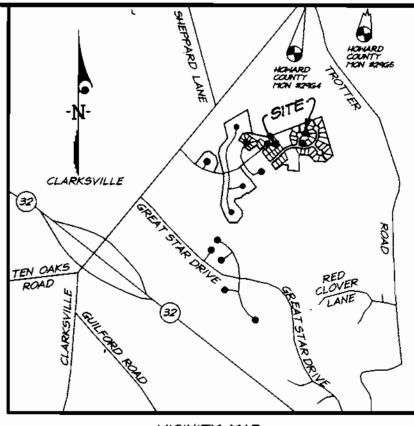


LEGEND CONTOUR INTERVAL
EXISTING CONTOUR
PROPOSED CONTOUR
DIRECTION OF DRAINAGE STABILIZED CONSTRUCTION ENTRANCE SILT FENCE SUPER SILT FENCE SUPER DIVERSION FENCE SOF SOF

BENCHMARKS:

Howard County Monument 29G4 Intersection of MD. Rovte 108 and Trotter Road

Howard County Monument 29G5 an additional 2,544'± Northeasterly along MD. Route 108 away from Site



VICINITY MAP Scale : 1"=2000'

OWNER / DEVELOPER THE HOWARD RESEARCH AND DEVELOPMENT CORP.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

Signature Da U.S. Natural Hesources

Conservation Service

This Development Plan is Approved

For Soil Erosion AND Sediment

Control By The Howard Soil

Gorservation/District

according to this plan of development and plan for erosion and sediment control and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Dept. of the Environment Approved Training Program for the Control of Sediment and Erosion, before beginning the project. Laiso authorize periodic ansite inspection by the Howard Soil Conservation District or their authorized agencies, as are deemed

ENGINEER'S CERTIFICATE

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

G. Nelson Clark

8-2-99 Date

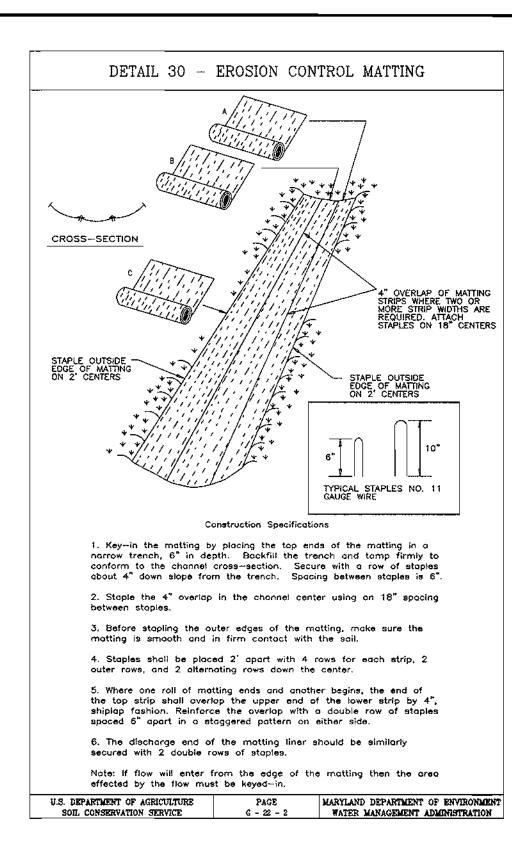
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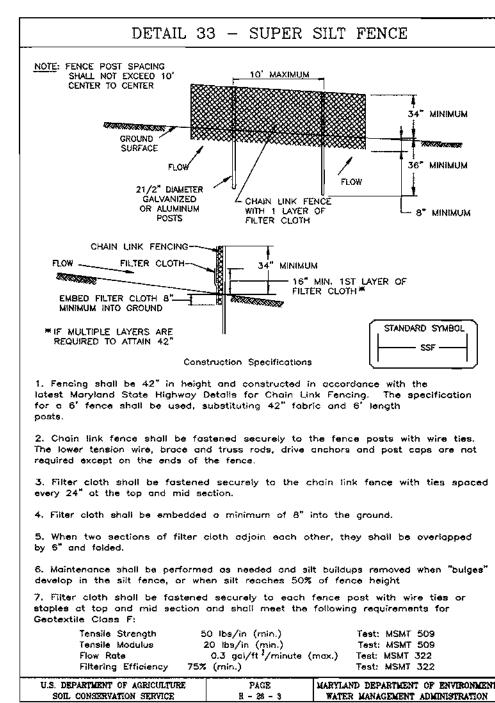
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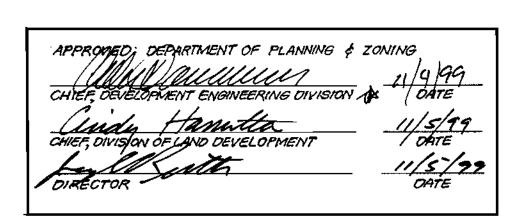
7135 MINSTREL WAY . COLUMBIA, MD 21045 . (410) 381-7500 BALT. . (301) 621-8100 WASH. SEDIMENT AND EROSION CONTROL PLAN LOTS 28, 30 AND 45 I" = 30° DRAWING

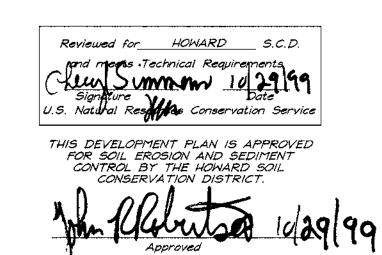
COLUMBIA VILLAGE OF RIVER HILL DRAWN 2 of 3 DSV SECTION 4 AREA 6 FIFTH (5th) ELECTION DISTRICT HOWARD COUNTY, MARYLAND CHECKED JOB NO. 99-101 FOR : RYLAND GROUP, INC. FILE NO.

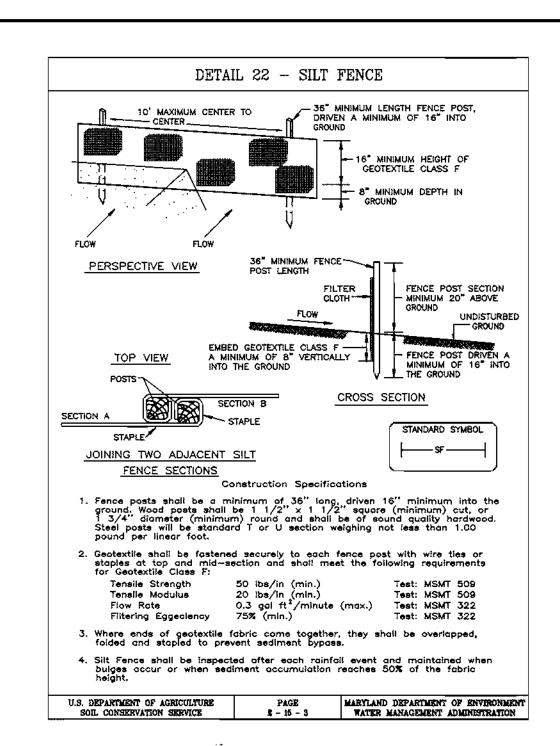
7250 Parkway Drive Hanover, Maryland 21076 99-1015E

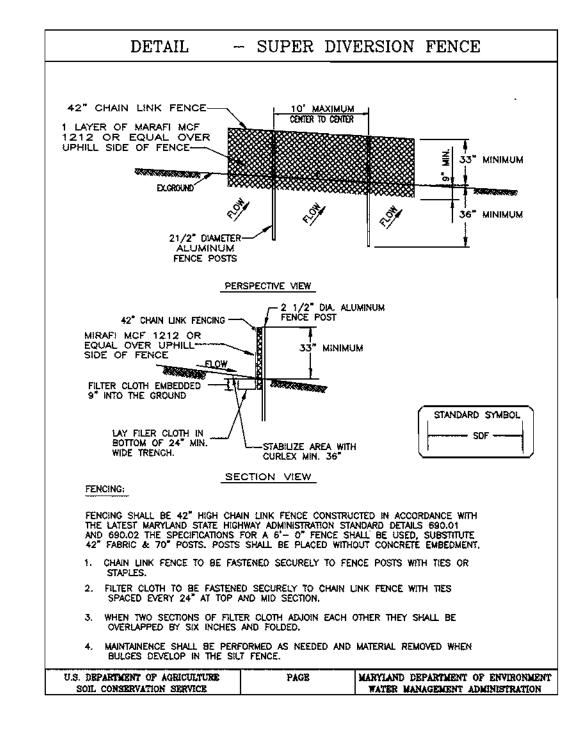


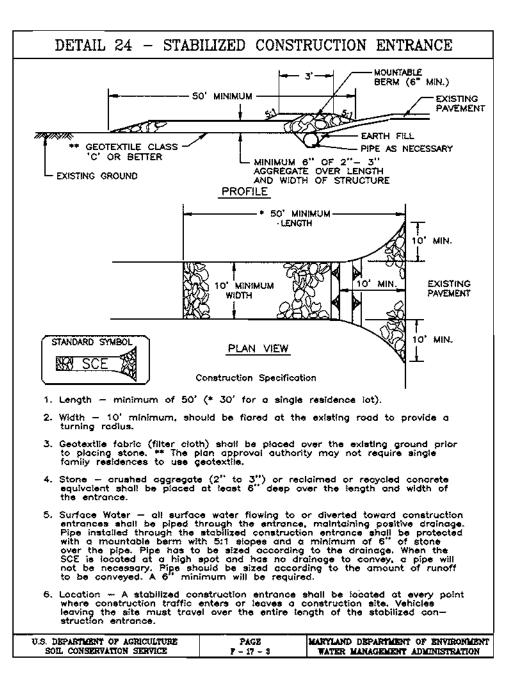












21.0 STANDARDS AND SPECIFICATIONS FOR TOPSOIL

<u>Definition</u>

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 aradation. 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

d. The soil is so acidic that treatment with

material toxic to plant growth.

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 solvaged 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

i. Topsoil shall be a loann, sandy loann, clay loann, silt loann, sandy clay loann, loanny 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 contrastina textured subsoils and shall contain less than 5% by volume of cinders, stones, siag, coarse fragments, gravel, sticks, roots, trash, or other materials larger that I and I/2" ii

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

lii. 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 soll in conjunction with tiliage operations as described in the following procedures.

II. For sites having disturbed areas under 5 ocres: i. Place topsoil (if required) and apply soil amendments as specified i<u>n 20,0 Veaetative Stabiliz</u>ation -Section I - Vegetative Stabilization Methods and Materials.

iii. For sites having disturbed areas over 5 acres: i. 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

I.5 percent by weight.

c. 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 soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has

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

ii. Place topsoil (if required) and apply soil ammendments 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.

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 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.

Topsail shall not be place while the topsail 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.

PERMANENT SEEDING NOTES

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

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 the following schedules:

1) Preferred-Apply 2 tons per acre dolomitic limestane (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

three inches of soil. SEEDING: For the periods March I thru April 30, and August I thru October 15, seed with 60 lbs. per acre (1.4 lbs/1000 sq.ft.) of Kentucky 3I Tall Fescue. For the period May I thru July 3I, seed with 60 lbs. Kentucky 3I Tall Fescue per acre and 2 lbs. per acre (.05 lbs./1000 sq.ft.) of weeping lovegrass. During the period of October 18 thru February 28, protect site by: Option (1) 2 tans per acre well anchored straw mulch and seed as soon as possible in the spring. Option (2) Use sod. Option (3) Seed with 60 ibs/acre Kentucky 3i Tall Fescue and mulch with 2 tons/acre well anchored

MULCHING: Apply I 1/2 to 2 tons per acre (70 to 90 ibs/1000 sq, ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 2/8 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,

TEMPORARY SEEDING NOTES

replacements and reseedings.

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 ocre 10-10-10 fertilizer (14 lbs./1000 sq.ft).

SEEDING: For periods March I 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 I thru August 14, seed with 3 lbs. per acre of weeping lovegrass (.07 lbs./1000 sq.ft.). For the period November I 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 I 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

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

SEDIMENT AND EROSION CONTROL NOTES

I. 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 1994 MARYLAND STANDARDS AND SPECS, FOR SOIL EROSION AND SEDIMENT CONTROL and revisions thereto.

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 greater 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 7, of the HOWARD COUNTY DESIGN MANUAL, Storm

5. All disturbed areas must be stabilized within the time period 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, sad, temporary seeding and mulching (Sec G).

Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination ond 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 7. SITE ANALYSIS:

Total Area of Site: 0.98 AC.
Area Disturbed: 0.93 AC.
Area to be roofed or paved: 0.33 AC.
Area to be vegetatively stabilized: 0.60 AC.
Total Cut
Total Fill
Offsite Waste/Borrow Area Location: *

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 neces-sary by the Howard County DPN 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

II. 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.

The total amount of silt fence = 125 L.F.
The total amount of super silt fence = 477 L.F.
The total amount of super diversion fence = 168 L.F.

*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

CONSTRUCTION SEQUENCE:

Obtain grading permit<u>.</u> . Install tree protection fenc<u>e.</u>

. Install tree protection fence.
. Install sediment and erosion control devices and stabil<u>ize.</u>
! Excavate for foundations, rough grade and tempororily stabi<u>lize.</u>
. Construct structures, sidewalks and driveways.
. Construct structures, sidewalks and driveways.
. Final grade and stabilize in accordance with Stds. and Specs.
! Upon approval of the sediment control inspector, remove

NO. OF DAYS

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 gassificat. I also authorize periodic on-site inspection by the Howard Soil Conservation District or their authorized agents, as are deemed



7.29.99

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 conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation

CLARK • FINEFROCK & SACKETT, INC. **ENGINEERS • PLANNERS • SURVEYORS** 7135 MINSTREL WAY • COLUMBIA, MD 21045 • (410) 381-7500 BALT. • (301) 621-8100 WASH. DESIGNED SCALE SEDIMENT AND EROSION CONTROL PLAN LOTS 28, 30 and 45 PC *I" = 30'* COLUMBIA DRAWN DRAWING VILLIAGE OF RIVER HILL 3 of 3 DSV SECTION 4 AREA 6 JOB NO. CHECKED FIFTH (5TH) ELECTION DISTRICT PC 99-101 HOWARD COUNTY, MARYLAND

FOR: RYLAND GROUP, INC. 7250 Parkway Drive Hanover, Maryland 21076

DATE

FILE NO.

99-101-SE

