

MODOT SWPPP: 806.8.6.4.8 Compost Filter Devices

Two categories of compost filter devices are used as erosion and sediment control BMPs on MoDOT projects: compost filter socks/ logs and compost filter berms. (*Note: Compost can also be used as a soil amendment and sometimes as a mulch to enhance vegetative establishment.*)

Compost Filter Socks consist of compost filter media (compost, or non-treated wood) encased within a three-dimensional fabric tube for purposes of erosion, sediment and pollution control. Compost filter socks are typically used for perimeter protection and are an acceptable alternative to geotextile and other silt fence applications described in [EPG 806.8.6.4.4 Silt Fence](#). Compost filter socks are also acceptable alternate ditch checks as described in [EPG 806.8.6.4.3 Ditch Checks](#). Specified effective height, as measured in the field, shall apply for both silt fence and ditch check applications. Compost filter socks shall be installed according to the manufacturer's specifications or [Standard Plan 806.10](#), including ground preparation and staking requirements. Though compost filter socks are commonly used for perimeter protection and alternate ditch checks, other uses may include: curb and drain inlet protection; slope interruption; protection along the toe of stream and channel banks; on compacted and frozen soils, or pavement where trenching is difficult or impossible; and around sensitive resources where trenching may disturb the resource.

Sediment shall be removed once it has accumulated to one-half the original height of the sock. Compost filter sock shall be replaced whenever it has deteriorated to such an extent that the effectiveness of sock is reduced. Compost filter socks shall remain in place until disturbed areas draining to the devices have been permanently stabilized in accordance with the permit. Upon removal of compost filter socks, the wooden stakes should be pulled and the biodegradable netting cut to encourage more rapid degradation. If the netting is non-biodegradable, the netting shall be cut and removed along with the stakes, but the compost filling may be left to further decompose and act as a soil amendment.

Compost or non-treated wood used for compost filter sock filter media (filler material) shall be weed, disease, and pathogen free and derived from a clean source of woody organic matter. Compost shall be produced using an aerobic composting process meeting CFR 503 regulations including time and temperature data. The filler material shall be free of any refuse, contaminants or other materials toxic to plant growth. Test methods for the items below should follow U.S. Composting Council Test Methods for the Examination of Composting and Compost guidelines for laboratory procedures:

- pH – 5.0-8.0 in accordance with TMECC 04.11-A, "Electrometric pH Determinations for Compost"
- Particle size – 99% passing a 2 in. (50mm) sieve and a maximum of 40% passing a 3/8 in. (9.5mm) sieve, in accordance with TMECC 02.02-B, "Sample Sieving for Aggregate Size Classification". (*Note- In the field, product commonly is between 1/2 in. [12.5mm] and 2 in. [50mm] particle size.*)
- Moisture content of less than 60% in accordance with standardized test methods for moisture determination.
- Bulk density shall be a minimum of 14 lbs/cu ft (dry weight)
- Material shall be relatively free (<1% by dry weight) of inert or foreign man made materials.
- The engineer may request a sample for approval prior to being used and must comply with all local, state and federal regulations.

Compost Filter Sock Fabric Specifications				
Material Type	5 mil HDPE	5 mil HDPE	Multi-Filament Polypropylene (MFPP)	Heavy Duty Multi-Filament Polypropylene (HDMFPP)
Material Characteristics	Photo-degradable	Bio-degradable	Photo-degradable	Photo-degradable
Sock Diameters	8"	8"	8"	8"
	12"	12"	12"	12"
	18"	18"	18"	18"
	24"	24"	24"	24"
	32"	32"	32"	32"
Mesh Opening	1/8" - 3/8"	1/8" - 3/8"	1/8" - 3/8"	1/8" - 3/8"
Tensile Strength	26 psi	26 psi	44 psi	202 psi
Ultraviolet Stability % Original Strength (ASTM G-155)	23% at 1000 hr.	-	100% at 1000 hr.	100% at 1000 hr.
Minimum Functional Longevity	9 months	6 months	1 year	2 years

Note: All materials must be knitted. Extruded materials not permitted.

Compost Filter Berms are temporary barriers of compost placed along the perimeter of a site, or at intervals along a slope, to control erosion and capture sediment from sheet flow. A filter berm can also be used as a check dam in small drainage ditches as described in [EPG 806.8.6.4.3 Ditch Checks](#). Loose applied compost berms (i.e., mounded compost) should be anchored in place (covered) with ECB for stability. To anchor the compost effectively, place the ECB first and then install the compost along and atop the downgrade edge of the ECB and wrap the ECB over the compost in the direction of flow and anchor with staples or an equivalent.

Composts used in filter berms are made from a variety of feedstocks, including municipal yard trimmings, food residuals, separated municipal solid waste, biosolids, wood chips and manure.

Compost filter berms can be used in place of traditional sediment and erosion control tools such as geotextile silt fence. As such these berms can be installed at the time of clearing and grubbing, or as needed throughout the construction process, and will remain in place until the site is stabilized. Weekly and post-runoff inspections will be necessary to identify berm erosion or breaches. Sediment shall be removed once it has accumulated to one-half the original height of the berm.

Post-construction removal is not required because the compost and ECB are biodegradable. However, unvegetated berms are often broken down once construction is complete and the compost is sometimes spread around the site as a soil amendment or mulch.