



State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Bureau of Nonpoint Pollution Control

Division of Water Quality

401-02B

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KIM GUADAGNO

CHRIS CHRISTIE

Governor

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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:

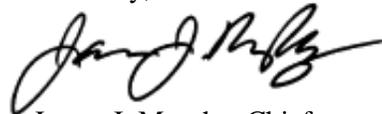
Table A-1 STSS-4 Sizing Information

| 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.



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CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

BOB MARTIN
Commissioner

March 31, 2017

Hans de Bruijn
Sr. Environmental Manager
1384 Pompton Ave., Suite 2
Cedar Grove, NJ 07009

Re: Revised MTD Lab Certification
SiteSaver Stormwater Treatment Device by Fresh Creek Technologies, Inc.
On-line Installation

TSS Removal Rate 50%

Dear Mr. de Bruijn:

This revised certification letter supersedes the Department's prior certification dated March 29, 2016. This revision was completed to reflect the updated Manufactured Treatment Device (MTD) scaling methodology as agreed upon by the manufacturers' working group on September 19, 2016. In part, the updated scaling for hydrodynamic MTDs is based on the depth of the reference (tested) MTD from the top of the false floor utilized during removal efficiency testing, not from the physical bottom of the unit. Based on the above decision, Table A-1 of the NJCAT Technology Verification report located at <http://www.njcat.org/uploads/newDocs/SiteSaverSS8TerchnologyVerificationFinal.pdf> has been revised, and Table 1 noted below has been updated as well.

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). Fresh Creek Technologies, Inc. has requested an MTD Laboratory Certification for the SiteSaver Stormwater Treatment Device.

The project 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 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 February 2016 (revised January 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 SiteSaver Stormwater Treatment Device by Fresh Creek 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 SiteSaver Stormwater Treatment Device shall be installed using the same configuration as the unit tested by NJCAT, and sized in accordance with the criteria specified in item 6 below.
3. This SiteSaver 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 SiteSaver Stormwater Treatment Device. However, it is recommended to review the maintenance website at <http://stormtrap.com/wp-content/uploads/2016/05/SiteSaver-Maintenance-Manual-Netting-Trash-Trap-R4.pdf> for any changes to the maintenance requirements.
6. Sizing Requirements:

The example below demonstrates the sizing procedure for the SiteSaver 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)

$c=0.99$ (runoff coefficient 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 SiteSaver Model No. SS6 with a MTFR of 0.83 cfs would be the smallest model approved that could be used for this site that could remove 50% of the TSS from the impervious area without exceeding the MTFR.

The sizing table corresponding to the available system models is noted below. Additional specifications regarding each model can be found in the Verification Appendix under Table A-1 of the NJCAT Verification Report.

Table 1. SiteSaver Models

| Model | Maximum Treatment Flowrate, MTFR (cfs) | Physical Dimensions Length x Width x Depth (inches) |
|-------|--|---|
| SS4 | 0.67 | 96 x 24 x 56 |
| SS6 | 0.83 | 96 x 30 x 56 |
| SS8 | 1.00 | 96 x 36 x 56 |
| SS11 | 1.39 | 100 x 48 x 56 |
| SS13 | 1.66 | 106 x 54 x 56 |
| SS16 | 2.02 | 116 x 60 x 56 |
| SS18 | 2.34 | 122 x 66 x 56 |
| SS20 | 2.50 | 132 x 66 x 56 |
| SS23 | 4.1 | 180 x 78 x 97 |
| SS36 | 6.9 | 234 x 102 x 125 |
| SS45 | 10.5 | 288 x 126 x 152 |
| SS55 | 14.9 | 342 x 150 x 179 |
| SS65 | 20.0 | 396 x 174 x 205 |

Be advised 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 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

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

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MANUFACTURER'S INSTRUCTION MANUAL
FLOATABLE AND SEDIMENT COLLECTION SYSTEMS
FOR THE
SITESAVER®

SITESAVER®-GENERAL NOTES:

**SITESAVER® IS THE BRAND NAME OF THE STORMWATER TREATMENT TRAIN PROVIDED BY:
FRESH CREEK TECHNOLOGIES INC. (PHONE 800 741 9486)**

SUBCOMPONENTS ARE:

- 1) FRESH CREEK NETTING TRASH TRAP**
- 2) SITESAVER® INSERT**
- 3) FRESHTECH™ FILTER**
- 4) (OPTIONAL) TELNET® SYSTEM**

**FRESH CREEK TECHNOLOGIES, INC.
1384 POMPTON AVENUE, SUITE 2
CEDAR GROVE, NEW JERSEY 07009
973-237-9099 (T), 973-237-0744 (F)**

**Fresh Creek Technologies, Inc.
Operation and Maintenance Instructions**

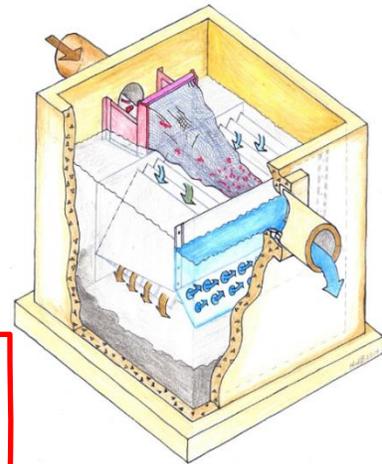
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General Introduction about FCT Equipment

The TRASHMASTER™ Netting Capture and TrashTrap® systems, capture and remove floatables from stormwater, CSO or sewer flows using the passive energy of the flow to trap floatables in disposable mesh netting nets. There are six basic models of the modular Fresh Creek Technologies, Inc., netting systems and a range of sizes for each model configured to accommodate one or more nets.

- The **In-Line Netting TrashTrap®** model is a modular concrete chamber containing the apparatus for holding the disposable nets. The system is installed *in-line* between the collection system and the outfall.
- The **End-of-Pipe Netting TrashTrap®** is installed at the *end of the pipe* - often within the existing outfall structure without any modification.
- The **Floating Netting TrashTrap®** is a modular pontoon structure, which floats at the end of the outfall, or inside an open channel/trench.
- The **Open Channel Netting TrashTrap®** is installed in an *open channel* or culvert - often within the existing structure without any modification.
- The **TRASHMASTER™** Netting Capture model is a plastic chamber containing the apparatus for holding the disposable net. The system is installed in-line between the collection system and the outfall.
- The **Pump Guard®** Netting Capture system is a net or series of nets placed in front of a pump inlet. The system is designed to prevent objects from entering the pump suction.
- The **SiteSaver™ Netting TrashTrap®** is placed inside the primary chamber of the SiteSaver® and directly receives inflow as shown in the isometric picture. The settling cells below the netting are self cleaning the sediment to the floor for final collection by a vacuum truck.



The TRASHMASTER™ Netting Capture and TrashTrap® systems operate unattended, and thus do not require personnel to be onsite during normal flows or stormwater discharges. The systems have no electrical controls or mechanical devices. They are designed so that no major maintenance is required, with system life expectancy of at least 20 years. Therefore, the equipment only requires routine maintenance, for periodic inspection and replacement of nets, as described herein.

Benefits of the entire line of Fresh Creek netting systems are High Capture Efficiencies - above 95%, (using 1/4" net openings), Low Installation Cost, and Low Operation and Maintenance Costs. Because the system treatments 100% of the total flow, 100% of the time, the Fresh Creek netting technology is included in US EPA CSO guidance documents. It implements both the "Nine Minimum Controls" and Long Term Control floatables requirements of the US EPA and has been approved for use in New Jersey by the NJ DEP.

Fresh Creek's netting systems, meets and/or exceeds the Full Capture Treatment System requirements identified in the California Regional Water Quality Control Board (RWQCB), Los Angeles Region's Trash Total Maximum Daily Load (TMDL) for the Los Angeles River Watershed. The FCT netting system is the only netting system presently approved by the Los Angeles RWQCB.

SECTION 1

Netting TrashTrap® Systems

Operation and Servicing of the Netting TrashTrap® Systems

General Operations and Maintenance Practices

Review complete Operations and Maintenance Instructions before maintaining the Netting TrashTrap® system. Only responsible persons authorized to do so should maintain the Netting TrashTrap® system.

The Netting TrashTrap® systems are only to be serviced during dry weather conditions when there is little or no flow through the system. Never perform maintenance on the Netting Trash Trap® structure before, during, and immediately after a rainstorm in the general drainage area. The basic servicing of these systems consists of removing the full nets containing the captured floatables, installing a new net, and disposing of the full nets.

NOTES:

1. The Netting TrashTrap® system should be inspected after each stormwater event, or at least once a month, until a sense about the rate of fill develops.
 - a. If allowed Fresh Creek Technology may request to install the TelNet System® at no cost to the owner and use this system to monitor head-loss across the netting frame during a rain event. We will learn when events occur and get a sense of the net filling rate at the site. This data we will share with the owner to develop insight about trash quantity and netting maintenance. *(Note: Historically we have collected this data at wastewater treatment plants where flow conditions are constant versus intermittent flows in storm water infrastructure.)*
2. Nets, which are damaged, should be replaced. Nets containing only minor quantities of floatables may be retained in place and shall be checked again at the next inspection. FCT recommends replacement when the nets appear to be ½ full.
3. Failure to replace nets and/or remove floatables from the bypass screening (if applicable) will lead to hydraulic relief and drain down of floatable that cannot enter this filled netting bag.
4. Before removing floatables from bypass screening, see section labeled “Inspection and Maintenance of the Netting TrashTrap® Systems”.
5. Because of the amount of collected trash, maintenance workers may, if required, , use gaff hooks (supplied by others) to help lift nets to the surface.

Disposal of Full Nets

To date, the materials captured in sewers and storm water outfalls have been treated in all known jurisdictions in the same manner as bar screen tailings from the sewage plant head works.

Some sewer authorities transport this material back to their plant and combine it with the tailings and dispose of it under their existing permits. Transporting this material over the highway also requires permits.

Major waste haulers such as BFI, Waste Management, etc. have the required licenses. As part of their service, they take legal responsibility or "ownership" of the material when they pick it up at the customer's site, and indemnify the customer from any subsequent claims.

Please check with state and local laws for disposal/treatment.

General Procedure for Net Removal and Replacement, In-Line Systems

Net Removal

1. Position the service vehicle (crane/hoist/boom truck) so that it will safely reach over the unit and a full net can be loaded into a watertight container for hauling to the disposal site. From this point on, the service vehicle/hoist/... will be referred to simply as "the crane".
2. Remove the access hatch cover(s) immediately over the nets. This may require the use of hooks or slings and may require the use of a crane.
3. Find the loop at the end of the (net) rope. It should be hanging from an eye-bolt somewhere near the access opening.
4. Place the loop on the hook of the crane
5. Slowly hoist the net¹ up, allowing water in the net to drain as it is raised. It may be necessary to stop several times during this lift, to allow water to drain. Someone should watch this lift and be able to stop it in case of any kind of unexpected entanglement.
6. Allow the net to hang in this position until it "drips dry" (usually 1-2 min).
7. Completely remove the net from the Netting TrashTrap[®] and place in a water tight container for disposal
8. Once the used net is in the container, remove the (rope) loop from the crane hook.
9. Install new net. SEE NET REPLACEMENT BELOW
10. Now is a good time to clean the by-pass screens if applicable. FCT has found it useful to purchase or fabricate a long-handled rake to reach in from above and to push debris off the screens down to the floor of the vault. Let the debris pile up in front of the (net) support structure (in front of what will be the "mouth" of the new net). The next rain will push the debris into the new²



¹ The net includes the wooden or plastic rectangular frame to which the netting material is stapled.

² If the sewer always has water in it – clean the screens before removing the old net, or after replacing the net (preferred)

Net Replacement

1. New nets come with tie wraps temporarily holding the net material to the plastic frame. This allows them to be handled and installed easily. **DO NOT REMOVE THE TIE WRAPS UNTIL THE NEW NET IS JUST ABOUT TO BE INSTALLED.**

Notes:

- A. The plastic net frame is tapered from top (widest part) to bottom, and is also tapered from front (towards the sewer) to back.
- B. The top also contains two (2) 1" diameter through holes AND the net bag is usually rolled and tie wrapped at the top of the frame.
- C. Silt, stones and other debris may accumulate in the net support frame channel and prevent the new net from being fully inserted. If this is the case, pressure wash and/or scrape all such materials out of the frame channel so that the new net seats fully in the channel when installed.

3. Cut the two tie wraps and stretch the "toe" of the net out, away from the plastic frame. It is not critical to have the net laid out flat or straight once it is in position since water flow will cause the net to expand fully.



4. **INSERT the OIL SORPTION SOCKS INTO THE NET CAVITY.** Position the bottom of the plastic frame (net attached) to fit in between the stainless steel guide rails of the net support. Staples should be in the back (facing down-stream). The net bag should be wrapped around the net frame and pulled through from the front. The nets are shipped this way, but it is possible for a net to fall back out through the frame, to the front, once the tie wraps are undone.



5. Lower the net down the guide rails.
6. Care to the following details should be exercised:
 - a. Watch the lowering to make sure that there are no unexpected entanglements.
 - b. Be prepared to stop and correct if such entanglements occur.
 - c. Be careful not to let the toe of the net get caught under the frame when it reaches the bottom. This is usually accomplished by holding the toe of the net up until after the net has started to drop into place. Some customers have tied light weight ropes to the toe to make it easier to hold up.
 - d. Do not let the loop of the (net) rope drop into the primary chamber vault.
 - e. Place the loop of the new (net) rope on the eye-bolt



7. Inspect the system for any signs of damage or need for adjustment. For additional information, see section labeled, "Inspection and Maintenance".

8. Reinstall the access hatches over the nets and secure the site.
9. Complete the inspection and service report, in accordance with local permits. It is good practice to keep records on rainfall events between the replacement of nets and the weight of every removed net, even if no report is required.

Inspection and Maintenance of the Netting TrashTrap® Systems.

The Netting TrashTrap® systems are designed and manufactured for long life and minimum maintenance. When stormwater events occur, these systems are subjected to large hydraulic forces. Under these conditions, foreign materials that enter the collection system could cause damage to the Netting TrashTrap® system. As with any equipment, they therefore require routine inspection of the structural connections and supports to detect any problems or deficiencies.

The Netting TrashTrap® system should be visually inspected as part of the routine net changeout procedure. The system components, structural connections, and supports should be visually inspected for proper alignment and attachment per the contract drawings, specifications, and safety guidelines. Inspect each section of bar screen and remove any debris. Inspect sections of hinged bar screen to insure that each screen is still fastened correctly. Each guide rail, screen, access cover, etc., of the complete system should be visually examined for damage or misalignment. Repair or adjustments should be performed by a qualified maintenance person.

We recommend contacting Fresh Creek Technologies with any questions on repairs or adjustments to the Netting TrashTrap® systems before they are undertaken. Failure to inform FCT of any problems before making changes or adjustments could void the product warranty.

Trained personnel following proper safety practices should do all repairs and adjustments.

When the Netting TrashTrap® Collection System structure or components require maintenance beyond the change out of the nets, these procedures should be followed:

1. Contact a local weather advisory consultant to verify the potential for a rainstorm event and possible stormwater event, and schedule work accordingly for the maintenance of the Trash Trap Netting Collection System.
2. If warranted, for the scope of maintenance work, notify the operator of the sewer plant that work will be performed on a specified Netting TrashTrap® system.
3. Wear the proper safety equipment. Avoid loose clothing. Obtain additional safety equipment when your safety may be in doubt. Such equipment may include a hard-hat, safety shoes, ear protectors, safety goggles, and sanitary overalls.
2. Always wear rubber gloves when performing any maintenance procedure on the Netting TrashTrap® system.

3. Have fresh water available and located nearby for washing and emergency procedures.
6. Have a first aid kit available. Use proper antiseptics immediately on cuts and scratches to avoid infection.
7. If a person falls into the water within the Netting TrashTrap[®] system area, the person should immediately be brought to the closest maintenance facility for shower, and first aid procedures.
8. Have a fire extinguisher located nearby.
9. At no time should anyone enter any chamber, without first completing all OSHA and local safety rules/procedures for “Confined Space Entry”.

General Safety Guidelines for the Netting TrashTrap® Systems

Introduction

The following safety guidelines are for the safe operation and maintenance of the Netting TrashTrap® system. Remember no number of safety guidelines nor can any amount of safety equipment make maintenance of any piece of equipment totally safe unless the maintenance personnel follow the guidelines and use the equipment prudently. An alert, safety-conscious operations or maintenance person is the key to the safe maintenance of any piece of equipment.

General Supervisory Practices

A facility supervisor is directly responsible for the safety of the facility operations and maintenance personnel. A safe supervisor:

- Knows, practices, and enforces all facility safety rules;
- Wears protective equipment when and where it is required for maintenance activities;
- Knows the location and operation of all emergency equipment;
- Maintains and distributes up-to-date safety information on all procedures used in the area;
- Is always on the lookout for unsafe practices to facility operators and maintenance personnel;
- Assumes responsibility for the safety of visitors in the facility and makes sure they are aware of safety rules.
- At no time should anyone enter any chamber, without first completing all OSHA and local safety rules/procedures for “Confined Space Entry”.

Cleanliness and Service

Keep the Netting Trash Trap® system as clean as possible. The process of cleaning will reveal problems or deficiencies with the system.

Before continuing operation of the Netting TrashTrap® system correct or report any structural deficiency that may cause further damage.

Wash hands after any maintenance procedures using an antibacterial soap. Avoid contact with the face and eyes. (Which could be entry points for microbial pathogens)

Ordering Replacement Nets

The net size for the listed site netting chamber, is either of the following ($\frac{1}{4}$ ”; $\frac{1}{2}$ ”; $\frac{3}{4}$ ”; 1”; $1\frac{1}{2}$ ”) inch mesh material. Frames are identified by width height and nominal net length.

Contact List

For additional information on the Fresh Creek Technologies Netting TrashTrap® systems and questions or technical support on their operation, contact the Company at:

1384 Pompton Avenue, Suite 2
Cedar Grove, NJ 07009
Telephone (973) 237-9099
Fax (973) 237-0744
E-mail: mfarrelly@freshcreek.com

To order additional disposable mesh nets, contact the company at the above address. Delivery time is currently 3-4 weeks after receipt of order.

SECTION 2

SiteSaver® Maintenance Procedures

When a SiteSaver® is installed, frequent inspection is highly recommended. The design of the SiteSaver® permits easy inspection. It is recommended that during the first year after installation, inspections be performed at least quarterly for the purpose of noting the rate of pollutant capture: oil, grease, trash, debris, vegetation and sediment.

Exhibit A lists size and volume information for each SiteSaver® model.

Exhibit B is a form that suggests recording dates and information resulting from the inspections. Maintaining accurate records provides a history of the pollutant accumulation for the SiteSaver®.

Sediment Measurement

To determine sediment accumulation, a tape measure or stadia rod may be used. Cleaning is recommended when the sediment to water level measurements is less than 39 inches. To avoid underestimating the volume of sediment in the chamber it helps to have a broad foot on the end of the measuring rod to sense the soft top of the sediment bed.

Maintenance (flow capacity regeneration) cleaning

The clean-out procedure should occur when it does not rain. Aluminum hatches and/or cast iron frames and covers provide access and closure of the interior space.

The SiteSaver®™ is designed with clear access along both ends of the settler insert. A substantial amount of processed water can be decanted and returned after the sediment bed is removed. This saves disposal cost. A vacuum truck, or similar trailer mounted equipment, can be used to suck the sediment from the floor while an operator uses a spray lance, i.e. a vertical pipe with a 90 degree turn and a spray nozzle. When the lance is connected to the trucks pressure line the operator can spray the sediment towards the suction point on the opposite side. This action can be repeated on both ends until all appears acceptable. Then return the decanted water and close the access openings securely.

Unless local regulations require inspection access and entry into the chamber or if the cleaning company decides to enter the interior space, there is no confined space access procedure necessary to clean the SiteSaver®.

Oil Spill Cleaning:

Exhibit A lists the approximate oil volume that SiteSaver® can intercept if the hydraulic relief weir is not crested. An oil spill response team must immediately withdraw the oil to prevent drainage from the device in the future.

The oil sheen soaker socks are placed in the netting bag for the absorption of gasoline; diesel fuel, lube oil, jet fuel, transformer oils, chlorinated solvents, aromatic solvents, hydraulic oils, and light crude. They are designed to absorb about ¼ of liquid sheen per sock. The number of socks inserted in the netting bag is arbitrary and requires good judgement by the maintenance manager. Typically Fresh Creek recommends (4) ¼ gallon soaker socks per treated CFS.

Disposal of Removed Pollutants

Material removed from the SiteSaver® must be handled according to local, state, and federal regulations.

Cold Weather Concerns

The existence of stormwater collection systems inherently provides feedback on this concern as SiteSaver® typically becomes a complementary part in that system. Therefore if the collection system fails to drain during freezing weather SiteSaver® is equally affected, but no more severe than a structure filled with water buried in soil like a septic tank. To a large degree soil insulates it from freezing temperatures. Winter deicing salts may cause some saltwater stratification since it is denser than fresh water. Colder temperatures reduce the settling velocity of particles, which can result in fewer particles being “trapped“. The amount of grit and sand in the runoff from paved areas may be significantly increased in the winter, which may warrant more frequent maintenance.

The SiteSaver® will trap floatable litter and oils that are not emulsified in the stormwater runoff. It is also possible that organic matter decomposes in the sediment bed and cause some off gassing. **Keep sparks and open flames away when working around a SiteSaver® unit that may contain flammable material**

Fresh Creek Technologies, Inc.®
1384 Pompton Avenue, Suite 2
Cedar Grove, NJ 07009
800-741-9486 or 973-237-9099

Bulletin #NTT 93-5 (Rev. 3)
October 15, 2005

Warranty

1. Fresh Creek Technologies, Inc. warrants all EquiFlow®, Netting TrashTrap®, TRASHMASTER™ Net Capture System, and SiteSaver™ Managed Discharge System parts and assemblies to be free from defects in material and workmanship for a period of one (1) year after the date of shipment. This warranty does not cover normal wear, failure caused by corrosive applications, failure caused by abrasive materials or physical abuse. All parts and assemblies reported in writing to Fresh Creek Technologies, Inc. as defective in these respects, shall be repaired or replaced (F.O.B. shipping point) without charge, providing that inspection by Fresh Creek Technologies, Inc. shows such defects exist. In all cases involving warranty returns, the transportation charges must be prepaid. In no event shall Fresh Creek Technologies, Inc. assume liability for consequential cost or damage of any kind arising in connection with the use, inability to use, misuse or misapplication of Fresh Creek Technologies, Inc. products.
2. The systems supplied by Fresh Creek Technologies, Inc. often contain equipment that is covered by the original manufacturer's warranty and is thus not covered by our warranty. Examples are pumps, instruments, controls, hoists, and electrical power distribution equipment. In these cases, Fresh Creek Technologies, Inc. will pass along the OEM warranty to our customer unless other specific contractual agreement is reached.
3. Fresh Creek Technologies, Inc. reserves the right to make all final decisions concerning warranty replacement or repair and all directly related costs.
4. It is understood that if any customer fails to comply with the stipulated conditions of operations, maintenance and/or application, or fails to permit Fresh Creek Technologies, Inc. to inspect defects before repairing, or alters the product in any way, this warranty is void and the responsibility of Fresh Creek Technologies, Inc. shall terminate.
5. Fresh Creek Technologies, Inc. shall not be held responsible for our products after delivery to a transportation company, however, if there are shortages of equipment or damage, we will, when requested, cooperate fully in obtaining an adjustment.
6. No person, agent, or representative is authorized to give any other warranty or make any representation contrary to the foregoing warranty by Fresh Creek Technologies, Inc.

Exhibit A SiteSaver® Model Size and Volume Charts

| SiteSaver® Model by number of Plates | Footprint to Insert area ratio | MTFR (CFS) | MTFR to ETA Ratio | ETA ¹ | SiteSaver® Physical Dimensions | | | 50% Max Sediment Volume ² (CF) | Sediment Removal Interval (Months) | Oil Capacity ⁴ | Pre-Treatment Chamber Length | Pre-Treatment to ETA Ratio (PT/ETA) |
|--------------------------------------|--------------------------------|------------|-------------------|------------------|--------------------------------|----------|------------------------------------|---|------------------------------------|---------------------------|------------------------------|-------------------------------------|
| | | | | | Concrete | Concrete | Floor depth | | | | | |
| | | | | | Length | Width | Scaling Depth 56" 8.25"= 47.75" | | | | | |
| SS4 | 0.80 | 0.67 | 18.75 | 16.0 | 96 | 24 | 56 | 11 | 117 | 103 Gallon | 30 | 0.31 |
| SS6 | 0.67 | 0.83 | 18.75 | 20.0 | 96 | 30 | 56 | 14 | 117 | 129 Gallon | 30 | 0.31 |
| SS8 | 0.60 | 1.00 | 18.75 | 24.0 | 96 | 36 | 56 | 17 | 117 | 154 Gallon | 30 | 0.31 |
| SS11 | 0.61 | 1.39 | 18.75 | 33.3 | 100 | 48 | 56 | 23 | 117 | 233 Gallon | 34 | 0.34 |
| SS13 | 0.61 | 1.66 | 18.75 | 39.8 | 106 | 54 | 56 | 27 | 117 | 309 Gallon | 40 | 0.38 |
| SS16 | 0.60 | 2.02 | 18.75 | 48.3 | 116 | 60 | 56 | 33 | 117 | 429 Gallon | 50 | 0.43 |
| SS18 | 0.62 | 2.34 | 18.75 | 55.9 | 122 | 66 | 56 | 38 | 117 | 528 Gallon | 56 | 0.46 |
| SS20 | 0.61 | 2.50 | 18.75 | 60.5 | 132 | 66 | 56 | 42 | 117 | 622 Gallon | 66 | 0.50 |

| SiteSaver® Model by number of Plates | Footprint to Insert area ratio | MTFR (CFS) | MTFR to ETA Ratio | ETA ¹ | SiteSaver® Physical Dimensions | | | 50% Max Sediment Volume ² (CF) | Sediment Removal Interval (Months) | Oil Capacity ⁴ | Pre-Treatment Chamber Length | Pre-Treatment to ETA Ratio (PT/ETA) |
|--------------------------------------|--------------------------------|------------|-------------------|------------------|--------------------------------|--------------------|--------------------|---|------------------------------------|---------------------------|------------------------------|-------------------------------------|
| | | | | | Concrete | Concrete | Invert to floor | | | | | |
| | | | | | Length ³ | Width ³ | Depth ³ | | | | | |
| | | | | | gpm/ft ² | Ft ² | (Inches) | | | | | |
| SS23 | 0.85 | 4.1 | 18.75 | 97.5 | 180 | 78 | 97 | 67 | 117 | 1270 Gallon | 114 | 0.63 |
| SS36 | 0.92 | 6.9 | 18.75 | 165.8 | 234 | 102 | 125 | 114 | 117 | 2448 Gallon | 168 | 0.72 |
| SS45 | 1.12 | 10.5 | 18.75 | 252.0 | 288 | 126 | 152 | 173 | 117 | 3996 Gallon | 222 | 0.77 |
| SS55 | 1.30 | 14.9 | 18.75 | 356.3 | 342 | 150 | 179 | 245 | 117 | 5914 Gallon | 276 | 0.81 |
| SS65 | 1.47 | 20.0 | 18.75 | 478.5 | 396 | 174 | 205 | 329 | 117 | 8202 Gallon | 330 | 0.83 |

¹ ETA is Effective Treatment Area equal to the SS footprint area (length x width).

² Treatment depth is SS physical depth minus ¹/₂ sediment depth (8.25")

³ Test unit length/width, treatment depth/width and treatment depth/length ratios are 2.67, 1.33 and 0.5. For models (SS23-SS65) with the MTFR >250% than the tested model (SS8), within the allowable scaling 15% allowance, the length/width ratio can vary between 2.27 and 3.07, the treatment depth/width ratio between 1.13 and 1.53 and the treatment depth/length ratio between 0.42 and 0.57.

⁴ The oil capacity is based on a 33 inch oil baffle depth and a 66 inch inclined plate insert.

Exhibit B: SiteSaver® Maintenance Chart

Example

| Description | Date | 9/18/2015 | | | | | | |
|---|--------------------|---|----|--|--|--|--|--|
| | | Depth of water above sediment bed in inches | 35 | | | | | |
| Pounds of debris collected in the net bag | 250 | | | | | | | |
| Pounds of sediment disposed | 3,300 | | | | | | | |
| Spare Parts Order | Oil sorption socks | 4 | | | | | | |
| | Netting | 1 | | | | | | |

Notes: 250 lbs. of net debris is approximately 5 cubic feet at a density of 50#/ft³
3,300 lbs. of wet sediment is approximately 20 cubic feet.



State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Bureau of Nonpoint Pollution Control

Division of Water Quality

401-02B

Post Office Box 420

Trenton, New Jersey 08625-0420

609-633-7021 Fax: 609-777-0432

http://www.state.nj.us/dep/dwq/bnpc_home.htm

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

BOB MARTIN
Commissioner

March 29, 2016

Hans de Bruijn
Sr. Environmental Manager
1384 Pompton Ave., Suite 2
Cedar Grove, NJ 07009

Re: MTD Lab Certification
SiteSaver Stormwater Treatment Device by Fresh Creek Technologies, Inc.

TSS Removal Rate 50%

Dear Mr. de Bruijn:

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). Fresh Creek Technologies, Inc. has requested an MTD Laboratory Certification for the SiteSaver Stormwater Treatment Device.

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 February 2016) for this device is published online at <http://www.njcat.org/verification-process/technology-verification-database.html>.

The NJDEP certifies the use of the SiteSaver Stormwater Treatment Device by Fresh Creek 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 SiteSaver Stormwater Treatment Device shall be installed using the same configuration as the unit tested by NJCAT, and sized in accordance with the criteria specified in item 6 below.
3. This SiteSaver 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 SiteSaver Stormwater Treatment Device. However, it is recommended to review the maintenance website at <http://www.freshcreek.com/pdf/SS-TT-OM.pdf> for any changes to the maintenance requirements.
6. Sizing Requirements:

The example below demonstrates the sizing procedure for the SiteSaver 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 SiteSaver Model No. SS6 with a MTFR of 0.83 cfs would be the smallest model approved that could be used for this site that could remove 50% of the TSS from the impervious area without exceeding the MTFR.

The sizing table corresponding to the available system models is noted below. Additional specifications regarding each model can be found in the Verification Appendix under Table A-1 of the NJCAT Verification Report.

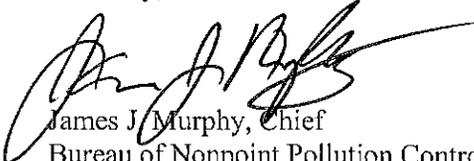
Table 1. SiteSaver Models and Specifications

| Model No. | Maximum Treatment Flowrate, MTFR (cfs) | Physical Dimensions Length x Width x Depth (inches) |
|-----------|--|---|
| SS4 | 0.67 | 96 x 24 x 56 |
| SS6 | 0.83 | 96 x 30 x 56 |
| SS8 | 1.00 | 96 x 36 x 56 |
| SS11 | 1.39 | 100 x 48 x 56 |
| SS13 | 1.66 | 106 x 54 x 56 |
| SS16 | 2.02 | 116 x 60 x 56 |
| SS18 | 2.34 | 122 x 66 x 56 |
| SS20 | 2.50 | 132 x 66 x 56 |
| SS23 | 4.1 | 180 x 78 x 108 |
| SS36 | 6.9 | 234 x 102 x 138 |
| SS45 | 10.5 | 288 x 126 x 168 |
| SS55 | 14.9 | 342 x 150 x 198 |
| SS65 | 20.0 | 396 x 174 x 234 |

Be advised 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 of the New Jersey Stormwater Best Management Practices Manual.

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

Sincerely,



James J. Murphy, Chief
Bureau of Nonpoint Pollution Control

Attachment: Maintenance Plan
C: Chron File
Richard Magee, NJCAT
Vince Mazzei, DLUR
Ravi Patraju, NJDEP
Gabriel Mahon, BNPC
Titus Magnanao, BNPC

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MANUFACTURER'S INSTRUCTION MANUAL
FLOATABLE AND SEDIMENT COLLECTION SYSTEMS
FOR THE
SITESAVER®

SITESAVER®-GENERAL NOTES:

**SITESAVER® IS THE BRAND NAME OF THE STORMWATER TREATMENT TRAIN PROVIDED BY:
FRESH CREEK TECHNOLOGIES INC. (PHONE 800 741 9486)**

SUBCOMPONENTS ARE:

- 1) FRESH CREEK NETTING TRASH TRAP**
- 2) SITESAVER® INSERT**
- 3) FRESHTECH™ FILTER**
- 4) (OPTIONAL) TELNET® SYSTEM**

**FRESH CREEK TECHNOLOGIES, INC.
1384 POMPTON AVENUE, SUITE 2
CEDAR GROVE, NEW JERSEY 07009
973-237-9099 (T), 973-237-0744 (F)**

**Fresh Creek Technologies, Inc.
Operation and Maintenance Instructions**

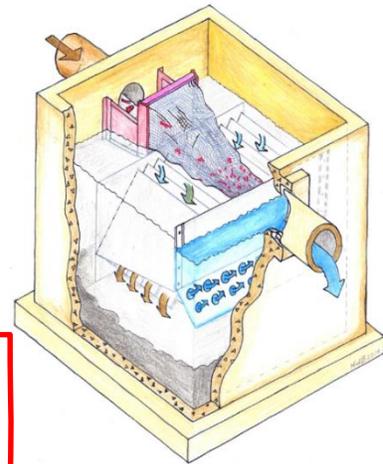
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General Introduction about FCT Equipment

The TRASHMASTER™ Netting Capture and TrashTrap® systems, capture and remove floatables from stormwater, CSO or sewer flows using the passive energy of the flow to trap floatables in disposable mesh netting nets. There are six basic models of the modular Fresh Creek Technologies, Inc., netting systems and a range of sizes for each model configured to accommodate one or more nets.

- The **In-Line Netting TrashTrap®** model is a modular concrete chamber containing the apparatus for holding the disposable nets. The system is installed *in-line* between the collection system and the outfall.
- The **End-of-Pipe Netting TrashTrap®** is installed at the *end of the pipe* - often within the existing outfall structure without any modification.
- The **Floating Netting TrashTrap®** is a modular pontoon structure, which floats at the end of the outfall, or inside an open channel/trench.
- The **Open Channel Netting TrashTrap®** is installed in an *open channel* or culvert - often within the existing structure without any modification.
- The **TRASHMASTER™** Netting Capture model is a plastic chamber containing the apparatus for holding the disposable net. The system is installed in-line between the collection system and the outfall.
- The **Pump Guard®** Netting Capture system is a net or series of nets placed in front of a pump inlet. The system is designed to prevent objects from entering the pump suction.
- The **SiteSaver™ Netting TrashTrap®** is placed inside the primary chamber of the SiteSaver® and directly receives inflow as shown in the isometric picture. The settling cells below the netting are self cleaning the sediment to the floor for final collection by a vacuum truck.



The TRASHMASTER™ Netting Capture and TrashTrap® systems operate unattended, and thus do not require personnel to be onsite during normal flows or stormwater discharges. The systems have no electrical controls or mechanical devices. They are designed so that no major maintenance is required, with system life expectancy of at least 20 years. Therefore, the equipment only requires routine maintenance, for periodic inspection and replacement of nets, as described herein.

Benefits of the entire line of Fresh Creek netting systems are High Capture Efficiencies - above 95%, (using 1/4" net openings), Low Installation Cost, and Low Operation and Maintenance Costs. Because the system treatments 100% of the total flow, 100% of the time, the Fresh Creek netting technology is included in US EPA CSO guidance documents. It implements both the "Nine Minimum Controls" and Long Term Control floatables requirements of the US EPA and has been approved for use in New Jersey by the NJ DEP.

Fresh Creek's netting systems, meets and/or exceeds the Full Capture Treatment System requirements identified in the California Regional Water Quality Control Board (RWQCB), Los Angeles Region's Trash Total Maximum Daily Load (TMDL) for the Los Angeles River Watershed. The FCT netting system is the only netting system presently approved by the Los Angeles RWQCB.

SECTION 1

Netting TrashTrap® Systems

Operation and Servicing of the Netting TrashTrap® Systems

General Operations and Maintenance Practices

Review complete Operations and Maintenance Instructions before maintaining the Netting TrashTrap® system. Only responsible persons authorized to do so should maintain the Netting TrashTrap® system.

The Netting TrashTrap® systems are only to be serviced during dry weather conditions when there is little or no flow through the system. Never perform maintenance on the Netting Trash Trap® structure before, during, and immediately after a rainstorm in the general drainage area. The basic servicing of these systems consists of removing the full nets containing the captured floatables, installing a new net, and disposing of the full nets.

NOTES:

1. The Netting TrashTrap® system should be inspected after each stormwater event, or at least once a month, until a sense about the rate of fill develops.
 - a. If allowed Fresh Creek Technology may request to install the TelNet System® at no cost to the owner and use this system to monitor head-loss across the netting frame during a rain event. We will learn when events occur and get a sense of the net filling rate at the site. This data we will share with the owner to develop insight about trash quantity and netting maintenance. *(Note: Historically we have collected this data at wastewater treatment plants where flow conditions are constant versus intermittent flows in storm water infrastructure.)*
2. Nets, which are damaged, should be replaced. Nets containing only minor quantities of floatables may be retained in place and shall be checked again at the next inspection. FCT recommends replacement when the nets appear to be ½ full.
3. Failure to replace nets and/or remove floatables from the bypass screening (if applicable) will lead to hydraulic relief and drain down of floatable that cannot enter this filled netting bag.
4. Before removing floatables from bypass screening, see section labeled “Inspection and Maintenance of the Netting TrashTrap® Systems”.
5. Because of the amount of collected trash, maintenance workers may, if required, , use gaff hooks (supplied by others) to help lift nets to the surface.

Disposal of Full Nets

To date, the materials captured in sewers and storm water outfalls have been treated in all known jurisdictions in the same manner as bar screen tailings from the sewage plant head works.

Some sewer authorities transport this material back to their plant and combine it with the tailings and dispose of it under their existing permits. Transporting this material over the highway also requires permits.

Major waste haulers such as BFI, Waste Management, etc. have the required licenses. As part of their service, they take legal responsibility or "ownership" of the material when they pick it up at the customer's site, and indemnify the customer from any subsequent claims.

Please check with state and local laws for disposal/treatment.

General Procedure for Net Removal and Replacement, In-Line Systems

Net Removal

1. Position the service vehicle (crane/hoist/boom truck) so that it will safely reach over the unit and a full net can be loaded into a watertight container for hauling to the disposal site. From this point on, the service vehicle/hoist/... will be referred to simply as "the crane".
2. Remove the access hatch cover(s) immediately over the nets. This may require the use of hooks or slings and may require the use of a crane.
3. Find the loop at the end of the (net) rope. It should be hanging from an eye-bolt somewhere near the access opening.
4. Place the loop on the hook of the crane
5. Slowly hoist the net¹ up, allowing water in the net to drain as it is raised. It may be necessary to stop several times during this lift, to allow water to drain. Someone should watch this lift and be able to stop it in case of any kind of unexpected entanglement.
6. Allow the net to hang in this position until it "drips dry" (usually 1-2 min).
7. Completely remove the net from the Netting TrashTrap[®] and place in a water tight container for disposal
8. Once the used net is in the container, remove the (rope) loop from the crane hook.
9. Install new net. SEE NET REPLACEMENT BELOW
10. Now is a good time to clean the by-pass screens if applicable. FCT has found it useful to purchase or fabricate a long-handled rake to reach in from above and to push debris off the screens down to the floor of the vault. Let the debris pile up in front of the (net) support structure (in front of what will be the "mouth" of the new net). The next rain will push the debris into the new²



¹ The net includes the wooden or plastic rectangular frame to which the netting material is stapled.

² If the sewer always has water in it – clean the screens before removing the old net, or after replacing the net (preferred)

Net Replacement

1. New nets come with tie wraps temporarily holding the net material to the plastic frame. This allows them to be handled and installed easily. **DO NOT REMOVE THE TIE WRAPS UNTIL THE NEW NET IS JUST ABOUT TO BE INSTALLED.**

Notes:

- A. The plastic net frame is tapered from top (widest part) to bottom, and is also tapered from front (towards the sewer) to back.
- B. The top also contains two (2) 1" diameter through holes AND the net bag is usually rolled and tie wrapped at the top of the frame.
- C. Silt, stones and other debris may accumulate in the net support frame channel and prevent the new net from being fully inserted. If this is the case, pressure wash and/or scrape all such materials out of the frame channel so that the new net seats fully in the channel when installed.

3. Cut the two tie wraps and stretch the "toe" of the net out, away from the plastic frame. It is not critical to have the net laid out flat or straight once it is in position since water flow will cause the net to expand fully.



4. **INSERT the OIL SORPTION SOCKS INTO THE NET CAVITY.** Position the bottom of the plastic frame (net attached) to fit in between the stainless steel guide rails of the net support. Staples should be in the back (facing down-stream). The net bag should be wrapped around the net frame and pulled through from the front. The nets are shipped this way, but it is possible for a net to fall back out through the frame, to the front, once the tie wraps are undone.



5. Lower the net down the guide rails.
6. Care to the following details should be exercised:
 - a. Watch the lowering to make sure that there are no unexpected entanglements.
 - b. Be prepared to stop and correct if such entanglements occur.
 - c. Be careful not to let the toe of the net get caught under the frame when it reaches the bottom. This is usually accomplished by holding the toe of the net up until after the net has started to drop into place. Some customers have tied light weight ropes to the toe to make it easier to hold up.
 - d. Do not let the loop of the (net) rope drop into the primary chamber vault.
 - e. Place the loop of the new (net) rope on the eye-bolt



7. Inspect the system for any signs of damage or need for adjustment. For additional information, see section labeled, "Inspection and Maintenance".

8. Reinstall the access hatches over the nets and secure the site.
9. Complete the inspection and service report, in accordance with local permits. It is good practice to keep records on rainfall events between the replacement of nets and the weight of every removed net, even if no report is required.

Inspection and Maintenance of the Netting TrashTrap® Systems.

The Netting TrashTrap® systems are designed and manufactured for long life and minimum maintenance. When stormwater events occur, these systems are subjected to large hydraulic forces. Under these conditions, foreign materials that enter the collection system could cause damage to the Netting TrashTrap® system. As with any equipment, they therefore require routine inspection of the structural connections and supports to detect any problems or deficiencies.

The Netting TrashTrap® system should be visually inspected as part of the routine net changeout procedure. The system components, structural connections, and supports should be visually inspected for proper alignment and attachment per the contract drawings, specifications, and safety guidelines. Inspect each section of bar screen and remove any debris. Inspect sections of hinged bar screen to insure that each screen is still fastened correctly. Each guide rail, screen, access cover, etc., of the complete system should be visually examined for damage or misalignment. Repair or adjustments should be performed by a qualified maintenance person.

We recommend contacting Fresh Creek Technologies with any questions on repairs or adjustments to the Netting TrashTrap® systems before they are undertaken. Failure to inform FCT of any problems before making changes or adjustments could void the product warranty.

Trained personnel following proper safety practices should do all repairs and adjustments.

When the Netting TrashTrap® Collection System structure or components require maintenance beyond the change out of the nets, these procedures should be followed:

1. Contact a local weather advisory consultant to verify the potential for a rainstorm event and possible stormwater event, and schedule work accordingly for the maintenance of the Trash Trap Netting Collection System.
2. If warranted, for the scope of maintenance work, notify the operator of the sewer plant that work will be performed on a specified Netting TrashTrap® system.
3. Wear the proper safety equipment. Avoid loose clothing. Obtain additional safety equipment when your safety may be in doubt. Such equipment may include a hard-hat, safety shoes, ear protectors, safety goggles, and sanitary overalls.
2. Always wear rubber gloves when performing any maintenance procedure on the Netting TrashTrap® system.

3. Have fresh water available and located nearby for washing and emergency procedures.
6. Have a first aid kit available. Use proper antiseptics immediately on cuts and scratches to avoid infection.
7. If a person falls into the water within the Netting TrashTrap® system area, the person should immediately be brought to the closest maintenance facility for shower, and first aid procedures.
8. Have a fire extinguisher located nearby.
9. At no time should anyone enter any chamber, without first completing all OSHA and local safety rules/procedures for “Confined Space Entry”.

General Safety Guidelines for the Netting TrashTrap® Systems

Introduction

The following safety guidelines are for the safe operation and maintenance of the Netting TrashTrap® system. Remember no number of safety guidelines nor can any amount of safety equipment make maintenance of any piece of equipment totally safe unless the maintenance personnel follow the guidelines and use the equipment prudently. An alert, safety-conscious operations or maintenance person is the key to the safe maintenance of any piece of equipment.

General Supervisory Practices

A facility supervisor is directly responsible for the safety of the facility operations and maintenance personnel. A safe supervisor:

- Knows, practices, and enforces all facility safety rules;
- Wears protective equipment when and where it is required for maintenance activities;
- Knows the location and operation of all emergency equipment;
- Maintains and distributes up-to-date safety information on all procedures used in the area;
- Is always on the lookout for unsafe practices to facility operators and maintenance personnel;
- Assumes responsibility for the safety of visitors in the facility and makes sure they are aware of safety rules.
- At no time should anyone enter any chamber, without first completing all OSHA and local safety rules/procedures for “Confined Space Entry”.

Cleanliness and Service

Keep the Netting Trash Trap® system as clean as possible. The process of cleaning will reveal problems or deficiencies with the system.

Before continuing operation of the Netting TrashTrap® system correct or report any structural deficiency that may cause further damage.

Wash hands after any maintenance procedures using an antibacterial soap. Avoid contact with the face and eyes. (Which could be entry points for microbial pathogens)

Ordering Replacement Nets

The net size for the listed site netting chamber, is either of the following ($\frac{1}{4}$ ”; $\frac{1}{2}$ ”; $\frac{3}{4}$ ”; 1”; $1\frac{1}{2}$ ”) inch mesh material. Frames are identified by width height and nominal net length.

Contact List

For additional information on the Fresh Creek Technologies Netting TrashTrap[®] systems and questions or technical support on their operation, contact the Company at:

1384 Pompton Avenue, Suite 2
Cedar Grove, NJ 07009
Telephone (973) 237-9099
Fax (973) 237-0744
E-mail: mfarrelly@freshcreek.com

To order additional disposable mesh nets, contact the company at the above address. Delivery time is currently 3-4 weeks after receipt of order.

SECTION 2

SiteSaver® Maintenance Procedures

When a SiteSaver® is installed, frequent inspection is highly recommended. The design of the SiteSaver® permits easy inspection. It is recommended that during the first year after installation, inspections be performed at least quarterly for the purpose of noting the rate of pollutant capture: oil, grease, trash, debris, vegetation and sediment.

Exhibit A lists size and volume information for each SiteSaver® model.

Exhibit B is a form that suggests recording dates and information resulting from the inspections. Maintaining accurate records provides a history of the pollutant accumulation for the SiteSaver®.

Sediment Measurement

To determine sediment accumulation, a tape measure or stadia rod may be used. Cleaning is recommended when the sediment to water level measurements is less than 39 inches. To avoid underestimating the volume of sediment in the chamber it helps to have a broad foot on the end of the measuring rod to sense the soft top of the sediment bed.

Maintenance (flow capacity regeneration) cleaning

The clean-out procedure should occur when it does not rain. Aluminum hatches and/or cast iron frames and covers provide access and closure of the interior space.

The SiteSaver®™ is designed with clear access along both ends of the settler insert. A substantial amount of processed water can be decanted and returned after the sediment bed is removed. This saves disposal cost. A vacuum truck, or similar trailer mounted equipment, can be used to suck the sediment from the floor while an operator uses a spray lance, i.e. a vertical pipe with a 90 degree turn and a spray nozzle. When the lance is connected to the trucks pressure line the operator can spray the sediment towards the suction point on the opposite side. This action can be repeated on both ends until all appears acceptable. Then return the decanted water and close the access openings securely.

Unless local regulations require inspection access and entry into the chamber or if the cleaning company decides to enter the interior space, there is no confined space access procedure necessary to clean the SiteSaver®.

Oil Spill Cleaning:

Exhibit A lists the approximate oil volume that SiteSaver® can intercept if the hydraulic relief weir is not crested. An oil spill response team must immediately withdraw the oil to prevent drainage from the device in the future.

The oil sheen soaker socks are placed in the netting bag for the absorption of gasoline; diesel fuel, lube oil, jet fuel, transformer oils, chlorinated solvents, aromatic solvents, hydraulic oils, and light crude. They are designed to absorb about ¼ of liquid sheen per sock. The number of socks inserted in the netting bag is arbitrary and requires good judgement by the maintenance manager. Typically Fresh Creek recommends (4) ¼ gallon soaker socks per treated CFS.

Disposal of Removed Pollutants

Material removed from the SiteSaver® must be handled according to local, state, and federal regulations.

Cold Weather Concerns

The existence of stormwater collection systems inherently provides feedback on this concern as SiteSaver® typically becomes a complementary part in that system. Therefore if the collection system fails to drain during freezing weather SiteSaver® is equally affected, but no more severe than a structure filled with water buried in soil like a septic tank. To a large degree soil insulates it from freezing temperatures. Winter deicing salts may cause some saltwater stratification since it is denser than fresh water. Colder temperatures reduce the settling velocity of particles, which can result in fewer particles being “trapped“. The amount of grit and sand in the runoff from paved areas may be significantly increased in the winter, which may warrant more frequent maintenance.

The SiteSaver® will trap floatable litter and oils that are not emulsified in the stormwater runoff. It is also possible that organic matter decomposes in the sediment bed and cause some off gassing. **Keep sparks and open flames away when working around a SiteSaver® unit that may contain flammable material**

Fresh Creek Technologies, Inc.®
1384 Pompton Avenue, Suite 2
Cedar Grove, NJ 07009
800-741-9486 or 973-237-9099

Bulletin #NTT 93-5 (Rev. 3)
October 15, 2005

Warranty

1. Fresh Creek Technologies, Inc. warrants all EquiFlow®, Netting TrashTrap®, TRASHMASTER™ Net Capture System, and SiteSaver™ Managed Discharge System parts and assemblies to be free from defects in material and workmanship for a period of one (1) year after the date of shipment. This warranty does not cover normal wear, failure caused by corrosive applications, failure caused by abrasive materials or physical abuse. All parts and assemblies reported in writing to Fresh Creek Technologies, Inc. as defective in these respects, shall be repaired or replaced (F.O.B. shipping point) without charge, providing that inspection by Fresh Creek Technologies, Inc. shows such defects exist. In all cases involving warranty returns, the transportation charges must be prepaid. In no event shall Fresh Creek Technologies, Inc. assume liability for consequential cost or damage of any kind arising in connection with the use, inability to use, misuse or misapplication of Fresh Creek Technologies, Inc. products.
2. The systems supplied by Fresh Creek Technologies, Inc. often contain equipment that is covered by the original manufacturer's warranty and is thus not covered by our warranty. Examples are pumps, instruments, controls, hoists, and electrical power distribution equipment. In these cases, Fresh Creek Technologies, Inc. will pass along the OEM warranty to our customer unless other specific contractual agreement is reached.
3. Fresh Creek Technologies, Inc. reserves the right to make all final decisions concerning warranty replacement or repair and all directly related costs.
4. It is understood that if any customer fails to comply with the stipulated conditions of operations, maintenance and/or application, or fails to permit Fresh Creek Technologies, Inc. to inspect defects before repairing, or alters the product in any way, this warranty is void and the responsibility of Fresh Creek Technologies, Inc. shall terminate.
5. Fresh Creek Technologies, Inc. shall not be held responsible for our products after delivery to a transportation company, however, if there are shortages of equipment or damage, we will, when requested, cooperate fully in obtaining an adjustment.
6. No person, agent, or representative is authorized to give any other warranty or make any representation contrary to the foregoing warranty by Fresh Creek Technologies, Inc.

Exhibit A SiteSaver® Model Size and Volume Charts

| MTFR % | SiteSaver® Physical dimensions | | | | | | 100% Depth 16.50 inch | Sediment removal interval in Months* | Sediment removal interval in Years* | Oil Spill capacity in gallons | Trash litter debris in Ft ³ | Certified MTFR in CFS for Plate Cells Q/A=11.25gpm/sf | 476% MTFR Flow in CFS | Device MTFR in gpm | Q/Floor Area gpm/ft ² | |
|-----------|--|----------|----------|-----------------|------------|----------|--------------------------|---|--|--|---|---|--------------------------------|--------------------------|--|----------|
| | Depth dimension is from effluent pipe invert to bottom | | Concrete | Concrete | Concrete | Settling | | | | | | | | | | Sediment |
| | SS | Interior | Interior | Interior | Area | Storage | | | | | | | | | | |
| Model | Length | Width | Depth | ft ² | Cubic Feet | | | | | | | | | | | |
| 50% | 4 | 96 | 24 | 56 | 20 | 22 | 157 | 13 | 116 | 8 | 0.5 CFS | 2.4 | 225 | 14.06 | | |
| 75% | 6 | 96 | 30 | 56 | 30 | 27 | 128 | 11 | 145 | 8 | 0.8 CFS | 3.6 | 338 | 16.88 | | |
| 100% Test | 8 | 96 | 36 | 56 | 40 | 33 | 117 | 10 | 174 | 8 | 1.0 CFS | 4.8 | 450 | 18.75 | | |
| 138% | 11 | 96 | 42 | 56 | 55 | 38 | 98 | 8 | 203 | 8 | 1.4 CFS | 6.6 | 619 | 22.10 | | |
| 163% | 13 | 96 | 48 | 56 | 65 | 44 | 96 | 8 | 232 | 8 | 1.6 CFS | 7.8 | 731 | 22.85 | | |
| 200% | 16 | 96 | 54 | 56 | 80 | 49 | 87 | 7 | 261 | 8 | 2.0 CFS | 9.6 | 900 | 25.00 | | |
| 225% | 18 | 96 | 60 | 56 | 90 | 55 | 87 | 7 | 290 | 8 | 2.3 CFS | 10.7 | 1013 | 25.31 | | |

Exhibit B: SiteSaver® Maintenance Chart

Example

| Description | Date | 9/18/2015 | | | | | |
|---|--------------------|---|----|--|--|--|--|
| | | Depth of water above sediment bed in inches | 35 | | | | |
| Pounds of debris collected in the net bag | 250 | | | | | | |
| Pounds of sediment disposed | 3,300 | | | | | | |
| Spare Parts Order | Oil sorption socks | 4 | | | | | |
| | Netting | 1 | | | | | |

Notes: 250 lbs. of net debris is approximately 5 cubic feet at a density of 50#/ft³
3,300 lbs. of wet sediment is approximately 20 cubic feet.