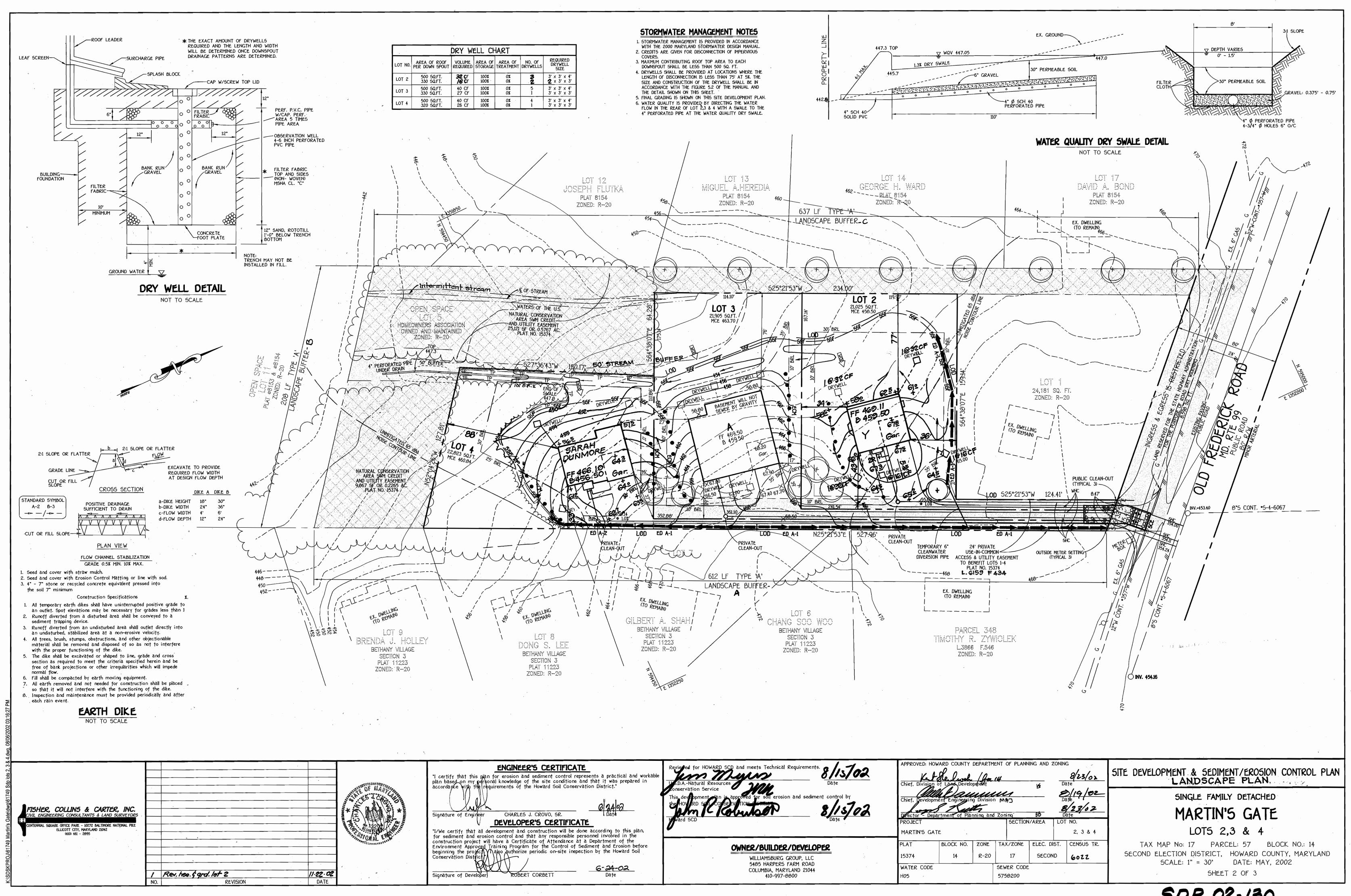


HOWARD COUNTY, MARYLAND

DATE: MAY, 2002

VICINITY MAP

5CALE: 1" = 2000'



#### 20.0 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION DEFINITION

Using vegetation as cover for barren soil to protect it from forces that cause 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 crode 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 PRACTICE APPLIES

This practice shall be used on decuded areas as specified on the plans and may be used on highly erodible or critically eroding areas. This specification is divided into Temporary Seeding, to quickly establish vegetative cover for short duration Olup to one year), and Permanent Seeding, for long term vegetative cover. Examples of applicable areas for Temporary Seeding are temporary Soil Stockpiles, cleared areas being left idle between construction phases, earth dikes, etc. and for Permanent Seeding are lawns, dams, 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 assimilating 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 i. Install erosion and sediment control structures (either temporary of permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins. ii. Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding. iii. Schedule required soil tests to determine soil amendment composition and application rates for sites
- having disturbed area over 5 acres.

  B. Soil Amendments (Fertilizer and Lirne Specifications) Soil tests must be performed to determine the exact ratios and application rates for both line 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 analyses. ii. Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Masure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers shall all be delivered to the site fully labeled according
- the applicable state fertilizer laws and shall bear the name, trade name or trademark and warrantee of the producer. ili. Lime materials shall be ground limestone (hydrated or burnt lime may be substituted) which contains at least 50% total exides (calcium exide plus magnesium exide). Limestone shall be ground to such fineness that at least 50% will pass through a \*100 mesh sieve and 98-100% will pass through a \*20
- mesh sieve. . Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means. Seedbed Preparation Temporary Seeding

  a. Seedbed 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
  - rolled or dragged smooth, but left in the roughened condition. Sloped areas (greater than 3:0 should be tracked leaving the surface in an irregular condition with ridges running parallel to the contour of the slope. Apply fertilizer and time as prescribed on the plans
- In corporate time and fertilizer into the top 3-5" of soil by disking or other suitable means. Minimum soil conditions required for permanent vegetative establishments
  1. Soil pH shall be between 6.0 and 7.0.
- Soluble saits shall be less than 500 parts per million (ppm). The soil shall contain less than 40% clay, but enough fine grained material (30% sift plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is if lovegrass serecia lespedezas 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 soils on site, adding topsoil is required in accordance with Section 21 Standard and Specification for Topsoil
- b. 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 to the surface area and to create horizontal erosion check slots to prevent topsoil from idina 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 smooth the surface, remove large objects like stones and branches, and ready the area for seed and application. Where site conditions will not permit normal seedbed preparation, loosen surface soil by dragging with a heavy chain or other equipment o 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. If top 1-3" of soil should be loose and friable. Seedbed loosening may not be necessary on D. 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. All seed used shall have been tested within the 6 months immediately preceding the date of sowing such material on this job. Note: Seed tags shall be made available to the inspector to verify type and rate of seed used.
- ii. Inoculant The inoculant for treating legume seed in the seed mixtures shall be a gure 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° r. can weaken bacteria and make the inoculant less effective. E. Methods of Seeding i. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeded, or a cultipacker seeder
- a. If fertilizer is being applied at the time of seeding, the application rates amounts will not exceed the following: hitrogen: maximum of 100 lbs. per acre total of soluble hitrogen. P205 (phosphorous): 200 lbs/ac; K20 (potassium): 200 lbs/ac. 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 On ant use burnt or hydrated lime when hydraceedire Seed and fertilizer shall be mixed on site and seeding shall be done immediately and
- ii. Dry Seeding: This includes use of conventional drop or broadcast spreaders.

  a. Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 265 or 26. The seeded area shall then be rolled with a weighted roller to provide good seed to soil contact.
- b. Where practical, seed should be applied in two directions perpendicular to each other.
  Apply half the seeding rate in each direction.

  iii. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.

  a. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed 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, rive or cat straw, reasonable bright in color, and shall not be musty, moldy, caked decayed, or excessively dusty and shall be tree of noxious weed seeds as specified in the Maryland Seed Law. ii. Wood Cellulose Fiber Mulch (WCFM)

  a. WCFM shall consist of specially prepared wood cellulose processed into a uniform
  - librous physical state. MCFM shall be died green or contain a green die in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry. WCFM, including die, shall contain no germination or growth imbiting 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 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 inhibiting the growth of the grass seedlings. WCFM material shall contain no elements or compounds at concentration levels that
- f. 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% miximum.

  Note: Only sterile straw mulch should be used in areas where one species of grass is desired. Mulching Seeded Areas Mulch shall be applied to all seeded areas immediately after seeding.
- if grading is completed outside of the seeding season, mulch along shall be applied as prescribed in this section and maintained until the seeding season returns and seeding can be performed in accordance with these specifications. ii. 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 toose depth of between 1" and 2". Much applied shall achieve a uniform distribution and depth so that the soil surface is not exposed. If a mulch anchoring tool is to be used, the rate should be increased to 2.5 tons/acre.

  iii. Wood cellulose fiber used as a mulch shall be applied at a net dry weight of 1.500 lbs. per acre. The wood cellulose fiber shall be mixed with water, and the mixture shall contain a maximum of 50 lbs. of wood cellulose fiber per 100 gallone of water.

#### DEVELOPER'S/BUILDER'S CERTIFICATE

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THIS PLAN, SECTION 15.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION OF CERTIFICATION OF LANDSCAPE INSTALLATION ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIANS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

6-24-02 ROBERT CORBETT

H. 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 surface a minimum of two (2) inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. It used on sloping land, this practice should be used on the contour if possible.
  ii. Wood cellulose fiber may be used for anchoring straw. The fiber binder shall be applied at a net dry weight of 750 pounds/acre. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
- iii. Application of liquid binders should be heavier at the edges where wind catches much, such as in valleys and crest of barks. The remainder of area should be appear uniform after binder application. Synthetic binders such as Acrylic DLR (Agro-Tack), DCA-70 Petroset, Terra Tax II, Terra Tack AR or other approved equal may be used at rates recommended by the manufacturer to anchor mulch.
- iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer's recommendations. Netting is usually available in rolls 4' to 15' feet wide and 300 to 3,000 feet long. Incremental Stabilization - Cut Slopes All cuts slopes shall be dressed, prepared, seeded and mulched as the work progresses. Slopes
- shall be excavated and stabilized in equal increments not to exceed 15%
- ii. Construction sequence (Refer to Figure 3 below): a. Excavate and stabilize all temporary swales, side ditches, or berms that will be used to convey runoff from the excavation.
   b. 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
- 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 int he operation of completing the operation out of the seeding season will necessitate the application of temporary stabilization.
- 1. Incremental Stabilization of Embarkments Fill Slopes Embankments shall be constructed in lifts as prescribed on the plans.
- Slopes shall be stabilized immediately when the vertical height of the multiple lifts reaches 15°, or when the grading operation ceases as prescribed in the plans. iii. At the end of each day, femporary berms and pipe slope drains should be constructed along the top edge of the embankment to intercept surface runoff and convey it down the slope in a non-erosive manner to
- sediment trapping device. Instruction sequence: Refer to Figure 4 (below). Excavate and stabilize all temporary swales, side ditches, or berms that will be used to divert runoff around the fill. Construct slope silt fence on low side of fill as shown in figure 5, unless other methods shown on the plans address this area. Place Phase I embarkment, dress and stabilize. Place Phase 2 embarkment, dress and stabilize.

Place final phase embankment, dress and stabilize. Overseed previously seeded areas as necessary.

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

#### SEDIMENT CONTROL NOTES

- I) A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LISCENSES 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 MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS
- FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO. 3) FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: a) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES.
- DIKES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1. b) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE. 4) ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH YOL, I,
- 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 SEEDING (SEC. 51), 500 (SEC. 54), TEMPORARY SEEDING (SEC. 50), AND MULCHING (SEC. 52). 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 PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR
- 7) SITE ANALYSIS: TOTAL AREA OF SITE 1.509 ACRES AREA DISTURBED 1.142 ACRES AREA TO BE ROOFED OR PAVED 0,383 ACRES AREA TO BE VEGETATIVELY STABILIZED 0.759 ACRES TOTAL CUT 0 CU.YD5 TOTAL FILL
- 1,444.00 CU.YDS OFFSITE WASTE/BORROW AREA LOCATION N/A 3) 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

APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE. II) TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGHTS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN

ONE WORKING DAY, WHICHEVER IS SHORTER.

watering and replacement of specified plant material.

shall be repaired at the expense of the Contractor

the plant list, the quantities on the plan take precedence

Positive drainage shall be maintained in planting beds 2 percent slope).

season of completion of site construction.

drawings and specifications

DATE

the drip line.

DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION

PLANTING SPECIFICATIONS

from defects, decay, disfiguring roots, sun scald injuries, abrasions of the bark, plant disease, insect pest eggs, borers and all forms of insect

All plant material, unless otherwise specified, shall be nursery grown, uniformly branched, have a vigorous root system, and shall conform to the species,

size, root and shape shown on the plant list and the American Association of Nurserymen (AAN) Standards. Plant material shall be healthy, vigorous, free

infestations or objectionable distingurements. Plant material that is weak or which has been cut back from larger grades to meet specified requirements

Unless otherwise specified, all general conditions, planting operations, details and planting specification shall conform to "Landscape Specification Guidelines"

section of the Landscape Guidelines. Contractor's attention is directed to the maintenance requirements found within the one year specifications including

Contractor may make minor adjustments in spacing and location of plant material to avoid conflicts with utilities. Damage to existing structure and utilities

Protection of existing vegetation to remain shall be accomplished by the temporary installation of 4 toot high snow tence or blaze orange satety tence at

Contractor id responsible for installing all material in the proper planting season for each plant type. All planting is to be completed within the growing

Bid shall be base on actual site conditions. No extra payment shall be made for work arising from site conditions differing from those indicated on

Plant quantities are provided for the convenience of the contractor only. It discrepancies exist between quantities shown on plan and those shown on

All shrubs shall be planted in continuous trenches or prepared planting beds and mulched with composted hardwood mulch as details and specified except

Planting mix shall be as follows: Deciduous Plants - Two parts topsoil, one part well-rotted cow or horse manure. Add 3 lbs. of standard fertilizer per

cubic yard of planting rnix. Evergreen Plants - two parts topsoil, one part humus or other approved organic material. Add 3 lbs. of evergreen (acidic)

All areas within contract limits disturbed during or prior to construction not designated to receive plants and mulch shall be fine graded and seeded.

This plan is intended for landscape use only. see other plan sheets for more information on grading, sediment control, layout, etc.

Weed Control: Incorporate a pre-emergent herbicide into the planting bed following recommended rates on the label. Caution: Be sure to carefully check

Signature of Developer

Contractor shall be responsible for notifying utility companies, utility contractors and "Miss Utility" a minimum of 48 hours prior to beginning any work.

will be rejected. Trees with forked leaders will not be accepted. All plants shall be treshly dug; no healed-in plants from cold storage will be accepted.

for Baltimore-Washington Metropolitan Areas", (hereinafter "Landscape Guidelines") approved by the Landscape Contractors Association of Metropolitan

Contractor shall be required to guarantee all plant material for a period of one year after date of acceptance in accordance with the appropriate

Plants, related material, and operations shall meet the detailed description as given on the plans and as described herein.

Wäshington and the Potomac Chapter of the American Society of Landscape Architect, latest edition, including all agenda.

## - ANCHOR POST SHOULD BE OR 2" x 2" TIMBER 6' IN LENGTH USE 2" x 4" CROSS BACKING HIGHLY VISIABLE FLAGGING MAXIMUM & FEET ANCHOR POST MUST BE INSTALLED USE 3' WIRE O A DEPTH OF NO LESS THAN 17. OF THE TOTAL HEIGHT OF POST FENCE BOTTOM BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE. DAMAGE SHOULD BE AVOIDED.

BLAZE ORANGE PLASTIC MESH

FOREST PROTECTION DEVICE ONLY.
RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS PROTECTIVE SIGNAGE MAY ALSO BE USED. 5. DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

> TREE PROTECTION DETAIL NOT TO SCALE

SCHEDULE A PERIMETER LANDSCAPE EDGE						
CATEGORY	ADJACENT TO ROADWAYS	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES		
LANDSCAPE TYPE	NONE REQUIRED	TYPE 'A'	TYPE 'A'	TYPE 'A'		
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	0	612'A	208' B	637 <sup>°</sup> C		
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NA	YES, 180'	YE5, <b>208'</b>	YE5, 220°		
CREDIT FOR WALL FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NA	МО	Ю	NO		
NUMBER OF PLANTS REQUIRED SHADE TREES EVERGREEN TREES SHRUBS	NA NA NA	7 0 0	0 0 0	8 0 0		
NUMBER OF PLANTS PROVIDED SHADE TREES EVERGREEN TREES OTHER TREES (2:1 SUBSTITUTION) SHRUBS (10:1 SUBSTITUTION) (DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)	NA NA NA NA	7 0 0	0 0 0	8 0 0 0		

\* CREDIT FOR EXISTING TREES TO REMAIN ALONG THE EASTERN, SOUTHERN & WESTERN PROPERTY LINES.

DOUBLE #12 GALVANIZED-

REMOVE ANY COVERING-

TOPSOIL MIXTURE ----

WIRE GUYS TWISTED

2-2'X 2" DAK STAKES OTCH STAKES TO

LANDSCAPING PLANT LIST

QTY. | BOTANICAL NAME/COMMON NAME | SIZE | ROOT

EVERGREEN PLANTING DETAIL

NOT TO SCALE

ACER REDRUM/RED MAPLE

REINFORCED

RUBBER HOSE

-1/2 OF TREE HEIGHT

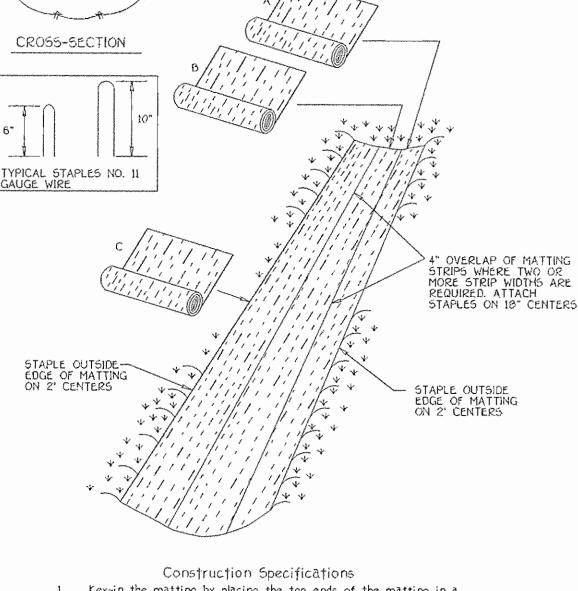
(APPROX, 3 FEET)

CONSTRUCT 3' SAUCER RIM-FLOOD WITH WATER

GROUND LINE SAME

AS IN NURSERY

TWICE WITHIN 24 HOUR:



1. Key-in the matting by placing the top ends of the matting in a narrow trench, 6" in depth. Backfill the trench and tamp firmly to conform to the channel cross-section. Secure with a row of staples about 4" down slope from the trench. Spacing between staples is 6". 2. Staple the 4" overlap in the channel center using an 18" spacing between staples.

- 3. Before stapling the outer edges of the matting, make sure the matting is smooth and in firm contact with the soil.
- 4. Staples shall be placed 2' apart with 4 rows for each strip, 2 outer rows, and 2 alternating rows down the center. 5. Where one roll of matting ends and another begins, the end of the top strip shall overlap the upper end of the lower strip by 4". shiplap fashion. Reinforce the overlap with a double row of staples spaced 6" apart in a staggered pattern on either side.
- secured with 2 double rows of staples. Note: If flow will enter from the edge of the matting then the area effected by the flow must be keyed-in.

### EROSION CONTROL MATTING

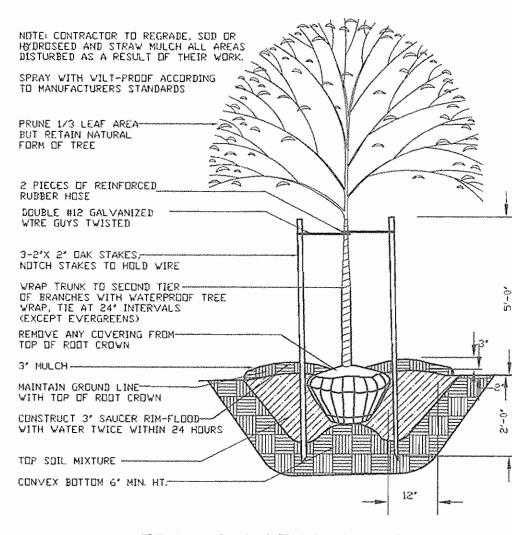
NOT TO SCALE

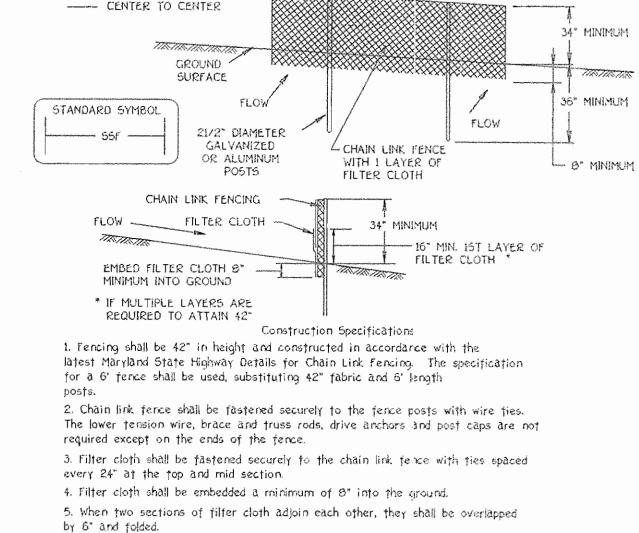
6. The discharge end of the matting liner should be similarly

### SEQUENCE OF CONSTRUCTION

. OBTAIN GRADING PERMIT 2. INSTALL SEDIMENT AND EROSION CONTROL DEVICES AS SHOWN ON PLAN 7 DAYS 3. CLEAR AND GRUB TO LIMITS OF DISTURBANCE 4 DAYS 4. INSTALL TEMPORARY SEEDING 2 DAYS CONSTRUCT BUILDINGS

6. FINE GRADE SITE AND INSTALL PERMANENT SEEDING AND LANDSCAPE 14 DAYS 7. REMOVE SEDIMENT CONTROL DEVICES AS UPLAND AREAS ARE STABILIZED AND PERMISSION IS GRANTED BY E/S CONTROL INSPECTOR.





10' MAXIMUM

NOTE: FENCE POST SPACING

SHALL NOT EXCEED 10"

6. Maintenance shall be performed as needed and silt buildups removed when "bulges"

develop in the silt tence, or when silt reaches 50% of tence height 7. Filter cloth shall be fastened securely to each fence post with wire ties or

staples at top and mid section and shall meet the following requirements for Geotextile Class F:

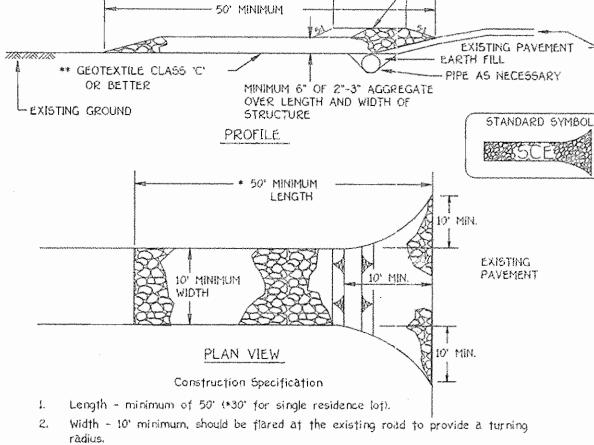
Tensile Strength	50 lbs/in (min.)	Test: M5MT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gål/ft /minuté (max.)	Test: MSMT 322
Filtering Efficiency	75% (min)	Test: MSMT 322

5lope	Slope Steepness	gn Criteria Slope Length (màximum)	Silt Fence Length (maximum)
0 - 10%	0 - 10:1	Urlimited	Unlimited
10 - 20%	10:1 - 5:1	200 feet	1,500 feet
20 - 33%	5:1 - 3:1	100 feet	1,000 feet
33 - 50%	3:1 - 2:1	100 feet	500 feet
50% +	2:1 *	50 feet	250 feet

SUPER SILT FENCE

- MOUNTABLE

BERM (6" MIN.)



3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. \*\*The plan approval authority may not require single family residences to use geotextile.

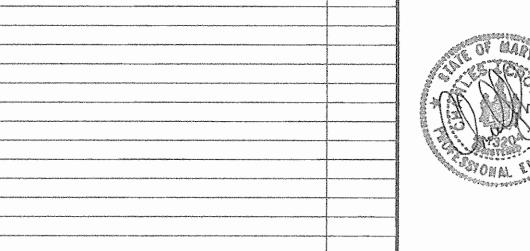
4. Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the

5. Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has 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 according to the amount of runoff to be conveyed. A 5" minimum will be required.

Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

STABILIZED CONSTRUCTION ENTRANCE NOT TO SCALE

FISHER, COLLINS & CARTER, INC. L ENGINEERING CONSULTANTS & LAND SURVEYOR nial scriare office park - 10272 Baltimore national pike ELLICOTT CITY, MARYLAND 21042 (410) 461 - 2855



REVISION

fertilizer per cubic yard of planting mix. Topsoil shall conform to the Landscape Guidelines.

the chemical used to assure its adaptability to the specific ground cover to be treated.

ENGINEER'S CERTIFICATE 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."

HARLES J. CROVO, SR. Signature of Engineer BUILDER/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 projective also authorize periodic on-site inspection by the Howard Soil Conservation Distric 6-24-02

ROBERT CORBETT

OWNER/BUILDER/DEVELOPER WILLIAMSBURG GROUP, LLC 5485 HARPERS FARM ROAD COLUMBIA, MARYLAND 21044 410-997-8800

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONINC 8/23/02 SECTION LOTS NO. MARTIN'S GATE 2,3 & 4 BLOCK NO. ZONE TAX/ZONE ELEC. DIST. CENSUS TR. 15374 6022.00 WATER CODE SEWER CODE 5758200

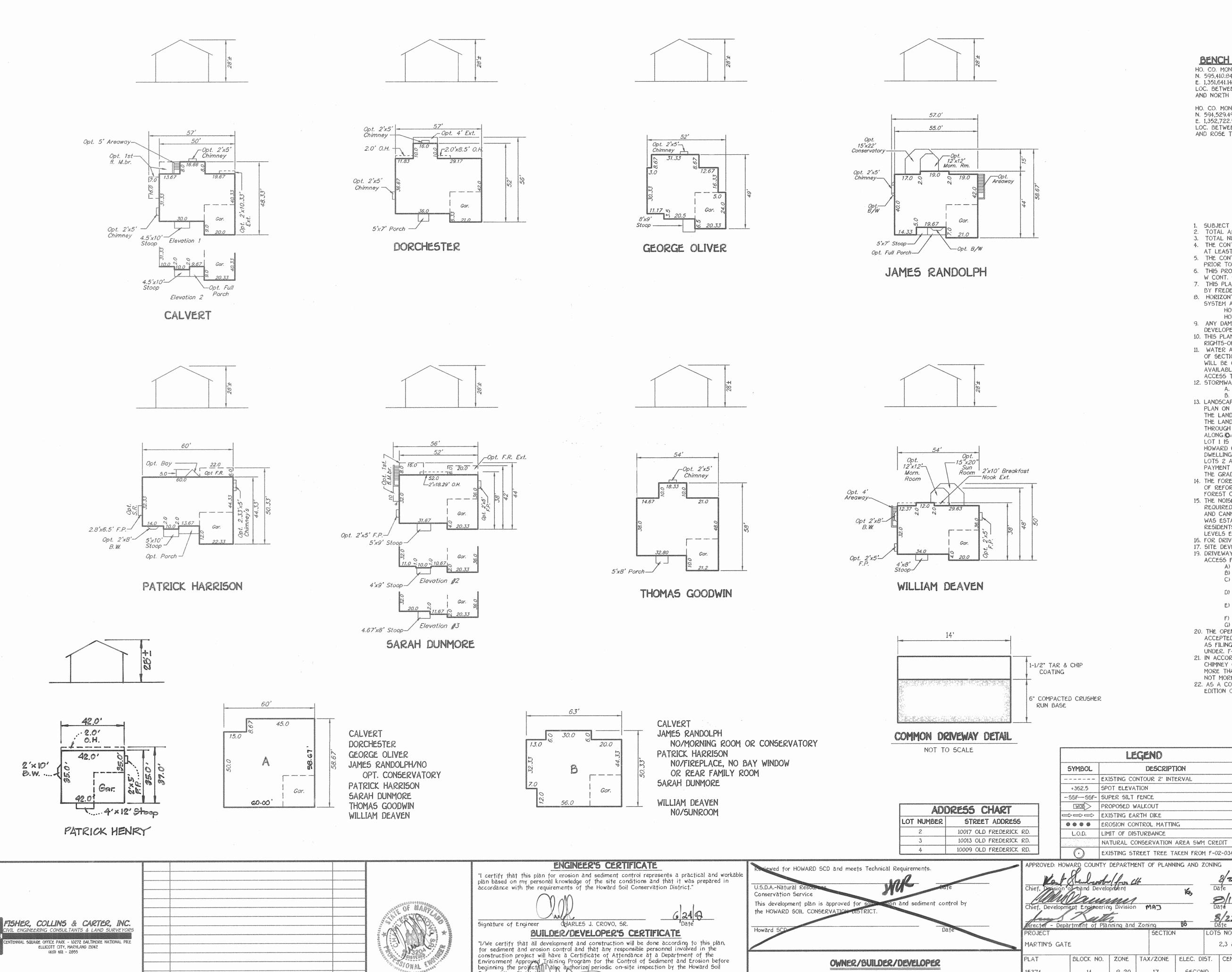
EROSION CONTROL NOTES & DETAILS LANDSCAPE NOTES & DETAILS

SINGLE FAMILY DETACHED

# MARTIN'S GATE

LOT5 2,3 & 4

TAX MAP No: 17 PARCEL: 57 BLOCK NO.:14 SECOND ELECTION DISTRICT, HOWARD COUNTY, MARYLAND SCALE: 1"= 30' DATE: MAY, 2002 SHEET 3 OF 3



6-24-02

ROBERT CORBETT

Signature of Developer

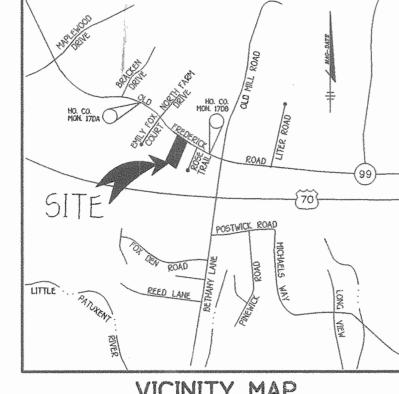
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BENCH MARKS

HO. CO. MON. 17DA ELEV 482.039 N. 595,410,845 E. 1,351,641.146 LOC. BETWEEN BRACKEN DRIVE AND NORTH FARM ROAD, ALONG RTE. 99

HO. CO. MON. 17DB ELEV. 476.006 N. 594,529.495 E. 1,352,722.582 LOC. BETWEEN OLD MILL ROAD

AND ROSE TRAIL, ALONG RTE. 99



VICINITY MAP SCALE: 1" = 2000'

#### GENERAL NOTES

- 1. SUBJECT PROPERTY ZONED R-20 PER 10/18/93 COMPREHENSIVE ZONING PLAN.
- TOTAL AREA OF SITE: 1.509 ACRES 3. TOTAL NUMBER OF LOTS SUBMITTED: 3
- 4. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION INSPECTION DIVISION AT (410)313-1880
- AT LEAST (5) FIVE WORKING DAYS PRIOR TO THE START OF WORK. 5. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
- 6. THIS PROJECT IS SUBJECT TO HOWARD COUNTY FILES: F-02-034
- W CONT. \*357. 5 CONT. \*4-6067 7. THIS PLAN IS BASED ON A FIELD RUN SURVEY PERFORMED ON OR ABOUT APRIL, 2000 BY FREDERICK WARD & ASSOCIATES.
- 8. HORIZONTAL AND VERTICAL CONTROL DATUM IS BASED ON NAD 83, MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS. HOWARD COUNTY MONUMENT 17DA N 595410.745 E 1351641.140
- HOWARD COUNTY MONUMENT 17DB N 594529.496 E 1352722.503 9. ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE
- DEVELOPER'S EXPENSE. 10. THIS PLAN IS FOR HOUSE SITING AND GRADING ONLY. IMPROVEMENTS SHOWN WITHIN THE
- RIGHTS-OF-WAY OF THIS S.D.P. ARE NOT USED FOR CONSTRUCTION. 11. WATER AND SEWER SERVICE TO LOTS 1 THRU 4 WILL BE GRANTED UNDER THE PROVISIONS OF SECTION 18.1228 OF THE HOWARD COUNTY CODE, PUBLIC WATER AND SEWER ALLOCATION WILL BE GRANTED AT THE TIME OF ISSUANCE OF THE BUILDING PERMIT IF CAPACITY IS
- AVAILABLE AT THAT TIME. ACCESS TO WATER HAS BEEN PROVIDED UNDER CONTRACT 357-W, ACCESS TO SEWER HAS BEEN PROVIDED UNDER CONTRACT 4-6067. 12. STORMWATER MANAGEMENT WILL BE PROVIDED BY:
- A. DRY SWALE (WQV) AND ROOFTOP DRYWELLS (REV)
- B. 1 YEAR RUNOFF LESS THAN 2 CFS, CPV NOT REQUIRED. 13. LANDSCAPING FOR LOTS 1-4 IS PROVIDED IN ACCORDANCE WITH A CERTIFIED LANDSCAPE PLAN ON FILE IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL, ON FILE WITH F-02-34.
- THE LANDSCAPE OBLIGATIONS FOR LOT 4 AND OPEN SPACE LOT 5 WILL BE ADDRESSED THROUGH RETENTION OF EXISTING PERIMETER TREES AND SUPPLEMENTAL PLANTINGS ALONG O.S. Lot 5's Perimeter. Due to a utility easement, plantings for Lot 4 will also occur on Lots 2+3. LOT 1 IS EXEMPT FROM THE LANDSCAPING REQUIREMENTS PER SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL BECAUSE THE LOT CONTAINS AN EXISTING
- LOTS 2 AND 3 ARE INTERIOR LOTS REQUIRING NO LANDSCAPING. PAYMENT OF LANDSCAPE SURETY FOR LOT 4 AND OPEN SPACE LOT 5 WILL BE PAID WITH
- THE GRADING PERMIT FOR LOT 4 (LOT 4 = 7 TREES/\$2,100.00): LOT 5 = 8 TREES/\$2,400.00) 14. THE FOREST CONSERVATION OBLIGATIONS INCURRED BY THIS SUBDIVISION (6,098 SQ. FT. OF REFORESTATION) HAVE BEEN MET BY PAYMENT OF \$3,049.20 TO THE HOWARD COUNTY
- FOREST CONSERVATION FUND, PER F-02-34. 15. THE NOISE CONTOUR LINES ARE FROM ROUTE 70 AND 99. THIS LINE IS ADVISORY AS REQUIRED BY THE HOWARD COUNTY DESIGN MANUAL, CHAPTER 5, REVISED FEBRUARY, 1992 AND CANNOT BE CONSIDERED TO EXACTLY LOCATE 65 dBa EXPOSURE. THE 65 dBa EXPOSURE WAS ESTABLISHED BY HOWARD COUNTY TO ALERT DEVELOPERS, BUILDERS, AND FUTURE RESIDENTS THAT AREAS BEYOND THIS THRESHOLD MAY EXCEED GENERALLY ACCEPTED NOISE
- LEVELS ESTABLISHED BY THE U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT. 16. FOR DRIVEWAY ENTRANCE DETAIL REFER TO HO. CO. CODES MANUAL VOL. IV DETAIL R.6.03
- 17. SITE DEVELOPMENT PLAN FOR SINGLE FAMILY DETACHED UNITS. 19. DRIVEWAY(5) SHALL BE PROVIDED PRIOR TO RESIDENTIAL OCCUPANCY TO INSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING (MINIMUM) REQUIREMENTS:
  - B) SURFACE-(P-1) STANDARD PAVING C) GEOMETRY-MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE AND 45 FOOT
  - TURNING RADIUS. D) STRUCTURES (BRIDGES/CULVERTS)-CAPABLE OF SUPPORTING 25 GROSS TONS
  - (H25-LOADING) E) DRAINAGE ELEMENTS-CAPABLE OF SAFETY PASSING 100 YEAR FLOOD WITH NO
  - MORE THAN I FOOT DEPTH OVER DRIVEWAY SURFACE. F) STRUCTURE CLEARANCES-MINIMUM 12 FEET

A) WIDTH-12' (14' IF SERVING MORE THAN ONE RESIDENCE),

- G) MAINTENANCE-SUFFICIENT TO INSURE ALL WEATHER USE. 20. THE OPEN SPACE SHOWN HEREON IS DEDICATED TO A PROPERTY OWNERS ASSOCIATION AND ACCEPTED BY THE MD. STATE DEPARTMENT OF ASSESSMENT AND TAXATION ON MARCH 20,2002. AS FILING NO. 1000361986829574, REQUIREMENTS FOR THESE LOTS HAVE BEEN PROVIDED
- UNDER. F-02-034, Plat # 15374.
  21. IN ACCORDANCE WITH SECTION 128 (A)(1) OF THE HO.CO. ZONING REGULATION, BAYWINDOWS, CHIMNEY OR EXTERIOR STAIRWAYS NOT MORE THAN 16 FEET IN WIDTH MAY PROJECT NOT
- MORE THAN 4 FEET INTO ANY SETBACK, PORCHESOR DECKS, OPEN OR ENCLOSE MAY PROJECT NOT MORE THAN 10 FEET INTO THE FRONT OR REAR YARD SETBACKS.
- 22. AS A CONSEQUENCE OF THIS SUBMISSION, ON MAY 7, 2002, THIS 5DP IS SUBJECT TO THE 5TH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.

		MINIMUM LOT AREA TABLE								
LEGENO			LOT	NO.	GR055	AREA	PIPES"	TEM AREA	MINIMUM	AREA
L	DESCRIPTION		2		21,025	SQ.FT.	792	SQ.FT.	14,000	5Q.FT.
	EXISTING CONTOUR 2' INTERVAL		3		21,905	SQ.FT.	1,658	SQ.FT.	14,000	5Q.FT.
	LAISTING CONTOUR & INTERVAL		4		22.823	SQ.FT.	673	SQ.FT.	15,570	SQ.FT.
	SPOT ELEVATION	,	L.,	-	anniconstruction of the con-	Name and Associated the Control of t	CONTRACTOR OF THE PERSON NAMED IN COLUMN 1		na n	and the same of th

	INDEX CHART
SHEET	DESCRIPTION
SHEET 1	TITLE SHEET
SHEET 2	SITE DEVELOPMENT & SEDIMENT/EROSION CONTROL/LANDSCAPE PLAN
SHEET 3	SEDIMENT/EROSION CONTROL/LANDSCAPE NOTES & DETAIL

2/23/02 Dafe SECTION LOTS NO. 2,3 & 4 BLOCK NO. ZONE TAX/ZONE ELEC. DIST. CENSUS TR. 15374 SECOND 6022.00 R-20

SEWER CODE

5758200

WATER CODE

H05

OWNER/BUILDER/DEVELOPER

WILLIAMSBURG GROUP, LLC

5485 HARPERS FARM ROAD

COLUMBIA, MARYLAND 21044

410-997-8800

SITE DEVELOPMENT PLAN TITLE SHEET

SINGLE FAMILY DETACHED

MARTIN'S GATE

LOTS 2,3 & 4

TAX MAP No: 17 PARCEL: 57 BLOCK: 14 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: 1"= 30' DATE: MAY, 2002 SHEET 1 OF 3

#### 20.0 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION DEFINITION

Using vegetation as cover for barren soil to protect it from forces that cause 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 run-off to downstream areas, and improving wildlife habitat and visual resources.

CONDITIONS WHERE PRACTICE APPLIES

This practice shall be used on denuded areas as specified on the plans and may be used on highly erodible or critically eroding areas. This specification is divided into Temporary Seeding, to quickly establish vegetative cover for short duration Olup to one year), and Permanent Seeding, for long term vegetative cover. Examples of applicable areas for Temporary Seeding are temporary Soil Stockpiles, cleared areas being left idle between construction phases, earth dikes, etc. and for Permanent Seeding are lawns, dams, 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 assimilating 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 Install erosion and sediment control structures (either temporary of permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins. ii. Perform all grading operations at right angles to the slope. Final grading and shaping is not usually
- necessary for temporary seeding. iii. Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed area over 5 acres.

  B. Soil Amendments (Fertilizer 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 analyses. ii. 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
- to the applicable state fertilizer laws and shall bear the name, trade name or trademark and warrantee of the producer. iii. 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 such fineness that at least 50% will pass through a •100 mesh sieve and 90-100% will pass through a •20

appropriate approval authority. Fertilizers shall all be delivered to the site fully labeled according

- mesh sieve.
  Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means. C. Seedbed Preparation
- Temporary Seeding

  a. Seedbed 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 rolled or dragged smooth, but left in the roughened condition. Sloped areas (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
- c. It corporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.

  Permanent Seeding

  a. Minimum soil conditions required for permanent vegetative establishment:

  1. Soil pH shall be between 6.0 and 7.0.
  - Soluble salts shall be less than 500 parts per million (ppm).

    The soil shall contain less than 40% clay, but enough fine grained material (>30% silt plus clay) to provide the capacity to hold a serecia lespedezas is to be planted, then a sandy soil (30x 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 soils on site, adding topsoil 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 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 smooth the surface, remove large objects like stones and branches, and ready the area for seed and application. Where site conditions will not permit normal seedbed 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 1-3" of soil should be loose and friable. Seedbed loosening may not be necessary on
- i. 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 the 6 months
  immediately preceding the date of sowing such material on this job.
   Note: Seed tags shall be made available to the inspector to verify type and rate of seed used.
- ii. Inoculant The inoculant for treating legume seed in the seed mixtures shall be a pure culture of introgen-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

  i. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeded, or a cultipacker 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 (phosphorous): 200 lbs/ac; K20 (potassium): 200 lbs/ac.

    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 use burnt or hydrated lime when hydroseeding.
- Seed and fertilizer shall be mixed on site and seeding shall be done immediately and
- without interruption.

  ii. Dry Seeding: This includes use of conventional drop or broadcast spreaders.

  a. Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 265 or 26. The seeded area shall then be rolled with a weighted roller to provide good seed to soil contact.

  b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.
- iii. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.

  a. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed 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, ree or oat straw, reasonable bright in color, and shall not be musty, moldy, caked, decayed, or excessively dusty and shall be free of noxious weed seeds as specified in the Maryland Seed Law. ii. Wood Cellulose Fiber Mulch (WCFM)

  a. 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 sturry. 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 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 inhibiting the growth of the grass seedlings. WCFM material shall contain no elements or compounds at concentration levels that will be phytol-toxic.
- will be anytol-toxic.

  f. 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.

  Note: Only sterile straw mulch should be used in areas where one species of grass is desired.

  Mulching Seeded Areas Mulch shall be applied to all seeded areas immediately after seeding.

  i. If grading is completed outside of the seeding season, mulch along shall be applied as prescribed in this section and maintained until the seeding season returns and seeding can be performed in accordance with these specifications.
- accordance with these specifications.
- ii. 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. If a mulch anchoring tool is to be used, the rate should be increased to 2.5 tons/acre.
- iii. Wood cellulose fiber used as a mulch shall be applied at a net dry weight of 1,500 lbs. per acre. The wood cellulose fiber shall be mixed with water, and the mixture shall contain a maximum of 50 lbs. of wood cellulose fiber per 100 gallons of water.

#### DEVELOPER'S/BUILDER'S CERTIFICATE

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THIS PLAN. SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION OF CERTIFICATION OF LANDSCAPE INSTALLATION ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

6-24-02

REVISION

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 surface a minimum of two (2) inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. It used on sloping land, this practice should be used on the contour if possible.
 ii. Wood cellulose fiber may be used for anchoring straw. The fiber binder shall be applied at a net dry weight of 750 pounds/acre. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.

application to minimize loss by wind or water. This may be done by one of the following methods (listed by

of water.

iii. Application of liquid binders should be heavier at the edges where wind catches mulch, such as in valleys and crest of banks. The remainder of area should be appear uniform after binder application. Synthetic binders - such as Acrylic DLR (Agro-Tack), DCA-70 Petroset, Terra Tax II, Terra Tack AR or other approved equal may be used at rates recommended by the manufacturer to anchor mulch.

H. Securing Straw Mulch (Mulch Anchoring): Mulch anchoring shall be performed immediately following mulch

- v. Lightweight plastic netting may be stapled over the mulch according to manufacturer's recommendations. Netting is usually available in rolls 4' to 15' feet wide and 300 to 3,000 feet long.
- Incremental Stabilization Cut Slopes All cuts slopes shall be dressed, prepared, seeded and mulched as the work progresses. Slopes shall be excavated and stabilized in equal increments not to exceed 15'.
- i. Construction sequence (Refer to Figure 3 below):
- a. Excavate and stabilize all temporary swales, side ditches, or berms that will be used to convey runoff from the excavation.
   b. 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
- 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 int he operation of completing the operation out of the seeding season will necessitate the application of temporary stabilization.
- Incremental Stabilization of Embankments Fill Slopes Embankments shall be constructed in lifts as prescribed on the plans.
- ii. Slopes shall be stabilized immediately when the vertical height of the multiple lifts reaches

  15°, or when the grading operation ceases as prescribed in the plans.

  iii. At the end of each day, temporary berms and pipe slope drains should be constructed along the top edge of the embankment to intercept surface runoff and convey it down the slope in a non-erosive manner to a redirect training devices.
- of the embankment to intercept surface runoff and convey it down the slope in a non-érosive a sediment trapping device.

  Construction sequence: Refer to Figure 4 (below).

  a. Excavate and stabilize all temporary swales, side ditches, or berms that will be used to divert runoff around the fill. Construct slope silt fence on low side of fill as shown in Figure 5, unless other methods shown on the plans address this area.

  b. Place Phase 1 embankment, dress and stabilize.

  c. Place Phase 2 embankment, dress and stabilize.

  d. Place final phase embankment, dress and stabilize.

  Overseed previously seeded areas as necessary.
- areas as necessary.

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

#### SEDIMENT CONTROL NOTES

- 1) A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LISCENSES 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 MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
- 3) FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: a) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1, b) 14 DAYS
- AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE. 4) ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1
- 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 SEEDING (SEC. 5I), SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50). AND MULCHING (SEC. 52). 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 PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- 7) SITE ANALYSIS: TOTAL AREA OF SITE 1.509 ACRES 1.142 ACRES
- AREA TO BE ROOFED OR PAVED 0.383 ACRES AREA TO BE VEGETATIVELY STABILIZED 0.759 ACRES TOTAL CUT O CU.YDS 1,444.00 CU.YD5. 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 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
- BY THE INSPECTION AGENCY IS MADE 11) TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGHTS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

watering and replacement of specified plant material.

shall be repaired at the expense of the Contractor.

the plant list, the quantities on the plan take precedence

Positive drainage shall be maintained in planting beds 2 percent slope)

fertilizer per cubic yard of planting mix. Topsoil shall conform to the Landscape Guidelines.

the chemical used to assure its adaptability to the specific ground cover to be treated.

the drip line.

drawings and specifications

where noted on plans.

DATE

PLANTING SPECIFICATIONS

from defects, decay, disfiguring roots, sun scald injuries, abrasions of the bark, plant disease, insect pest eags, borers and all forms of insect

Contractor shall be required to guarantee all plant material for a period of one year after date of acceptance in accordance with the appropriate

All plant material, unless otherwise specified, shall be nursery grown, uniformly branched, have a vigorous root system, and shall conform to the species,

size, root and shape shown on the plant list and the American Association of Nurserymen (AAN) Standards. Plant material shall be healthy, vigorous, free

infestations or objectionable disfigurements. Plant material that is weak or which has been cut back from larger grades to meet specified requirements

Unless otherwise specified, all general conditions, planting operations, details and planting specification shall conform to "Landscape Specification Guidelines for Baltimore-Washington Metropolitan Areas", (hereinafter "Landscape" Guidelines") approved by the Landscape Contractors Association of Metropolitan

section of the Landscape Guidelines Contractor's attention is directed to the maintenance requirements found within the one year specifications including

Contractor may make minor adjustments in spacing and location of plant material to avoid conflicts with utilities. Damage to existing structure and utilities

Protection of existing vegetation to remain shall be accomplished by the temporary installation of 4 foot high snow fence or blaze orange safety fence at

Contractor id responsible for installing all material in the proper planting season for each plant type. All planting is to be completed within the growing

Bid shall be base on actual site conditions. No extra payment shall be made for work arising from site conditions differing from those indicated on

Plant quantities are provided for the convenience of the contractor only. If discrepancies exist between quantities shown on plan and those shown on

All shrubs shall be planted in continuous trenches or prepared planting beds and mulched with composted hardwood mulch as details and specified except

Planting mix shall be as follows: Deciduous Plants - Two parts topsoil, one part well-rotted cow or horse manure. Add 3 lbs. of standard fertilizer per

cubic yard of planting mix. Evergreen Plants - two parts topsoil, one part humus or other approved organic material. Add 3 lbs. of evergreen (acidic)

Weed Control: Incorporate a pre-emergent herbicide into the planting bed following recommended rates on the label. Caution: Be sure to carefully check

All areas within contract limits disturbed during or prior to construction not designated to receive plants and mulch shall be fine graded and seeded.

This plan is intended for landscape use only. see other plan sheets for more information on grading, sediment control, layout, etc.

Contractor shall be responsible for notifying utility companies, utility contractors and "Miss Utility" a minimum of 40 hours prior to beginning any work.

will be rejected. Trees with forked leaders will not be accepted. All plants shall be freshly dug; no healed-in plants from cold storage will be accepted.

Plants, related material, and operations shall meet the detailed description as given on the plans and as described herein

Washington and the Potomac Chapter of the American Society of Landscape Architect, latest edition, including all agenda.

APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL

### BLAZE ORANGE PLASTIC MESH ANCHOR POST SHOULD BE MINIMUM 2" STEEL "U" CHANNEL OR 2" × 2" TIMBER 6' IN LENGTI USE 2" x 4" CROSS BACKING HIGHLY VISIABLE FLAGGING MAXIMUM & FEE بنبنين بَرُوْرِ ANCHOR POST MUST BE INSTALLED USE 3' WIRE "U" TO SECURE O A DEPTH OF NO LESS THAN 1/ OF THE TOTAL HEIGHT OF POST FENCE BOTTOM

- FOREST PROTECTION DEVICE ONLY. RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS. BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
  - TREE PROTECTION DETAIL

NOT TO SCALE

PROTECTIVE SIGNAGE MAY ALSO BE USED.

DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

SCHEDULE A PERIMETER LANDSCAPE EDGE						
CATEGORY	ADJACENT TO ROADWAYS	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES		
LANDSCAPE TYPE	NONE REQUIRED	TYPE 'A'	TYPE 'A'	TYPE 'A'		
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	0	612' (A)	208'B	637 <sup>.</sup> ©		
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NA	YE5, <b>180'</b>	YE5, <b>208'</b>	YE5, 220°		
CREDIT FOR WALL FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NA	NO	NO	NO		
NUMBER OF PLANTS REQUIRED SHADE TREES EVERGREEN TREES SHRUBS	NA NA NA	7 0 0	0 0 0	8 0 0		
NUMBER OF PLANTS PROVIDED SHADE TREES EVERGREEN TREES OTHER TREES (2:1 SUBSTITUTION) SHRUBS (10:1 SUBSTITUTION) (DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)	NA NA NA NA	7 0 0 0	0 0 0 0	8 0 0 0		

\* CREDIT FOR EXISTING TREES TO REMAIN ALONG THE EASTERN, SOUTHERN & WESTERN PROPERTY LINES.

DOUBLE #12 GALVANIZED~

REMOVE ANY COVERING-

TOPSOIL MIXTURE-

WIRE GUYS TWISTED

NOTCH STAKES T

HOLD WIRE

LANDSCAPING PLANT LIST

QTY. BOTANICAL NAME/COMMON NAME | SIZE | ROOT

EVERGREEN PLANTING DETAIL

NOT TO SCALE

ACER REDRUM/RED MAPLE

2 1/2" MIN.

REINFORCED

RUBBER HOSE

1/2 OF TREE HEIGHT

CONSTRUCT 3' SAUCER

RIM-FLOOD WITH WATER

TWICE WITHIN 24 HOURS

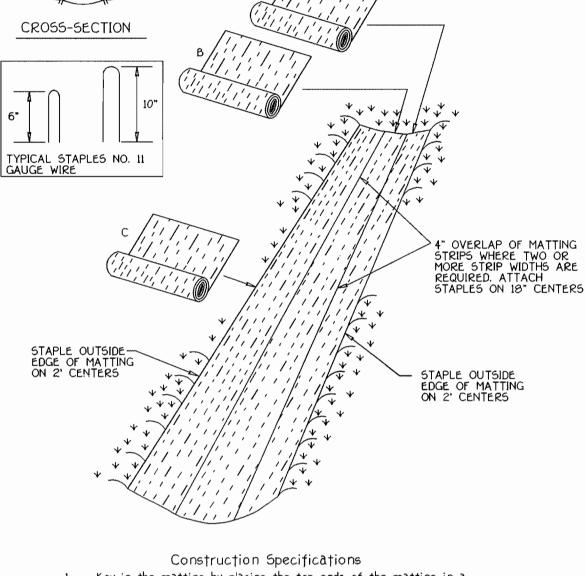
GROUND LINE SAME

AS IN NURSERY

(APPROX. 3 FEET)

# 4. INSTALL TEMPORARY SEEDING

- 5. CONSTRUCT BUILDINGS 6. FINE GRADE SITE AND INSTALL PERMANENT SEEDING AND LANDSCAPE REMOVE SEDIMENT CONTROL DEVICES AS UPLAND AREAS ARE STABILIZED
- AND PERMISSION IS GRANTED BY E/S CONTROL INSPECTOR.



- 1. Key-in the matting by placing the top ends of the matting in a narrow trench, 6" in depth. Backfill the trench and tamp firmly to conform to the channel cross-section. Secure with a row of staples about 4" down slope from the trench. Spacing between staples is 6".
- 2. Staple the 4" overlap in the channel center using an 18" spacing between staples.
- Before stapling the outer edges of the matting, make sure the
- matting is smooth and in firm contact with the soil. Staples shall be placed 2' apart with 4 rows for each strip, 2
- outer rows, and 2 alternating rows down the center. 5. Where one roll of matting ends and another begins, the end of
- the top strip shall overlap the upper end of the lower strip by 4", shiplap fashion. Reinforce the overlap with a double row of staples spaced 6" apart in a staggered pattern on either side. 6. The discharge end of the matting liner should be similarly
- secured with 2 double rows of staples. Note: If flow will enter from the edge of the matting then the area effected by the flow must be keyed-in.

## EROSION CONTROL MATTING

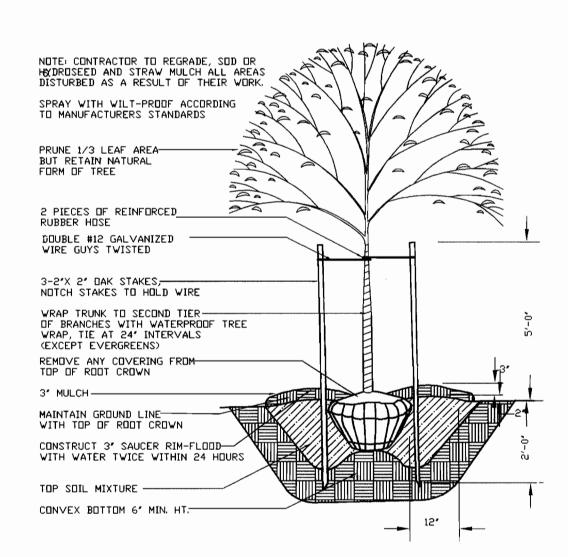
NOT TO SCALE

### SEQUENCE OF CONSTRUCTION

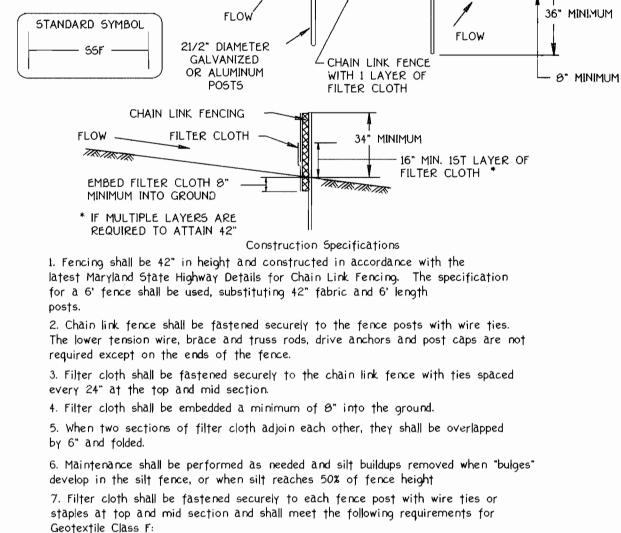
- OBTAIN GRADING PERMIT 2. INSTALL SEDIMENT AND EROSION CONTROL DEVICES AS SHOWN ON PLAN 7 DAYS S. CLEAR AND GRUB TO LIMITS OF DISTURBANCE
- 2 DAYS 60 DAYS

4 DAYS

14 DAYS



# TREE PLANTING DETAIL



10' MAXIMUM

34" MINIMUM

1/8/1/8/1/8

NOTE: FENCE POST SPACING

--- CENTER TO CENTER

SHALL NOT EXCEED 10'

TRIBINITATION

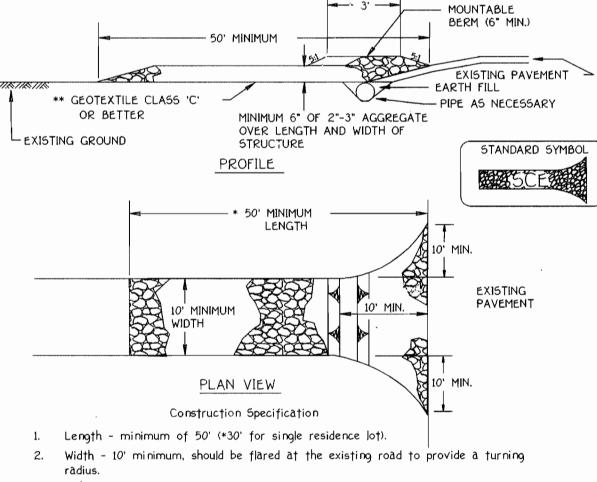
GROUND 1

SURFACE

Test: MSMT 509 Tensile Strength 50 lbs/in (min.) 20 lbs/in (min.) Test: MSMT 509 Tensile Modulus Test: MSMT 322 Flow Rate 0.3 gal/ft /minute (max.) Test: MSMT 322 Filtering Efficiency 75% (min.)

	Desi	gn Criteria	
ope	Slope Steepness	Slope Length (maximum)	Silt Fence Length (maximum)
- 10%	0 - 10:1	Unlimited	Unlimited
- 20%	10:1 - 5:1	200 feet	1,500 feet
0 - 33%	5:1 - 3:1	100 feet	1,000 feet
3 - 50%	3:1 - 2:1	100 feet	500 feet
50% +	2:1 +	50 feet	250 feet

SUPER SILT FENCE NOT TO SCALE

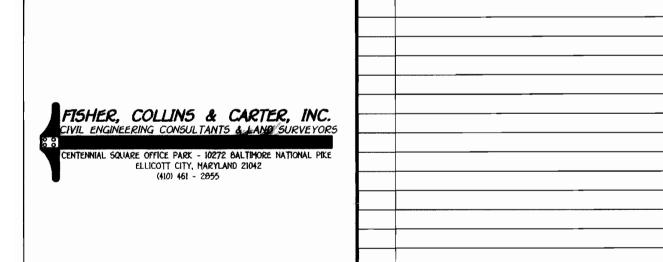


3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. \*\*The plan approval authority may not require single family

entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has 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 according to the amount of runoff to be conveyed. A 6" 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.

STABILIZED CONSTRUCTION ENTRANCE





ENGINEER'S CERTIFICATE I certify that this plan for erosion and sediment control represents a practical and workabl 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 HARLES J. CROVO, SR. BUILDER/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 also authorize periodic on-site inspection by the Howard Soil Conservation District 6-24-02 ROBERT CORBETT

OWNER/BUILDER/DEVELOPER WILLIAMSBURG GROUP, LLC 5485 HARPERS FARM ROAD COLUMBIA, MARYLAND 21044 410-997-8800

8/23/02 , 2,3 & 4 ARTIN'S GATE ZONE TAX/ZONE | ELEC. DIST. CENSUS TR. R-20 6022.00 WATER CODE SEWER CODE 5758200

SEDIMENT, EROSION CONTROL NOTES & DETAILS LANDSCAPE NOTES & DETAILS

SINGLE FAMILY DETACHED

MARTIN'S GATE

TAX MAP No: 17 PARCEL: 57 BLOCK NO.:14 SECOND ELECTION DISTRICT, HOWARD COUNTY, MARYLAND SCALE: 1"= 30' DATE: MAY, 2002

SHEET 3 OF 3

LOTS 2,3 & 4

residences to use geotextile. 4. Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete

SDP 02-130

equivalent shall be placed at least 6" deep over the length and width of the 5. Surface Water - all surface water flowing to or diverted toward construction

Location - A stabilized construction entrance shall be located at every point

