System Performance

COLLECTION SYSTEM:

The Collection System operated during the time frame of July 2015 through June 2016 without any sanitary spill overflows (SSOs) or permit violations.

WASTEWATER TREATMENT PLANT:

The WWTP operated during the time frame of July 2015 through June 2016 without any permit violations. The Town installed a new barscreen this year as well as upgraded one of the final clarifiers with a new drive at the plant.

ITEMS THAT SHOULDN'T HAVE BEEN FLUSHED LAST YEAR BUT WERE...

Any one of these items in combination with other factors can damage down-stream equipment or lead to a pipe blockage which increases the cost of operation.

Help keep our sewer lines functioning properly.

Your 2016 Annual Drinking Water Consumer Quality Report is available at:

http://townofmanteo.com/watersewer

THE TOWN OF MANTEO

PRESERVE PROSPER

The Town of Manteo

2016 Annual Wastewater Consumer Quality Report

We are pleased to present to you this year's Annual Wastewater Consumer Quality Report. This report is a snapshot of last year's sanitary sewer collection system and the wastewater treatment plant.

This report covers the used water and wastewater that leaves your residence or place of business and the process that it goes through during the treatment system.

Sewer Cleanout Cap Replacement Program

If your cap is broken or missing please contact us, and we will replace it for free!

If you have any questions about this report or concerning your water or sewer utilities, please give us a call at (252) 473-2133.

www.townofmanteo.com

2016 WWTP System Annual Report
Town of Manteo Wastewater Treatment Plant
NPDES Permit No. NC0079057

The Town of Manteo's Wastewater Treatment Plant is a grade three activated sludge tertiary treatment facility treating wastewater from the Town's sanitary sewer collection system. This plant treats wastewater utilizing preliminary screening and grit removal, secondary biological treatment and nutrient removal via an oxidation ditch and secondary clarifiers, tertiary effluent filtration and post aeration followed by chlorination disinfection and dechlorination prior to discharging effluent to Shallowbag bay.

Wastewater entering the plant is directed to a mechanically cleaned bar screen and grit removal system. The bar screen removes large and stringy objects from the wastewater flow that could damage downstream process equipment. Wastewater then flows through a grit removal system that removes the inorganic solids (grit) which will not break down in the biological system while allowing the organic solids to continue through the treatment process.

Effluent wastewater from the grit removal system and drainage from various treatment processes are pumped by the influent pumps to the oxidation ditch where the concentration of organic matter and nitrogen are reduced during the extended aeration activated sludge process by the biological action of microorganisms. The organisms convert the organic matter into biomass and release nitrogen as gas. The oxidation ditch provides the oxygen needed by microbes in the system for biological oxidation of organic materials and for the conversion of ammonia to nitrate and the anoxic conditions needed for denitrification.

Effluent wastewater from the oxidation ditch flows to the final clarifiers which provide an undisturbed environment for the separation of solids from the water. After the solids settle in the clarifiers, the active solids are recycled to the oxidation ditch to maintain the microbe population at a level which promoted optimum removal of nutrients. Excess sludge is wasted from the system to the aerobic digester to maintain healthy levels of microbes in the treatment process.

Wastewater displaced from the final clarifiers flows by gravity to the effluent filters. Wastewater percolates down through the automatically backwashed filters to remove a major portion of the suspended solids in the water.

After water flows through the filters it flows into the chlorine contact tank. Sodium Hypochlorite is added at the head of the tank. The wastewater is dechlorinated at the tail end of the tank by the addition of Sodium Bisulfate. Effluent flows from the contact chamber to the post aeration structure where the water is subjected to the action of a floating aerator to bring the dissolved oxygen concentration to appropriate levels before it is pumped via a force main to Shallowbag Bay for dispersal.

FATS, OILS and GREASE

- → Meat Juices
- → Cooking Oils
- → Salad Dressings
- → Sandwich Spreads
- → Lard
- → Butter, Margarine
- → Shortening
- → Dairy Products

DON'T FLUSH IT!

DON'T WASH IT DOWN THE DRAIN!

→ **Scrape and collect** the grease into a waste container, and dispose of it in the trash/garbage.

→ **Place food scraps** in waste containers or garbage bags for disposal with solid wastes.

→ **Place a wastebasket** in the bathrooms to dispose of solid wastes like disposable diapers and personal hygiene products.

2016 Collection System Annual Report
Town of Manteo Collection System
Permit No. WQCS00163

The Town of Manteo's sanitary sewer collection system connects your residence or business to the Town's wastewater treatment system. Your connection discharges into the maze of pipes underground that further connect to lift stations throughout the town. Lift stations help propel the wastewater to the Wastewater Treatment Plant where gravity flow is prevented. You may notice that fencing has been installed around these lift stations to further protect your system and the safety of citizens. **Utility contact and emergency response information is posted on signs located on the outside of each lift station.**

Your connection to the collection system is a responsibility that continues to expand and grow. The Town of Manteo has developed a public education program in order to help reduce the presence of Fats, Oils, and Grease (FOG) in our sanitary sewer collection system. Regulatory requirements from the State of North Carolina Department of Water Quality (DWQ) mandates that municipalities take measures to reduce Sanitary Sewer Overflows (SSOs)--a violation of the EPA Clean Water Act. FOG discharged into public sewer systems is the leading cause of SSOs.

Grease buildup occurs when Fats, Oils, and Grease produced from and aided in cooking end up in the sewer system. Whether you're a Food Service Establishment, business, or resident of the Town of Manteo who generates FOG, you play an important role in preventing Sanitary Sewer Overflows. Sanitary sewer systems are neither designed nor equipped to handle the FOG that accumulates on the interior of the municipal sewer collection system pipes. Over 30% of North Carolina's 1999 sanitary sewer overflows were the result of pipe blockages from FOG accumulation from residential, institutional and commercial sources. The best way to manage FOG is to keep the material out of the plumbing systems.

Operational Staff:

The operational staff for the treatment plant is as follows:

Nathan Pharr (ORC)	Josh O'Brien (B/U ORC)
Utilities Superintendent	Chief Plant Operator
pharr@townofmanteo.com	obrien@townofmanteo.com

The operational staff for the collection system is as follows:

Nathan Pharr (ORC)	Josh O'Brien (B/U ORC)
Utilities Superintendent	Chief Plant Operator
pharr@townofmanteo.com	obrien@townofmanteo.com

Additional copies of this report are also available at Town Hall at 407 Budleigh Street in Manteo and on our website as well:

www.townofmanteo.com