Anne Arundel County

DEPARTMENT OF PUBLIC WORKS

IT TAKES TEAMWORK TO PROTECT THE BAY...

Protecting Our Sewer System Through Rehabilitation and Maintenance

DPW is committed to providing environmentally sensitive wastewater treatment and to sharing in the responsibility to protect the Chesapeake Bay and its tributaries now and for future generations. In conjunction with this mission, DPW Utility Operations Bureau performs continual evaluation and rehabilitation of the public wastewater system. A comprehensive program of on-going investigation and preventative maintenance maximizes system performance and is more economical than expensive and inconvenient emergency repairs.

Have you ever stopped to think about what happens after you flush the toilet? Out of site, out of mind? For properties connected to the public sewer system, all wastewater from toilets, tubs, sinks, etc. is collected and transported through a system of underground pipes, then transported to the treatment plants where it is treated and released back into the environment.

DPW's Bureau of Utility Operations, Wastewater Division, maintains and operates the public sewer system in Anne Arundel County. The system consists of seven treatment plants, 240 pump stations and over 1,100 miles of pipes. The Wastewater Division has a very proactive preventative maintenance program to keep our wastewater system functioning properly and to accomplish DPW's mission to protect the environment - especially the Chesapeake Bay.

The Collection System Wastewater discharged from a home or business enters the system through service lines twelve inches or smaller. These smaller pipes are known as "collectors". The wastewater then travels to larger "trunk" lines consisting of pipes twelve inches or larger. Finally, the wastewater reaches the largest lines, the "interceptors" which vary in size from 18 to 60 inches. These interceptors carry the wastewater directly to the treatment plants.

Pump Stations

Pump Stations are integral part of the collection and conveyance system. Collection systems are built to utilize

the natural flow of gravity when possible. When wastewater cannot travel through the lines by gravity, pumps are used to force the wastewater through the force mains until it can again be transported by gravity flow.

Treatment Plants

DPW operates seven wastewater treatment plants. The Association of Metropolitan Sewerage Agencies (AMSA) has recognized all six of the major plants operated by DPW, Bureau of Utility Operations for their anti-pollution efforts.

In 1999 all six plants were honored with the Gold Award, which recognizes plants that have achieved 100 percent compliance with their national pollutant discharge permit for the entire calendar year. Treatment plants receiving the honor include: Cox Creek, Patuxent, Maryland City, Broadwater, Broadneck and Annapolis. In 2000 five of the six plants won gold - only Broadneck missed the gold winning silver. The only other plant.

operated by the county, the Mayo plant, was too small to be considered for recognition.

Common Causes of System Problems Despite proactive efforts to maintain the system, operational complications may sometimes occur. Some of the common causes of system problems include:

*Using the drain to dispose of items such as grease, paper, garbage or household hazardous waste

*Vandalizing the system by putting foreign or incompatible materials in the system or down manholes

*Blocking of the system by tree or shrub roots seeking water and entering the system

In order to maintain our wastewater system and to keep it functioning properly, our Wastewater Division utilizes the following preventative maintenance procedures:

Visual Inspection Maintenance crews periodically check manholes, frames, and covers to look for cracks, breaks or missing parts which may prevent them from maintaining airtight integrity. Replacement and maintenance is scheduled as necessary.

TV of Lines Sewer lines are inspected internally with a special closed circuit TV camera which is lowered into a manhole and pulled through the line. Testing and repair equipment used in conjunction with the camera will determine if there are areas of weakness in the joints and pipes and look for leakage. If the line is in poor condition and cannot be repaired, it will be scheduled for replacement.

Smoke Testing By blowing smoke into a sewer line, crews can determine areas of breaks, improper connections and other system problems which can then be scheduled for repair or replacement. This procedure sometimes identifies problems on the property owner's side of the system. In these cases, the property owners are notified and advised to make the appropriate repairs.

Chemical Root Treatment - In some areas, workers may find it helpful to use a foaming chemical root treatment. This foam is pumped into selected sewer mains to kill existing roots and to inhibit their regrowth.

Jet Washing and Root Cutting - Sewer lines are often rodded to remove roots or other material then cleaned with high pressure water using a combination jet vaccum system.

Sewer Main Relining Program - Some sewer lines can be rehabilitated by installing PVC plastic liners. The lining extends the structural life of the pipes, inhibits root growth and reduces ground water leakage into the sewer pipes.

Sewer Service Replacement - Sewer "services" which are the lines that run between the property line and the main line, are periodically checked for structural and operational soundness. If found to be in poor condition, the pipes are replaced.

Although our Wastewater Division utilizes a number of methods to evaluate and maintain our sewer system, there may be a time when you could experience a stoppage. If this occurs, be sure to call our 24 hour Emergency Services staff at 410.222.8400 or 410.451.4118 (South County). If the sewer cleanout is accessible, an emergency crew will be dispatched to assess the situation. If the blockage is in the county line, the crew will break the blockage to end the backup. If there is no cleanout, or if the cleanout can not be located you will need to call a plumber.