

# DEAR VALUED CUSTOMER,

## DID YOU KNOW?

It is illegal to connect stormwater from a sump pump, gutter or drain into the sanitary sewer system.

## WHY?



- Excess water can overwhelm the system and increase the likelihood of a sanitary sewer overflow.
- This excess water in the system adds unnecessary costs to the treatment process.

Stormwater should be allowed to percolate into the ground in your yard or in a stormwater pond.



# QUESTIONS OR COMMENTS? CONTACT US:



Need to report an issue?

Use our "You CLICK We FIX" app to report issues any time of day or night:

[harfordcountymd.gov/YouClickWeFix](http://harfordcountymd.gov/YouClickWeFix)

## HARFORD COUNTY

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Division of Water and Sewer



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# HARFORD

COUNTY  
PUBLIC WORKS

## WATER & SEWER WASTEWATER TREATMENT PROCESS



# How it works ... WASTEWATER TREATMENT

From your home or business, wastewater flows through pipes connected to our treatment plant. From there, it moves from one treatment tank to the next and through multiple processes until it is safe for discharge.

1



**FLUSH THE TOILET:** You wash dishes, do laundry, or flush the toilet producing wastewater that begins a journey to the wastewater treatment plant.

2

**PRELIMINARY TREATMENT / SCREENING:** A screening process removes heavier objects such as rags, plastics and trash.

3

## PRIMARY SETTLEMENT:

Remaining gritty particles and heavy solids settle at the bottom of large circular tanks. This sludge/solid is pumped into a digester beginning a process that produces biosolids. Greases and floating debris are skimmed from the top.

6



**NUTRIENT REMOVAL / FILTERS:** The clarified wastewater is pumped into special denitrifying filters, the newest upgrade to our treatment plants. These filters remove additional nitrogen protecting the Chesapeake Bay from algae blooms.

5

## SECONDARY SETTLING:

In large circular settling tanks called "clarifiers," the treatment process continues with the settling of biological solids. After settling, these solids are pumped from the bottom of the clarifier and recycled back into an aeration basin inlet to be mixed with the air and incoming wastewater. At this stage, over 90% of the solids have been removed.



4

## AERATION / ACTIVATED SLUDGE:

Wastewater is mixed with air and microorganisms that then digest the remaining suspended and dissolved solids. These "bugs" are the unsung heroes of the process and they are monitored carefully to ensure sufficient population levels to perform their function. At the end of this process, 85 - 90% of solids have been removed.

7

**DISINFECTION:** Disinfection kills harmful bacteria either with chlorine or by exposure to ultraviolet light (UV) light. Harford County is expanding the use of UV light as a disinfectant to all of its treatment plants. UV disinfection is a chemical-free process that is safer for plant operators and the environment.

8

**DISCHARGE:** The wastewater is tested to ensure it meets or exceeds all regulated levels for safety and health prior to discharge. The quality of this water often exceeds the quality of natural water.

