FOREST CONSERVATION WORKSHEET

	Acres
Net Tract Area	
A. Total Tract Area	14.71
B. Area Within 100 Year Floodplain	0.85
C. Other deductions	0
D. Net Tract Area	13.86
Zoning Use Category: RESIDENTIAL-SUBURBAN	
Land Use Category	
E. Afforestation Minimum (20 % x D)	2.77
F. Conservation Threshold (25 % x D)	3.47
Existing Forest Cover	
G. Existing Forest on Net Tract Area	13.25
H. Forest Area Above Conservation Threshold	9.78
Breakeven Point	
I. Forest Retention Above Threshold with no Mitigation	5.43
J. Clearing Permitted without Mitigation	7.82
Proposed Forest Clearing	
K. Forest Areas to be Cleared	8.53
L. Forest Areas to be Retained	4.72
Planting Requirements	
M. Reforestation for Clearing Above Threshold	2.13
N. Reforestation for Clearing Below the Threshold	0
P. Credit for Retention Above Conservation Threshold	1.25
Q. Total Reforestation Required	0.88
R. Total Afforestation Required	0
S. Total Reforestation and Afforestation Requirement	0.88

Forest Conservation Narrative

This Forest Conservation Plan was prepared in accordance with the Howard County Forest Conservation Manual, using the option for rural cluster subdivisions.

The subject property has a gross area of 14.71 Ac. Deduction of 0.85 Ac of floodplain creates a net tract area of 13.86 Ac. There is 13.25 Ac. of forest on the net tract. There is one specimen tree on the site which will be preserved. Forest has been retained to the greatest extent possible, including all forest in sensitive environments. The forest will be retained in one easement of 2.95 Ac. on Parcel B and as 1.77 Ac of retention on Parcel A. The retention on Parcel A is taken as retained on a lot larger than 60,000 s.f. without requiring an easement. This creates a forest mitigation obligation of 0.88 Ac.

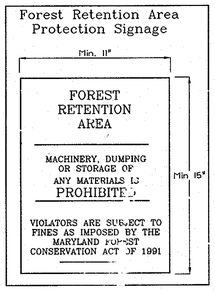
Due to revised stormwater management requirements, significantly less retention is available, and there is no longer space for reforestation on-site. At this time we are seeking an off-site mitigation area and will temporarily request to pay a fee-in-lieu of $19,166.50 (0.88 Ac = 38,333 s.f. @ $0.50/s.f.).

The total bondable forest conservation obligation met on this site is 2.95 acres, with a total forest conservation surety amount of $25,700.40 (128,502 s.f. retention @ $0.20/s.f.).

FOREST CONSERVATION EASEMENT TABLE

EASEMENT	TYPE	AREA (ACRES)
1	Retention	2.95
TOTAL		2.95

Forest Retention Area Protection Signage



SIGN DETAIL: PERMANENT SIGN

SIGNAGE NOTE ALL TREE PROTECTION SIGNS SHALL BE PLACED ON METAL 'T' POSTS OR PRESSURE TREATED WOOD POLES. NO ATTACHMENT OF SIGNS TO TREES IS PERMITTED.

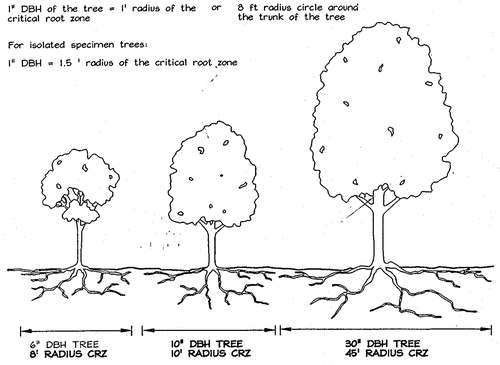
CRITICAL ROOT ZONE

For the edge of large areas, use the greater of the two choices below:

1" DBH of the tree = 1' radius of the critical root zone — or — 8 ft radius circle around the trunk of the tree

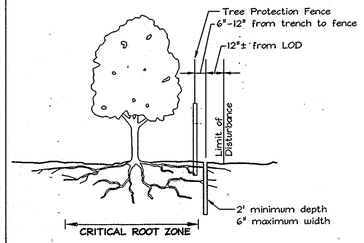
For isolated specimen trees:

1" DBH = 1.5 ' radius of the critical root zone



ROOT PRUNING

1. Retention areas shall be set prior to construction
2. Boundaries of retention areas shall be flagged, and location of trench shall be specified by ERI Qualified Professional.
3. Roots shall be cut cleanly with root pruning equipment. Where roots >1" are found, trenching shall be done by air spade or hand tools. Roots >1" shall be cut with a hand saw.
4. Trench shall be immediately backfilled with soil removed or high organic content soil.
5. Any other techniques shall be approved by the ERI Qualified Professional before implementation.

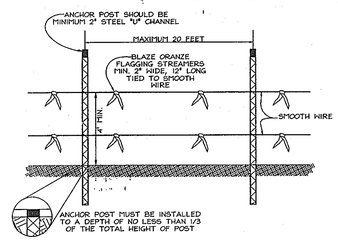


Forest Tree Protection and Management Notes

1. Tree protection devices shall be installed prior to any grading or land clearing.
2. After the boundaries of the retention areas have been staked and flagged and before any disturbance has taken place a pre-construction meeting with the Howard County Inspector is required.
3. Provide maintenance to tree protection devices and signage to maintain their integrity throughout the duration of the project.
4. Attachment of signs to tree protection devices to maintain their integrity thoughout the duration of the project.
5. Any significant changes made to the Forest Conservation Plan shall be made with the prior approval if the Howard County Dept Of Planning and Zoning.
6. No burial of discarded material is permitted within the Forest Conservation and Planting areas.
7. No open burning within 100 feet of wooded areas is permitted.
8. Post construction phase.
   a. Inspect existing trees around the perimeter of the site for signs of root or trunk damage and excessive soil compaction.
   b. Remove dead or dying trees and evaluate for hazard tree removal.#
   c. All temporary forest protection devices will be removed after construction.
   d. Following completion of construction, prior to use, the county inspector shall inspect the entire site for compliance with this Forest Conservation Plan.

A licensed Arborist or Forester should be retained for this service as needed.

TWO STRAND SMOOTH WIRE



NOTES:
1. FOREST PROTECTION DEVICE ONLY.
2. RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
3. BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
4. ROOT DAMAGE SHOULD BE AVOIDED.
5. PROTECTIVE SIGNAGE MAY ALSO BE USED.
6. DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

TREE PROTECTION DETAIL

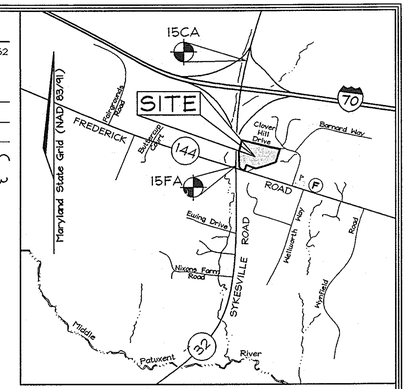
NOT TO SCALE

Soil Protection Zone Notes

1. The Soil Protection Zone shall include all areas contained inside the Limit of Disturbance.
2. Where possible, the Soil Protection Zone shall extend to the drip line of specimen trees. For other groups of trees, the zone shall be the drip line or 40% of the height of the tree, whichever is greater.
3. No construction activity is permitted within the Soil Protection Zone.
4. If soil has been compacted or grading has taken place in the vicinity of the Soil Protection Zone, root pruning shall be implemented per Root Pruning detail, shown on this plan.
5. Root pruning shall occur prior to the beginning of construction.
6. Where the Soil Protection Zone must encroach inside the Critical Root Zone of a tree, soil disturbance shall be mitigated with vertical mulching, radial trenching, or another method approved by the ERI Forest Conservation Professional.
7. Prior to construction, the Limits of Disturbance shall be marked and the ERI Professional shall determine which trees will need preventative treatment or removal.
8. Tree maintenance and removal shall be undertaken by a qualified MD Tree Expert to ensure damage to surrounding trees is minimized.
9. Brush and limbs removed for construction shall be chipped and spread at the edge of the Soil Protection Zone to a depth of 6 inches. This shall occur outside the Soil Protection Zone where compaction could impact otherwise unprotected Critical Root Zone.

LEGEND

- Existing Contour ——————— 552
- Existing Spot Elevation 392.3
- Existing Stream Buffer —— SB —— SB ——
- Existing Wetland Buffer —— WB —— WB ——
- Existing Wetland —— W —— W ——
- Existing Trees to Remain
- Proposed Septic Area
- Existing Septic Area
- Proposed Well Area
- Proposed House Site



VICINITY MAP

SCALE: 1"=2000'

GENERAL NOTES

1. Subject property zoned RR-DEO per 02/02/04 Comprehensive Zoning Plan.
2. Denotes Public Forest Conservation Easement. The Forest Conservation Easement has been established to fulfill the requirements of Section 16.1200 of the Howard County Code and Forest Conservation Act. No clearing, grading or construction is permitted within the Forest Conservation Easement; however, Forest Management Practices as derined in the Deed of Forest Conservation Easements are allowed.
3. Denotes Wetland Areas. Wetland areas delineated by Exploration Research Inc.
4. —— W ——Denotes Wetland Area outline.
5. —— ····· ——Denotes existing centerline of Stream Channel.
6. —— WB ——Denotes Wetland Buffer outline.
7. —— SB ——Denotes Stream Buffer outline.
8. This area designates a private sewage easement of at least 10,000 square feet as required by the Maryland State Department of the Environment for individual sewage disposal (COMAR 26.04.03). Improvements of any nature in this area are restricted until public sewerage is available. These easements shall become null and void upon connection to a public sewerage system. The County Health Officer shall have the authority to grant variances for encroachments into the private sewage easement. Recordation of a modified sewage easement shall not be necessary.
9. BRL Denotes Building Restriction Line.
10. This plat is based on field run Monumented Boundary Survey performed on or about June, 2004 by FSH Associates, Inc. All areas are more or less (+/-).
11. For flag or pipestem lots, refuse collection, snow removal and road maintenance are provided to the junction of the flag or pipestem and road right-of-way line and not to the pipestem lot driveway.
12. Driveway(s) shall be provided prior to issuance of a use and occupancy permit to ensure safe access for fire and emergency vehicles per the following requirements:
    A) Width - 12 feet (14 feet serving more than one residence);
    B) Surface - six (6") inches of compacted crusher run base with tar and chip coating (1-1/2' Minimum);
    C) Geometry - Maximum 14% grade, Maximum 10% grade change and 45-foot turning radius;
    D) Structures (culverts/bridges) - capable of supporting 25 gross tons (H25-loading);
    E) Drainage elements - capable of safely passing 100 year flood with no more than 1 foot depth over surface;
    F) Structure clearances - minimum 12 Feet;
    G) Maintenance - sufficient to ensure all weather use
13. Distances shown are based on surface measurement and not reduced to MD NAD '83 grid measurement.
14. No clearing, grading or construction is permitted within wetland or stream system buffers unless approved by the Department Of Planning And Zoning.
15. Wetlands investigation prepared by Exploration Research Inc. on December 20, 2004.
16. Density Calculations:
    a. Base Density = 14.71 ac.± / 4.25 ac./unit = 3.46 units; therefore, 3 units
    b. Maximum Density based on DEO option: 14.71 ac.± - 0.70 ac.± - 0.85 c.± =13.16 ac.± 13.16 ac.± / 2ac./unit = 6.58 units; therefore, 6 units
    c. Total DEO units required = 6 units - 3 units = 3 units
17. Stormwater Management obligations are met as follows: Water Quality (WQ_v) and Recharge (Re_v) are provided by a grass channel and a dry swale. This site is exempt from providing Channel Protection (CP_v) management. Surety for dry swale will be posted wit the developers agreement.
18. 65 dba noise study prepared by the Wilson T. Ballard company and approved under SP-05-12 on June 17, 2005.
19. Adequate public facilities (APF) traffic study prepared by Lee Cunningham & Associates, Inc. and approved under SP-05-12 on June 17, 2005.
20. Sight distance analysis for point of access prepared by FSH Associates and approved under SP-05-12 on June 17, 2005.
21. 100 year Floodplain study prepared by FSH Associates and approved under SP-05-12 on June 17, 2005.
22. Forest conservation obligations are fulfilled with the following measures: retention of 2.95 ac of forest in Forest Conservation Easment #1; retention of 1.77 ac of forest on a lot > 60,000 s.f. on Parcel A; and payment of a fee-in-lieu of $19,166.50 for 0.88 ac/38,333 s.f. of Forest obligation. Surety in the amount of $25,700.40 will be posted with the Developer's Agreement.
23. This plan has been prepared in accordance with the provisions of section 16.124 of the Howard County Code and Landscape Manual.Financial surety for the required landscaping will be posted as part of the Developer's Agreement in the amount of $5,100.00 (17 shade trees @ $300.00).
24. This symbol denotes the 100-year floodplain elevation.
25. Development rights for this property have been purchased from the Murray Property, RE-06-12. The sending Plat was approved on Dec. 22, 2005.
26. Non-Buildable Environmental Parcel 'B' is HOA owned and maintained with Howard County as an easement holder; Buildable Preservation Parcel 'A' is privately owned and maintained with Howard County and the HOA as easement holders. The uses and restrictions of the aforementioned parcels are outlined in the Deed of Preservation Easement.
27. The Contractor shall notify the following utility companies or agencies at least five (5) working days before starting work shown on these plans:

State Highway Administration	410.531.5533
BGE(Contractor Services)	410.850.4620
BGE(Underground Damage Control)	410.787.9068
Miss Utility	1.800.257.7777
Colonial Pipeline Company	410.795.1390
Howard County, Dept. of Public Works, Bureau of Utilities	410.313.4900
Howard County Health Department	410.313.2640
AT&T	1.800.252.1133
Verizon	1.800.743.0033/410.224.9210

SHEET INDEX

BENCHMARKS

Sta.	15CA	N 182,533.6973	E 404,139.3307	El.= 157.3223 (meters)
		N 598,862.636	E 1,325,913.787	El.= 516.148 (feet)
Sta.	15FA	N 181,632.8032	E 404,052.1342	El.= 148.4227 (meters)
		N 595,906.955	E 1,325,627.710	El.= 486.950 (feet)

OWNER/DEVELOPER

32-40 PARTNERSHIP
c/o Harry B. Cooper and Associates
10749 Falls Road, #202
Lutherville, Maryland 21093-7013
(410) 583-5540

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 8/4/06

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 8/9/06

STATE OF MARYLAND — STEPHEN L. HUBER — No. 369 — REGISTERED PROFESSIONAL FORESTER

EXPLORATION RESEARCH, INC.
ENVIRONMENTAL CONSULTANTS
LANDSCAPE ARCHITECTS
6308 FOREST STREET
ELLICOTT CITY, MARYLAND 21043
TEL: (410) 750-1150 FAX: (410) 750-7350
EMAIL: EXPLORATIONRESI@CS.COM

FINAL FOREST CONSERVATION AND SUPPLEMENTAL NOTES & DETAILS
TERRAPIN PRESERVE
LOTS 1 THRU 5, BUILDABLE PRESERVATION PARCEL 'A' AND NON-BUILDABLE PRESERVATION PARCEL 'B'

TAX MAP 15 GRID 11 — PARCEL 72
3RD ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

STATE OF MARYLAND — TIMOTHY JOSEPH FISCH — #22418 — PROFESSIONAL ENGINEER

FSH Associates
Engineers Planners Surveyors
8316 Forrest Street Ellicott City, MD 21043
Tel:410-750-2251 Fax 410-750-7350
E-mail: info@fsha.b

DESIGN BY: RAB
DRAWN BY: RAB
CHECKED BY: TJF/SLH
SCALE 1"=50'
DATE: June 9, 2006
W.O. No.: 3229
SHEET No.: 1 OF 5

F-06-082

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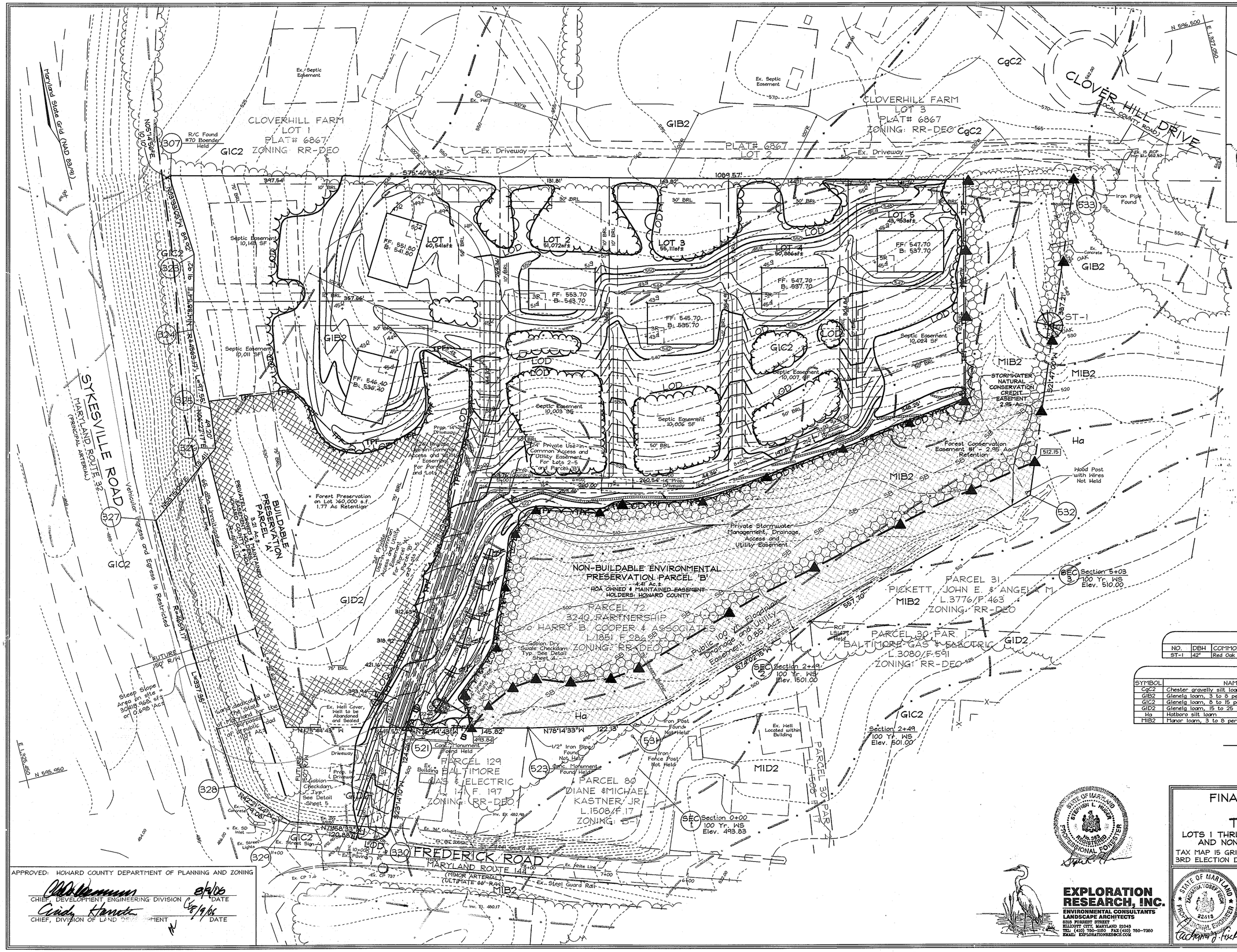

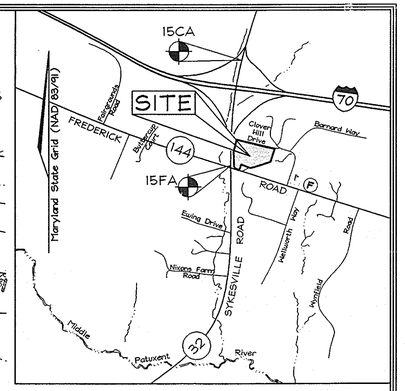

VICINITY MAP
SCALE: 1"=2000'

LEGEND

- Existing Contour ---382---
- Proposed Contour —(382)—
- Direction of Flow
- Existing Spot Elevation 382.5
- Proposed Spot Elevation +82.83
- Existing Trees
- Existing Septic Easement
- Proposed Septic Easement
- 15-24.99% Slopes
- 25-50% Slopes
- Wetalnds
- Use-In-Common Access Easement
- Forest Conservation Easement Retention Area
- Forest Preservation on a Lot >60,000 s.f.
- Tree Protection Fence — TPF —
- Forest Conservation Sign ▲
- Specimen Tree ST-1

SPECIMEN TREES

NO.	DBH	COMMON NAME	SCIENTIFIC NAME	CONDITION	RETAIN
ST-1	42"	Red Oak	Quercus rubra	Good	Yes

SOILS LEGEND

SYMBOL	NAME / DESCRIPTION	SOIL GROUP
CgC2	Chester gravelly silt loam, 8 to 15 percent slopes, moderately eroded	B
GIB2	Glenelg loam, 3 to 8 percent slopes, moderately eroded	B
GIC2	Glenelg loam, 8 to 15 percent slopes, moderately eroded	B
GID2	Glenelg loam, 15 to 25 percent slopes, moderately eroded	B
Ha	Hatboro silt loam	D
MIB2	Manor loam, 3 to 8 percent slopes, moderately eroded	B

OWNER/DEVELOPER

32-40 PARTNERSHIP
c/o Harry B. Cooper and Associates
10749 Falls Road, #202
Lutherville, Maryland 21093-7013
(410) 583-5540

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 8/9/06

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 8/9/06

FINAL FOREST CONSERVATION PLAN
TERRAPIN PRESERVE

LOTS 1 THRU 5, BUILDABLE PRESERVATION PARCEL 'A' AND NON-BUILDABLE PRESERVATION PARCEL 'B'

TAX MAP 15 GRID 11 — PARCEL 72
3RD ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

STATE OF MARYLAND · STEPHEN L. HUBER · No. 986 · REGISTERED PROFESSIONAL FORESTER

STATE OF MARYLAND · VINCENT JOSEPH FISH · 22118 · PROFESSIONAL ENGINEER

EXPLORATION RESEARCH, INC.
ENVIRONMENTAL CONSULTANTS
LANDSCAPE ARCHITECTS
6218 FOREST STREET
ELLICOTT CITY, MARYLAND 21043
TEL: (410) 750-1150 FAX (410) 750-7350
EMAIL: EXPLORATIONRES@CS.COM

FSH Associates
Engineers Planners Surveyors
8318 Forrest Street Ellicott City, MD 21043
Tel:410-750-2251 Fax:410-750-7350
E-mail: info@fsha.biz

DESIGN BY:	RAB
DRAWN BY:	RAB
CHECKED BY:	ZYF/SLH
SCALE:	1"=50'
DATE:	June 9, 2006
W.O. No.:	3229
SHEET No.	2 OF 3

F-06-082

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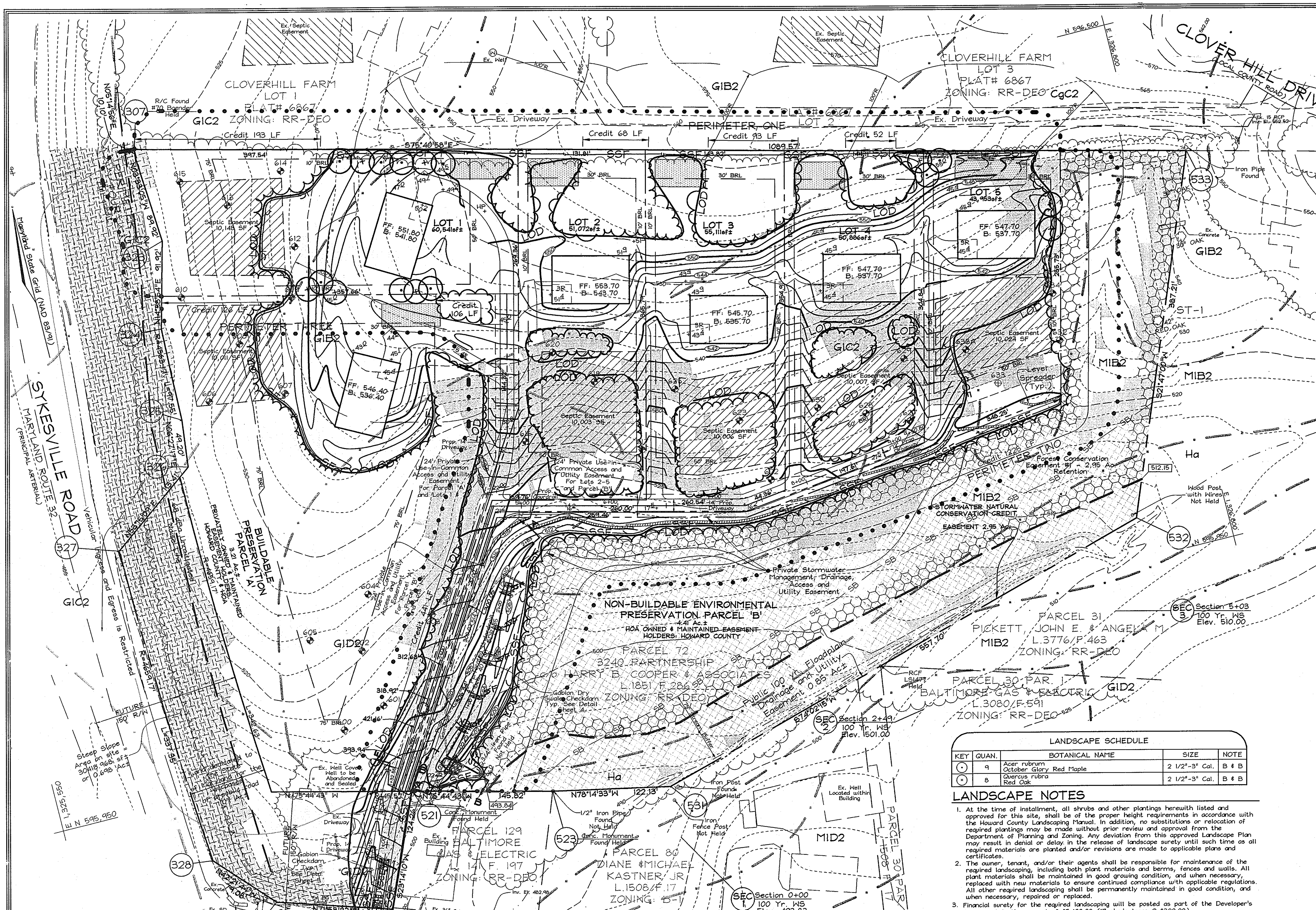


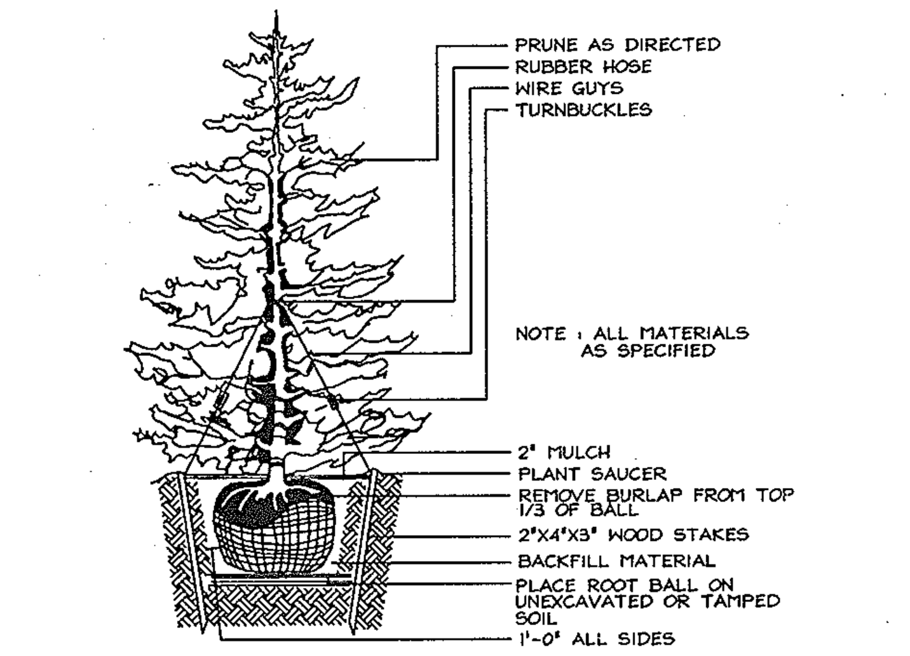
NOTE: A Guardrail shall be installed at least three (3) feet from the edge of paving between the Use-In-Common driveway stations 1+62 and 5+50, see Howard County Design Manual Volume IV or SHA Details Manual For Types And Details.

LEGEND

Existing contours	552
Existing Spot Elevation	382.3
Existing Trees to Remain	
Stream Bank Buffer	SB
Stream	
Utility Pole	Ø
Stabilized Construction Entrance	SCE
Super Silt Fence	SSF
Silt Fence	SF
Limit of Disturbance	LOD
Soil Boundary	
25% or greater slopes	
15% - 24.99% slopes	
Proposed Landscape Tree	⊗ ⊙
Proposed Guardrail	

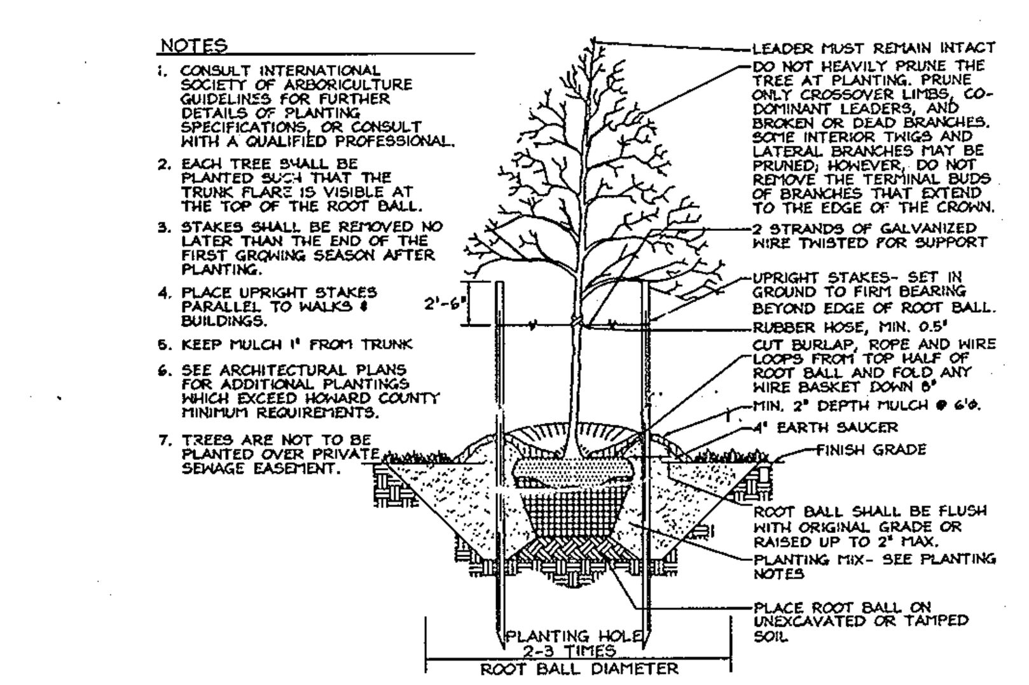
SOILS LEGEND

SYMBOL	NAME / DESCRIPTION	SOIL GROUP
CgC2	Chester gravelly silt loam, 8 to 15 percent slopes, moderately eroded	B
GlB2	Glenelg loam, 3 to 8 percent slopes, moderately eroded	B
GlC2	Glenelg loam, 8 to 15 percent slopes, moderately eroded	B
GlD2	Glenelg loam, 15 to 25 percent slopes, moderately eroded	B
Ha	Hatboro silt loam	D
MlB2	Manor loam, 3 to 8 percent slopes, moderately eroded	B



TYPICAL EVERGREEN TREE PLANTING DETAIL

NOT TO SCALE



TYPICAL TREE PLANTING AND STAKING

DECIDUOUS TREES UP TO 2-1/2" CALIPER — NOT TO SCALE

SCHEDULE A
PERIMETER LANDSCAPE EDGE

CATEGORY	ADJACENT TO ROADWAYS			ADJACENT TO PERIMETER PROPERTIES			
Perimeter/Frontage Designation Landscape Type				1 A	2 A	3 A	4 B
Linear Feet of Roadway Frontage/Perimeter				959	1,287	1018	158
Credit for Existing Vegetation (Yes, No, Linear Feet) Remaining Perimeter Length				Yes* 406 (553)	Yes* 1,164 (125)	Yes* 685 (333)	Yes* 158 (0)
Credit for Wall, Fence or Berm (Yes, No, Linear Feet) Remaining Perimeter Length				No	No	No	No
Number of Plants Required Shade Trees Evergreen Trees Shrubs				1:60 9 - -	1:60 2 - -	1:60 6 - -	1:50 0 1:40 0 -
Number of Plants Provided Shade Trees Evergreen Trees Shrubs				1:60 9 - -	1:60 2 - -	1:60 6 - -	1:50 0 1:40 0 -

OWNER/DEVELOPER

32-40 PARTNERSHIP
c/o Harry B. Cooper and Associates
10749 Falls Road, #202
Lutherville, Maryland 21093-7013
(410) 583-5540

LANDSCAPE SCHEDULE

KEY	QUAN.	BOTANICAL NAME	SIZE	NOTE
⊙	9	Acer rubrum October Glory Red Maple	2 1/2"-3" Cal.	B & B
⊗	8	Quercus rubra Red Oak	2 1/2"-3" Cal.	B & B

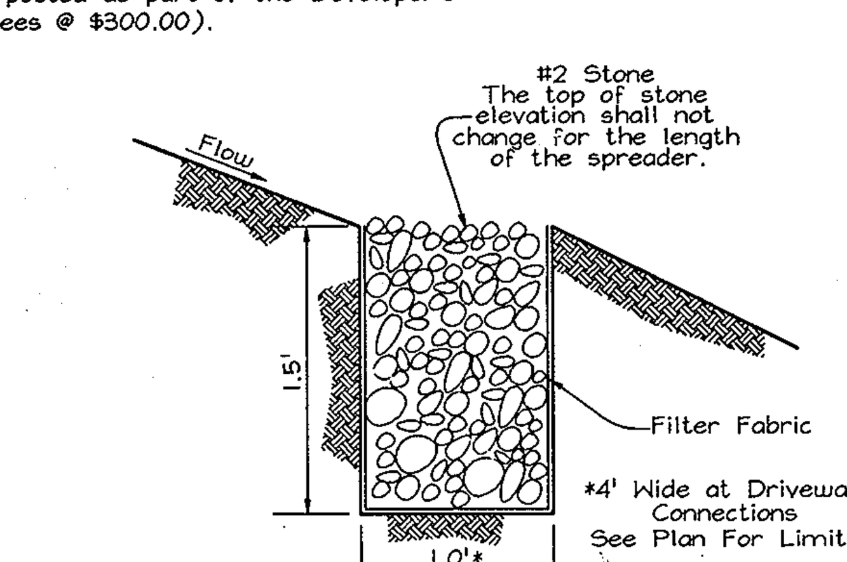
LANDSCAPE NOTES

1. At the time of installment, all shrubs and other plantings herewith listed and approved for this site, shall be of the proper height requirements in accordance with the Howard County Landscaping Manual. In addition, no substitutions or relocation of required plantings may be made without prior review and approval from the Department of Planning and Zoning. Any deviation from this 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 applicable plans and certificates.
2. The owner, tenant, and/or their agents shall be responsible for maintenance of the required landscaping, including both plant materials and berms, 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.
3. Financial surety for the required landscaping will be posted as part of the Developer's Agreement in the amount of $5,100.00 (17 shade trees @ $300.00).

DEVELOPER'S BUILDER'S CERTIFICATE

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE (1) YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

Steph M Cooper — 6/12/6
SIGNATURE OF DEVELOPER — DATE



TYPICAL LEVEL SPREADER CROSS SECTION

NOT TO SCALE
See plan for level spreader lengths

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[signature] — 8/9/06
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

Cindy Hamilton — 8/9/06
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

Jim Myers — 6/20/06
USDA-NATURAL RESOURCES CONSERVATION SERVICE — DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT

John R Robertson — 6/20/06
HOWARD SCD — DATE

ENGINEERS CERTIFICATE

"I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Zacharia Y. Fisch — 6/12/06
SIGNATURE OF ENGINEER — DATE
ZACHARIA Y. FISCH

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 ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

Steph M Cooper — 6/12/06
SIGNATURE OF DEVELOPER — DATE

GRADING, SEDIMENT & EROSION CONTROLS, LANDSCAPING PLAN NOTES AND DETAILS
TERRAPIN PRESERVE
LOTS 1 THRU 5, BUILDABLE PRESERVATION PARCEL 'A' AND NON-BUILDABLE PRESERVATION PARCEL 'B'

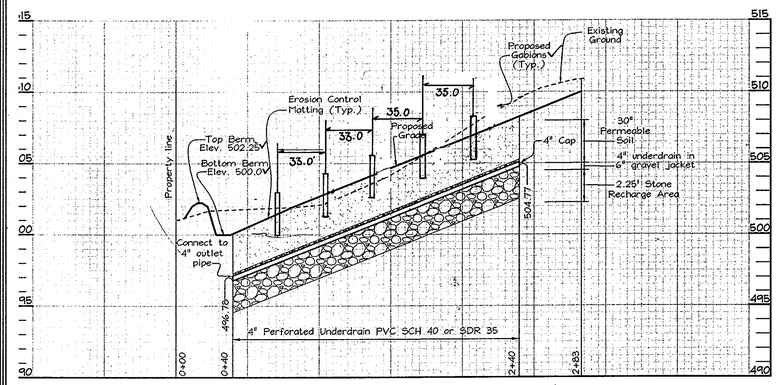
TAX MAP 15 GRID 11 — PARCEL 72
3RD ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

STATE OF MARYLAND — ZACHARIA YOSEF FISCH — 22418 — PROFESSIONAL ENGINEER

FSH Associates
Engineers Planners Surveyors
8318 Forrest Street Ellicott City, MD 21043
Tel:410-750-2251 Fax 410-750-7350
E-mail: info@fsha.biz

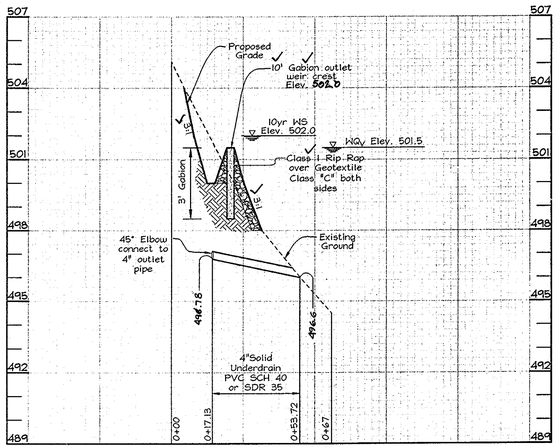
DESIGN BY:	PS
DRAWN BY:	AY
CHECKED BY:	ZYF
SCALE:	1"=50'
DATE:	June 9, 2006
W.O. No.:	3229
SHEET No.:	3 OF 5

F-06-082



WATER QUALITY (WQv) DRY SWALE/UNDERDRAIN PROFILE SECTION A-A

SCALE: Horizontal: 1"=50'
Vertical: 1"=5'



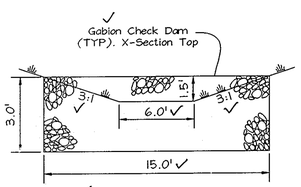
WATER QUALITY (WQv) DRY SWALE PROFILE SECTION B-B @ OUTFALL PIPE

SCALE: Horizontal: 1"=30'
Vertical: 1"=3'

SEQUENCE OF CONSTRUCTION

1. Obtain grading permit and contact Howard County Sediment Control Inspector (SCI) to arrange a pre-construction meeting. (1 Day)
2. Install Stabilized Construction Entrance. (1 Day)
3. Clear and grub as necessary for installation of sediment controls. (3 Days)
4. Install super silt fence in locations shown. (2 Days)
5. Grade shared driveway to sub-grade and grade Dry Swale facility. (2 Weeks)
6. Install gravel trench, under drain, dewatering stand pipe, gabion check dams and rip rap outlet for Dry Swale facility. (1 Week)
7. Install Grass Channel and gabion check dams on west side of shared driveway. (1 Week)
8. Fine grade and pave shared driveways and stabilize all disturbed areas with seed and mulch. (2 Weeks)
9. With permission of SCI, remove super silt fences and stabilize those areas.

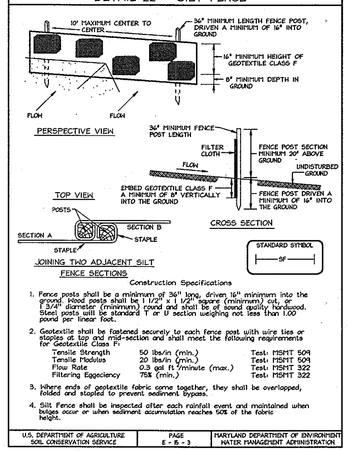
NOTE: Stockpiling of soil will not be permitted on site.



GABION CHECK DAM DRY SWALE CROSS SECTIONS (TYP.)

NOT TO SCALE

DETAIL 22 - SILT FENCE



Construction Specifications

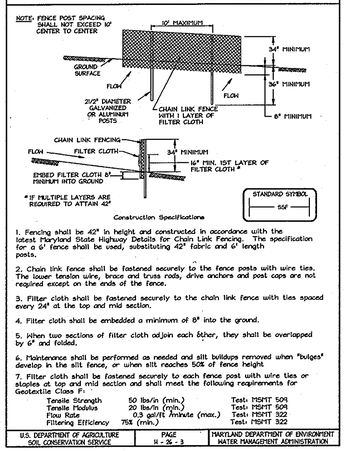
1. Fence posts shall be a minimum of 36" long, driven 16" minimum into the ground. Wood posts shall be 1 1/2" x 1 1/2" square (minimum) cut, or 1 3/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard 'T or 'U' section weighing not less than 1.00 pound per linear foot.
2. Geotextile 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: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal ft²/minute (max.)	Test: MSMT 322
Filtering Eggeciency	75% (min.)	Test: MSMT 322

3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
4. Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reaches 50% of the fabric height.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E - 15 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 33 - SUPER SILT FENCE

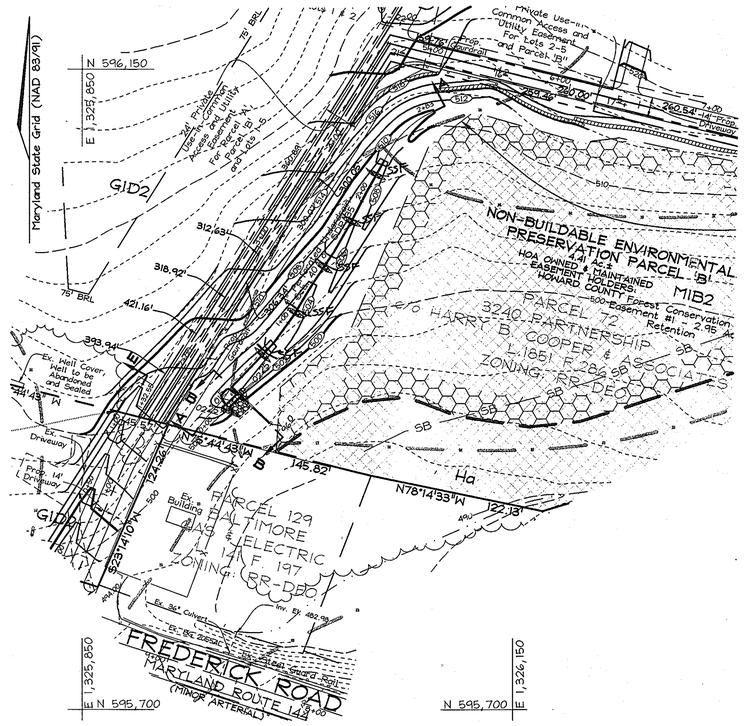


Construction Specifications

1. Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6' fence shall be used, substituting 42" fabric and 6' length posts.
2. Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tensiion wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence.
3. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
4. Filter cloth shall be embedded a minimum of 8" into the ground.
5. When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
6. Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence 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: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal/ft²/minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE H - 24 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



DRY SWALE PLAN VIEW

SCALE: 1"=50'

SEDIMENT CONTROL NOTES

1. A minimum of 48 hours notice must be given to the Howard County Department of Inspection, License and Permits Sediment Control Division prior to the start of any construction (410-313-1855).
2. All vegetation and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL and revisions thereto.
3. Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within: (a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes, and all slopes greater 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 7, 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, sod, temporary seeding, and mulching (Sec. 6). Temporary stabilization with mulch alone shall 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	14.71 Acres
Area Disturbed	6.26 Acres
Area to be roofed or paved	1.21 Acres
Area to be vegetatively stabilized	5.05 Acres
Total Cut	# 740 CY
Total Fill	# 1156 CY
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 approvals may not be authorized until this initial approval by the inspection agency is made.
11. Trenches for the construction of utilities is limited to three pipe lengths or that which shall be back-filled and stabilized within one working day, whichever is shorter.

Earthwork quantities are solely for the purpose of calculating fees. Contractor to verify all quantities prior to the start of construction.

Ha Earthwork quantities are solely for the purpose of calculating fees. Contractor to verify all quantities prior to the start of construction.

Hb To be determined by contractor, with pre-approval of the Sediment Control Inspector with an approved and active grading permit.

21.0 STANDARDS AND SPECIFICATIONS FOR TOPSOIL

Definition

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

Purpose

To provide a suitable soil medium for vegetable growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.

Conditions Where Practice Applies

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

a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.

b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.

c. The original soil to be vegetated contains material toxic to plant growth.

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

II. For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.

Construction and Material Specifications

I. Topsoil 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.

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

i. Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or a 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 that 1 and 1/2" in diameter.

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

iii. Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.

II. For sites having disturbed areas under 5 acres:

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

III. For sites having disturbed areas over 5 acres:

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

a. pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.

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

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

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

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

ii. Place topsoil (if required) and apply soil - ammendments specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

V. Topsoil Application

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

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

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

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

PERMANENT SEEDING NOTES

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

SEEDBED PREPARATION: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, if not previously loosened.

SOIL AMENDMENTS: In lieu of soil test recommendations, use one of the following schedules:

1) Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs/100 sq.ft.) and 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil. At the time of seeding, apply 400 lbs per acre 30-0-0 ureaform fertilizer (9 lbs/1000 sq.ft.)

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

SEEDING: For the periods March 1 thru April 30, and August 1 thru October 15, seed with 60 lbs per acre (1.4 lbs/1000 sq.ft.) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs per acre (0.05 lbs/1000 sq.ft.) of weeping lovegrass. During the period of October 16 thru February 28, protect site by: Option (1) 2 tons per acre 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 31 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 unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sq.ft.) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq.ft.) for anchoring.

MAINTENANCE: Inspect all seeded areas and make needed repairs, replacements and reseedings.

TEMPORARY SEEDING NOTES

SEEDBED PREPARATION: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, if not previously loosened.

SOIL AMENDMENTS: Apply 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq.ft).

SEEDING: For periods March 1 thru April 30 and from August 15 thru November 15, seed with 2 1/2 bushel per acre of annual rye (3.2 lbs/1000 sq.ft.) For the period May 1 thru August 14, seed with 3 lbs per acre of weeping lovegrass (0.07 lbs/1000 sq.ft.). For the period November 1 thru February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

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

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

OWNER/DEVELOPER

32-40 PARTNERSHIP
c/o Harry B. Cooper and Associates
10749 Falls Road, #202
Lutherville, Maryland 21093-7013
(410) 583-5540

SEDIMENT & EROSION CONTROL NOTES, DETAILS AND DRY SWALE PROFILES
TERRAPIN PRESERVE

LOTS 1 THRU 5, BUILDABLE PRESERVATION PARCEL 'A' AND NON-BUILDABLE PRESERVATION PARCEL 'B'

TAX MAP 15 GRID 11 — PARCEL 72
3RD ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 8/8/06

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 8/9/06

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

USDA-NATURAL RESOURCES CONSERVATION SERVICE — DATE 6/20/06

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT

HOWARD SCD — DATE 6/22/06

ENGINEERS CERTIFICATE

"I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Zacharia Y. Fisch — 6/12/06
SIGNATURE OF ENGINEER — DATE
ZACHARIA Y. FISCH

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 ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

Robert M Cooper — 6/12/06
SIGNATURE OF DEVELOPER — DATE

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE AS-BUILT PLANS AND MEETS WITH THE APPROVED DESIGN SPECIFICATIONS.

7/14/16

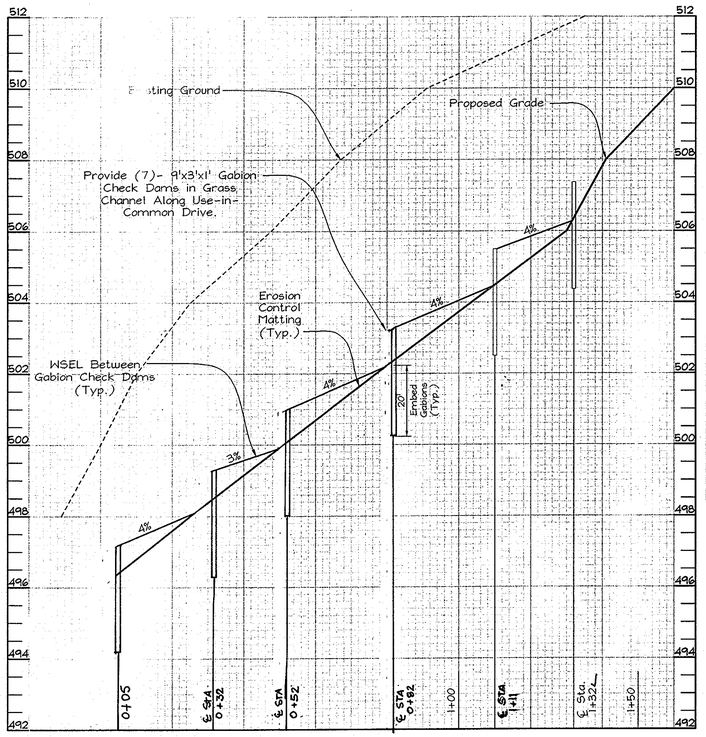
STATE OF MARYLAND — JOSHUA YOSEF TISCH — 21418 — PROFESSIONAL ENGINEER

FSH Associates
Engineers Planners Surveyors
8318 Forrest Street Ellicott City, MD 21043
Tel:410-750-2251 Fax: 410-750-7350
E-mail: info@fsha.biz

DESIGN BY:	PS
DRAWN BY:	AY
CHECKED BY:	ZYF
SCALE:	As shown
DATE:	June 9, 2006
W.O. No.:	3229
SHEET No.:	4 OF 5

F-06-082

M:\Terrapin Preserve 3229\dwg\Records\3229 sed dwg 6/1... 10:16 AM, heather, 1:1



WATER QUALITY (WQv) GRASS CHANNEL PROFILE SECTION E-E

SCALE: Horizontal: 1"=20'
Vertical: 1"=2'

STORMWATER MANAGEMENT SUMMARY TABLE

CATEGORY	DA-1	DA-2A	DA-2B	DA-3	COMMENTS
CHANNEL PROTECTION VOLUME (C_{pv})	N/A	N/A	N/A	N/A	QI < 2cfs for each DA
WATER QUALITY VOLUME (W_{Qv}) Required/Provided	N/A	0.0465 ac-ft	0.036 ac-ft	0.054 ac-ft	See Note No.2
RECHARGE VOLUME/AREA (R_{ev})/(R_{ea}) Required/Provided	0.04 ac-ft/ 0.38 ac				See Note No.3
OVERBANK FLOOD STORAGE (Q_p)	N/A	N/A			Not Required by Howard County
EXTREME FLOOD VOLUME (Q_f)	N/A	N/A			Not Required by Howard County

NOTES:

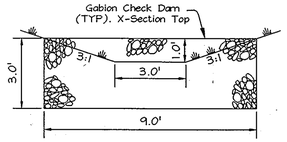
1. Channel protection volume (Cpv) is not required since developed runoff does not exceed 2.0 cfs for each drainage area.
2. The water quality volume (Wqv) is not required for DA-1 since no development of impervious area is planned. Wqv for Drainage Area 2A is provided within an engineered Dry Swale structure. Wqv for DA-3 is provided by grass channel credit. Water quality volume (Wqv) provided by sheet flow to buffer credits for the impervious area generated by lots 2 thru 5 and the shared driveway. The remaining area is credited as Natural Area Conservation Easement.
3. Proposed management of recharge volume/area (Rev/ Rea) will be provided in a gravel chamber beneath the Dry Swale structure for DA-2A and by grass channel credit treatment for DA-3. DA- 1 has no impervious area and does not require treatment. DA-2B impervious area is treated by sheet flow to buffer credit.
4. Overbank and extreme flood storage volume is not required for this site.

OPEN CHANNEL SYSTEMS AND FILTER STRIP MATERIALS SPECIFICATIONS

MATERIAL	SPECIFICATION	SIZE	NOTES
Dry swale soil	USCS; ML; SM; SC	N/A	Soil with a higher percentage organic content is preferred
Underdrain gravel	AASHTO M-43	0.25" to 0.75"	
Underdrain	F 758 Type PS 28 or AASHTO M-278 ,	4" to 6" rigid schedule 40 PVC or SDR 35	3/8"perf. @6" on center, 4 holes per row; minimum of 3"of gravel over pipes; not necessary underneath pipes
Geotextile	Class 'C' - apparent opening size (ASTM-D-4751), grab tensile strength(ASTM-D-4632), puncture resistence (ASTM-D-4833)	N/A	

OPERATION AND MAINTENANCE SCHEDULE FOR DRY SWALE (PRIVATLY OWNED AND MAINTAINED) (O-1)

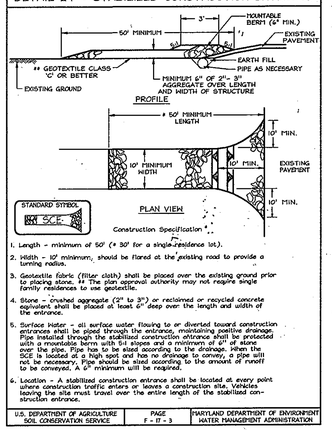
1. Mow grass swale during growing season to maintain vegetation height of 4"-6".
2. Sediment build-up within the bottom of the channel to be removed when sediment has accumulated to 25% of the W_{Qv}.



GABION CHECK DAM GRASS CHANNEL CROSS SECTIONS (TYP.)

NOT TO SCALE

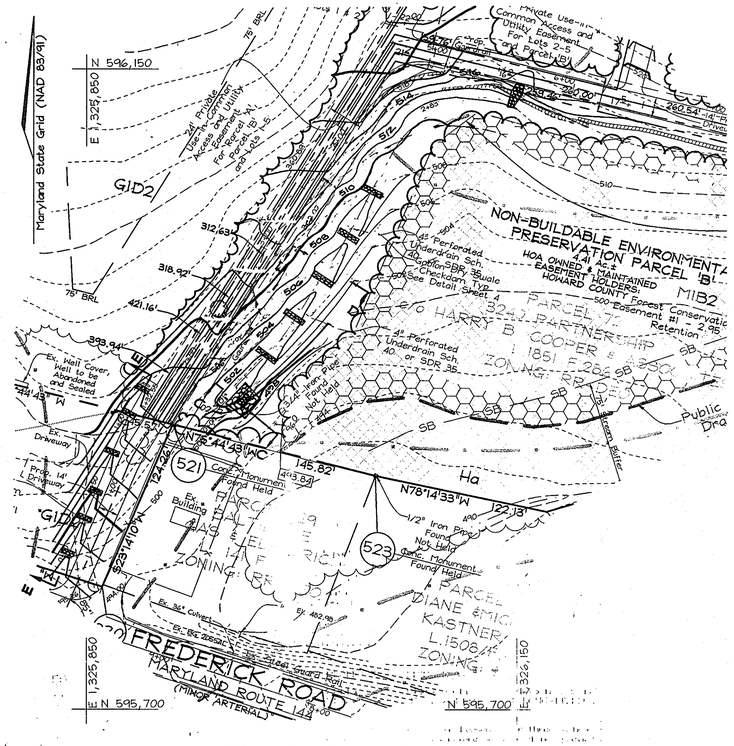
DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



Construction Specification

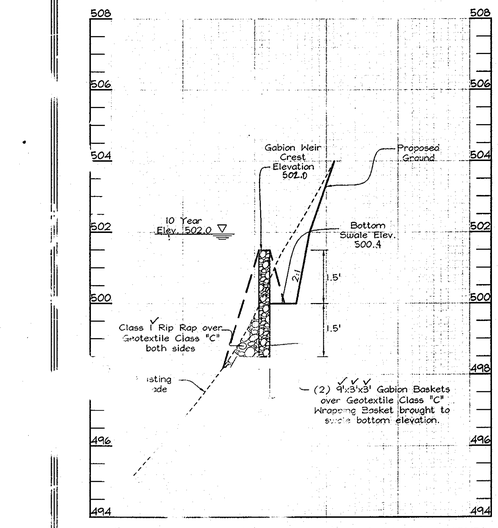
1. Length - minimum of 50' (* 30' for a single-residence lot).
2. Width - 10' minimum, should be flared at the existing road to provide a turning radius.
3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. If the plan approval authority may not require 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 entrance.
5. Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe shall be installed through the mountable berm with flat 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.
6. 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.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE F - 17 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



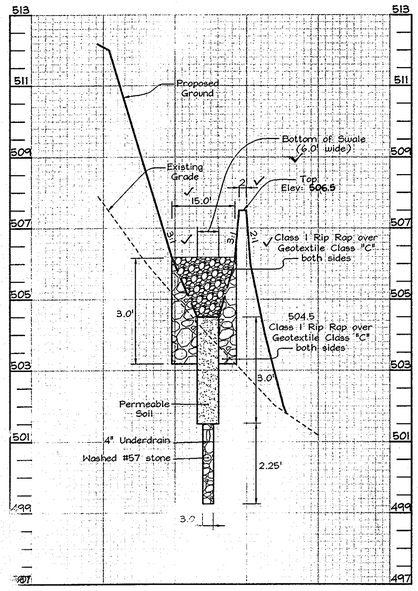
GABION CHECK DAM PLAN VIEW

SCALE: 1"=50'



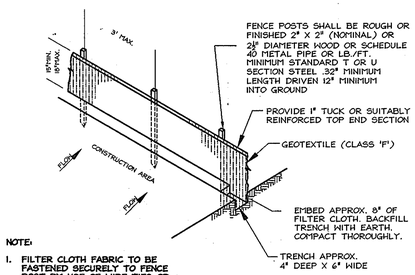
WATER QUALITY (WQv) GABION WEIR PROFILE SECTION C-C

Scale Horizontal: 1"=20'
Vertical: 1"=2'



WATER QUALITY (WQv) DRY SWALE PROFILE SECTION D-D

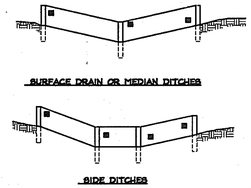
Scale Horizontal: 1"=20'
Vertical: 1"=2'



NOTE:

1. FILTER CLOTH FABRIC TO BE FASTENED SECURELY TO FENCE POST BY USE OF TIES OR HOG RINGS. 2 PER POST.

APPLICATIONS

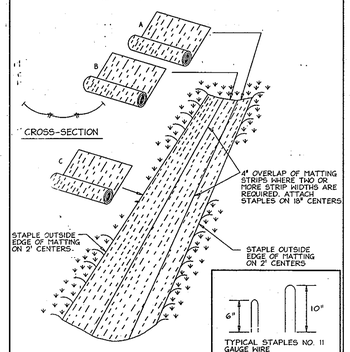


PLAN VIEW SYMBOL

C.S.F. C.S.F.

CHANNEL SILT FENCE (C.S.F.)

DETAIL 30 - EROSION CONTROL MATTING

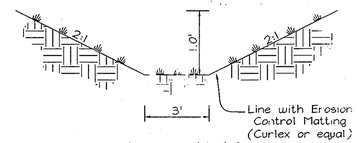


Construction Specifications

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. When the roll of matting ends and another begins, the end of shallow shall overlap the upper end of the lower strip by 4 shiplap spaces. Reinforce the overlap with a double row of staples spaced 2" in a staggered pattern on either side.
6. The upper end of the matting liner should be similarly secured with double rows of staples.

Note: If water will enter from the edge of the matting then the area effected flow must be keyed-in.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE G - 22 - 2	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



GRASS CHANNEL CROSS SECTIONS (TYP.)

OWNER/ OPER
32-40
c/o Harry B. C
10749 Fa
Lutherville, M
(410

HP
Associates
02
-7013

DRY SWALE AND TERRAP
LOTS 1 THRU 5, BUILDA AND NON-BUILDABLE
TAX MAP 15 GRID 11
3RD ELECTION DISTRICT

APPROVED: HOWARD COUNTY DEPT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIV. — DATE 6/9/06
CHIEF, DIVISION OF LAND DEVELOP — DATE 6/9/06

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

USDA-NATURAL RESOURCES CONSERVATION SERVICE — DATE 6/20/06

THIS DEVELOPMENT PLAN IS REVIEWED FOR SEDIMENT AND EROSION CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT

HOWARD SCD — DATE 6/20/06

ENGINEER'S CERTIFICATE

"I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Zacharia Y. Fisch — 6/12/06
SIGNATURE OF ENGINEER — DATE
ZACHARIA Y. FISCH

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 ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

Steph M Cooper — 6/12/06
SIGNATURE OF DEVELOPER — DATE

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE AS-BUILT PLANS AND MEETS WITH THE APPROVED PLAN AND SPECIFICATIONS.

7/14/10

STATE OF MARYLAND — ZACHARIA YOSSEF FISCH — 22218 — PROFESSIONAL ENGINEER
Zacharia Y. Fisch

FSH
Engineers P
8316 Forest Stree
Tel:410-750-2251
E-mail: info@fsha

No. 32
SHEET No. 5 OF

F-06-082

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