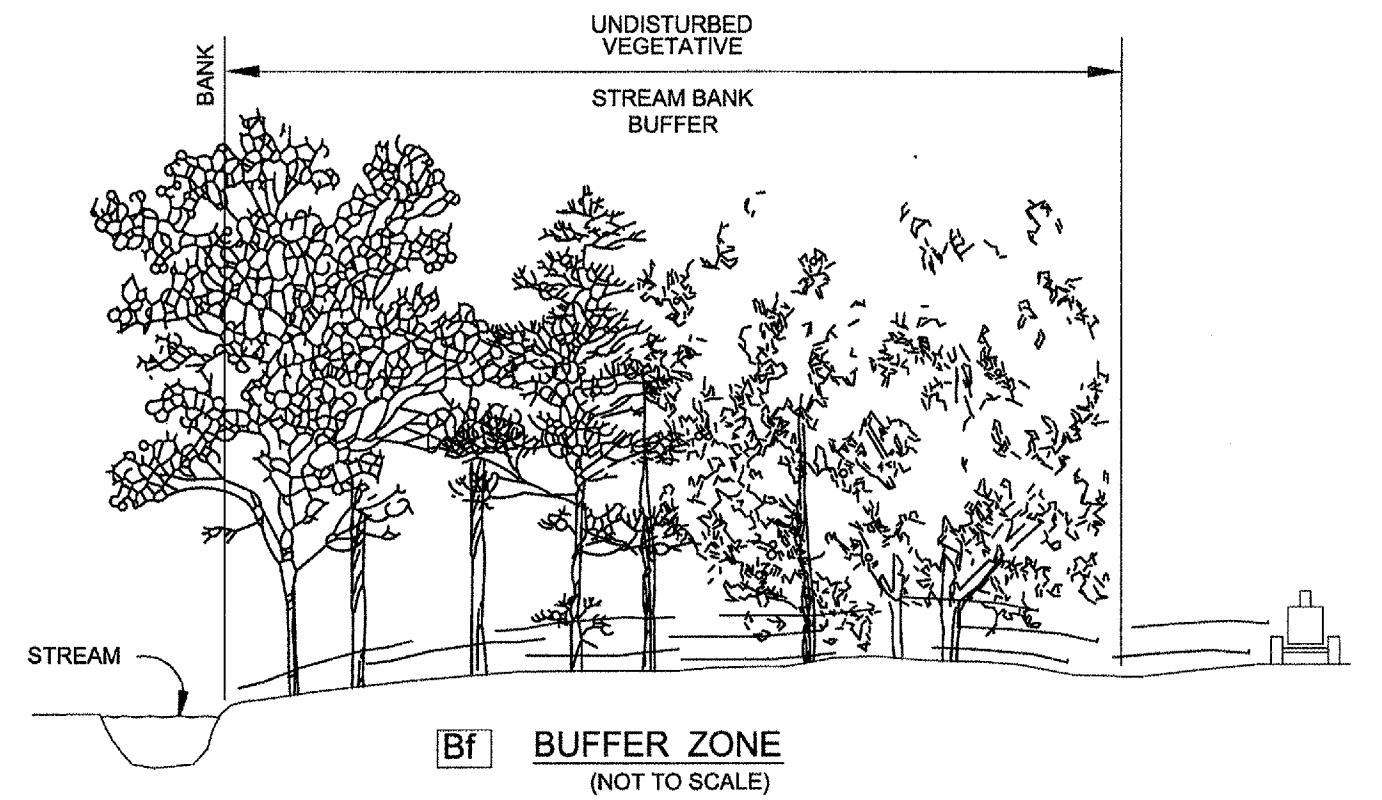
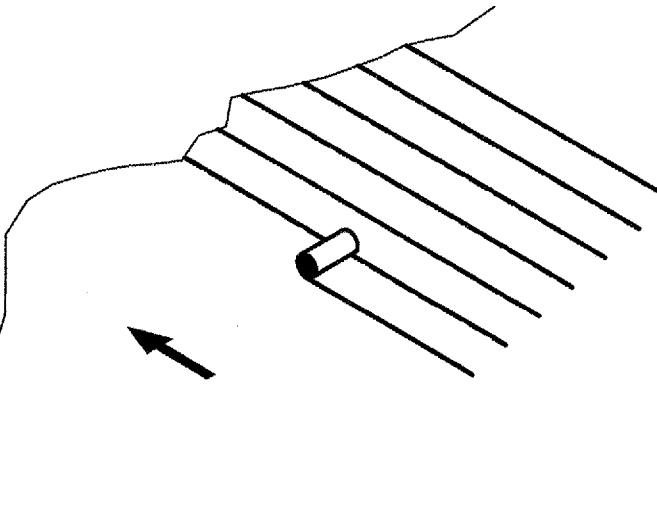


1. START AT DOWNSTREAM TERMINAL AND PROGRESS UPSTREAM.
2. FIRST ROLL IS CENTERED LONGITUDINALLY IN MID CHANNEL AND PINNED WITH TEMPORARY STAKES TO MAINTAIN ALIGNMENT.
3. SUBSEQUENT ROLLS FOLLOW IN STAGGERED SEQUENCE BEHIND FIRST ROLL USE CENTER ROLL FOR ALIGNMENT TO CHANNEL CENTER.
4. WORK OUTWARDS FROM CHANNEL CENTER TO EDGE.
5. USE 3" OVERLAP AND STAKE AT 5' INTERVAL ALONG SEAMS.
6. USE 3" OVERLAPS AND SHINGLE DOWNSTREAM TO CONNECT LINING AT ROLL ENDS.



EROSION CONTROL LEGEND

Ch CHANNEL STABILIZATION	Sr SURFACE ROUGHENING
Cv CONSTRUCTION EXIT	Ds4 DISTURBED AREA STABILIZATION (WITH SEEDING)
Rd ROCK FILTER DAM	Du DUST CONTROL ON DISTURBED AREAS
Sd1 SEDIMENT BARRIER	Mb EROSION CONTROL MATTING AND BLANKETS
Sr STORM DRAIN OUTLET PROTECTION	Ss STREAMBANK STABILIZATION USING PERMANENT VEGETATION
Bf BUFFER ZONE	Cd CHECKDAM
Ds1 DISTURBED AREA STABILIZATION (WITH MULCHING ONLY)	Ss2 INLET SEDIMENT TRAP
Ds2 DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING)	
Ds3 DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION)	



DEFINITION:
A protective covering (blanket) or soil stabilization mat used to establish permanent vegetation on steep slopes, channels, or shorelines.

PURPOSE:
- To provide a microclimate which protects young vegetation and promotes its establishment.
- To reinforce the turf to resist forces of erosion during storm events.

CONDITIONS:
Matting and blankets can be applied on steep slopes where erosion hazard is high and planting is likely to be too slow in providing adequate protective cover. Concentrated flow areas, all slopes steeper than 2.5:1 and with a height of ten feet or greater, and cuts and fills within stream buffers, shall be stabilized with the appropriate erosion control matting or blankets. Maintenance of final vegetative cover must be considered when choosing blankets versus matting.
On streambanks or tidal shorelines where moving water is present, matting can prevent new plantings from being washed away.

PLANNING CONSIDERATIONS:
Care must be taken to choose the type of blanket or matting which is most appropriate for the specific needs of a project. Two general types of blankets and mats are discussed within this specification. Due to the

abundance of erosion control matting and blanket products available, all of the advantages, disadvantages, and specifications of all manufactured products will not be discussed in this manual. Manufacturer's instructions and recommendations, as well as a site visit by designer and plan reviewer is highly recommended to determine a product's appropriateness.

Temporary Erosion Control Blankets
This includes temporary "combination" blankets (rolled erosion control blankets-RECB) consisting of a plastic netting which covers and is intertwined with a natural organic or manmade mulch; or, a jute mesh which is typically homogeneous in design and can act alone as a soil stabilization blanket.
Temporary blankets as a minimum shall be used to stabilize concentrated flow areas with a velocity less than 5 ft/sec and slopes 2.5:1 or steeper with a height of 10 feet or greater. Because temporary blankets will deteriorate in a short period of time, they provide no enduring reduction in erosion protection.

Benefits of using erosion control blankets include the following:

1. Protection of the seed and soil from raindrop impact and subsequent displacement.
2. Thermal consistency and moisture retention for seedbed area.
3. Stronger and faster germination of grasses and legumes.
4. Planning off excess stormwater runoff.
5. Prevention of sloughing of topsoil added to steeper slopes.

Permanent Erosion Control Matting
Consists of a permanent non-degradable, three-dimensional plastic structure which can be filled with soil prior to planting. These mats are also known as permanent soil reinforcing mats (turf reinforcement matting). Roots penetrate and become entangled in the matrix, forming a continuous anchorage for surface growth and promoting enhance energy dissipation. Matting shall be used when a vegetative lining is desired in stormwater conveyance channels where the velocity is between five and ten feet per second.

Benefits of using erosion control matting include the following:

1. All benefits gained from using erosion control blankets.
2. Causes soil to drop out of stormwater and fill matrix with fine soils which become the growth medium for the development of roots.
3. Acts with the vegetative root system to form an erosion resistant cover which resists hydraulic lift and shear forces when embedded in the soil within stormwater channels.

Materials
All blanket and matting materials shall be on the Georgia Department of Transportation Qualified Products List (QPL # 62 for blankets, QPL # 49 for matting).
All blankets shall be nontoxic to vegetation and to the germination of seed and shall not be injurious to the unprotected skin of humans. At a minimum, the plastic netting shall be intertwined with the mulching material/fiber to maximize strength and provide for ease of handling.

Temporary Blankets
Machine produced temporary combination blankets shall have a consistent thickness with the organic material evenly distributed over the entire blanket area. All combination blankets shall have a minimum width of 48 inches. Machine produced combination blankets include the following:
a. Straw blankets are combination blankets that consist of weed-free straw from agricultural crops formed into a blanket. Blankets with a top side of photodegradable plastic mesh with a maximum mesh size of 5/16 x 5/16 inch and sewn to the straw with biodegradable thread is appropriate for slopes.
The blanket shall have a minimum thickness of 3/8 inch and minimum dry weight of 0.5 pounds per square yard.
b. Excelsior blankets are combination blankets that consist of curried wood excelsior (80% of fibers are six inches or longer) formed into a blanket. The blanket shall have clear markings indicating the top side of the blanket and be smolder resistant. Blankets shall have photodegradable plastic mesh having a maximum mesh size of 1 1/2 x 3 inches. The blanket shall have a minimum thickness of 1/4 of an inch and a minimum dry weight of 0.8 pounds per square yard. Slopes require excelsior matting with the top side of the blanket covered in the plastic mesh, and for waterways, both sides of the blanket

require plastic mesh.
c. Coconut fiber blankets are combination blankets that consist of 100% coconut fiber formed into a blanket. The minimum thickness of the blanket shall be 1/4 of an inch with a minimum dry weight of 0.5 pounds per square yard. Blankets shall have photodegradable plastic mesh, with a maximum mesh size of 5/8 x 5/8 inch and sewn to the fiber with a breakdown resistant synthetic yarn. Plastic mesh is required on both sides of the blanket if used in waterways. A maximum of two inches is allowable for the stitch pattern and row spacing.
d. Wood fiber blankets are combination blankets that consist of reprocessed wood fibers that do not possess or contain any growth or germination inhibiting factors. The blanket shall have a photodegradable plastic mesh, with a maximum mesh size of 5/8 x 3/4 inch, securely bonded to the top of the mat. The blanket shall have a minimum dry weight of 0.35 pounds per square yard. A maximum of two inches is allowable for the stitch pattern and row spacing. This practice shall be applied only to slopes.
e. Jute Mesh can be applied to slopes. Jute mesh with a 48 inch width shall show between 70 and 80 warpings and a one yard length shall show between 39 to 43 weftings. The woven mesh shall be at least 45 inches wide. Yarn shall have a unit weight of at least 0.9 pounds per square yard, but not more than 1.5 pounds per square yard.

Permanent Matting
Permanent matting shall consist of a lofty web of mechanically or melt bonded polymer nettings, monofilaments or fibers which are entangled to form a strong and dimensionally stable matrix. Polymer welding, thermal or polymer fusion, or the placement of fibers between two high strength, biaxially oriented nets bound securely together by parallel lock stitching with polyolefin, nylon or polyester threads are all appropriate bonding methods. Mats shall maintain their shape before, during, and after installation, under dry or water saturated conditions. Mats shall be stabilized against ultraviolet degradation and shall be inert to chemicals normally encountered in a natural soil environment.
The mat shall conform to the following physical properties:

Roll Width 36 inches

Tensile Strength

Length (50% elongation)	15 lbs./in.
Length (ultimate)	20 lbs./in.
Width (50% elongation)	5 lbs./in.
Width (ultimate)	10 lbs./in.

(ASTM D 1682 - 6" strip)

Ultraviolet Stability 80% (1000hrs. in an Atlas ARC Weatherometer, ASTM G 23, Type D in accordance with ASTM D 822)

Site Preparation
After the site has been shaped and graded to the approved design, prepare a friable seedbed relatively free from clods and rocks more than one inch in diameter, and any foreign material that will prevent contact of the soil stabilization mat with the soil surface. Surface must be smooth to ensure proper contact of blankets or matting to the soil surface. If necessary, redirect any runoff from the ditch or slope during installation.

Staples
The following are considered appropriate stapling and staking materials.

Temporary Blankets
This includes straw, excelsior, coconut fiber, and wood fiber blankets. Staples shall be used to anchor temporary blankets. U-shaped wire (11 gauge or greater) staples with legs at least 6 inches in length and a crown of one inch or appropriate biodegradable staples can be used. Staples shall be of sufficient thickness for soil penetration without undue distortion.

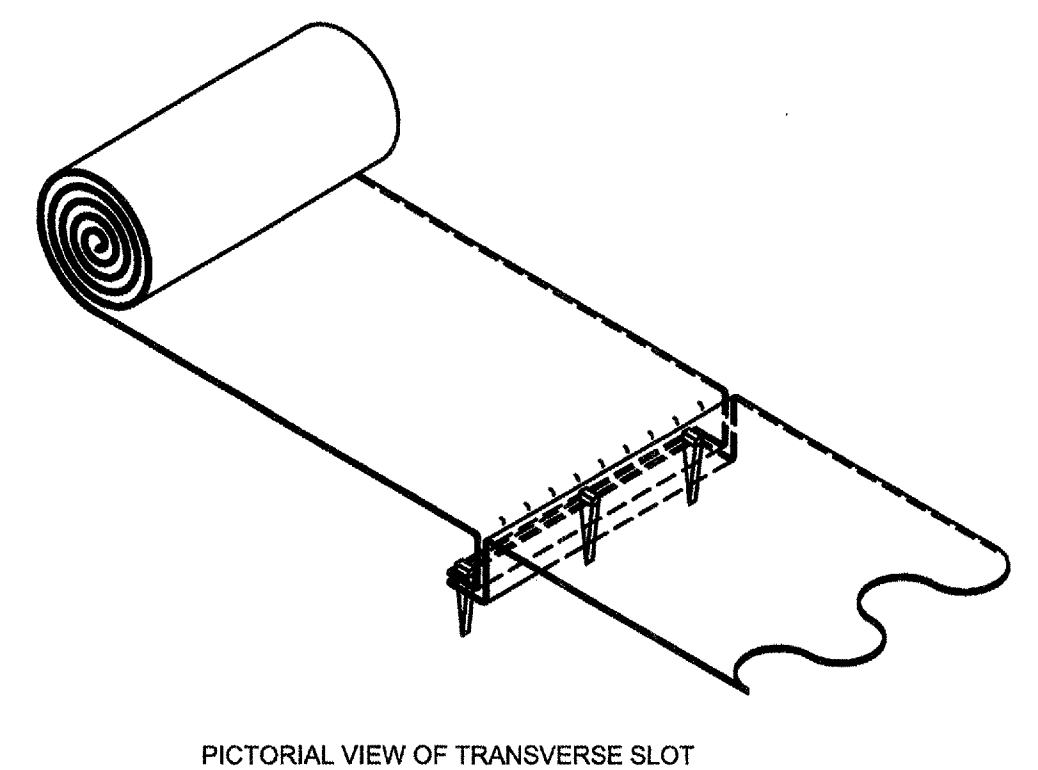
Permanent Matting
Sound wood stakes, 1 x 3 inches stock sawn in a triangular shape, shall be used. Depending on the compaction of the soil, select stakes with a length from 12 to 18 inches. U-shaped staples shall be 11 gauge steel or greater, with legs at a minimum of 8 inches length with a 2 inch crown

Planting
Lime, fertilizer, and seed shall be applied in accordance with seeding or other type of planks when completed prior to installation of temporary combination blankets or jute mesh. For permanent mats, the area must be brought to final grade, plowed, limed, and fertilized. After the

permanent mat has been installed and backfilled, the entire area shall be grassed. Refer to specification Ds3 - Disturbed Area Stabilization (With Permanent Vegetation).

Installation
See Figure 6-7.1 for typical installation guidelines. Follow manufacturer's recommendations for laying and stapling.

Maintenance
All erosion control blankets and matting should be inspected periodically following installation, particularly after rainstorms to check for erosion and undermining. If washouts or breakage occurs, reinstall the material after repairing damage to the slope or ditch. Continue to monitor these areas until they become permanently stabilized.



I certify under penalty of law that this Plan was prepared after a site visit to the locations described herein by myself or my authorized agent, under my supervision.

William F. Livingston
Professional Engineer
GSWCC Level II Certified Design Professional
Certification # 21837, Expires November 4, 2015

ATKINS
192 Anderson Street, Suite 150
Marietta, Ga 30060
P: 770-422-1902 F: 770-426-6316

CHEROKEE COUNTY WATER & SEWERAGE AUTHORITY
HOLLY SPRINGS
DOWNTOWN SANITARY SEWER SYSTEM

EROSION CONTROL DETAILS

PROJ. NO.: 100034005
DESIGNED BY: W.F.L.
DRAWN BY: M.R.T.
CHECKED BY: W.F.L.
APPROVED BY: W.F.L.
DATE: AUGUST, 2013
SCALE: NTS

SHEET NO.
EC-06