

**Washington County Environmental Health
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BAT Septic Systems

A Guide to the Operations and Maintenance of an On-site Sewage Disposal System

Background: *The Code of Maryland Regulations, COMAR 26.04.02, established new requirements for on-site sewage disposal systems within the Chesapeake Bay and Coastal Bays Watersheds effective January 1, 2013. Nitrogen-reducing units approved by the Maryland Department of the Environment (MDE) as Best Available Technology (BAT) are required for: new construction applications; building addition applications that require an upgrade to the existing septic system for building permit approval; and repair or replacement applications for existing on-site sewage disposal systems located in Critical Areas. Critical areas are generally identified as all land within 1,000 feet of the Mean High Water Line of tidal waters or the landward edge of tidal wetlands and all waters of and lands under the Chesapeake Bay and its tributaries.*

How does a BAT or nitrogen-reducing system work?

BAT typically replace or work in combination with the septic tank. The units' biological processes are used to promote to release nitrogen as a harmless gas to the atmosphere. Advanced pretreatment units may include electrical and mechanical components such as pumps, blowers, floats, alarms, diffusers and electronic control panels.

What maintenance is required for BAT or nitrogen-reducing systems?

Advanced pretreatment units have electrical and mechanical components requiring periodic maintenance and inspections by a qualified contractor. The frequency of inspection and maintenance will vary based on the type of unit. Manufactured units should follow the manufacturer's maintenance requirements. Engineer-designed units should follow inspection and maintenance requirements recommended by the designer.

An operation and maintenance service contract is required for all properties with a nitrogen-reducing unit. A list of approved service contractors is listed on the Maryland Department of the Environment website at mde.maryland.gov. The overall effectiveness of a nitrogen-reducing system and its level of wastewater treatment depend upon the use of the system. Bleach, detergents and household chemicals should be used sparingly. All leftover food and grease should be discarded as solid waste in garbage cans.

What is the best type of BAT or nitrogen-reducing unit for my property?

The Bay Restoration Fund is only used to support State-approved nitrogen-reducing units that have demonstrated consistent and reliable performance through field verification. Before selecting a nitrogen-reducing unit, a homeowner should consider the following:

- **The purchase, installation and 5-year maintenance cost of the unit:** The property owner is responsible for paying the cost difference if a unit is selected that exceeds the lowest bid or grant award.
- **Long-term operational and maintenance cost:** Including electricity, maintenance of the unit beyond the 5-year service agreement and the cost for extending the service agreement beyond the five years.
- **Aesthetics:** Appearance of the unit, noise and odors.

What programs can assist property owners with the cost of the nitrogen-reducing system or with septic system repairs and replacement?

The Bay Restoration Fund provides grants to cover part or all of the cost for nitrogen-reducing pretreatment units. **The Linked Deposit Loan Program** discounts the loan interest rate to install a nitrogen-reducing system or to repair or replace a failed septic system. **To determine eligibility** and more information, visit MDE's website: <http://mde.maryland.gov/programs/Water/BayRestorationFund/Pages/index.aspx>

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- **It is important to remember the location of the BAT unit and your underground drainage:** A sketch box is located below for your convenience. Keep this and a copy of your permit as a record of the installation of your sewage disposal system with other important records pertaining to your home.
- **Do not allow vehicles to drive over any part of your system:** The underground pipes could be crushed or broken, which could seriously impair the operation of the system.
- **Do not overload your BAT system:** It is important to keep plumbing in good repair as a leaking faucet or toilet may increase water flow and potentially overload your new BAT septic system. Your BAT unit receives all of the wastewater from your home, which may include washing machine discharge, bath or shower water, dishwasher discharge, just to mention a few.
- **Water treatment systems: *It is important to think ahead!*** If you have or think you may plan to install a water treatment system, it is important to discuss this option with your installer and plumber as some water treatment options could potentially damage your BAT unit.
- **Owner's Manual:** Make sure you receive an Owner's Manual for your BAT unit that includes a description of the service policy and warranty.
- **Five (5) year service policy:** It should be included in your purchase. Service providers must be certified by the manufacturer to work on that unit.
- **Service visits should occur a minimum of once per year and include:**
 - * Inspection, adjustment and service of electrical, mechanical and other components as deemed necessary by the manufacturer.
 - * Must be performed frequently to ensure the BAT is meeting the performance standard for total nitrogen of 20mg/l.
- **Emergency Service:** Should be available within 48 hours of request.

Date	Contractor	Description of Work	

BAT Unit Inspection Record

Your Septic System Layout