
TRENTON
EST.
1800
WATER WORKS


H2OPEN
Let's Talk About Water

Overview

History

Trenton Water Works (TWW) is among the oldest public water systems in the United States. Purchased by the **City of Trenton** in 1859, the TWW system grew by constructing the open **Pennington Avenue Reservoir** in 1899 and the original **Water-Filtration Plant** in 1914.

Self-Liquidating Asset

TWW is a self-liquidating municipal government asset. TWW utilizes revenue from ratepayers to fund operations, capital work, and debt service. Capital work, measured in the millions of dollars, is funded with municipal bonds, government loans, and federal and state grants, including the **New Jersey Infrastructure Bank** (I-Bank). All are backed by TWW ratepayer revenue, not city taxes.

Organizational Structure

TWW's organizational structure comprises administration, the **Water-Filtration Plant**, engineering, water distribution, construction and maintenance, the meter shop, and customer care and billing. **TWW has 165 employees.**

Leadership

The City of Trenton's **Department of Water and Sewer** operates **Trenton Water Works**. Mr. Sean Semple, a 22-year veteran public servant and accomplished executive in municipal public works and water utility operations, leads the Department. Sean holds a Bachelor of Science in Engineering from The College of New Jersey.

Expanded Regulatory Oversight

In October 2022, Mayor W. Reed Gusciora signed a **Unilateral Administrative Order** (UAO) with the **New Jersey Department of Environmental Protection** (NJDEP) that provides additional oversight and support of the water utility. **TWW's leadership team meets with the NJDEP weekly.**

TWW by the Numbers

TWW by the Numbers

28-33 million gallons of drinking water each day.

100-million-gallon **Pennington Avenue Reservoir**.

63,034 metered customers.

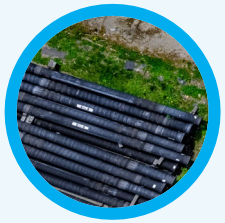
TWW by the Numbers

9,601 lead service lines replaced.

8,817 valves.

3,578 fire hydrants maintained and inspected annually.

TWW by the Numbers



683 miles of water mains.

165 employees.

$54.1 million proposed budget.

Water Quality

Water Quality Goal

Producing drinking water that meets or exceeds federal and state regulatory standards is a paramount goal. To achieve this nexus, TWW undertakes capital projects and routine maintenance, rigorous sampling and testing, water main flushing, cleaning, lining, and replacing water mains, among other standard water-industry tasks.

Water-Treatment Process

TWW's water-treatment process is coagulation, flocculation, sedimentation, and disinfection, followed by filtration.
TWW's raw water source is the **Delaware River**.

Hourly Testing

TWW's laboratory at the **Water-Filtration Plant** tests the water **hourly** for **turbidity**, **chlorine**, and **pH** levels.

Testing and Reporting

TWW's executes rigorous **Water-Filtration Plant** and field tests for turbidity, lead, PFAS (forever chemicals), and disinfection by-products (DBPs) to assess water quality continuously. TWW reports its testing results to regulators per the federal and state **Safe Drinking Water Act**.

Lead and Copper Testing

TWW tests for lead and copper in at least 100 approved locations annually throughout its five-municipality service area. TWW monitors treated water for lead and recruit customers who meet specific criteria to participate in our **Lead and Copper Sampling Program**.

PFAS

TWW tests for “forever chemicals” annually, with detects below the current federal standard **maximum contaminant level (MCL) of 4.0 parts per trillion**.

Legionella

Legionella is a bacterium commonly found in natural and artificial aquatic environments. *Legionella* exists in low concentrations in public water systems, including TWW. However, *Legionella* only poses a health risk when growth occurs in warm, stagnant water that is aerosolized and inhaled.

Legionella causes **Legionnaires' disease**, a type of pneumonia that people can get after breathing in aerosolized water containing the bacteria. **It is important to note that you cannot get Legionnaires' disease by drinking water that has *Legionella*.**

Legionella

It is rare for a healthy person exposed to ***Legionella*** to become sick with **Legionnaires' disease**. People 50 years or older, especially those who smoke or with certain medical conditions, including weakened immune systems, chronic lung disease, or other chronic health conditions, are at increased risk.

TWW distributes information developed by the **New Jersey Department of Health** on how to **decrease** risks of ***Legionella*** exposure, and we have brought that material with us to share with you. The pamphlet is also available from your local health department.

Legionella Mitigation

With help from the **U.S. Department of Environmental Protection** (EPA) and the **New Jersey Department of Environmental Protection** (NJDEP), on April 1, 2023, TWW started executing a **Low-Velocity Water Main Flushing Program** to improve water circulation and increase chlorine levels in targeted areas of the water distribution system.

The program aims to sustain a chlorine residual of **1.00 mg/L** in the water distribution system to mitigate conditions contributing to the growth of pathogens, including *Legionella*. TWW personnel open fire hydrants that are allowed to flow for extended periods, take samples for testing, and share data with regulators.

Water-Main Flushing

TWW annually flushes water mains using **conventional** and **unidirectional** methods to remove stagnant water, tuberculation, and sediment.

Elevated Storage Tank Maintenance

TWW routinely drains, cleans, and disinfects its **six elevated storage tanks**, infrastructure that helps maintain system pressure.

Midge Sampling 2023

These **tiny flies in the larval stage** nest at the reservoir intermittently under certain conditions. Finished water is rechlorinated at the reservoir before entering the distribution system, so the presence of midges has no adverse health effects.

TWW personnel take weekly samples from fire hydrants near the open reservoir using specialized equipment to check for **midges**.

Capital Projects

Capital Plan

In 2019, TWW unveiled a six-year, $405-million capital plan, a blueprint for modernizing the TWW system, undertaking projects at the **Water-Filtration Plant**, **Central Pumping Station**, elevated tanks, and water distribution system.

Lead Service Lines

Since 2021, TWW has **replaced 9,601 lead service lines** in our system and at service-area private homes, 28 percent of the water utility's inventory. TWW must replace all lead services by 2031.

Pennington Avenue Reservoir

Pennington Avenue Reservoir

Put into service in 1899, the **Pennington Avenue Reservoir** is one of three open reservoirs in New Jersey. The **Water-Filtration Plant** pumps water to the reservoir through 36-inch and 48-inch diameter water mains, providing storage for the **Gravity Zone** and supplying the **Central Pumping Station**. Water is rechlorinated at the gatehouse before it reaches the Central Pumping Station.

Pennington Avenue Reservoir

TWW plans to take the reservoir out of service during **Phase 3** of a project to decentralize TWW's water storage. **Phases 1 and 2** involve the construction of two eight-million-gallon tanks in Trenton, a $90-million project.

TWW has strengthened its day-to-day operation of the reservoir, which holds a three-day water supply. TWW hired engineering firm Princeton Hydro to conduct a bathymetric assessment, conduct enhanced monitoring and testing, and develop a plan to manage the 124-year-old asset as TWW advances its decommissioning.

42-Inch Water Main

TWW will spend $6 million to install a 42-inch water main connecting the **Pennington Avenue Reservoir** to the eight-million-gallon tanks constructed at 942 Prospect Street.

Smart Meters

TWW will spend $20 million to replace thousands of water meters with **smart meters** that transmit data remotely, improving billing data collection and meter-reading efficiency. We are starting the project at **Brandon Farms** in approximately 90 days.

Flushing Devices

In December, weather permitting, TWW will begin installing approximately **170 flushing devices** throughout its water distribution system, a $1.7 million project, to help maintain chlorine levels and remove stagnant water from specific areas of our system.

Mechanical Dewatering Facility

TWW will spend $1.2 million into 2026 to rebuild **four belt presses** at the Water-Filtration Plant's **Mechanical Dewatering Facility** (MDF). The presses have exceeded their useful life and are essential in removing organic matter from raw water in the water-treatment process.

Lead Service Lines

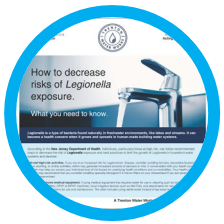
TWW will remove up to **750 lead services** in specific Trenton neighborhoods in 2024 under the **Lead Service Line Replacement Program** (LSLRP). An **EPA** grant is funding the work.

Powdered Activated Carbon System

To reduce **disinfection by-products** (DBPs), TWW will upgrade the Water-Filtration Plant's **powdered activated carbon system**, a $250,000 project. DBPs, or **trihalomethanes**, are formed when chlorine and bromine interact with natural organic materials in water, such as chlorinated drinking water.

Olden Avenue, Ewing Township

TWW will replace nearly two miles of 16-inch water main along **Olden Avenue** in **Ewing Township**, a $4-million project. The water mains in the high-traffic area are prone to repeated breaks.



Communications

How TWW Communicates

For routine matters, TWW communicates using various channels, including traditional media, direct mail, and our **Facebook** page. Sometimes, we use our Reverse 911 system, **TWW-Connects**, for those who sign up.

H2Open

H2Open is TWW's grassroots outreach initiative, which produces these community forums and participates in community events.

Water Quality Alerts

If TWW issues a water quality alert, such as a **Boil-Water Advisory** that requires action by customers, we will communicate via traditional media, our **Facebook** page, and use our Reverse 911 system, **TWW-Connects**, for those who sign up.

Community Relations

You can reach **Community Relations** at **(609) 989-3033**. TWW's business hours are Monday to Friday, 8:30 a.m. to 4:30 p.m. TWW is closed on municipal and federal holidays.

Emergency Telephone Number

A **TWW standby technician** is available **24/7** to respond to water emergencies, such as water main breaks, damaged fire hydrants, service leaks, and emergency shutoffs. TWW's emergency phone number is **(609) 989-3222**.

Web-Based Resources

- ***Legionella***
  New Jersey Department of Environmental Protection
  dep.nj.gov/trentonwater/legionella/

- **Legionnaires' Disease**
  Centers for Disease Control and Prevention (CDC)
  cdc.gov/legionella/index.html

- **TWW's *Legionella* Mitigation**
  Trenton Water Works (TWW)
  trentonwaterworks.org/legionella

Web-Based Resources

- **TWW System Information (NJ1111001)**
  NJDEP Drinking WaterWatch
  www9.state.nj.us/DEP_WaterWatch_public/

- **DrinkTap**
  American Water Works Association (AWWA)
  drinktap.org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