

Attachment 1

Manufactured Treatment Device (MTD) Registration

1. **Manufactured Treatment Device Name:** StormPro

2. **Company Name:** Environment 21, LLC
Mailing Address: 8713 Read Road
City: East Pembroke
State: NY Zip: 14056-0055

3. **Contact Name (to whom questions should be addressed):** Dino Pezzimenti
Mailing Address: 8713 Read Road, P.O. Box 55
City: East Pembroke
State: NY Zip: 14056-0055
Phone number: 585-815-4714
Fax number: 585-815-4715
E-mail address: dino.pezzimenti@env21.com
Web address: www.env21.com

4. **Technology**
Specific size/capacity of MTD assessed (include units): Please see attached chart.
Range of drainage areas served by MTD (acres): Please see attached chart.
Include sizing chart or describe sizing criteria: Sizing criteria is based on 50% removal efficiency of a PSD with a d_{50} of less than 60 microns and an SOR of 18.1 GPM/ft².
Intended application: on-line or offline: Both online and offline as applicable.
Media used (if applicable): NA

5. **Warranty Information (describe, or provide web address):**
The product warranty is provided by the precaster (usually 20 years). The product performance is warranted by Environment 21 for the life of the product provided regular maintenance is performed as outlined in the StormPro System Maintenance (<http://www.env21.com/media/docs/StormPro/drawings/StormPro%20System%20Maintenance.pdf>).

6. **Treatment Type**
 Hydrodynamic Structure
 Filtering Structure
 Manufactured Bioretention System
Provide Infiltration Rate (in/hr):
 Other (describe):

7. Water Quality Treatment Mechanisms (check all that apply)

- Sedimentation/settling
- Infiltration
- Filtration (specify filter media)
- Adsorption/cation exchange
- Chelating/precipitation
- Chemical treatment
- Biological uptake
- Other (describe):

8. Performance Testing and Certification (check all that apply):

Performance Claim (include removal efficiencies for treated pollutants, flow criteria, drainage area): The StormPro is sized for each project to have an 80% net annual removal efficiency for a Particle Size Distribution (PSD) having a d₅₀ of 110 microns.

Specific size/Capacity of MTD assessed: The StormPro V510 was assessed with third party verification by Barr Engineering.

Has the MTD been "approved" by an established granting agency, e.g. New Jersey Department of Environmental Protection (NJDEP) , Washington State Department of Ecology, etc.

No

Yes; For each approval, indicate (1) the granting agency, (2) use level if awarded (3) the protocol version under which performance testing occurred (if applicable), and (4) the date of award, and attach award letter. (1) NJCAT/NJDEP, (2) MTD – HDS, (3) January 25,2013 (current), (4) October 8, 2014 award letter attached.

Was an established testing protocol followed?

No

Yes, (1) Provide name of testing protocol followed, (2) list any protocol deviations:
(1) New Jersey Department of Environmental Protection Laboratory Protocol to Assess Total Suspended Solids Removal by a Hydrodynamic Sedimentation Manufactured Treatment Device.
(2) No deviations.

Provide the information below and provide a performance report (attach report):

For lab tests:

- i. Summarize the specific settings for each test run (flow rates, run times, loading rates) and performance for each run: 25%, 50%, 75%, 100%, and 125% of the Manufacturer's Treatment Flow Rate (MTFR) of 2.02 cfs. Average removal efficiencies of 39.8% (125% MTFR), 43.4% (100%

MTFR), 49.3% (75% MTFR), 53.8% (50% MTFR), and 61.1% (25% MTFR) with a PSD test media having a d_{50} of 60 microns.

- ii. If a synthetic sediment product was used, include information about the particle size distribution of the test material: NA
- iii. If less than full-scale setup was tested, describe the ratio of that tested to the full-scale MTD: Full scale testing was completed.

For field tests:

- i. Provide the address, average annual rainfall and characterized rainfall pattern, and the average annual number of storms for the field-test location:
- ii. Provide the total contributing drainage area for the test site, percent of impervious area in the drainage area, and percentages of land uses within the drainage area (acres):
- iii. Describe pretreatment, bypass conditions, or other special circumstances at the test site:
- iv. Provide the number of storms monitored and describe the monitored storm events (amount of precipitation, duration, etc.):
- v. Describe whether or not monitoring examined seasonal variation in MTD performance:
- vi. If particle size distribution was determined for monitored runoff and/or sediment collected by the MTD, provide this information:

9. MTD History:

How long has this specific model/design been on the market? 6 months

List no more than three locations where the assessed model size(s) has/have been installed in Virginia. If applicable, provide permitting authority. If known, provide latitude & longitude: NA

List no more than three locations where the assessed model size(s) has/have been installed outside of Virginia. If applicable, provide permitting authority. If known, provide latitude & longitude: NA

10. Maintenance:

What is the generic inspection and maintenance plan/procedure? (attach necessary documents): Please see the attached document.

Is there a maintenance track record/history that can be documented?

No, no track record.

Yes, track record exists; (provide maintenance track record, location, and sizing of three to five MTDs installed in Virginia [preferred] or elsewhere):

Recognizing that maintenance is an integral function of the MTD, provide the following: amount of runoff treated, the water quality of the runoff, and what is the expected maintenance frequency for this MTD in Virginia, per year?

Total life expectancy of MTD when properly operated in Virginia and, if relevant, life expectancy of media: 20+ years

For media or amendments functioning based on cation exchange or adsorption, how long will the media last before breakthrough (indicator capacity is nearly reached) occurs? NA

For media or amendments functioning based on cation exchange or adsorption, how has the longevity of the media or amendments been quantified prior to breakthrough (attach necessary performance data or documents)? NA

Is the maintenance procedure and/or are materials/components proprietary?

- Yes, proprietary – Proprietary components
- No, not proprietary

Maintenance complexity (check all that apply):

Confined space training required for maintenance

Liquid pumping and transportation

Specify method: Standard Pumper Truck

Solids removal and disposal

Specify method: Landfill for sediment, approved facility for oils.

Other noteworthy maintenance parameter (describe):

11. Comments

Include any additional explanations or comments:

12. Certification

Signed by the company president or responsible officer of the organization:

“I certify that all information submitted is to the best of my knowledge and belief true, accurate, and complete.”

Signature:  _____

Name: Paul J. Rowe, P.E.

Title: Director of Environment 21, LLC

Date: November 05, 2014

NOTE: All information submitted to the department will be made publically accessible to all interested parties. This MTD registration form will be posted on the Virginia Stormwater BMP Clearinghouse website.