Have you ever wondered where the water goes and how it gets back to your faucet?

Every drop of water that leaves your home—whether from flushing the toilet, washing dishes, or taking a shower—embarks on an incredible journey through a carefully designed system. This network of pipes, pumps, and treatment facilities works tirelessly to ensure that wastewater is cleaned and safely returned to the environment. At the heart of it all is the Camden County Municipal Utilities Authority (CCMUA), which plays a vital role in protecting our health, preserving our lakes and rivers, and maintaining the balance of our ecosystem.

We'll explore the fascinating steps of wastewater treatment and how our collective efforts help ensure clean water for generations to come.

The Journey of Water: From Homes to Treatment Facilities

Wastewater from homes and businesses flows through a vast network of underground pipes spanning 135 miles. This regional collection system, designed and maintained by CCMUA, relies on gravity wherever possible. Where topography makes gravity flow impossible, pump stations step in to lift wastewater uphill, ensuring its journey to the treatment plant.

What are Pump Stations?

The CCMUA Water Resource Recovery Facility is located in Camden City, on the shore of the Delaware River, for a number of reasons, but the most important is related to a law... the law of gravity! The Delaware River is at sea level and is the lowest point in the county, and as we know, water flows downhill. It is much more cost-effective and energy-efficient to let gravity do the work. But the landscape of our county ranges from 0 to 220 feet above sea level, and this is not always possible. This is where pump stations come in! A pump station (also called a lift station) is a facility equipped with powerful pumps that can force massive amounts of water uphill for stretches of the regional interceptor system before they can again flow downhill. Without them, our system wouldn't work!

Follow Us

Camden County Municipal Utilities Authority

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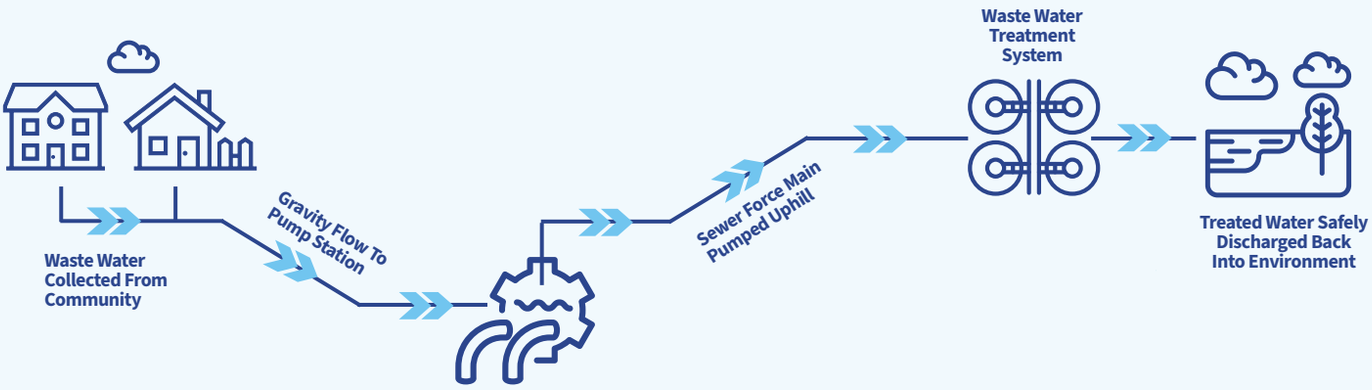
How It All Works



Where Are These Pump Stations?
Our 27 pump stations are distributed throughout the county. They vary in size based on the geography of the area and the volume of the flow coming to the station. Some of the larger pump stations include Gloucester City, Chews Landing, Runnemede, and Collingswood pump stations while some of the smaller stations include Mardale, Catalina Hills, Kingston, and Columbia Lakes.

How Do They Work?
These amusingly named tools are vital to the system's efficiency:

- Macerators shred solids to protect pumps.
- Wet Well Wizards® use air bubbles to prevent grease and oils from clumping.

Imagine you are a drop of water (influent) flowing through the interceptor system, and you reach a pump station. What can you expect to see on your trip?

On your way through the influent pipe, you'd pass through a macerator.

As its name suggests, the macerator "chews up" or shreds solids that could clog up the pumps. Without a macerator, we'd need to service and replace our pumps much more frequently.

You'd then pass through a gate and into a wet well. A wet well is a deep cavity that temporarily stores the influent before pumping. It holds a larger amount of water than might, say, your sump pump at home for several reasons. It helps to ensure that water levels are balanced and consistent so that the pump does not run dry and become damaged, but its depth and size allow more time for the water to calm down and allow larger, heavier solids and waste to settle at the bottom of the well, where they will not be taken up and cause damage to the pump. Keeping our pumps healthy and well-maintained is key!

You might be tickled by air bubbles, thanks to our Wet Well Wizards! These devices inject air bubbles into the wet wells to prevent lighter, troublesome materials like fats, oils, and greases from clumping and forming crusts that could gunk up the pumps or lead to trouble further down the system.

Behind the Scenes: The People and Innovations

The Crew

The CCMUA's dedicated team includes 30 collection system crew members who manage pump stations and interceptor lines. Daily tasks include maintaining wet wells, inspecting equipment, and ensuring generators and odor-control systems function flawlessly.

What's Next for Pump Stations?

CCMUA continues to modernize facilities, focusing on:

- Improving generator electronics for greater reliability.
- Adding variable flow devices to many stations to reduce energy consumption and strain on the pumps.
- Upgrading HVAC system and corresponding odor-control capability.

> **The CCMUA is a great place to start your career.**

Stay Tuned!

In the next installment of this series, we will explore the wastewater treatment process in greater detail and highlight the remarkable work of the CCMUA team.

Our Commitment to Excellence

in wastewater treatment reflects our dedication to the well-being of the community and our environment.

Follow Us

What we do for you every day to safeguard our community's health.

- We process and treat sewage and wastewater for **500,000 residents** from **37 municipalities** in our county.
- We treat **58 million gallons** of **sewage per day** at our Camden County Water Resource Recovery Facility.
- We treat **185 million gallons** of **sewage during rainstorms**.
- This flows through **135 miles of pipe** and **27 pumping stations,** which we monitor and maintain.
- We **protect your health** through this **regional sanitary sewage system**.

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