



Pittsburgh
Water & Sewer
Authority

Media Kit

About PWSA

The Pittsburgh Water & Sewer Authority (PWSA) is a municipal water authority serving more than 300,000 people throughout Pittsburgh and surrounding areas.

PWSA is the largest combined water and sewer authority in Pennsylvania, producing an average of 70 million gallons of water daily.

Our more than 260 employees are city residents and PWSA customers with expertise in engineering, operations, maintenance, water quality, customer service, safety, green infrastructure and a number of other disciplines.

We strive to constantly improve our operations to enhance the way we do business in a safe, sustainable and customer-friendly manner.

Water

The PWSA drinking system contains 930 miles of water lines, five reservoirs, and 11 tanks.

We draw from the Allegheny River, treating and monitoring it to ensure all local, state, and federal regulations are met or exceeded.

We constantly test for contaminants in the source water prior to treatment. Results of the test enable us to adjust the treatment process in order to maximize the reduction or removal of contaminants.

Sewer

The PWSA sewer system is composed of 1,200 miles of sewer lines, approximately 25,000 catch basins and four pump stations.

The sewer collection system is primarily a combined sewer and stormwater collection system that serves the entire City of Pittsburgh. It also serves as a conveyance system for portions of flows from 24 neighboring municipal communities.

The wastewater collected by the PWSA system is conveyed to the Allegheny County Sanitary Authority (ALCOSAN) for treatment.



The Highland Park Reservoir was put into service in 1879 with a capacity of 125 million gallons of water. The reservoir is a focal point of Highland Park and is the only uncovered reservoir within PWSA's water distribution system.

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2018 - 2022 Capital Improvement Needs

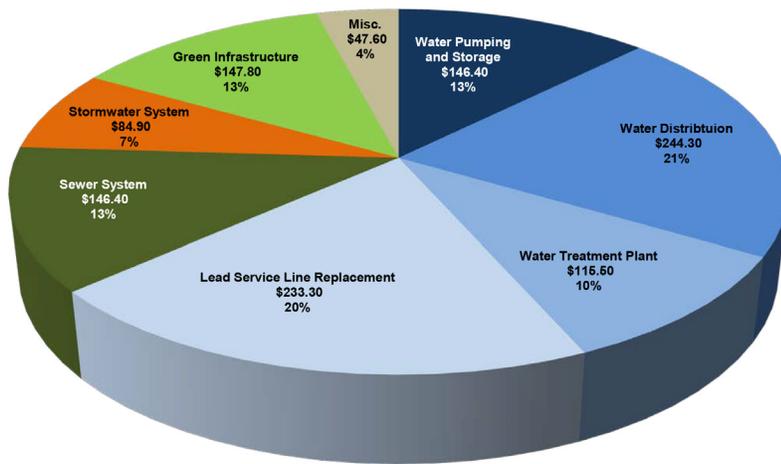
To ensure the stability of our water system, now and for future generations, PWSA is investing in its aging infrastructure. Our capital improvement program (CIP) includes \$1.1 billion of needed infrastructure improvements to our water systems, distribution system, and network of pipes.

PWSA uses a risk managed approach to allocate funding for its most critical projects using criteria that prioritizes public health and safety, meeting regulatory compliance, and consideration for the age, location and condition of facilities. Additional consideration is given to operations and maintenance efficiency, regional cooperation, customer service improvements, and sustainability.

This ranking system has helped to prioritize projects that are most critical to the delivery and treatment of water, improving operational reliability, and managing stormwater. The project list in the sidebar highlights some of the most critical projects identified in the 2018-2022 CIP.

PWSA has significant infrastructure needs and we can no longer delay this investment. Beginning in 2018, annual capital spending will begin to increase and will peak at \$312 million in 2021 with spending spread across eight organizational project areas.

2018-2022 Proposed Capital Cash Flow by Project Class



After years of deferring this investment in our infrastructure, PWSA outlines a path to update its systems to become the modern, well-functioning water system that the City of Pittsburgh deserves.

Critical and High Profile Capital Projects

Water Projects

Clearwell Project: PWSA will demolish and reconstruct the clearwell located at the Aspinwall Treatment Plant. Built in 1908, it has not undergone any modifications or upgrades. It is an essential component of our water system. This project will result in replacing the existing clearwell and building redundancy into the water treatment and distribution system.

Project components include the Clearwell Emergency Project, Redundant Lanpher Rising Main, Aspinwall Pump Station Improvements, Bruecken Pump Station Improvements and Highland Park Pump Station & Rising Main

Lead Service Line Replacement

Lanpher Reservoir Improvements

Sewer Projects

Sewers Under Critical Structures Program: In recent years, sewers located under critical structures have experienced an increasing rate of failure due to limited accessibility and pipe age. This program establishes a proactive approach to asset management. PWSA will evaluate the condition of sewer pipes and determine if rehabilitation, relocation, or abandonment is necessary.

Green Infrastructure Projects

- Wightman Park
- Woods Run Stream Removal
- Four Mile Run/Panther Hollow

Citywide Green First Plan

PWSA and the City of Pittsburgh introduced the Draft Citywide Green First Plan for public comment in December 2016. It establishes Pittsburgh's vision of becoming a community that utilizes innovative green solutions to meet regulatory requirements, manages stormwater, and creates sustainable neighborhoods where people want to work and live.

Green infrastructure uses engineered systems that mimic nature. Some of the systems PWSA is incorporating into projects include bioswales, underground storage tanks, pervious concrete, and vegetation that will capture and slowly release stormwater back into the combined sewer system and our rivers.

The Green First Plan identifies areas that are most prone to flooding and sewer overflows. The following locations, prioritized for green infrastructure projects, will benefit from a green first approach to manage 1,835 acres of impervious land that are most at risk for stormwater runoff.

- Negley Run/Washington Boulevard
- Four Mile Run/Junction Hollow
- East End/Shadyside
- Saw Mill Run
- Streets Run



The Centre and Herron Green Infrastructure project, located in the Upper Hill District is one of three green stormwater projects completed in 2018.

Adopting a green first approach provides the ability for PWSA to meet regulatory compliance, reduce the hazards of flooding throughout Pittsburgh, and individual green infrastructure projects will enhance the urban environment and generate economic benefits throughout our neighborhoods.

Water Quality

Providing high-quality, safe, and reliable drinking water to our customers is our number one priority. PWSA's drinking water quality is continuously monitored by the Authority and its regulators. The Authority is making major investments to the drinking water treatment plant and distribution system to ensure that we continue to deliver water for generations to come.

Like many water systems of its age, PWSA is addressing the risks presented by lead pipes in its old water infrastructure. PWSA is committed to working with the community to identify solutions to reduce the risk of lead exposure, including replacing lead service lines. In addition, PWSA is concurrently pursuing alternative water treatment methods to minimize corrosion from lead pipes and plumbing. The Authority encourages customers to learn more about lead in water at lead.pgh2o.com.



PWSA is performing a pilot test of epoxy lining of a private lead service lines in six homes.

Pittsburgh's Water History

The Early Days



The first documented effort to establish a public water system in Pittsburgh occurred in 1802 when an ordinance was passed authorizing construction of four 47-

foot deep public wells, with pumps, on Market Street. As time passed, systems of public and private wells became inadequate to satisfy the needs of the growing population. Because of the increasing need for water, the city constructed a pumped water system utilizing Allegheny River water and put it into service in 1828.

As the city expanded throughout the 19th century, the water system was forced to expand as well. Two major additions were made to the water system with the consolidation of the City of Pittsburgh and the City of Allegheny (Northside) in 1907, and the purchase of the Monongahela Water System (Southside) in 1908. The three waterworks merged into a greater city waterworks.

New Technologies

At the end of the 19th century, contamination of the Allegheny River and the risk of waterborne diseases like typhoid fever and cholera had prompted residents and officials to press for the institution of a water purification system. In 1905, after years of intense argument concerning the design of the plant, construction was begun on a slow-sand-filtration plant that included a river pumping station, a receiving basin, two sedimentation basins, 46 covered slow-sand filters and an underground filtered water basin or clearwell. Pre-filtration systems and the use of chlorine for disinfection were added in subsequent years, the benefits of which were quickly apparent. By 1911, the annual cases of typhoid fever had dramatically dropped.

By the mid-1950s, the slow-sand filters had become old and less effective. The requirement to continue to provide safe water pointed to a need for a modern rapid sand-filtration plant. This structure, constructed in 1962, provided for the first time complete chemical treatment and filtration for removal of iron, manganese, tastes, odors and colors, and for enhancement of subsequent filtration.

Creation of PWSA

The Pittsburgh Water and Sewer Authority (PWSA) was created in 1984. At the time, the primary function of PWSA was to oversee a \$200 million capital improvement program designed to refurbish the infrastructure of the entire water system, including the treatment plant and distribution system. This project was to ensure that the water system met the requirements of the state and federal Safe Drinking Water Acts. One of the first major responsibilities of PWSA was to cover all existing open water reservoirs or replace them with closed tanks.

Currently, all of our reservoirs are covered except for the Highland Reservoir No. 1, which uses a membrane filtration plant to ensure the requirements of the state and federal Safe Drinking Water Acts are fulfilled.

In 1995, the City of Pittsburgh's Water Department became a part of the PWSA, making the Authority responsible for producing and supplying the water for Pittsburgh residents and to maintain and operate the water infrastructure. In 1999, PWSA became responsible for operating and maintaining the entire City of Pittsburgh sewer system.

Toward the Future

PWSA currently provides quality water and services to more than 300,000 customers throughout the City of Pittsburgh and surrounding areas. PWSA's vision is to provide water and wastewater services that meet or exceed regulations and customer expectations at the lowest possible cost.

PWSA is planning for major improvements to the organization and the water system. After decades of underinvestment, it's time to "get stuff done." Over the past year, PWSA has started to implement several major initiatives ranging from removing lead from service lines, making water system improvements, investing in human capital, and improving management systems. By working with our stakeholders, communicating honestly, and transparently, PWSA can become the first-class water utility that Pittsburgh expects and deserves.