

STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

Using vegetation as cover for barren soil to protect it from erosion. Vegetative stabilization specifications are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and runoff to downstream areas, and preserving water and resources.

CONDITIONS WHERE PRACTICE APPLIES:
This practice shall be used on denuded areas as specified in the plan and used on highly erodible or critically erodible areas. This specification is divided into Temporary Seeding, to quickly establish vegetative cover for short duration (up to one year), and Permanent Seeding, for long term vegetative cover. Examples of applicable areas for Temporary Seeding are temporary soil stockpiles, cleared areas, and left side construction phases, earth dikes, etc. and for Permanent Seeding are lawns, dunes, cut and fill slopes and other areas at final grade, former stockpile and staging areas, etc.

EFFECTS ON WATER QUALITY AND QUANTITY:
Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff, infiltration, evaporation, transpiration, percolation, and groundwater recharge. Vegetation, over time, will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth. Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by accumulating those substances present within the root zone. Sediment control devices must remain in place during grading, seedbed preparation, seeding, mulching and vegetative establishment to prevent large quantities of sediment and associated chemicals and nutrients from washing into surface waters.

SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS

A. Site Preparation

1. Install erosion and sediment control structures (either temporary or permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins.
2. Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.
3. Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed areas over 5 acres.

B. Soil Amendment (Fertilizer and Lime Specifications)

1. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas over 5 acres. Soil analysis must be performed by the University of Maryland or a recognized commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analysis.
2. Fertilizers shall be used in conjunction with lime flowing and suitable for accurate application by approved equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers shall all be delivered to the site fully labeled according to the applicable state fertilizer laws and regulations. An exception to this rule is for manure and warrants of the producer.
3. Lime materials shall be ground limestone hydrated or burnt lime may be substituted which contains at least 50% total oxide calcium oxide plus magnesium oxide. Limestone shall be ground to such fineness that at least 50% will pass through a #20 mesh sieve and 90-100% will pass through a #20 mesh sieve.

C. Seeded Preparation

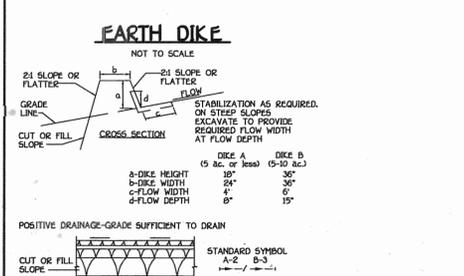
1. Temporary Seeding
 - a. Seeded preparation shall consist of loosening soil to a depth of 3" to 5" by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened it should not be used or dropped around but left in the roughest condition. Sloped areas (greater than 3%) should be tracked leaving the surface in an irregular condition with ridges running parallel to the contour and across the slope.
 - b. Apply fertilizer and lime as prescribed on the plan.
2. Permanent Seeding
 - a. Final seed conditions required for permanent vegetative establishment:
 - i. Soil pH shall be between 6.0 and 7.0.
 - ii. Soakable salts shall be less than 500 parts per million (ppm).
 - iii. The soil shall contain less than 400 city, but enough fine grained material (0.075 mm) to provide the capacity to hold a moderate amount of water. An exception to this rule is for loess or siltstone deposits to be planted, then a sandy soil (0.075 mm) plus clay) would be acceptable.
 - iv. Soil shall contain 1% minimum organic matter by weight.
 - v. Soil must contain sufficient pore space to permit adequate root penetration.
 - b. Areas previously graded in conformance with the drawings shall be checked in a true and even grade. Areas not so graded or otherwise loosened to a depth of 3" to 5" in true and even grade shall be tracked leaving the surface in an irregular condition with ridges running parallel to the contour and across the slope.
 - c. Mix soil amendments as per soil test or as included on the plan.
 - d. Mix soil amendments into the top 3-5" of topsoil by discing or other suitable means. Lawn areas should be rolled to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Where site conditions will not permit normal seeded preparation, loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface. The surface should be finished by a roller leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. The top 1-3" of soil should be loose and friable. Seeded loosening may not be necessary on newly disturbed areas.

D. Seed Specifications

1. All seed must meet the requirements of the Maryland State Seed Law. All seed shall be subject to re-testing by a recognized seed laboratory. All seed used shall have been tested within 6 months immediately previous to use.
2. Note: Seed tags shall be made available to the inspector to verify type and rate of seed used.
3. Nitrogen-fixing bacteria (probiotic) shall be applied to the seed. Incubation shall not be used later than 24 hours before seeding. Note: It is very important to keep incubation as cool as possible to maximize the rate when hydroseeding. Note: It is very important to keep incubation as cool as possible to maximize the rate when hydroseeding.

E. Methods of Seeding

1. Hydroseeding shall be uniform with hydroseeder (slurry includes seed and fertilizer), broadcast drop seeded, or a catpaw seeder.
 - a. If fertilizer is being applied at the time of seeding, the application rates amounts will not exceed the following: nitrogen maximum of 100 lbs per acre total of soluble nitrogen (P205 (phosphorous): 200 lbs/acre; K2O (potassium): 200 lbs/acre).
 - b. Lime - use only ground agricultural limestone. Up to 3 tons per acre may be applied by hydroseeding. Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not apply lime to areas where it will be applied by other means.
 - c. Seed and fertilizer shall be mixed on site and seeding shall be done immediately and uniformly.
2. Dry Seeding: This includes use of conventional drop or broadcast spreaders.
 - a. Seed spread rate shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summary or Tables 222 or 223. The seeded area shall then be rolled with a weighted roller to provide good seed to soil contact.
 - b. Seed shall be applied to two directions perpendicular to each other.
 - c. Apply half the seeding rate in each direction.
3. Drill or Catpaw Seeding: Mechanized seeders that apply and cover seed with soil.
 - a. Catpaw seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seeded must be firm after planting.
 - b. Where practical seed shall be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.
4. Mulch Specifications (in order of preference):
 - a. Straw shall consist of thoroughly threshed wheat, rice or oat straw, reasonable bright in color, and shall not be dusty, or excessively dirty, and shall be free of noxious weed seeds as specified in the Maryland Seed Law.
 - b. Wood Closures Fiber:
 - i. WCFM shall consist of specially prepared wood cellulose processed into a uniform coarse fiber.
 - ii. WCFM shall be dried green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
 - iii. WCFM, including dye, shall contain no germination or growth inhibiting factors.
 - iv. WCFM shall be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material shall form a blotter-like ground cover on application, having moisture absorption and percolation properties and shall cover and hold grass seed in contact with the soil without hindering the growth of the grass seedlings.
 - v. WCFM material shall contain no elements or compounds at concentrations levels that will be detrimental to the grass seedlings.
 - vi. WCFM must conform to the following physical requirements: fiber length to be 100% greater than 1/8 inch; moisture content of 10% maximum and water holding capacity of 90% minimum.
 - c. Note: Only wood cellulose fiber shall be used in areas where a seedling is desired.
5. Mulching Seeded Areas - Mulch shall be applied to all seeded areas immediately after seeding.
 - a. If grading is completed outside of the seeding season, mulch shall be applied as prescribed in this section, which maintained until the seeding season returns and seeding can be performed in accordance with these specifications.
 - b. When straw mulch is used, it shall be spread over all seeded areas at the rate of 2 tons/acre. Mulch shall be applied to a uniform loose depth of between 1" and 2". Mulch applied shall achieve a uniform distribution and depth so that the soil surface is not exposed to sun. If a mulch anchoring tool is to be used, the rate should be increased to 2.5 tons/acre.
 - c. Wood cellulose fiber mulch shall be applied at a net dry weight of 1500 lbs. per acre. The wood cellulose fiber mulch shall be mixed with water, and the mixture shall contain a maximum of 50 lbs. of wood cellulose fiber per 100 gallons of water.
 - d. Securing Straw Mulch Mulch Anchoring: Mulch anchoring shall be performed immediately following mulch application to minimize loss by wind or water. This may be done by one of the following methods listed by preference, depending upon size of area and erosion hazard:
 - i. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil. It is most effective when used on slopes greater than 3%. It is most effective with large areas, but is limited to slopes where equipment can operate safely. If used on sloping areas, it shall be used on a contour if possible.
 - ii. Wood cellulose fiber mulch may be used for anchoring straw. The fiber binder shall be applied at the rate of 100 lbs. per 100 gallons of water.
 - e. Application of liquid binders shall be heavier at the edges where wind catches much, such as in valleys and crests of slopes. The remainder of the slope shall be covered with liquid binders - synthetic binders - such as Acryl-DLR (Dyckack), DCA-70 (Form Inter-Tax II), Terra-Tack AR or other approved equal may be used at rates recommended by the manufacturer to anchor mulch.
 - f. Lightweight plastic netting may be applied over the mulch according to manufacturer's recommendations. Netting is usually available in rolls 4' to 12' feet wide and 300 to 3,000 feet long.



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 (311-1929).
2. ALL VEGETATIVE ANTI-EROSION 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 SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND SECTIONS 17 AND 18 OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE CALENDAR DAYS FOR ALL PERMETER SEDIMENT CONTROL STRUCTURES, DICES, PERMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1, TO 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN 7 CALENDAR DAYS FOR ALL PERMETER SEDIMENT CONTROL STRUCTURES, DICES, PERMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1, TO 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4. ALL SEDIMENT TRAP/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THE PERIMETER IN ACCORDANCE WITH THE 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 SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT AND 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 PERMITS FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
7. SITE ANALYSIS:

TOTAL AREA OF SITE	0.42 ACRES
AREA DISTURBED	0.25 ACRES
AREA TO BE ROOFED OR PAVED	0.06 ACRES
AREA TO BE VEGETATIVELY STABILIZED	0.19 ACRES
TOTAL CUT	300 CUBIC YDS.
TOTAL FILL	300 CUBIC YDS.
8. OFFSITE WASTE/BORSORUM AREA LOCATION
9. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
10. APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERMETER SEDIMENT CONTROL STRUCTURES, 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 WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

SEQUENCE OF CONSTRUCTION

1. OBTAIN GRADING PERMIT.
2. INSTALL SEDIMENT CONTROLS AS SHOWN ON PLAN G-1 (BY).
3. CLEAR AND GRUB TO LIMITS OF DISTURBANCE AND MASS GRADE TO SUB-BASE.
4. INSTALL TEMPORARY SEEDING.
5. CONSTRUCT UTILITIES (WATER, SEWER AND HOUSE CONNECTIONS).
6. CONSTRUCT BUILDINGS.
7. GRADE ROADS, CURBS, AND SIDEWALKS AND INSTALL SUB-BASE AND SIDEWALKS.
8. FINE GRADE SITE AND INITIAL PERMANENT SEEDING AND LANDSCAPE.
9. REMOVE SEDIMENT CONTROL DEVICES AS UPLAND AREAS ARE STABILIZED AND PERMISSION IS GRANTED BY E/S CONTROL INSPECTOR.

PERMANENT SEEDING NOTES

ALL DISTURBED AREAS SHALL BE STABILIZED AS FOLLOWS:

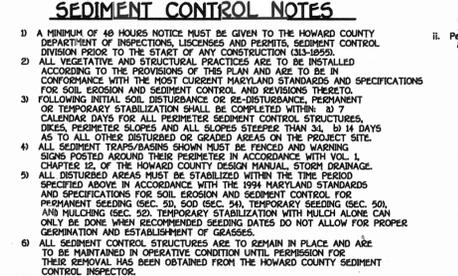
SEEDBED PREPARATION
LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING.

SOIL AMENDMENTS
APPLY TWO TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS./1,000 SQ.FT.) AND 100 LBS. PER ACRE 0-20-20 FERTILIZER (24 LBS./1,000 SQ.FT.) BEFORE SEEDING HARROW OR DISC INTO UPPER THREE INCHES OF SOIL. AT THE TIME OF SEEDING, APPLY 400 LBS. PER ACRE 30-0-10 UREAPRO FERTILIZER (9 LBS./1,000 SQ.FT.) AND 500 LBS. PER ACRE (15 LBS./1,000 SQ.FT.) OF 10-20-20 FERTILIZER.

SEEDING
FOR THE PERIODS MARCH 1 THROUGH APRIL 30, AND AUGUST 1 THROUGH OCTOBER 15, SEED WITH 100 LBS. PER ACRE (2.5 LBS./1,000 SQ.FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THROUGH JULY 31, SEED WITH 60 LBS./ACRE (1.5 LBS./1,000 SQ.FT.) KENTUCKY 31 TALL FESCUE AND 2 LBS. PER ACRE (0.05 LBS./1,000 SQ.FT.) OF WEEPING LOVEGRASS. (FOR THE PERIOD OF OCTOBER 15 THROUGH FEBRUARY 28, PROJECT SITE, BY OPTION D - TWO TONE PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OPTION E) - USE 500 LBS. OPTION D - SEED WITH 100 LBS./ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH TWO TONS/ACRE WELL ANCHORED STRAW. ALL 50/50'S SHOULD BE HYDROSEEDED.

MULCHING
APPLY 1 TO 2 TONS PER ACRE (60 TO 90 LBS./1,000 SQ.FT.) OF UNNOTTED SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING. AND/OR MULCH IMMEDIATELY AFTER APPLICATION USING 200 GALLONS PER ACRE OF GAL./1,000 SQ.FT. OF EMULSIFIED ASPHALT ON FLAT AREAS, ON SLOPES 8 FEET OR HIGHER USE 340 GALLONS PER ACRE OF GAL./1,000 SQ.FT. FOR ANCHORING.

MAINTENANCE
INSPECT ALL SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND SUCCESSIONS.
* FOR PUBLIC PONDS SUBSTITUTE CHEVING CROWNWEED AT 15 LBS./ACRE AND KENTUCKY 31 TALL FESCUE AT 40 LBS./ACRE AS THE SEEDING REQUIREMENT. OPTIMUM SEEDING DATE FOR THIS CULTURE IS MARCH 1 TO APRIL 30.



TEMPORARY SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.

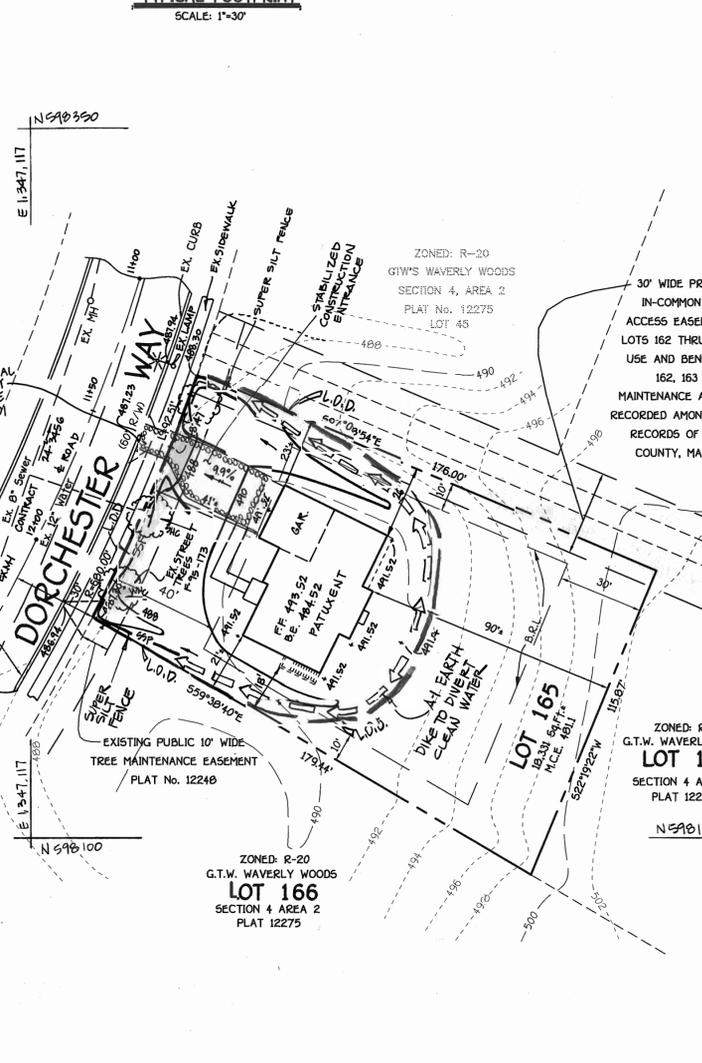
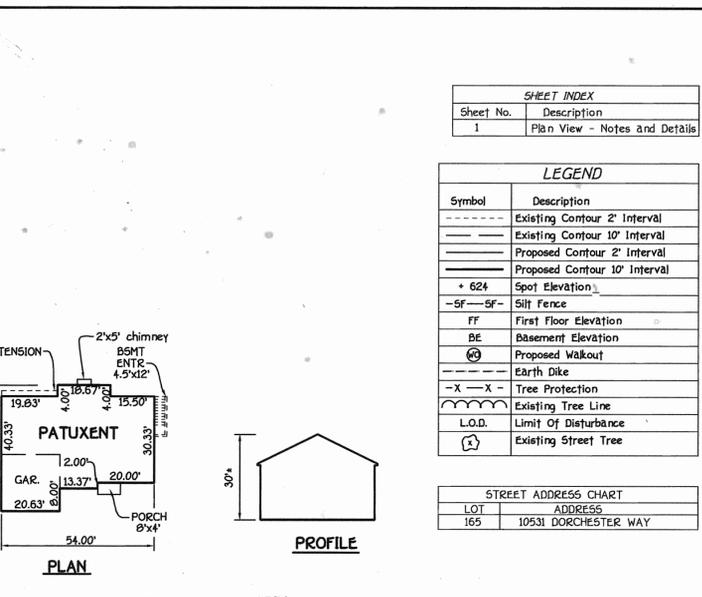
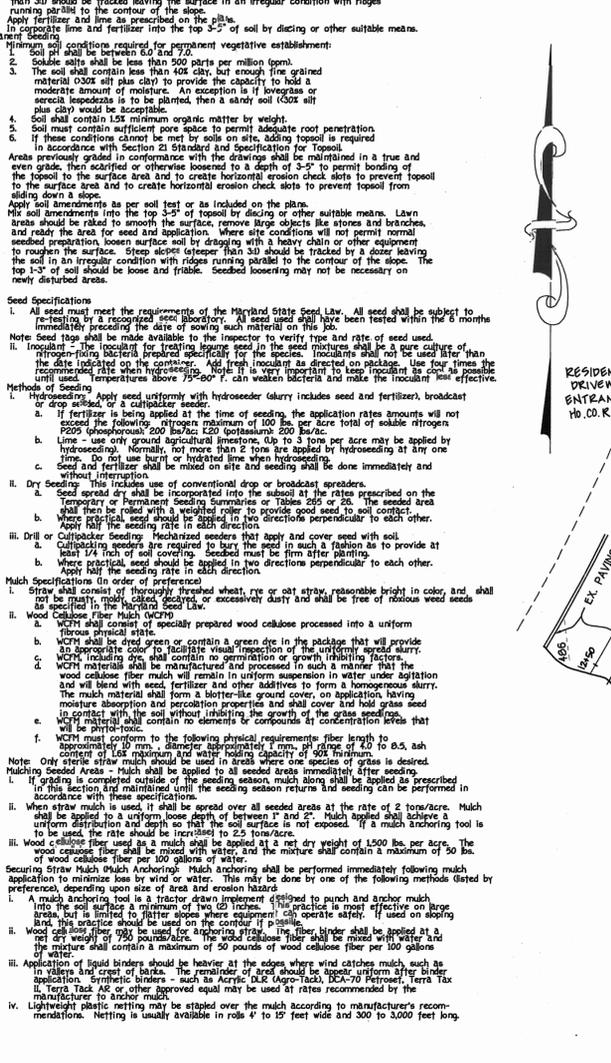
SEEDBED PREPARATION
LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS
APPLY 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1,000 SQ.FT.)

SEEDING
FOR THE PERIODS MARCH 1 THROUGH APRIL 30, AND AUGUST 1 THROUGH NOVEMBER 15, SEED WITH 1 BUSHEL PER ACRE OF ANNUAL RYE (3.5 LBS./ACRE OF WEEPING LOVEGRASS (107 LBS./1,000 SQ.FT.) FOR THE PERIOD NOVEMBER 15 THRU FEBRUARY 28, PROJECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE 500.

MULCHING
APPLY 1 TO 2 TONS PER ACRE (70 TO 90 LBS./1,000 SQ.FT.) OF UNNOTTED SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING. ANCHORING TOOL OR 210 GALLONS PER ACRE IS (GAL/1,000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS ON SLOPES 8 FEET OR HIGHER, USE 340 GALLONS PER ACRE OF GAL./1,000 SQ.FT. FOR ANCHORING.

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



SHEET INDEX

Sheet No.	Description
1	Plan View - Notes and Details

LEGEND

Symbol	Description
---	Existing Contour 2' Interval
---	Existing Contour 10' Interval
---	Proposed Contour 2' Interval
---	Proposed Contour 10' Interval
+ 624	Spot Elevation
-SF-SF-	Silt Fence
FF	First Floor Elevation
BE	Basement Elevation
---	Proposed Walkout
---	Earth Dike
-X-X-	Tree Protection
---	Existing Tree Line
L.O.D.	Limit Of Disturbance
---	Existing Street Tree

STREET ADDRESS CHART

LOT	ADDRESS
165	10531 DORCHESTER WAY

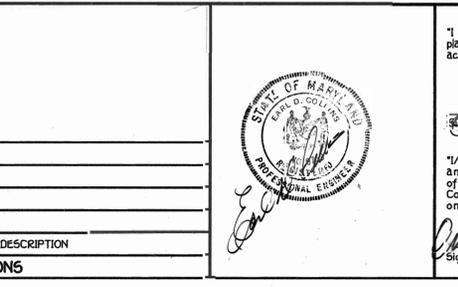
GENERAL NOTES

1. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION INSPECTION DIVISION AT (410) 313-1860 AT LEAST (5) FIVE WORKING DAYS PRIOR TO THE START OF CONSTRUCTION.
2. THE CONTRACTOR SHALL NOTIFY "M&S UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
3. THIS PROJECT IS SUBJECT TO HOWARD COUNTY FILES: F95-179, P95-07, AND 594-07
4. BOUNDARY SURVEY PERFORMED BY: FISHER COLLINS AND CARTER INC. ON OR ABOUT AUGUST 1990.
5. TOPOGRAPHY SHOWN HEREON IS FROM FINAL ROAD CONSTRUCTION DRAWINGS F95-183 DATED MAY, 1995.
6. HORIZONTAL AND VERTICAL CONTROL DATUM IS BASED ON HOWARD COUNTY GEODETIC CONTROL STATIONS:
HOWARD COUNTY MONUMENT 1012 N 610601770 ELEV. = 445.577
HOWARD COUNTY MONUMENT 16E1 N 593250322 E 1340192710 ELEV. = 509.924
7. ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE DEVELOPER'S EXPENSE.
8. THIS PLAN IS FOR HOUSE SITING AND LOT GRADING ONLY. IMPROVEMENTS SHOWN WITHIN THE RIGHT-OF-WAYS OF THIS S.D.P. ARE NOT USED FOR CONSTRUCTION. FOR CONSTRUCTION SEE APPROVED ROAD CONSTRUCTION PLANS F95-173, AND/OR APPROVED WATER AND SEWER PLANS CONTRACT NO. 24-345-16.
9. CONTRACTOR WILL CHECK SEWER HOUSE CONNECTION ELEVATION AT EASEMENT LINE PRIOR TO CONSTRUCTION.
10. STORMWATER MANAGEMENT OBLIGATIONS ARE FULFILLED UNDER F95-173.
11. SITE ANALYSIS DATA:

A. TOTAL PROJECT AREA:	0.42 AC.
B. AREA OF PLAN SUBMISSION:	0.42 AC.
C. LIMIT OF DISTURBED AREA:	0.25 AC.
D. PRESENT ZONING:	R-20
E. PROPOSED USE FOR SITE AND STRUCTURES:	SINGLE FAMILY DETACHED D.U.
F. OPEN SPACE REQUIREMENTS ARE PROVIDED UNDER F95-173.	
12. THIS SITE WILL UTILIZE EX. PUBLIC WATER & SEWER.
13. NO WETLANDS EXIST ON SITE.
14. NO FLOODPLAIN EXIST ON SITE.
15. CONTRACTOR TO VERIFY TOPOGRAPHY BEFORE STARTING CONSTRUCTION.

REVISIONS

DATE	DESCRIPTION



ENGINEER'S CERTIFICATE

I certify that this plan for erosion and sediment 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.

Paul D. Kelly 12-27-99
Signature of Engineer (Print name below signature) Date

DEVELOPER'S CERTIFICATE

I/We certify that all development and construction will be done according to this plan, and that any 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.

Paul D. Kelly 12-27-99
Signature of Developer (Print name below signature) Date

OWNER

CARRIGAN HOMES
9856 DIVERSIFIED LANE
ELLICOTT CITY, MARYLAND 21042

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Craig H. Miller 2/19/00
Chief, Division of Land Development Date

John K. Roberts 2-14-00
Date

John K. Roberts 2-14-00
Date

PROJECT	SECTION	LOT NO.
GTW'S WAVERLY WOODS	5	165

PLAT	BLOCK NO.	ZONE	TAX MAP ZONE	ELEC. DIST.	CENSUS TR.
12714	6 & 12	R-20	15	THRD	600

WATER CODE	SEWER CODE
H-05	59930000

SITE DEVELOPMENT PLAN

LOT 165
GTW'S WAVERLY WOODS
SECTION 5
ZONING: R-20

TAX MAP No: 16 PARCEL: 21
THIRD ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
SCALE: 1"=30' DATE: DECEMBER, 1999
SHEET 1 OF 1