - CAP			
Tier 1	1,315	0.5	671
Tier 2	6,116	1.0	6,099
Tier 3	738	2.0	1,391
Other	1	1.0	1
Subtotal: Residential - CAP Units	8,170		8,162
Commercial	6,737	1.0	71,775
Industrial	32	1.0	1,405
Health or Education	411	1.0	10,526
Municipal	231	1.0	5,790
Other	6,966	1.0	25,712
Subtotal: Billable Units - Non Stormwater Only	106,445		214,371
Stormwater Only			
Residential - SW Only			
Tier 1	410	0.5	114
Tier 2	617	1.0	378
Tier 3	153	2.0	255
Other	-	1.0	-
Subtotal: Residential - SW Only	1,180		747
Non-Residential	15,124	1.0	26,548
Subtotal: Stormwater Only	16,304		27,295
Non-Billable			
PW Operations			-
Subtotal: Non-Billable			-
Total: Billable Units	**122,749**		**241,666**

Pittsburgh Water HJS-4SW

FPFTY 2026 COS & Rate Design Model

Stormwater COS by Customer Class

Unit Cost Determination		**FY 2026** COS
Stormwater Revenue Requirements	$	39,830,944
Less: Allocated Offsets		(1,050,743)
Net Stormwater Revenue Requirements	$	38,780,202
Stormwater ERUs		241,666
Annual Stormwater Cost per ERU	**$**	**160.47**

		Full COS Rate			
	ERUs	Unit Rate	Unit Rate (Monthly)	COS by Class	% by Class
Customer Class Cost of Service					
Residential	91,748	$ 160.47	$ 13.37	$ 14,722,824	38.0%
Residential - CAP	8,162	160.47	13.37	1,309,758	3.4%
Commercial	98,323	160.47	13.37	15,777,916	40.7%
Industrial	1,405	160.47	13.37	225,461	0.6%
Health or Education	10,526	160.47	13.37	1,689,110	4.4%
Municipal	5,790	160.47	13.37	929,123	2.4%
Other	25,712	160.47	13.37	4,126,011	10.6%
	241,666			$ 38,780,202	100.0%

COS Adjustments	Allocation Method	Residential	Residential - CAP	Commercial	Industrial	Health or Education	Municipal	Other	Total
Adjustments to Cost of Service									
Gradualism - Between WW/Storm	Unadj. COS	38.0%	3.4%	40.7%	0.6%	4.4%	2.4%	10.6%	100.0%
Add: Bad Debt Expense	Unadj. COS	38.0%	3.4%	40.7%	0.6%	4.4%	2.4%	10.6%	100.0%
Add: Bad Debt Expense (SWO)	Unadj. COS (Weighted by SWO)	2.5%	0.2%	67.5%	1.0%	7.2%	4.0%	17.6%	100.0%
Add: Cost of Credits and Incentives	Unadj. COS	38.0%	3.4%	40.7%	0.6%	4.4%	2.4%	10.6%	100.0%
BDP Forgone Revenue	Unadj. COS	39.3%		42.1%	0.6%	4.5%	2.5%	11.0%	100.0%
Cost of Service by Class									
Allocated Cost of Service (Unadjusted)		$ 14,722,824	$ 1,309,758	$ 15,777,916	$ 225,461	$ 1,689,110	$ 929,123	$ 4,126,011	$ 38,780,202
Net Cost of Service (1)		$ 14,722,824	$ 1,309,758	$ 15,777,916	$ 225,461	$ 1,689,110	$ 929,123	$ 4,126,011	$ 38,780,202
% of COS		*38.0%*	*3.4%*	*40.7%*	*0.6%*	*4.4%*	*2.4%*	*10.6%*	*100.0%*
Adjustments to Cost of Service	Adjustment								
Gradualism - Between WW/Storm	$ (6,000,000)	$ (2,277,888)	$ (202,643)	$ (2,441,129)	$ (34,883)	$ (261,336)	$ (143,752)	$ (638,369)	$ (6,000,000)
Add: Bad Debt Expense (NSWO)		637,244	56,690	81,979	1,514	15,116	674	21,438	814,655
Add: Bad Debt Expense (SWO)		31,994	-	738,720	10,556	79,084	3,480	15,454	879,289
BDP Forgone Revenue	1,040,309	408,756	(1,040,309)	438,049	6,260	46,896	25,796	114,552	-
Add: Cost of Credits and Incentives	288,016	109,345	9,727	117,181	1,674	12,545	6,900	30,643	288,016
Total: Adjusted Cost of Service		**$13,632,275**	**$ 133,223**	**$14,712,715**	**$ 210,582**	**$ 1,581,414**	**$ 822,221**	**$ 3,669,730**	**$ 34,762,161**
% of COS		*39.2%*	*0.4%*	*42.3%*	*0.6%*	*4.5%*	*2.4%*	*10.6%*	*100.0%*

(1) Net Cost of Service excludes Bad Debt Expense and Cost of Credits and Incentives since these costs vary based on the amount of the Stormwater fee.

Unit Cost for Ratemaking	**FY 2026**
Net Costs to Recover for Ratemaking	$ 34,762,161
Stormwater ERUs	234,728
Annual Stormwater Cost per ERU for Ratemaking	**$ 148.10**
Monthly Stormwater Charge per ERU	**$ 12.34**

Monthly Stormwater Rates		Units	Proposed Rate ($/ERU)	Revenues	Class COS	Difference ($)	Difference (%)
Residential							
Tier 1		11,702	$ 6.17	$ 866,416			
Tier 2		59,462	12.34	8,805,133			
Tier 3		13,215	24.68	3,913,606			
Other		6	12.34	888			
Subtotal: Residential		84,385		13,586,044	$ 13,632,275	$ (46,232)	-0.3%
Residential - CAP							
Tier 1	85%	1,342	$ 0.93	$ 14,977			
Tier 2	85%	6,099	1.85	135,398			
Tier 3	85%	696	3.70	30,880			
Other	85%	1	1.85	22			
Subtotal: Residential - CAP		8,138		181,277	$ 133,223	$ 48,054	26.5%
Non-Residential							
Commercial		98,323	$ 12.34	$ 14,559,670			
Industrial		1,405	12.34	208,052			
Health or Education		10,526	12.34	1,558,690			
Municipal		5,790	12.34	857,383			
Other		25,712	12.34	3,807,433			
Subtotal: Non-Residential		141,756		20,991,228	$ 20,996,662	$ (5,434)	0.0%
Total Stormwater		234,278		34,758,549	$ 34,762,161	$ (3,611)	0.0%

	Unadjusted COS		Revenue at Existing Rates		Revenue at Proposed Rates		Proposed Increase	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
Base Rate Revenues								
Residential	$ 14,722,824	38.0%	$ 11,075,819	39.1%	$ 13,586,044	39.1%	$ 2,510,225	22.7%
Residential - CAP	1,309,758	3.4%	147,815	0.5%	181,277	0.5%	33,462	22.6%
Commercial	15,777,916	40.7%	11,869,553	41.9%	14,559,670	41.9%	2,690,117	22.7%
Industrial	225,461	0.6%	169,612	0.6%	208,052	0.6%	38,441	22.7%
Health or Education	1,689,110	4.4%	1,270,699	4.5%	1,558,690	4.5%	287,991	22.7%
Municipal	929,123	2.4%	698,969	2.5%	857,383	2.5%	158,414	22.7%
Other	4,126,011	10.6%	3,103,953	11.0%	3,807,433	11.0%	703,480	22.7%
Subtotal: Base Rate Revenues	**$ 38,780,202**	100.0%	**$ 28,336,418**	100.0%	**$ 34,758,549**	100.0%	**$ 6,422,131**	22.7%
DSIC Revenues								
Residential	n/a	n/a	$ -	0.0%	$ -	0.0%	-	0.0%
Residential - CAP	n/a	n/a	-	0.0%	-	0.0%	-	0.0%
Commercial	n/a	n/a	-	0.0%	-	0.0%	-	0.0%
Industrial	n/a	n/a	-	0.0%	-	0.0%	-	0.0%
Health or Education	n/a	n/a	-	0.0%	-	0.0%	-	0.0%
Municipal	n/a	n/a	-	0.0%	-	0.0%	-	0.0%
Subtotal: DSIC revenues	**$ -**	0.0%	**$ -**	0.0%	**$ -**	0.0%	**$ -**	0.0%
Total: User Charge Revenues	**$ 38,780,202**		**$ 28,336,418**		**$ 34,758,549**		**$ 6,422,131**	**22.7%**
Other Revenues	1,050,743		1,050,743		1,050,743		-	0.0%
Total: Stormwater Conveyance Revenues	**$ 39,830,944**		**$ 29,387,161**		**$ 35,809,292**		**$ 6,422,131**	**21.9%**

	2026 Revenue @ Existing Rates			2026 Revenue @ COS Rates			2026 Revenue @ Proposed Rates		
	Units	Rates	Revenue	Units	Rates	Revenue	Units	Rates	Revenue
Base Rate Revenue									
Non-Stormwater Only									
Residential									
Tier 1	11,474	$ 5.03	$ 692,571	11,474	$ 6.69	$ 920,618	11,474	$ 6.17	$ 849,535
Tier 2	59,084	10.06	7,132,620	59,084	13.37	9,481,224	59,084	12.34	8,749,159
Tier 3	13,087	20.12	3,159,725	13,087	26.75	4,200,148	13,087	24.68	3,875,846
Other	6	10.06	724	6	13.37	963	6	12.34	888
Subtotal: Residential	83,651		$ 10,985,641	83,651		$ 14,602,953	83,651		$ 13,475,428
Residential - CAP									
Tier 1	1,342	$ 0.75	$ 12,078	1,342	$ 6.69	$ 107,676	1,342	$ 0.93	$ 14,977
Tier 2	6,099	1.51	110,514	6,099	13.37	978,708	6,099	1.85	135,398
Tier 3	696	3.02	25,205	696	26.75	223,214	696	3.70	30,880
Other	1	1.51	18	1	13.37	160	1	1.85	22
Subtotal: Residential - CAP	8,138		$ 147,815	8,138		$ 1,309,758	8,138		$ 181,277
Non-Residential									
Commercial	71,775	$ 10.06	$ 8,664,678	71,775	$ 13.37	$ 11,517,752	71,775	$ 12.34	$ 10,628,442
Industrial	1,405	10.06	169,612	1,405	13.37	225,461	1,405	12.34	208,052
Health or Education	10,526	10.06	1,270,699	10,526	13.37	1,689,110	10,526	12.34	1,558,690
Municipal	5,790	10.06	698,969	5,790	13.37	929,123	5,790	12.34	857,383
Other	25,712	10.06	3,103,953	25,712	13.37	4,126,011	25,712	12.34	3,807,433
Subtotal: Non-Residential	115,208		$ 13,907,910			$ 18,487,456	115,208		$ 17,060,001
Subtotal: Non-Stormwater Only			$ 25,041,365			$ 34,400,166			$ 30,716,706
Stormwater Only									
Residential - SW Only									
Tier 1	228	$ 5.03	$ 13,762	228	$ 6.69	$ 18,294	228	$ 6.17	$ 16,881
Tier 2	378	10.06	45,632	378	13.37	60,658	378	12.34	55,974
Tier 3	128	20.12	30,784	128	26.75	40,920	128	24.68	37,760
Other	-	10.06	-	-	13.37	-	-	12.34	-
Subtotal: Residential - SW Only	734		$ 90,178	734		$ 119,871	734		$ 110,616
Non-Residential	26,548	10.06	3,204,875	26,548	13.37	4,260,164	26,548	12.34	3,931,228
Subtotal: Stormwater Only	27,282		$ 3,295,052	27,282		$ 4,380,035	27,282		$ 4,041,844
Stormwater User Charge Revenue	234,278		$ 28,336,418	234,278		$ 38,780,202	234,278		$ 34,758,549
DSIC Revenues									
Residential			$ -			$ -			$ -
Non-Residential			-			-			-
Subtotal: DSIC Revenues			$ -			$ -			$ -
Other Revenues									
Other Revenues			1,050,743			1,050,743			1,050,743
Total: System Revenues			**$ 29,387,161**			**$ 39,830,944**			**$ 35,809,292**
FPFTY Stormwater Revenue Requirements						**$ 39,830,944**			**$ 35,812,903**
Difference						**$ -**			**$ (3,611)**

Stormwater Revenue Requirements	**2026 FPFTY Revenue Requirements**	**2027 Revenue Requirements**
Operating Expenses		
Direct Operating Expenses		
Administrative Division		
Chief Executive Office	$ 392,353	$ 392,353
Customer Service	4,184,904	4,184,904
Technology Services	1,003,694	1,003,694
Finance	1,914,009	1,914,009
Human Resources	301,406	301,406
Legal	497,190	497,190
Safety & Security	289,276	289,276
Public Affairs	202,809	202,809
Operations Division		
Environmental Compliance	1,749,467	1,749,467
Warehouse	63,746	63,746
Laboratory	-	-
Water Treatment Plant	828,007	828,007
Sewer Operations	3,335,355	3,335,355
Water Operations	107,100	107,100
Engineering & Construction Division		
Engineering & Construction	7,919,659	7,919,659
Subtotal: Direct Operating Expenses	$ 22,788,974	$ 22,788,974
Other Operating Expenses		
Loss / (Gain) on ALCOSAN Billings	$ -	$ -
Subtotal: Other Operating Expenses	$ -	$ -
Subtotal: Operating Expenses	$ 22,788,974	$ 22,788,974
Debt Service		
Existing Debt	11,266,549	11,372,016
Proposed Debt	1,695,111	2,303,525
Subtotal: Debt Service	$ 12,961,660	$ 13,675,541
Other Expenditures & Transfers		
Debt Coverage Capital - Existing Senior	$ 3,679,659	$ 3,784,502
Debt Coverage Capital - Future Senior	64,965	34,658
Other Transfers to Reserves	335,686	335,686
Subtotal: Other Expenditures & Transfers	$ 4,080,310	$ 4,154,846
Total: Stormwater Revenue Requirements	**$ 39,830,944**	**$ 40,619,361**
Less: Capital Costs to be Recovered through DSIC	-	-
Add: Bad Debt Costs	1,693,944	1,693,944
Add: Stormwater Credit Costs	288,016	288,016
Total: Stormwater System Base Rate Revenue Requirement	**$ 41,812,903**	**$ 42,601,320**

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FPFTY 2026 COS & Rate Design Model
2027 Revenue Requirement for Ratemaking

	2026	2027
O&M Expenses	$ 22,788,974	$ 22,788,974
Debt Service	12,961,660	13,675,541
Debt Service Coverage	3,744,624	3,819,159
Other Expenditures	335,686	335,686
Net Rate Revenue Requirement	$ 39,830,944	$ 40,619,361
Less: Misc Revenues	$ 1,050,743	$ 1,071,758
Adjusted Revenue Requirement for Ratemaking	$ 38,780,202	$ 39,547,603
Increase		*1.98%*
Bad Debt Requirement	1,693,944	1,693,944
Gradualism Adjustment	$ (6,000,000)	$ (6,000,000)
Stormwater Credits Cost	288,016	288,016
Net Revenue to Recover from Rates	$ 34,762,161	$ 35,529,562

Unit Cost for Ratemaking	**FY 2027**
Net Costs to Recover for Ratemaking	$ 35,529,562
Stormwater ERUs	234,728
Annual Stormwater Cost per ERU for Ratemaking	**$ 151.36**
Monthly Stormwater Charge per ERU	**$ 12.62**

Monthly Stormwater Rates		Units	Proposed Rate ($/ERU)	Revenues	Class COS	Difference ($)	Difference (%)
Residential							
Tier 1		11,702	$ 6.31	$ 886,075			
Tier 2		59,462	12.62	9,004,925			
Tier 3		13,215	25.24	4,002,408			
Other		6	12.62	909			
Subtotal: Residential		84,385		13,894,317	$ 13,945,048	$ (50,731)	-0.4%
Residential - CAP							
Tier 1	85%	1,342	$ 0.95	$ 15,299			
Tier 2	85%	6,099	1.89	138,325			
Tier 3	85%	696	3.79	31,631			
Other	85%	1	1.89	23			
Subtotal: Residential - CAP		8,138		185,278	$ 145,507	$ 39,771	21.5%
Non-Residential							
Commercial		98,323	$ 12.62	$ 14,890,035			
Industrial		1,405	12.62	212,773			
Health or Education		10,526	12.62	1,594,057			
Municipal		5,790	12.62	876,838			
Other		25,712	12.62	3,893,825			
Subtotal: Non-Residential		141,756		21,467,529	$ 21,475,479	$ (7,950)	0.0%
Total Stormwater		234,278		35,547,124	$ 35,529,562	$ 17,561	0.0%

	2027 Revenue @ 2026 Rates			2027 Revenue @ Proposed Rates		
	Units	Rates	Revenue	Units	Rates	Revenue
Base Rate Revenue						
Non-Stormwater Only						
Residential						
Tier 1	11,474	$ 6.17	$ 849,535	11,474	$ 6.31	$ 868,811
Tier 2	59,084	12.34	8,749,159	59,084	12.62	8,947,681
Tier 3	13,087	24.68	3,875,846	13,087	25.24	3,963,791
Other	6	12.34	888	6	12.62	909
Subtotal: Residential	83,651		$ 13,475,428	83,651		$ 13,781,191
Residential - CAP						
Tier 1	1,342	$ 0.93	$ 14,977	1,342	$ 0.95	$ 15,299
Tier 2	6,099	1.85	135,398	6,099	1.89	138,325
Tier 3	696	3.70	30,880	696	3.79	31,631
Other	1	1.85	22	1	1.89	23
Subtotal: Residential - CAP	8,138		$ 181,277	8,138		$ 185,278
Non-Residential						
Commercial	71,775	$ 12.34	$ 10,628,442	71,775	$ 12.62	$ 10,869,606
Industrial	1,405	12.34	208,052	1,405	12.62	212,773
Health or Education	10,526	12.34	1,558,690	10,526	12.62	1,594,057
Municipal	5,790	12.34	857,383	5,790	12.62	876,838
Other	25,712	12.34	3,807,433	25,712	12.62	3,893,825
Subtotal: Non-Residential	115,208		$ 17,060,001	115,208		$ 17,447,100
Subtotal: Non-Stormwater Only	206,997		$ 30,716,706	206,997		$ 31,413,569
Stormwater Only						
Residential - SW Only						
Tier 1	228	$ 6.17	$ 16,881	228	$ 6.31	$ 17,264
Tier 2	378	12.34	55,974	378	12.62	57,244
Tier 3	128	24.68	37,760	128	25.24	38,617
Other	-	12.34	-	-	12.62	-
Subtotal: Residential - SW Only	734		$ 110,616	734		$ 113,126
Non-Residential	26,548	12.34	3,931,228	26,548	12.62	4,020,429
Subtotal: Stormwater Only	27,282		$ 4,041,844	27,282		$ 4,133,555
Stormwater User Charge Revenue	234,278		$ 34,758,549	234,278		$ 35,547,124
DSIC Revenues						
Residential			$ -			$ -
Non-Residential			-			-
Subtotal: DSIC Revenues			$ -			$ -
Other Revenues						
Other Revenues			1,071,758			1,071,758
Total: System Revenues			**$ 35,830,307**			**$ 36,618,881**
FPFTY Stormwater Revenue Requirements						**$ 36,601,320**
Difference						**$ 17,561**

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FPFTY 2026 COS & Rate Design Model

Typical Bill Comparison

	FTY 2025	FPFTY 2026	2027
Customer Impacts			
Residential - 5/8" / 3 Kgal / 1 ERU			
Stormwater Base Rates	$ 10.06	$ 12.34	$ 12.62
New Stormwater Charges	-	-	-
Stormwater DSIC	-	-	-
Total Monthly Bill	$ 10.06	$ 12.34	$ 12.62
$ Change		$ 2.28	$ 0.28
% Change		*22.7%*	*2.3%*
Commercial - 1" / 13kgal / 8 ERUs			
Stormwater Base Rates	$ 80.48	$ 98.72	$ 100.96
New Stormwater Charges	-	-	-
Stormwater DSIC	-	-	-
Total Monthly Bill	$ 80.48	$ 98.72	$ 100.96
$ Change		$ 18.24	$ 2.24
% Change		*22.7%*	*2.3%*
Industrial - 4" / 680kgal / 30 ERUs			
Stormwater Base Rates	$ 301.80	$ 370.20	$ 378.60
New Stormwater Charges	-	-	-
Stormwater DSIC	-	-	-
Total Monthly Bill	$ 301.80	$ 370.20	$ 378.60
$ Change		$ 68.40	$ 8.40
% Change		*22.7%*	*2.3%*
Health or Education - 2" / 50kgal / 32 ERUs			
Stormwater Base Rates	$ 321.92	$ 394.88	$ 403.84
New Stormwater Charges	-	-	-
Stormwater DSIC	-	-	-
Total Monthly Bill	$ 321.92	$ 394.88	$ 403.84
$ Change		$ 72.96	$ 8.96
% Change		*22.7%*	*2.3%*