

2. Width - 10' minimum, should be flored at the existing road to provide a turning

3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. **The plan approval authority may not require single family residences to use geotextile.

4. Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the

5. Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.

6. Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance. U.S. DEPARTMENT OF AGRICULTURE MARYLAND DEPARTMENT OF ENVIRONMENT

SOIL CONSERVATION SERVICE

F - 17 - 3 WATER MANAGEMENT ADMINISTRATION

HOWARD SOIL CONSERVATION DISTRICT TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be re-disturbed where a short-term vegetative cover is needed. Seedbed preparation: -- Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously

Soil Amendments: -- Apply 600 lbs/acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.).

Seeding: -- For periods March 1 - April 30 and from August 15 - October 15, seed with 2-1/2 bushelper acre of annual rye (3.2 lbs/1000 sq. ft.). For the period May 1 - August 14, seed with 3 lbs/acre of weeping lovegrass (.07 lbs/1000 ft.). For the period November 16 - February 28, protect site by applying 2 tons/acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

Mulching: -- Apply 1-1/2 to 2 tons/acre (70 to 90 lbs/1000 sq. ft.) of unrotted weed-free, small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. Per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slope 8 ft. or higher, use 348 gal. Per acre (8 gal/1000 sq. ft.) for anchoring.

Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for additional rates and methods

HOWARD SOIL CONSERVATION DISTRICT PERMANANT SEEDING NOTES

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed <u>Seedbed Preparation</u>: Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened. <u>Soil Amendments</u>: In lieu of soil test recommendations, use one of the following schedules:

> Preferred -- Apply 2 tons/acre dolomitic limestone (92 lbs/1000 sq. ft.) and 600 lbs/acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.) before seeding. Harrow or disk into upper three inches of soil. At time of seeding, apply 400 lbs/acre 30-0-0 ureaform fertilizer (9 lbs/1000 sq. ft.)

Acceptable -- Apply 2 tons/acre dolomitic limestone (92 lbs/1000 sq. ft.) and 1000 lbs/acre 10-10-10 fertilizer (23 lbs/1000 sq. ft.) before seeding. Harrow

Seeding - For the periods March 1 - April 30, and August 1 - October 15, seed with 60 lbs/acre (1.4 lbs/1000 sq. ft.) of Kentucky 31 Tall Fescue. For the period May 1 - July 31, seed with 60 lbs Kentucky 31 Tall Fescue. For the period May 1 - July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs/acre (.05 lbs/100sq. ft.) of weeping lovegrass. During the period of October 16 - February 28, protect site by: Option 1 - Two tons per acre of well anchored straw mulch and seed as soon as possible in the period October 2 and seed as soon as possible in the spring. Option 2 - Use sod. Option 3 - Seed with 60 lbs/acre Kentucky 31 Tall Fescue and

Mulching - Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sq. ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slope 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq. ft.) for anchoring

Maintenance - Inspect all seeding areas and make needed repairs,

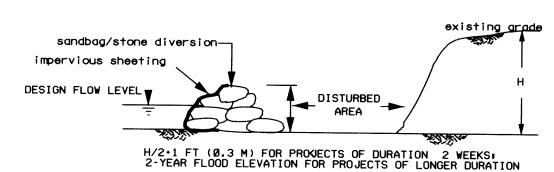
SEED MIX FOR AREAS WITHIN THE FLOODPLAIN WHERE SEDIMENT IS REMOVED

20%	Agrostis alba	Redtop
20%	Agrostis stolonifera	Creeping Bentgrass
20%	Elymus riparius	Riverbank Wild Rye
20%	Carex vulpinoidea	Fox Sedge
20%	Puccinellia distans	Alkali Grass

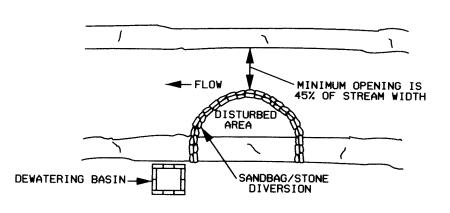
Apply at a rate of 10 pounds/acre.

DETAIL 1.5: SANDBAG/STONE DIVERSION

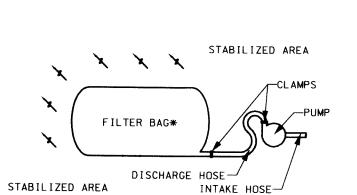
TRANSVERSE SECTION VIEW

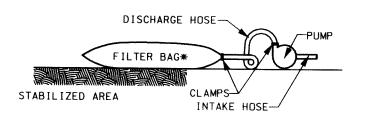






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* NON-WOVEN GEOTEXTILE FILTER BAG WHICH RETAINS ALL SEDIMENT PARTICLES LARGER THAN 150 MICRONS.

SILT BAG DEWATERING DEVICE FOR PUMPED WATER

NOTES: 1. PLACE FILTER BAGS ON STABLE OR WELL VEGETATED AREAS WHICH ARE FLATTER THAN 5% AND WILL NOT ERODE WHEN SUBJECTED TO

2. CLAMP PUMP DISCHARGE HOSES SECURELY INTO FILTER BAGS. 3.LIMIT PUMPING RATE TO 1/2 THE MANUFACTURER'S MAXIMUM

4. WHEN SEDIMENTS FILL 1/2 THE VOLUME OF A FILTER BAG, IMMEDIATELY REMOVE THAT BAG FROM SERVICE. PROPERLY DISPOSE OF SPENT BAGS WITH THEIR SEDIMENTS.

HOWARD COUNTY CONSERVATION DISTRICT STANDARD SEDIMENT CONTROL NOTES

1. A minimum of 48 hours notice must be given to the Howard County Department of Inspections, Licenses and Permits, Sediment Control Division prior to the start of any construction (313-1855).

2. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the most current MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL and revisions thereto. 3. Following initial soil disturbance or re-disturbance, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1, b) 14 days as to all other disturbed or graded areas on the project site.

4. All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol.1, Chapter 12 of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.

5. All disturbed areas must be stabilized within the time period specified above in accordance with the 1994 MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seeding (Sec. 51), sod (Sec. 54), temporary seeding (Sec. 50) and mulching (Sec. 52). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.

6. All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.

7. Site Analysis: Total Area of Site Area Disturbed Area to be vegetatively stabilized Total - Pvmt. Total Cut

0.22 Acres 0.22 Acres Acres 0.19 Acres 0 Acres 281 Cu. Yds. Offsite waste/borrow area location

8. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance. Additional sediment control must be provided, if deemed necessary by the Howard County Sediment Control Inspector.

10. On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made. 11. Trenches for the construction of utilities is limited to three pipe lengths or that which shall be back-filled and stabilized by the end of each work day, whichever is

* Sediment removed from culverts to be taken to a site with an approved grading

SEQUENCE OF CONSTRUCTION

1. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST FIVE (5) WORKING DAYS PRIOR TO ANY WORK BEING DONE. THE CONTRACTOR SHALL NOTIFY THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES, AND PERMITS, SEDIMENT CONTROL DIVISION (410-313-1880) A MINIMUM OF 48 HOURS PRIOR TO THE START OF ANY CONSTRUCTION START OF ANY CONSTRUCTION.

1 DAY

2. CLEAR AND GRUB THOSE AREAS WITHIN THE LIMIT OF DISTURBANCE REQUIRED TO ESTABLISH THE PROPOSED SEDIMENT CONTROL MEASURES AND ACCESS ROAD. 5 DAYS

3. INSTALL SCE AND CONSTRUCT *2 STONE ACCESS ROAD AS SHOWN ON THE PLAN. PHASE

2 DAYS

1. INSTALL SAND BAG DIVERSION AND FILTER BAG AS SHOWN
ON THE PLAN AND MAINTAIN CHANNEL THROUGH CULVERT 1. 2. WITH THE APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, CLEAR AND GRUB THE REMAINDER OF THE SITE.

5 DAYS 3. REMOVE SEDIMENT FROM UPSTREAM, DOWNSTREAM AND INSIDE OF CULVERT 2 AS SHOWN ON THE PLAN.

1 DAY

4. FINE GRADE THE SITE AND PERMANENTLY STABILIZE THE DISTURBED AREAS ACCORDING TO THE PLANS.

1 DAY 5. WITH THE PERMISSION OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR REMOVE ALL SEDIMENT CONTROL DEVICES NOT NECESSARY IN NEXT PHASE AND PROCEED WITH PHASE II. PHASE II

2 DAYS

1. INSTALL SAND BAG DIVERSION, FILTER BAG, INTAKE AND DISCHARGE PIPES AS SHOWN ON THE PLAN. MAINTAIN CHANNEL FLOW THOROUGH

3 DAYS 2. REMOVE SEDIMENT FROM UPSTREAM, DOWNSTREAM AND INSIDE OF CULVERT 1 AS SHOWN ON THE PLAN.

3. FINE GRADE THE SITE AND PERMANENTLY STABILIZE THE DISTURBED AREAS ACCORDING TO THE PLANS.

2 DAYS

4. WHEN THE SITE IS STABILIZED AND WITH THE PERMISSION OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE ALL SEDIMENT CONTROL DEVICES AND STABILIZE ANY AREAS DISTURBED BY THIS ACTIVITY.

21.0 STANDARD AND SPECIFICATIONS-TOPSOIL

Placement of topsoil over a prepared subsoil prior to establishment of

To provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.

Conditions Where Practice Applies I. This practice is limited to areas having 2:1 or flatter slopes

The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.

 The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients. The original soil to be vegetated contains material toxic to plant growth.

d. The soil is so acidic that treatment with limestone is not

II. For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the

Construction and Material Specifications

I. Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experimental Station.

II. Topsoil Specifications - Soil to be used as topsoil must meet the

Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixutre of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 11/2" in diameter.

Topsoil must be free of plants or plant parts such as bermuda grass, quackgrass, Johnsongrass, nutsedge, poison ivy, thistle, or others as specified.

iii. Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be disturbed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following proceures.

III. For sites having disturbed areas under 5 acres:

Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section * -Vegetative Stabilization Methods and Materials.

IV. For sites having disturbed areas over 5 acres: On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:

a. pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.

Organic content of topsoil shall be not less than 1.5 percent by weight.

Topsoil having soluble salt content greater than 500 parts per million shall not be used.

d. No sod or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time as elapsed (14 days min.) to permit dissipation of phyto-toxic materials.

Note: Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.

ii. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section * -Vegetative Stabilization Methods and Materials.

When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.

ii. Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" - 8" higher in elevation.

iii. Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minmum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions of water pockets.

iv. Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that my otherwise be detrimental to proper grading and seedbed preparation.

VI. Alternative for Permanent Seeding - Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:

Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribe amendments and for sites having disturbed areas under 5 acres shall conform to the following requirements:

a. Composted Sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.

b. Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a pH of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.

c. Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.

ii. Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1,000 square feet, and 1/3 the normal lime application rate.

TLOPMENT PLANTS APPROVE FOSION AND STORES JYTHE HOURS JOOL

DATE 600' SCALE MAP NO.

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND

Willia Z. Whalef. 1-4-07

1/3/07 . MOREAU OF ENVIRONMENTAL SERVICES DATE CHIEF, STORMWATER MANAGEMENT DIVISION



ENGINEERS **PLANNERS** Scientists CONSTRUCTION MANAGERS 10 North Park Drive HUNT VALLEY MD 21030 PHONE: (410) 316-7800 Fax: (410) 316-7817

www.kci.com

DES: SA DRN: KP CHK: SA DATE:1/2/0 BY NO. REVISION

EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

BLOCK NO.

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS NORTH CHATHAM ROAD CULVERT SEDIMENT REMOVAL

MAINTENANCE PROJECT

SHEET <u>2</u> of <u>2</u>

SCALE

AS SHOWN