



# State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Bureau of Nonpoint Pollution Control

Division of Water Quality

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[http://www.state.nj.us/dep/dwq/bnpc\\_home.htm](http://www.state.nj.us/dep/dwq/bnpc_home.htm)

JON S. CORZINE  
Governor

MARK N. MAURIELLO  
Acting Commissioner

June 18, 2009

Thomas Pank  
President  
BaySaver Technologies, Inc.  
1302 Rising Ridge Road, Unit 1  
Mount

Re: Interim Certification  
BayFilter by BaySaver Technologies, Inc.

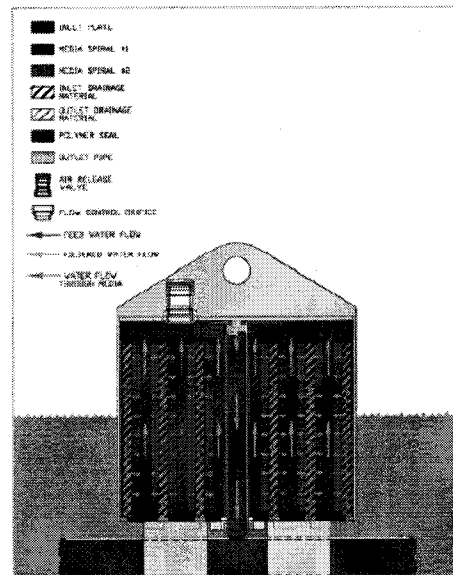
**Issuance Date: June 18, 2009**  
**Expiration Date: May 15, 2011**

Dear Mr. Pank:

The Stormwater Management rules at N.J.A.C. 7:8-5.5(b) and 5.7(c) allow the use of manufactured treatment devices (MTDs) for compliance with the design and performance standards at N.J.A.C. 7:8-5 if the pollutant removal rates have been verified by New Jersey Corporation for Advanced Technology (NJCAT) and have been certified by the New Jersey Department of Environmental Protection (NJDEP).

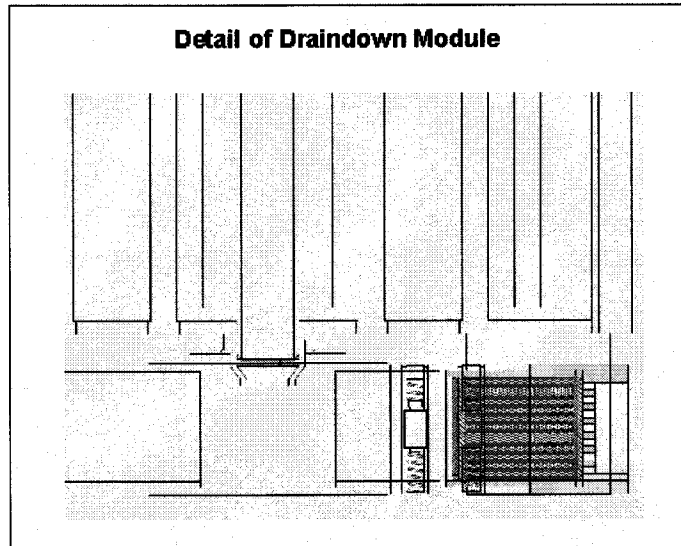
The BayFilter system is installed in a vault with a minimum one BayFilter cartridge (BFC) with an associated Draindown module (DDM). The flow enters above the bottom of the vault with the peak flow rate addressed by the number of BayFilter cartridges. Draindown cartridges are installed to drain the chamber to within 0.5 inches from the bottom of the chamber. The system must be configured such that

## BayFilter Cartridge



flow will begin when the water reaches 28" (2'4") above the vault floor. Full design flow will be achieved when the flow reaches 34" (2'10") above the vault floor.

In the BFC, flow rises up the into an outlet chamber at the top cartridge which drains through center into the outlet pipe. The allows the flow to drain below cartridge to discharge into the pipe at a much lower flow rate the BFC. There is a n air valve on top of the cartridge enables a siphon for form and the vault to within 6 inches of vault floor. When the vault down to or below 6 inches air the cartridge and breaks the triggering a backwash of the



filters of the the the DDM the the outlet than release which drain the drains enters siphon, filter.

At this point the water that has been filtered and not drained out of the cartridge will reverse flow and backwash the cartridge and remove collected pollutants and restore filter porosity The cartridge (media) flow rate is initially controlled by a flow control orifice (disk) located at the bottom of the center discharge of the cartridge. As the filter becomes occluded to the point that the media is more restrictive than the flow control orifice, the media becomes the flow limiter.

**The NJDEP certifies the use of the BayFilter by BaySaver Technologies, Inc at a TSS removal rate of 80%, subject to the following conditions:**

1. The Bayfilter system must be designed according to the NJ Water Quality Design Storm in N.J.A.C. 7:8-5.5.
2. The peak inflow of the water quality design storm is limited to 0.067 cfs per cartridge. The maximum inflow area per cartridge is limited to 0.7 acres of impervious area.
3. Sufficient draindown cartridges must be placed in any system to ensure that the draindown time for the water quality design storm event does not exceed thirty-six (36) hours.
4. The BayFilter system is certified as an off-line system only.
5. BayFilter Systems must provide a minimum of 7 sf of settling area for every BayFilter Cartridge. If the water quality design storm is controlled by upstream detention/attenuation for 12 hours or more, the minimum settling area does not apply.
6. This conditional certification does not extend to the enhanced removal rates under N.J.A.C. 7:8-5.5 through the addition of settling chambers (such as a hydrodynamic separator) or media filtration practices (such as a sand filter).
7. The maintenance plan for sites using this device shall incorporate, at a minimum, the maintenance requirements for the BayFilter system shown in Appendix A below.

Additional information regarding the implementation of the Stormwater Management rules N.J.A.C. 7:8 are available at [www.njstormwater.org](http://www.njstormwater.org).

If you have any questions regarding the above information, please contact Sandra Blick of my office at (609) 633-7021

Sincerely,

A handwritten signature in black ink, appearing to read "B. Chalofsky".

Barry Chalofsky, P.P., Chief  
Bureau of Nonpoint Pollution Control.

Enclosure

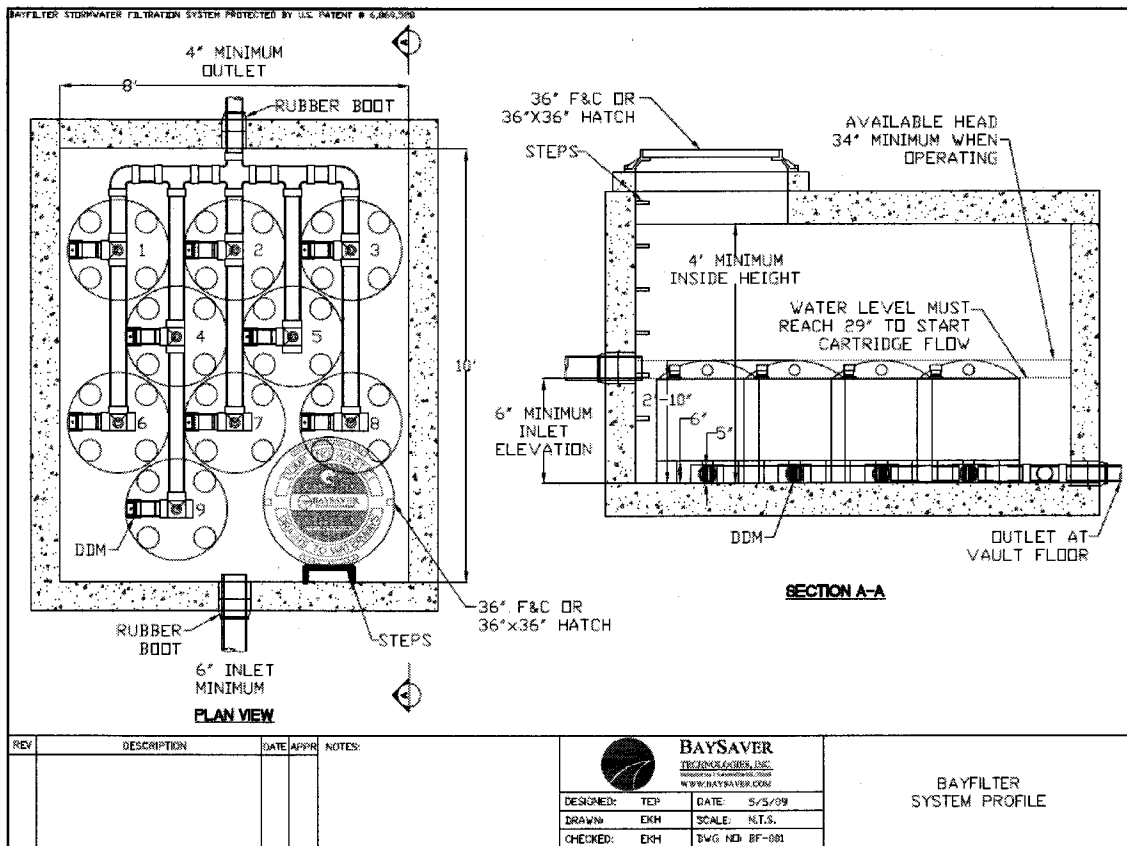
c: Rhea Weinberg Brekke, NJCAT  
Tom Micai, NJDEP

# Appendix A: Maintenance Requirements for BaySaver System by BaySaver Technologies, Inc.

Effective performance of stormwater management best management practices requires regular and proper maintenance. Chapter 8 of the New Jersey Stormwater Best Management Practices Manual and N.J.A.C. 7:8-5.8 of the Stormwater Management rules provides additional information and requirements for preparing a maintenance plan for stormwater management facilities. Specific maintenance requirements for the BayFilter manufactured treatment device by BaySaver Technologies, Inc. are presented below. These requirements must be included in the stormwater management system's maintenance plan in order to achieve the TSS removal rate associated with this manufactured treatment device.

## BayFilter System Profile

(Note: This drawing is provided for illustration purposes and the exact dimensions of cartridges to vault area or draindown cartridge must be based on the specific requirements of the certification.)



### A. General Maintenance

The person responsible for maintenance must evaluate the effectiveness of the maintenance plan at least once a year. Any changes to the maintenance plan must be sent to the review agency with associated justification and revised in the deed.

Any and all stormwater management system components expected to receive and/or trap debris and sediment must be inspected for clogging and excessive debris, sediment, and oil accumulation at least four times annually as well as after every storm exceeding 1 inch of rainfall. Such components may include, but is not limited to, bottom of chamber, filters, pipes, trash racks, and cleanouts.

The sediment and debris must be removed at or before the average depth of sediment reaches three (3) or trash reaches six (6) inches above the bottom of the system. Disposal of debris, trash, sediment, and other waste material must be done at suitable disposal/recycling sites and in compliance with all applicable local, state, and federal waste regulations.

***Design Engineer must specify one of the following filter replacement frequency for each BayFilter System Design:***

***For BayFilter systems that are sized based on water quality peak flow without attenuation:***

All cartridges must be replaced at a minimum of once every three (3) years.

***For BayFilter systems that are sized based on a reduced water quality peak flow due to upstream attenuation:***

All cartridges must be replaced at a minimum of once a year.

The performance of the BayFilter system must be evaluated to ensure that the vault drains within thirty-six (36) hours of the end of a rain event. If the draindown time is longer than 36 hours, the filter cartridges both the BayFilter Cartridges and associated the DrainDown Modues) must be evaluated for clogging and replacement.

Inspection of the BayFilter system may require entry into the vault which is a confined space. The stormwater technician must follow all OSHA confined space entry regulations.

#### **B. Minimum Equipment Requirements**

At a minimum, a vacuum truck is necessary for the maintenance of these units.

#### **C. Structural Components**

All structural components must be inspected for cracking, subsidence, spalling, erosion, and deterioration at least annually.

#### **D. Replacement Parts**

Certain components of this device are only available through the manufacturer in order to achieve the TSS removal certified by the Department. Replacement BayFilter cartridges can be obtained by contacting BaySaver Technologies, Inc.

***In addition to the above, the detailed maintenance plan must include all of the items identified in Chapter 8: Maintenance of the New Jersey Stormwater Best Management Manual. Such items include, but are not limited to, the list of inspection and maintenance equipment and tools, specific corrective and preventative maintenance tasks, indication of problems in the system, and training of maintenance personnel. Additional operation and maintenance information associated with this manufactured treatment device is available from the vendor to assist in the development of a complete maintenance plan.***