



State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Bureau of Nonpoint Pollution Control

Division of Water Quality

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Commissioner

August 10, 2017

Dan Fajman, General Manager
FreshCreek Technologies, Inc.
1834 Pompton Avenue, Suite 2
Cedar Grove, NJ 07009

Re: MTD Lab Certification
StormTrap SiteSaver[®] - 4 Hydrodynamic Separator (STSS-4) by FreshCreek Technologies, Inc.
Offline or Online Installation

TSS Removal Rate 50%

Dear Mr. Fajman:

The Stormwater Management rules under 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 the New Jersey Corporation for Advanced Technology (NJCAT) and have been certified by the New Jersey Department of Environmental Protection (NJDEP). FreshCreek Technologies, Inc. has requested an MTD Laboratory Certification for the StormTrap SiteSaver[®] - 4 Hydrodynamic Separator.

The projects falls under the "Procedure for Obtaining Verification of a Stormwater Manufactured Treatment Device from New Jersey Corporation for Advance Technology" dated January 25, 2013. The applicable protocol is the "New Jersey Laboratory Testing Protocol to Assess Total Suspended Solids Removal by a Hydrodynamic Sedimentation Manufactured Treatment Device" dated January 25, 2013.

NJCAT verification documents submitted to the NJDEP indicate that the requirements of the aforementioned protocol have been met or exceeded. The NJCAT letter also included a recommended certification TSS removal rate and the required maintenance plan. The NJCAT Verification Report with the Verification Appendix (dated June 2017) for this device is published online at <http://www.njcat.org/verification-process/technology-verification-database.html>.

The NJDEP certifies the use of the StormTrap SiteSaver[®] - 4 (STSS-4) Hydrodynamic Separator by FreshCreek Technologies, Inc. at a TSS removal rate of 50% when designed, operated, and maintained in accordance with the information provided in the Verification Appendix and the following conditions:

1. The maximum treatment flow rate (MTFR) for the manufactured treatment device (MTD) is calculated using the New Jersey Water Quality Design Storm (1.25 inches in 2 hrs) in N.J.A.C. 7:8-5.5.
2. The STSS-4 stormwater treatment device shall be installed using the same configuration reviewed by NJCAT. Only model STSS-4 is certified under this letter, and the sizing information is specified in item 6 below.
3. This STSS-4 stormwater treatment device cannot be used in series with another MTD 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.
4. Additional design criteria for MTDs can be found in Chapter 9.6 of the New Jersey Stormwater Best Management Practices (NJ Stormwater BMP) Manual which can be found on-line at www.njstormwater.org.
5. The maintenance plan for a site using this device shall incorporate, at a minimum, the maintenance requirements for the STSS-4 stormwater treatment device. A copy of the maintenance plan is attached to this certification. However, it is recommended to review the maintenance website at <http://stormtrap.com/wp-content/uploads/2016/05/SiteSaver-OM.pdf> for any changes to the maintenance requirements.
6. Sizing Requirement:

The example below demonstrates the sizing procedure for the STSS-4 Stormwater Treatment Device:

Example: A 0.25 acre impervious site is to be treated to 50% TSS removal using a SiteSaver Stormwater Treatment Device. The impervious site runoff (Q) based on the New Jersey Water Quality Design Storm was determined to be 0.79 cfs.

Maximum Treatment Flow Rate (MTFR) Evaluation:

The site runoff (Q) was based on the following:
time of concentration = 10 minutes
i = 3.2 in/hr (page 5-8, Fig. 5-3 of the NJ Stormwater BMP Manual)
c = 0.99 (curve number for impervious)
 $Q = ciA = 0.99 \times 3.2 \times 0.25 = 0.79$ cfs

Given the site runoff is 0.79 cfs and based on Table 1 below, the STSS-4 with a MTFR of 4.32 cfs could be used for this site to remove 50% of the TSS from the impervious area without exceeding the MTFR.

The sizing table corresponding to the STSS-4 model is noted below. This information can also be found in the Verification Appendix of the NJCAT Verification Report. The sizing requirement for the STSS-4 model hydrodynamic separator is as follows:

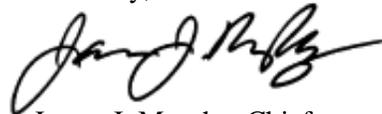
Table A-1 STSS-4 Sizing Information

Model	NJDEP 50% TSS Maximum Treatment Flow Rate (cfs)	Treatment Area (ft²)	Hydraulic Loading Rate (gpm/ft²)	50% Maximum Sediment Storage Volume (ft³)
STSS-4	4.32	84	23.1	28

A detailed maintenance plan is mandatory for any project with a Stormwater BMP subject to the Stormwater Management Rules, N.J.A.C. 7:8. The plan must include all of the items identified in the Stormwater Management Rules, N.J.A.C. 7:8-5.8. 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 information can be found in Chapter 8: Maintenance and Retrofit of Stormwater Management Measures.

If you have any questions regarding the above information, please contact Mr. Shashi Nayak of my office at (609) 633-7021.

Sincerely,



James J. Murphy, Chief
Bureau of Nonpoint Pollution Control

Attachment: Maintenance Plan

cc: Chron File
Richard Magee, NJCAT
Vince Mazzei, NJDEP - DLUR
Ravi Patraju, NJDEP - BES
Gabriel Mahon, NJDEP - BNPC
Shashi Nayak, NJDEP - BNPC



SiteSaver® Manufacturer's Instruction Manual

Regular inspections are recommended to ensure that the system is functioning as designed. Please contact your Authorized SiteSaver Representative if you have questions regarding the inspection and maintenance of the SiteSaver system. SiteSaver does not require entry into the system for maintenance; however, it is prudent to note that prior to entry into any underground storm sewer or underground structure, appropriate OSHA and local safety regulations and guidelines should be followed.

Inspection Scheduling

The frequency of inspections and maintenance is site specific. Within the first year of operation, it is recommended that the unit be inspected every six months to determine the rate of pollutant accumulation. SiteSaver systems are recommended for inspection whenever the upstream and downstream catch basins and stormwater pipes of the stormwater collection system are inspected or maintained. This will minimize the cost of the inspection if it is done at the same time. If checked on an annual basis, the inspection should be conducted before the stormwater season begins to ensure that the system is functioning properly for the upcoming storm season.

Inspection Process

Inspections should be done such that a sufficient time has lapsed since the most recent rain event to allow for a static water condition. Visually inspect the system at all manhole locations. For debris accumulation, visually inspect the netting component (if utilized) to determine bag capacity. Nets containing only minor quantities of debris may be retained in



place. It is recommended to replace the nets when they appear 1/2 - 2/3 full. Failure to replace nets and/or remove floatables from bypass screening (if applicable) will lead to hydraulic relief, drain down deficiencies, and decrease the long-term functionality of the system.

For sediment accumulation, utilize either a sludge sampler or a sediment pole to measure and document the amount of sediment accumulation. To determine the amount of sediment in the system with a sludge sampler follow the manufacturer's instructions. If utilizing a sediment pole, first insert the pole to the top of the sediment layer and record the depth. Then, insert the pole to the bottom of the system and record the depth. The difference in the two measurements corresponds to the amount of sediment in the system. Eight-inches of sediment accumulation corresponds to the designed sediment storage capacity, four-inches equates to 50% capacity, etc. Finally, inspect the inlet pipe opening to ensure that the silt level or any foreign objects are not blocking the pipe.

Maintenance Process – Debris Removal

Maintenance should be done utilizing proper personal protective equipment such as: safety glasses, hard-hat, gloves, first aid kit, etc. Maintenance should occur only when a sufficient time has lapsed since the most recent rain event to allow for a static water condition for the duration of the maintenance process.

For floatable debris removal, lift the netting bag by the frame, moving it upwards along the netting support frame. To ease lifting the nets to the surface, gaff hooks or a service vehicle (crane/hoist/boom truck) may be used. Slowly raise the netting frame allowing water in the net to drain as it is raised to allow it to drip dry. Once the netting component is fully removed from the system, it should be properly disposed of per local, state, and federal guidelines and

regulations. Typically, the netting component can be disposed of in a common dumpster receptacle.



For sediment removal, the SiteSaver is designed with clear access at both the inlet and outlet. A vacuum truck, or similar trailer mounted equipment, can be used to remove the sediment, hydrocarbons, and water within the unit. For more effective removal, it is recommended to use sewer jetting equipment or a spray lance to force the sediment to the vacuum hose. When the floor is sufficiently cleaned, fill the system back to its normal water elevation (to the pipe inverts).

Maintenance Process – Net Replacement

Install a new net assembly by sliding the netting frame down the support frame and ensure the netting lays over the plate assembly. To order additional disposable nets, contact your local SiteSaver representative. New nets come with tie wraps temporarily holding the net material to the frame component for easy handling and storage. It is not recommended to remove the tie wraps until the net is ready to be installed. The frame is tapered from top (widest part) to bottom, and is also tapered from front (towards the sewer) to back. Cut the tie wraps that secures the netting material to the frame for shipment and lower the net down

the guide rails. If debris has accumulated in the net support frame, remove the objects so the new net seats fully in the channel when installed. If utilizing oil sorption socks, insert them into the net cavity prior to lowering the net down the guide rails. The oil sorption socks are designed to absorb approx. ¼ gallon of hydrocarbons; it is typically recommended to use enough socks to absorb a gallon of hydrocarbons per treated cfs.

When lowering the net the following details should be exercised when placing the net:

- Watch the lowering to make sure that there are no unexpected entanglements.
- Be careful not to let the toe of the net get caught under the frame when it reaches the bottom of the support frame. This is typically accomplished by holding the toe of the net until after the net has started to prop into place.
- Finally, secure the access openings and properly dispose of the sediment per local, state, and federal guidelines and regulations.



In the case of only floatables removal, a vacuum truck is not required. However, a vacuum truck is required if the maintenance event is to include oil removal and/or sediment removal. Proof of inspections and maintenance is the responsibility of the owner. All inspection reports and data should be kept on site or at a location where they will be accessible for years in the future. Some municipalities require these inspection and cleaning reports to be forwarded to



the proper governmental permitting agency on an annual basis. Refer to your local and national regulations for any additional maintenance requirements and schedules not contained herein. Inspections should be a part of the standard operating procedure. It is good practice to keep records of rainfall events between maintenance events and the weight of material removed, even if no report is required.