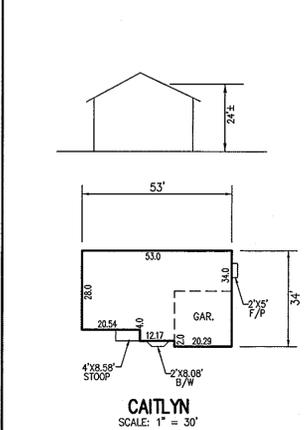
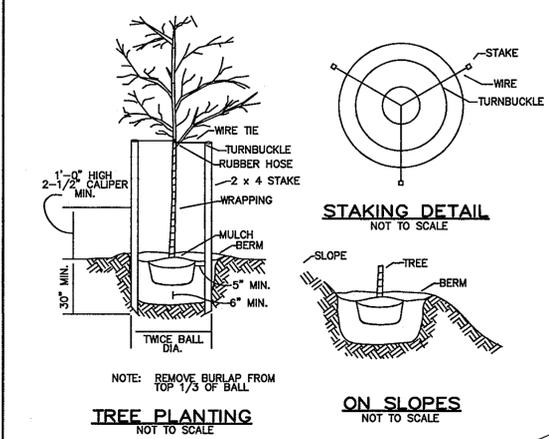


SCHEDULE A - PERIMETER LANDSCAPE EDGE				
PERIMETER	P-1	P-2	P-3	P-4
CATEGORY	ADJACENT TO PERIMETER PROPERTIES			
LANDSCAPE TYPE	A	A	A	A
LINEAR FEET OF PERIMETER	557 L.F.	108 L.F.	310 L.F.	250 L.F.
NUMBER OF PLANTS REQUIRED				
SHADE TREES	(557/60' = 9.2) = 10	(108/60' = 1.8) = 2	(310/60' = 5.1) = 6	(250/60' = 4.1) = 5
CREDIT FOR WALL, FENCE OR BERM	0	0	0	0
CREDIT FOR EXISTING VEGETATION	YES	YES	YES	YES
SHADE TREES	10	2	5	4
EVERGREEN TREES	0	0	0	0
NUMBER OF PLANTS PROVIDED	(3 REQUIRED-2 CREDIT)=1	(3 REQUIRED-1 CREDIT)=2	(5 REQUIRED-4 CREDIT)=1	(5 REQUIRED-4 CREDIT)=1

LANDSCAPING PLANT LIST (THIS SHEET)			
QTY.	KEY	NAME	SIZE
2		EXISTING TREES SHADE AND EVERGREEN (CREDIT)	2 1/2" - 3" CALIPER FULL CROWN, B&B

A Total Landscape Surety For 2 Shade Trees @ \$300/each = \$600.00 Will Be Provided With The Builder's Garding Permit.
 Lot 3 (1 Shade Trees @ \$300) = \$300.00
 Lot 2 (1 Shade Trees @ \$300) = \$300.00



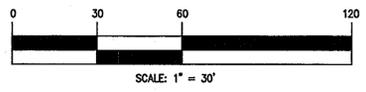
BOONE FARM LOT 74
DAVID D. & TERESA A. TAMBURRINO
P.B. 7882
LIBER 2419 FOLIO 455

LEGEND	
	EXISTING CONTOUR 2' INTERVAL
	PROPOSED CONTOUR 2' INTERVAL
	SPOT ELEVATION
	WALKOUT BASEMENT
	NON ROOFTOP DISCONNECT
	SILT FENCE
	LIMIT OF DISTURBANCE
	PROPOSED LANDSCAPING PER THIS SITE PLAN
	EXISTING TREES

SOILS LEGEND		
SOIL	NAME	CLASS
McC	MOUNT LUCAS SILT LOAM, STONEY, 8 TO 15% SLOPES	B
GhB	GLEG URBAN LAND COMPLEX, LOAMY, 0-8% SLOPES	B

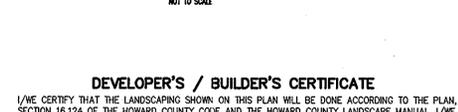
PROFESSIONAL CERTIFICATION
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 9753, EXPIRATION DATE: 2/28/13.
 EARL D. COLLINS 11/26/12

STORMWATER MANAGEMENT PRACTICES			
LOT NO.	STREET ADDRESS	ROOFTOP DISCONNECT (N-1)	NON-ROOFTOP DISCONNECT (N-2)
2	2819 GREENBOWER WAY	YES	YES
3	2820 GREENBOWER WAY	YES	YES
SHARED DRIVEWAY		N/A	YES



ADDRESS CHART	
LOT NUMBER	STREET ADDRESS
2	2819 GREENBOWER WAY
3	2820 GREENBOWER WAY

TYPICAL PRIVATE DRIVE CROSS SLOPE SECTION
NOT TO SCALE



DEVELOPER'S / BUILDER'S CERTIFICATE
 I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL, I/WE FURTHER CERTIFY THAT UPON COMPLETION, A LETTER OF LANDSCAPE INSTALLATION ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.
 Curtis C. Cumberland 11-26-12

"At the time of plant installation, all trees listed and approved on the Landscape Plan, shall comply with the proper height requirement in accordance with the Howard County Manual. In addition, no substitutions or relocations of the required plantings may be made without prior review and approval from the Department of Planning and Zoning. Any deviations from the approved Landscape Plan may result in denial or delay in the release of landscape surety until such time as all required materials are planted and/or revisions are made to the road drawing plans."

"The Owner, tenants and/or their agents shall be responsible for maintenance of the required perimeter landscaping. All plant materials shall be maintained in good growing condition, and when necessary, replaced with new materials to ensure continued compliance with applicable regulations. All the other required landscaping shall be permanently maintained in good condition, and when necessary, repaired or replaced."

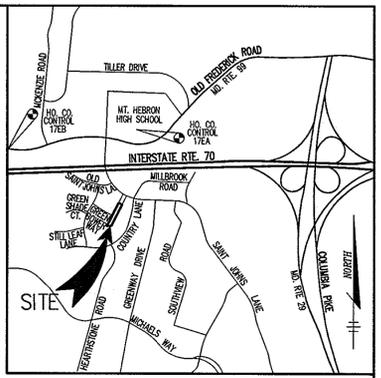
BOONE SUBDIVISION LOT 2
RUSSEL A. & MARION L. WHEELER
LIBER 3614 FOLIO 429
ZONED R-20

GREENBOWER WAY
PUBLIC ROAD
LIBER 3614 FOLIO 429
ZONED R-20

BOONE SUBDIVISION LOT 3
DAVID D. & TERESA A. TAMBURRINO
LIBER 2931 FOLIO 239
ZONED R-20

DENVER LEE & ROVERN E. GOINS
LIBER 433 FOLIO 226
ZONED R-20

BENCH MARKS
 T.P. 17EA ELEV. 478.768
 N 594,357.917
 E 1,357,519.3685
 LOC. NEAR INTERSECTION OF OLD FREDERICK ROAD & SAINT JOHNS LANE
 T.P. 17EB ELEV. 453.475
 N 593,813.8606
 E 1,355,731.8540
 LOC. NEAR INTERSECTION OF OLD FREDERICK ROAD & MCKENZIE ROAD



GENERAL NOTES

- SUBJECT PROPERTY ZONED R-20 PER THE COMPREHENSIVE ZONING PLAN DATED 2/2/04 AND THE COMP LITE ZONING AMENDMENTS EFFECTIVE 7/28/06.
- TOTAL AREA OF SITE: 1.2368 ACRES.
- TOTAL NUMBER OF LOTS SUBMITTED: 2 SFD.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT 410-313-1880 AT LEAST FIVE WORKING DAYS PRIOR TO START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
- THIS SITE AND EXISTING TOPOGRAPHY WITH MAXIMUM 2 FOOT CONTOURS IS BASED ON A FIELD RUN MONUMENTED BOUNDARY SURVEY PERFORMED IN JULY, 2012 BY FISHER, COLLINS AND CARTER, INC.
- LOT AREA IS MORE OR LESS (+ OR -).
- PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT. PUBLIC WATER AND SEWER IS UTILIZED IN THIS SUBDIVISION REFERENCE CONTRACT NO.'S 24-2058D & 24-1238D.
- PREVIOUS DEPARTMENT OF PLANNING AND ZONING FILE NUMBERS: MDR PLAT NO. 21316 (F-10-040), WATER & SEWER CONTRACT NO.'S 24-3056-D & 24-1238-D.
- HORIZONTAL AND VERTICAL CONTROL DATUM IS BASED ON MDAD 83, MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS.
- HOWARD COUNTY MONUMENT 17EA ELEV. 478.768 & 1,357,519.3685
- HOWARD COUNTY MONUMENT 17EB ELEV. 453.475 & 1,355,731.8540
- ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE DEVELOPER'S EXPENSE.
- ALL WATER HOUSE CONNECTIONS SHALL BE FOR INSIDE METER SETTING.
- SEWER HOUSE CONNECTION ELEVATIONS SHOWN ARE LOCATED AT THE PROPERTY LINE.
- DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF LAND AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING (MINIMUM) REQUIREMENTS:
 - WIDTH - 12' (SEWERING MORE THAN ONE RESIDENCE).
 - SURFACE - 6" OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING (1-1/2" MIN.).
 - GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE AND 45 FOOT TURNING RADIUS.
 - STRUCTURES - (BRIDGES/CULVERTS) CAPABLE OF SUPPORTING 25 GROSS TONS (H25-LOADING).
 - DRAINAGE ELEMENTS - CAPABLE OF SAFETY PASSING 100 YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE.
 - MAINTENANCE - SUFFICIENT TO INSURE ALL WEATHER USE.
- THERE ARE NO WETLANDS, STREAMS OR THEIR REQUIRED BUFFERS, FLOODPLAINS OR FOREST CONSERVATION EASEMENTS ON SITE PER MDR PLAT NO.21316 (F-10-040).
- NO CEMETERIES EXIST ON THIS SITE BASED ON A VISUAL SITE VISIT AND AN EXAMINATION OF THE HOWARD COUNTY CEMETERY INVENTORY MAP.
- NO 100 YEAR FLOOD PLAIN EXISTS ON SITE. NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE REQUIRED WETLANDS, STREAMS OR THEIR BUFFERS, FOREST CONSERVATION EASEMENT AREAS.
- THIS PLAN IS IN COMPLIANCE WITH THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS PER COUNCIL BILL 45-2003 AND THE ZONING REGULATIONS AS AMENDED BY COUNCIL BILL 75-2003. DEVELOPMENT AND THE JULY 28, 2006 UPDATE OF THE HOWARD COUNTY ZONING REGULATIONS. DEVELOPMENT OR CONSTRUCTION ON THESE LOTS MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE SITE DEVELOPMENT PLAN, WAIVER PETITION APPLICATION, OR BUILDING/GRADING PERMIT.
- IN ACCORDANCE WITH SECTION 128 OF THE HOWARD COUNTY ZONING REGULATIONS, BAY WINDOWS, CHIMNEYS OR PORCHES, PORCHES OR DECKS, OPEN OR ENCLOSED MAY PROJECT NOT MORE THAN 4 FEET INTO ANY SETBACKS, PORCHES OR DECKS, OPEN OR ENCLOSED MAY PROJECT NOT MORE THAN 4 FEET INTO THE FRONT OR REAR YARD SETBACKS.
- STORMWATER MANAGEMENT REQUIREMENTS FOR THIS SITE WILL BE MET USING ENVIRONMENTAL SITE DESIGN TO THE MAXIMUM EXTENT POSSIBLE IN ACCORDANCE WITH THE MARYLAND STORMWATER DESIGN MANUAL VOLUMES I & II, EFFECTIVE MAY, 2009. PROPOSED PRACTICES WILL BE LOCATED ON INDIVIDUAL LOTS AND THE USE-IN-COMMON DRIVEWAY AS FOLLOWS:
 - THE USE-IN-COMMON DRIVEWAY WILL MEET STORMWATER REQUIREMENTS USING NON-ROOFTOP DISCONNECT (N-2).
 - LOT 2 & 3 WILL MEET STORMWATER REQUIREMENTS USING ROOFTOP DISCONNECTS (N-1) AND NON-ROOFTOP DISCONNECTS (N-2). THESE PRACTICES SHALL BE PRIVATELY OWNED AND MAINTAINED IN ACCORDANCE WITH INDIVIDUAL DECLARATION OF COVENANTS.
- THE FOREST CONSERVATION REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION ACT FOR THIS SUBDIVISION WAS FULFILLED BY PROVIDING A FEE-IN-LIEU PAYMENT IN THE AMOUNT OF \$3,500.00 WITH F-10-004.
- THE USE-IN-COMMON DRIVEWAY MAINTENANCE AGREEMENT FOR LOTS 2 AND 3 HAVE BEEN RECORDED IN THE HOWARD COUNTY LAND RECORDS OFFICE SIMULTANEOUSLY WITH THE RECORDING OF THE SUBDIVISION RECORD PLAN.
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL, FINANCIAL SURETY IN THE AMOUNT OF \$300.00 WILL BE POSTED AS PART OF THE BUILDER'S GRADING PERMIT.
 LOT 2 - ONE SHADE TREE @ \$150.00
 LOT 3 - ONE SHADE TREE @ \$150.00
- IN THE EVENT PARCEL 72, GOINS PROPERTY, IS BEING SUBDIVIDED, THE PUBLIC WATER AND SEWER MAY BE EXTENDED THROUGH LOTS 2 AND 3, (WITHIN THE DESIGNATED EASEMENT), AT THE EXPENSE OF THE OWNER/DEVELOPER OF PARCEL 72.
- PUBLIC WATER AND SEWER BY ADVANCED DEPOSIT ORDER CONSTRUCTION, "ADO".

SITE ANALYSIS DATA CHART

- TOTAL PROJECT AREA: 1.2368 ACRES OR 53,875 SQUARE FEET.
- AREA OF SUBMISSION: 1.2368 ACRES OR 53,875 SQUARE FEET.
- LIMITS OF DISTURBANCE: 0.6233 ACRES OR 2,151 SQUARE FEET.
- PRESENT ZONING DESIGNATION: R-20.
- PROPOSED USES FOR SITE: RESIDENTIAL.

INDEX CHART	
SHEET	DESCRIPTION
1	TITLE SHEET, SITE DEVELOPMENT, LANDSCAPE, SEDIMENT & EROSION CONTROL PLANS
2	SEDIMENT & EROSION CONTROL NOTES AND DETAILS

TITLE SHEET, SITE DEVELOPMENT, LANDSCAPE, SEDIMENT & EROSION CONTROL PLAN

SINGLE FAMILY DETACHED RANDALL PROPERTY LOTS 2 AND 3

TAX MAP NO.: 17 PARCEL NO.: 71 GRID NO.: 16
 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SCALE: 1" = 30' DATE: NOVEMBER, 2012
 SHEET 1 OF 2

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21042
 (410) 461-2855



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."
 Signature of Engineer: EARL D. COLLINS 11-26-12 Date
DEVELOPER'S CERTIFICATE
 "I/We certify that all development and construction will be done according to this plan, for sediment and erosion control 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."
 Signature of Developer: Curtis Cumberland 11-26-12 Date

Reviewed for HOWARD SCD and meets Technical Requirements.
 This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.
 Signature of Engineer: John R. Klotter 11/15/13 Date
OWNER/DEVELOPER
 GARY RANDALL ROBBINS
 2774 SAINT JOHNS LANE
 ELLICOTT CITY, MARYLAND 21042-2539
 410-465-8109
BUILDER
 CUMBERLAND DEVELOPMENT
 16301 WILLOW ROAD
 WOODBINE, MARYLAND 21797
 301-252-1122

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Division of Land Development: 1/23/13 Date
 Chief, Development Engineering Division: 1-23-13 Date
 Director - Department of Planning and Zoning: 1/23/13 Date

PROJECT	SECTION	LOT NO.
RANDALL PROPERTY	N/A	2 THRU 3

PLAT	BLOCK NO.	ZONE	TAX-ZONE	ELEC. DIST.	CENSUS TR.
21316	16	R-20	17	2ND	6069.02

WATER ZONE	TEST GRADIENT
630	780

20.0 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION DEFINITION

Using vegetation as cover for barren soil to protect it from forces that cause erosion.

PURPOSE

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 run-off to downstream areas, and improving wildlife habitat and visual resources.

CONDITIONS WHERE PRACTICES APPLIES

This practice shall be used on denuded areas as specified on the plans and may be used on highly erodible or artificially eroding areas. This specification is divided into Temporary Seeding, to quickly establish vegetative cover for short duration (0 to 1 year), and Permanent Seeding, for long term vegetative cover. Examples of applicable areas for Temporary Seeding are temporary soil stockpiles, cleared areas left between construction phases, earth dikes, and for Permanent Seeding are lawns, dunes, out 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 assimilating those substances present within the root zone. Sediment control devices must remain in place during grading, seeded 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

- Site Preparation**
 - Install erosion and sediment control structures (either temporary or permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins.
 - Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.
 - Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed areas over 5 acres.
 - Soil Amendments and Lime Specifications**
 - 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 may 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.
 - Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Manure may be substituted for fertilizer with prior approval from the appropriate authority. Fertilizers shall be delivered to the site fully labeled according to the applicable state fertilizer laws and shall bear the name, trade name or trademark and warrant of the producer.
 - Lime materials shall be ground limestone (hydrated or burnt lime may be substituted) which contains at least 50% total oxides (calcium oxide plus magnesium oxide). Limestone shall be ground to a fineness that at least 50% will pass through a #100 mesh sieve and 98-100% will pass through a #200 mesh sieve.
 - Incorporate lime and fertilizer into the top 3"-5" of soil by disking or other suitable means.
 - Seeded Preparation**
 - Temporary Seeding**
 - 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 ripers mounted on tracked equipment. After the soil is loosened it should not be rolled or dropped smooth, but left in the rough condition. Slopes greater than 3:1 should be tracked leaving the surface in an irregular condition with ridges running parallel to the contour of the slope.
 - Apply fertilizer and lime as prescribed on the plans.
 - Incorporate lime and fertilizer into the top 3"-5" of soil by disking or other suitable means.
 - Permanent Seeding**
 - Minimum soil conditions required for permanent vegetative establishment:
 - Soil pH shall be between 6.0 and 7.0.
 - Subsile salts shall be less than 500 parts per million (ppm).
 - The soil shall contain less than 40% clay, but except the grainated material (>30% silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is if loess or silt loess (silt plus clay) is to be planted, then a sandy soil (<30% silt plus clay) would be acceptable.
 - Soil shall contain 1.5% minimum organic matter by weight.
 - Soil must contain sufficient pore space to permit adequate root penetration.
 - If these conditions cannot be met by soil, the seeding process is required in accordance with Section 21 Standard and Specification for Topsoil.
 - Areas previously graded in conformance with the drawings shall be maintained in a true and even grade, then scarified or otherwise loosened to a depth of 3"-5" to permit bonding of the topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil from sliding down a slope.
 - Apply soil amendments as per soil test or as included on the plans.
 - Mix soil amendments into the top 3"-5" of topsoil by disking or other suitable means. Lawn areas should be raked to loosen the surface, remove large objects like stones and branches, and ready the area for application of topsoil. Where conditions do not permit normal seeded preparation, loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface. Steep slopes (steeper than 3:1) should be tracked by a dozer leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. The top 3"-5" of soil should be loose and friable. Seeded loosening may not be necessary on newly disturbed areas.
 - Seed Specifications**
 - 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 within the 6 months immediately preceding the date of sowing such material on this job.
 - Inoculant** - The inoculant for treating legume seed in the seed mixture shall be a pure culture of nitrogen-fixing bacteria prepared specifically for the species. Inoculants shall not be used later than the date indicated on the container. Add fresh inoculant as directed on package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75-80° F. can weaken bacteria and make the inoculant less effective.
- Methods of Seeding**
 - Hydroseeding** - Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeded, or a cutpacker seeder.
 - 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 (phosphorus); 200 lbs/acre; K2O (potassium); 200 lbs/acre.
 - Line - 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 use burnt or hydrated lime when hydroseeding.
 - Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption.
 - Dry Seeding** - This includes use of conventional drop or broadcast spreaders.
 - Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 285 or 28. The seeded area shall then be rolled with a weighted roller to provide good seed to soil contact.
 - Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.
 - Drill or Cutpacker Seeding** - Mechanized seeders that apply and cover seed with soil.
 - Cutpacker 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.
 - Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.
- Mulch Specifications** (in order of preference)
 - Straw shall consist of thoroughly threshed wheat, rye or oat straw, reasonable bright in color, and shall not be musty, moldy, caked, decayed, or excessively dry and shall be free of noxious weed seeds as specified in the Maryland Seed Law.
 - Wood Cellulose Fiber Mulch (WCFM)
 - WCFM shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state.
 - WCFM shall be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
 - WCFM including dye, shall contain no germination or growth inhibiting factors.
 - WCFM materials 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 batter-like ground cover, on application, having moisture absorption and percolation properties and shall cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
 - WCFM material shall contain no elements or compounds at concentration levels that will be phytotoxic.
 - WCFM must conform to the following physical requirements: fiber length to approximately 10 mm., diameter approximately 1 mm., pH range of 4.0 to 8.5, ash content of 1.6% maximum and water holding capacity of 90% minimum.

- Incremental Stabilization - Out Slopes**
 - All cuts shall be dressed, prepared, seeded and mulched as the work progresses. Slopes shall be excavated and stabilized in equal increments not to exceed 15'.
 - Construction sequence (Refer to Figure 3 below):
 - Excavate and stabilize all temporary swales, side ditches, or berms that will be used to convey runoff from the excavation.
 - Perform Phase 1 excavation, dress, and stabilize.
 - Perform Phase 2 excavation, dress and stabilize. Overseed Phase 1 areas as necessary.
 - Perform final phase excavation, dress and stabilize. Overseed previously seeded areas as necessary.

Note: Once excavation has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation of completing the operation of the seeding season will necessitate the application of temporary stabilization.

Note: Once the placement of fill has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation of completing the operation of the seeding season will necessitate the application of temporary stabilization.

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.

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STANDARDS AND SPECIFICATIONS FOR TOPSOIL

Definition
Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.

Purpose
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
This practice is limited to areas having 2:1 or flatter slopes where:

- 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.
- The soil is so acidic that treatment with limestone is not feasible.

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 Experiment 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 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 than 1 1/2" in diameter.

II. Topsoil must be free of plants or plant parts such as bermuda grass, quackgrass, johnsongrass, nutgrass, 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.

IV. 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.

II. For sites having disturbed areas over 5 acres:

I. On soil meeting Topsoil specifications, obtain test results detailing 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 purchased to raise the pH to 6.5 or higher.

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

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

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

II. 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. Grading on the areas to be topsoiled, which have been previously established, shall be maintained, about 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 seedbed 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.

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 may otherwise be detrimental to proper grading and seeded 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:

I. 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 ODMAR 26.04.05.

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 shall be added to meet the requirements prior to its 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.

References: Guidelines Specifications, Soil Preparation and Sodding, MD-VA, Pub. #1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institutes. Revised 1973.

7) SITE ANALYSIS

TOTAL AREA OF SITE 1.2368 ACRES

AREA DISTURBED 0.6233 ACRES

AREA TO BE ROOFED OR PAVED 0.1516 ACRES

AREA TO BE VEGETATIVELY STABILIZED 0.4777 ACRES

TOTAL CUT 548 CU.YDS.

TOTAL FILL 548 CU.YDS.

OFFSITE WASTE/BORROW AREA LOCATION STOCKPILING WILL NOT BE PERMITTED ON SITE

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 CONTROLS 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 LEVITS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

SOILS LEGEND		
SOIL	NAME	CLASS
MCC	MOUNT LUCAS SILT LOAM, STONEY, 8 TO 15% SLOPES	B
GHB	GLEG URBAN LAND COMPLEX, LOAMY, 0-8% SLOPES	B

SECTION 2 - TEMPORARY SEEDING

Vegetation - annual grass or grain used to provide cover on disturbed areas for up to 12 months. For longer duration of vegetative cover, Permanent Seeding is required.

A. Seed mixtures - Temporary Seeding

I. Select one or more of the species or mixtures listed in Table 26 for the appropriate Plant Hardiness Zone (from Figure 5) and enter them in the Temporary Seeding Summary below, along with application rates, seeding dates and seeding depths. If this summary is not put on the plans and completed, then Table 26 must be put on the plans.

II. For sites having soil tests performed, the rates shown on this table shall be deleted and the rates recommended by the testing agency shall be written in. Soil tests are not required for Temporary Seeding.

III. For areas receiving low maintenance, apply ureform fertilizer (46-0-0) at 3 1/2 lbs/1000 sq. ft. (150 lbs/acre), in addition to the above soil amendments shown in the table below, to be performed at the time of seeding.

IV. For sites having soil tests performed, the rates shown on this table shall be deleted and the rates recommended by the testing agency shall be written in. Soil tests are not required for Temporary Seeding.

V. For sites having soil tests performed, the rates shown on this table shall be deleted and the rates recommended by the testing agency shall be written in. Soil tests are not required for Temporary Seeding.

VI. For sites having soil tests performed, the rates shown on this table shall be deleted and the rates