

21.0 STANDARDS AND SPECIFICATIONS

<u>FOR</u> **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

Conditions Where Practice Applies I. 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 continuing supplies of moisture and plant nutrients.

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

d. The soil is so acidic that treatment with

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

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 following:

i. 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

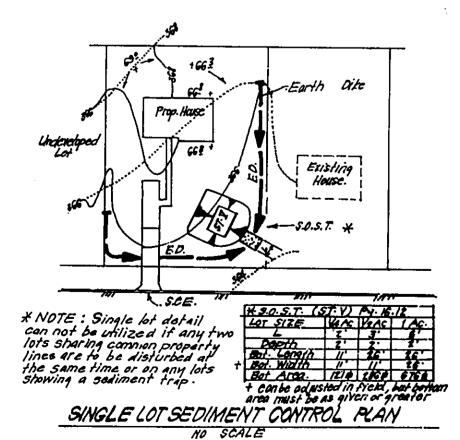
amendments as specified in 20.0 Vegetative Stabilization Section I - Vegetative Stabilization Methods and Materials.

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

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" -" 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 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 pockets.

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.



APPROVED: DEPARTMENT OF PLANNING AND ZONING hief, Division of Land Development and Research 🥆 🏠

PERMANENT SEEDING NOTES

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

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

SOIL AMENDMENTS: In lieu of soil test recommendations, use one of 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./ 100 sq.ft.) and out los per acre 10-10-10 tertilizer (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

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 November 13, seed with 2 1/2 busines per dure of distributing 1982. Ibs./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

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.

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

DETAIL 1 - EARTH DIKE 2:1 SLOPE OR FLATTER - 2:1 SLOPE OR FLATTER DIKE A DIKE B O-DIKE HEIGHT 10" b-DIKE WIDTH 24" C-FLOW WIDTH 4' d-FLOW DEPTH 12" PLAN VIEW STANDARD SYMBOL - -/- -. Seed and cover with strow mutch. . Seed and cover with Erasian Control Matting or line with sod. 3. 4" - 7" stone or recycled concrete equivalent pressed into Construction Specifications 1. All temporary earth dikes shall have uninterrupted positive grade to an outlet. Spot elevations may be necessary for grades less than 1% 2. Runoff diverted from a disturbed area shall be conveyed to a sediment 3. Runoff diverted from an undisturbed area shall outlet directly into an undisturbed, stabilized area at a non-erosive velocity 4. All trees, brush, stumps, obstructions, and other objectional material shall be removed and disposed of so as not to interfere with the proper 5. The dike shall be excavated or shaped to line, grade and cross section as required to meet the criterio specified herein and be free of bank projections or other irregularities which will impede normal flow. 6. Fill shall be compacted by earth moving equipment. 7. All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the dike. 8. Inspection and maintenance must be provided periodically and after each rain event. U.S. DEPARTMENT OF AGRICULTURE PAGE MARTLAND DEPARTMENT OF ENVIRONMENT SOIL CONSERVATION SERVICE A - 1 - 6 WATER MANAGEMENT ADMINISTRATION

Reviewed for J.S. Natural Resources Conservation Service THIS DEVELOPMENT PLAN IS APPRIVEL FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

SEDIMENT AND EROSION CONTROL NOTES

1. A minimum of 24 hours notice must be given to the Howard County Office of Inspection and Permits 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 1994 MARYLAND STANDARDS AND SPECS. FOR SOIL EROSION AND SEDIMENT CONTROL.

3. Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control stuctures, dikes, perimeter slopes and all slopes areater than 3:1 b) 14 days as to all other disturbed or graded areas on the

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

project site.

and establishment of grasses.

5. All disturbed areas must be stabilized within the time period specified above, in accordance with the 1994 MARYLAND STAND-ARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seedings, sod, temporary exedings and mulching (Sec. 6-20-1 thru 6-23-3). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination

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.

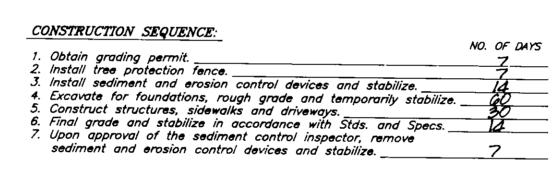
7. SITE ANALYSIS: Total Area of Site: 2.063 Ac. 1.84 Ac. Area Disturbed: Area to be roofed or paved: 0.5GAC. Area to be vegetatively stabilized: 1.28Ac._ Total Cut: Total Fill . Offsite Waste/Borrow Area Location:

8. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.

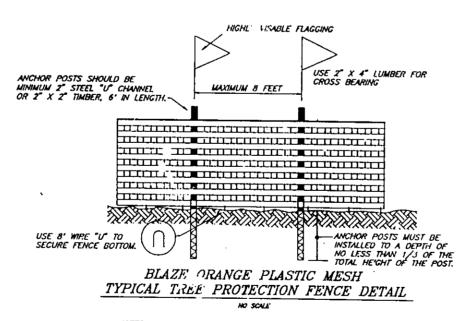
9. Additional sediment control must be provided, if deemed necessary by the Howard County DPW Sediment Control Inspector.

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

* 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.



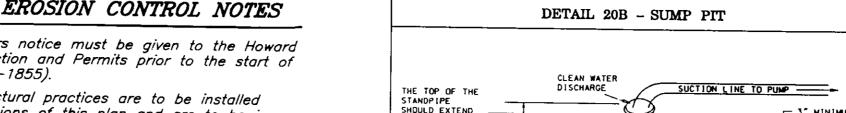
* Delay construction of houses on lots: ____ See single lot sediment control detail, this sheet.

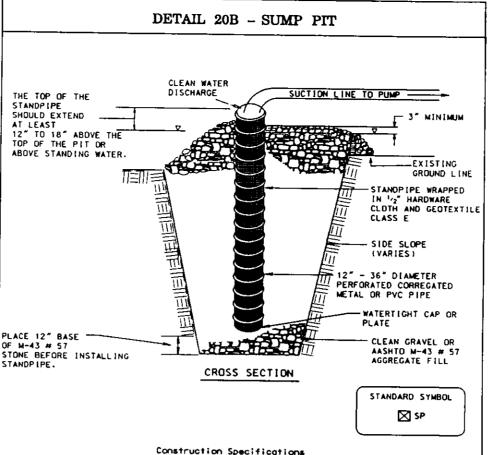


. Forest protection device only. 1. Forest protection device only.
2. Retention area will be set as part of the review probess.
3. Boundaries of retention area should be staked and flagged prior to installing device.
4. Root damage should be avoided.
5. Protection signage may also be used.
6. Device should be maintained throughout construction.

DEVELOPER'S/BUILDER'S CERTIFICATE

"! 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 vistrict or their authorized agents, as are deemed





Construction Specifications

1. Pit dimensions are variable, with the minimum diameter being 2 times the

The standpipe should be constructed by perforating a 12" to 24". diameter corrugated or PVC pipe. Then wrapping with $\frac{1}{2}$ hardware cloth and Geotextile Class E. The perforations shall be $\frac{1}{2}$ x 6"

3. A base of filter material consisting of clean gravel or #57 stone should be placed in the pit to a depth of 12". After installing the standpipe, the pit surrounding the standpipe should then be backfilled with

4. The standpipe should extend 12" to 18" above the lip of the pit or the riser crest elevation (basin dewatering only) and the filter material should extend 3" minimum above the anticipated standing water elevation.

PAGE MARYLAND DEPARTMENT OF ENVIRONMENT
D - 13 - 2 WATER MANAGEMENT ADMINISTRATION SOIL CONSERVATION SERVICE

DETAIL 9 - STONE OUTLET SEDIMENT TRAP - ST II COMPACTED EARTH TOP OF EMBANKMENT 1' MIN MEIR LENGTH 4' MAX. EXISTING SHEMEMEMEMEMEMEME EXISTING CROUND SECTION B-B PERSPECTIVE VIEW C12" MINIMUM GEDTEXTILE APRON SECTION A-A Construction Specifications 1. Area under embankment shall be cleared, grubbed and stripped of

any vegetation and root mat. The pool area shall be cleared. 2. The fill material for the embankment shall be free of roots and other woody vegetation as well as over-sized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being

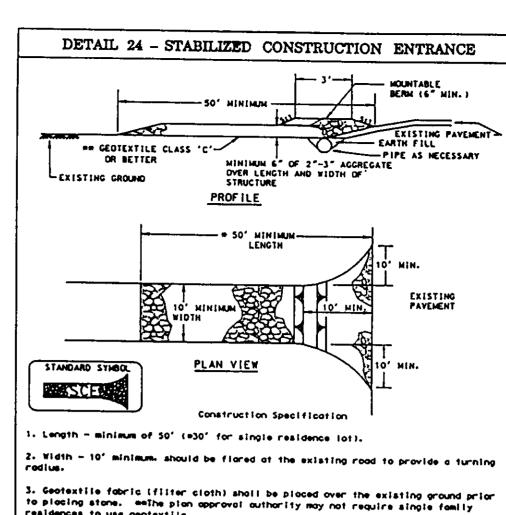
4. The atone used in the outlet shall be small rip-rop 4" to 7" in size with a 1" thick layer of $3\rho_a^a$ to $1!\rho_a^a$ washed aggregate placed on the upstream face of the outlet. Stone facing shall be as necessary to prevent clogging. Geotextile Class C may be substituted for the stone facing by placing it on the inside face of the stone outlet.

3. All cut and fill slopes shall be 211 or flatter.

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 it will not erode. 6. The structure shall be inspected periodically and after each rain and

7. Construction of trops shall be corried out in such a monner that sediment pollution is obsted. Once constructed, the top and outside face of the embankment shall be stabilized with seed and mulch. Points of concentration inflow shall be protected in occordance with Grade Stabilization Structure criteria. The remainder of the interior slopes should be stobilized (one time with seed and mulch upon trap completion and manitored and maintained erosion 8. The structure shall be dewatered by approved methods, removed and the area stabilized when the drainage area has been properly stabilized.

9. Refer to Section D for specifications concerning trap devotering. 10. Miniaum trap depth shall be measured from the weir elevation. 11. The elevation of the top of any dike directing water into the trop must 12. Geotextile Class C shall be placed over the bottom and sides of the outlet channel prior to the placement of stane. 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 6" into existing ground at the entrance of the muster former. 13. Dutlet - An outlet shall be provided, including a means of conveying the discharge in an erosion free manner to on existing stable channel.

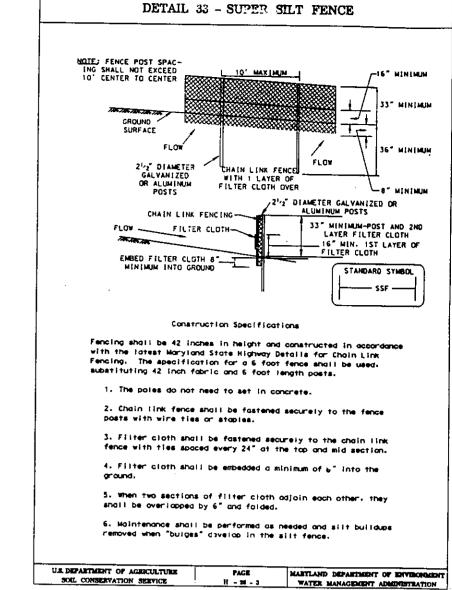


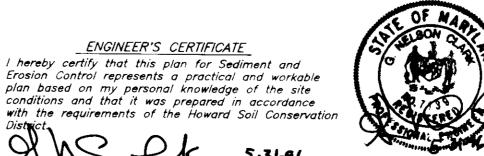
equivalent shall be placed at least 6" deep over the length and width of the

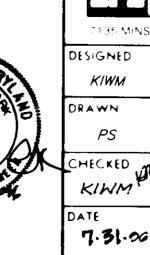
5. Surface Water - all surface water flowing to an diverted toward construction installed through the stabilized construction entrance shall be protected with a to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized occording to the amount of runoff to be conveyed. A 5" minimum will be required.

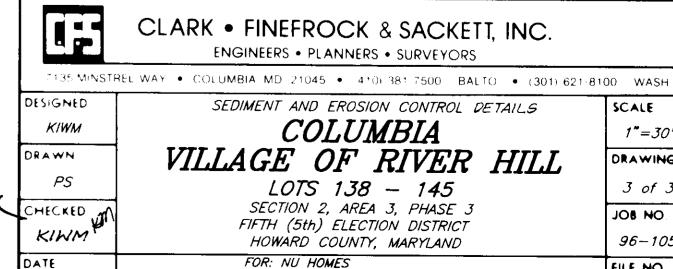
where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance

. Stone — crushed aggregate (2" to 3") or reclaimed or recycled concrete entrances shall be piped through the entrance, maintaining positive drainage. Pipe mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has 6. Location - A stabilized construction entrance shall be located at every point U.S. DEPARTMENT OF AGRICULTURE MARYLAND DEPARTMENT OF ENVIRONICENT SOIL CONSERVATION SERVICE









9891 BROKEN LAND PARKWAY, STE. 401

COLUMBIA, MARYLAND 21046-1165

90P-96-149

1"=30'

PAWING

3 of 3

96-105

96-105₉₈

JOB NO.

FILE NO.