



April 2008

PILOT USE LEVEL DESIGNATION FOR BASIC TREATMENT

For

BaySaver Technologies, Inc. Bayfilter™

Ecology's Decision:

Based on BaySaver Technologies' application submissions and recommendations by the Technical Review Committee (TRC), Ecology hereby issues a pilot use level designation (PULD) for the BayFilter™:

- As a basic stormwater treatment device for total suspended solids (TSS) removal,
- Using a silica sand, perlite, phosphorus absorbing media,
- Sized at a design rate of 30 GPM per filter (43 ft² surface area).

The use level designation expires on October 31, 2010 unless extended by Ecology, and is subject to the conditions specified below.

Ecology's Conditions of Use:

BayFilter™ units shall be designed, installed, and maintained to comply with these conditions:

1. BayFilter™ units must be designed, assembled, installed, operated, and maintained in accordance with BaySaver Technologies' applicable manuals and documents and the Ecology Decision.
2. BayFilter™ units using the silica sand, perlite, phosphorus absorbing media filter are approved for treatment at 30 GPM maximum flow rate per filter at the 15-minute water quality design flow rate (as specified in Ecology's most recent Stormwater Manual), as calculated using the latest version of the Western Washington Hydrology Model or other Ecology-approved continuous runoff model. Note that if single event methods are used to estimate runoff flowrates, Figures 9.6a and 9.6b of the 2005 Stormwater Management Manual for Western Washington should be used to adjust the approved maximum flowrate for calculation purposes. (Note: Ecology is not approving a higher flowrate per unit for jurisdictions using single event methods. The adjustment is for calculation purposes only, and is intended to yield the same design result as the

continuous runoff modeling approach.) This is done by multiplying the above maximum flowrate by the ratio indicated in Figure 9.6a for on-line designs, or Figure 9.6b for off-line designs. The 6-month, 24-hour rainfall amount for the project site must be known to identify the appropriate ratio. The adjusted maximum flowrate is divided into the peak 10-minute flowrate predicted by the single event method to compute the applicable model. Note: This method is not applicable for Eastern Washington.

3. BaySaver Technologies Inc. commits to submitting a QAPP for TRC review and Ecology approval by October 31, 2008 that meets the TAPE requirements for attaining a GULD for basic treatment. Additional QAPPs must be reviewed and approved by the TRC and Ecology for each field site in Washington State. The sites chosen should be reflective of the product's treatment intent.
4. Local jurisdictions must file a "Pilot Level Technologies Notice of Intent" form with the Department of Ecology prior to authorizing BayFilter™ for a Pilot Use Level application.
5. BaySaver Technologies Inc. shall complete all required testing and submit a TER for TRC and Ecology review by April 30, 2010.
6. BaySaver Technologies Inc. may request Ecology to grant deadline or expiration date extensions, upon showing cause for such extensions.
7. Discharges from the BayFilter™ units shall not cause or contribute to water quality standards violations in receiving waters.

Applicant: BaySaver Technologies Inc.

Applicant's Address: 1302 Rising Ridge Road, Unit 1
Mount Airy, MD, 21771

Application Documents:

- Washington State Department of Ecology Technology Assessment Protocol – Environmental BayFilter™ Conditional Use Designation Application (March 2007)
- BaySaver Technologies, Inc. BayFilter™ System Washington State Technical and Design Manual, Version 1.1 (December 2006)

Applicant's Use Level Request:

Conditional use level designation as a basic and phosphorus treatment device in accordance with Ecology's 2005 Western Washington Stormwater Manual.

Applicant's Performance Claims:

- Removes and retains 80% of TSS based on laboratory testing using Sil-Co-Sil 106 as a laboratory stimulant.
- Expected to remove 50% of the influent phosphorus load.

Technical Review Committee's Recommendations:

The TRC finds that:

- BaySaver Technologies, Inc. should be given the opportunity to demonstrate, through additional laboratory and field testing, whether the BayFilter™ system can attain Ecology's Basic Treatment goals.

Findings of Fact:

- Based on laboratory testing, at a flowrate of 30 GPM per filter, the BayFilter™ system has been shown to have a total suspended solids removal efficiency of 81.5% using Sil-Co-Sil 106 with an average influent concentration of 268 mg/L and zero initial sediment loading.
- Based on laboratory testing, at a flowrate of 30 GPM per filter, the BayFilter™ system has been shown to have a dissolved phosphorus removal efficiency of 12% using fertilize with an average influent concentration of 5.5 mg/L phosphorus and zero initial sediment loading.

Other BayFilter™ Related Issues to be Addressed By the Company:

1. No complete field test results are available, so it is unknown whether the BayFilter™ system can reliably attain 80% removal of the finer particles comprising TSS found on local highways, parking lots, and other high-use areas at the design operating rate. BaySaver Technologies, Inc. should test a variety of operating rates to establish conservative design rates. Pollutant loading capacities of and breakthrough data on the filter media should also be determined to better predict maintenance cycles.
2. The system should be tested under normal operating conditions, such that the settling basin is partially filled with pollutants. Results obtained for "clean" systems may not be representative of typical performance.
3. Field testing should be conducted at sites that are indicative of the treatment goals.
4. Testing should be conducted to obtain information about maintenance requirements in order to come up with a maintenance cycle.

5. Testing should be conducted to determine if oils and grease affect the treatment ability of the concrete filter. This should include a determination of how oil and grease may affect the ion-exchange capacity of the system if claims are to be made for phosphorus removal.
6. Loading tests should be conducted on the filter to determine maximum treatment life of the system.

Technology Description: Download at www.BaySaver.com

Contact Information:

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