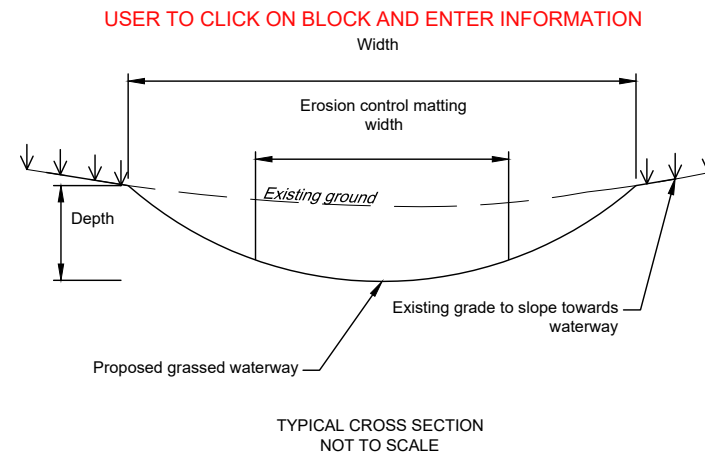


To be used for a simple waterway over 2% slope with no drain tubing needed and when plotting the profile is not needed.



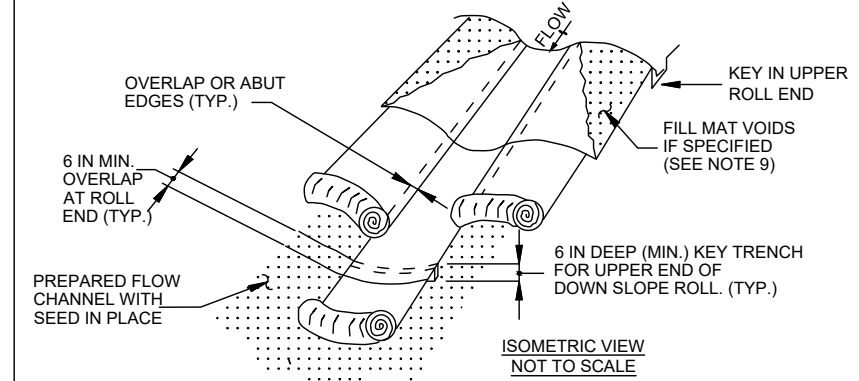
- General notes:
- Remove topsoil prior to grading and stockpile outside limits of waterway construction
 - Install excelsior type erosion control matting according to manufacturer's recommendations. Matting shall meet minimum shear stress of 1.75 lb/ft² and maximum velocities of 7ft/s (see erosion control matting detail sheet for installation instructions)
 - Erosion control matting width shall be a minimum of 2/3 of the waterway width or shown as above
 - A minimum of 4" of topsoil shall be placed along entire length and width of constructed waterway
 - Lime, fertilizer and seed shall be placed in waterway prior to installing erosion control matting (see seeding details)
 - Waterway shall be maintained as needed to minimize erosion throughout the required maintenance life of 10 years

GRASSED WATERWAY DETAIL

Note: Geotextile to meet the following Maryland State Highway Administration requirements:

Maryland Application Class	Type of Geotextile	Grab Strength Lb D 4632	Puncture Strength Lb D 4833	Permittivity Sec 1	Apparent Opening Size Max Mm D 4751	Trapezoid Tear Strength Lb D 4533
SE	NONWOVEN	200	80	0.2	0.3	80
	WOVEN	250	90	0.2	0.3	90

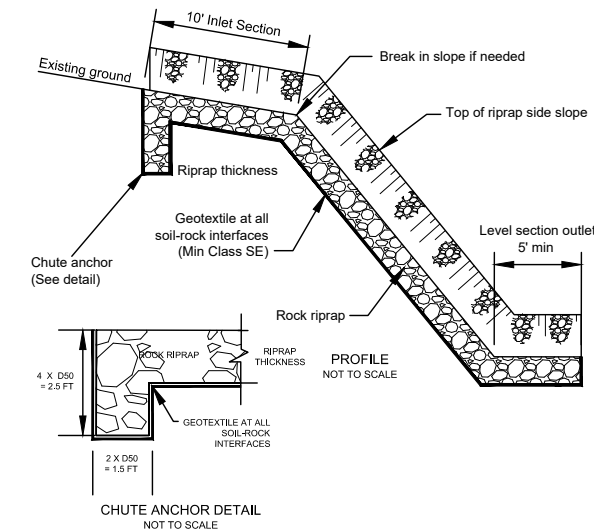
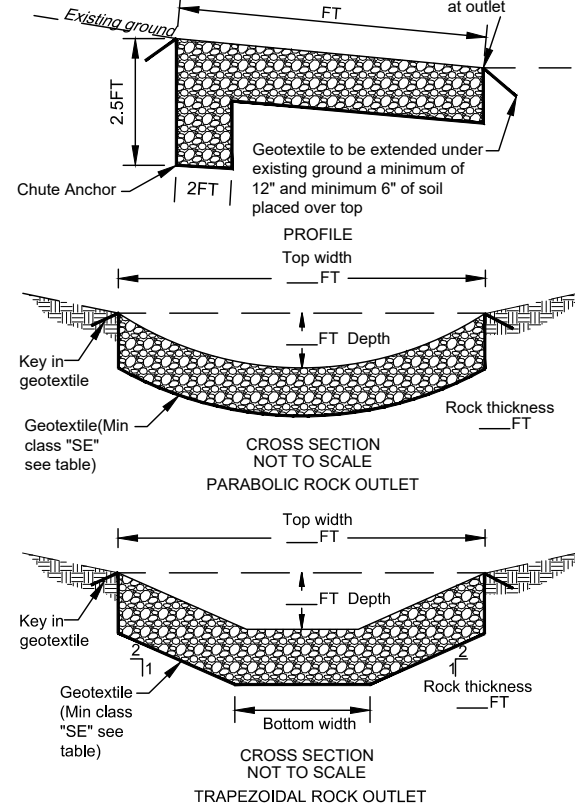
DETAIL B-4-6-A TEMPORARY SOIL STABILIZATION MATTING CHANNEL APPLICATION



CONSTRUCTION SPECIFICATIONS

- USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
- USE TEMPORARY SOIL STABILIZATION MATTING MADE OF DEGRADABLE (LASTS 6 MONTHS MINIMUM) NATURAL OR MAN-MADE FIBERS (MOSTLY ORGANIC). MAT MUST HAVE UNIFORM THICKNESS AND DISTRIBUTION OF FIBERS THROUGHOUT AND BE SMOLDER RESISTANT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.
- SECURE MATTING USING STEEL STAPLES, WOOD STAKES, OR BIODEGRADABLE EQUIVALENT. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1/2 INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND A MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPED AT THE BOTTOM.
- PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.
- UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTERLINE. WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAY MAT SMOOTHLY AND FIRMLY ON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.
- KEY-IN UPSTREAM END OF EACH MAT ROLL BY DIGGING A 6 INCH (MINIMUM) TRENCH AT THE UPSTREAM END OF THE MATTING, PLACING THE ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END.
- OVERLAP OR ABUT THE ROLL EDGES PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE NEXT DOWNSTREAM MAT.
- STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
- ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

Use detail for type of rock outlet and DELETE the one not used. Select block and fill in required information



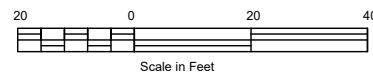
RIPRAP CONSTRUCTION SPECIFICATIONS

- All materials and construction shall be in accordance with applicable NRCS standards and construction specifications.
- Rock Riprap shall conform to the requirements as shown on the plans. It shall be free from dirt, clay, sand, rock fines, and other material not meeting the required gradation limits.
- The subgrade surface on which the rock riprap, filter, bedding, or geotextile is to be placed shall be cut or filled and graded to the lines and grades shown on the drawings. When fill to subgrade lines is required, it shall consist of approved material and shall conform to the requirements as shown on the plans. Rock riprap, filter, bedding, or geotextile shall not be placed until the foundation preparation is completed and the subgrade surface has been inspected and approved.
- The rock riprap shall be placed by equipment on the surface and to the depth specified. It shall be installed to the full course thickness in one operation and in such a manner as to avoid serious displacement of the underlying material. The rock for riprap shall be delivered and placed in a manner that ensures the riprap in place is reasonably homogeneous with the larger rocks uniformly distributed and firmly in contact one to another with the smaller rocks and filling the voids between the larger rocks. Some hand placing may be required to provide a neat and uniform surface.

BENCH MARK DESCRIPTIONS

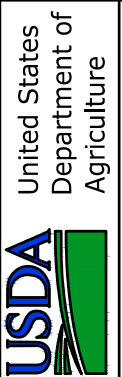
- TBM #1 (IP): Elev = ????.??
Top of 1" X 2" wooden hub, marked by witness lath.
- TBM #2: Elev = ????.??
Top of 1" X 2" wooden hub, marked by witness lath, near NW corner of building.
- TBM #3: Elev = ????.??
Top of bolt in NW corner of concrete.

PLAN VIEW



LANDOWNER - SITE NAME

COUNTY Soil Conservation District



Natural Resources Conservation Service

File Name

MD_0046_GrassedWaterway11x17.dwg

Drawing No.
MD_0046

Sheet 2 of 2

Date	_____
Designed	_____
Drawn	_____
Checked	_____
Approved	_____

JOB CLASS #

TRACT #

Maryland