

BioD-SiltTrap™

A versatile sediment control product
Made with natural coconut fiber

It is approved by the following State DOTs and there are more pending approvals:

VDOT

FDOT

TDOT

WADOT

NCDOT (12" approved & others are under evaluation)

Caltrans – under evaluation

Nature Friendly and Effective Rectangular Wattle for Stormwater Management

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Background

1. Until now rectangular wattles manufactured to have longer lengths were not available for storm water management and sediment control.
2. If available, rectangular wattles need less raw materials to manufacture.
3. If available, rectangular wattles take less space which leads to reduced freight costs.
4. If available, rectangular wattles make handling in the field easier due to their lightweight nature.
5. If available, rectangular wattles cost less due to savings from both raw material and lower freight cost.
6. If available in longer lengths, rectangular wattles would also lead to savings from faster installation and less overlaps.
7. If available, uniform & relatively thin thickness supports quick **seepage while retaining sediment.**



Saves raw material, better seepage, better filtering,
& better contact at the bottom



Saves Transportation Costs

55 ft of 9"
wattle

40 ft of 12"
wattle

30 ft of 18"
wattle

30 ft of 20"
wattle



More savings
from easy
handling &
fast installation



Transport on Pallets

Easy handling, less storage space & lower shipping cost



BioD-SiltTrapTM



Comes in Longer Lengths

Can be cut to any length easily



9-in product
Up to 55 ft long

12-in product
Up to 40 ft long

18-in product
Up to 30 ft long

20-in product
Up to 30 ft long

Applications

BioD-SiltTrapTM

1. As check dam devices
2. As slope length shortening devices
3. As perimeter sediment control devices
4. As drop inlet protection devices



BioD-SiltTrap™

US Patents 10,280,578 & 9,315,962



BioD-SiltTrapTM

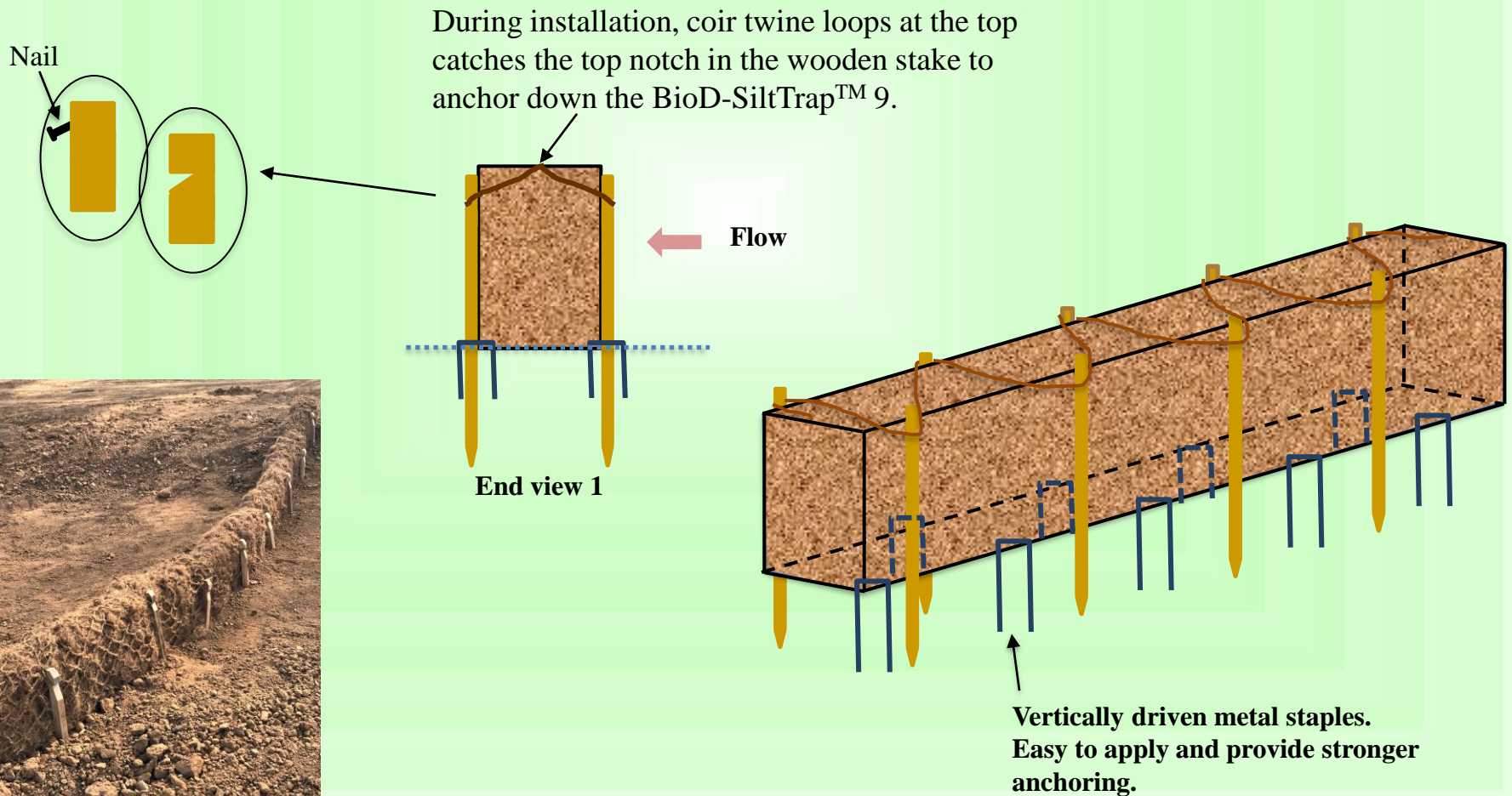
Hard wood stakes with a notch near the top
(Can be installed with regular stakes and metal staples too)



BioD-SiltTrapTM

Installation Method 1

Downward pressure using strong twine loops, stakes with a notch (or a nail) at the top, and metal staples



BioD-SiltTrapTM

Installation method 1 (continued)

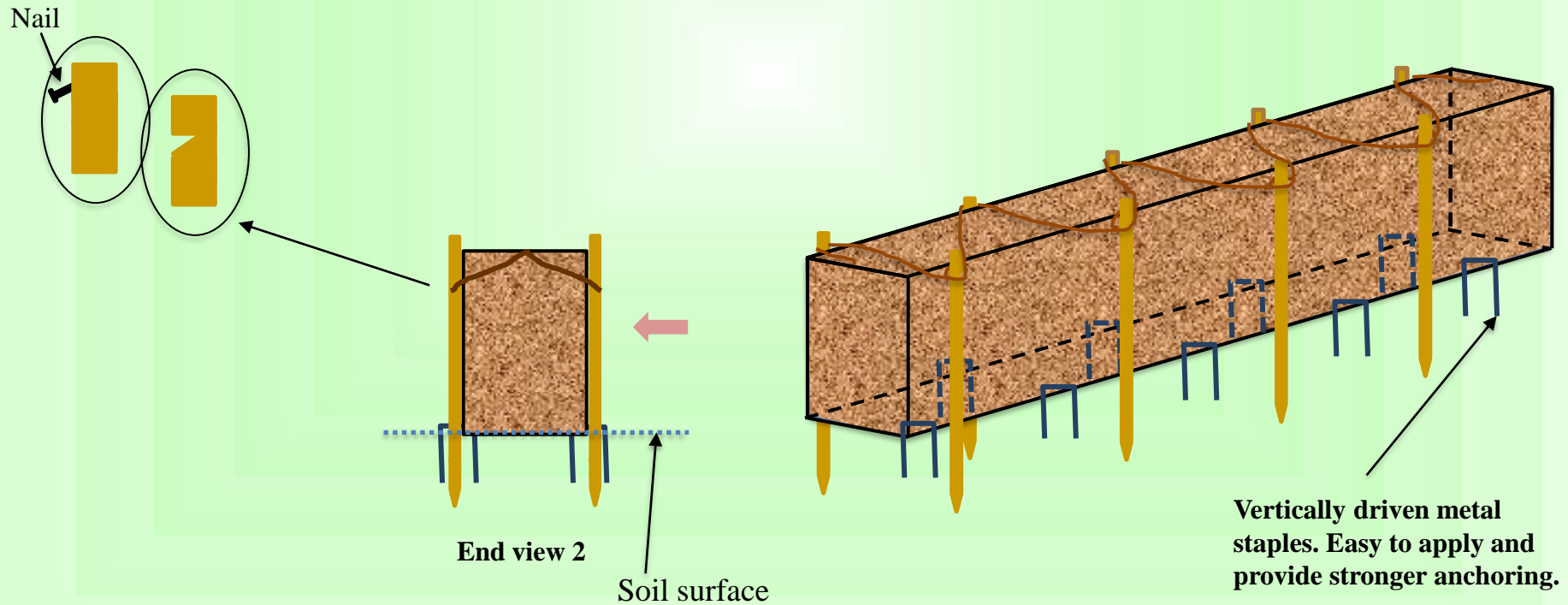
- Its installation uses wooden stakes with a notch (or a nail) near the top.
- The BioD-SiltTrapTM is manufactured to have strong coir twine loops at the top.
- During installation, the notch (or the nail) on the wooden stakes catch these loops to anchor down the BioD-SiltTrapTM.



BioD-SiltTrapTM 9

Installation Method 2

Using regular stakes with a nail near the top and metal staples



BioD-SiltTrapTM

Installation (continued)

- The 12” and 18” BioD-SiltTrapTM come with pre-installed invisible holes.
- When used as a check dam, if necessary, these holes can be opened by pulling coir plugs. Water flow through these holes reduces possible concentrated flow in the lowest point (middle) of the check dam.



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BioD-SiltTrapTM

As a slope interrupter (Slope length shortening device)



Longer lengths of BioD-SiltTrap eliminates too many overlap connections



BioD-SiltTrap™ 9

Potential savings with better performance by using BioD-SiltTrap™ 9 for slope break applications

Installed cost of 12” Excelsior wattle - \$ 5.00/ft

Installed cost of 12” Coir wattle - \$ 6.00/ft

(Source: 2013 bid - NCDOT Wattle Application on Linear Projects)

Installed cost of BioD-SiltTrap™ 9 - \$ 3.25/ft or less

55’ of BioD-SiltTrap™ 9



Savings come from:

- Material cost
- Handling
- Less overlaps (55’ vs 10’)
- Quick installation

Indirect savings to the environment due to no synthetic netting

BioD-SiltTrap™

Performance
Compare with standard fiber rolls



An example for poor seepage check dam



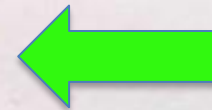
BioD-SiltTrapTM 9

AASHTO, NTPEP Performance Testing on 9/19/2019



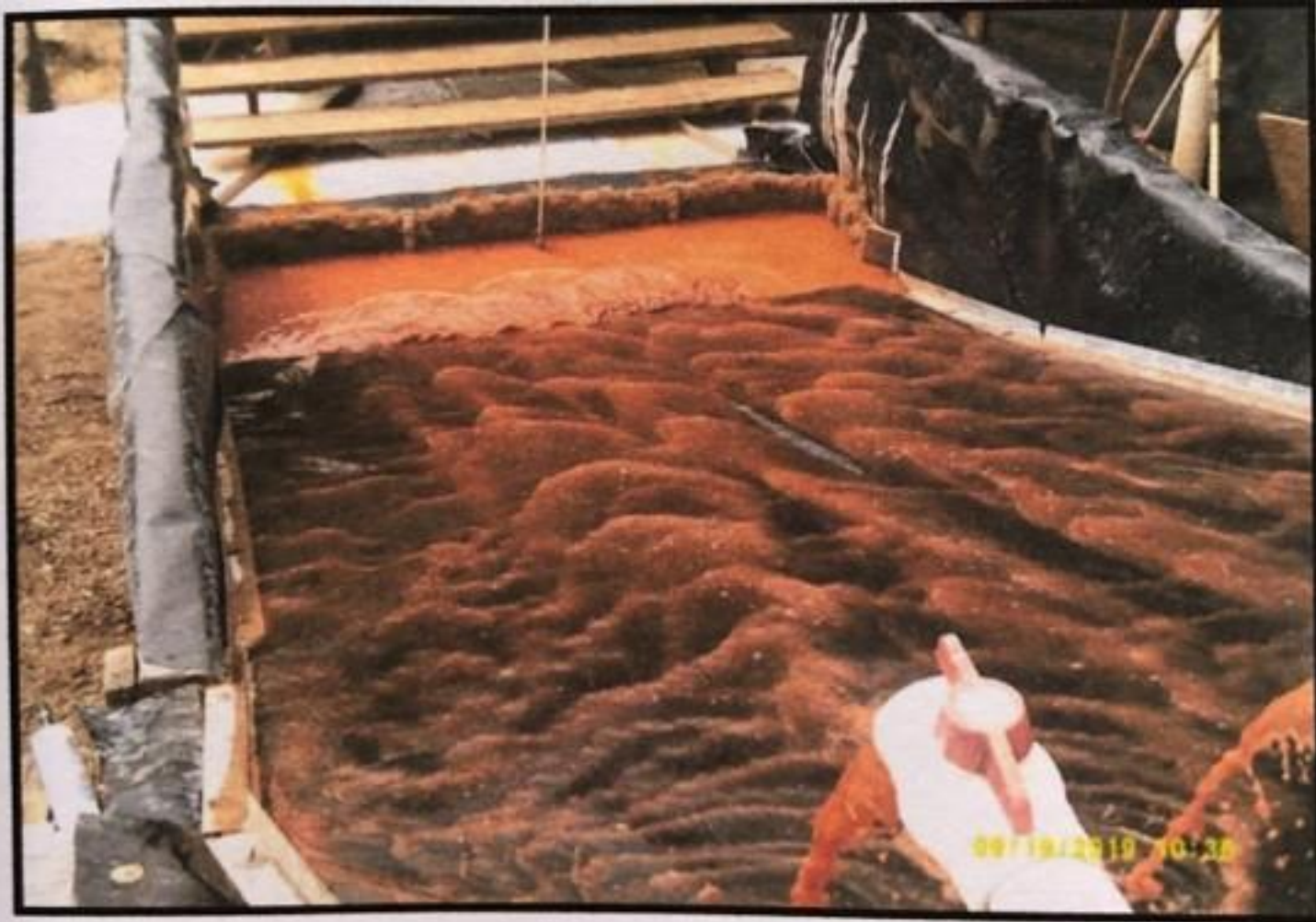
Project: ASTM D 7351
Client / Listing # / Product: NTPEP / ECP-2019-03-006 / BioD-SiltTrap 9"
Test Date: 9/19/2019
Test Setup: Toe-of-Slope Installation per Manufacturer Recommendation
Duration: 35 minutes
Water / Soil Input: 1650 lbs water 20 lbs soil
Sediment Concentration: Sandy Clay @ 1.2%

Soil Retention Effectiveness: 84.24%
Water Retention Effectiveness: 10.26%
Seepage Effectiveness: 89.74%



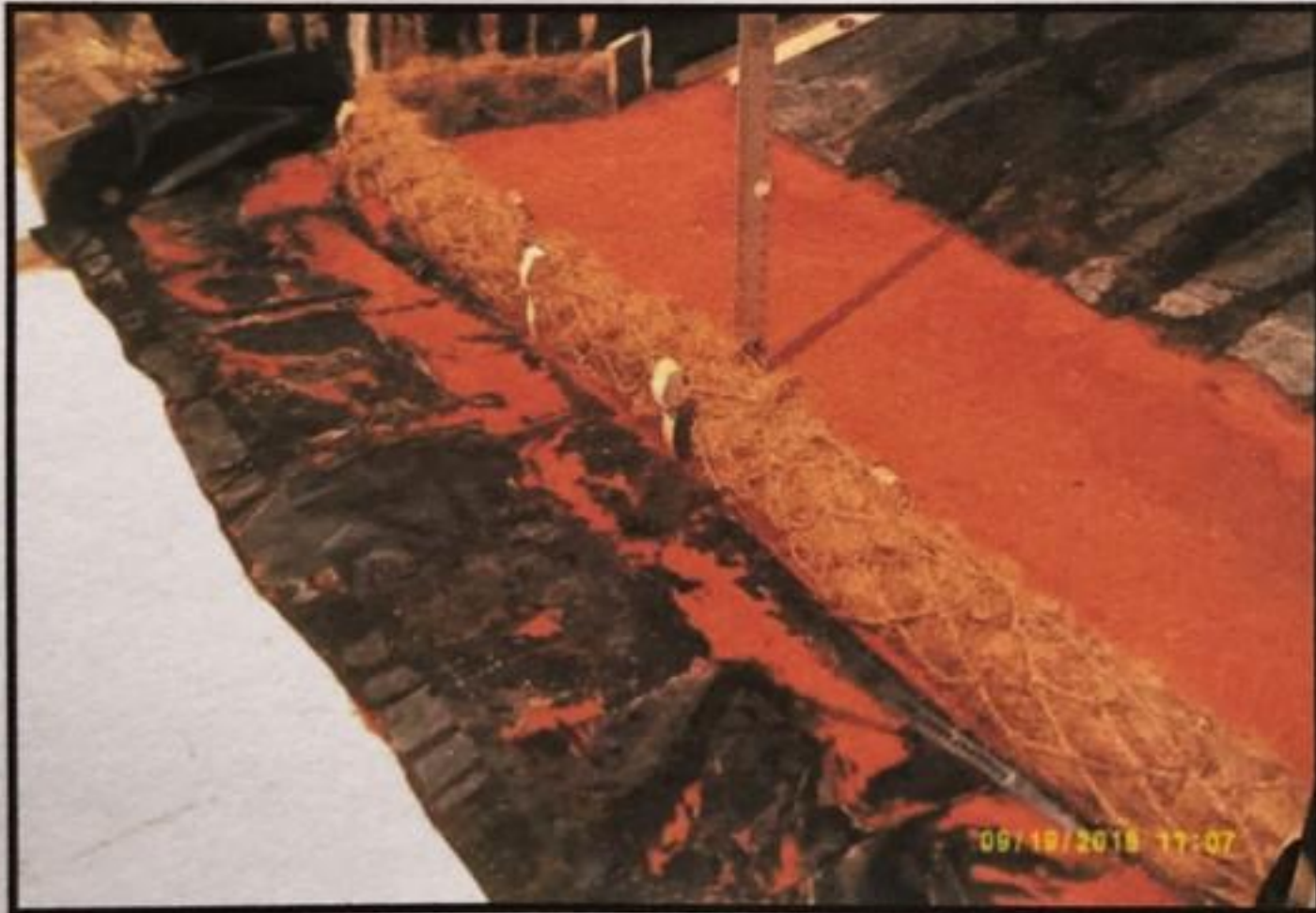
BioD-SiltTrap™ 9

NTPEP Performance Testing on 9/19/2019



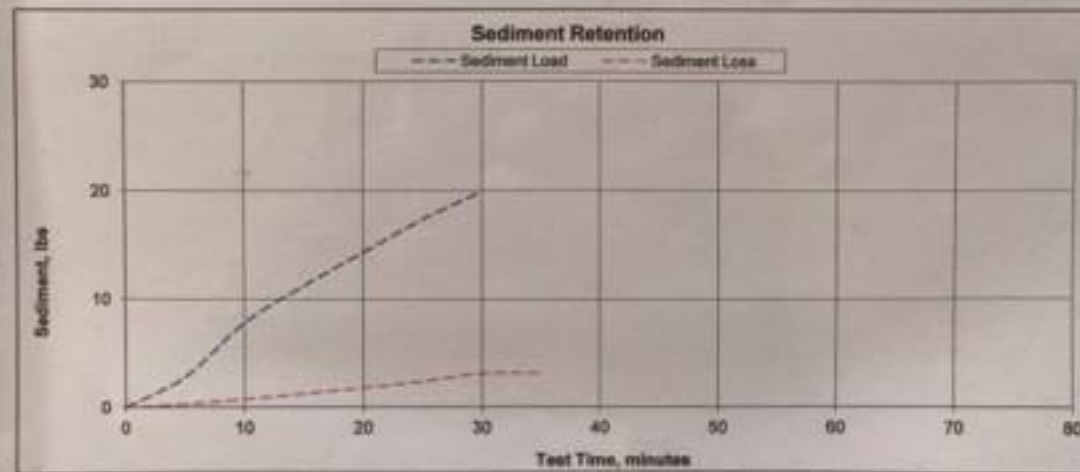
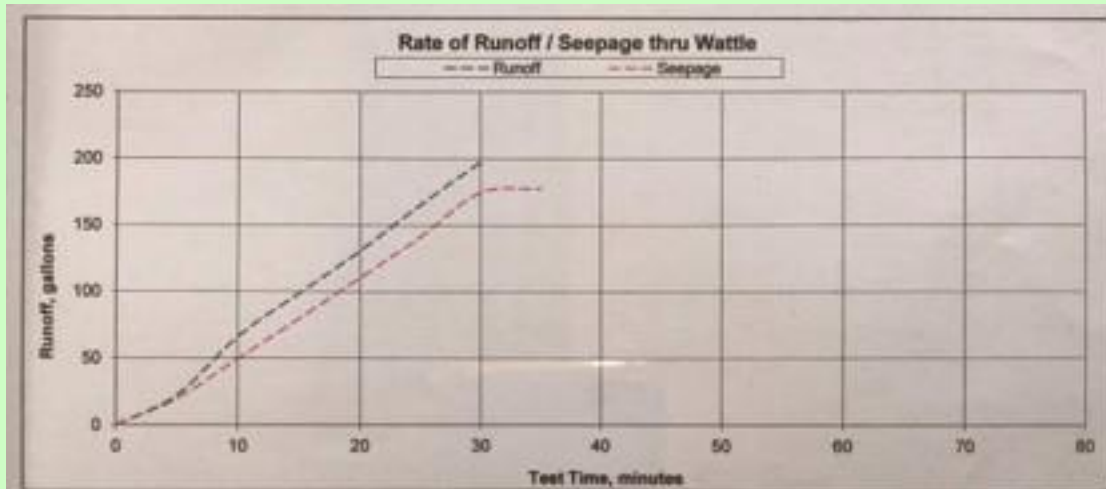
BioD-SiltTrap™ 9

NTPEP Performance Testing on 9/19/2019



BioD-SiltTrapTM 9

NTPEP Performance Testing on 9/19/2019



The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claims as to the final use and purpose.

CJS 10/10/19
 Quality Review / Date

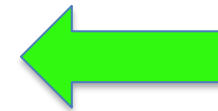
BioD-SiltTrapTM 12

AASHTO, NTPEP Performance Testing on 3/26/2020



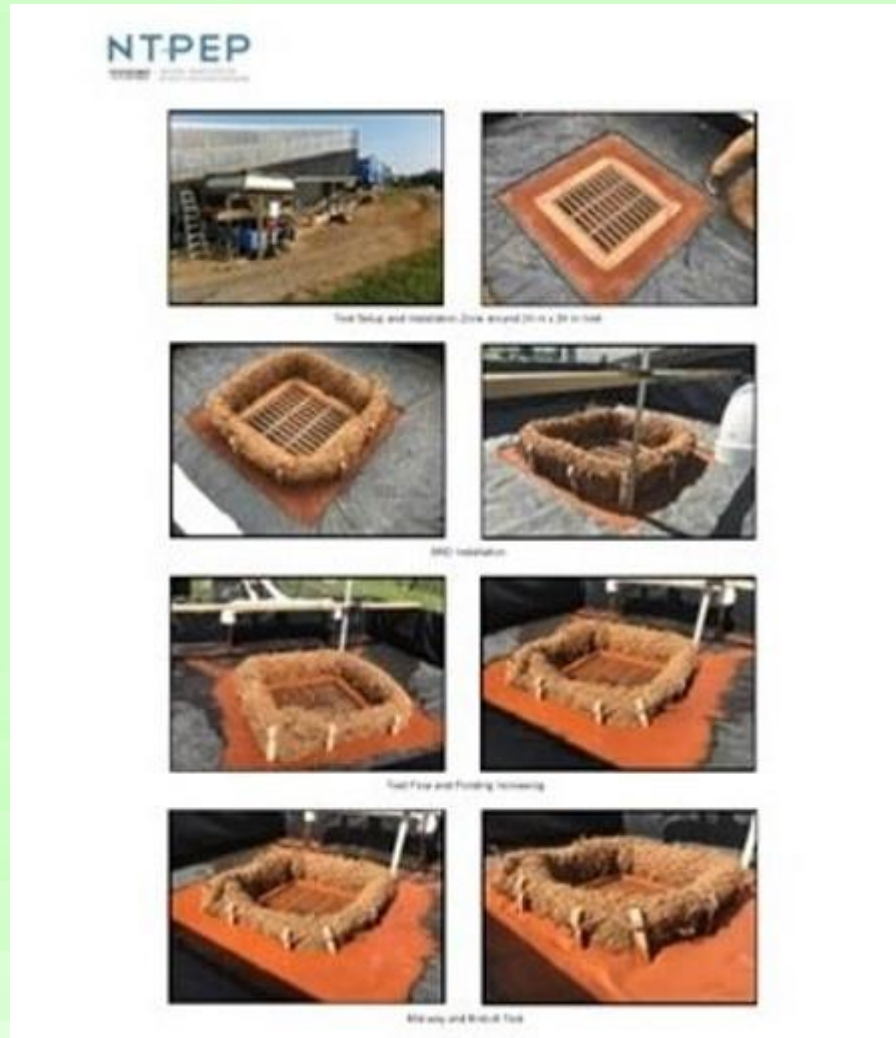
Project: ASTM D 7351 modified for Inlet
Client / Listing # / Product: NTPEP / ECP-2019-03-007 / BioD-SiltTrap 12
Test Date: 3/26/2020
Test Setup: Inlet Protection Installation per Manufacturer Recommendation
Duration: 30 minutes
Water / Soil Input: 4700 lbs water 57 lbs soil
Sediment Concentration: Sandy Clay @ 1.2%

Soil Retention Effectiveness: 80.05%
Water Retention Effectiveness: 10.29%
Seepage Effectiveness: 89.71%



BioD-SiltTrapTM 12

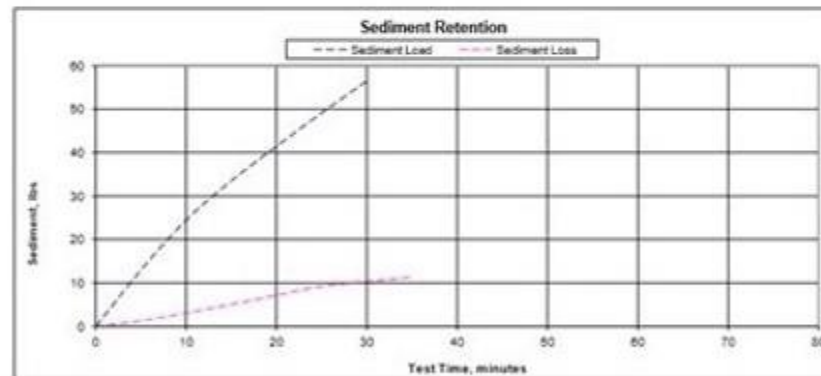
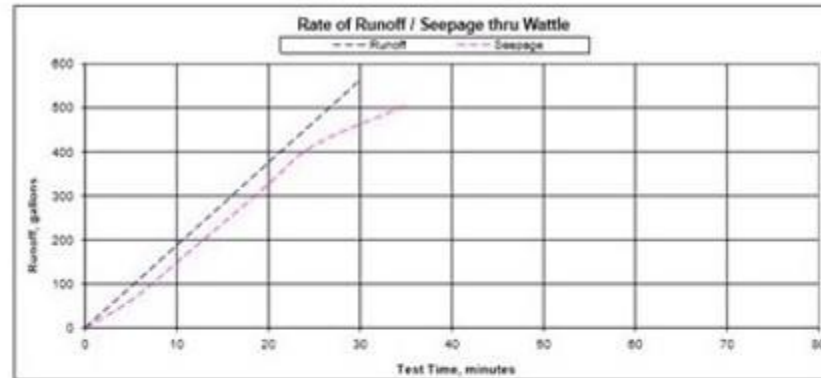
NTPEP Performance Testing on 3/26/2020



BioD-SiltTrapTM 12

NTPEP Performance Testing on 3/26/2020

Soil Retention Effectiveness: 80.05%
 Water Retention Effectiveness: 10.29%
 Seepage Effectiveness: 89.71%



The testing is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRC neither accepts responsibility for nor makes claims as to the final use and purpose.

On October 11, 2018 on IECA Field Day
BioD-SiltTrap™ 18 at work



BioD-SiltTrap™ 18 (15' long)
Demonstration with a scour protection mat



BioD-SiltTrap™ 12 (15' long)

A Field Demonstration with scour protection mat







Red Sutra™ 02

Red Sutra™ 02







Regular coir logs are 10' long and when used as check dam water tends to flow from sides



RoLanka has developed an answer for it.

BioD-SiltTrap-WTM

BioD-SiltTrap-WTM

US Patents 10,648,149 & 10,280,578

Comes with extendable wings for check dam applications



Extendable wings stop water from passing on sides

BioD-SiltTrap-WTM

With extendable wings for check dam applications



- Reduces drop height of overflow
- Avoids concentrated overflow in the middle resulting in less erosion from overflow

BioD-SiltTrap-WTM

With extendable wings for check dam applications



**A comparison with the regular circular
10-ft long coir log check dam.**

Non-biodegradables increase the cost of removal, hauling and landfill.



BioD-SiltTrapTM

Long term performance

- No plastic nets to interfere with wildlife or maintenance activities.
- No need to remove at the end of the project. Vegetation grows over it.



Thank you!



Since 1993!