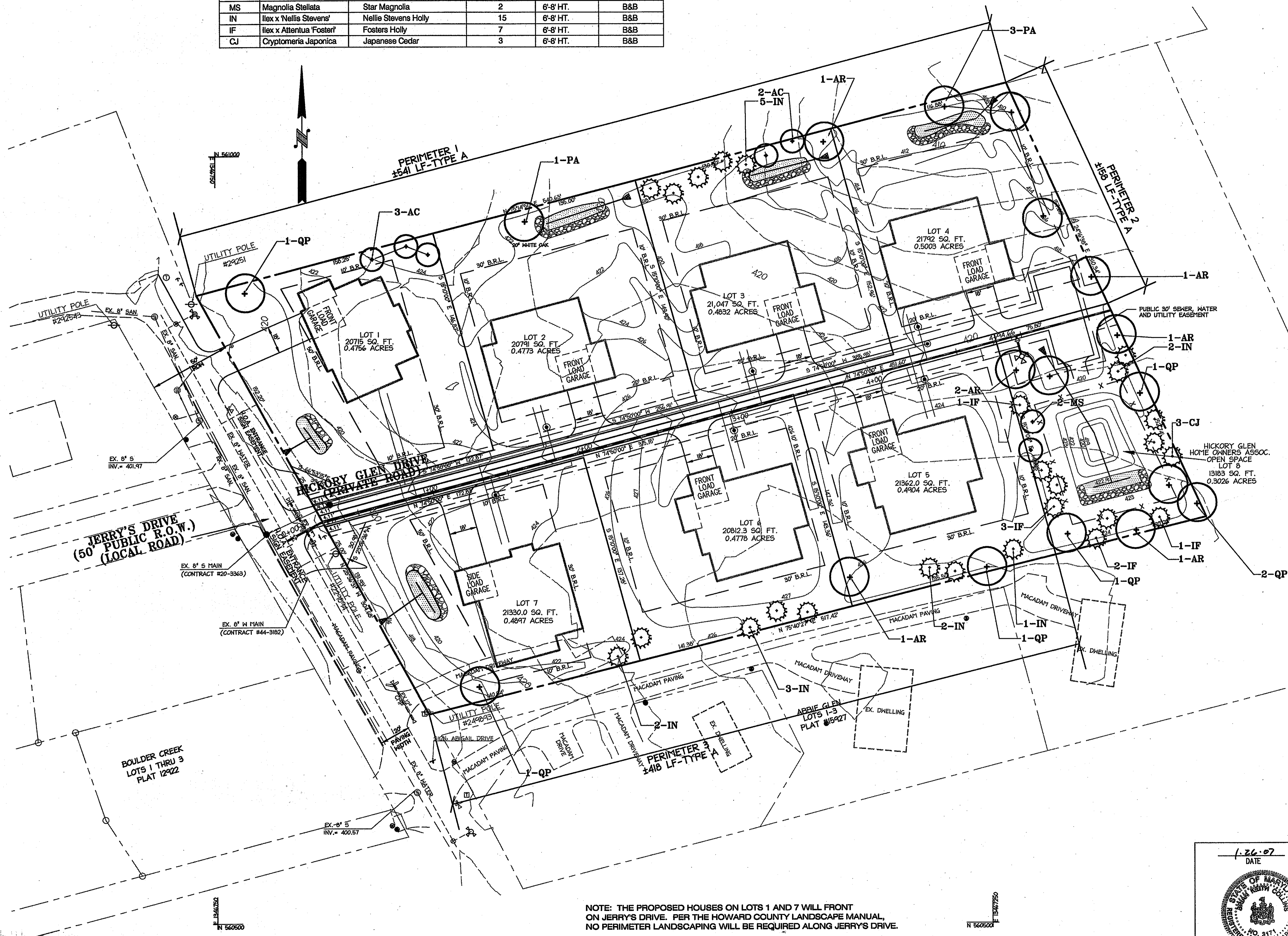


**PLANT LIST:**

SYMBOL	LATIN NAME	COMMON NAME	QUANTITY	SIZE	REMARKS
AR	Acer Rubrum 'Oct. Glory'	'October Glory' Red Maple	7	2 1/2" - 3" caliper	B&B
QP	Quercus Phellos	Willow Oak	7	2 1/2" - 3" caliper	B&B
PA	Platanus x Acerifolia	London Plane Tree	4	2 1/2" - 3" caliper	B&B
AC	Amelanchier Canadensis	Serviceberry	5	8'-10' HT.	B&B
MS	Magnolia Stellata	Star Magnolia	2	6'-8' HT.	B&B
IN	Ilex x Nellis Stevens'	Nellis Stevens Holly	15	6'-8' HT.	B&B
IF	Ilex x Attenuata 'Foster'	Fosters Holly	7	6'-8' HT.	B&B
CJ	Cryptomeria Japonica	Japanese Cedar	3	6'-8' HT.	B&B

**LEGEND**

EXISTING CONTOURS	---	416
PROPOSED CONTOUR	---	416
EXISTING STORM DRAIN	---	EX. 12" RCP
EXISTING SANITARY SEWER	---	EX. 8" SAN
EXISTING WATER	---	EX. 6" WATER
EXISTING FENCE	---	X
PROPERTY LINE	---	
PROPOSED RIGHT OF WAY LINE	---	
PROPOSED STORM DRAIN	---	
PROPOSED SETBACK LINES	---	
PROPOSED 24' USE-IN-COMMON PRIVATE ACCESS EASEMENT	---	
PROPOSED WATER	---	PROP. 4" W.
PROPOSED SANITARY SEWER	---	PROP. 8" S.
PROPOSED SHADE TREE	+	
PROPOSED ORNAMENTAL TREE	+	
PROPOSED EVERGREEN TREE	+	
BIORETENTION AREAS	---	



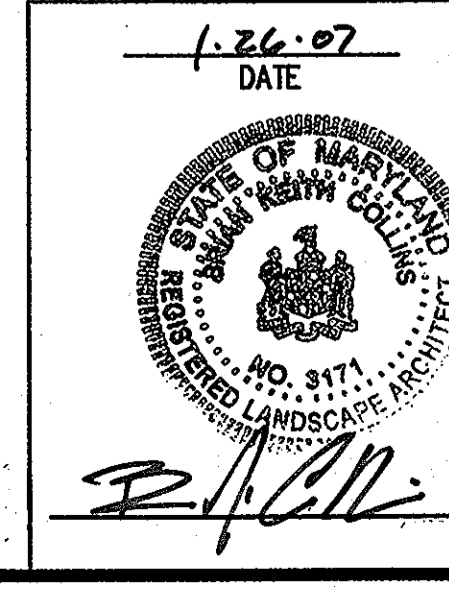
NOTE: THE PROPOSED HOUSES ON LOTS 1 AND 7 WILL FRONT ON JERRY'S DRIVE. PER THE HOWARD COUNTY LANDSCAPE MANUAL, NO PERIMETER LANDSCAPING WILL BE REQUIRED ALONG JERRY'S DRIVE.

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 Chief, Division of Land Development  
 Chief, Development Engineering Division

**HICKORY GLEN - LOTS 1-7 AND OPEN SPACE LOT 8**  
 OWNER / DEVELOPER  
 THE WILLIAMSBURG GROUP  
 CONTACT: BOB CORBETT

**christopher consultants**  
 engineering · surveying · land planning  
 christopher consultants, llc  
 7172 columbia gateway drive (suite 100) · columbia, md. 21046-2880  
 410.372.8890 · fax: 410.372.8880

PERMIT INFORMATION CHART				
PROJECT NAME	HICKORY GLEN		LOT/PARCEL NO.	LOTS 1-8 P/O PARCEL 179
PLAT NO.	GRID NO.	ZONE	TAX MAP	ELECTION DISTRICT
12	12	R-20	35	5TH
WATER CODE	IE 20	PUBLIC	SEWER CODE	5525500 PUBLIC
TITLE:				
<b>LANDSCAPE PLAN</b> (SUPPLEMENTAL PLAN FOR F-05-193)				
DESIGN: LNG	SCALE: 1"=30'	PROJECT: DS8001.01		
DRAWN: LNG	DATE: 1-26-07	1 OF 8		
CHECKED: BKC	APPROVED:			





**SCHEDULE A  
PERIMETER LANDSCAPE EDGE**

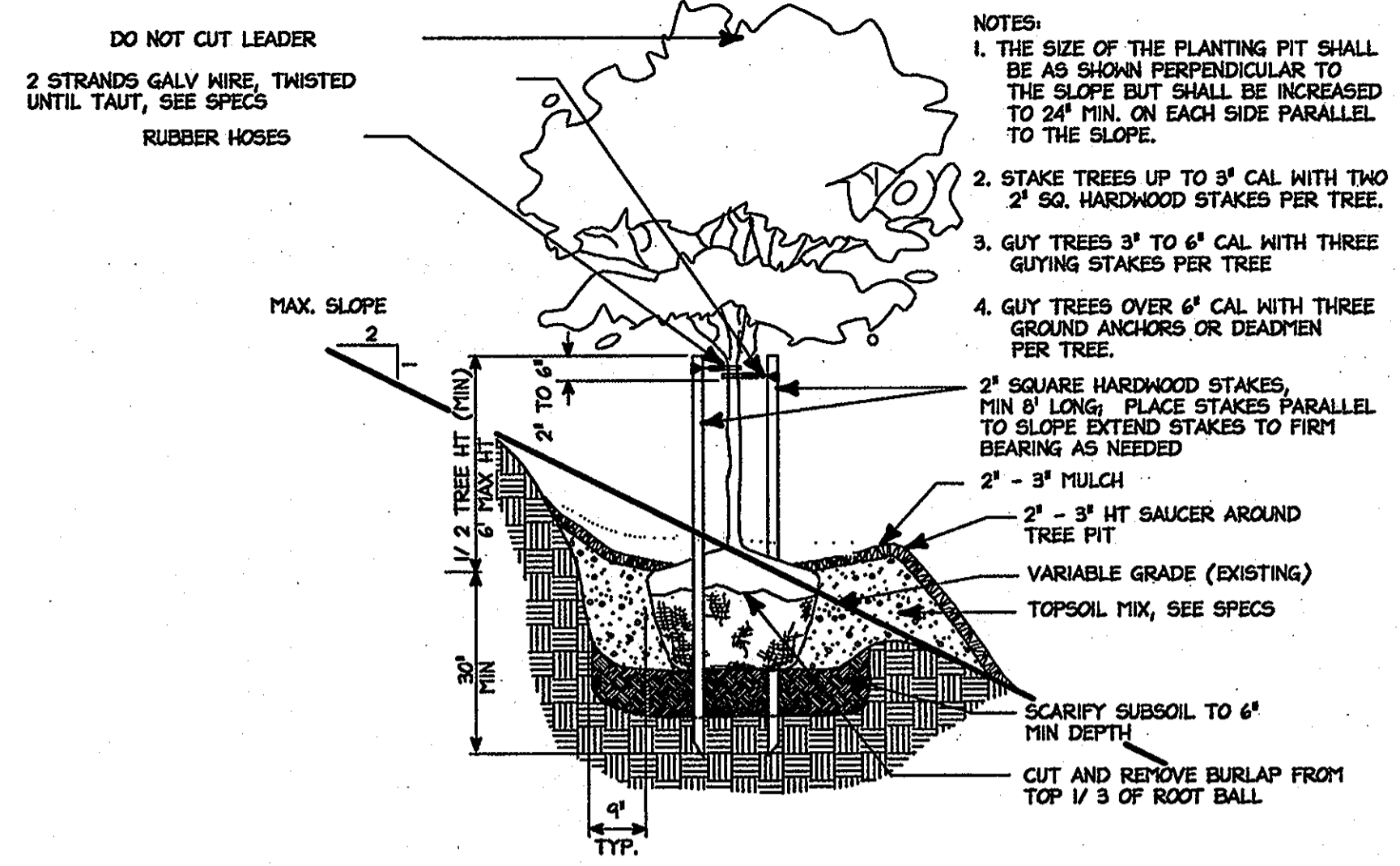
CATEGORY	ADJACENT TO PERIMETER PROPERTIES			TOTAL
	P 1	P 2	P 3	
LANDSCAPE TYPE 'A'	P 1	P 2	P 3	
LINEAR FEET OF PERIMETER	541 LF.	150 LF.	410 LF.	1107 LF.
CREDIT FOR EXISTING VEGETATION (DESCRIBE BELOW IF NEEDED)	N/A	N/A	N/A	-----
REMAINING LINEAR FEET OF PERIMETER (PERIMETER - CREDIT)	N/A	N/A	N/A	-----
NUMBER OF PLANTS REQUIRED				
SHADE TREES	4	3	7	14
EVERGREEN TREES	0	0	0	0
SHRUBS	0	0	0	0
NUMBER OF PLANTS PROVIDED				
SHADE TREES	4*	3	3*	10
EVERGREEN TREES	5	0	8	13
OTHER TREES (24 SUBSTITUTION)	5	0	0	5
SHRUBS (104 SUBSTITUTION)	0	0	0	0
DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED				

\* NOTES:  
P1 - 5 ORNAMENTAL TREES AND 5 EVERGREEN TREES SUBSTITUTED FOR 4 SHADE TREES  
P3A - 6 EVERGREEN TREES SUBSTITUTED FOR 4 SHADE TREES

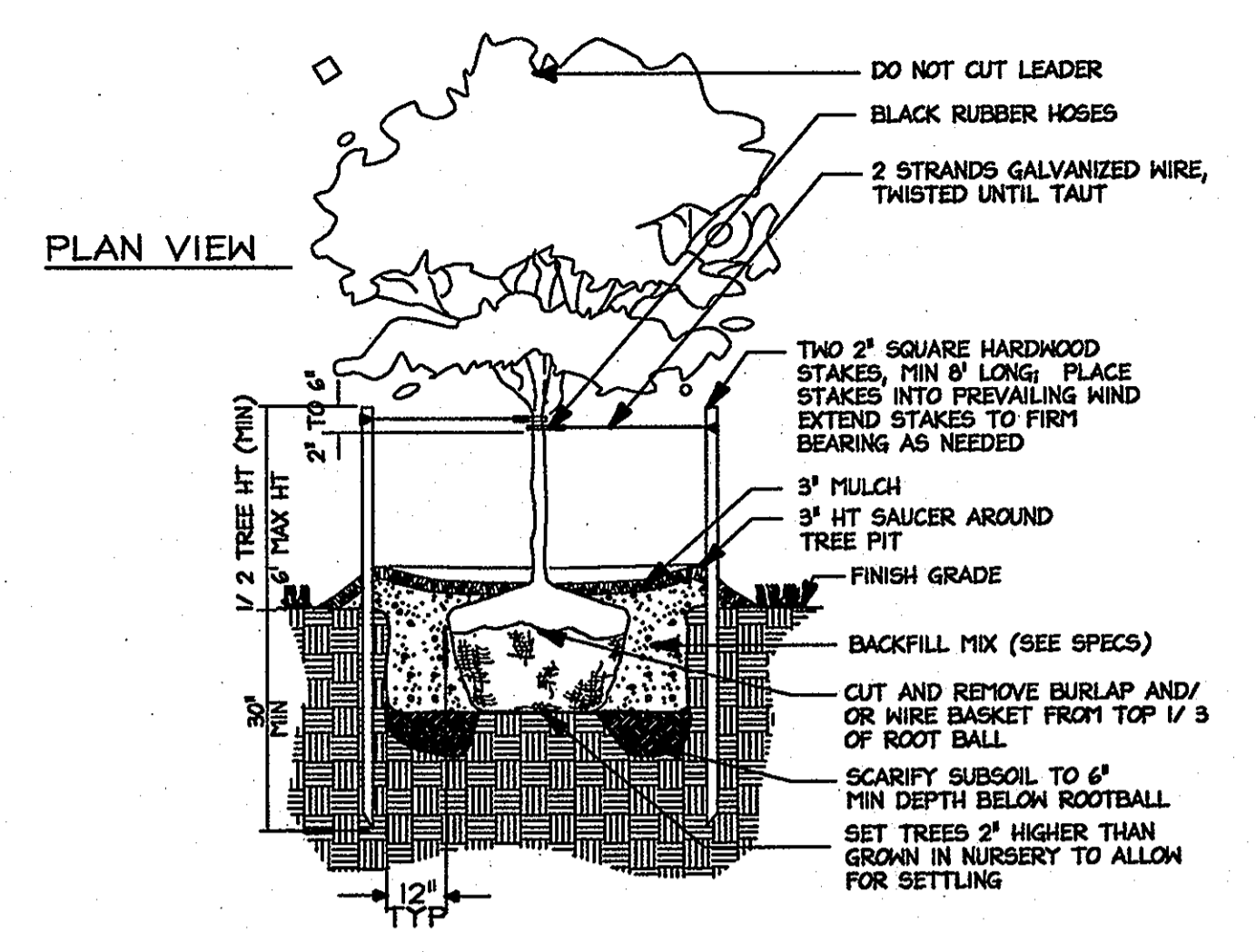
**SCHEDULE D  
STORMWATER MANAGEMENT AREA LANDSCAPING**

LINEAR FEET OF PERIMETER	441 LF.
NUMBER OF TREES REQUIRED	4 SHADE TREES 12 EVERGREEN TREES
CREDIT FOR EXISTING VEGETATION (NO, YES AND %)	NO
CREDIT FOR OTHER LANDSCAPING (NO, YES AND %)	NO
NUMBER OF TREES PROVIDED	8 SHADE TREES 12 EVERGREEN TREES 2 ORNAMENTAL TREES

NOTE:  
2 ORNAMENTAL TREES HAVE BEEN SUBSTITUTED FOR 1 SHADE TREE.



**A TREE PLANTING ON SLOPE DETAIL**  
Not To Scale



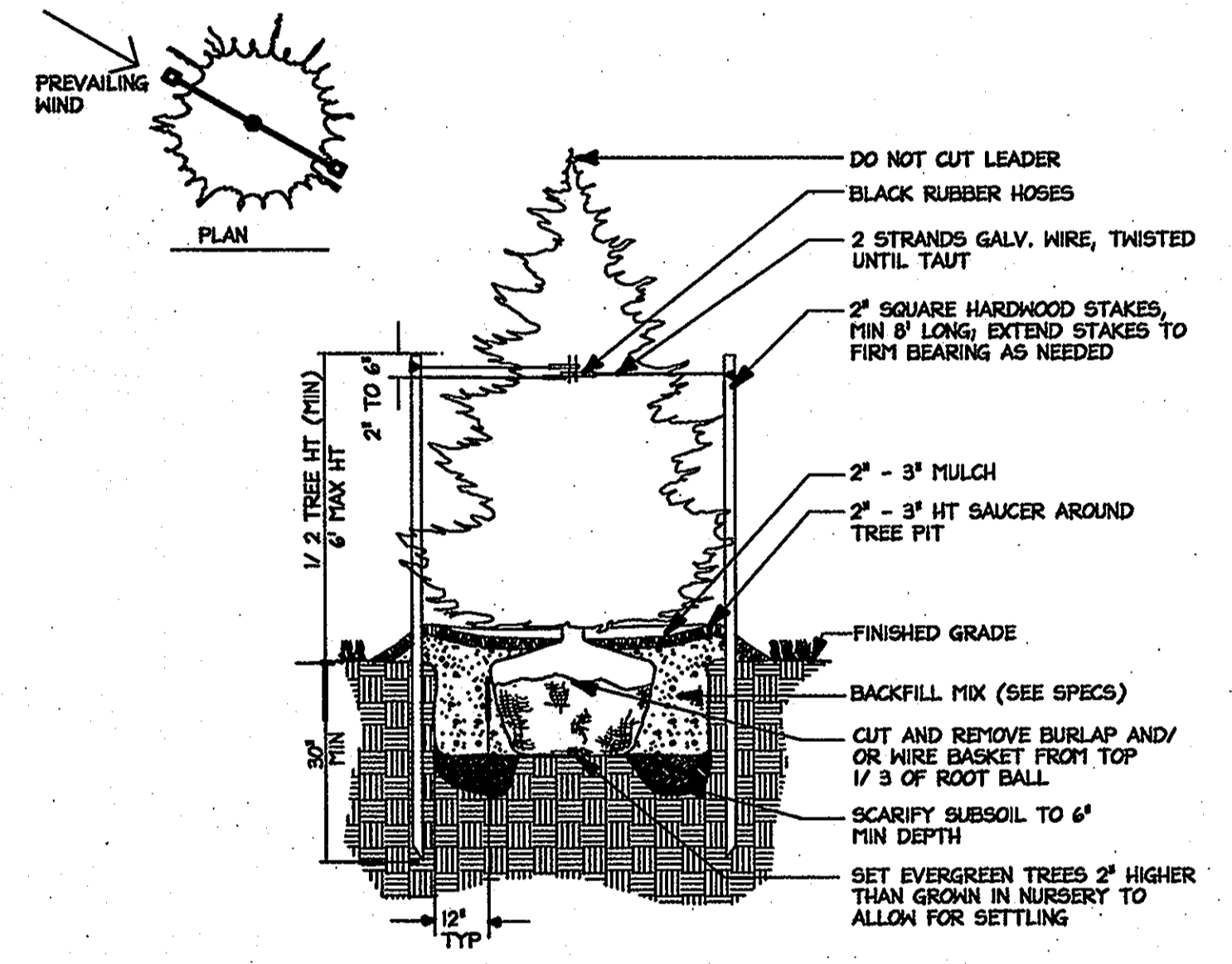
**B TREE PLANTING DETAIL**  
Not To Scale

**GENERAL PLANTING NOTES**

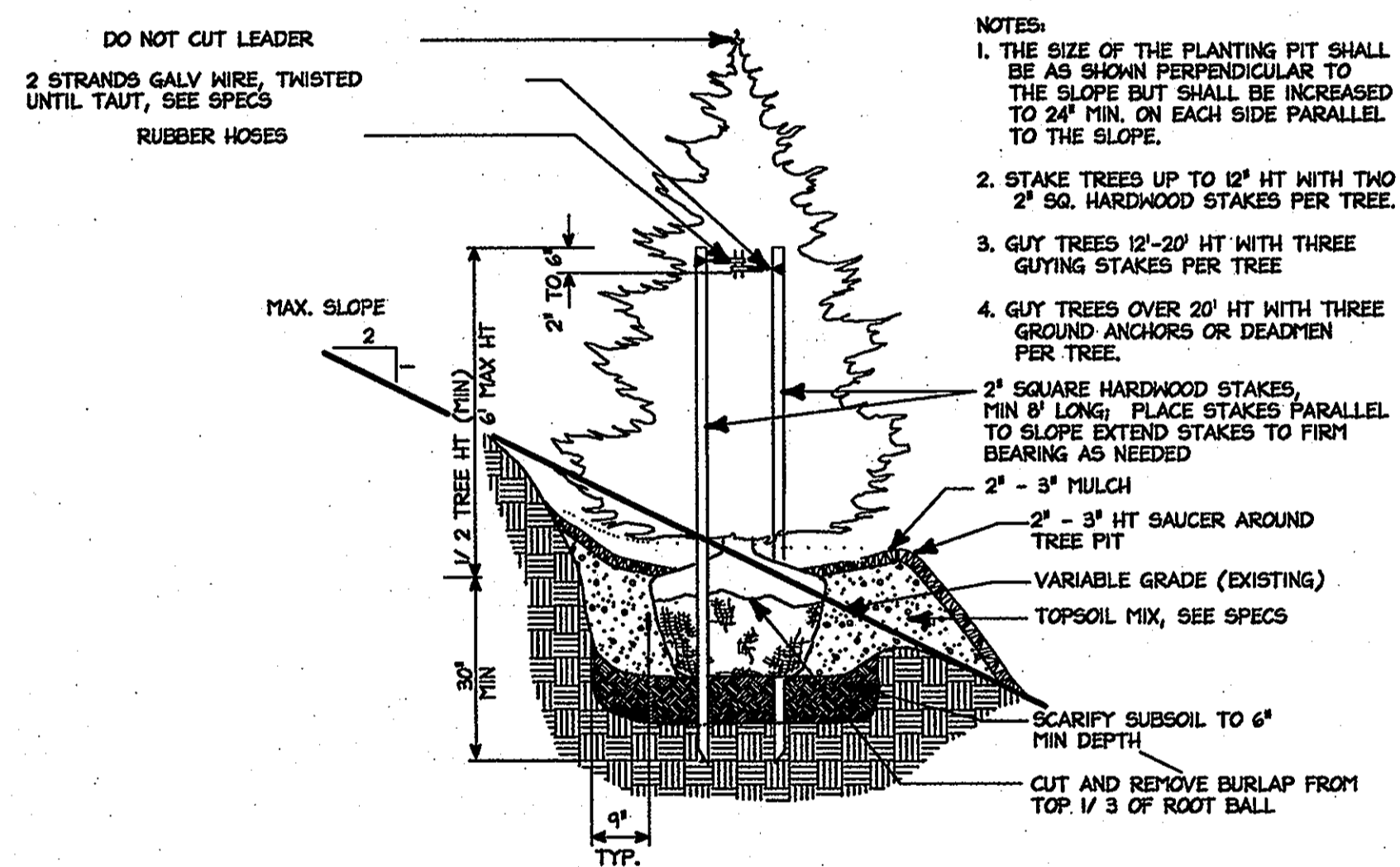
- ALL PLANT MATERIAL TO MEET A.A.N. STANDARDS.
- LANDSCAPING CONTRACTOR TO FOLLOW LANDSCAPE SPECIFICATION GUIDELINES FOR BALTIMORE WASHINGTON METRO AREA APPROVED BY LCAMA.
- NO SUBSTITUTIONS TO BE MADE WITHOUT CONSENT OF LANDSCAPE ARCHITECT OR OWNER.
- IN THE EVENT OF VARIATION BETWEEN QUANTITIES SHOWN ON THE PLANT LIST AND THE PLANS, THE PLANS SHALL CONTROL. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL PLANT QUANTITIES PRIOR TO THE COMMENCEMENT OF WORK. SOO QUANTITY TAKE-OFFS ARE THE RESPONSIBILITY OF THE CONTRACTOR. ALL DISCREPANCIES SHALL BE REPORTED TO THE LANDSCAPE ARCHITECT FOR CLARIFICATION PRIOR TO BIDDING. THE CONTRACTOR SHALL FURNISH PLANT MATERIAL IN SIZES AS SPECIFIED IN THE PLANT LIST.
- ALL BEDS TO BE TOPPED WITH THREE INCHES OF HARDWOOD MULCH.
- LANDSCAPE CONTRACTOR TO VERIFY LOCATION OF UTILITIES WITH OWNERS BEFORE PLANTING.
- LANDSCAPE ARCHITECT/OWNER SHALL SELECT, VERIFY AND/OR APPROVE ALL PLANT MATERIAL. AT OWNER'S DISCRETION, SPECIMEN AND OTHER PLANT MATERIAL WILL BE SELECTED.
- LANDSCAPE CONTRACTOR SHALL COORDINATE PLANT BED FILLING OPERATIONS AND PLANT MATERIAL INSTALLATION WITH GENERAL CONTRACTOR AND UTILITIES CONTRACTOR. AT THE TIME OF FINAL INSPECTION WITH ACCEPTANCE, ALL ELECTRIC, WATER, DRAINAGE, AND FOUNTAIN UTILITIES, AS WELL AS ALL PLANT MATERIALS, SHALL REMAIN UNDAMAGED. LIKEWISE, LANDSCAPE CONTRACTOR AND UTILITIES CONTRACTOR SHALL COORDINATE EFFORTS TO ENSURE THAT SURFACE UTILITIES ARE AT THE PROPER ELEVATION RELATIVE TO FINAL GRADES.
- CONTRACTOR SHALL NOTIFY MISS UTILITY 72 HOURS PRIOR TO CONSTRUCTION.
- THE OWNER, TENANT, AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, INCLUDING BOTH PLANT MATERIALS AND BERRIS, FENCES AND WALLS. 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 OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.

- TOPSOIL MIX
  - Planting mix shall be prepared at approved on-site staging area using approved on-site existing soil. Mix minimum quantities of 20 cubic yards or sufficient mix for entire job if less than 20 cubic yards is required.
  - Thoroughly mixed in the following proportions for tree and shrub planting mix:
    - 5 cy existing soil
    - 2 cy sharp sand
    - 3 cy wood residuals
    - 4.5 lbs treble superphosphate
    - 5 lbs dolomite limestone (eliminate for acid loving plants)
  - For bed planting, shrubs and groundcover species 24 inches or closer, incorporate the following ingredients per 20 sf and incorporate into top 8 inches of existing soils by rototilling or similar method of incorporation.
    - 2 cy sharp sand
    - 3 cy organic material
    - 4.5 lbs treble superphosphate
    - 5 lbs dolomite limestone (eliminate for acid loving plants)

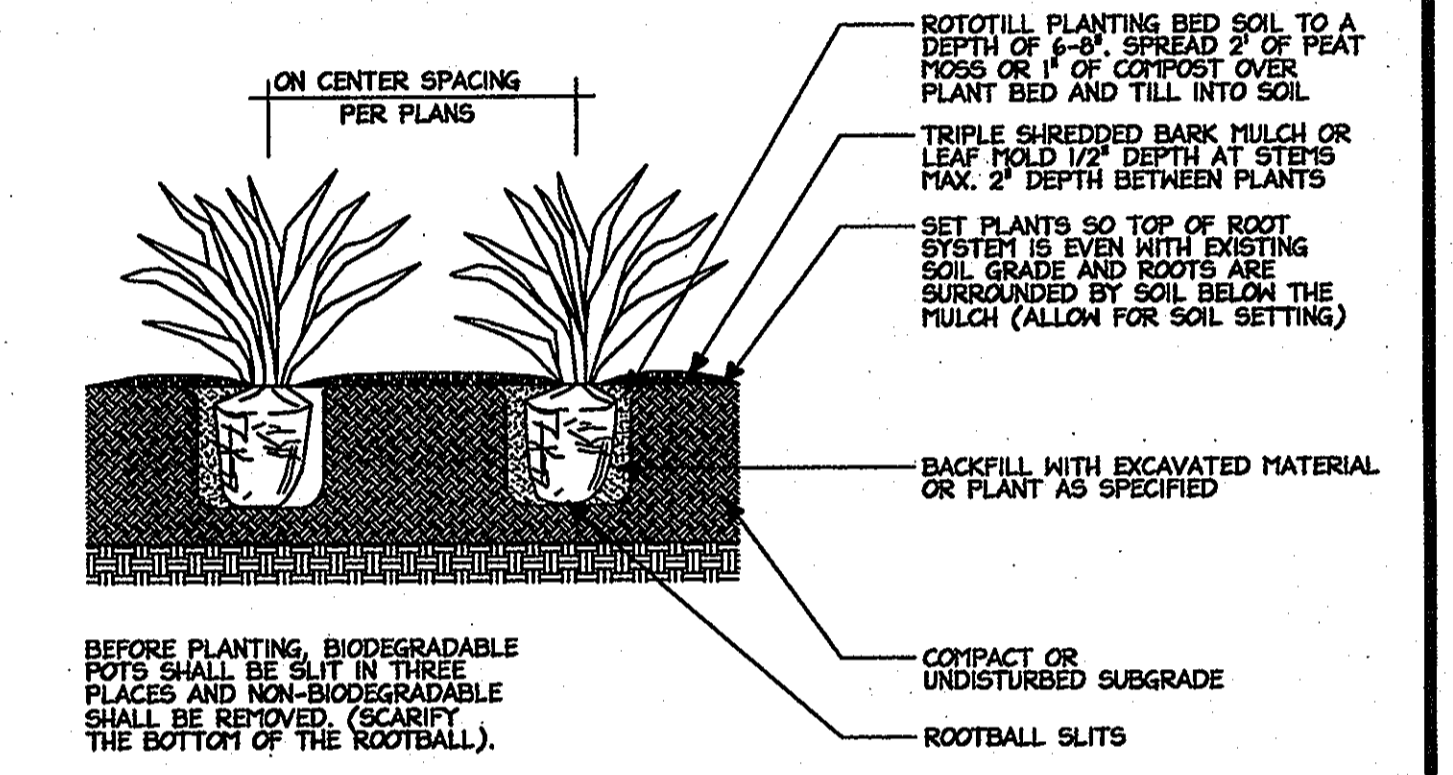
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HO. CO. CODE. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING IN THE AMOUNT OF \$10,200.00 MUST BE POSTED AS PART OF THE F-05-1B DEVELOPER'S AGREEMENT. (28 SHADE TREES AND 12 EVERGREEN TREES).
- AT THE TIME OF PLANT INSTALLATION, ALL SHRUBS AND TREES LISTED AND APPROVED ON THE LANDSCAPE PLAN, SHALL COMPLY WITH THE PROPER HEIGHT REQUIREMENT IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE 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 DEVIATION 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 APPLICABLE PLANS.
- 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 LANDSCAPING MANUAL. I/WE FURTHER CERTIFY THAT UPON TREES 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.



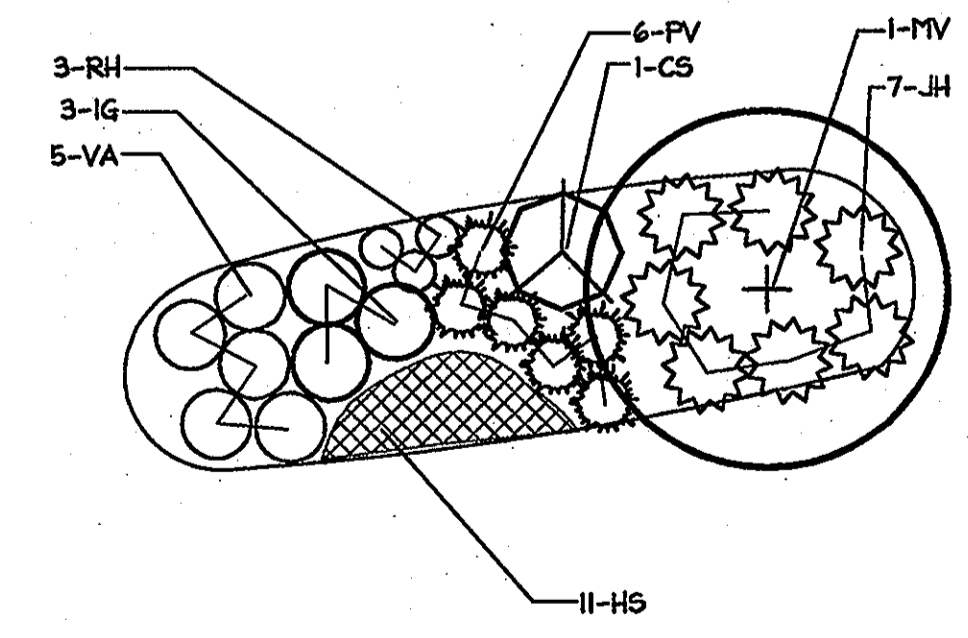
**C EVERGREEN TREE PLANTING DETAIL**  
Not To Scale



**D EVERGREEN TREE PLANTING ON SLOPE DETAIL**  
Not To Scale



**E PERENNIAL PLANTING**  
Not To Scale



**G TYPICAL BIORETENTION PLANTING DETAIL**  
SCALE: 1"=10'

Note: Modifications may be required to adjust the typical bioretention layout plantings to those shown on the Landscape Plan.

**BIORETENTION PLANT LIST:**

SYMBOL	LATIN NAME	COMMON NAME	QUANTITY	SIZE	REMARKS
MV	MAGNOLIA VIRGINICA	SHEETBAY MAGNOLIA	1	10'-12'	EMB
CS	CORNUS STOLONIFERA	RED THIGH DOGWOOD	1	36"	
IG	ILEX GLABRA	INKBERRY HOLLY	3	36"	4' O.C.
JH	JUNIPERUS HORIZONTALIS	CREeping JUNIPER	7	26"	3' O.C.
PV	PANICUM VIRGATUM	SWITCH GRASS	6	36"	3' O.C.
VA	VACCINIUM AUGUSTIFOLIUM	LOW BLUEBERRY	5	36"	3' O.C.
RH	RUDEBECKIA HIRTA	BLACK EYED SUSAN	3	16"	2' O.C.
H5	HEYEROCALLIS SPP.	*STELLA DORA* DAYLILY	11	14"	18' O.C.

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Chris Hamstra* 3/28/07  
 Chief, Division of Land Development  
*Michael...* 2/5/07  
 Chief, Development Engineering Division

**HICKORY GLEN - LOTS 1-7  
AND OPEN SPACE LOT 8**

**OWNER / DEVELOPER**  
 THE WILLIAMSBURG GROUP 5485 HARPER'S FARM RD. P.O. BOX 1018  
 COLUMBIA, MARYLAND 21044  
 CONTACT: BOB CORBETT TEL. (410) 997-8880 FAX (410) 997-4358

**christopher consultants**  
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 410.922.8800 • fax: 410.922.8801 • 12110 E. 11th St. • Columbia, MD 21046

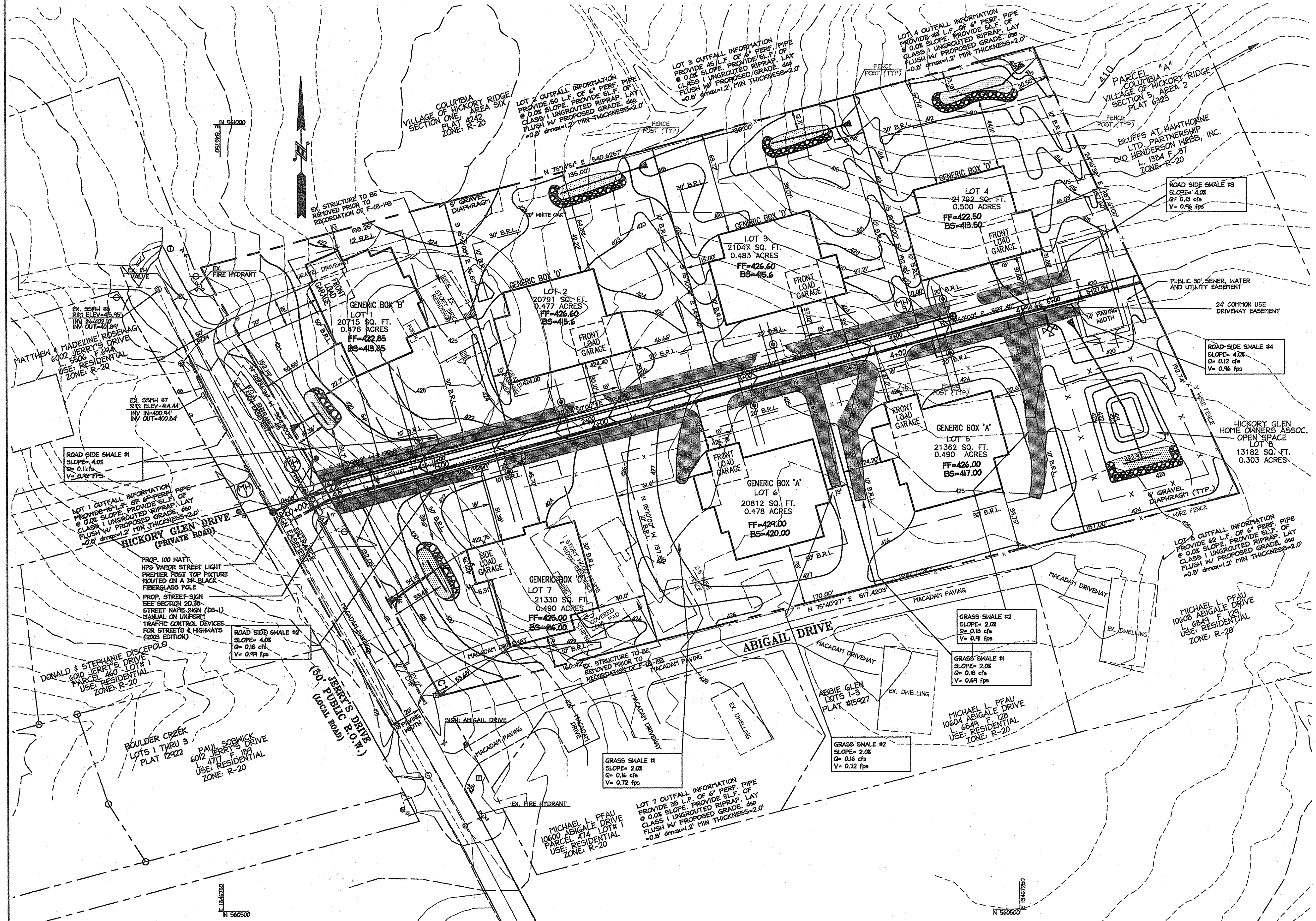
**PERMIT INFORMATION CHART**

PROJECT NAME	LOT/PARCEL NO.	CENSUS TRACT		
HICKORY GLEN	LOTS 1-8 P/O PARCEL 179	06056.02		
PLAT NO.	GRID NO.	ZONE	TAX MAP	ELECTION DISTRICT
	12	R-20	35	5TH
WATER CODE	IE 28	SEWER CODE	5325500	
	PUBLIC	PUBLIC		

**LANDSCAPE DETAILS**  
(SUPPLEMENTAL PLAN FOR F-05-193)

DESIGN:	LANG	SCALE:	AS SHOWN	PROJECT:	058001.01
DRAWN:	LANG	DATE:	1-25-07		
CHECKED:	BKG	APPROVED:			





**LEGEND**

- EXISTING CONTOURS: --- 416
- EXISTING STORM DRAIN: --- EX. 12" RCP
- EXISTING SANITARY SEWER: --- EX. 8" SAN
- EXISTING WATER: --- EX. 6" WATER
- EXISTING TRANSFORMER: [Symbol]
- EXISTING TRANSFORMER: [Symbol]
- EXISTING MAILBOX: [Symbol]
- EXISTING PLAYGROUND: [Symbol]
- EXISTING FENCE POST: [Symbol]
- EXISTING FENCE: [Symbol]
- PROPERTY LINE: [Symbol]
- PROPOSED STORM DRAIN: [Symbol]
- TO BE REMOVED: TBR
- TREELINE: [Symbol]
- WATER QUALITY SHALES: [Symbol]
- BIORETENTION AREAS: [Symbol]
- PROPOSED SEWER: PROP. 4" SHC
- PROPOSED WATER: PROP. 2" WHC
- FLOW AREAS: 100 YR FLOW
- BUILDING RESTRICTION LINES: [Symbol]

LOT NO.	SHC INV. PROPERTY LINE	HO. CO. DETAIL NO.	SLOPE (%)	MIN. CELLAR ELEVATION
1	407.80	DETAIL S2.12	2	410.23
2	408.48	DETAIL S2.12	2	410.13
3	409.48	DETAIL S2.12	2	411.12
4	410.37	DETAIL S2.12	2	411.34
5	410.53	DETAIL S2.12	2	412.34
6	409.52	DETAIL S2.12	2	411.33
7	408.37	DETAIL S2.12	2	410.38

\* SLOPE FROM ROAD TO PROPERTY LINE

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Chris Hantz* 2/28/07  
 Chief, Division of Land Development  
*Bob Corbett* 2/5/07  
 Chief, Development Engineering Division

Date: No. Revision Description  
**HICKORY GLEN - LOTS 1-7 AND OPEN SPACE LOT 8**  
**OWNER / DEVELOPER**  
 THE WILLIAMSBURG GROUP 5495 HARPER'S FARM RD., P.O. BOX 1016  
 CONTACT: BOB CORBETT COLUMBIA, MARYLAND 21044  
 TEL. (410) 947-8860 FAX (410) 947-4568

**christopher consultants**  
 engineering • surveying • land planning  
 christopher consultants, Inc.  
 7172 Columbia Gateway Drive Suite 103 Columbia, MD 21043-2990  
 410.872.8850 - mem 301.881.0146 - fax 410.872.8853

**PERMIT INFORMATION CHART**

PROJECT NAME HICKORY GLEN	LOT/PARCEL NO. LOTS 1-8 P/O PARCEL 174	CENSUS TRACT 06056.02
PLAT NO. 12	GRID NO. R-20	TAX MAP 35
WATER CODE 1E 26 PUBLIC	SEWER CODE 5255500 PUBLIC	ELECTION DISTRICT 5TH

TITLE:  
**GRADING PLAN**  
 (SUPPLEMENTAL PLAN FOR F-05-193)

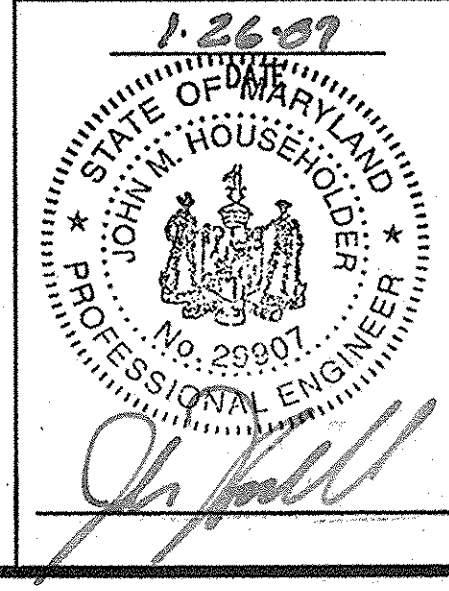
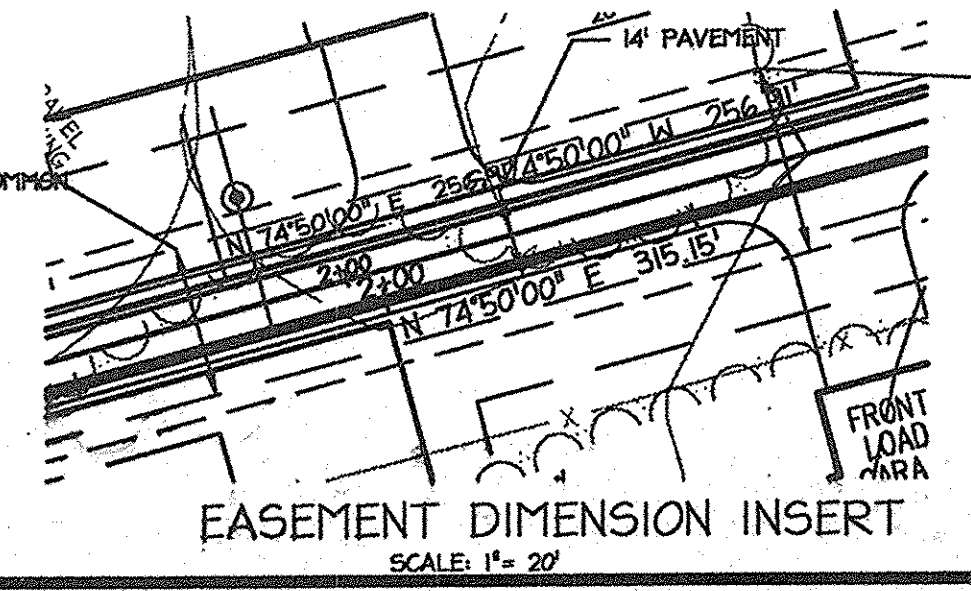
DESIGN: ENJ	SCALE: 1" = 50'	PROJECT: 046001.01
DRAWN: DAM	DATE: 1-26-07	
CHECKED: JPH	APPROVED:	<b>3 OF 8</b>

**BIORETENTION SUMMARY SHEET**

Lot #	Area required (sq)	Area Provided (sq)	Planting Soil Depth (ft)	Rev Required (cf)	Rev provided (cf)	Rev depth	Remarks
1	199	251.1	2.5	36.3	50.22	0.5	Surface layer elevation= 419.5 Inv. At outfall =415.5
2	192.96	279	2.5	35.1	55.8	0.5	Surface layer elevation= 421.8 Inv. At outfall =417.8
3	195.7	265.1	2.5	35.6	53.0	0.5	Surface layer elevation= 415.8 Inv. At outfall =411.8
4	215.72	279	2.5	39.3	55.8	0.5	Surface layer elevation= 411.8 Inv. At outfall =407.8
7	174.1	279	2.5	31.7	36.8	0.33	Surface layer elevation= 419.9 Inv. At outfall =415.9
8	39.2	200	2.5	7.1	13.6	0.17	Surface layer elevation= 422.9 Inv. At outfall =418.9

**MINIMUM LOT SIZE CHART**

LOT NO.	GROSS AREA	PIPE STEM AREA	MINIMUM LOT SIZE
1	20,715 SQ.FT.	---	20,715 SQ.FT.
2	20,791 SQ.FT.	494 SQ.FT.	20,302 SQ.FT.
3	21,047 SQ.FT.	1026 SQ.FT.	20,021 SQ.FT.
4	21,792 SQ.FT.	1544 SQ.FT.	20,248 SQ.FT.
5	21,362 SQ.FT.	1262 SQ.FT.	20,100 SQ.FT.
6	20,812 SQ.FT.	643 SQ.FT.	20,114 SQ.FT.
7	21,330 SQ.FT.	---	21,330 SQ.FT.
8	13,182 SQ.FT.	---	13,182 SQ.FT.

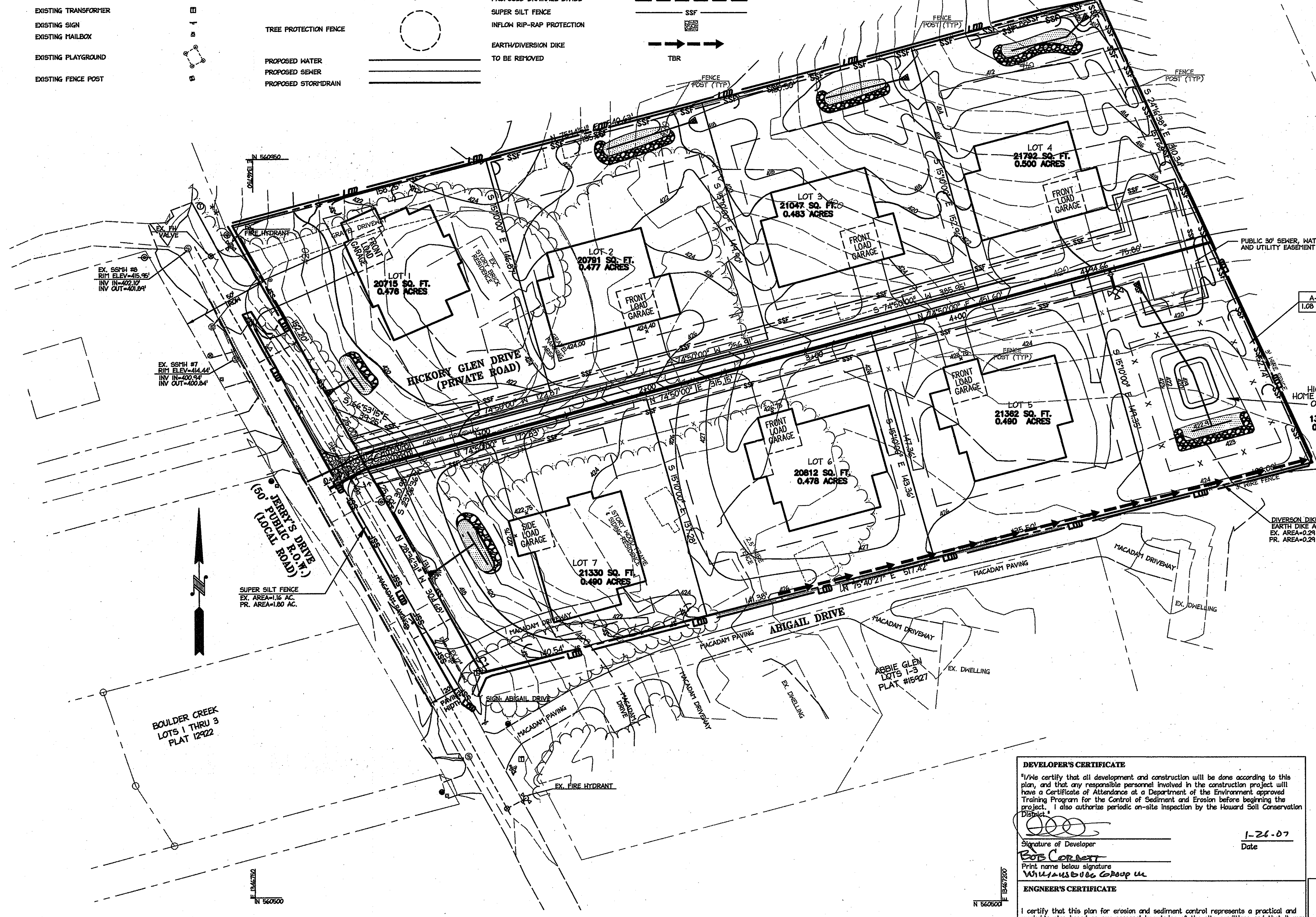








EXISTING CONTOURS	416	EXISTING FENCE	X	LIMIT OF DISTURBANCE	LOD
PROPOSED CONTOUR	416	PROPERTY LINE	---	SILT FENCE	SF
EXISTING STORM DRAIN	EX. 12" RCP	PROPOSED RIGHT OF WAY LINE	---	STABILIZED CONSTRUCTION ENTRANCE	
EXISTING SANITARY SEWER	EX. 8" SAN	PROPOSED SETBACK LINES	---	EXISTING DRAINAGE DIVIDE	---
EXISTING WATER	EX. 6" WATER	PROPOSED UTILITY EASEMENT	---	PROPOSED DRAINAGE DIVIDE	---
EXISTING TRANSFORMER		EXISTING WATER VALVE		SUPER SILT FENCE	SSF
EXISTING SIGN		EXISTING HEADWALL		INFLOW RIP-RAP PROTECTION	
EXISTING MAILBOX		TREE PROTECTION FENCE		EARTH/DIVERSION DIKE	---
EXISTING PLAYGROUND		PROPOSED WATER	---	TO BE REMOVED	---
EXISTING FENCE POST		PROPOSED SEWER	---		
		PROPOSED STORM DRAIN	---		



- ### SEQUENCE OF CONSTRUCTION
- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS INCLUDING THE GRADING PERMIT PRIOR TO COMMENCING ANY LAND DISTURBANCE ACTIVITIES.
  - AN ON-SITE PRECONSTRUCTION MEETING SHALL BE CONDUCTED WITH THE CONTRACTOR AND THE HOWARD COUNTY INSPECTOR AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION. CONTACT THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS AT (410) 318-1880 TO SCHEDULE.
  - CLEAR AND GRUB FOR THE INSTALLATION OF THE PERIMETER SEDIMENT CONTROL DEVICES INCLUDING SILT FENCE, SUPER SILT FENCE, EARTHDIKE AND THE STABILIZED CONSTRUCTION ENTRANCE (2 DAYS)
  - BEGIN ROUGH GRADING THE SITE. ALL ATTEMPTS SHALL BE MADE TO PRESERVE THE LARGE TREES ON LOTS 1 & 2. (10 DAYS).
  - BEGIN COMMON DRIVEWAY CONSTRUCTION AND DRIVEWAY ENTRANCES FROM THE COMMON DRIVEWAY ENTRANCE TO THE EDGE OF THE UTILITY EASEMENT (15 DAYS)
  - BEGAN BASE PAVING COMMON ACCESS DRIVE (5 DAYS).
  - COMPLETE ALL ROUGH GRADING AND STABILIZE ALL DISTURBED AREAS (2 DAYS).
  - CONSTRUCT HOUSES AND FINE GRADE THE LOTS. CONSTRUCT BIORETENTION AREAS. STABILIZE EACH LOT AS CONSTRUCTION IS COMPLETED (120 DAYS).
  - AFTER PERMANENT STABILIZATION OF ALL LOTS AND WITH THE PERMISSION OF THE INSPECTOR REMOVE THE EARTH DIKE, SILT FENCE AND STABILIZED CONSTRUCTION ENTRANCE (2 DAYS).
  - AS NECESSARY TO CONSTRUCT LOTS, INSTALL PERIMETER SEDIMENT CONTROL DEVICES AROUND THE LOT INCLUDING STABILIZED CONSTRUCTION ENTRANCE AND SILT FENCE. (1 DAY)
  - GRADE THE SITE. (5 DAYS)
  - CONSTRUCT THE HOUSE AND FINE GRADE THE LOT. STABILIZE EACH LOT AS CONSTRUCTION IS COMPLETED. (20 DAYS)
  - WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, REMOVE THE SILT FENCE, SUPER SILT FENCE AND STABILIZED CONSTRUCTION ENTRANCE. (1 DAY)
  - INSTALL THE REMAINDER OF THE DRIVEWAY ENTRANCE (2 DAYS).
  - SURFACE PAVE ALL ROADWAYS (2 DAYS).
  - STABILIZE ALL REMAINING DISTURBED AREAS (3 DAYS).
  - WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR REMOVE ANY REMAINING SEDIMENT CONTROL DEVICES.
- TOTAL CONSTRUCTION TIME: 160 DAYS
- FOR STEPS 8-15 REFER TO SHEET 6 OF 8 FOR THE LOCATION OF THE SEDIMENT CONTROL DEVICES. THESE STEPS ARE FOR THE FINAL CONSTRUCTION ON EACH LOT. A PRECONSTRUCTION MEETING FOR LOT CONSTRUCTION MAY BE REQUIRED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THIS WITH THE SEDIMENT CONTROL INSPECTOR. STEPS 10-15 CAN BE RUN CONCURRENTLY ON DIFFERENT LOTS AT THE DISCRETION OF THE CONTRACTOR AND WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR.

**NOTE:**

- LIMIT OF DISTURBANCE SHOWN GRAPHICALLY FOR CLARITY. ACTUAL LIMIT OF DISTURBANCE SHALL BE JUST OUTSIDE OF SEDIMENT CONTROLS AND SHALL BE LOCATED ON THE SITE.
- STOCKPILING WILL NOT BE PERMITTED ON THIS SITE.

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.

*Jim Meyer*  
 USDA-Natural Resources Conservation Service  
 Date: 2/3/07

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

*John P. Whitson*  
 Howard SCD  
 Date: 2/3/07

**DEVELOPER'S CERTIFICATE**

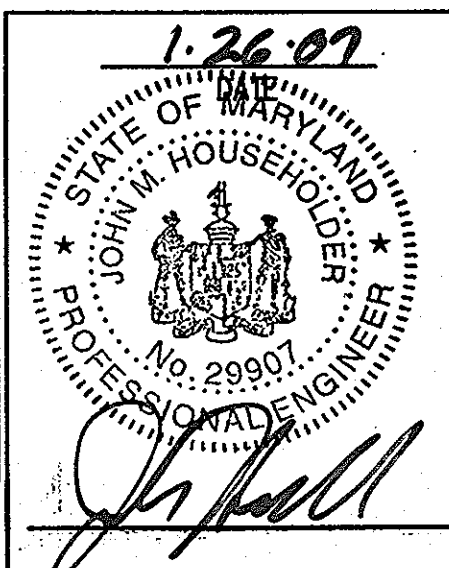
I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District.

*Bob Corbett*  
 Signature of Developer  
 Print name below signature  
 Bob Corbett  
 Williamsburg Group Inc.  
 Date: 1-26-07

**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.

*John Mousholder*  
 Signature of Engineer  
 Print name below signature  
 John Mousholder, P.E.  
 Date: 1-26-07



APPROVED: DEPARTMENT OF PLANNING AND ZONING

*Cindy Kamm*  
 Chief, Division of Land Development  
 Date: 2/3/07

*John Mousholder*  
 Chief, Development Engineering Division  
 Date: 2/3/07

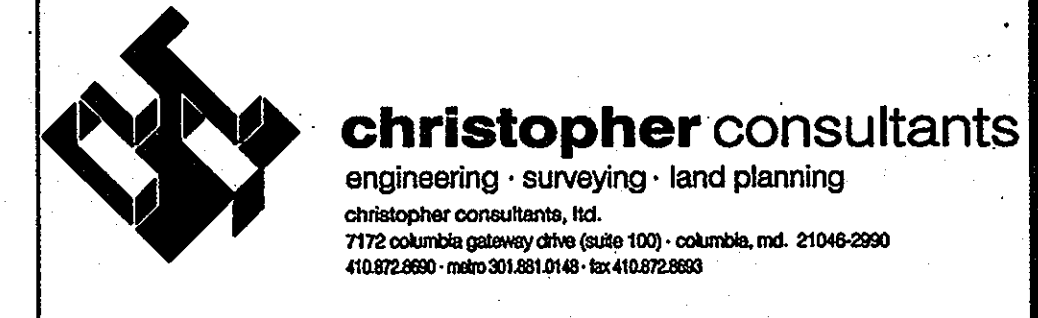
Date No. Revision Description

**HICKORY GLEN - LOTS 1-7 AND OPEN SPACE LOT 8**

**OWNER / DEVELOPER**

THE WILLIAMSBURG GROUP  
 CONTACT: BOB CORBETT

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**PERMIT INFORMATION CHART**

PROJECT NAME	LOT/PARCEL NO.	CENSUS TRACT
HICKORY GLEN	LOTS 1-8 P/O PARCEL 171	06056.02
PLAT NO.	GRID NO. ZONE	TAX MAP
	12 R-20	35
WATER CODE	IE 28 PUBLIC	SEWER CODE
		5325500 PUBLIC
TITLE:		
<b>EROSION AND SEDIMENT CONTROL PLAN</b> (SUPPLEMENTAL PLAN FOR F-05-193)		
DESIGN: ENJ	SCALE: 1" = 30'	PROJECT: 058001.01
DRAWN: ADL	DATE: 1-26-07	
CHECKED: JPH	APPROVED:	

**5 OF 8**







**19.0 Standards and Specifications For Land Grading**

**Definitions**

Reshaping of the existing land surface in accordance with a plan as determined by engineering survey and layout.

**Purpose**

The purpose of a land grading specification is to provide for erosion control and vegetative establishment on those areas where the existing land surface is to be reshaped by grading according to plan.

**Design Criteria**

The grading plan should be based upon the incorporation of building designs and street layouts that fit and utilize existing topography and desirable natural surrounding to avoid extreme grade modifications. Information submitted must provide sufficient topographic surveys and soil investigations to determine limitations that must be imposed on the grading operation related to slope stability, effect on adjacent properties and drainage patterns, measured for drainage and water removal and vegetative treatment, etc.

Many countries have regulations and design procedures already established for land grading and cut and fill slopes. Where these requirements exist, they should be followed. The plan must show existing and proposed contours of the area(s) to be graded. The plan shall also include practices for erosion control, slope stabilization, safe disposal of runoff water and drainage, such as waterways, lined ditches, reverse slope benches (including grade and cross-section), grade stabilization structures, retaining walls, and surface and subsurface drains. The plan shall also include phasing of these practices. The following shall be incorporated into the plan:

- Provisions shall be made to safely conduct surface runoff to storm drains, protected outlets or stable water courses to insure that surface runoff will not damage slopes or other graded areas.
- Cut and fill slopes that are to be stabilized with grasses shall not be steeper than 2:1. (Where the slope is to be mowed the slope should be no steeper than 3:1. 4:1 is preferred because of safety factors related to mowing steep slopes.)
- Reverse benches shall be provided whenever the vertical interval (height) of any 2:1 slope exceeds 20 feet; for 3:1 slopes it shall be increased to 30 feet and for 4:1 to 40 feet. Benches shall be located to divide the slopes face as equally as possible and shall convey the water to a stable outlet. Soils, seeps, rock outcrops, etc., shall also be taken into consideration when designing benches.

- Benches shall be a minimum of six-feet wide to provide ease of maintenance.
- Benches shall be designed with a reverse slope of 6:1 of flatter to the toe of the upper slope and with a minimum of one foot in depth. Bench gradient to the outlet shall be between 2 percent and 3 percent, unless accompanied by appropriate design and computations.
- The flow length within a bench shall not exceed 800' unless accompanied by appropriate design and computations. For flow channel stabilization see temporary suales.

4. Surface water shall be diverted from the face of all cut and/or fill slopes by the use of earth dikes, ditches and swales or conveyed downslope by the use of a designed structure, except where:

- The face of the slope is or shall be stabilized and the face of all graded slopes shall be protected for surface runoff until they are stabilized.
- The face of the slope shall not be subjected to any concentrated flows of surface water such as from natural drainways, graded swales, dounspouts, etc.
- The face of the slope will be protected by special erosion control materials, to include, but not limited to: approved vegetative stabilization practices (see section G), rip-rap or other approved stabilization methods.

5. Cut slopes occurring in ripable rock shall be serrated as shown on the following diagram. These serrations shall be made with conventional equipment as the excavation is made. Each step or serration shall be constructed on the contour and will have steps cut at nominal two-foot intervals with nominal three-foot horizontal shelves. These steps will vary depending on the slope ratio or the cut slope. The nominal slope line is H. These steps will weather and act to hold moisture, lime, fertilizer and seed thus producing a much quicker and longer lived vegetative cover and better slope stabilization. Over land flow shall be diverted from the top of all serrated cut slopes and carried to a suitable outlet.

6. Surface drainage shall be provided where necessary to intercept seepage that would otherwise adversely affect slope stability or create excessively wet site conditions.

7. Slopes shall not be created to close to property lines as the endanger adjoining properties without adequately protecting such properties against sediment, erosion, slippage, settlement, subsidence or other related damages.

8. Fill material shall be free of brush, rubbish, rocks, logs, stumps, building debris, and other objectionable material. It shall be free of stones over two (2) inches in diameter where compacted by hand or mechanical tampers over eight (8) inches in diameter where compacted by rollers or other equipment. Frozen material shall not be placed in the fill nor shall the fill material be placed on a frozen foundation.

9. Stockpiles, borrow areas and spoil shall be shown on the plans and shall be subjected to the provisions of the Standard and Specifications.

All disturbed areas shall be stabilized structurally or vegetatively in compliance with 20.0 Standards and Specifications for Vegetative Stabilization.

**21.0 Standard and Specifications For Topsoil**

**Definitions**

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

**Purpose**

To provide a suitable soil medium for vegetative growth. Soil 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 materials 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**

Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experimental Station.

Topsoil Specifications - Soil to be used as topsoil must meet the following:

- Topsoil shall be a loam, sandy loam, clay loam, silt 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.
- Topsoil must be free of plants or plant parts such as Bermuda grass, quackgrass, Johnsongrass, nutsedge, poison ivy, thistle, or other as specified.
- Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread to 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 in to the soil in conjunction with tillage operations as described in the following procedures.

For sites having disturbed areas under 5 acres:

Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section 1 - Vegetative Stabilization Methods and Materials.

For sites having disturbed areas over 5 acres:

On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:

- pH for topsoil shall be between 6.0 and 7.5. If tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise pH to 6.5 or higher.
- Organic content of topsoil shall be not less than 1.5 percent by weight.
- Topsoil having soluble salt content greater than 500 parts per million shall not be used.
- No sod 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 day min.) to permit dissipation of phytotoxic materials.

Note: Topsoil substitutes or amendments as recommended by a qualified agronomist or soil scientist approved by the appropriate approval authority, may be used in lieu of natural topsoil.

Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section 1 - Vegetative Stabilization Methods and Materials.

**Topsoil Application**

When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fences and Sediment Traps and Basins.

Grades in the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" - 8" higher in elevation.

Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.

Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet in a condition that may otherwise be detrimental to proper grading and seedbed preparation.

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:

Composted Sludge Materials 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:

- Composted sludge shall be supplied by, or originated from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.
- 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 must be added to meet the requirements prior to use.
- Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.

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

**30.0 Disk Control**

**Definition**

Controlling dust blowing and movement on construction sites and roads.

**Purpose**

To prevent blowing and movement of dust from exposed soil surfaces, reduce on and off-site damage, health hazards, and improve traffic safety.

**Conditions Where Practice Applies**

This practice is applicable to areas subject to dust blowing and movement when in and off-site damage is likely without treatment.

**Specifications**

**Temporary Methods**

1. Mulches - See standards for vegetative stabilization with mulches only. Mulch should be crimped or tacked to prevent blowing.

2. Vegetative Cover - See standards for temporary vegetative cover.

3. Tillage - To roughen surface and bring clods to the surface. This is an emergency measure which should be used before soil blowing starts. Begin plowing on windward side of site. Chisel-type plows spaced about 12' apart, spring-toothed harrows, and similar plows are examples of equipment which may produce the desired effect.

4. Irrigation - This is generally done as an emergency treatment. Site is sprinkled with water until the surface is moist. Repeat as needed. At no time should the site be irrigated to the point that runoff begins to flow.

5. Barriers - Solid board fences, silt fences, snow fences, burlap fences, straw bales, and similar materials can be used to control air currents and soil blowing. Barriers placed at right angles to prevailing currents at intervals of about 10 times their height are effective in controlling soil blowing.

6. Calcium Chloride - Apply at rates that will keep surface moist. May need retreatment.

**Permanent Methods**

1. Permanent Vegetation - See standards for permanent vegetative cover, and permanent stabilization with sod. Existing trees or large shrubs may afford valuable protection if left in place. ]

2. Stone - Cover surface with crushed stone or coarse gravel.

3. Tarp - Cover surface with crushed stone or coarse gravel.

**References**

- Agriculture Handbook 346. Wind Erosion Forces in the United States and Their Use in Predicting Soil Loss.
- Agriculture Information Bulletin 354. How to Control Wind Erosion, USDA - ARS.

**PERMANENT SEEDING NOTES**

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.

Seedbed Preparation: Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

Soil Amendments: In lieu of soil test recommendations, use one of the following schedules:

- Preferred--Apply 2 tons/acre dolomitic limestone (92 lbs/1000 sq. ft.) and 600 lbs/acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.) before seeding. Harrow or disk into upper three inches of soil.
- Acceptable--Apply 2 tons/acre dolomitic limestone (92 lbs/1000 sq. ft.) and 1000 lbs/acre 10-10-10 fertilizer (23 lbs/1000 sq. ft.) before seeding. Harrow or disk into upper three inches of soil.

At time of seeding apply 400 lbs/acre 30-0-0 urea form fertilizer (9 lbs/1000 sq. ft.)

Seeding -- For the periods March 1 -- April 30, and August 1 -- October 15, seed with 60 lbs/acre (1.4 lbs/1000 sq. ft.) of Kentucky 31 Tall Fescue. For the period May 1 -- July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs/acre (0.5 lbs/1000 sq. ft.) of weeping lovegrass. During the period of October 16 -- February 28, protect site by:

- Option 1 - Two tons per acre of well anchored straw mulch and seed as soon as possible in the spring.
- Option 2 - Use sod. Option 3 -- Seed with 60 lbs/acre Kentucky 30 Tall Fescue and mulch with 2 tons/acre well anchored straw.

Mulching -- Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sq. ft.) of unrattled small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slope 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq. ft.) for anchoring.

Maintenance -- Inspect all seeding areas and make needed repairs, replacements and reseeding.

**TEMPORARY SEEDING NOTES**

Apply to graded or cleared areas likely to be re-disturbed where a short-term vegetative cover is needed.

Seedbed preparation -- Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

Soil Amendments: -- Apply 600 lbs/acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.).

Seeding: -- For periods March 1 -- April 30 and from August 15 -- October 15, seed with 2-1/2 bushel per acre of annual rye (3.2 lbs/1000 sq. ft.). For the period May 1 -- August 14, seed with 3 lbs/acre of weeping lovegrass (.07 lbs/1000 sq. ft.). For the period November 16 -- February 28 protect the site by applying 2 tons/acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

Mulching: -- Apply 1-1/2 to 2 tons/acre (70 to 90 lbs/1000 sq. ft.) of unrattled weed-free, small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slope 8 ft. or higher, use 348 gal. per acre (8 gal/1000 sq. ft.) for anchoring.

Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL for additional rates and methods not covered.

**DEVELOPER'S CERTIFICATE**

I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District.

Signature of Developer: William Corbett Date: 1-26-07

Print name below signature: William Corbett

**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.

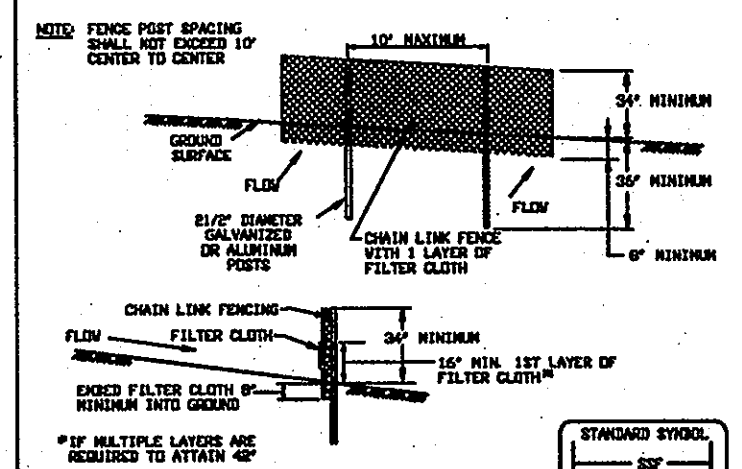
Signature of Engineer: John Housholder Date: 1-26-07

Print name below signature: John Housholder, P.E.

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS. John Housholder Date: 1/26/07

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT. John Housholder Date: 1/26/07

**DETAIL 33 - SUPER SILT FENCE**

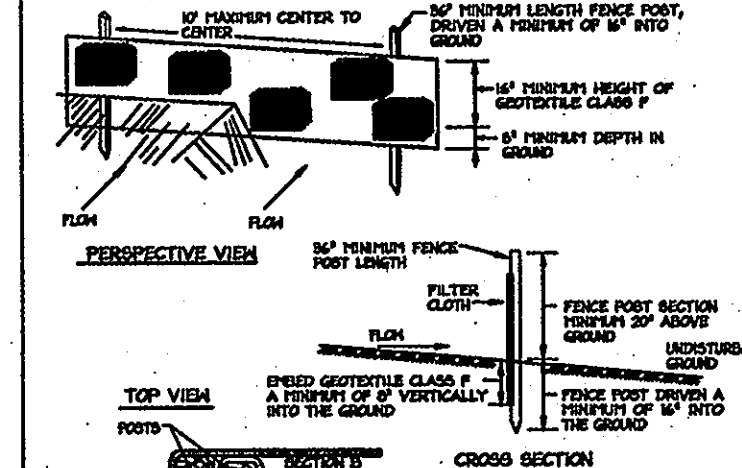


**Construction Specifications**

- Fencing shall be 48" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for 4" x 6" fence shall be used, substituting 4" fabric and 6" length posts.
- Chain link fence shall be fastened securely to the fence posts with wire ties. The lower corner ends and fence ends, drive anchors and post caps are not required except at the ends of the fence.
- Filter cloth shall be fastened securely to the chain link fence with wire ties or staples at 6" intervals and shall meet the following requirements for Geotextile Class F:
- Filter cloth shall be embedded a minimum of 8" into the ground.
- When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and secured with staples.
- Maintenance shall be performed as needed and at 100 yard intervals when "bumps" develop in the filter cloth. If more than 10% of the filter cloth is damaged, the filter cloth shall be replaced.
- Filter cloth shall be fastened securely to each fence post with wire ties or staples at 6" intervals and shall meet the following requirements for Geotextile Class F:

US DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE, PAGE 1-1-3, NATIONAL DEPARTMENT OF ENVIRONMENTAL MANAGEMENT ADMINISTRATION

**DETAIL 22 - SILT FENCE**

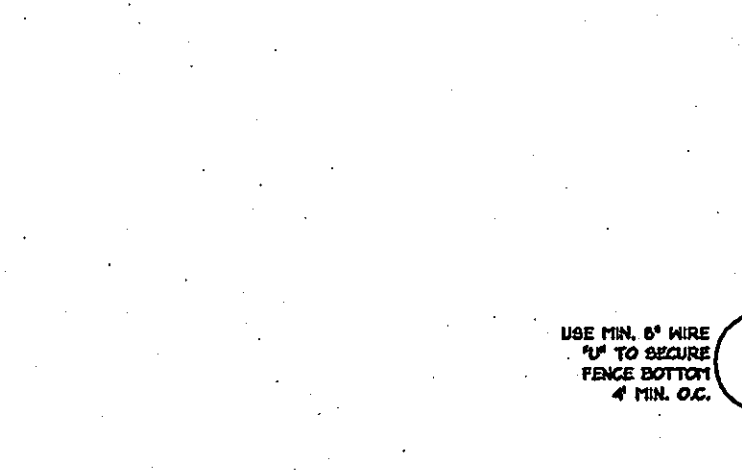


**Construction Specifications**

- Fence posts shall be a minimum of 10' high (minimum) into the ground. Posts shall be 1/2" x 1/2" square (minimum) and 1/2" diameter (minimum) and shall be of equal quality throughout. Posts shall be standard T or U section weighing not less than 1000 pound per linear foot.
- Filter cloth shall be fastened securely to each fence post with wire ties or staples at 6" intervals and shall meet the following requirements for Geotextile Class F:
- Filter cloth shall be embedded a minimum of 8" into the ground.
- When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and secured with staples.
- Maintenance shall be performed as needed and at 100 yard intervals when "bumps" develop in the filter cloth. If more than 10% of the filter cloth is damaged, the filter cloth shall be replaced.
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US DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE, PAGE 1-1-3, NATIONAL DEPARTMENT OF ENVIRONMENTAL MANAGEMENT ADMINISTRATION

**DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE**

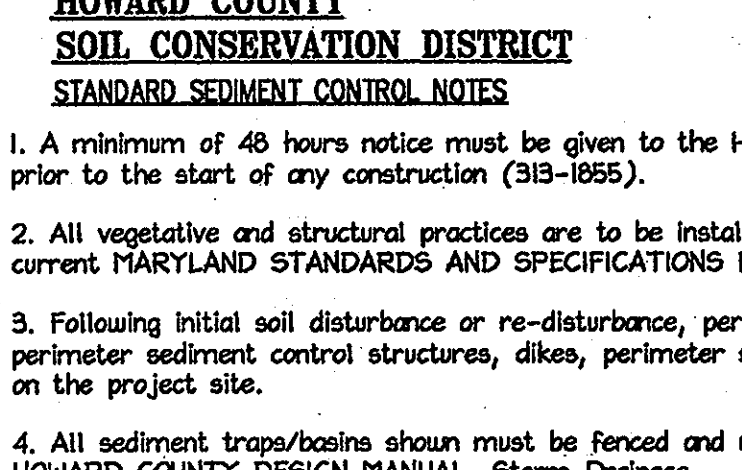


**Construction Specifications**

- Length - minimum of 50' (60' for single residence lots).
- Width - 10' minimum, should be flared at the ends to provide a turning radius.
- Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. The plan approved authority may require single family residences to use geotextile.
- Stone - crushed aggregate (3/4" to 3/8") or retained or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.
- Surface Water - all surface water flowing to or observed toward construction entrance shall be directed through the stabilized construction entrance. The pipe installed through the stabilized construction entrance shall be protected with a 2x6 beam on top and secured to the ground with 2x4 posts. The pipe shall be secured to the ground with 2x4 posts. The pipe shall be secured to the ground with 2x4 posts.
- 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.

US DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE, PAGE 1-1-3, NATIONAL DEPARTMENT OF ENVIRONMENTAL MANAGEMENT ADMINISTRATION

**DETAIL 31 - TREE PROTECTION**

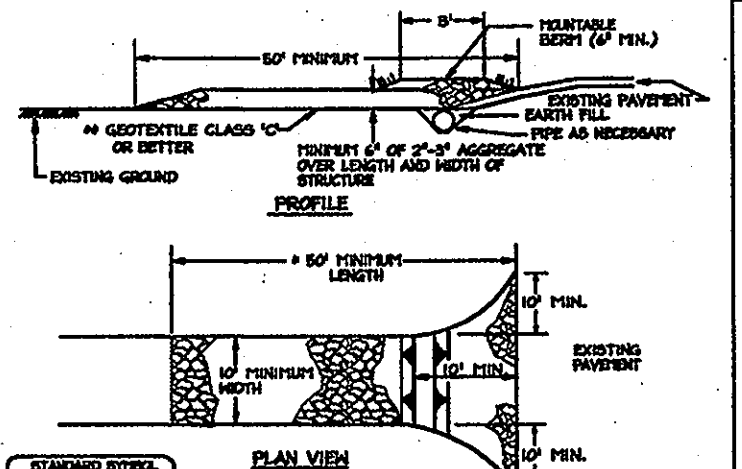


**Construction Specifications**

- Band and cover cloth shall have unobstructed passage grade to an outlet. Spot elevations may be necessary for grade less than 1:1.
- Shovel directed from a disturbed area shall be covered to an adjacent property.
- Shovel directed from an undisturbed area shall extend directly to an undisturbed area and shall be a minimum of 100 feet.
- All trees, brush, stumps, obstructions, and other adjacent material shall be removed and cleared of so as not to interfere with the proper functioning of the site.
- The site shall be secured or closed to the public and access shall be restricted to the site.
- All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the site.
- Inspection and maintenance must be provided periodically and other such work.

US DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE, PAGE 1-1-3, NATIONAL DEPARTMENT OF ENVIRONMENTAL MANAGEMENT ADMINISTRATION

**DETAIL 22 - SILT FENCE**

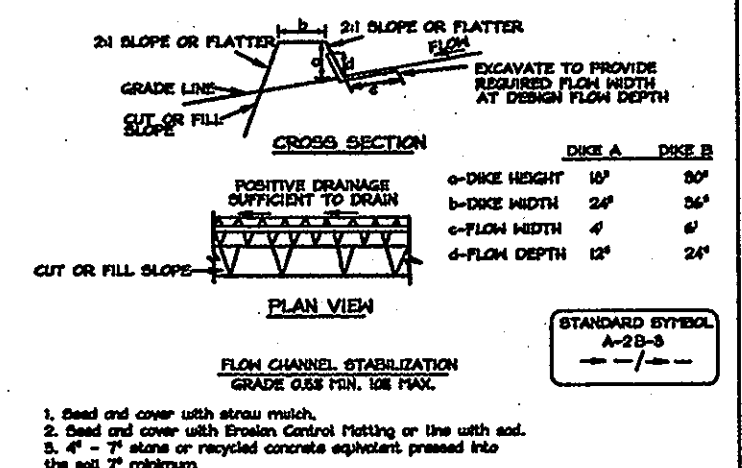


**Construction Specifications**

- Fence posts shall be a minimum of 10' high (minimum) into the ground. Posts shall be 1/2" x 1/2" square (minimum) and 1/2" diameter (minimum) and shall be of equal quality throughout. Posts shall be standard T or U section weighing not less than 1000 pound per linear foot.
- Filter cloth shall be fastened securely to each fence post with wire ties or staples at 6" intervals and shall meet the following requirements for Geotextile Class F:
- Filter cloth shall be embedded a minimum of 8" into the ground.
- When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and secured with staples.
- Maintenance shall be performed as needed and at 100 yard intervals when "bumps" develop in the filter cloth. If more than 10% of the filter cloth is damaged, the filter cloth shall be replaced.
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**DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE**

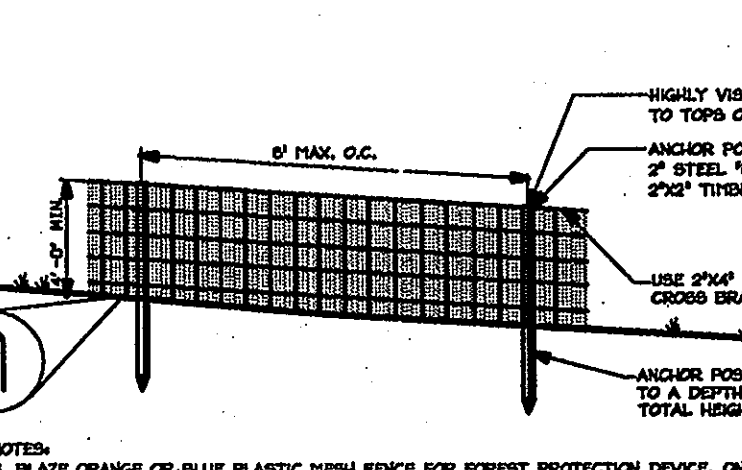


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- Length - minimum of 50' (60' for single residence lots).
- Width - 10' minimum, should be flared at the ends to provide a turning radius.
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- Stone - crushed aggregate (3/4" to 3/8") or retained or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.
- Surface Water - all surface water flowing to or observed toward construction entrance shall be directed through the stabilized construction entrance. The pipe installed through the stabilized construction entrance shall be protected with a 2x6 beam on top and secured to the ground with 2x4 posts. The pipe shall be secured to the ground with 2x4 posts.
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US DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE, PAGE 1-1-3, NATIONAL DEPARTMENT OF ENVIRONMENTAL MANAGEMENT ADMINISTRATION

**DETAIL 31 - TREE PROTECTION**

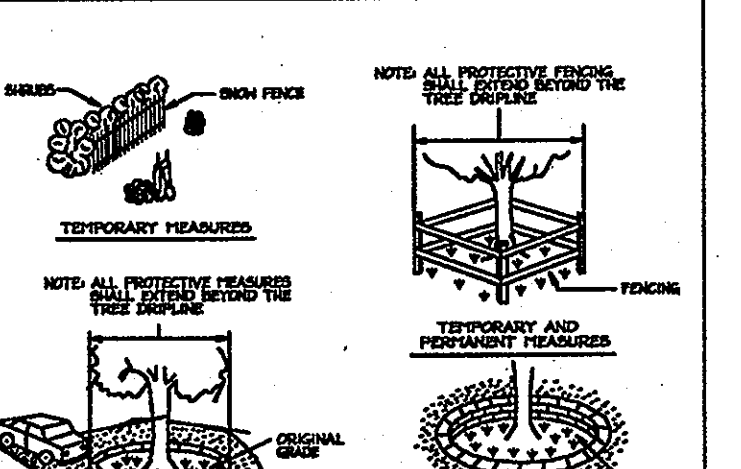


**Construction Specifications**

- Band and cover cloth shall have unobstructed passage grade to an outlet. Spot elevations may be necessary for grade less than 1:1.
- Shovel directed from a disturbed area shall be covered to an adjacent property.
- Shovel directed from an undisturbed area shall extend directly to an undisturbed area and shall be a minimum of 100 feet.
- All trees, brush, stumps, obstructions, and other adjacent material shall be removed and cleared of so as not to interfere with the proper functioning of the site.
- The site shall be secured or closed to the public and access shall be restricted to the site.
- All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the site.
- Inspection and maintenance must be provided periodically and other such work.

US DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE, PAGE 1-1-3, NATIONAL DEPARTMENT OF ENVIRONMENTAL MANAGEMENT ADMINISTRATION

**DETAIL 31 - TREE PROTECTION**



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US DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE, PAGE 1-1-3, NATIONAL DEPARTMENT OF ENVIRONMENTAL MANAGEMENT ADMINISTRATION

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
Chris Harrold 2/25/07  
 Chief, Division of Land Development  
William Corbett 2/5/07  
 Chief, Development Engineering Division

**HICKORY GLEN - LOTS 1-7 AND OPEN SPACE LOT 8**

OWNER / DEVELOPER  
 THE WILLIAMSBURG GROUP  
 CONTACT: BOB CORBETT

5485 HARPER'S FARM RD. P.O. BOX 1018  
 COLUMBIA, MARYLAND 21044  
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**christopher consultants**  
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 christopher consultants, inc.  
 7172 Columbia Gateway Drive (Suite 100) Columbia, MD 21046-2590  
 410.382.8880 - fax 410.381.6146 - tw 410.372.8880

PERMIT INFORMATION CHART				
PROJECT NAME	LOT/PARCEL NO.	LOT/ PARCEL NO.	TAX MAP	ELECTION DISTRICT
HICKORY GLEN	LOTS 1			



EXISTING CONTOURS	---	416	EXISTING FENCE	---	X	LIMIT OF DISTURBANCE	---	LOD
PROPOSED CONTOUR	---	418	PROPERTY LINE	---	---	TREE PROTECTION FENCE	---	TPF
EXISTING STORM DRAIN	---	EX. 12" RCP	PROPOSED RIGHT OF WAY LINE	---	---			
EXISTING SANITARY SEWER	---	EX. 8" SAN	PROPOSED UTILITY EASEMENT	---	---			
EXISTING WATER	---	EX. 6" WATER	EXISTING WATER VALVE	---	---			
EXISTING TRANSFORMER	---	---	EXISTING HEADWALL	---	---			
EXISTING SIGN	---	---	CLEARED FOREST AREA (1.97 AC.)	---	---			
EXISTING MAILBOX	---	---	TREES TO BE REMOVED	---	---			
EXISTING PLAYGROUND	---	---	SOILS	---	---			
EXISTING FENCE POST	---	---						

**GOALS AND OBJECTIVES**

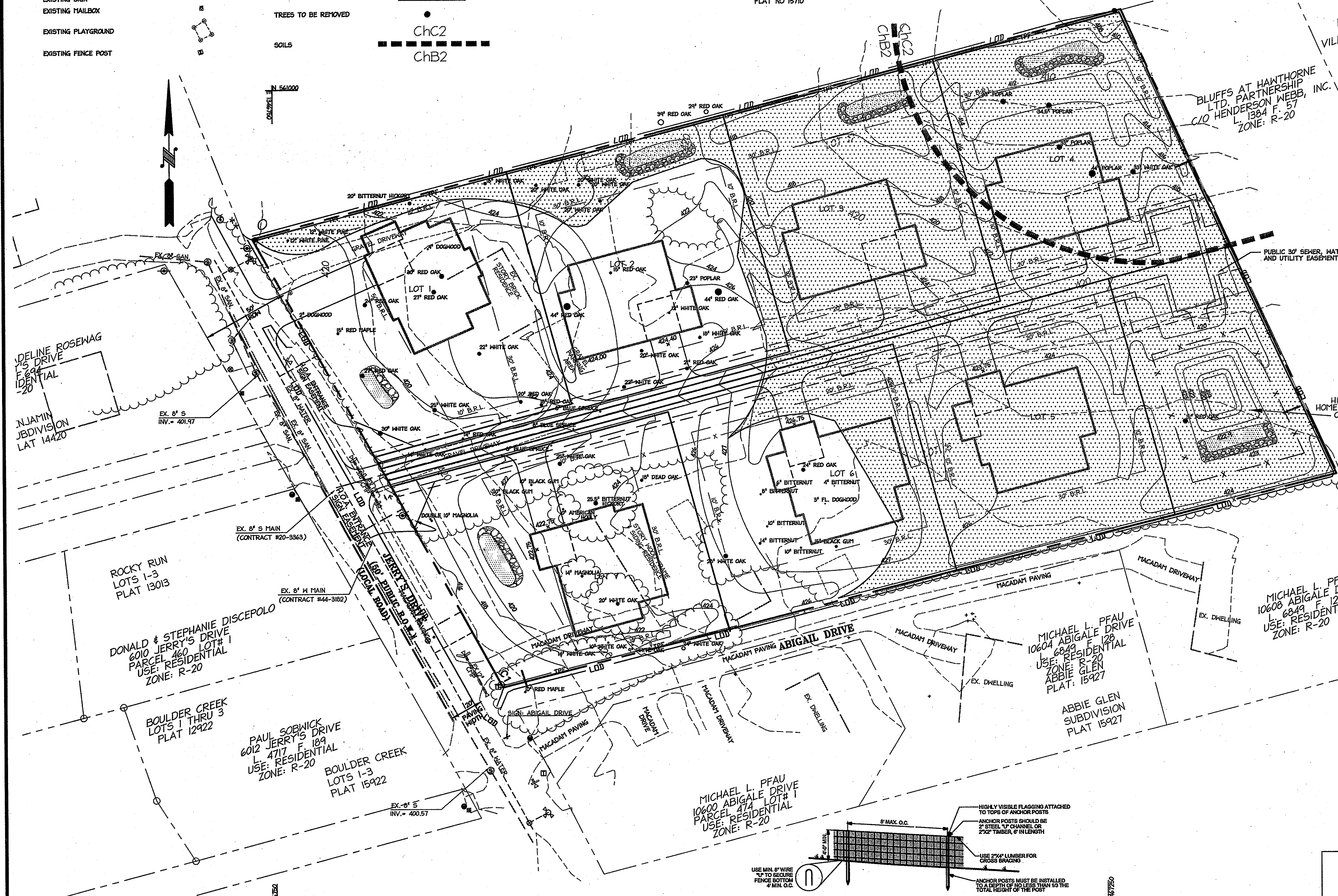
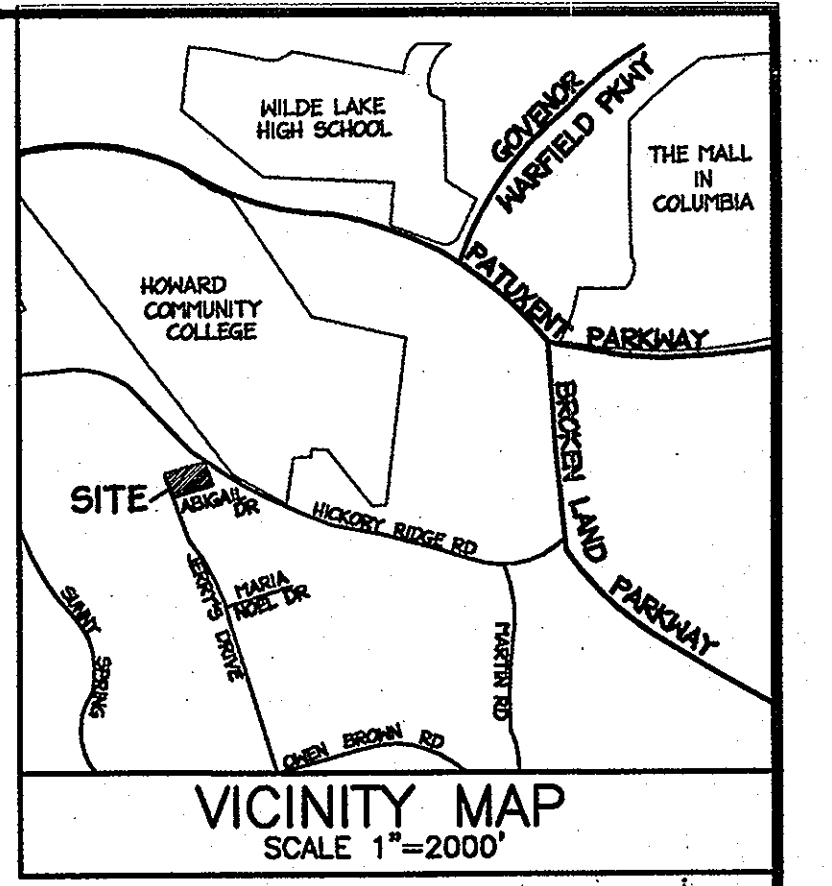
THE GOAL OF THIS PLAN IS TO ADDRESS THE FOREST CONSERVATION ACT AND ANY REFORESTATION/AFFORESTATION THAT MAY BE REQUIRED FOR THE DEVELOPMENT OF LOTS 1 & 17. THIS PROJECT PROPOSES SITE CLEARING TO ALLOW FOR DEVELOPMENT OF THE EXISTING LOTS IN ACCORDANCE WITH THE ZONING CODE.

**FOREST CONSERVATION NOTES**

- TOTAL FORESTED AREA ON SITE = 1.97 AC.
- FOREST CLEARING PROPOSED = 1.97 AC.
- ON-SITE RETENTION = NOT POSSIBLE
- ON-SITE REFORESTATION = NOT ALLOWED ON LOTS LESS THAN 10.0 AC.
- TOTAL REFORESTATION REQUIRED = 1.79 AC.
- THIS REQUIREMENT IS PROPOSED TO BE MET AT FRIENDSHIP LAKES (SDP-02-117) FLAT NO 15710

**NOTE:**

LIMIT OF DISTURBANCE SHOWN GRAPHICALLY FOR CLARITY. ACTUAL LIMIT OF DISTURBANCE SHALL BE JUST OUTSIDE OF SEDIMENT CONTROLS AND SHALL BE LOCATED ON THE PROPERTY IN QUESTION.



**FOREST CONSERVATION CALCULATIONS**

<b>BASIC SITE DATA</b>	<b>ACRES</b>
GROSS SITE AREA	3.72
AREA WITHIN 100 YEAR FLOODPLAIN	0.00
NET TRACT AREA	3.72
LAND USE CATEGORY	R-5
<b>INFORMATION FOR CALCULATIONS</b>	
A. NET TRACT AREA	3.72
B. REFORESTATION THRESHOLD (20% X A)	0.74
C. AFFORESTATION MINIMUM (15% X A)	0.56
D. EXISTING FOREST ON NET TRACT AREA	1.97
E. FOREST AREAS TO BE CLEARED	1.97
F. FOREST AREAS TO BE RETAINED	0.00
<b>REFORESTATION CALCULATIONS</b>	
A. NET TRACT AREA	3.72
B. REFORESTATION THRESHOLD (20% X A)	0.74
C. EXISTING FOREST ON NET TRACT AREA	1.97
D. FOREST AREAS TO BE CLEARED	1.97
E. FOREST AREAS TO BE RETAINED	0.00
F. FOREST AREAS CLEARED ABOVE REFORESTATION THRESHOLD	1.23
G. FOREST AREAS CLEARED BELOW REFORESTATION THRESHOLD	0.74
H. FOREST AREAS RETAINED ABOVE REFORESTATION THRESHOLD	0.00
<b>CLEARING BELOW THE THRESHOLD</b>	
IF FOREST AREAS TO BE RETAINED ARE LESS THAN THE REFORESTATION THRESHOLD (IF E IS LESS THAN B), THE FOLLOWING CALCULATIONS APPLY:	
REFORESTATION FOR CLEARING ABOVE THRESHOLD $F \times \frac{1}{4}$	0.31
REFORESTATION FOR CLEARING BELOW THRESHOLD $G \times 2$	1.48
TOTAL REFORESTATION REQUIRED $(F \times \frac{1}{4}) + (G \times 2)$	1.79
REFORESTATION PROVIDED ON SITE	0.00
FEE-IN-LIEU @ \$50 PER SQ. FT.	0.00
OFF-SITE FOREST BANK	1.79
TOTAL	1.79

**APPROVED: DEPARTMENT OF PUBLIC WORKS**

Chief, Bureau of Highways	Date
APPROVED: DEPARTMENT OF PLANNING AND ZONING	
Chief, Division of Land Development	2/28/10
Chief, Development Engineering Division	2/5/07

**OWNER / DEVELOPER**

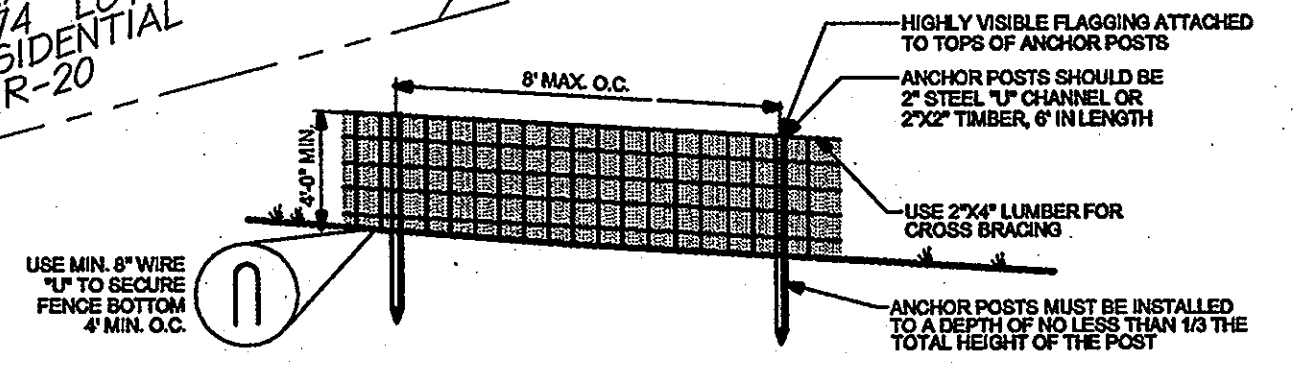
THE WILLIAMSBURG GROUP CONTACT: BOB CORBETT	5-495 HARPER'S FARM RD. COLUMBIA, MARYLAND 21044 TEL. (410) 917-8880
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410.872.2890 - metro 811.281.0148 - fax 410.872.8893

**JERRY'S DRIVE**  
A RESUBDIVISION OF LOT 16 & 17  
5TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

**TITLE: FOREST CONSERVATION PLAN**

DESIGN: KEH	SCALE: 1"=30'	PROJECT: 056001.01
DRAWN: SS	DATE: 1-25-07	
CHECKED: KEH	APPROVED:	<b>8 OF 8</b>



- NOTES:**
- BLAZE ORANGE OR BLUE PLASTIC MESH FENCE FOR FOREST PROTECTION DEVICE ONLY.
  - BOUNDARIES OF RETENTION AREA WILL BE ESTABLISHED AS PART OF THE FOREST CONSERVATION PLAN REVIEW PROCESS.
  - BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
  - AVOID DAMAGE TO CRITICAL ROOT ZONE. DO NOT DAMAGE OR SEVER LARGE ROOTS WHEN INSTALLING POSTS.
  - PROTECTION SIGNS ARE REQUIRED.
  - DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

SOURCE: Adapted from Prince George's County, Maryland: Woodland Conservation Manual and Forest Conservation Manual, 1991.

**Tree Protection Fence**  
NOT TO SCALE

1/26/07  
DATE  
Kevin Hedge  
KEVIN E. HEDGE  
COMAR QUALIFIED