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Non-Conventional (Innovative and Alternative) Septic Systems

This handout is intended to clarify the fundamentals of non-conventional (Innovative and Alternative) septic systems. It is not intended to address design details of the systems since the design shall be completed by a qualified professional.

Code of Maryland Regulation (COMAR 26.04.02.06A) requires that “the Department of the Environment and the Approving Authority (*DPS Well and Septic*) shall consider all possible methods for correcting existing system failures and providing facilities for homes which lack indoor plumbing and, based on a case-by-case evaluation, provide the best technical guidance in attempting to resolve existing pollution or public health problems. When public sewer is not available, and a conventional on-site system design cannot alleviate the problem or does not provide the best method of correction, new technology or experimental systems may be used.”

What is a non-conventional septic system?

- A non-conventional septic system is a septic system that is designed to be installed in soil conditions that do not meet current standards for any type of conventional septic systems (i.e., trench systems or conventional sandmounds). Non-conventional septic systems are designed to properly treat wastewater by utilizing Best Available Technology to overcome poor soil conditions and other extenuating factors that make installation of a conventional septic system impossible.

What types of non-conventional septic systems can be installed?

- Most proposals for non-conventional septic systems in Montgomery County consist of alternative sandmounds, drip dispersal systems, or a combination of these systems. Regardless of the type of system designed, an approved type of pre-treatment unit is required, usually an aerobic treatment unit, also known as Best Available Technology.

When is it necessary to consider installation of a non-conventional septic system?

- Montgomery County DPS will consider proposals for most commercially available systems that have been approved by the Department of the Environment. Design and installation of a non-conventional septic system is necessary once a detailed soils evaluation has eliminated the possibility of the use of a conventional system. A complete soils evaluation includes but is not limited to standard percolation testing and infiltrometer testing.

Who designs the non-conventional septic system?

- A qualified professional must propose a design for a non-conventional septic system. Usually the designer is a representative of the system manufacturer, an engineer or a septic design consultant. The property owner selects the designer. Copies of the plans are submitted to DPS Well and Septic and Maryland Department of the Environment (MDE) for concurrent review prior to consideration for approval and permit issuance.

Who installs the non-conventional septic system?

- The system is installed by a qualified contractor certified by the system manufacturer and approved by the County.

What, if any, maintenance or monitoring is necessary for proper operation of the non-conventional septic system?

- Maintenance – required by most manufacturers for at least two years from completion of system construction. Regulations require a perpetual maintenance agreement for BAT units, and Montgomery County Well and Septic strongly recommends a perpetual maintenance agreement with a qualified operations and maintenance (O/M) provider for the drainfield component.
- Monitoring – all systems shall be monitored by DPS Well and Septic and MDE for at least two (2) years after construction and start of use.

What is the estimated range of costs for the different types of non-conventional septic systems?

- Depending on the size and design details of the system, the price range is \$40,000 to \$60,000. Not included in this cost estimate is electrical upgrade to the existing dwelling that may be necessary to accommodate the electrical components of the system.

Are there any financial assistance programs available to assist with the cost of the system?

- Bay Restoration Fund – potential for assistance in the form of a grant to help cover cost of the aerobic treatment unit (BAT), including installation and maintenance. Please contact the MDE Bay restoration Fund Program at 410-537-3599.

What, if any, restrictions does the installation of a non-conventional septic system place upon a property?

- Based on current standards, the installation of a non-conventional septic system eliminates the potential for approval of any building permit proposal that includes increasing the square footage or number of bedrooms in the dwelling
- A ‘Declaration of Covenant’ must be recorded with the deed of the property. At minimum, the Covenant must stipulate the conditions of installation of the non-conventional system and the maintenance schedule. The Covenant must also include a notice to current and future property owners that no additions, expansions or changes in use can be made to the existing dwelling for the life of the non-conventional septic system.

If you have any questions or need additional information regarding alternative septic systems, please contact the DPS Well and Septic Section at (240) 777-0311.