Compost Filter Sock

Pre-Filled Diamond Sock™ Pallets

Compost Filter Sock is an open mesh fabric tube, filled with composted ground organic material such as yard waste and land clearing debris. It's an environmentally friendly product that either settles out or filters out sediment from run-off water on jobsites during rain events. *Use it instead of silt fence - it lasts longer and works better.*

Why Use Pre-Filled Diamond Sock™ Pallets?

Repairs – With pallets on your site and an inspector on the way, you install **when** you want, **where** you want, with **your** people - no excuses.

Pipelines – On sewer, water, or gas-line work, erosion controls need to go in just before digging so with pallets in your yard, things can keep moving.

Durability – Diamond Sock™ Pallet Netting has to survive coiling and handling so it can take some abuse - it's tougher than field install netting.

Large Jobs – On many large jobs, pallets goes faster, with less people and less equipment. A 2-bobcat/4-man crew can install a mile of 12-inch a day.

Small Jobs – Pallets work great on small jobs where paying a mobilization fee to an installer just doesn't make sense.

What about Meeting Specifications?

Make sure your Supply Company is providing material made by a **Certified Diamond Sock™ Manufacturer** (CDSM). Diamond Sock™ requires these Manufacturers to meet the highest production quality standards in the industry including quarterly verification of Filler Material and use of "Spec Compliant" Diamond Sock Pallet Netting and stakes. Beginning in 2014, look for "Certified Genuine" indicators on all products shipped by CDSM's. Visit DiamondSock.com to learn more about the "Certified Genuine" Program or for documentation on all Diamond Sock™ Netting – "**We Meet the Specifications**".

Mark S. Willing patented an organic filter sock back in 1937 to control sediment in a simple and inexpensive way. Today, Compost Filter Sock is approved by EPA, AASHTO, and USDA NRCS and is widely used in applications such as Energy Exploration, Heavy Highway, and Residential Construction. Estimates put usage at over 20,000,000 linear feet for the U.S. in 2012. Compost Filter Sock works – it helps keep mud out of streams and rivers, it's good for the environment, and that's good for people. Its helping make a better tomorrow, today. To see the original patent or learn more about the Diamond Sock™ Compost Filter Sock Products and Services, visit our website.

616-931-5584 interfaceh2o www.interfaceh2o.com

Michigan's Diamond Sock Distributor

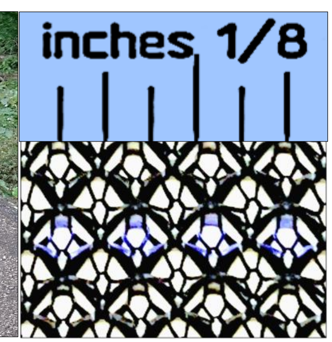
Diamond Sock™

Palletized Compost Filter Sock

Diameter	8-inch			12-inch		18-inch		24-inch
Linear Feet	180-ft	180-ft	180-ft	110-ft	100-ft	55-ft	50-ft	30-ft
Configuration	1 piece	18 10-ft pieces	9 20-ft pieces	1 piece	10 10-ft pieces	1 piece	5 10-ft pieces	1 piece
Part Number	DP8-180-1	DP8-18-10	DP8-9-20	DP12-110-1	DP12-10-10	DP18-55-1	DP18-5-10	DP24-30-1
Stakes (per pallet)	18 stakes	none	none	12 stakes	none	6 stakes	none	4 stakes
Hardwood Stake Size	1⅞"x1⅞"x22"	none	none	1⅞"x1⅞"x22"	none	1⅞"x1⅞"x28"	none	1⅞"x1⅞"x40"
Shipping Weight (±10%)**	1600 lbs			1700 lbs	1650 lbs	1750 lbs	1650 lbs	1750 lbs
Dry weight (per foot ±10%)**	8 lbs			16 lbs		35 lbs		60 lbs
Fabric Color	Black with thin blue line							
Shipping Dimensions	40L x 48W x 66H							
Fabric Material	Heavy Duty Multi-Filament Polypropylene (HDMFPP)							
Fabric Name	Diamond Sock™ Pallet (⅛ inch opening, diamond pattern, Compost Filter Sock Fabric)							
Degradation Type	Photodegradable - NOTE: Upon stabilization, it is recommended to cut open CFS and removing fabric from jobsite							
Tensile Strength	222 psi							
Filler Material Composition	Natural blend of composted hardwood materials (shredded/chipped oak, poplar, cherry, etc.)							
Filler Material Testing	Availble upon request - tested at Penn State Agronomics Lab for Organic Content, Particle Size, pH, CO2 Evolution Rate, Salt Concentration, and Moisture Content							
Field Functional Longevity	2 years							
Packaging	Plastic stretch-wrapped with top sheet cover							
Storage Life	Under roof - 6 months / Outdoors - 3 months							







Michigan's Diamond Sock Distributor:

interfaceh2o

www.interfaceh2o.com

616-931-5584

COMPOSITE FILTER SOCK - PLAN SHEET DETAILS

GENERAL

- Compost Filter Sock (CFS) can be delivered to the jobsite "pre-filled" and coiled onto 40x48 wood pallets. CFS can also be filled on-site. It can be installed with a skid steer, backhoe, or other machinery. The contractor should determine which method is best, based on site conditions.
- Proper jobsite **diameter sizing** for CFS should be done by a Certified Professional Engineer according to the Maximum Slope Length chart and/or applicable Local or State E&S manual. CFS diameters are 8-inch, 12-inch, 18-inch, 24-inch, and 32-inch. Commonly used **pyramids** include: three 12s, two 18s, with one 12, and three 18s (equates to single 32-inch diameter). When pyramiding with different diameters, always place the smaller CFS on top.
- CFS **Effective Heights** in the field are as follows: 8-inch(effective height 6.5 inches), 12-inch (9.5 inches), 18-inch(14.5 inches) 24-inch (19.5 inches), and 32-inch (25-inches). When determining settled Sediment Storage Capacity, the effective height should be used - not the CFS diameter.
- **Filler Material** (HQ or EV) should be specified by a Certified Professional Engineer. Contractor - select the appropriate Filler Material when ordering. HQ Filler Material is 100% all natural blend of **well-aged shredded, chipped, and ground hardwood** (PA DEP 2012 E&S Manual Specs for High Quality watershed ABACT Applications). EV filler is 50% HQ Filler Material plus 50% Certified Compost (PA DEP 2012 E&S Manual Specs for Exception Value Watershed ABACT Applications). For sediment removal or installation in a **High Quality** watershed, choose HQ Filler Material. For additional pollutant removal (Heavy metals, nitrates, phosphates, ect.), diversion berms, or installation on an **Exception Value** watershed, choose EV Filler Material. EV Filler Material pallets are typically 15% heavier than HQ CFS Filler Material pallets. If not specified at time of order, **default Filler Material is HQ. Contractor** - Allow two extra days lead-time when ordering EV Filler Material. Certificates for Compost used in EV Filler Material are available upon request.
- Under normal conditions, **stake CFS at 10-inch intervals** and at CFS Joints (continuous palletized CFS includes stakes in kit - under coiled CFS). For 8-inch and 12-inch diameter, use a 28-inch stake ≥ $1\frac{3}{4}$ by $1\frac{3}{4}$-inch. For 18-inch and 24-inch, use a 42-inch stake ≥ $1\frac{7}{8}$ by $1\frac{7}{8}$-inch. For 32-in CFS use a 48-inch stake ≥ $1\frac{7}{8}$ by $1\frac{7}{8}$-inch. When staking pyramids, for three 12s, use 42-inch stake; for two 18s plus one 12, and three 18s, use 48-inch stake.

INSTALLATION

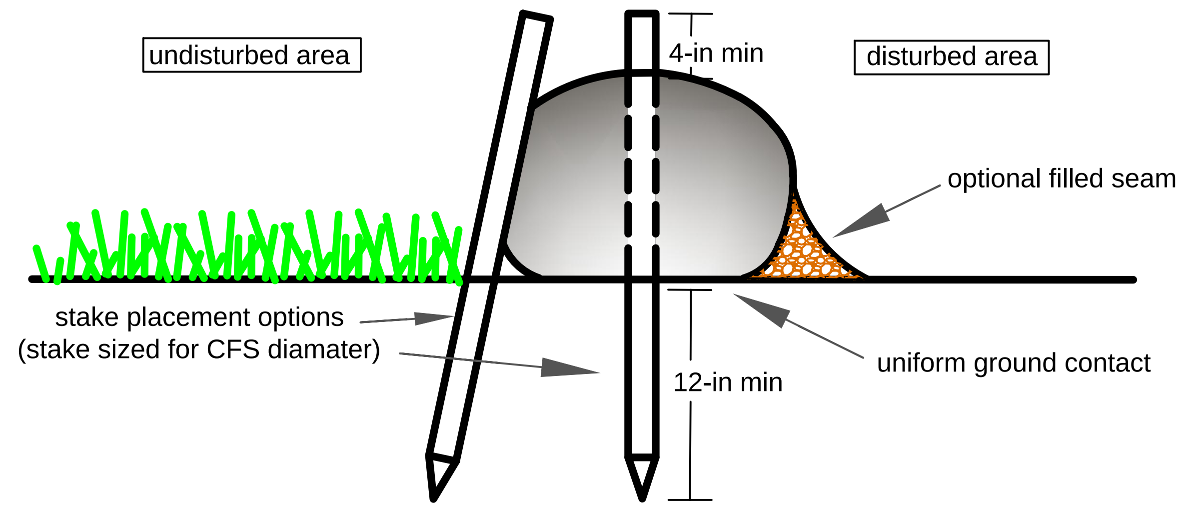
- CFS should be laid on a flat level area, in sections running perpendicular to the runoff flow direction from the Area of Disturbance. Loose material (soil, mulch, sand, or fill) may **optionally** be placed along the up slope side, filling the seam between the soil surface and the sock, improving sediment retention.
- Hardwood stakes shall be installed through the middle of *continuous* CFS on 10 -ft intervals. CFS may also be staked on the down slope side with stakes tilted downward wedging the CFS in place. Staking depth for sand clay, and silt loam soils shall be 12-inches. In the event staking is not possible (when CFS is used on concrete or paved hard surface) heavy concrete blocks shall be behind CFS be used behind CFS to help stabilize during rainfall/runoff events. Where two sections meet, j-hook higher elevation end, or side overlap ends 1-2-ft and tightly side-butt. Stake through each end and add loose material as needed.
- Palletized pre-cut CFS can be used in areas where machine access is difficult, CFS needs to be occasionally moved, or CFS needs to run diagonal to grade. CFS sectional installation allows periodic "j-hooks" at section ends. This prevents parallel unchecked water flow that can undermine the CFS.
- **CFS Joint:** Where two CFS sections meet on **level** grade, overlap the adjoining ends, tightly butt together, and stake through each end (see detail). Where Two sections meet on **un-level** grade, j-hook higher elevation end, stake, and begin new section just below. Use loose mulch to fill any voids in joint.

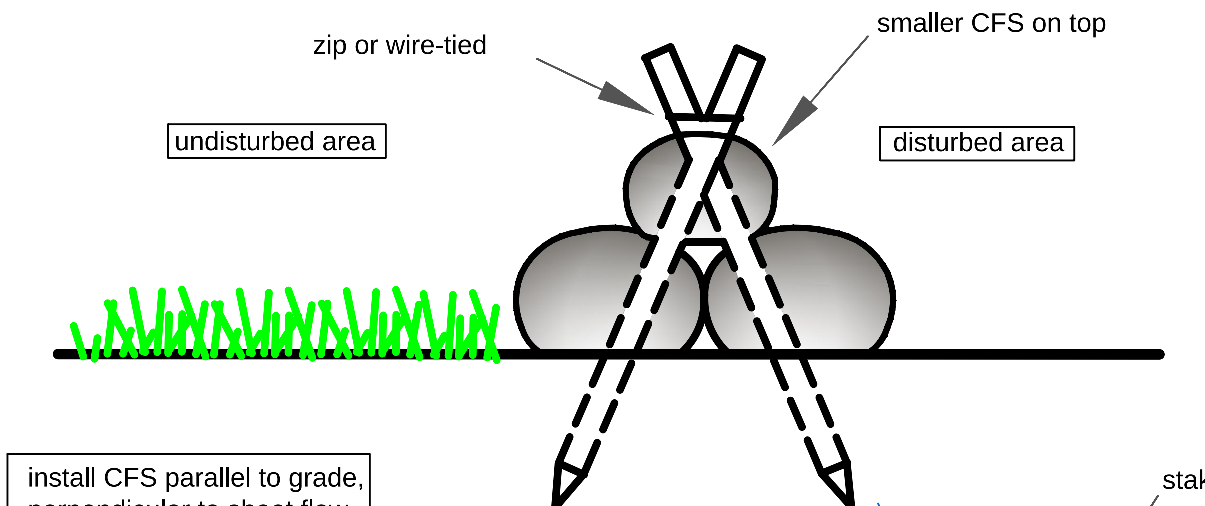
MAINTENANCE

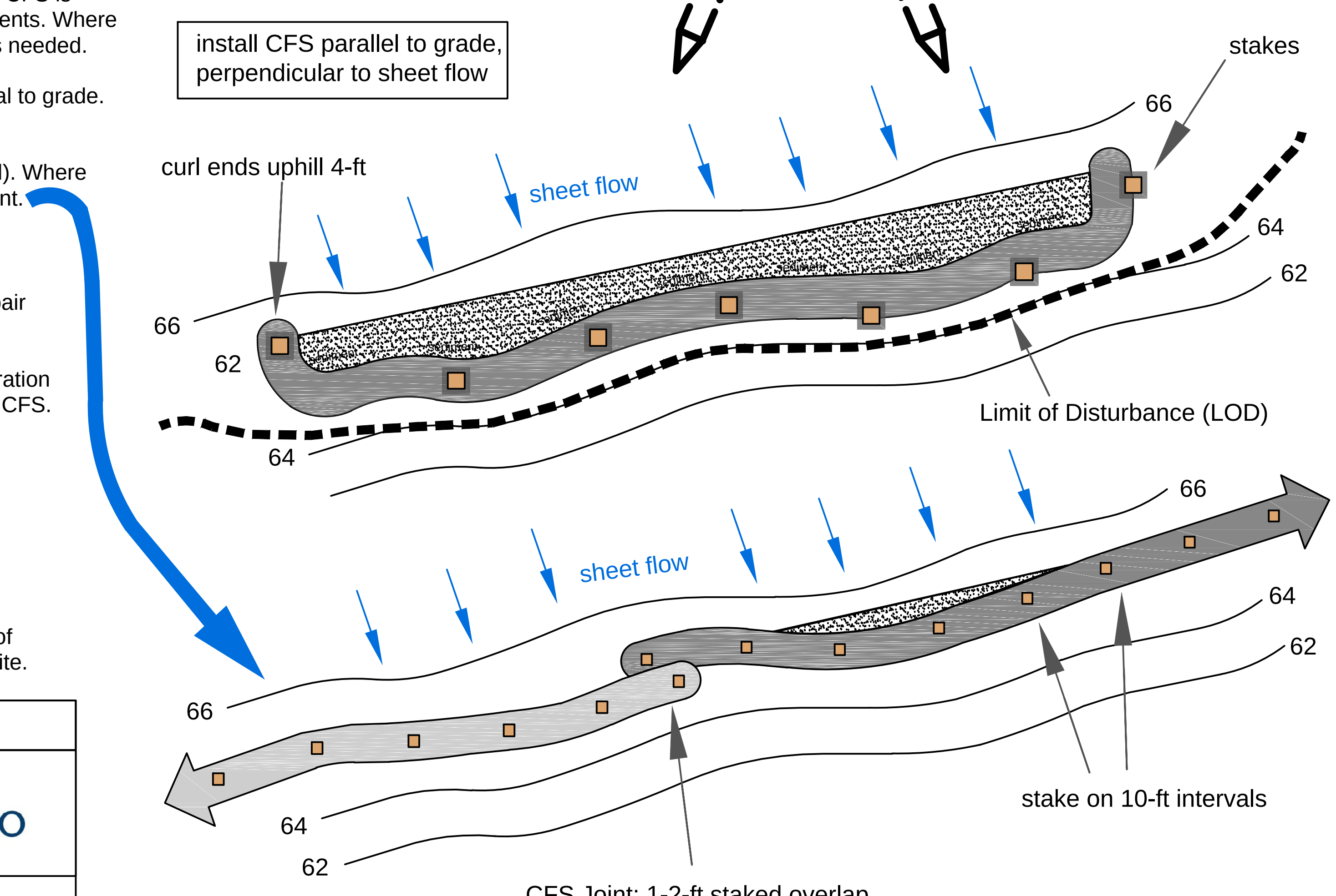
- CFS should be inspected after each runoff event. Sediment to be removed once it has accumulated to one-half the original height of the CFS. Repair with handwork if given section of CFS shows signs of undercutting. Reinforce with handwork if a given section of CFS shows signs of pushing.
- A given section of CFS shhall be replaced whenever it has deteriorated to such an extend that the effectiveness is reduced or diminished. Deterioration could occur because of natural mesh fabric breakdown over time or abusive field activities such as dragging/moving on the job-site or driving over CFS.
- Some ripping and tearing of the CFS fabric is acceptable as long as the overall structural integrity of the CFS is not compromised. The fabric must continue to hold the Filler Material securely in place in an oval form.
- A given section of CFS shall be replaced whenever sediment has built up and been removed three times. this section of CFS is likely full of fine powdery sediment - this is normal.

REMOVAL

- CFS shall remain in place until disturbed areas have been stabalized. All sediment accumulation at CFS shall be removed and properly disposed of before de-installing CFS. When de-installing, cut CFS open and spread the Filler Material around the site. The netting shall be removed from job-site.



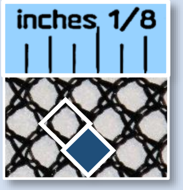
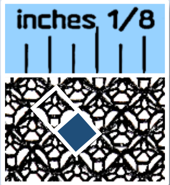
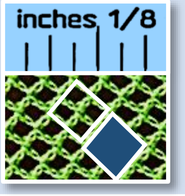




Diamond Sock™
Compost Filter Sock Products
MKB Company - 3450 E College Ave, State College, PA 16801
888-578-0777 www.DiamondSock.com

The selection and use of this detail, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

Diamond Sock™- Netting Specifications

Material Type	High Density Polyethylene (5-mil HDPE)	Multi-Filament Polypropylene (MFPP)	Heavy Duty Multi-Filament Polypropylene (HDMFPP)	Heavy Duty Multi-Filament Polyester (HDMFPE)
Product Name	**Installer Netting**		**Pallet Netting**	**HV-X Netting**
Color	Black		Black	Hi-Vis Green
Applications	Field Installation with Filling Machine		Palletized Manufacturing Rugged Field Installation	**High Visibility / Extreme Application** Extended Duration, OSHA Safety Requirement, Permanent Vegetation, or When Complete Removal is Required
Packaging	"Field Ready" **Diamond Vac Pack™**		Rolls	Rolls
Material Characteristics	Photodegradable	Photodegradable	Photodegradable	Negligible Degradation
Sock Diameters	8", 12", 18"	24", 32"	8", 12", 18", 24"	8", 12", 18", 24"
Mesh Opening	3/8"	3/8"	1/8"	1/8"
Strength (ASTM 5035)	46 psi	44 psi (est.)	222 psi	497 lbs. (ASTM D 6797-07 Modified CRE Ball Burst Test)
UV Stability (ASTM G-155)	42% at 1000 hours	100% at 1000 hours	100% at 1000 hours	100% at 1000 hours
Minimum Functional Longevity	9 months	1 year	2 years	3-5 years
Visual Profile				

Michigan's Diamond Sock Distributor:

interfaceh2o

United States Department of Agriculture
Natural Resources Conservation Service

Agronomy Technical Note No. 4

January 2011

Utilization of Compost Filter Socks

Issued January 2011

This technical note was prepared by **Ray Archuleta**, National Manure Management Technology Development Team, East National Technology Support Center, Natural Resources Conservation Service, Greensboro, North Carolina, and **Britt Faucette**, Ph.D CPESC, LEED–AP, Director of Research and Technical Services, Filtrexx Foundation, Grafton, Ohio.

For further information, contact the East National Technology Support Center at (336) 370–3331.

Utilization of Compost Filter Socks

Introduction

According to a national water quality assessment, 35 percent of the United States streams are severely impaired and 75 percent of the population lives within 10 miles of an impaired water body (U.S. Environmental Protection Agency 2007). Sediment from stormwater runoff is the leading pollutant of surface waters in the United States; however, under stable soil conditions nearly 80 percent of stormwater pollutants can be in soluble or dissolved forms (Berg and Carter 1980). Typical stormwater runoff pollutants include sediment, nutrients, harmful bacteria, heavy metals, and petroleum hydrocarbons. Since 1995, nutrients, pathogens, and heavy metals have accounted for more than 21,000 cases of water quality impairment (U.S. Environmental Protection Agency 2007). Figure 1 is an aerial photo (taken in 2008) of high turbidity in Tom-A-Lex Lake after a rainfall-runoff event. This lake is located 7 to 14 miles southwest of Thomasville and High Point, North Carolina (combined population of 122,000). Soil erosion, sedimentation, and surface water turbidity are increased by soil disturbance from agricultural tillage and urbanization. These human activities are the leading contributors to sedimentation in our Nation's waters.

Figure 1 Sediment contributing to high turbidity in Tom-A-Lex Lake after storm event *(Photo by Ray Archuleta, NRCS, 2008)*

A major function of soil organic matter is filtration of pollutants introduced through natural infiltration and subsurface hydrologic flow patterns, prior to ground and surface water recharge.

Organic matter in compost has been shown to provide stormwater filtration benefits in overland sheet and concentrated flow situations (Faucette et al. 2009a; Keener, Faucette, and Klingman 2007). Bio-based management practices used for stormwater pollution prevention should be designed to reduce runoff sediment and soluble pollutants to protect and preserve natural ecosystems and the valuable services provided.

This technical note illustrates the effectiveness of compost filter socks as a stormwater filtration practice and provides guidance on proper use.

Compost filter socks

The compost filter sock is a tubular mesh sleeve that contains compost of a particular specification suitable for stormwater filtration applications. The compost filter sock is a linear, land-based treatment that removes stormwater pollutants through filtration of soluble pollutants and sediments and by deposition of suspended solids (fig. 2). The compost filter sock is typically available in 8-inch (200 mm), 12-inch (300 mm), 18-inch (450 mm), and 24-inch (600 mm) diameters.

Applications

Compost filter socks can be used in a variety of stormwater management applications. Recommended applications include the following:

- perimeter sediment control
- as a check dam to reduce soil erosion in swales, ditches, channels, and gullies
- storm drain and curb storm inlet protection
- reduction of fecal coliform, E. coli., nitrogen, phosphorus, heavy metals, and petroleum hydrocarbons from stormwater
- reduction of suspended solids and turbidity in effluents

- slope interruption practice used to reduce sheet flow velocities and prevent rill and gully erosion
- energy dissipation of sheet and concentrated stormwater flow, thereby reducing soil erosion and habitat destruction
- use on paved, compacted, frozen, or tree-rooted areas where trenching is not possible or is undesirable
- treatment of polluted effluents, pump water, wash water, sediment dredge, lagoon water, pond water, manures, and slurries
- *in-situ* biofiltration and bioremediation of stormwater pollutants
- capture irrigation-induced sediment from flood and sprinkler irrigation systems
- use RUSLE 2 for design applications
- use in low impact development (LID), green infrastructure, and green building programs
- protection of sensitive wildlife habitat, wetlands, water bodies, and ecosystems

Advantages

Compost filter socks provide many benefits when used as a stormwater management practice. Advantages include:

- No trenching is required, thereby no soil, plant, or root disturbance; and can be installed on severely compacted or frozen soils and paved surfaces.
- Compost filter socks are made from bio-based, recycled, and locally available materials.
- Typically composed of plant materials indigenous to the bioregion (native or adapted) in which it will be used, these compost materials enrich the biological production process of soils, thereby increasing the stability and services of the soil ecosystem.
- Filter socks can be spread or incorporated into existing soil, increasing soil organic matter, improving soil quality, and reducing waste and disposal costs.
- Sediment, nutrients, harmful bacteria, heavy metals, and petroleum hydrocarbons are reduced in stormwater runoff.
- Soil erosion on hill slopes, slows flow velocity in swales and ditches are reduced, and energy of sheet and concentrated flows are reduced.
- Filter socks are easily designed and customized for a variety of land-based filtration and pollutant removal applications.
- Compost filter socks can be used for biofiltration, as a LID integrated management practice, and in green building programs such as the Leadership in Energy and Environmental Design (LEED) Green Building Rating System™.
- Microorganisms in compost materials can naturally bioremediate trapped pollutants *in-situ*.
- Compost filter socks may be seeded at the time of installation to increase pollution filtration, wildlife habitat, and ecosystem restoration attributes.

Figure 2 Compost filter socks used for capturing sediment

Limitations

Although compost filter socks are quite versatile, this management practice does have limitations. If the compost quality is not maintained, particularly for biological stability and particle size distribution, performance may be severely diminished. If the land surface is not prepared correctly, the compost filter sock may not make sufficient ground contact. This condition may allow untreated stormwater to flow under the treatment. Compost filter socks should not be placed in perennial waterways or streams. Heavy equipment moving over compost filter socks may damage or greatly diminish their field performance and capacity. Although not required, compost filter socks should be used in conjunction with other integrated stormwater management practices. Finally, if installation guidelines are not followed or maintenance is not conducted, the compost filter sock may not perform at an optimum level.

Effectiveness

Compost filter socks have been extensively researched and evaluated at the USDA Agricultural Research Service (ARS) and universities. Research literature has shown that this management practice can physically filter fine and coarse sediment and chemically filter soluble pollutants from stormwater. A USDA ARS study showed that compost filter socks can remove 65 percent of clay and 66 percent of silt particulates; 74 percent of total coliform bacteria and 75 percent of E. coli; 37 percent to 72 percent of Cd, Cr, Cu, Ni, Pb, and Zn; 99 percent of diesel fuel; 84 percent of motor oil; 43 percent of gasoline; 17 percent of ammonium-N; and 11 percent of nitrate-N from stormwater runoff (Faucette et al. 2009a).

Another USDA ARS study reported that compost filter socks removed 59 percent to 65 percent of total P, 14 percent to 27 percent of soluble P, 62 percent to 90 percent of total suspended solids (TSS), and 53 percent to 78 percent of turbidity in stormwater runoff (Faucette et al. 2008). A study published in the Journal of Soil and Water Conservation, conducted at the University of Georgia, compared the performance of compost filter socks, straw bales, and mulch berms, on field test plots. Compost filter socks reduced runoff TSS and turbidity by 76 percent and 29 percent, straw bales by 54 percent and 12 percent, and mulch berms by 51 percent and 8 percent, respectively (Faucette et al. 2009a).

An Ohio State University study evaluated the hydraulic flow-though rate for compost filter socks and silt fence. It was determined that compost filter socks have a 50 percent greater flow-through rate than silt fence without a reduction in sediment removal efficiency performance (Keener, Faucette, and Klingman 2007). Field evaluation of compost filter socks by the City of Chattanooga Water Quality Program reported that use of this management practice reduced parking lot stormwater TSS by 99 percent, chemical oxygen demand (COD) by 92 percent, and oil/grease by 74 percent (Faucette, Minkara, and Cardoso 2009).

Compost quality

Compost quality is extremely important for the function and performance of compost filter socks. Adherence to parameter range limits presented in table 1 will ensure compost material used for compost filter sock applications will meet associated design criteria and the unique advantages attributed to this management practice. It is recommended that compost is analyzed for these parameters using Test Methods for the Examination of Composting and Compost (TMECC) guidelines, test methods uniquely designed for evaluating compost quality. Furthermore, compost that has the U.S. Composting Council Seal of Testing Assurance (STA) label or third party testing and certification is preferred.

All compost should be odor free and have no recognizable original feedstock materials. Composts should adhere to Title 40 Code of Federal Regulations (CFR) Part 503, which ensures safe standards for pathogen reduction and heavy metals contents (table 1).

Table 1 Compost quality guidelines

Parameters	Units of measure	Compost
pH	pH units	6.0–8.0
Soluble salt concentration (electrical conductivity)	dS/m (mmhos/cm)	Maximum 5
Moisture content	percent, wet weight basis	30–60
Organic matter content	percent , dry weight basis	25–65
Particle size	percent passing a selected mesh size, dry weight basis	2 in (51 mm), 100% passing –0.375 in (10 mm), 10% –30% passing
Biological stability Carbon dioxide evolution rate	mg CO_2–C per gram of organic matter per day	<8
Physical contaminants (human-made inerts)	percent, dry weight basis	<1

Source: U.S. Environmental Protection Agency (2006)

Siting and design

Compost filter socks should be placed on contours, perpendicular to stormwater flow, and on prepared ground surfaces.

Compost filter socks, used as a sediment control barrier, should be placed 5 feet (1.5 m) beyond the toe of the slope to allow runoff accumulation, sediment deposition, and maximum sediment storage. The ends of the compost filter socks should be pointed upslope to prevent untreated stormwater flow around the treatment. See table 2 for recommended spacing and diameter requirements of compost filter socks for a range of slopes (Keener, Faucette, and Klingman 2007).

When used as a slope interruption management practice, compost filter socks should be placed horizontally on slopes with the ends of the compost filter sock pointing upslope. This practice will reduce sheet flow velocity, dissipate sheet flow energy, and reduce soil erosion. Slope interruption practices can be used to reduce slope lengths for LS factors when predicting site soil loss with RUSLE 2.

Compost filter socks, used as a check dam (fig. 3) management practice, in swales, channels, and ditches, should have the center of the check dam at least 6 inches (150 mm) lower than the banks. Spacing check dams closer together will reduce flow velocity and bed erosion and increase pollutant removal. Compost filter socks used as check dams may be placed in a straight line across the channel, in a V formation or an inverted V formation, as determined by the designer.

When used as a drain inlet protection practice, the compost filter sock should be placed entirely in the sump, fully envelop the drain, and be placed on level ground to allow maximum runoff and sediment storage capacity. When used for curb inlet protection, the compost filter sock should not exceed the height of the intake opening or curb (fig. 4).

If used as a biofiltration enclosure (fig. 5), cell, or ring, the compost filter sock should be placed on level ground and should not be filled beyond 50 percent of its volumetric capacity. Compost filter socks may be stacked to increase volumetric design capacity.

Table 2 Recommended spacing and diameter requirements

Slope %	Maximum slope length above compost filter sock in ft (m)			
	Diameter of compost filter sock required			
	8-inch (200-mm)	12-inch (300-mm)	18-inch (450-mm)	24-inch (600-mm)
2 (or less)	300 (90)	375 (110)	500 (150)	650 (200)
5	200 (60)	250 (75)	275 (85)	325 (100)
10	100 (30)	125 (35)	150 (45)	200 (60)
15	70 (20)	85 (25)	100 (30)	160 (50)
20	50 (15)	65 (20)	70 (20)	130 (40)
25	40 (12)	50 (15)	55 (16)	100 (30)
30	30 (9)	40 (12)	45 (13)	65 (20)
35	30 (9)	40 (12)	45 (13)	55 (18)
40	30 (9)	40 (12)	45 (13)	50 (15)
45	20 (6)	25 (8)	30 (9)	40 (12)
50	20 (6)	25 (8)	30 (9)	35 (10)

Figure 3 Compost filter sock check dam

Figure 4 Compost filter sock curb inlet

Compost filter socks may be seeded at the time of manufacture and installation if used for permanent applications, such as biofiltration, LID, or green infrastructure projects. Seed is easily blended with the compost media prior to filling the mesh net sleeve. Seed selection and rate should be determined based on local climate and site conditions and vegetation requirements. Native vegetation should be selected when possible (fig. 6).

Figure 5 Compost filter sock biofiltration system

Figure 6 Vegetated compost filter socks

Installation

Following installation guidelines is essential for proper field function and optimum performance of compost filter socks. No trenching is required. Compost filter socks may be placed on bare soil, grass, erosion control blankets, or paved surfaces.

- Land surface should be prepared by mowing grass or making soil or paved surfaces smooth.
- Compost filter socks shall be placed perpendicular to stormwater flow, across the slope, swale, ditch, or channel.
- Compost filter socks shall be placed on contours.
- On soil and vegetated surfaces, under sheet flow conditions, compost filter socks shall be staked on 10-foot (3 m) centers. Under concentrated flow conditions compost filter socks shall be staked on 5-foot (1.5 m) centers.
- Stakes shall be driven through the center of the compost filter sock and installed a minimum of 8 inches (200 mm) into the existing soil, leaving a minimum stake height of 2 inches (50 mm) above of the compost filter sock.
- Stakes shall be 2 inches (50 mm) by 2 inches (50 mm) hardwood stakes; for severe runoff or sedimentation conditions or loose soil conditions, such as fill slopes, metal stakes can be used.
- Lose compost may be used to backfill the compost filter sock to connect the ground and compost filter sock interface.
- Edges of the compost filter socks shall be turned upslope to prevent flow around the ends of the compost filter socks.
- Compost filter socks may be installed on top of any erosion control blanket.
- If used as a check dam, the center of the compost filter sock shall be a minimum of 6 inches (150 mm) below the bank of the swale or channel.
- If used as a drain inlet protector, compost filter socks shall fully enclose the drain.
- If used as a curb inlet protector, compost filter socks shall not be higher than the height of the curb.
- If used as a solids separator or dewatering device, the compost filter socks shall be placed in a ring and fully enclose polluted effluent or manure slurry.
- Compost filter socks may be seeded for permanent, LID, and *in situ* biofiltration applications.

Maintenance

Compost filter socks should be inspected regularly after runoff events to ensure proper function and performance. If hydraulic flow-through becomes restricted, an additional compost filter sock can be placed on top of the original to prevent over topping. Sediment should be removed once it reaches half the height of the compost filter sock. An additional compost filter sock may be installed on top of the original to increase sediment storage capacity or to prevent sediment disturbance.

If a compost filter sock becomes dislodged or is damaged, it should be repaired or replaced immediately. If the compost filter sock is used for a temporary application, the compost material may be spread over the landscape or incorporated into the soil at the end of the project, thereby increasing soil quality and reducing waste. The sock mesh should be properly disposed unless a biodegradable material is used.

Conclusion

Soil organic matter is one of natures natural storm water filtration systems. This natural material allows water to pass through while trapping and removing harmful substances that degrade water quality. The compost filter sock with organic matter in the tube harnesses the natural filtration process to mitigate organic and inorganic pollutants created by human activity.

Proper planning and the use of low-impact development will limit soil disturbance and reduce transport of nonpoint source pollutants to surface waters.

The Soils for Salmon (2010) urban stormwater program provides preventative guidelines, methods, and practices for building soils and reducing nonpoint source pollutants.

Compost filter socks should be applied as part of a comprehensive system approach to site stormwater management. Although no single management practice can mitigate the impacts of urbanization or soil disturbance, the compost filter sock is an excellent tool for filtering and reducing nonpoint source pollutants.

Table 3 is a list of applications in accordance with U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) National Conservation Practice Standards (CPS) where compost filter socks may be used.

Table 3 NRCS Conservation Practices where compost filter socks may be used(http://www.nrcs.usda.gov/technical/Standards/nhcp.html)

NRCS Conservation Practice Standard	Code
Critical Area Planting	(342)
Channel Stabilization	(584)
Diversion	(362)
Grade Stabilization Structure	(410)
Land Reclamation	(453, 455, 543)
Lined Waterway or Outlet	(468)
Recreation Area Improvement	(562)
Recreation Trail and Walkway	(568)
Runoff Management System	(570)
Streambank and Shoreline Protection	(580)
Vegetative Barrier	(601)

References

Berg, R.D., and D.L. Carter. 1980. Furrow erosion and sediment losses on irrigated cropland. Journal of Soil and Water Conservation 35(6):267–270.

Faucette, B., F. Cardoso-Gendreau, E. Codling, A. Sadeghi, Y. Pachepsky, and D. Shelton. 2009. Stormwater pollutant removal performance of compost filter socks. Journal of Environmental Quality. 38:1233–1239.

Faucette, B., J. Governo, R. Tyler, G. Gigley, C.F. Jordan, and B.G. Lockaby. 2009. Performance of compost filter socks conventional sediment control barriers used for perimeter control on construction sites. Journal of Soil and Water Conservation. 64:1:81–88.

Faucette, B, M. Minkara, and F. Cardoso. 2009. City of Chattanooga urban stormwater retrofit. Stormwater: The Journal for Surface Water Quality Professionals. May: 58–61.

Faucette, L.B., K.A. Sefton, A.M. Sadeghi, and R.A. Rowland. 2008. Sediment and phosphorus removal from simulated storm runoff with compost filter socks and silt fence. Journal of Soil and Water Conservation. 63:4:257–264.

Keener, H., B. Faucette, and M. Klingman. 2007. Flow-through rates and evaluation of solids separation of compost filter socks vs. silt fence in sediment control applications. Journal of Environmental Quality. 36:3:742–752.

Soils for Salmon. 2010. *http://www.soilsforsalmon.org/how.htm#lid*. Accessed on 2–22–2010.

U.S. Environmental Protection Agency. 2007. Total maximum daily loads. National Section 303(d) List Fact Sheet.

U.S. Environmental Protection Agency. 2006. National Pollutant Discharge Elimination System, Phase II. Compost Filter Socks: Construction Site Stormwater Runoff Control. National Menu of Best Management Practices for Construction Sites. *http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=factsheet_results&view=specific&bmp=120*.