2015 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.

COLLECTION SYSTEM
The Collection System operated during the time frame of July 2014 through June 2015 without any sanitary spill overflows (SSOs) or permit violations.

WASTEWATER TREATMENT PLANT
The WWTP operated during the time frame of July 2014 through June 2015 without any permit violations.

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

Help keep our sewer lines functioning properly.

Sewer Cleanout Cap Replacement Program

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

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