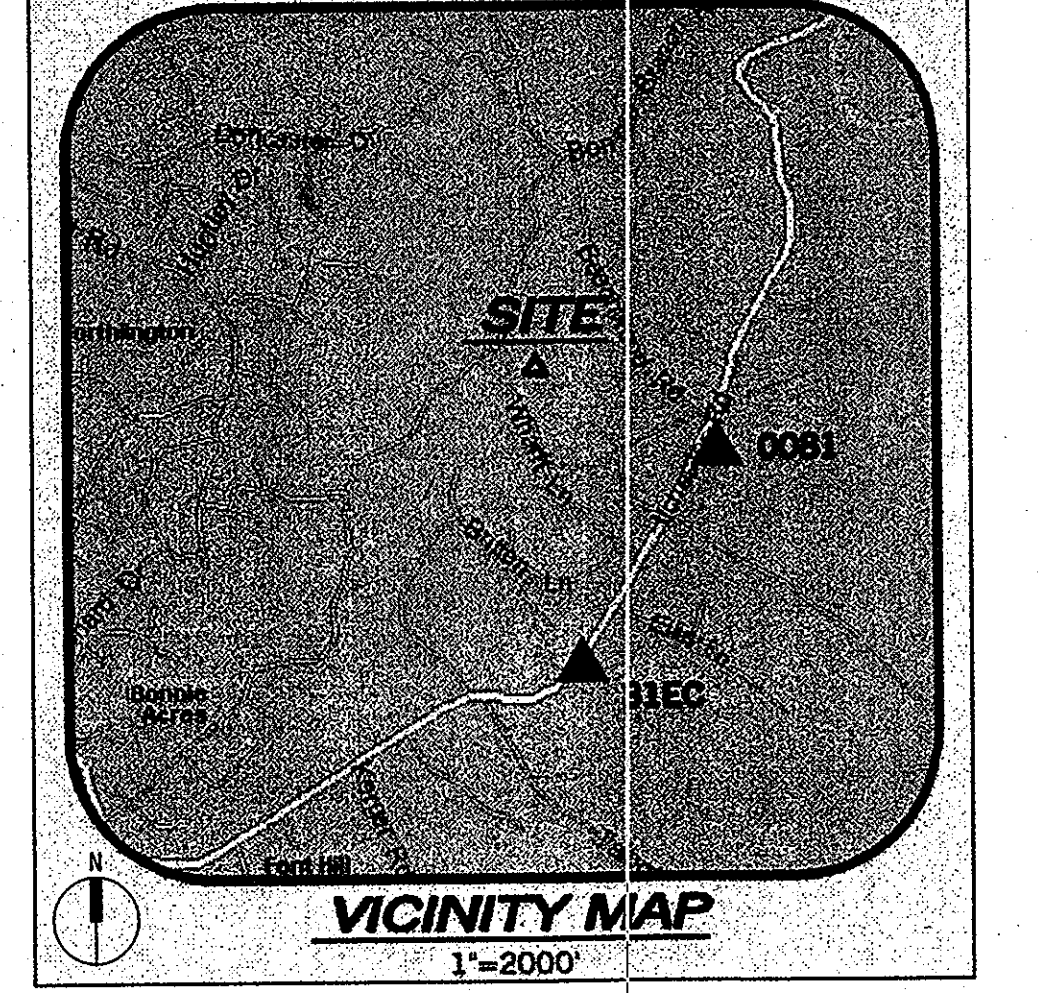


### LEGEND

PROPOSED BOUNDARY	---
PROPOSED BUILDING	▭
PROPOSED CONTOURS	480
EXISTING CONTOURS	---
BUILDING RESTRICTION LINE	--- 10' BBL ---
PROPOSED SUPER SILT FENCE	--- S S F ---
LIMITS OF DISTURBANCE	--- L O D ---
DRAINAGE DIVIDE	←
EX. TREE LINE	---
ALL SLOPES ≥ 25%	▨
FOREST CONSERVATION AREA	▨
SPECIMEN TREE	○
SPECIMEN TREE TO BE REMOVED	⊗
WATER SUPPLY WELL	● W1
SOIL MAP UNIT DELINEATION	MgF GCB
PERCOLATION TEST	● (1)
STABILIZED CONSTRUCTION ENTRANCE	▨
FOREST CONSERVATION SIGNAGE @ every 50' feet along FCE boundaries	PCF
EARTH - DIKE	A-T



- ### GENERAL NOTES:
- The subject property is zoned R-20 per the 2/2/04 Comprehensive Rezoning Plan.
  - No grading, removal of vegetative cover is permitted in steep slopes with a contiguous area of 20,000 square feet or within the forest conservation easement.
  - This project is subject to the amended Fifth Edition of the Subdivision and Land Development Regulations.
  - No covenants exist on site.
  - No wetlands or flood plain exist on this site.
  - The Use-In-Common driveway maintenance agreement has been recorded in the land records office as Liber 696, Folio 365 on September 13, 1974.
  - Previous DPZ Numbers:
    - S-06-012-Wharff Overlook
    - F-07-115-Workman Property
    - ECF-11-015
  - Driveways shall be provided prior to issuance of a use and occupancy permit for any new dwellings to insure safe access for fire and emergency vehicles per the following minimum requirements:
    - Width-12' (10' serving more than one residence).
    - Surface-4" of compacted crusher run base with tar and chip coating (1-1/2" min.).
    - Geometry-Max. 14% grade, max 10% grade change and min 49' turning radius.
    - Drainage Elements-capable of safely passing 100-year flood with no more than 1 foot depth over driveway surface.
    - Maintenance-sufficient to insure all weather use.
  - This Project is not subject to a noise study evaluation.
- ### LANDSCAPING AND FOREST CONSERVATION NOTES
- This project complies with the requirements of section 16.1200 of the Howard County Code for Forest Conservation by placement of 1.82 acres on-site forest into a retention easement. No survey is required.
  - A Forest Conservation Plat of Easement has been recorded for this site as Plat No. 21044 on 11-23-11.
  - A water permit, number "WP-12-021" for removal of specimen tree 2, 10, and 11 has been approved on 11-23-11.
  - This plan has been prepared in accordance with the provisions of Section 16.124 of the Howard County Landscaping Manual.
  - Credit is taken for existing trees. No further landscaping is required.

### SITE ANALYSIS DESIGN SHEET:

A. Total Project Area:	5.0 Acres
B. Area of Plan Submission:	5.0 Acres
C. Limit of Disturbed Area:	1.66 Acres
D. Present Zoning Designation:	R-20
E. Proposed uses for site and structures:	Proposed Single Family Dwelling
F. Floor space on each level of building(s) per use:	Single Family Residence - 2667 Sq.Ft.
G. Total number of units allowed for project as shown on final plat:	One Residence Unit (exempt from Subdivision)
H. Total number of units proposed is ONE	
I. Maximum number of employees, tenants on site per use is none (Single Family)	
J. Number of parking spaces required is 2 by Howard County Zoning Regulations and/or FOP Criteria.	
K. Number of parking spaces provided on site is 4	
L. Open Space on site: 0.30 Acre and 6% of gross area, if applicable.	
M. Area of recreation open space; N/A	
N. Building coverage of site: 0.087 Acres and 1.73 % of gross area	
O. Applicable DPZ file references: ECP 11-057	

### HOWARD COUNTY HEALTH DEPARTMENT NOTES:

- This area designates a private sewage area of at least 10,000 square feet as required by the Maryland State Department of the Environment for individual sewage disposal. Improvements of any nature in this area are restricted until public sewerage is available. This area shall become null and void upon connection to a public sewerage system. The county Health Officer shall have the authority to grant adjustments to the private sewage area. Recordation of a modified sewage area shall not be necessary.
- The lot shown hereon complies with the minimum ownership, width, and lot area as required by the Maryland State Department of the Environment.
- Existing wells, septic systems, and sewage disposal areas within 100' of the property and those wells within 200' down gradient of existing or proposed septic systems or sewage disposal areas have been shown.
- The well shall be drilled and the Well Completion Report submitted to the Health Department prior to application for Building Permit. It is the developer's responsibility to schedule the well drilling prior to submittal of Building permit Application. It will not be considered "government delay" if the well drilling holds up Health Department approval of the Building permit Application.
- Topography shown is at two-foot contour intervals and has been field verified or field run.
- Any changes to a private sewage area shall require a revised percolation certification plan.
- Installation of septic drainfield lines requires disruption and disturbance, and likely will result in damage or destruction of trees and other vegetation within the boundaries of the septic area.

### ADDRESS CHART

LOT/PARCEL #	STREET ADDRESS
634	4831 WHARFF LANE

### PERMIT INFORMATION CHART

Subdivision Name	Section/Area	Lot/Parcel No.
O'Kane Property		634

Plot # or L/F	Grid #	Zoning	Tax Map No.	Elect District	Census Tract
L.11976 F.68	10	R-20	31	2nd	602800

Water Code	Sewer Code

### 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."

*M. Razavi* 2/20/2012  
Date

**MOHAMMAD HOUSAVI RAZAVI**  
MARYLAND REGISTRATION # 22742

### 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."

*Bonnie O'Kane / Bryant O'Kane* 2/10/2012  
Signature of Developer (print name below signature) Date

### FOR THE HOWARD SOIL CONSERVATION DISTRICT

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

*John R. Roberts* 2/24/12  
Signature of District Engineer Date

**Kiebasco Environmental, LLC**

P.O. Box 1067  
Crownsville, Maryland 21034  
(410) 672-9990 (office)  
(410) 672-9993 (fax)

FOREST CONSERVATION PLAN CERTIFIED BY:

*Michael J. Kiebasco* 10/31/11  
DATE

MICHAEL J. KIEBASCO  
KIEBASCO ENVIRONMENTAL, LLC  
(QUALIFIED PROFESSIONAL FEE  
COMAR 08.19.06.01)

APPROVED:  
FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

*Richard J. Belknap* 3/12/12  
County Health Officer Date

Howard County Health Department

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*John J. P.* 3/21/12  
Chief, Development Engineering Division Date

*Vatslav* 3/29/12  
Chief, Division of Land Development Date

*Paul D. Gyle* 3/28/12  
Director Date

REV#	DATE

**OWNER**

**BONNIE & BRYANT O'KANE**

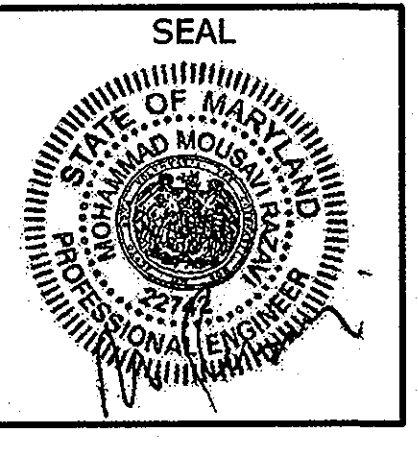
6319 ARBOR WAY,  
ELKRIDGE, MARYLAND 21075-6878  
TEL: 410-379-6212

**RAZTEC ASSOCIATES, INC.**

civil engineers & planners

3451 Emy's place  
Monrovia, Maryland 21770

Tel (301) 775-4394  
Fax (301) 831-9415  
email: raztecengr@comcast.net



**SITE DEVELOPMENT PLAN AND FOREST CONSERVATION EASEMENT**

**O'KANE PROPERTY PARCEL 634**

WHARFF LANE, ELICOTT CITY  
HOWARD COUNTY, MARYLAND

ZONE: R20 SECOND ELECTION DISTRICT  
TAX MAP 31 DEED REF: L.11976 F.68

SCALE  
1" = 40'

CHECKED BY:  
MR

DRAWN BY:  
HP

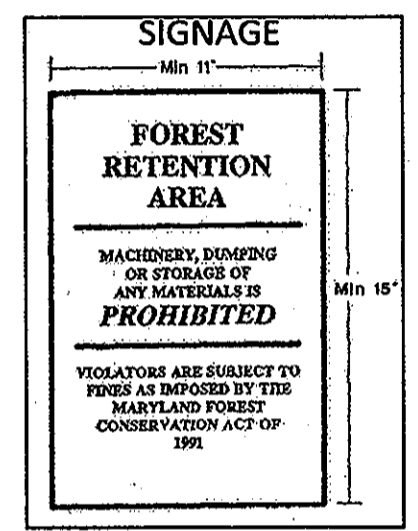
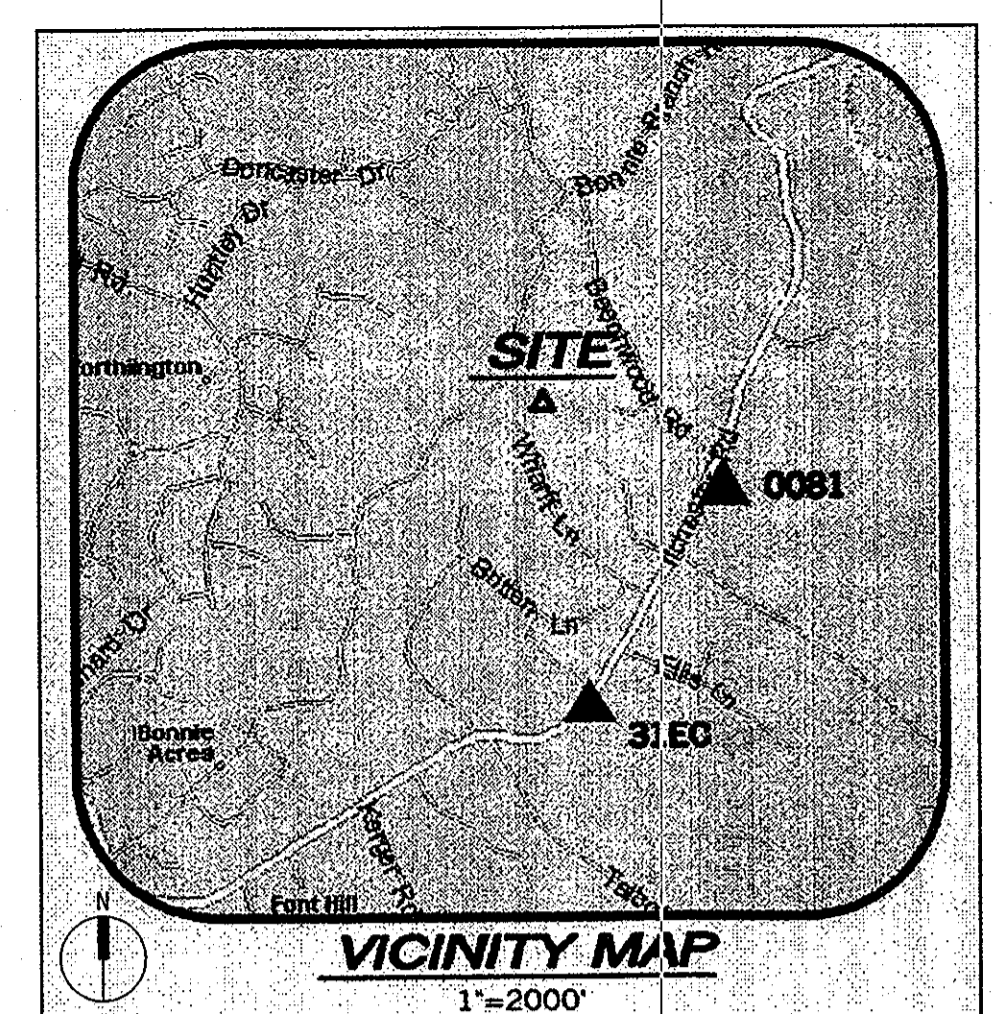
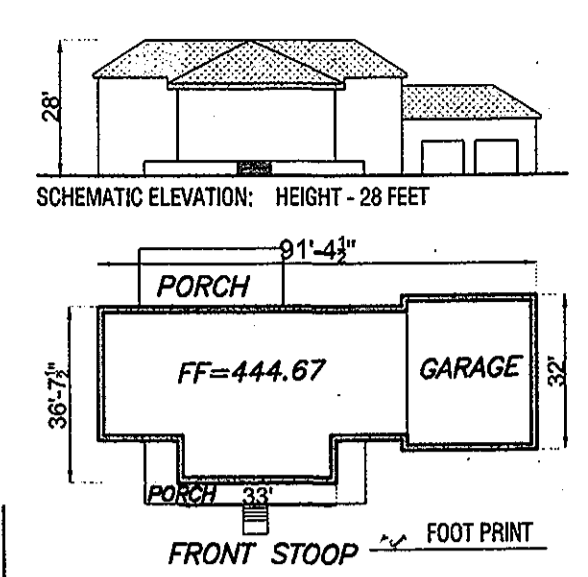
DATE  
OCTOBER, 2011

SHEET NUMBER  
1 of 4



### LEGEND

- PROPOSED BOUNDARY: ---
- PROPOSED BUILDING: [Outline]
- PROPOSED CONTOURS: 480
- EXISTING CONTOURS: 480
- BUILDING RESTRICTION LINE: ---
- PROPOSED SUPER SILT FENCE: ---
- LIMITS OF DISTURBANCE: ---
- DRAINAGE DIVIDE: ---
- EX. TREE LINE: ---
- ALL SLOPES ≥ 25%: [Hatched]
- FOREST CONSERVATION AREA: [Stippled]
- SPECIMEN TREE: (1)
- SPECIMEN TREE TO BE REMOVED: (2)
- WATER SUPPLY WELL: W1
- SOIL MAP UNIT DELINEATION: MgF, GcB
- PERCOLATION TEST: (1)
- STABILIZED CONSTRUCTION ENTRANCE: [Hatched]
- FOREST CONSERVATION SIGNAGE: [Signage]
- EARTH - DIKE: A-7



### DETAILS:

### FOREST CONSERVATION WORKSHEET

VERSION 1.0  
(Enter in Yellow Cells)

NET TRACT AREA:  
 A. Total tract area: 5.00  
 B. Area within 100 year floodplain: 0.00  
 C. Area to remain in agricultural production: 0.00  
 D. Net tract area: 5.00

LAND USE CATEGORY: (from table 3.2.1, page 40, Manual)  
 Input the number "1" under the appropriate land use zoning, and limit to only one entry.  
 ARA MDR IDA HDR MPD CIA  
 0 0 0 0 0 0

E. Afforestation Threshold: 15% x D = 0.75  
 F. Conservation Threshold: 20% x D = 1.00

EXISTING FOREST COVER:  
 G. Existing forest cover (excluding floodplain): 4.97  
 H. Area of forest above afforestation threshold: 4.22  
 I. Area of forest above conservation threshold: 3.97

BREAK EVEN POINT:  
 J. Forest retention above threshold with no mitigation: 1.79  
 K. Clearing permitted without mitigation: 3.18

PROPOSED FOREST CLEARING:  
 L. Total area of forest to be cleared: 3.15  
 M. Total area of forest to be retained: 1.82

PLANTING REQUIREMENTS:  
 N. Reforestation for clearing above conservation threshold: 0.79  
 P. Reforestation for clearing below conservation threshold: 0.00  
 Q. Credit for retention above conservation threshold: 0.82  
 R. Total reforestation required: 0.00  
 S. Total afforestation required: 0.00  
 T. Total reforestation and afforestation required: 0.00

### GENERAL NOTES:

- Total Site Area: 5.00 Acres
- Total Forest Area: 4.97 Acres  
Stand F-1: 4.97 Acres
- Total Floodplain Area: 0.00 acres  
Forested Floodplain Area: 0.00 acres
- No rare, threatened, or endangered species are known to exist on the property.
- No known historic structures are located on the property.
- Forest stand delineation field work conducted by Michael J. Klebasco of Klebasco Environmental, LLC on April 1, 2011.
- Twenty-seven (27) specimen trees exist on or within close proximity to the property line and their approximate locations are denoted on the plan.
- A cursory wetland delineation in accordance with the 1987 Corps of Engineers' Wetlands Delineation Manual and the Interim Regional Supplement to the Corps of Engineers' Wetland Delineation Manual: Eastern Mountains and Piedmont Region was performed by Michael J. Klebasco on April 1, 2011. Because the site is generally located on a knoll with a forest that is dominated by upland plants (i.e. yellow poplar, sassafras, gill-over-the-ground, and black cherry), a formal delineation was not performed. The cursory delineation revealed that jurisdictional waters of the U.S. (including wetlands) do not exist on or within 150 feet of the property.
- This project complies with the requirements of section 16.1200 of the Howard County Code for Forest Conservation by placement of 1.82 acres on-site forest into a retention easement. No survey is required.

### MAPPED SOIL TYPES

Symbol	Soil Description	K-Factor	Hydric
GcB	Gladstone-Legore Complex, 3-8% slopes	0.20	No
GcC	Gladstone-Legore Complex, 8-15% slopes	0.20	No
MgF	Manor-Bannertown Sandy Loams, 25-65% slopes, rocky	0.24	No

Source: <http://websoilsurvey.nrcs.usda.gov> (April 2011)

### SPECIMEN TREE LIST

ID	Common Name	Species Name	DBH (inches)	Condition
1	Yellow Poplar	Liriodendron tulipifera	30	Fair - broken limbs
2	Yellow Poplar	Liriodendron tulipifera	36	Good
3	Yellow Poplar	Liriodendron tulipifera	39	Good
4	Yellow Poplar	Liriodendron tulipifera	37	Fair - broken limbs
5	Yellow Poplar	Liriodendron tulipifera	31	Good
6	Yellow Poplar	Liriodendron tulipifera	31	Good
7	Yellow Poplar	Liriodendron tulipifera	30	Fair - broken limbs
8	Yellow Poplar	Liriodendron tulipifera	30	Good
9	Yellow Poplar	Liriodendron tulipifera	36	Fair - hollow trunk
10	Yellow Poplar	Liriodendron tulipifera	34	Good
11	Yellow Poplar	Liriodendron tulipifera	33	Good
12	Yellow Poplar	Liriodendron tulipifera	30	Good
13	Yellow Poplar	Liriodendron tulipifera	34	Good
14	Yellow Poplar	Liriodendron tulipifera	30	Good
15	Yellow Poplar	Liriodendron tulipifera	30	Good
16	Yellow Poplar	Liriodendron tulipifera	33	Good
17	Yellow Poplar	Liriodendron tulipifera	38	Fair - broken limbs, crown dieback
18	Yellow Poplar	Liriodendron tulipifera	31	Good
19	Yellow Poplar	Liriodendron tulipifera	34	Good
20	Yellow Poplar	Liriodendron tulipifera	33	Good
21	Yellow Poplar	Liriodendron tulipifera	31	Good
22	Yellow Poplar	Liriodendron tulipifera	32	Fair - broken limbs
23	Yellow Poplar	Liriodendron tulipifera	45	Good
24	Yellow Poplar	Liriodendron tulipifera	30	Good
25	Yellow Poplar	Liriodendron tulipifera	30	Good
26	Yellow Poplar	Liriodendron tulipifera	33	Fair - broken limbs
27	Yellow Poplar	Liriodendron tulipifera	30	Good

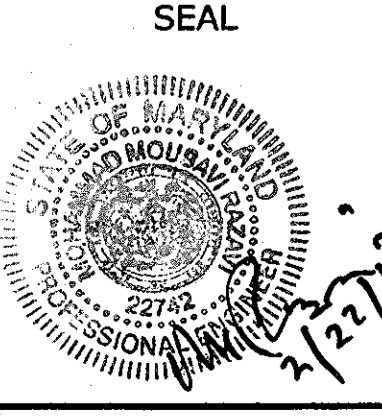
**Klebasco Environmental, LLC**  
 Forest Conservation Plan Certified by:  
 Michael J. Klebasco  
 Klebasco Environmental, LLC  
 (Qualified Professional Per COMAR 08.19.06.01)

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 Chief, Development Engineering Division: [Signature] 3/27/12  
 Chief, Division of Land Development: [Signature] 3/28/12  
 Director: [Signature] 3/28/12

REV#	DATE

OWNER  
**BONNIE & BRYANT O'KANE**  
 6319 ARBOR WAY,  
 ELKBRIDGE, MARYLAND 21075-6878  
 TEL: 410-379-6212

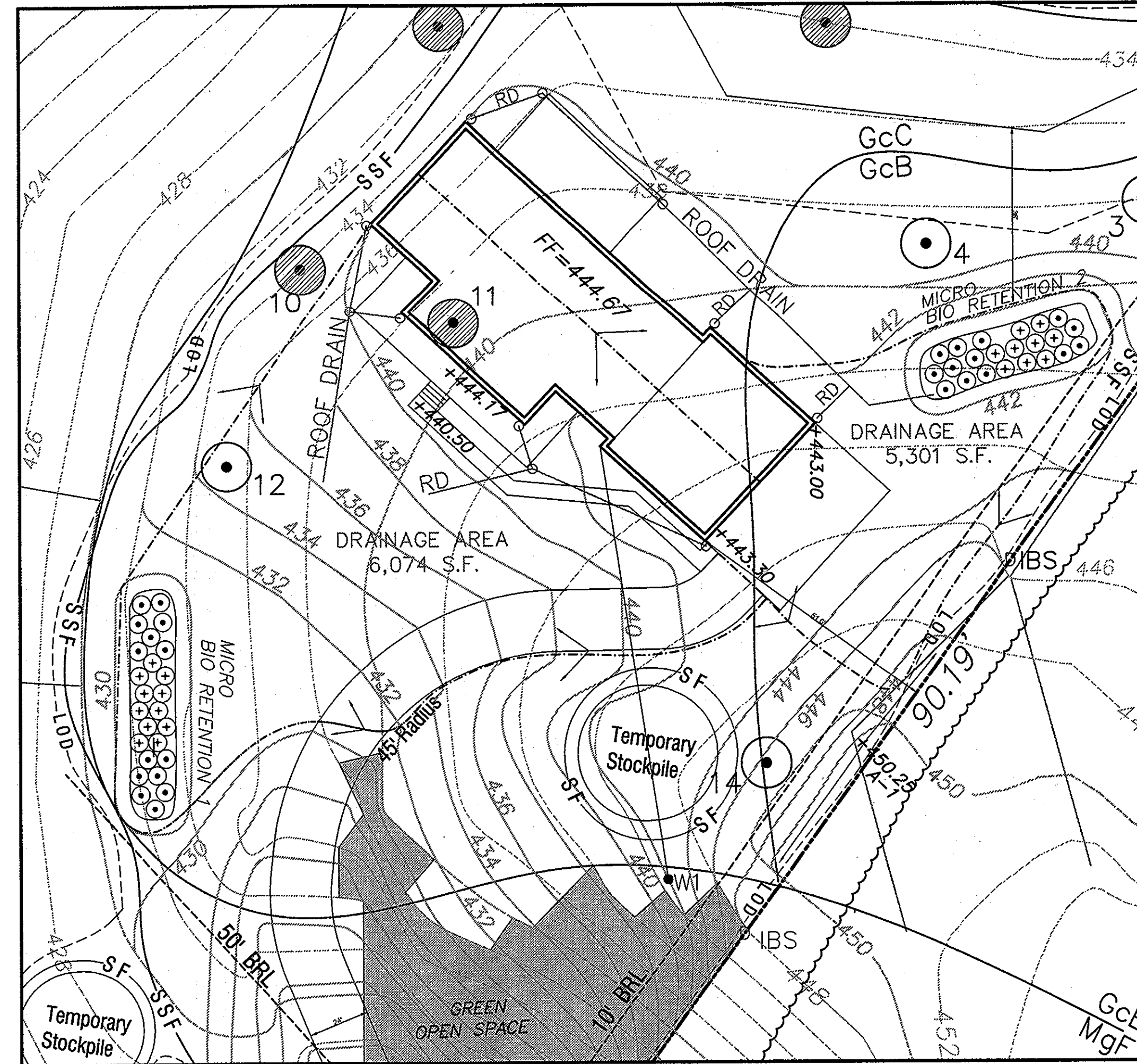
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FOREST CONSERVATION PLAN  
 O'KANE PROPERTY PARCEL 634  
 WHARFF LANE, ELICOTT CITY  
 HOWARD COUNTY, MARYLAND  
 ZONE: R20  
 TAX MAP 31  
 DEED REF: L.11976 F.68

SCALE  
 1" = 40'  
 CHECKED BY: MR  
 DRAWN BY: HP

DATE  
 OCTOBER, 2011  
 SHEET NUMBER  
 2 of 4



MICRO-BIO RETENTION LANDSCAPE PLAN:  
SCALE: 1"=20'

LANDSCAPE SCHEDULE							
QTY	GENUS	PECIES	VARIETY	COMMON NAME	HT.	SPREAD	REMARKS
27	Cornus	sericea	L.	Redosier Dogwood	24"-30"	18"-24"	#1 CONT. est.
20	Ilex	Glabra		Inkberry	24"	18"-24"	#1 CONT. est.

**OPERATION AND MAINTENANCE SCHEDULE FOR LANDSCAPE INFILTRATION (M-3) MICRO-BIORETENTION (M-6), RAIN GARDENS (M-7), BIORETENTION SWALE (M-8), ENHANCED FILTERS (M-9):**

- A. The Owner shall maintain the plant material, mulch layer and soil layer annually. Maintenance of mulch and soil is limited to correcting areas of erosion or wash out. Any mulch replacement shall be done in the spring. Plant material shall be checked for disease and insect infestation and maintenance will address dead material and pruning. Acceptable replacement plant material is limited to the following: 2000 Maryland Stormwater Design Manual Volume II, Table A.4.1 and 2.
- B. The Owner shall perform a plant in the spring and in the fall of each year. During the inspection, the Owner shall remove dead and diseased vegetation considered beyond treatment, replace dead plant material with acceptable replacement plant material, treat diseased trees and shrubs, and replace all deficient stakes and wires.
- C. The Owner shall inspect the mulch each spring. The mulch shall be replaced every two to three years. The previous mulch layer shall be removed before the new layer is applied.
- D. The Owner shall correct soil erosion on an as needed basis, with a minimum of once per month and after each heavy storm.

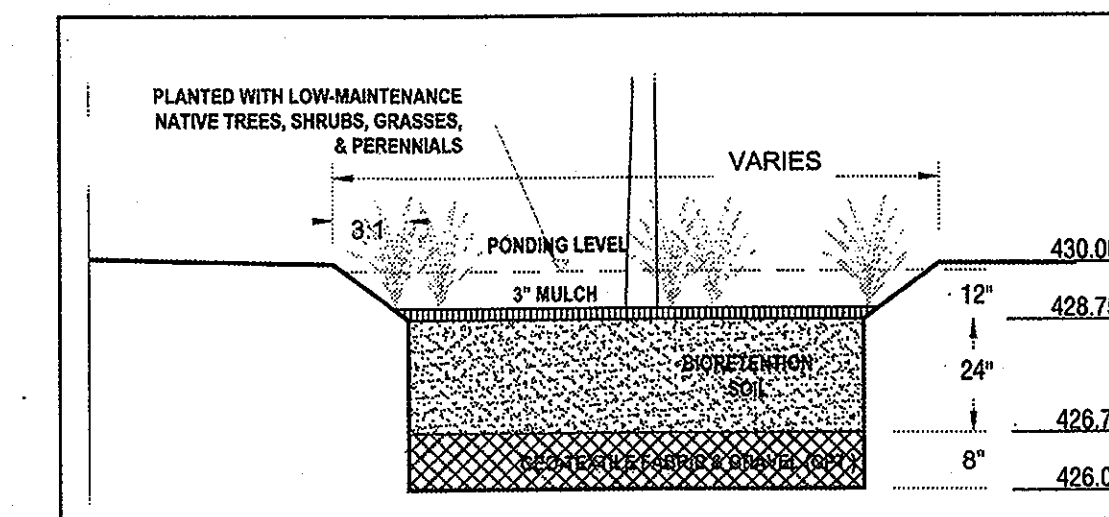
HILLIS - GARNES ENGINEERING ASSOCIATES, INC.  
RECORD OF SOIL EXPLORATION

Project Name: Wharff Lane Property SHM  
Location: Howard County, Maryland

Date: 7/26/2011  
Samp. No.: 11272A

Elevation	Soil Sample	Description	Boring and Sampling		SPT Blows		SPT Blows/ft
			Flow	Rate	Blows	Blows	
433.0	D	Light brown, moist, medium dense, silty fine SAND, trace clay (SL)	0"	12"	3-4	12	12
432.5	D	Light brown, moist, medium dense, silty fine SAND, trace clay (SL)	0"	12"	5-6	13	13
432.0	D	Light brown, moist, medium dense, silty fine SAND (ML)	0"	15"	7-10	16	16
431.5	D	Light brown, moist, medium dense, silty fine SAND (SL)	0"	15"	6-8	12	12
431.0	D	Light brown, moist, medium dense, silty fine SAND (SL)	0"	15"	9-8	16	16

Bottom of Boring at 12.5'



BIORETENTION - 1 CROSS SECTION

SCHEDULE A - PERIMETER LANDSCAPE EDGE

CATEGORY	ADJACENT TO PERIMETER PROPERTIES				
	1	2	3	4	5
Perimeter/Frontage Landscape Type	A	A	A	A	A
Linear Perimeter	621'	441'	283'	207'	85'
Credit for Ex. Vegetation (Yes/No, Lin. Ft.)	YES 0	YES 0	YES 0	YES 0	YES 0
Credit for Wall, Fence, Berms (Yes/No, Lin. Ft.)	NO	NO	NO	NO	NO
Number of Plants Required:	1:60	1:60	1:60	1:60	1:60
Evergreen Trees	0	0	0	0	0
Shade Trees	0	0	0	0	0
Number of Plants Provided:	0	0	0	0	0
Evergreen Trees	0	0	0	0	0
Shrubs (10:1 subst.)	0	0	0	0	0
Other Trees (2:1 subst.)	0	0	0	0	0

\* Credit is taken for existing specimen trees to remain and bioretention plantings. No further landscaping is required.

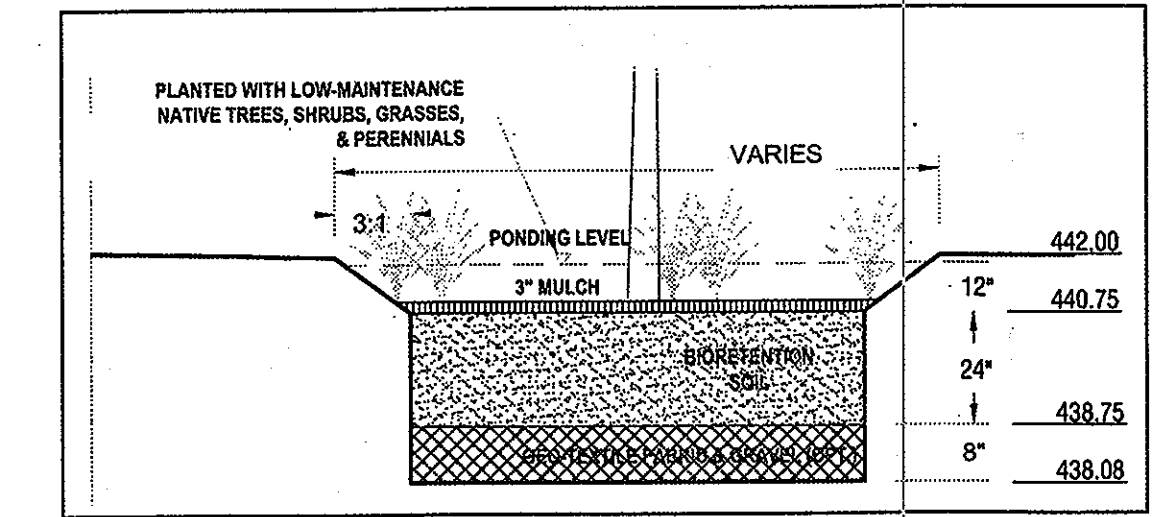
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RECORD OF SOIL EXPLORATION

Project Name: Wharff Lane Property SHM  
Location: Howard County, Maryland

Date: 7/26/2011  
Samp. No.: 11272A

Elevation	Soil Sample	Description	Boring and Sampling		SPT Blows		SPT Blows/ft
			Flow	Rate	Blows	Blows	
442.0	D	Light brown, moist, medium dense, silty fine SAND, trace clay (SL)	0"	12"	16-19	37	37
437.5	D	Light brown, moist, medium dense, silty fine SAND (ML)	0"	15"	9-12	20	20
433.0	D	Light brown, moist, medium dense, silty fine SAND (SL)	0"	15"	20-25	54	54
430.0	D	Brown, moist, hard, micaceous fine sandy SILT (ML) Decomposed ROCK	0"	15"	28-31	61	61

Bottom of Boring at 12.5'



BIORETENTION - 2 CROSS SECTION

STORMWATER MANAGEMENT REQUIREMENTS: 4831 WHARFF LANE

AREA	PROPOSED PRACTICE (Total Drainage Area)	SURFACE AREA OF PRACTICE (S.F.)
FRONT ROOF- 960 S.F. FRONT PORCH- 384 S.F. FRONT WALK- 260 S.F. PERVIOUS AREA- 3450 S.F.	MICRO-BIORETENTION 1 6074 S.F.	405
BACK ROOF- 905 S.F. GARAGE ROOF- 892 S.F. BACK PORCH- 450 S.F. PARKING AREA- 660 S.F. PERVIOUS AREA- 2490 S.F.	MICRO-BIORETENTION 2 5301 S.F.	353

PROFESSIONALS' REVIEW STATEMENT:  
I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND  
LICENSE NUMBER: 22742 EXPIRES: JUNE 15, 2012

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

REV#	DATE

OWNER  
BONNIE & BRYANT O'KANE  
6319 ARBOR WAY,  
ELKRIDGE, MARYLAND 21075-6878  
TEL: 410-379-6212

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SITE DEVELOPMENT AND LANDSCAPE PLAN DETAILS  
O'KANE PROPERTY PARCEL 634  
WHARFF LANE, ELLICOTT CITY  
HOWARD COUNTY, MARYLAND  
ZONE: R20  
TAX MAP 31  
SECOND ELECTION DISTRICT  
DEED REF: L.11976 F.68

SCALE  
1" = 40'  
CHECKED BY: MR  
DRAWN BY: HP

DATE  
OCTOBER, 2011  
SHEET NUMBER  
3 of 4

HOWARD SOIL CONSERVATION DISTRICT

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

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 (.05 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 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 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 reseedings.

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 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 unrotted 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 SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for additional rates and methods not covered.

HOWARD SOIL CONSERVATION DISTRICT

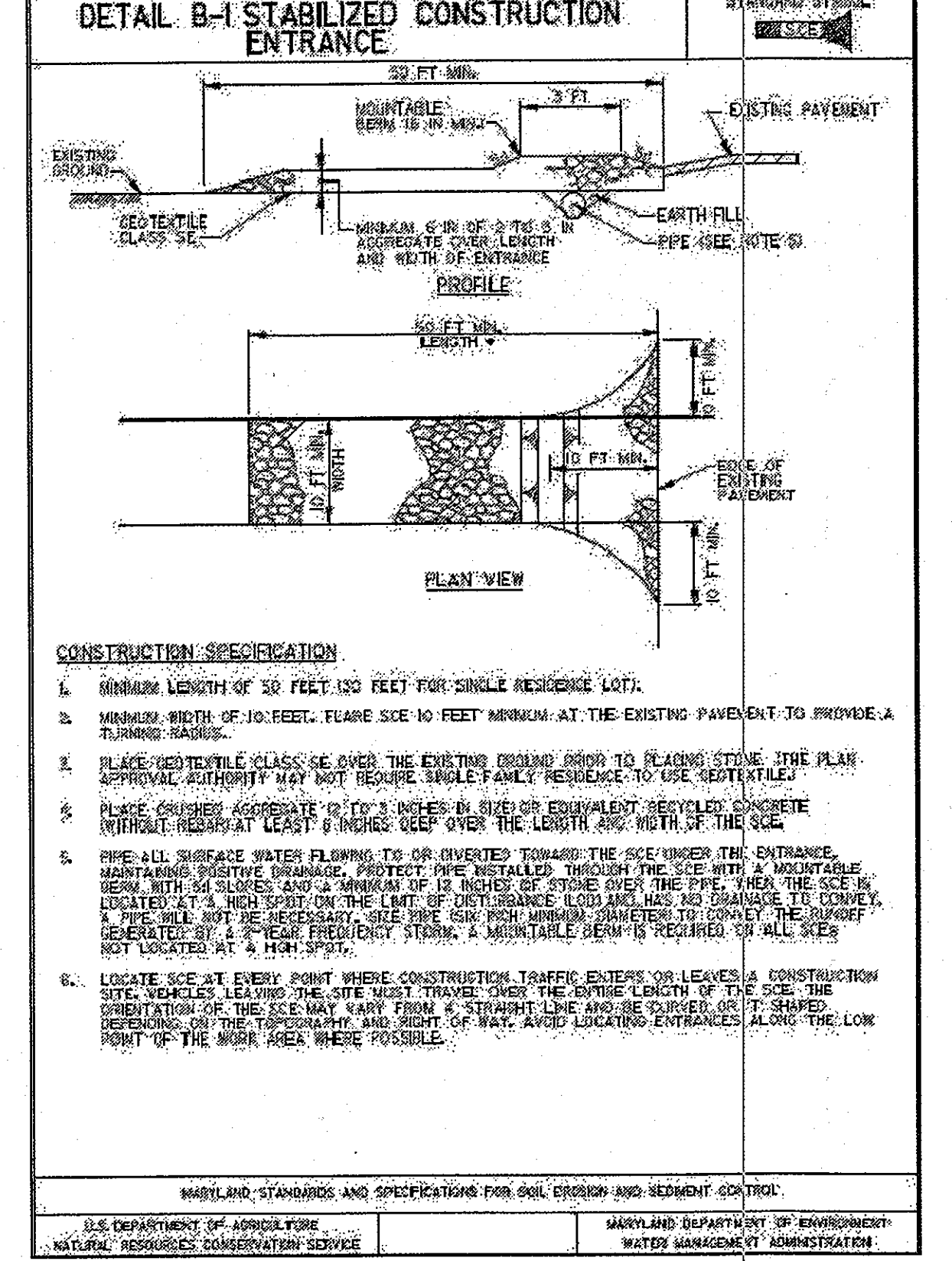
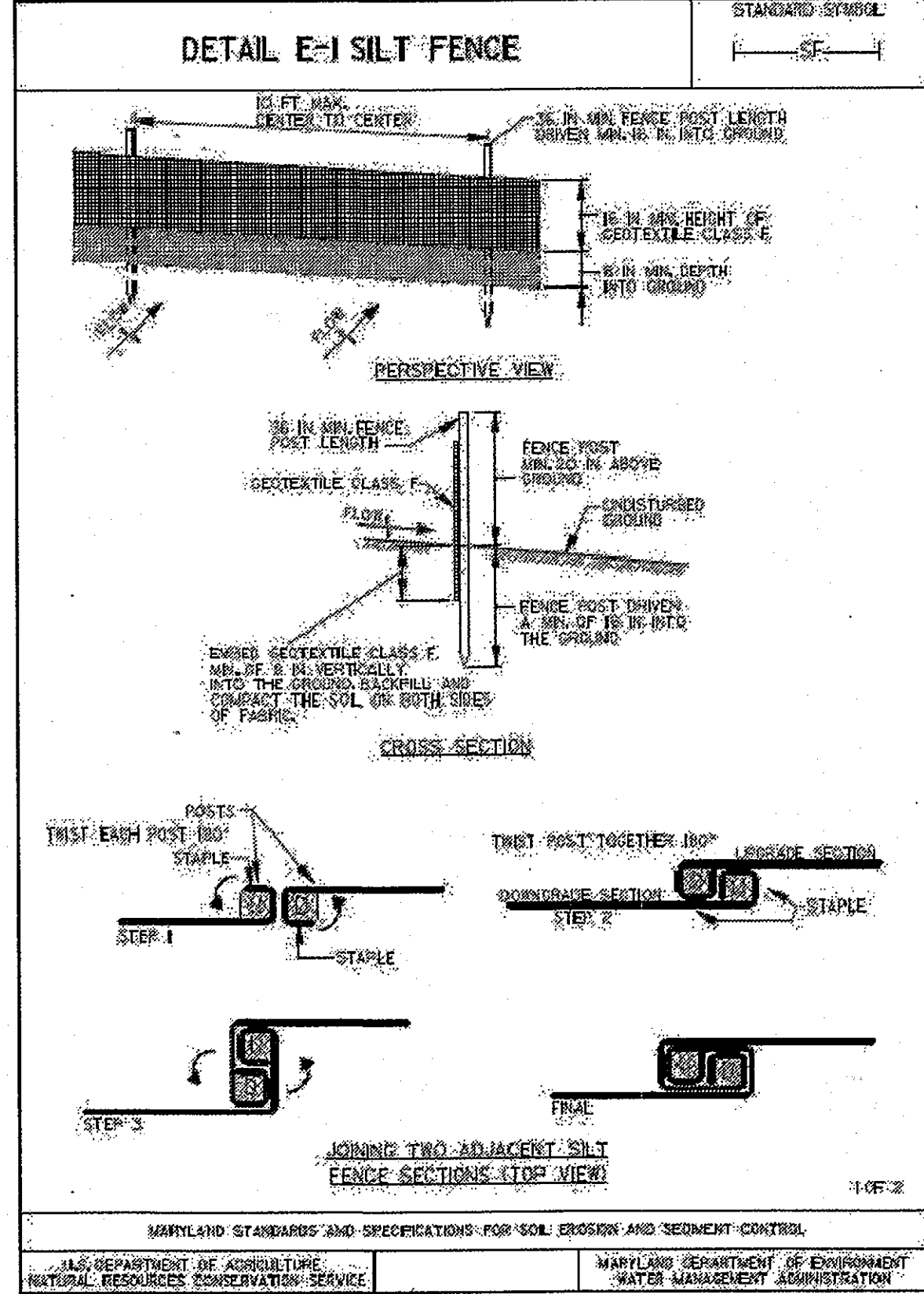
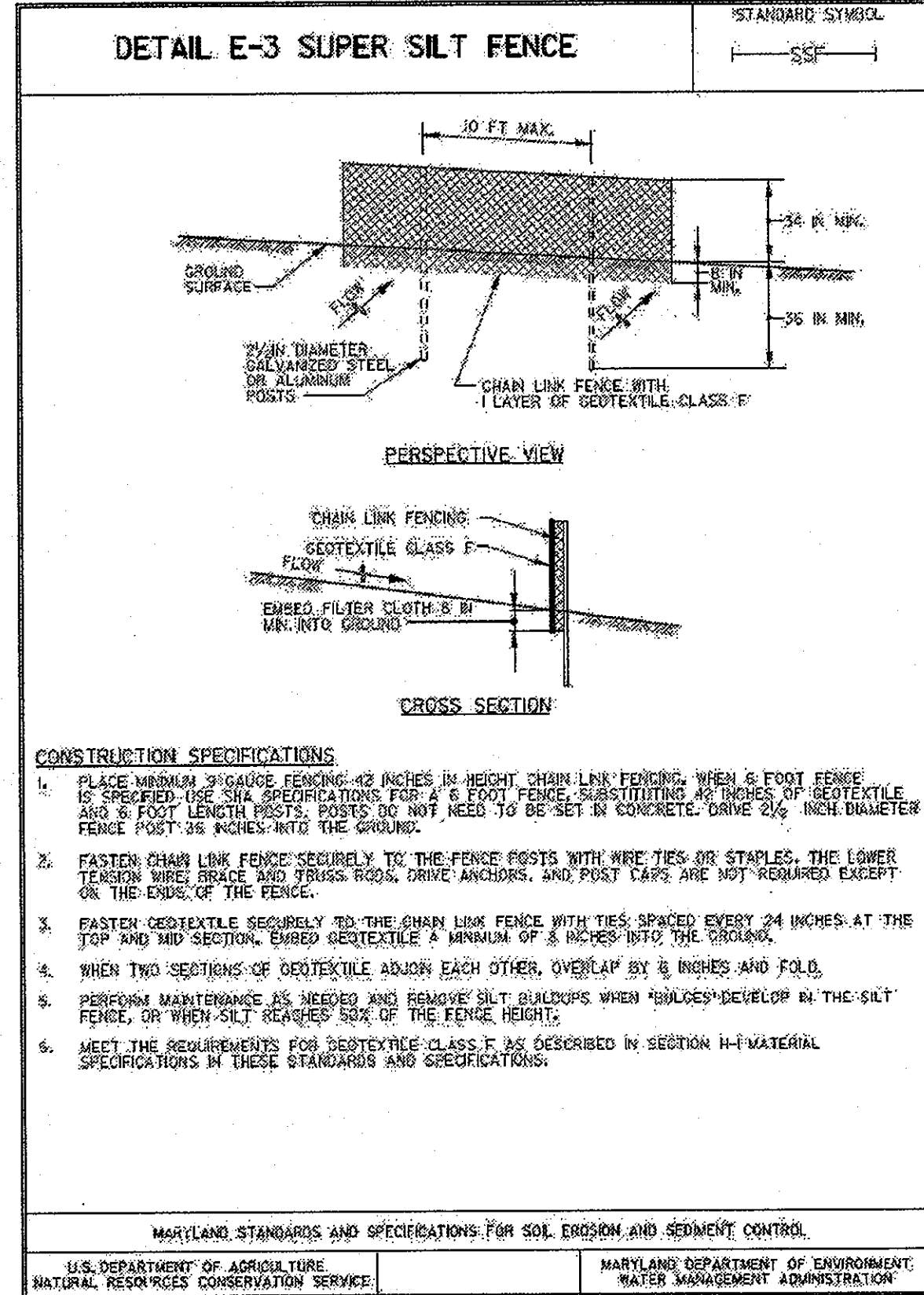
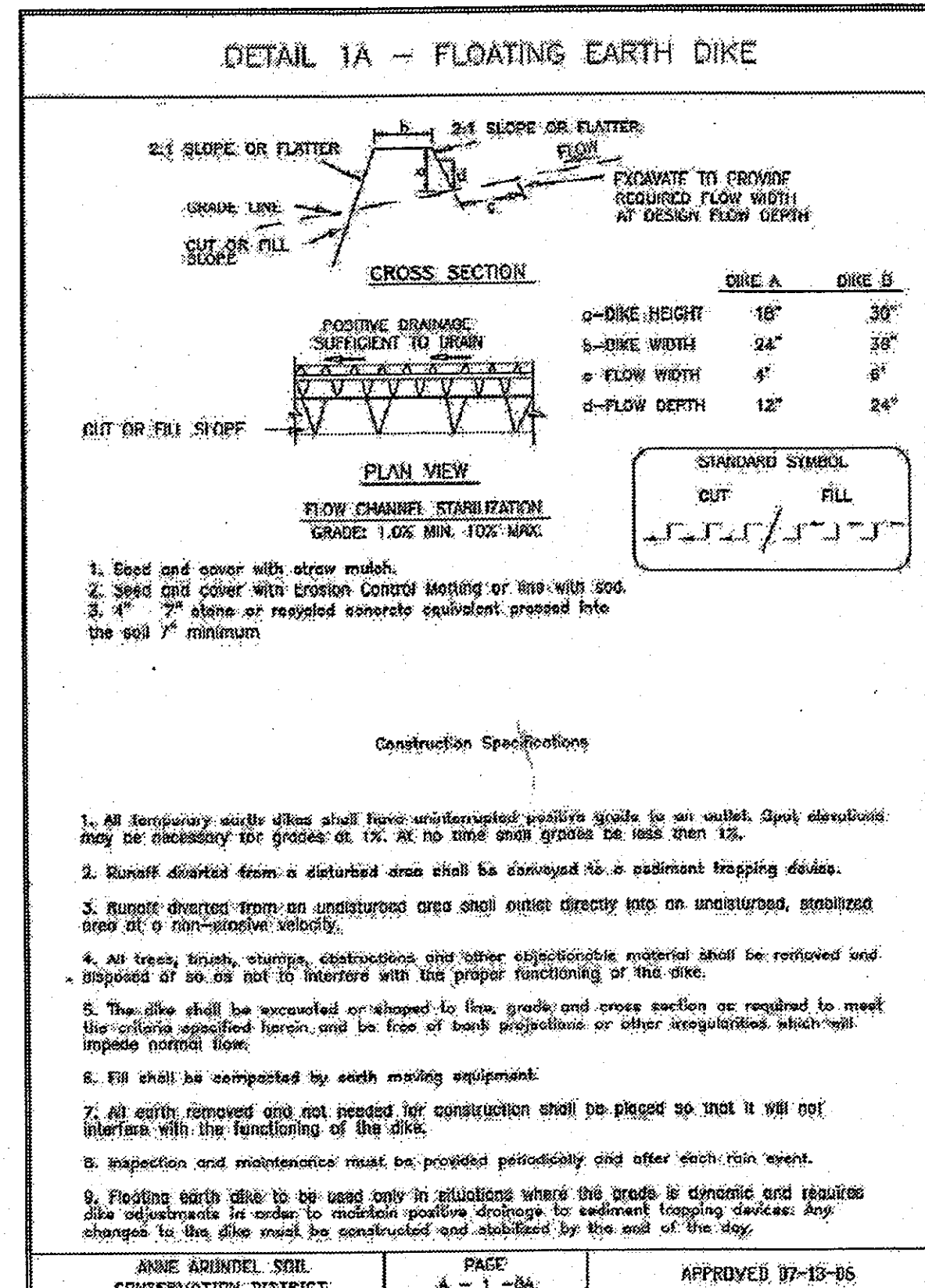
STANDARD SEDIMENT CONTROL NOTES

- A minimum of 48 hours notice must be given to the Howard County Department of Inspections, Licenses and Permits, Sediment Control Division prior to the start of any construction (313-1835).
- All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the most current MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL and revisions thereto.
- Following initial soil disturbance or re-disturbance, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1, b) 14 days as to all other disturbed or graded areas on the project site.
- All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol 1, Chapter 12 of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
- All disturbed areas must be stabilized within the time period specified above in accordance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seeding (Sec. 51), sod (Sec. 54), temporary seeding (Sec. 50) and mulching (Sec. 52). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
- 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.
- Site Analysis:
 

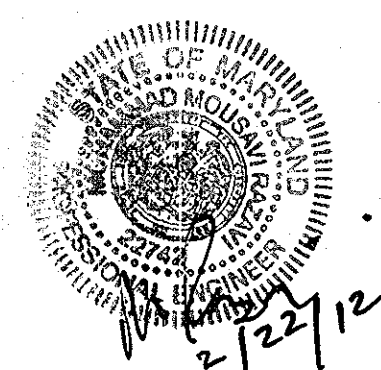
Total Area of Site	5.0 Acres
Area Disturbed	1.66 Acres
Area to be roofed or paved	0.17 Acres
Area to be vegetatively stabilized	1.49 Acres
Total Cut	1990 Cu. Yds.
Total Fill	1990 Cu. Yds.
Offsite waste/borrow area location:	N/A
- Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- Additional sediment control must be provided, if deemed necessary by the Howard County Sediment Control Inspector.
- 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.
- Trenches for the construction of utilities is limited to three pipe lengths or that which shall be back-filled and stabilized by the end of each work day, whichever is shorter.

SEQUENCE OF CONSTRUCTION:

- Prior to clearing trees, installing sediment control measures, or grading, a preconstruction meeting must be conducted on-site with Howard County sediment control Inspector (48 hours notice) and the Owner's representative, and the Site Engineer.
- The limits of disturbance must be field marked prior to clearing of trees, installation of sediment control measures, construction, or other land disturbing activities.
- The permittee must obtain written approval from the inspector, certifying that the limits of disturbance and the tree protection measures are correctly installed prior to commencing any clearing.
- Clear and grade for installation of sediment control devices.
- Install stabilized construction entrance, silt fence, and super silt fence as shown on the plan.
- Obtain written approval from the sediment control inspector, before proceeding with any additional clearing, grubbing, or grading.
- Begin grading operations.
- Begin construction of proposed house, driveway and appurtenances.
- Proceed with proposed construction until it is completed.
- Once all upgrade drainage areas have been stabilized, begin construction and installation of Micro Bioretention 1 and 2. Complete construction of these stormwater management facilities.
- Complete all grading related to proposed stormwater management construction and installations.
- Stabilize all disturbed areas within the allowed time frame, specified on the approved Sediment Control Plans.
- With the permission of the sediment control inspector, remove all sediment control devices



PROFESSIONAL PLANS APPROVED  
 JOHN R. BRYANT  
 2/22/12



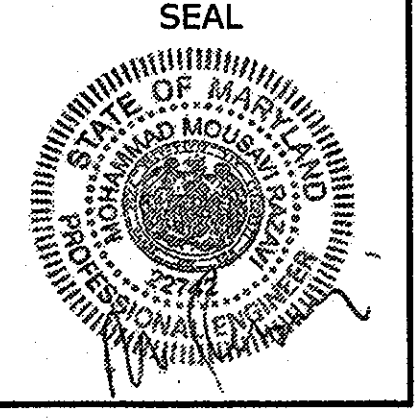
PROFESSIONALS' REVIEW STATEMENT:  
 I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.  
 LICENSE NUMBER: 12742 EXPIRES: JUNE 15, 2012

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

REV#	DATE

OWNER  
 BONNIE & BRYANT O'KANE  
 6319 ARBOR WAY,  
 ELK RIDGE, MARYLAND 21075-6878  
 TEL: 410-379-6212

RAZTEC ASSOCIATES, INC.  
 civil engineers & planners  
 3451 Emy's place  
 Monrovia, Maryland 21770  
 Tel (301) 775-4394  
 Fax (301) 831-9415  
 email: raztecengr@comcast.net



SITE DEVELOPMENT DETAILS  
 O'KANE PROPERTY PARCEL 634  
 WHARFF LANE, ELICOTT CITY  
 HOWARD COUNTY, MARYLAND  
 SECOND ELECTION DISTRICT  
 ZONE: R20  
 TAX MAP 31  
 DEED REF: L.11976 F.68

SCALE  
 1" = 40'  
 CHECKED BY: MR  
 DRAWN BY: HP

DATE  
 OCTOBER, 2011  
 SHEET NUMBER  
 4 of 4