



State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

JON S. CORZINE
Governor

Bureau of Nonpoint Pollution Control
Division of Water Quality
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MARK N. MAURIELLO
Acting Commissioner

February 25, 2009
Joel Garbon, Product Manager
Jellyfish Filter
Imbrium Systems
3811 S.W. Corbett Avenue
Portland, OR 97239

Re: Interim Certification
Jellyfish Filter by Imbrium Systems Corporation

Issuance Date: February 25, 2009
Expiration Date: February 24, 2011

Dear Mr. Garbon:

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).

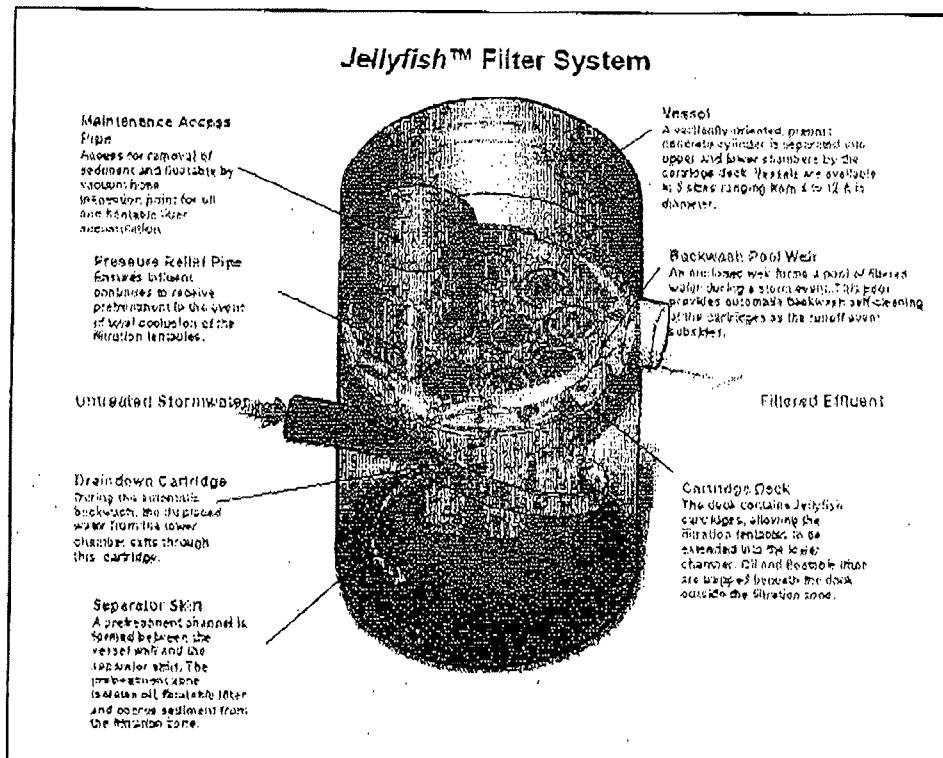
The Jellyfish filter system is configured as a subsurface manhole, rectangular vault, or catch basin structure that has been fitted with a pre-manufactured insert. The insert serves as a cartridge deck for placement of Jellyfish filter cartridges; provides a separator skirt below deck to facilitate removal of floatables and sediment; provides a large diameter pipe above deck to facilitate inspection and maintenance; and contains a backwash pool weir to facilitate self-cleaning of the filter cartridges.

The insert deck divides the structure into an upper and lower chamber. Treatment occurs in the lower chamber, which contains a permanent pool of water. Flow from the inlet pipe enters the lower chamber tangentially, with water directed around and under the separator skirt. Within the separator skirt are suspended the Jellyfish filtration tentacles. Ninety-one 54-inch long filtration tentacles are attached to each 12-inch diameter cartridge head.

Pretreated water infiltrates the filtration tentacles, flows upward, and filtered water discharges above deck into a backwash pool defined by a 6-inch high weir. During active runoff events, filtered water overflows the backwash pool onto the top of the deck and out the outlet pipe.

The invert of the outlet pipe is coincident with the top of the deck. When a runoff event subsides, water in the backwash pool drains down through the filtration tentacles to dislodge some of the accumulated sediment from the tentacles and thereby restore tentacle porosity. Water displaced from the permanent pool below deck flows to the top of the deck through the draindown cartridge(s) and out the outlet pipe. The flow rate of the standard cartridges is controlled by an orifice in each cartridge head, with the draindown cartridge(s) controlled to a much lower flow rate by an appropriately smaller orifice per site specific requirements. The system is designed to function with an 18-inch head differential from the top of the upstream diversion manhole weir to the invert of the Jellyfish filter system outlet pipe. The system will have standing water to the elevation of the outlet pipe invert at all times.

System schematic and component functions



The NJDEP certifies the use of the Imbrium Systems Corporation Jellyfish filter system at a TSS removal rate of 80%, subject to the following conditions:

1. The Jellyfish system is 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 0.11 cfs and the maximum inflow area per cartridge is limited to 0.17 acres of impervious area.
3. The bottom of the Jellyfish tentacles is a minimum of 2 feet above the bottom of the vault. Each cartridge must have a minimum of 26.2 cf of wet volume.
4. The Jellyfish system is certified as an off-line system only.
5. The use of the Jellyfish System cannot be used in series with a settling chamber (such as a hydrodynamic separator) or a media filter (such as a sand filter), to achieve an enhanced removal rate for total suspended solids (TSS) removal under N.J.A.C. 7:8-5.5.
6. The maintenance plan for sites using this device shall incorporate, at a minimum, the maintenance requirements for the Jellyfish system shown in Appendix A below.

This letter issues an interim certification for two years from the date of issuance. An addition extension will be considered by the Department only after the final field testing data has been received.

Additional information regarding the implementation of the Stormwater Management rules N.J.A.C. 7:8 are available at www.njstormwater.org. If you have any questions regarding the above information, please contact Sandra Blick, Supervisor, Stormwater Management Unit, at (609) 633-7021

Sincerely,



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

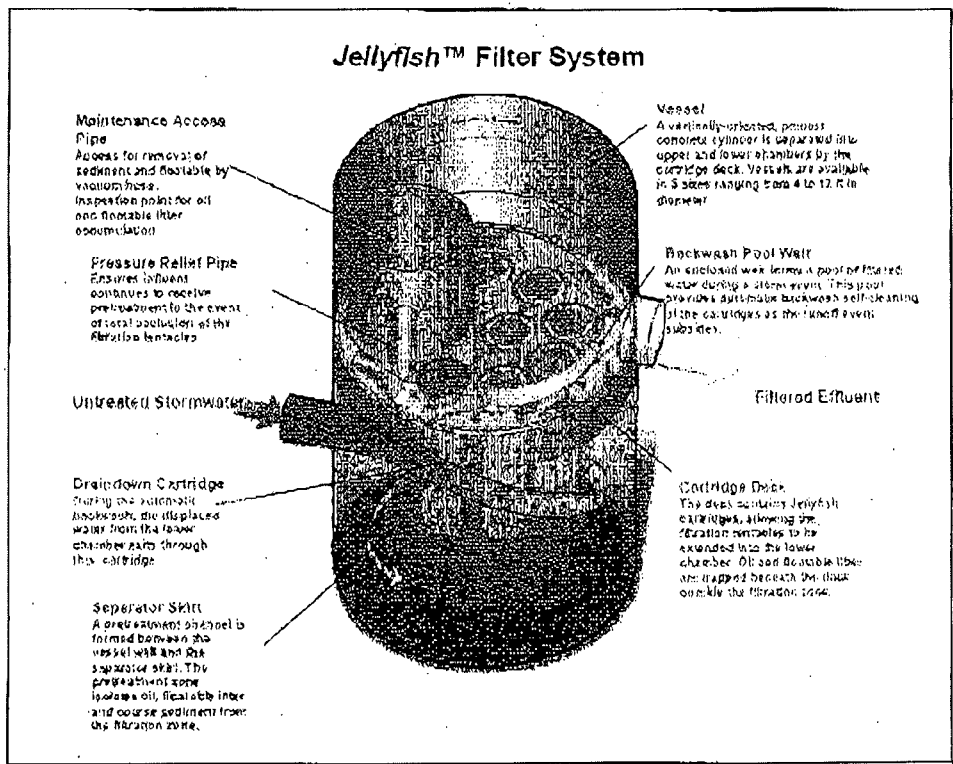
Enclosure

c: Rhea Weinberg Brekke, NJCAT
Tom Micai, NJDEP
Marybeth Brenner, NJDEP

Appendix A: Maintenance Requirements for Jellyfish Filter System by Imbrium Systems Corp.

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 Filter treatment device by Imbrium Systems Corp. 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.

System schematic and component functions



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 and/or trash reaches one (1) foot 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.

The automatic backwash function will be disabled if the filter cartridges become saturated with sediment. If the backwash pool contains more than 3 inches depth of water after 12 hours of dry weather, the automatic backwash is not properly functioning. Filter cartridges must be cleaned/re-commissioned or replaced every 12 months or when the automatic backwash feature no longer functions, whichever occurs first. If a filter cartridge is re-commissioned, a test must be run using clean water to ensure that the filter performs at a flow rate of 0.11 cfs per cartridge.

Inspection of the Jellyfish filter system is performed from the surface, while proper maintenance requires a combination of procedures conducted from the surface and with worker entry into the structure. The Jellyfish Filter System may be a confined space. Enter only when necessary and with the proper equipment, following 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. These components include the Jellyfish filter cartridges, cartridge hole cover plates, cartridge adaptors (for manual backwashing), and other system components can be ordered by contacting:

Imbrium Systems Corporation
(888) 279-8826
www.imbriumsystems.com

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.