Solids Digestion

Organic solids from the primary clarifier and waste solids from the secondary clarifier are pumped to large tanks called anaerobic digesters, where microorganisms break down the solids into a more stable form. The solids remain in the digester for 18-20 days. Digested solids are then fed to a belt press, which squeezes out excess water between a series of porous belts. The pressed solids are then hauled to the Bryan Compost Facility for use as a compost feedstock.



Wastewater treatment is an expensive process, which often gets overlooked by residents. The average person doesn't worry too much about what happens to the water and whatever else gets sent down the drain, as long as water goes down the drain without a problem. That's good because that means there are no problems with the sanitary sewer system. However, behind the scenes there are over 25 employees that work for the Bryan Wastewater System. They are constantly testing, maintaining and improving Bryan's wastewater treatment facilities.

What You Can Do To Help

Making conscious decisions about what goes down your drain takes little time and effort, but goes a long way in maintaining a healthy treatment process. Pollutants, such as cooking grease, prescription drugs, cleaners and solvents, fuel and paint can be very detrimental to the treatment process and the environment.

YOU can take these EASY steps to help promote a healthy treatment process:

- Dispose of prescription drugs and over the counter medicines in your household garbage.
- Recycle used cooking oil at the Bryan Do-It Yourself Used Oil Center (1111 Waco Street) or, place the cooking oil first into a spill proof container and then into your household garbage.
- Dispose of paint, solvents, lawn products or other hazardous wastes free of charge at the semi-annual Household Hazardous Waste Event.



We can be reached at (979) 209-5900 pwcc@bryantx.gov www.bryantx.org

Bryan Wastewater Treatment



Wastewater Treatment

Each day residents, businesses and industries in the City of Bryan produce

more than 7 million gallons of wastewater. One might wonder, what happens to the wastewater once it reaches the wastewater treatment plant? This is a complicated process that we have illustrated in the following material. Wastewater treatment in Bryan can be categorized into 6 components. These components are:

- 1. Screening and Grit Removal
- 2. Primary Clarification
- 3. Biological Treatment
- 4. Secondary Clarification
- 5. Disinfection
- 6. Solids Digestion

Screening and Grit Removal

Raw sewage enters the treatment plant through large pumping stations. Bar screens are used to remove objects such as rags and sticks which might clog pipes or damage equipment. After being screened, the wastewater is pumped to a grit basin. Grit basins are designed to remove heavy particles, like sand and gravel.



Primary Clarification

After passing through the grit basin, the wastewater enters the primary clarifier. Primary clarifiers are designed to remove settable solids; skimmer arms collect floating materials like grease. It takes approximately 2 to 4 hours for wastewater to travel through the primary clarifier.

Biological Treatment

Once the settable solids have been removed, the wastewater enters an aeration basin. This treatment phase removes dissolved pollutants within the wastewater by using microorganisms such as bacteria, protozoa, stalked ciliates, and rotifers. Blowers and submerged diffusers are used to provide oxygen and mixing so that the microorganisms are held in constant contact with their food source. Wastewater is typically held within the aeration basin for 4-8 hours.



Aeration basin

Secondary Clarification

After wastewater leaves the aeration basin it is sent to the secondary clarifier. Treated wastewater from biological treatment is comprised primarily of suspended microorganisms and very little organic waste. Secondary clarifiers are designed to separate the treated wastewater from the microorganism population and return most of the microorganisms back to the aeration basin. At this point, the treated wastewater is free of particulate matter.



Skimmer arm

Disinfection

Treated wastewater from the secondary clarifier must go through disinfection before it can be safely released back into the environment. Chlorine is mixed with the wastewater to kill microorganisms that may have passed through the treatment process. Sulfur dioxide is used to remove the residual chlorine from the wastewater before it is released to the receiving stream.