



State of New Jersey

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Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION

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SHEILA Y. OLIVER
Lt. Governor

June 11, 2018

Kevin M. Miller, P.E.
Director of Product Development
Lane Enterprises
3905 Hartzdale Drive, Suite 414
Camp Hill, PA 17011

Re: MTD Lab Certification
Lane Enterprises StormKleener™ Cartridge System (StormKleener Filter)
On-line Installation

TSS Removal Rate 80%

Dear Mr. Miller:

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). Lane Enterprises, Inc. has requested an Laboratory Certification for the StormKleener™ Cartridge System (StormKleener Filter).

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 Department of Environmental Protection Laboratory Protocol to Assess Total Suspended Solids Removal by a Filtration 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 May 2018) for this device is published online at <http://www.njcat.org/uploads/newDocs/StormKleenerFilterVerificationReportFinal51618.pdf>.

The NJDEP certifies the use of the StormKleener™ Cartridge System (StormKleener Filter) by Lane Enterprises at a TSS removal rate of 80% 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. The MTFR is calculated based on a verified loading rate of 3.0 gpm/ft² of effective filtration treatment area.
2. The StormKleener™ Filter shall be installed using the same configuration reviewed by NJCAT, and sized in accordance with the criteria specified in item 6 below.
3. This 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 online at www.njstormwater.org.
5. The maintenance plan for a site using this device shall incorporate, at a minimum, the maintenance requirements for the StormKleener™ Filter. A copy of the maintenance plan is attached to this certification. However, it is recommended to review the maintenance website at http://lane-enterprises.com/images/DOCUMENTS/brochures/Lane-StormKleener_Design_Manual-WEB-06-04-2018.pdf for any changes to the maintenance requirements.
6. Sizing Requirement:

The example below demonstrates the sizing procedure for the StormKleener™ Filter:

Example: A 0.25-acre impervious site is to be treated to 80% TSS removal using a StormKleener™ Filter. The impervious site runoff (Q) based on the New Jersey Water Quality Design Storm was determined to be 0.79 cfs or 354.58 gpm.

The selection of the appropriate model of StormKleener™ Filter is based upon both the MTFR and the maximum inflow drainage area. It is necessary to calculate the required model using both methods and to use the largest model determined by the two methods.

Inflow Drainage Area Evaluation:

The drainage area to the StormKleener™ Filter in this example is 0.25 acres. Based upon the information in Table 1 below, the following minimum configurations are required in a

StormKleener™ Filter to treat the impervious area without exceeding the maximum drainage area:

1. 8' x 10' vault using 15", 18", or 30" cartridges
2. 10' x 15' vault using 24" cartridges

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 x 3.2 x 0.25 = 0.79 cfs (354.58 gpm)

(Note: 1 cfs = 448.83 gpm)

Given the site runoff is 354.58 gpm and based on Table 1 below, the minimum configuration required to use a StormKleener™ Filter to treat the runoff without exceeding the MTFR is a 10' x 15' vault using the 15", 18", 24", or 30" cartridges.

The MTFR evaluation results will be used since that method results in higher minimum configuration determined by the two methods.

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 and Table A-2.

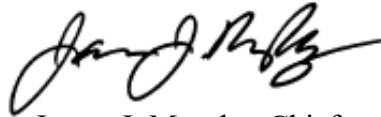
Table 1 StormKleener™ Configurations

Configuration	Number of Cartridges				Maximum Treatment Flow Rate (gpm)				Maximum Allowable Drainage Area (acres)			
	15"	18"	24"	30"	15"	18"	24"	30"	15"	18"	24"	30"
Single Cartridge	1	1	1	1	22	30	53	83	0.016	0.023	0.041	0.064
36" Manhole	1	1	0	0	22	30	N/A	N/A	0.016	0.023	0.000	0.000
60" Manhole	4	2	1	1	88	60	53	83	0.064	0.046	0.041	0.064
5' x 5' vault	5	3	1	1	110	90	53	83	0.081	0.069	0.041	0.064
5' x 6' vault	6	4	2	1	132	120	107	83	0.097	0.092	0.083	0.064
6' x 6' vault	7	5	2	1	154	150	107	83	0.113	0.115	0.083	0.064
6' x 8' vault	9	6	3	2	198	180	160	166	0.145	0.138	0.124	0.129
6' x 10' vault	12	8	4	3	264	240	214	249	0.193	0.184	0.166	0.193
8' x 10' vault	16	11	6	4	352	330	321	332	0.258	0.253	0.248	0.258
10' x 15' vault	30	21	11	7	660	630	588	581	0.483	0.483	0.455	0.451
10' x 20' vault	40	28	15	10	880	840	802	830	0.644	0.644	0.621	0.644
10' x 25' vault	51	35	19	12	1122	1050	1016	996	0.821	0.805	0.787	0.773
10' x 30' vault	61	42	23	15	1342	1260	1230	1245	0.982	0.966	0.952	0.966

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 and Retrofit of Stormwater Management Measures.

If you have any questions regarding the above information, please contact Brian Salvo or Nick Grotts 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
Brian Salvo, NJDEP – BNPC
Nick Grotts, NJDEP – BNPC