New Tools for Coastal Communities to Manage Dunes, Dredge, and Pollutants

Filtrexx International

by Rod Tyler
Filtrexx Products are used for:

- Sediment Control
- Pollution control
- Streambank Stabilization
- MSE Walls
- Slope Stabilization
- Gardens without soil
- Beach Protection/ Restoration
Filtrexx® SiltSoxx™ = Sediment Control
Sediment Fence has issues with overall performance
Pallets available at Ferguson, White Cap, Hanes, ACF, Pennington
25 Low Impact designs using compost – Costs less, works better!!
Murrells Inlet Bacteria reduction plan

MI2020 plan included EnviroSoxx®
StormExx™
CATCH BASIN FILTER SYSTEM

Versatility

Round Drop Inlet
Square Inlets
Rectangular Inlets
Filtrexx Living Shorelines

• Design Principles:
  – Containment using local materials
    • Sand
    • Dredge
    • Compost/sand-dredge mix
  – Vegetation Establishment
  – Retention of locally moving materials (sand, gravel)
  – Reinforcement using geogrid wraps
  – Energy dissipation/diffusion/filtration
  – Use Nature to help restoration efforts
Filtrexx Living shoreline designs

- Marsh Sill
- Marsh edge protection
- Revetment
- Groins
- New Dune Construction
- Dune scarp prevention
- Passive sand collection
- Oyster reefs using biodegradable oyster net
- Gabions
Filtrexx Marsh Sill
Filtrexx Flexible Vegetated Gabion
Filtrexx Revetment
Filtrexx New Dune Construction

**SIDE VIEW**
- SAND DUNE
- STACKED SOXX
- OPTIONAL GEORIG WRAP
- NOTE: SOXX FILLED WITH MIX OF SAND, DREDGE, COMPOST
- NOMINAL WATER LINE

**FRONT VIEW**
- Filtrexx SOXX
- ALTERNATING JOINTS
Graduated Dunes Have More Resiliency
Filtrexx Dune Scarp prevention

Figure D: Storm-induced erosion is caused by a single, infrequent but severe storm or hurricane.

Reference: Image Scanned from: The Dune Book; Spencer Rogers & David Nash; North Carolina Sea Grant, 2003; Illustrations by David Williams
Kate Hepburn’s Old Saybrook Renovation and Beach Dune Restoration 2010
Stratford Point 2012

by Rodney Tyler
6 TUBE SOCKS FILTREXX® BANK STABILIZATION
FOR STA. 2+50 to 6+25

NOT TO SCALE
**Stratford Point**  
Former Remington Arms Gun Club

<table>
<thead>
<tr>
<th><strong>PHOTOGRAPHIC LOG</strong></th>
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<tr>
<th><strong>Client Name:</strong></th>
<th>Sporting Goods Properties, Inc.</th>
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<tbody>
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<td><strong>Site Location:</strong></td>
<td>1207 Prospect Drive, Stratford, Connecticut</td>
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<td><strong>Project Number:</strong></td>
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<tbody>
<tr>
<td><strong>Date:</strong></td>
<td>11/18/2011</td>
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| **Direction Photo Taken:** | West |

**Description:**

Skid-steer loader shown placing the 70/30 mix of sand and compost into blower truck’s container hopper. This material will get blown through the rigid plastic pipe to fill the mesh tubes.
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<td>Date:</td>
<td>11/18/2011</td>
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<tr>
<td>Direction Photo Taken:</td>
<td>Into Excavation</td>
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**Description:**

The mesh is preloaded over the pipe and funnel. The sand mixture then get blown into the sock and extruded as the sock fills.
Stratford Point
Former Remington Arms Gun Club

PHOTOGRAPHIC LOG

Client Name: Sporting Goods Properties, Inc.
Site Location: 1207 Prospect Drive, Stratford, Connecticut
Project Number: 18985965

Photo No: 8
Date: 11/18/2011

Direction Photo Taken: West

Description:
The operator in the trench controls the filling of the sock remotely with a wireless unit attached to his belt. A computerized unit on the truck maintains the desired air pressure and material feed rate to blow the material into the sock.
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<tr>
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<td>12/9/2011</td>
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<td>Direction Photo Taken:</td>
<td>West</td>
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**Description:**

The westerly end of the project showing the complete sock installation prior to backfill, topsoil mix and plantings.
Client Name: Sporting Goods Properties, Inc.  
Site Location: 1207 Prospect Drive, Stratford, Connecticut  
Project Number: 18985965

Photo No: 19  
Date: 12/12/2011  
Direction Photo Taken: West  
Description: Backfilling over socks.
A planting template was used to create the 9 inch on center spacing for the beach grass culms. The soil was soft enough to use a steel rod to easily open up the root zone for planting.
Stratford Point  
Former Remington Arms Gun Club  

PHOTOGRAPHIC LOG

Client Name:  
Sporting Goods Properties, Inc.  

Site Location:  
1207 Prospect Drive, Stratford, Connecticut  

Project Number:  
18985965  

Photo No:  
27  

Date:  
11/26/2012  

Direction Photo Taken:  
West  

Description:  

**Superstorm Sandy damage:**  
The soft core structure consisting of sand/organic filled geotextile socks performed as expected during Superstorm Sandy’s 13.3 foot storm surge. The sacrificial veneer of plants, cover material and upland sediment was lost. The engineered sand filled socks were not damaged and remained filled, firm and intact.
Sand in Soxx helps stabilize erosive forces.

Compost in Soxx helps establish vegetation faster.
What if SoilSoxx® Were Used to Help Prevent Continued Scarp?

Reference: Image Scanned from: The Dune Book; Spencer Rogers & David Nash; North Carolina Sea Grant, 2003; Illustrations by David Williams
Loose Sand and Loose Vegetation erodes readily with wave action
One Year Later
Successful Prevention of Erosion and REDUCED VEGETATION LOSS!!

Look at These Roots Compared to Neighbors Without SoilSoxx®
Vegetation Held but is in Jeopardy of Being Lost on Next Tide
Gain Immediate Protection by Adding a Continuous Layer of SoilSoxx® Over Roots
Cover Each Section With Loose Sand as it is Completed
Filtrexx Passive Sand Collection
Questions?