GET TO KNOW US

Improving the region's wastewater treatment facility

PENNSYLVANIA AMERICAN WATER

Pennsylvania American Water is the largest publicly traded water utility in the state, providing high-quality and reliable water and wastewater services to approximately 2.2 million people in 390 communities. More than 1,000 Pennsylvania American Water employees, including water quality specialists, distribution and field service personnel, plant operators, meter readers, and administrative support specialists, carry out the company's foremost responsibility of providing high-quality, reliable water service to our customers around the clock.

Investing in our infrastructure

Pennsylvania American Water is committed to investing prudently in its water and wastewater facilities. Every year, we invest millions of dollars in our treatment, distribution and collection facilities statewide. Among the recent investments is the expansion of Pennsylvania American Water's Coatesville Regional Wastewater Treatment Facility.

The new $55-million state-of-the-art facility, which is capable of treating 7 million gallons of wastewater a day (MGD), replaces the former aging facility that has been serving customers in the greater Coatesville area since 1932.

The facility contains modern technology, enhanced treatment techniques and safety features including:

- **Increased capacity.** The new plant has the capacity to treat 7 million gallons of wastewater a day, nearly doubling the capacity of the former plant, which could only treat 3.85 MGD. This will allow the company to better serve the current and future needs of the region and enable municipalities to accommodate proposed growth.

Continued on reverse.

Coatesville Regional Wastewater Treatment Facility Facts at a Glance

Project Cost
Approximately $55 million

Plant Location
Borough of South Coatesville

Communities Served
City of Coatesville, South Coatesville Borough, East Fallowfield Township, Caln Township, West Caln Township, Valley Township, Sadsbury Township, West Sadsbury Township, Highland Township and West Brandywine Township and Parkesburg Borough

Customers Served
Approximately 6,000 direct customers and four bulk wastewater customers

Expanded Treatment Capacity
7 million gallons per day (MGD). The former plant capacity was 3.85 MGD.

Acreage
14.7 acres

Construction Started
May 2008

Plant in Service
March 31, 2010

Sewer Collection System
79 miles of sewer main and 16 lift stations

Concrete Poured for Plant Expansion
20,250 cubic yards of concrete

Rebar Used in Plant Expansion
2,050 tons of rebar

Piping Installed in Plant Expansion
15,750 linear feet of pipeline

Plant Personnel
Staff of six, includes one licensed supervisor, plant operators and one laboratory technician

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WE CARE ABOUT WATER. IT'S WHAT WE DO.®

PENNSYLVANIA AMERICAN WATER

Wastewater Treatment

The **influent trunk line** carries the wastewater from homes and businesses in the communities served to the **influent lift station**. This building houses three screw pumps that move the raw wastewater from the trunk line, which is at a lower elevation, to a 54-inch pipe, which leads to the plant.

Headworks removes the larger debris through an **automatic bar screen**. It also houses a **grit removal unit,** which further removes smaller particles and inorganic matter. By doing this, it helps the wastewater to be less abrasive to the equipment as it passes through the remainder of the treatment process.

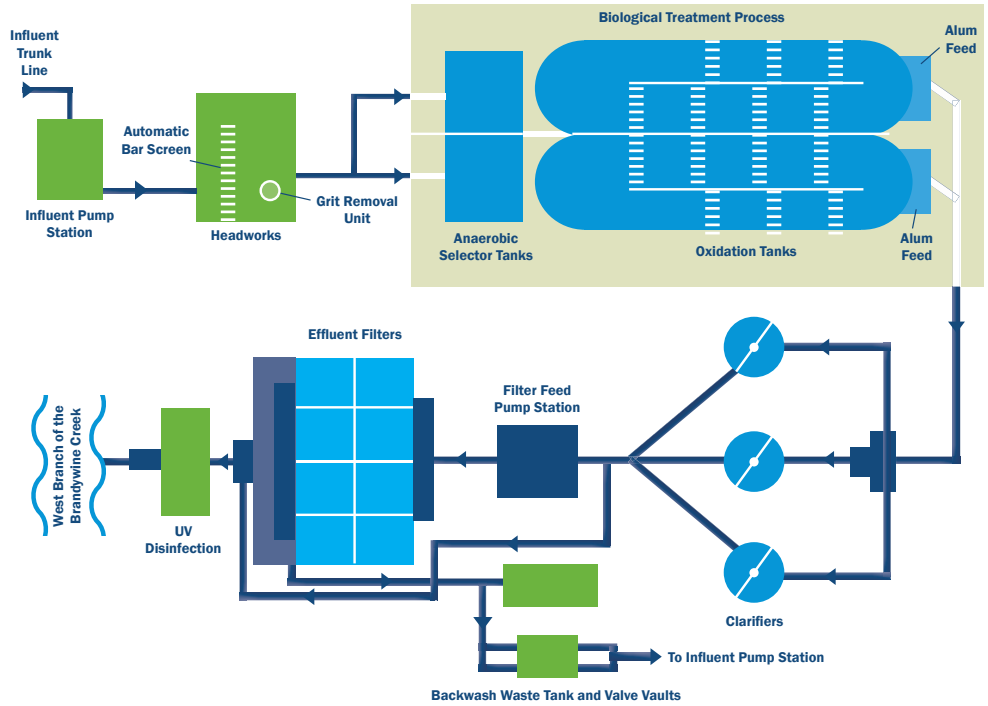
The wastewater then travels through one of two **anaerobic tanks** where two mixers completely mix the wastewater. The water then travels through the **oxidation tanks** where the wastewater is aerated (oxygen is added). The anaerobic and oxidation tanks enhance biological nutrient removal. As a result, fewer chemicals are required in the treatment process.

Alum is then added, which acts like a magnet, and pulls the smaller particles together so that they can settle out in one of three **clarifiers**.

The wastewater then travels through one of eight **effluent filters**, which helps to remove finer particulate matter.

The final step before the treated wastewater leaves the plant is the **UV disinfection system**, which provides additional disinfection against biological micro-organisms.

Wastewater Treatment Process



- **State-of-the-art technology.** The new plant is equipped with modern treatment processes using "oxidation ditch" technology. This technology maximizes the effectiveness of biological nutrient removal while optimizing the facility's energy efficiency.
- **Improved treatment.** Eight filters were installed to ensure that plant effluent complies with environmental regulations.
- **Enhanced odor control.** The sludge digestion process was improved and the primary settling tanks were eliminated to better control odors.
- **More environmentally-friendly.** The new biosolids-processing facilities allow the company to beneficially reuse the wastewater treatment residuals (sludge) for application on farm fields.
- **Reduced maintenance.** Enhanced screening and grit-removal facilities protect equipment from wear and failure.
- **Supervisory Control And Data Acquisition (SCADA) system.** This allows plant operators to monitor information on plant operations and control them from a centralized location, including chemical feed systems.

In addition to the plant, the company has invested in numerous collection system improvements in recent years. Projects have included replacing or upgrading the pipelines and equipment used to transport the wastewater from customers' homes and businesses to the plant.

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