Bowling Green, Kentucky
Stormwater Best Management Practices (BMPs)
Site Planning and Design Practices (SPDs)

SPD-03.6

Activity: Erosion Control Mats/Blankets

PLANNING CONSIDERATIONS:

Design Life:
1-2 years

Acreage Needed:
Varies

Estimated Unit Cost:
Medium

Monthly Maintenance:
N/A

Target Pollutants

Significant ♦	Partial ◈	Low or Unknown ◇

Sediment ♦ Heavy Metals ◇ Nutrients ◇ Oxygen Demanding Substances ◇ Toxic Materials ◇
Oil& Grease ◇ Bacteria & Viruses ◇ Floatable Materials ◇ Construction Waste ◇

Description

In areas where erosion hazards are high, matting and blankets can be applied. This protective blanket or stabilization mat aids in establishing temporary or permanent vegetation on steep slopes, channels or stream banks. The presence of this BMP prevents erosion of the soil surface or seed, promotes seed germination, protects young vegetation and prevents the dispersion of seed or mulch.

Suitable Applications

- All concentrated flow areas with slopes steeper than 2.5:1, with a height of 10 ft. or greater and cuts and fills within stream buffers.
- Temporary blankets should be (at a minimum) used to stabilize concentrated flow areas.
- Vegetative lining is desired in stormwater conveyance channels where velocity is projected to be between 5 and 10 ft. per second.

Design Criteria

- Care must be taken to choose the type of blanket or matting appropriate for each project.
- Rolled erosion control blankets are made of plastic netting intertwined with natural organic or manmade mulch.
- Jute mesh is a typical homogeneous design that can act alone as a stabilization blanket.

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Approach

- **Straw Blanket** consist of weed free straw with a $^{5}/_{16}$ x $^{5}/_{16}$ top side and a minimum thickness of 3/8 in. and minimum dry weight of 0.5 lbs per square yard.
- **Excelsior blankets** are curled wood excelsior formed into a blanket with 1 ½ x 3 in. mesh sides and a minimum thickness of ¼ in. with a 0.8 dry weight lbs per square yard.
- **Coconut blankets** consist of 100% coconut fiber with a ¼ thickness, a minimum dry. weight of 0.5 lbs per square yard and a $^{5}/_{8}$ x $^{5}/_{8}$ in. maximum mesh .
- **Wood fiber blankets** consist of reprocessed wood fiber with a maximum mesh size of 5/8 x ¾ in. and a 0.35 lbs per square yard minimum dry weight.
- **Jute mesh** consist of woven root fiber or yarn with regularly spaced openings between strands and a 1.0 lbs per square yard dry weight for basic slope applications.

Installation Procedures

- Shape and grade site.
- Prepare a friable seedbed free from clods and rocks.
- Temporary blankets should be installed vertically from the top of the slope to bottom.
- For shallower slopes (less than 2:1) with height twice as much as the width, and a maximum height of 16 feet, the blanket may be applied horizontally. Concentrated flow area blankets should be placed in the direction of water flow.
- Entrench blanket beyond the top and bottom of the slope and at any horizontal joint a minimum of 6 in.
- Permanent matting begins installation at the bottom of the slope and works towards the top while being centered in the middle of the channel.
- Shingle upstream layer over downstream layer overlapping 3 ft.
- Temporary blankets should be anchored with staples per manufacturing directions.
- Manufacturer's recommendations should be followed when choosing products.
- All preliminary seeding and soil amendments should be done prior to installation of temporary blankets.
- Permanent matting areas should be brought to final grade before installation of matting. After installation and backfilling of topsoil, seeding and mulch should be applied.

Maintenance

- Inspect erosion control matting before (if anticipated) and within 24 hours following rainfall events to check for movement of topsoil, mulch or erosion. Continue checking until vegetation is firmly established.
- Inspect blankets or mats at least every 14 days.
- Repair or replace netting that has been washed out, broken, eroded, and/or needing surface repair, re-seeding, re-sodding, re-mulching or topsoil replacement.

Inspection Checklist

- ☐ Inspection completed before a storm event.
- ☐ Inspection completed within 24 hours after the end of a storm event of 0.5 inches or greater.
- ☐ Erosion control mats are properly tucked.
- ☐ Damaged areas have been repaired.