



PAUL R. LEPAGE  
GOVERNOR

STATE OF MAINE  
DEPARTMENT OF  
ENVIRONMENTAL PROTECTION



PAUL MERCER  
COMMISSIONER

April 19, 2016

Filterra Bioretention Systems  
Contech Engineered Solutions LLC  
71 US Route 1, Suite F  
Scarborough, ME 04074  
ATTN: Derek M. Berg

Dear Mr. Berg:

The Filterra Bioretention System (FBS) was permitted for use by the Department of Environmental Protection (Department) on November 12, 2009, as part of a stormwater treatment train that included the use a StormTech Isolator Row following the structure as an approved alternative to the General Standards (Section 4.C) of the Stormwater Management Rules (Chapter 500). Based on new testing data, the installation of FBS structures without the StormTech Isolator Row was approved on an interim use by the Department on January 21, 2015.

The FBS structures sizing criteria must be revised based on data you provided of an appropriate rainfall intensity rate that would allow for the full treatment of 90% of an average annual runoff volume. Therefore, the Department will review and approve, on a case-by-case basis, the use of the FBS when the system is sized, installed and maintained in accordance with the following provisions:

1. The structure may be a standard concrete box or a soft shell system that is filled with the Filterra engineered filter media, provided it is sized to meet the requirements of the General Standards (Section 4.C) and is installed, operated and maintained in accordance with the manufacturer's specifications.
2. The FBS must be sized in accordance with the manufacturer's standard New England testing results and revised sizing guidelines outlined in the following table to treat 90% of the annual runoff volume:

<i>Filterra Model Number</i>	<i>Area in Acres</i>	<i>Treatment Flow Rate at 140"/hr (cfs)</i>	<i>Outlet Pipe Size</i>
4x4	0.100	0.05	4"
4x6	0.151	0.08	4"
4x8	0.202	0.10	4"
6x6	0.227	0.12	4"
6x8 / 4x12	0.301	0.16	4"
6x10	0.378	0.19	6"
6x12	0.454	0.23	6"
7x13	0.573	0.29	6"

3. When designed with the standard curb inlet design, the FBS must be configured "off-line" with the surface elevation at the FBS unit being up gradient of an overflow inlet. When designed with the grated inlet design, the FBS must incorporate an internal bypass and will not require an overflow inlet. The applicant must demonstrate that the proposed design meets all the manufacturer's specifications prior to submission for Department approval. Review and approval of the proposed design by the manufacturer will be sufficient to demonstrate conformance with the manufacturer's specifications.

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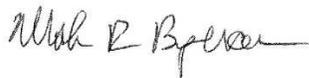
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4. The treated flow and bypass flow must be combined and directed to a detention system/structure that will store the water quality/channel protection volume (WQv) consisting of the first 1.0 inch of runoff from impervious areas and 0.4 inch of runoff from lawns and landscaped areas. An external outlet control structure must control the flow out of the system and the WQv must be detained between 24 hours and 48 hours.
5. When a boxed structure is proposed, the FBS must be delivered to the site with the engineered filter media and plumbing fully installed. The concrete box must be sealed to prevent debris and sediment from entering the system during construction. The activation of the FBS and opening of the protective mesh cover, installation of plant(s) and mulch layers as necessary, can be performed only by the supplier (Contech or its authorized dealer). The activation process must not commence until the project site is fully stabilized and cleaned (i.e., full landscaping, grass cover, final paving and street sweeping completed), minimizing the risk of construction materials contaminating the FBS system.
6. When a soft shell structure is proposed, the FBS(s) must be built on site and must include all the components of a boxed structure. The FBS must be designed per the manufacturer's specifications and must be installed on-site by the manufacturer's representative.
7. Prior to construction, a five-year binding inspection and maintenance contract must be provided for review and approval by the Department, and must be renewed before contract expiration. The contract will be with a professional with knowledge of erosion and stormwater control, including a detailed working knowledge of the proposed system. The first year's maintenance must be provided by the manufacturer to ensure that the system is operating according to the established specifications.
8. The overall stormwater management design must meet all Department criteria and sizing specifications and shall be reviewed and approved by the Department prior to use.
9. Each project must be reviewed and approved by the manufacturer for proposed use, layout and sizing of the system and for conformance with their design specifications. The system must be installed under the manufacturer's representative supervision.
10. This approval is conditional to on-the-ground experience confirming that the FBS's pollutant removal efficiency and sizing are appropriate. The "permit shield" provision (Section 14) of the Chapter 500 rules will apply, and the Department will not require the replacement of the system if, with proper maintenance, pollutant removals do not satisfy the General Standard Best Management Practices.

We look forward to working with you as these stormwater management structures are installed on new projects. Questions concerning this decision should be directed to Jeff Dennis at (207) 215-6376.

Sincerely,



Mark Bergeron, P.E.  
Director  
Bureau of Land Resources

C: Don Witherill, Maine DEP