

Where does it go?

2014 Sewer Service Report



Wastewater collection and treatment protects
public health and the environment.



Charleston
Water System

A lot happens after you flush.

The water that goes down your drains and toilets begins a long journey back into the water environment—a journey that protects public health and keeps our waterways clean.

Wastewater Collection

Charleston Water System's collection system consists of more than 700 miles of pipes, 194 pump stations, and 12 miles of deep tunnels.

This system delivers wastewater to our Plum Island treatment plant, located off Harbor View Road on the Charleston Harbor.

Wastewater Treatment

At the plant, wastewater flows through a sequence of basins, each designed to remove a specific type of pollutant. The plant treats about 22 million gallons every day.

The resulting clean water is released into the Charleston Harbor, and the solid material removed during the treatment process is taken to a waste-to-energy facility that uses it to produce electricity.



The Plum Island Wastewater Treatment Plant on James Island removes pollutants from wastewater and returns clean water to the Charleston Harbor. In 2014, the plant was recognized for eight years of 100% permit compliance.



Construction of
100-foot-deep
wastewater fro

Wastewater Regulations

The US Environmental Protection Agency and the SC Department of Health and Environmental Control regulate wastewater utility operations under the federal Clean Water Act.

The table on the back of this report shows that Charleston Water System met or surpassed all regulatory requirements in 2014.

Did you know...?

Before 1971, raw sewage was discharged directly into the Harbor, causing severe pollution. Wastewater treatment has helped improve water quality in the Harbor over the last 45 years.

Schedule a Tour or Request a Speaker

Learn more about wastewater treatment! Visit www.charlestonwater.com/speaker or call 843-727-6856 to schedule a plant tour or book a speaker for your school or civic group.



of the new West Ashley Sewer Tunnel at the Plum Island plant. The
, 1.6-mile-long tunnel will replace an old, smaller tunnel that carries
om West Ashley to the plant. Project cost: \$62.5 million.

Our Infrastructure

Providing reliable sewer service requires continually investing in our infrastructure.

This includes replacing old pipes and pump stations, expanding our system to serve a growing population, and upgrading treatment processes to meet new regulatory requirements.

Revenue from sewer rates and fees funds operation and maintenance of the sewer system as well as major infrastructure projects.

Wastewater Infrastructure Projects

Project Name	Est. Total Cost
West Ashley Sewer Tunnel Replacement	\$62.5 million
Red Top Regional Pump Station and Wastewater Interceptor Project, Phase I	\$35.4 million
Church Creek Interceptor Rehabilitation	\$3.3 million
Daniel Island Wastewater Treatment Plant Screening & Odor Improvements	\$1.1 million
Johns Island Interceptor Extension, Phase I	\$4.5 million

Wastewater vs. Stormwater

Wastewater, or sewage, comes from drains and toilets. It flows through our sewer system to the Plum Island Wastewater Treatment Plant.



Stormwater is rain

water runoff from roads and parking lots. It flows into a separate storm drain system that empties directly into a waterway. Charleston Water System does not handle stormwater.



What Not to Flush...or Drain

Help prevent clogs in your plumbing and the public sewer system by only flushing pee, poop, and toilet paper. Put everything else in the trash, especially grease and wipes.

- **No grease!** Pouring grease down the drain will eventually block a pipe, and could result in a sewer back-up.
- **No Wipes!** Wipes and other fibrous materials—even those labeled “flushable”—tangle into massive knots that can block pipes and damage pumps.

Take a video tour!

Visit www.charlestonwater.com/SewerVideo

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MH STOP: MH 01-205

1:38 / 4:40

Our Mission is to protect public health and the environment of our service community by providing clean water services of exceptional quality and value.

2014 Performance

Charleston Water System met or surpassed all wastewater regulatory requirements in 2014.

Wastewater Collection System

Measure	2014 Actual	Regulation / Limit
Reportable Sanitary Sewer Overflows (SSOs)	9 total (less than 1 SSO per 100 miles of pipe)	Report to SCDHEC
SSOs of 5,000 gallons or more	None	Limit of 2 per 100 miles of pipe
Pipeline failures	2.9 per 100 miles of pipe	No reg/limit
Pipeline inspected	51 miles	No reg/limit
Pipeline cleaned	195 miles	No reg/limit

Plum Island Wastewater Treatment Plant

Measure	2014 Monthly Average	Regulation / Limit
Ultimate Oxygen Demand (UOD)	5,291 lbs	24,612 lbs monthly average
Dissolved Oxygen (DO)	5.4 mg/L	1.0 mg/L minimum
Biochemical Oxygen Demand (BOD)	5.8 mg/L	30 mg/L monthly average
Enterococci	7.6 MPN/100ml	35 MPN/100ml
Ammonia	2 mg/L	Monitor & report
Total Suspended Solids	7.3 mg/L	30 mg/L monthly average
Flow	22 mgd	36 mgd
Total Phosphorous	2 mg/L	Monitor & report
Total Nitrogen	13 mg/L	Monitor & report

Abbreviations:

mg/L— milligrams per liter; **lbs**—pounds; **mgd**—million gallons per day; **MPN**—most probable number; **reg**—regulatory; **gals**—gallons; **ml**—milliliter



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