



## Certification of Innovative Stormwater Management Technologies for Retrofit Applications

**Introduction:** The Maryland Department of the Environment (MDE) distinguishes between the best management practices or “BMPs” that are approved for use in the *2000 Maryland Stormwater Design Manual*<sup>1</sup> (the Manual) to address Maryland’s stormwater management requirements and those practices used locally for stormwater management retrofitting. A process has been in place since 2000 to approve new technology for use to address new development and redevelopment stormwater management requirements specified in the Manual. The guidance below describes a separate process that must be followed for the review and approval of innovative stormwater technologies that will be used for retrofitting previously developed areas.

Recently, there has been an increased focus on addressing total maximum daily loads (TMDLs) and restoration requirements found in local National Pollutant Discharge Elimination System (NPDES) municipal separate storm sewer system (MS4) permits. With this focus, there may be a desire to assign pollutant removal efficiencies so that localities can take credit for innovative practices that may be used for retrofitting. The following guidance addresses this need and is limited to innovative stormwater management technologies used for retrofitting only.

**Approval:** MDE recognizes that new and innovative approaches to stormwater management are being developed on a continuous basis. Many of these innovative practices are not approved under the Manual nor have an MDE or Chesapeake Bay Program assigned pollution reduction efficiency. MDE’s approval for using these practices to meet local NPDES MS4 permit restoration requirements is subject to the following:

1. The use of any innovative practice or technology is subject to local jurisdictional approval;
2. Any entity requesting approval of an innovative stormwater practice for retrofitting must submit to MDE documentation demonstrating practice effectiveness. At a minimum, this documentation must include:
  - a. Clear representations of the specific pollutant removal efficiencies for the device in a typical mode of use and under conditions that would be expected normally within the jurisdiction.
  - b. Pollutant removal efficiencies must be supported using one or more of the following:
    - i. Monitoring data collected under typical field conditions using a methodology consistent with the Technology Acceptance Reciprocity Partnership (TARP) Protocol<sup>2</sup>, or other nationally recognized protocol that meets the standards described in MDE’s Alternative/Innovative Technology Review Checklist (MDE, 2014);

<sup>1</sup> 2000 Maryland Stormwater Design Manual, Volumes I and II, MDE, October 2000 and May 2009

<sup>2</sup> Technology Acceptance Reciprocity Partnership (TARP) Protocol, New Jersey Center for Applied Technology, 2003

- ii. Monitoring studies conducted by the MS4 jurisdiction and approved by MDE; or
  - iii. Review and approval of the practice by the United States Environmental Protection Agency (EPA) or the Chesapeake Bay Program.
- c. Product specifications, installation requirements, and operation and maintenance procedures;
  - d. Hydraulic performance specifications (e.g., treatment volume, throughput, etc.);
  - e. References and examples of actual installations of the product;
  - f. Minimum and recommended maintenance requirements for the product and any components;
  - g. Discussion of any special licensing, hauling, or access requirements, and safety issues associated with the operation and maintenance of the product; and
  - h. Proof that the product or practice has been submitted to the Chesapeake Bay Program's Water Quality Goal Implementation Team (WQGIT) or Urban Stormwater Workgroup for consideration as an EPA-recognized stormwater BMP.
3. If credit is sought under an MS4 jurisdiction's Watershed Implementation Plan (WIP) or MS4 permit, the product or practice must be documented in that jurisdiction's TMDL implementation plan;
  4. All practices must be maintained in accordance with State requirements as defined in the Code of Maryland Regulations (COMAR) 26.17.02;
  5. The local jurisdiction is responsible for determining the appropriate impervious area reduction for restoration efforts according to Accounting for Impervious Acres Treated and Stormwater Wasteload Allocations (MDE, 2014); and
  6. If formal documentation listed in Section 2.b above is absent, MDE reserves the right to establish interim pollutant removal efficiencies based on the supporting documentation provided by the vendor. These interim efficiencies will be recognized for a period not to exceed two years, after which the practice will be disallowed as an acceptable stormwater retrofit BMP.

Applications should be submitted to MDE's Sediment, Stormwater, and Dam Safety Program, 1800 Washington Boulevard, Baltimore, MD 21230. If there are any questions concerning these procedures, please contact the Maryland Department of the Environment, Water Management Administration at 410-537-3543 or at [www.mde.maryland.gov](http://www.mde.maryland.gov).