



# MARYLAND DEPARTMENT OF THE ENVIRONMENT

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## Memorandum

TO: Environmental Health Directors

THRU: Jay Prager, Wastewater Permits Program  
Deputy Program Director 

FROM: Joshua Flatley, BRF/ BAT Technical Lead

DATE: March 10, 2015

SUBJECT: BAT Classification for Waterless Toilet Systems

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The Code of Maryland Regulations (COMAR) addressing on-site sewage disposal (COMAR 26.04.02) define "Best Available Technology for Removal of Nitrogen (BAT)" as technology that has been approved by the Department as a best available technology for removing nitrogen from onsite sewage disposal systems. These regulations require that onsite sewage disposal systems installed to serve new construction in most of Maryland utilize a BAT system. The BAT Technical Review Committee (TRC) reviews and analyzes the nitrogen reduction capabilities of all BAT applicants. A list of approved technologies is maintained on the MDE website. The BAT Review Committee's guidance on waterless toilets follows.

Only waterless toilets and greywater systems approved by MDE as a best available technology for removing nitrogen (BAT) as listed on the MDE website are authorized for use as a BAT in Maryland. Existing guidance on waterless toilets includes Annotated Code of Maryland Environment Article §9-14A-01, COMAR 09.20 (Board of Plumbing), and 26.04.02 as well as any other more stringent local ordinances or regulations when they exist. Finally, an MDE guidance document dated October 26, 1990, covers the system size and sewage disposal area requirements associated with waterless toilets.

The Department's recommendation is to allow a 36 percent design flow reduction for residences when utilizing a BAT approved incinerating or composting/waterless toilet. Design flow reduction for other uses should be determined on a case-by-case basis. Flow reduction will provide a reduction in the initial system size only. The minimum sewage disposal requirements are contained in COMAR 26.04.02.02C, 26.04.02.03F, 26.04.02.04 and 26.04.03.03A(1). The Department is not planning to change or reduce the area requirements of the cited regulations in any way.

Summarizing the requirements for approved waterless toilets:

1. If the statement, "All toilets on this property are required to be waterless toilets approved by the Maryland Department of the Environment" is recorded in the land use covenant or



deed for a parcel of property the design flow for the initial onsite sewage disposal area may be reduced by 36 percent.

2. For those lots legally established without Department approval and lots approved by the Department prior to November 17, 1985, area for the initial and one replacement system is required. The design flow for the initial area may be reduced by 36 percent when all other covenants are fulfilled. If a lot was approved subject to 10,000 square foot or greater disposal area, this disposal area must be maintained.
3. For any lot created after the above date, area for an initial and two replacement systems not less than 10,000 square feet is required. The design flow for the initial area may be reduced in size by 36 percent when all other covenants are fulfilled.
4. When waterless or incinerator toilets are utilized at a property, non-waterless toilets may not be installed at that property without redesigning the onsite sewage disposal system to include a proprietary BAT and conventional, alternative, or innovative onsite sewage dispersal system. The re-designed OSDS must be permitted and installed prior to the installation of any non-waterless toilets.

While the 'solid' material that accumulates over time in a composting toilet is commonly called 'compost' – this material does not meet Maryland Department of Agriculture regulation's for commercially marketed 'Compost.' In addition, in a composting toilet, new human waste is continually being introduced into the composting pile. This creates the potential for older composting material to be contaminated from contact with bacteria in fresh material and from the movement of liquids through the pile. It is important to emphasize that the solid material that accumulates in the composting toilet is not safe for human contact. Therefore it is recommended that appropriate measures be taken to prevent human contact with this material. Gloves and other protective equipment should be utilized during the bagging process. The only authorized method of disposal is to bag this material for offsite removal with other household waste for transport to a lined landfill, or have the material removed by a licensed septage hauler for proper treatment and disposal.

An MDE State Groundwater Discharge Permit must be issued before the approving authority can approve any waterless / incinerator toilet system that intends to land apply the toilet system's liquid component (human wastewater). This MDE permit is site specific and must be renewed every 5 years.

Wastewater effluent from the remainder of the household water delivery fixtures may use a greywater system if:

- A. a site evaluation and a proposed design reveals the site/design meets conventional criteria
- B. the approving authority considers the design and construction of the greywater system utilizing the most recent edition of COMAR, local, or county regulation and any best available design guidelines for greywater systems.

If a site evaluation or design reveals that conventional criteria CANNOT be met, the approving authority is to consult with the MDE Regional Consultant to help in the site evaluation and design of an Alternative or Innovative greywater dispersal system. New construction installations are limited to conventional and alternative design criteria. The MDE State Groundwater Discharge Permit does not authorize the design, installation and use of the greywater disposal system.

