

21.0 STANDARDS AND SPECIFICATIONS TOPSOIL

Definition

Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation. <u>Purpose</u>

To provide a suitable soil medium for vegetable 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 This practice is limited to areas having 2:1 or flatter

a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth. b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish

c. The original soil to be vegetated contains material toxic to plant growth.

d. The soil is so acidic that treatment with

continuing supplies of moisture and plant nutrients.

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 plans.

Construction and Material Specifications

t. 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 following:

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 a soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture 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 that 1 and 1/2" in

ii. 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 distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.

II. For sites having disturbed areas under 5 acres:

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

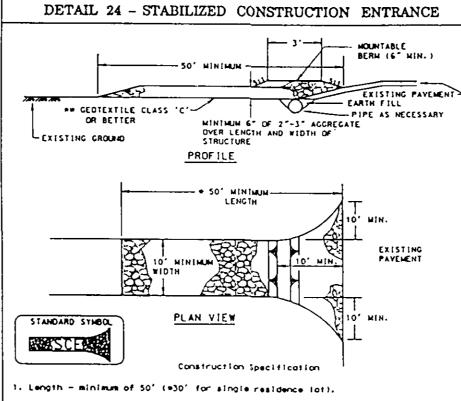
V. Topsoil Application

i. 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.

Topsoil shall be uniformly distributed in a 4" $8^{\prime\prime\prime}$ layer and lightly compacted to a minimum $^{\circ}$.ckness of $4^{\prime\prime\prime}$ Spreading shall be performed in such a mann r that sodding or seeding can proceed with a minimum 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 or water packets.

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

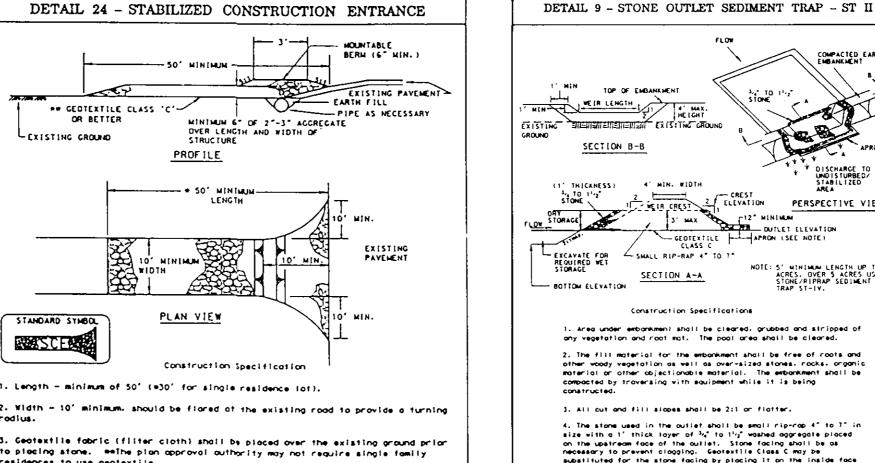


. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. methe plan approval authority may not require single family

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

. Surface Water - all surface water flowing to an 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 slapes and a minimum of 6" of stone over the pipe. Pipe has to be sized occording 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.

i. Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Yehicles leaving the site must travel over the entire length of the stabilized construction entrance. MARYLAND DEPARTMENT OF ENVIRONMEN U.S. DEPARTMENT OF ACRICULTURE SOIL CONSERVATION SERVICE HOFFASTERHINGS THENESDANAM RETAR



3. All cut and fill slopes shall be 2:1 or flatter. 4. The stone used in the outlet shall be small rip-rap 4" to 1" in alize with a 1' thick layer of $^{3}v_{a}^{a}$ to $^{1}v_{a}^{a}$ washed aggregate placed on the upstream face of the outlet. Stone facing shall be as necessary to prevent clogging. Geotextile Class C may be substituted for the stone facing by placing it on the inside face 5. Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to one half of the wet storage depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that if will not enade. 6. The atructure shall be inspected periodically and after each rain and 7. Construction of trops shall be carried out in such a monner that sediment pollution is aborted. Once constructed, the top and outside foce of the sepankeent shall be stabilized with seed and mutch. Points of concentration inflow shall be protected in accordance with Grade Stabilization Structure criteria. The remainder of the interior slopes should be stoblized (one time with seed and mulch upon trop completion and monitored and maintained erosion. E. The structure shall be devatered by approved methods, removed and the 9. Refer to Section D for specifications concerning trap dewatering. 10. Minimum trap depth shall be measured from the weir elevation- The elevation of the top of any dike directing water into the trop must equal or exceed the elevation of the trop embarkment. 12. Geotextile Class C shall be placed over the bottom and sides of the outlet channel prior to the placement of stone. Sections of filter cloth must overlap at least 1' with the section nearest the entrance placed on top. The filter cloth shall be embedded at least 5' into existing ground at the entrance 13. Dutlet - An outlet shall be provided. Including a means of conveying the

COMPACTED EARTH
EMBANKMENT

CREST PERSPECTIVE VIEW

-12" MINIMUM

DUTLET ELEVATION



three inches of soil.

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.

discing or other acceptable means before seeding, if not previously

SOIL AMENDMENTS: In lieu of soil test recommendations, use one of the following schedules: 1) Preferred-Apply 2 tons per acre dolomitic limestone (92 lbs/

100 sq.ft.) and 600 lbs per acre 10-10-10 fertilizer (14 lbs./

1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil. At the time of seeding, apply 400 lbs. per acre 30-0-0 ureaform fertilizer (9 lbs/1000 sq.ft.) 2) Acceptable-Apply 2 tons per acre dolomatic limestone (92 lbs/ 1000 sq.ft.) and apply 1000 lbs. per acre 10-10-10- fertilizer (23 lbs./1000 sq.ft.) before seeding. Harrow or disc into upper

SEEDING: For the periods March 1 thru April 30, and August 1 thru October 15, seed with 60 lbs. per acre (1.4 lbs/1000 sq.ft.) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs. Kentucky 31 Tall Fescue per acre and 2 lbs. per acre (.05 lbs./1000 sq.ft.) of weeping lovegrass. During the period of October 16 thru February 28, protect site by: Option (1) 2 tons per acre well anchored straw mulch 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 mulch with 2 tons/acre well anchored

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 slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq.ft.) for anchoring.

MAINTENANCE: Inspect all seeded areas and make needed repairs, replacements and reseedings.

TEMPORARY SEEDING NOTES

SEEDBED PREPARATION: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, if not previously

SOIL AMENDMENTS: Apply 600 lbs. per acre 10-10-10 fertilizer (14 lbs./1000 sq.ft).

SEEDING: For periods March 1 thru April 30 and from August 15 thru November 15, seed with 2 1/2 bushel per acre of annual rye (3.2 lbs./1000 sq.ft.) For the period May 1 thru August 14, seed with 3 lbs. per acre of weeping lovegrass (.07 lbs./1000 sq.ft.). For the period November 1 thru February 28, protect site by applying 2 tons per 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 per acre (70 to 90 lbs./1000 sq.ft.) of unratted 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 slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq.ft.) for anchoring.

REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT

Total Area of Site: Z.90GAc. Area Disturbed: 2.33Ac. Area to be roofed or paved: 0.58Ac. Area to be vegetatively stabilized: 1.75Ac. 2365cy 2365 cu 2408 cu 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. 9. Additional sediment control must be provided, if deemed necessary by the Howard County DPW 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

SEDIMENT AND EROSION CONTROL NOTES

Sediment Control Division prior to the start of any construction

1. A minimum of 48 hours notice must be given to the Howard

according to the provisions of this plan and are to be in

3. Following initial soil disturbance or redisturbance, permanent or

conformance with the 1994 MARYLAND STANDARDS AND SPECS.

FOR SOIL EROSION AND SEDIMENT CONTROL and revisions thereto.

a) 7 calendar days for all perimeter sediment control stuctures,

dikes, perimeter slopes and all slopes greater than 3:1

b) 14 days as to all other disturbed or araded areas on the

signs posted around their perimeters in accordance with Vol. 1, Chapter 7, of the HOWARD COUNTY DESIGN MANUAL, Storm

specified above, in accordance with the 1994 MARYLAND STAND-

Temporary stabilization with mulch alone can only be done when

recommended seeding dates do not allow for proper germination

to be maintained in operative condition until permission for their

removal has been obtained from the Howard County Sediment

ARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT

CONTROL for permanent seedings, sod, temporary seeding

6. All sediment control structures are to remain in place and are

4. All sediment traps/basins shown must be fenced and warning

5. All disturbed areas must be stabilized within the time period

County Department of Inspections, Licenses and Permits,

2. All vegetative and structural practices are to be installed

temporary stabilization shall be completed within:

(313-1855)

and mulching (Sec G).

Control Inspector.

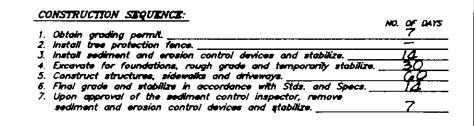
7. SITE ANALYSIS:

and establishment of grasses.

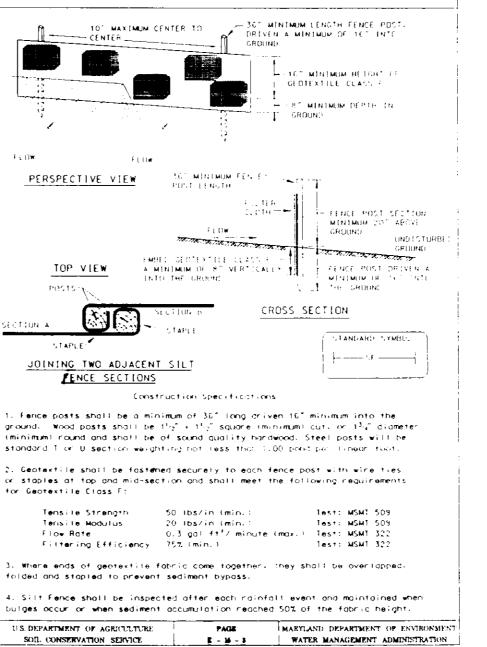
11. Trenches for the construction of utilities is limited to three pipe lengths or that which shall be back-filled and stabilized within one working day, whichever is shorter.

12. The total amount of silt fence = 3101f

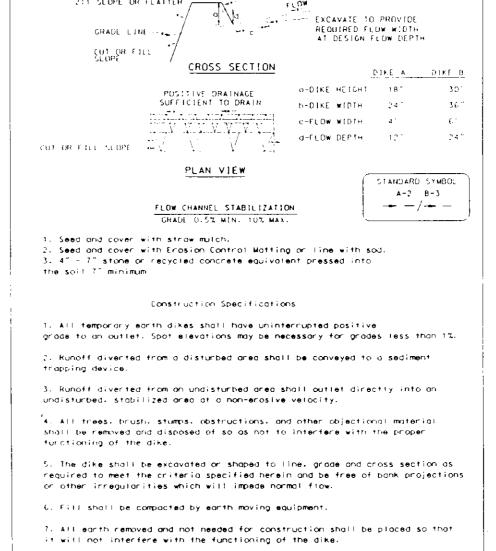
* It is the responsibility of the contractor to identify the spoil/borrow site and notify and gain approval from the sediment control inspector of the site and it's grading permit number at the time of construction.



· Delay construction of houses on lots: _____ See single lot sediment control detail, this sheet.



DETAIL 22 - SILT FENCE



8. Inspection and maintenance must be provided periodically and after

PAGE MARYLAND DEPARTMENT OF ENVIRONMENT

A = 1 = 6 WATER MANAGEMENT ADMINISTRATION

U.S. DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

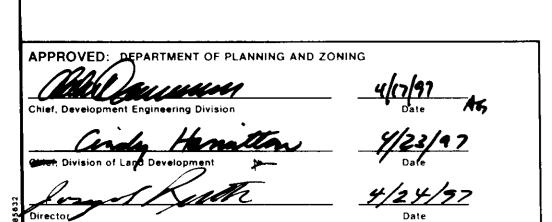
DETAIL 1 - EARTH DIKE

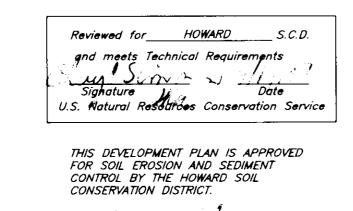
ב ביו SLOPE OR FLATTER

FLOW

OWNER/DEVELOPER

100 INVESTMENT LIMITED PARTNERSHIP 8835-P Columbia 100 Parkway Columbia, Maryland 21045





DEVELOPER'S/BUILDER'S CERTIFICATE

"I/We certify that all development and construction will be done according to this plan of development and plan for sediment and erosion control and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District or their authorized agents, as are deemed

necessary Muhail

ENGINEER'S CERTIFICATE

I hereby certify that this plan for Sediment and Erosion Control represents a practical and workable plan based on my personal knowledge of the site condtions and that it was prepared in accordance with the requirements of the Howard Soil Conserva-



