

**GENERAL NOTES**

- This plan is subject to compliance with the 5th Edition of the Howard County Subdivision Regulations and the recently amended Howard County Zoning Regulations.
- Subject property zoned RR-DEO per 02/02/04 Comprehensive Zoning Plan and per the Comp. Lite Zoning Regulation Amendments effective on 7/28/2006.
- Private water and sewer will be used within this site.
- Total area of property = 27.744 ac.±
- Area of proposed public R/W: 0.707 ac.±
- Number of proposed buildable lots: 7
- Area of proposed buildable lots: 22.219 ac.±
- Number of proposed open space lots: 2
- Area of proposed open space lots: 4.868 ac.±
- The lots shown herein comply with the minimum ownership, width and lot area as required by the Maryland State Department of the Environment.
- 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 sewage is available. These easements shall become null and void upon connection to a public sewage 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.
- All wells and septic fields within 100' of property's boundary have been shown.
- The septic fields are located on soil types ChB2, EkB2, EIC3, MIB2, MIC3 and MID3 as per the soil survey of Howard County, Soils Map #32.
- All percolation test holes and their elevations have been field located by FSH Associates, registered land surveyors.
- On-site topography based on a Field Run Topographic Survey prepared by FSH Associates in August, 2004 and foot contours. Off-site and non-critical topography based on Howard County 1998 Aerial Topographic Surveys with five foot contours.
- All wells to be drilled prior to submittal of record plat for signature. It is the developer's responsibility to schedule the well drilling prior to final plat submission. It will not be considered 'government delay' if the well drilling holds up the Health Department signature of the record plat. If a well success rate is accomplished at various locations within the site, the developer shall have the option to request relief from drilling the remaining wells prior to plat recordation.
- A.P.F.O. traffic study prepared by Street Traffic Studies in June, 2004 and approved under SP-05-16.
- Forest Stand delineation prepared by Exploration Research Inc. in January, 2005 and approved under SP-05-016.
- The project is not within the metropolitan district.
- The project is in conformance with the latest Howard County Standards unless waivers have been approved.
- The coordinates shown herein are based upon the Howard County Geodetic Control which is based on the Maryland State Plane Coordinate system. Howard County monument numbers 41GA and 46B2 were used for this project.
- No clearing, grading or construction is permitted within wetlands, streams or their required buffers, Floodplain and Forest conservation easement areas.
- The non-critical floodplain study for this project prepared by FSH Associates in October, 2004.
- Wetlands delineation and report prepared by McCarthy & Associates, Inc. in December, 2004 and approved under SP-05-16.
- 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.
- Forest has been retained to the greatest extent possible. The forest is retained in two easements on open space lots. Easement #1 will retain 2.36 Ac. and Easement #2 will retain 1.14 Ac. Also, credit is taken for 4.20 Ac. of retention on lots larger than 60,000 s.f., without requiring an easement, as shown on the Forest Conservation Plan. Lots 4, 5, 6 and 7 contain retention areas, as detailed on the FCP. Several areas, though considered cleared for forest conservation calculations, will be preserved as well. Mitigation will be provided as 0.51 Ac. of planting in Forest Conservation Easement #1. The total forest conservation easement obligation met on this site is 4.01 Ac, with a total forest conservation surety amount of \$41,600.00 (retention of 3.50 Ac/152,460 sf X \$0.20/sf = \$30,492.00 and reforestation of 0.51 Ac/22,216 sf X \$0.50/sf = \$11,088.00).
- All driveway entrances to be per Howard County Standard Detail 6.06.
- The project is subject to waiver petition WP-05-72. On February 28, 2005 the planning director approved a waiver from section 16.121.(a)(2) to allow creation of two (2) open space lots to protect environmental resources in an RR-DEO non cluster zoning district. The waiver approval is subject to the following conditions:
  - All environmental features on site will be placed within the open space lots, a final plat with seven buildable lots and two (2) open space lots will be recorded.
  - The two (2) open space lots shall be dedicated to Howard County Department of recreation and parks.
- Howard County Soil Map no. 32.
- Previous Howard County file numbers: SP-05-16.
- Landscape for Lots 1-9 is provided in accordance with a Certified Landscape Plan that is included with this road construction plan set in accordance with Section 16.124 of the Howard County code and the Landscape Manual. Financial surety in the amount of \$9,500 (31 shade trees @ \$300 per shade tree and 4 evergreen trees @ \$150 per evergreen tree) will be posted with the Developers Agreement.
- All sign posts used for traffic control signs installed in the county's right-of-way shall be mounted on a 2" galvanized steel, perforated, square tube post (1 1/2" diameter) inserted into a 2-1/2" galvanized steel perforated, square tube sleeve (12 gauge) 3' long. A galvanized steel pole cap shall be mounted on top of each post.
- The contractor shall notify the Department of Public Works/Bureau of Engineering/Construction Inspection Division at (410) 313-1080 at least five (5) working days prior to the start of work.
- The contractor shall notify "Miss Utility" at 1-800-257-7777 at least 48 hours prior to any excavation work being done.
- Traffic control devices, markings and signing shall be in accordance with the latest edition of the Manual of Uniform Traffic Control Devices (MUTCD). All street and regulatory signs shall be in place prior to the placement of any asphalt.
- Stormwater Management Recharge (Rev) and water quality (WQ) has been provided through the use of Roof-top and Non-roof-top Disconnects and Sheet Flow to Buffers (all three are non-structural design credits within the MD SWMT Design Manual.) Stormwater Channel Protection is not required due to less than 2.0 c.f.s. of runoff on the post-development one (1) year storm event. Stormwater Overbank Flood Protection (10 year management) and Extreme Flood Volume (100 year management) are not required for this development. All provided Rev and WQ SWMT measures shall be privately owned and maintained except for the two level spreaders located at the two storm drain outfalls S-1 and S-2.

# FINAL ROAD CONSTRUCTION PLANS

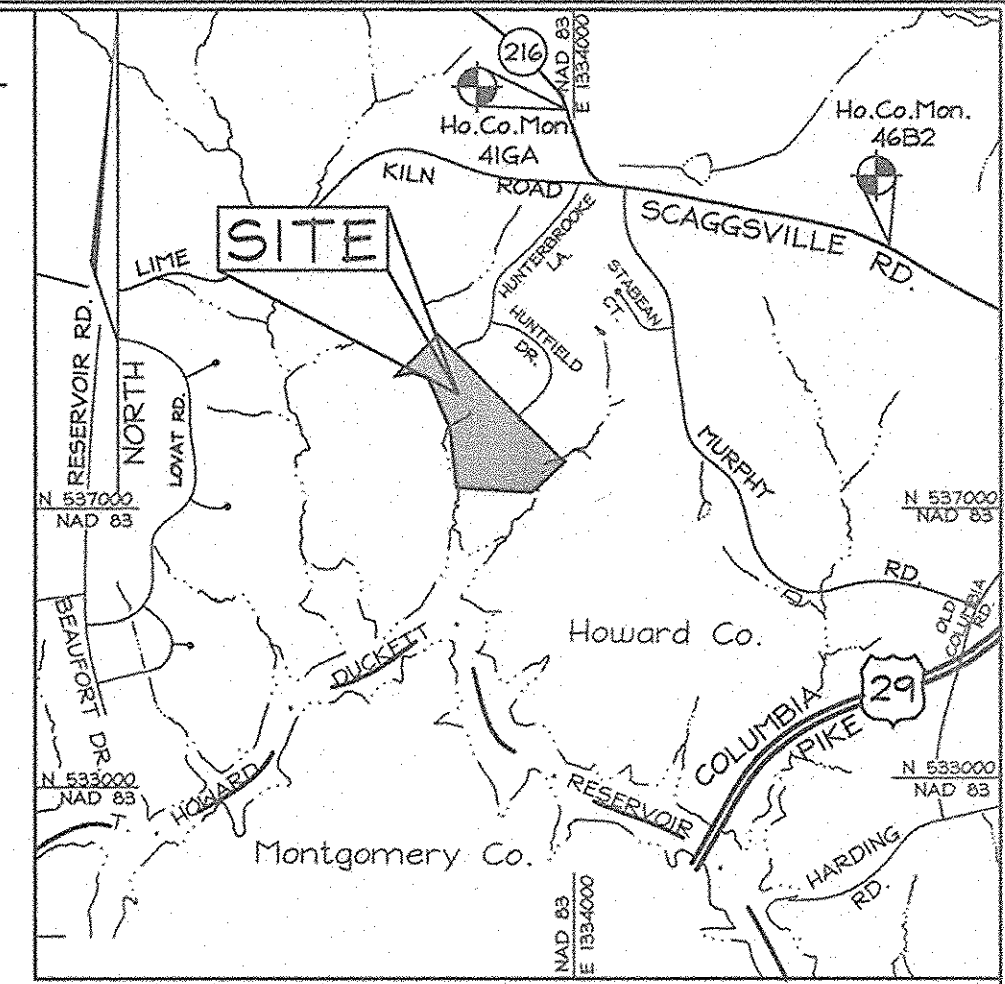
## PRINCE PROPERTY

### LOTS 1 THRU 7 AND OPEN SPACE LOTS 8 & 9

#### HOWARD COUNTY, MARYLAND

**LEGEND**

- Existing Contour
- Proposed Contour
- Direction of Flow
- Existing Spot Elevation
- Proposed Spot Elevation
- Existing Trees
- Existing Evergreen Trees
- Proposed Septic Easement
- Existing Septic Easement
- 15-24.9% Slopes
- 25-50% Slopes
- Existing Perc Test (Passed)
- Existing Perc Test (Failed)
- Existing Well Location



VICINITY MAP

SCALE: 1"=200'

NOTE: SITE IS LOCATED ON HOWARD CO. ADC MAP 18 GRID G-6

**BENCHMARKS**

Sta. 41GA	N 541,949.078	E 1,333,808.248	EI. 462.805 (feet)
Sta. 46B2	N 534,987.715	E 1,337,218.435	EI. 475.505 (feet)

**COORDINATE TABLE**

POINT	NORTHING	EASTING
101	539,043.8919	1,332,518.9544
102	537,720.1625	1,333,806.5871
103	537,173.2674	1,333,839.4628
105	537,379.5978	1,333,491.4466
106	537,431.5907	1,332,712.9651
107	538,036.5889	1,332,634.3062
108	538,586.5918	1,332,418.5889
109	538,635.4988	1,332,245.8227
110	538,597.8423	1,332,073.4839
111	538,910.7053	1,332,648.5091
112	538,869.0434	1,332,647.2083
113	538,810.1343	1,332,594.1014
114	538,660.3079	1,332,537.7320
115	538,565.9073	1,332,532.1670
116	538,432.1077	1,332,477.1793
117	538,390.5422	1,332,495.4817
118	538,563.5534	1,332,572.0976
119	538,657.9539	1,332,577.6627
120	538,785.5838	1,332,625.6811
121	538,860.4683	1,332,697.3762
122	538,204.0115	1,333,335.9322
123	538,154.2530	1,333,285.3192
124	538,194.7613	1,333,365.6725
125	538,154.7801	1,333,363.7146
126	538,168.1652	1,333,370.7907

**SHEET INDEX**

DESCRIPTION	SHEET No.
Cover Sheet	1 of 10
Road Plan & Profile (Hunterbrooke Lane)	2 of 10
Road Plan & Profile (Huntfield Drive)	3 of 10
Sediment & Erosion Control and Grading Plan	4 of 10
Sediment & Erosion Control and Grading Plan	5 of 10
Sediment & Erosion Control Notes and Details	6 of 10
Storm Drain Drainage Area Map, Profiles and Details	7 of 10
Landscape and Street Tree Plan	8 of 10
Forest Conservation Plan	9 of 10
Forest Conservation Plan	10 of 10

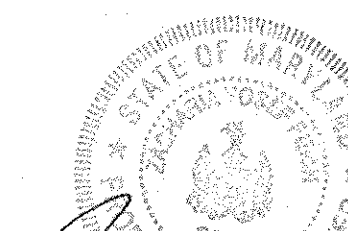
**ROAD CLASSIFICATION**

ROAD NAME	CLASSIFICATION	R/W
Hunterbrooke Lane	Public Access Place	40'
Huntfield Drive	Local County Road	50'

**MINIMUM LOT SIZE CHART**

LOT NUMBER	GROSS AREA (AC)	PIPESTEM AREA (AC)	MINIMUM LOT SIZE
5	3.054±	0.054±	3.000±
6	3.177±	0.068±	3.109±

**As-Built**  
For Roads, Storm Drains,  
Erosion & Sediment Controls



Zacharia Y. Fisch  
PE #22418  
Date: 10/9/2007



C. Brooke Miller  
Prop. L.S. #195  
Date: 10/11/2007

**OWNER**

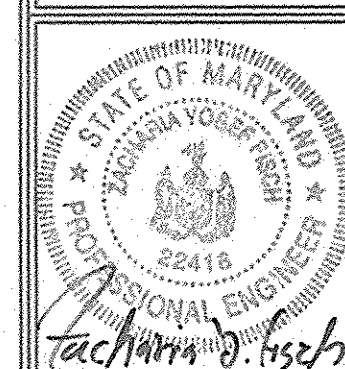
THE ESTATE OF  
FLORENCE UNDINE PRINCE LITCHFIELD-SEAL  
c/o JOSEPH LEONARD LITCHFIELD  
4743 Sellman Road  
Beltsville, Maryland 20705  
Telephone: (301) 937-3300

**CONTRACT PURCHASER/ DEVELOPER**

PRINCE INVESTMENTS LLC  
3905 National Drive, Suite 105  
Burtontown, Maryland 20866  
Telephone: (301) 476-7715

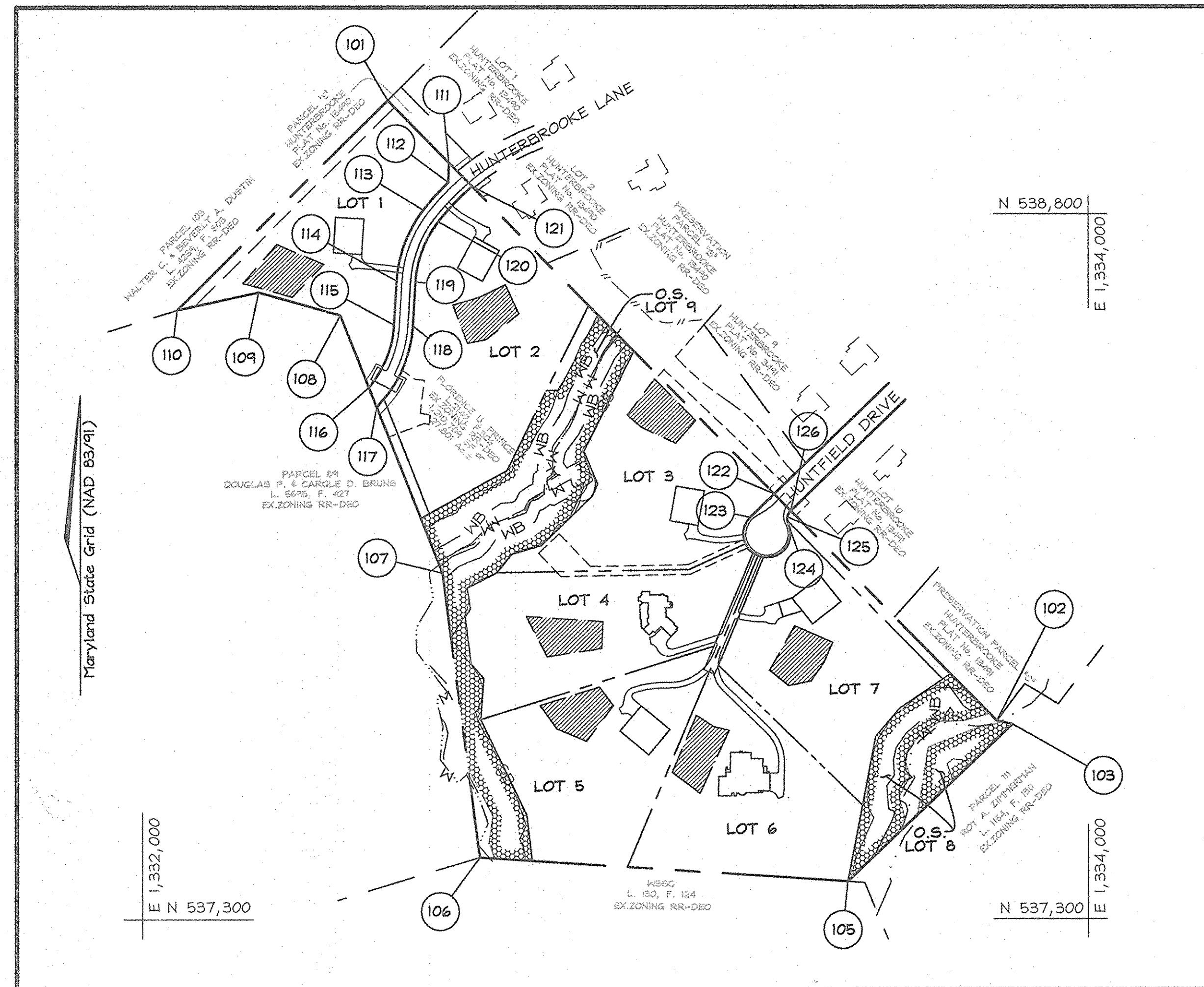
**COVER SHEET**  
PRINCE PROPERTY

LOTS 1 THRU 7  
AND OPEN SPACE LOTS 8 & 9  
TAX MAP 46 GRID 01 PARCEL 104  
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

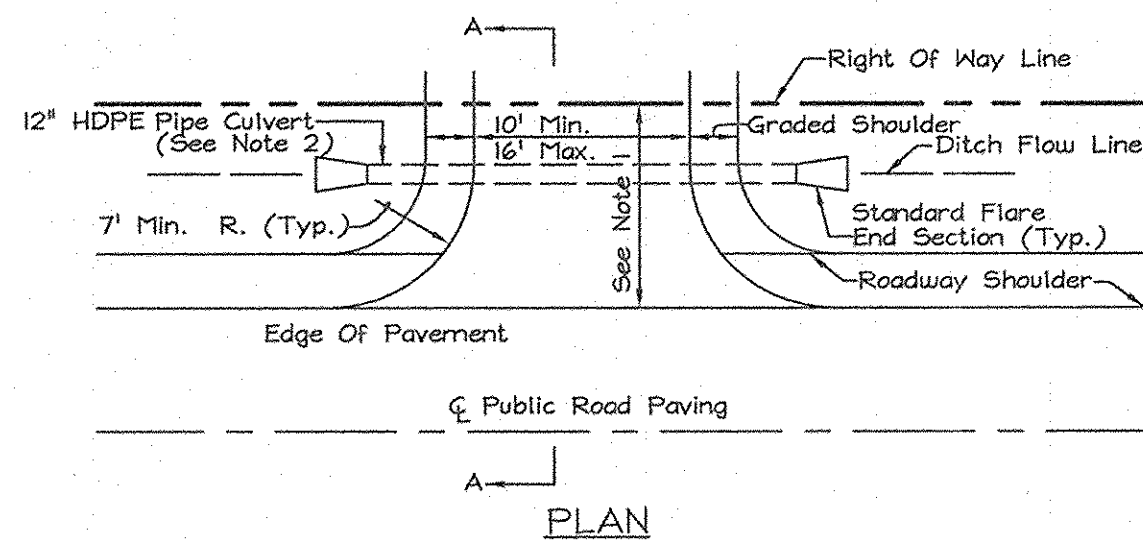


**FSH Associates**  
Engineers Planners Surveyors  
6339 Howard Lane Elkridge, MD 21075  
Tel: 410-567-5200 Fax: 410-795-1562  
E-mail: info@fshet.com

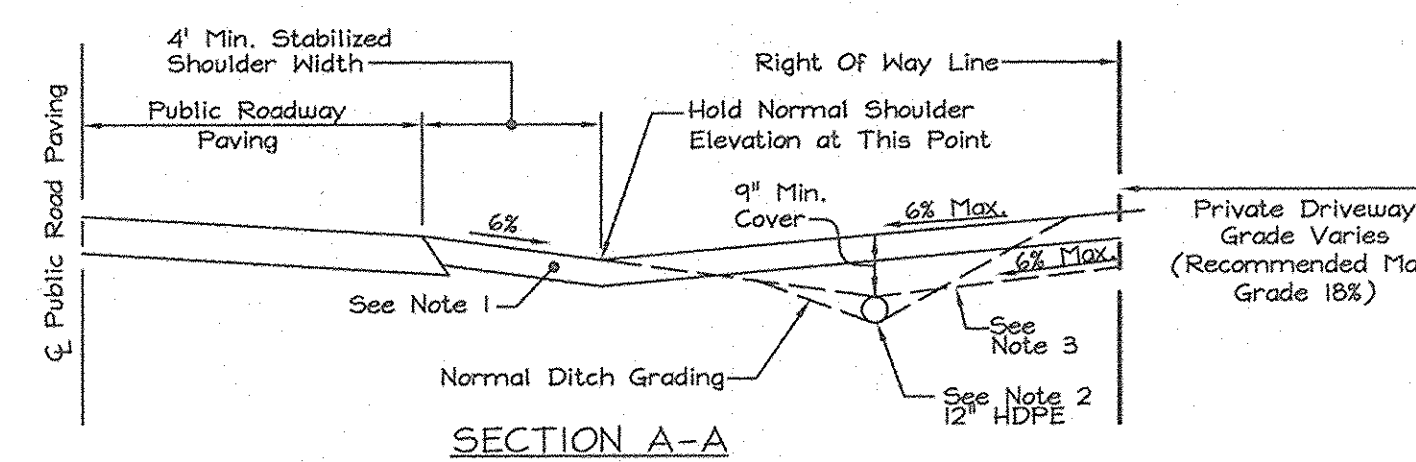
DESIGN BY: MT  
DRAWN BY: SAR  
CHECKED BY: ZYF  
SCALE: As Shown  
DATE: Feb 15, 2007  
W.O. No.: 3227  
SHEET No.: 1 OF 10



**LOCATION MAP**  
SCALE: 1"=200'



**RESIDENTIAL DRIVEWAY ENTRANCE**  
CONNECTION TO OPEN SECTION ROADWAY  
HOWARD COUNTY DETAIL R6.06  
NOT TO SCALE



**Notes:**

- Driveway must be paved from edge of the public road to the right-of-way line using the standard paving section P-1 as shown on s.d. No. R-2.01 or alternative section equal to or better than P-1, as approved by D.P.W.
- The residential driveway culvert was sized on a 10 year storm frequency. The ditch invert shall be lowered to provide a minimum ditch gradient of 0.5% and clearance shown.

**Notes (cont.):**

- Swale flow may be provided over the driveway located at or near the crest of vertical curves on the public road where quantity of flow is small, as approved by D.P.W.
- Tie-in grade of private driveway shall not exceed 14%.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

Cindy Hauert  
CHIEF, DIVISION OF LAND DEVELOPMENT  
DATE: 3/7/07

William F. Whelan  
CHIEF, BUREAU OF HIGHWAYS  
DATE: 2-23-07

LOT 2  
HUNTERBROOKE  
F-98-94  
PLAT No. 13490

LOT 1  
HUNTERBROOKE  
F-98-94  
PLAT No. 13490

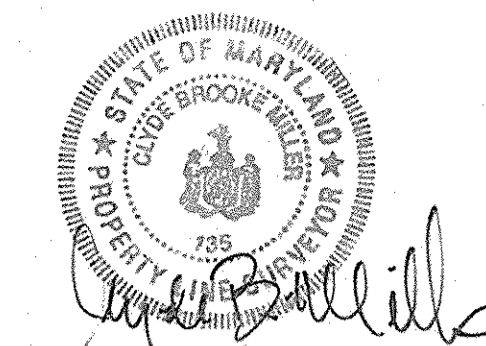
LOT 2  
3.924±Ac.

HUNTERBROOKE  
LANE  
(Public Access Place) 10' Tree Maintenance Easement

LOT 1  
3.037±Ac.

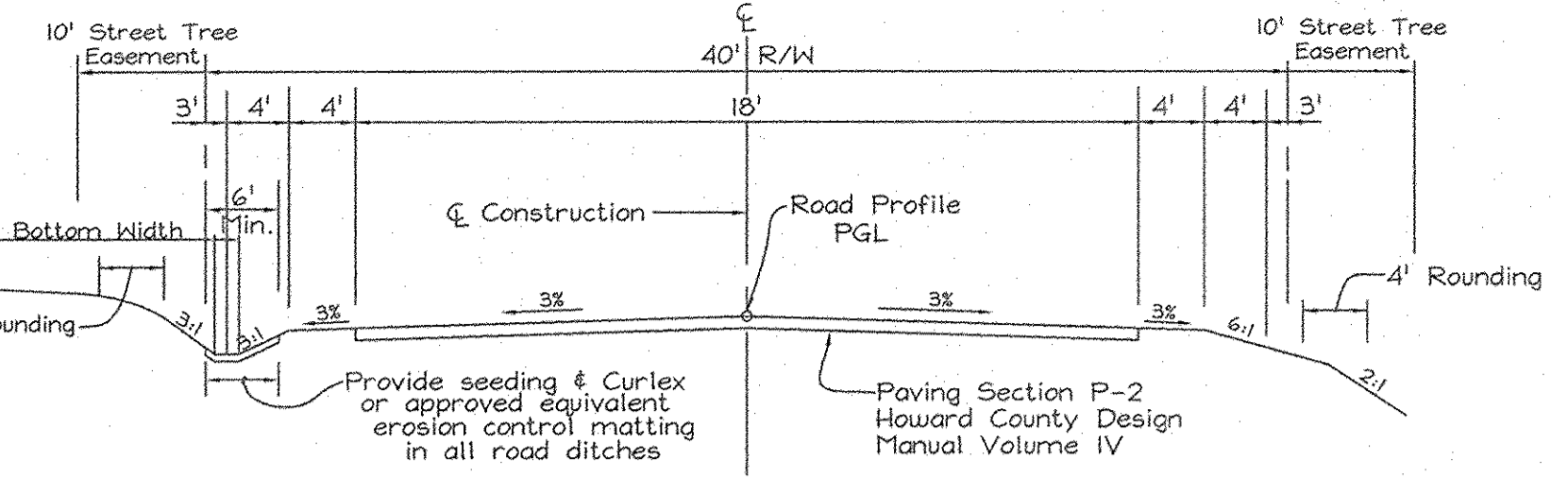
PARCEL 89  
DOUGLAS P. BRUNS &  
CAROLE D. BRUNS  
L. 5695, F. 427  
ZONING RR-DEO

**As-Built**  
For Roads, Storm Drains,  
Erosion & Sediment Controls



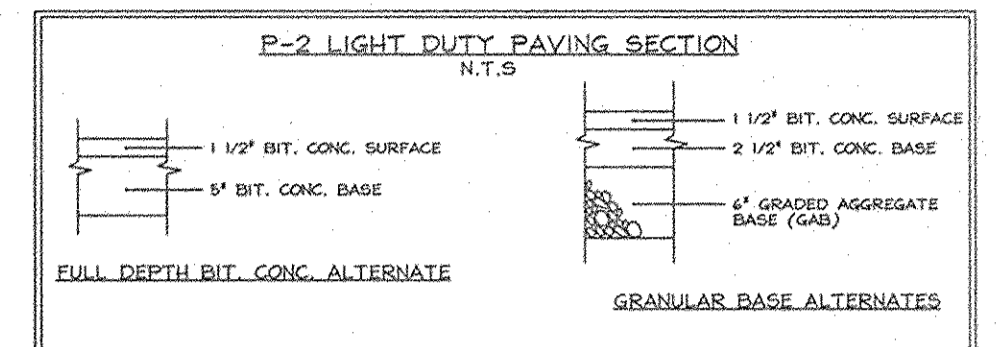
C. Brooke Miller  
Prop. L.S. #195

10/11/2007  
Date

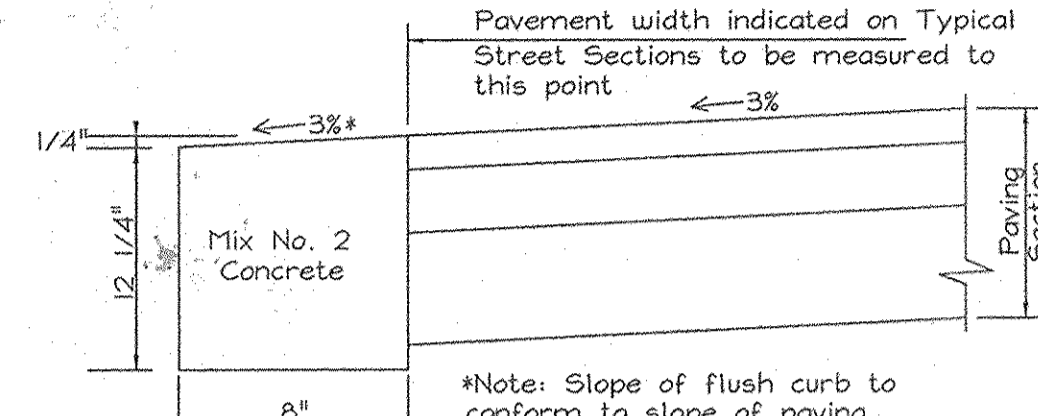


**TYPICAL ROADWAY SECTION**  
ROAD: HUNTERBROOKE LANE  
CLASSIFICATION: PUBLIC ACCESS PLACE

DESIGN SPEED: 25 MPH  
(NOT TO SCALE)



Note: Paving sections shown relates to a CBR value of 7. Actual CBR test results may cause modification of these paving sections.



Install Flush Curb along Left Side of Hunterbrooke Lane from C. Sta. 22+50 to 26+00

**FLUSH CURB DETAIL**  
NOT TO SCALE

Monument Recovery Sketch (N.T.S.)  
COR. CONC. CURB  
WELL  
CONC. MON. ELEV: 424.82

PARCEL 'E'  
HUNTERBROOKE  
PLAT No. 13490  
ZONING RR-DEO

**PLAN VIEW**  
SCALE: 1"=50'

**CENTERLINE ROAD CURVE DATA**

CURVE No.	RADIUS	ARC LENGTH	DELTA	BEARING	CHORD LENGTH
C2	525.00'	106.62'	11°38'10"	N43°40'48"E	106.44'
C3	250.00'	150.48'	34°29'18"	N20°37'04"E	148.22'
C4	250.00'	169.94'	38°56'51"	S22°50'51"W	166.69'

\*Note: The curve data shown refers only to the curve within the Prince Property boundary, although Curve C-2 continues onto the adjacent Hunterbrooke Property (F-98-94) and curve C-4 will continue should adjacent property be developed.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

*William F. White* 2-23-07  
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Cindy Hanna* 3/1/07  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE  
*John D. ...* 2/20/07  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

**OWNER**

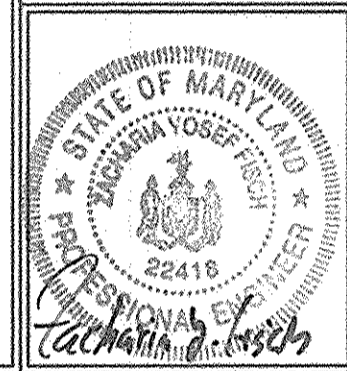
THE ESTATE OF  
FLORENCE UNDINE PRINCE LITCHFIELD-SEAL  
c/o JOSEPH LEONARD LITCHFIELD  
4743 Sellman Road  
Beltsville, Maryland 20705  
Telephone: (301) 937-3300

**CONTRACT PURCHASER/  
DEVELOPER**

PRINCE INVESTMENTS LLC  
3905 National Drive, Suite 105  
Burtonsville, Maryland 20866  
Telephone: (301) 476-7715

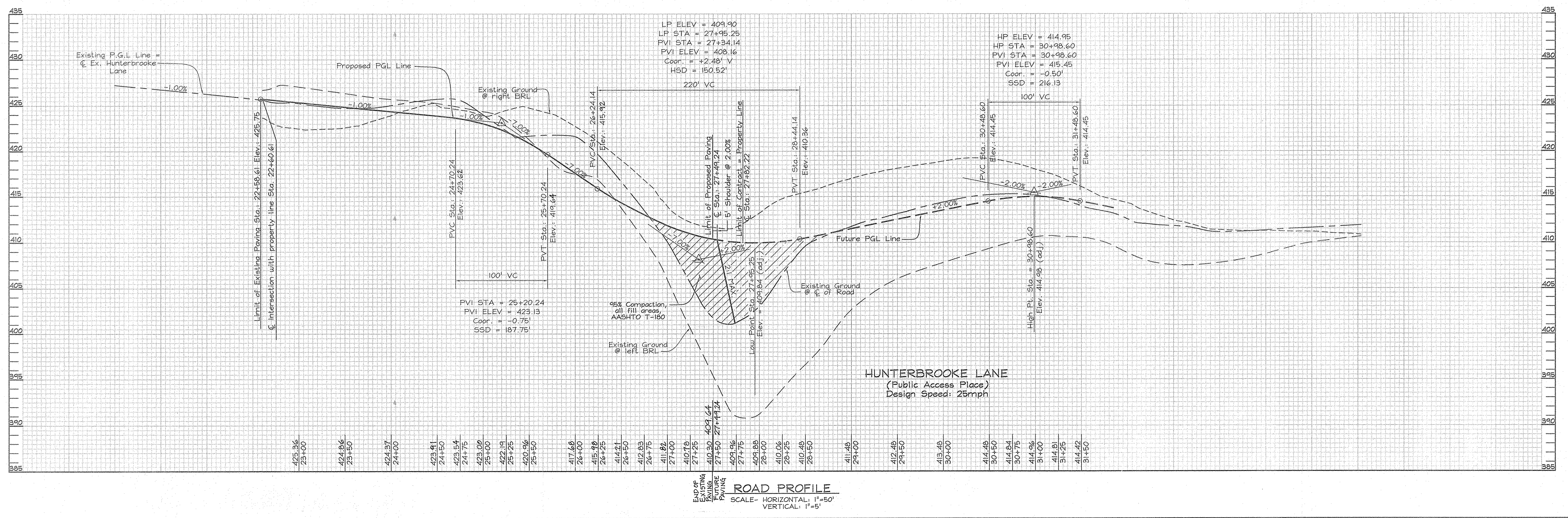
**HUNTERBROOKE LANE  
ROAD PLAN AND PROFILE**  
PRINCE PROPERTY

LOTS 1 THRU 7  
AND OPEN SPACE LOTS 8 & 9  
TAX MAP 46 GRID 01  
5TH ELECTION DISTRICT  
PARCEL 104  
HOWARD COUNTY, MARYLAND

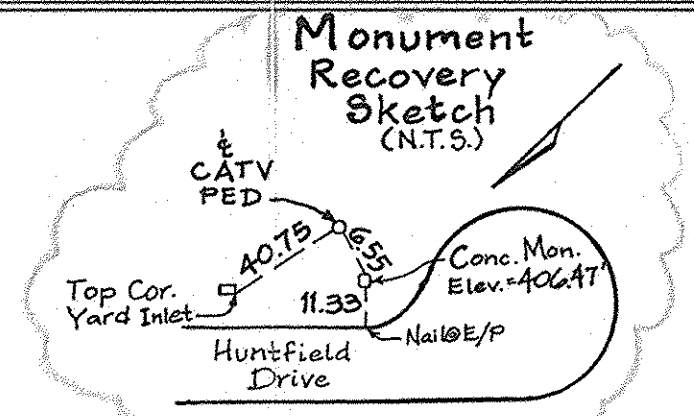


**FSH Associates**  
Engineers Planners Surveyors  
6339 Howard Lane Elkridge, MD 21075  
Tel: 410-567-5200 Fax: 410-796-1562  
E-mail: info@fshri.com

DESIGN BY: MLT  
DRAWN BY: SAR  
CHECKED BY: ZYF  
SCALE: As Shown  
DATE: Feb 15, 2007  
I.D. No.: 3227  
SHEET No.: 2 OF 10



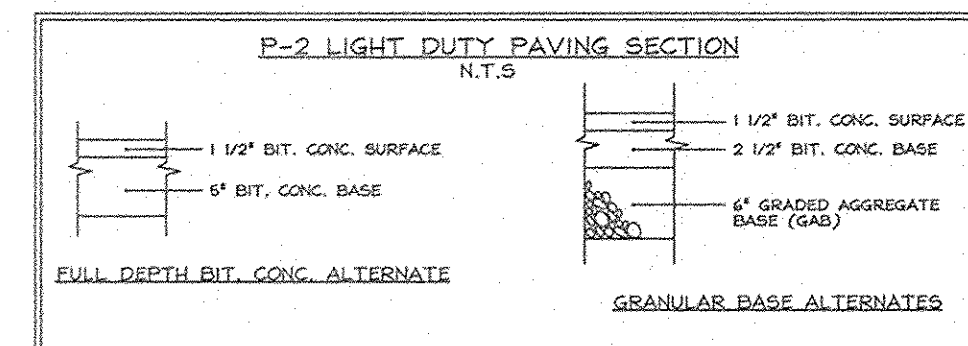
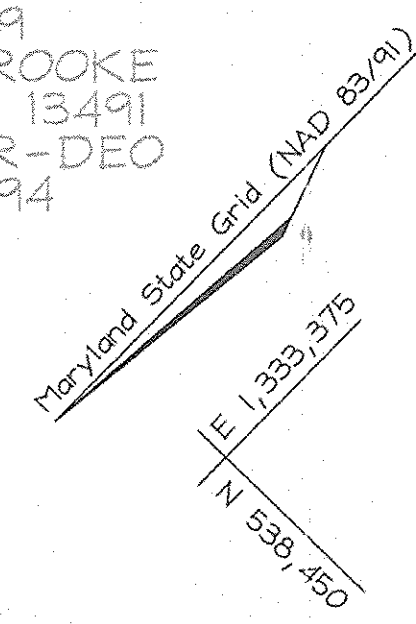
CURVE No.	RADIUS	ARC LENGTH	DELTA	CHORD BEARING	CHORD LENGTH
C1	100.00'	69.36'	39°44'25"	S25°55'16"W	67.98'



LOT 10  
HUNTERBROOKE  
PLAT No. 13491  
ZONING RR-DEO  
F-98-94

HUNTFIELD DRIVE  
Local County Road  
(50' R/W)

LOT 9  
HUNTERBROOKE  
PLAT No. 13491  
ZONING RR-DEO  
F-98-94



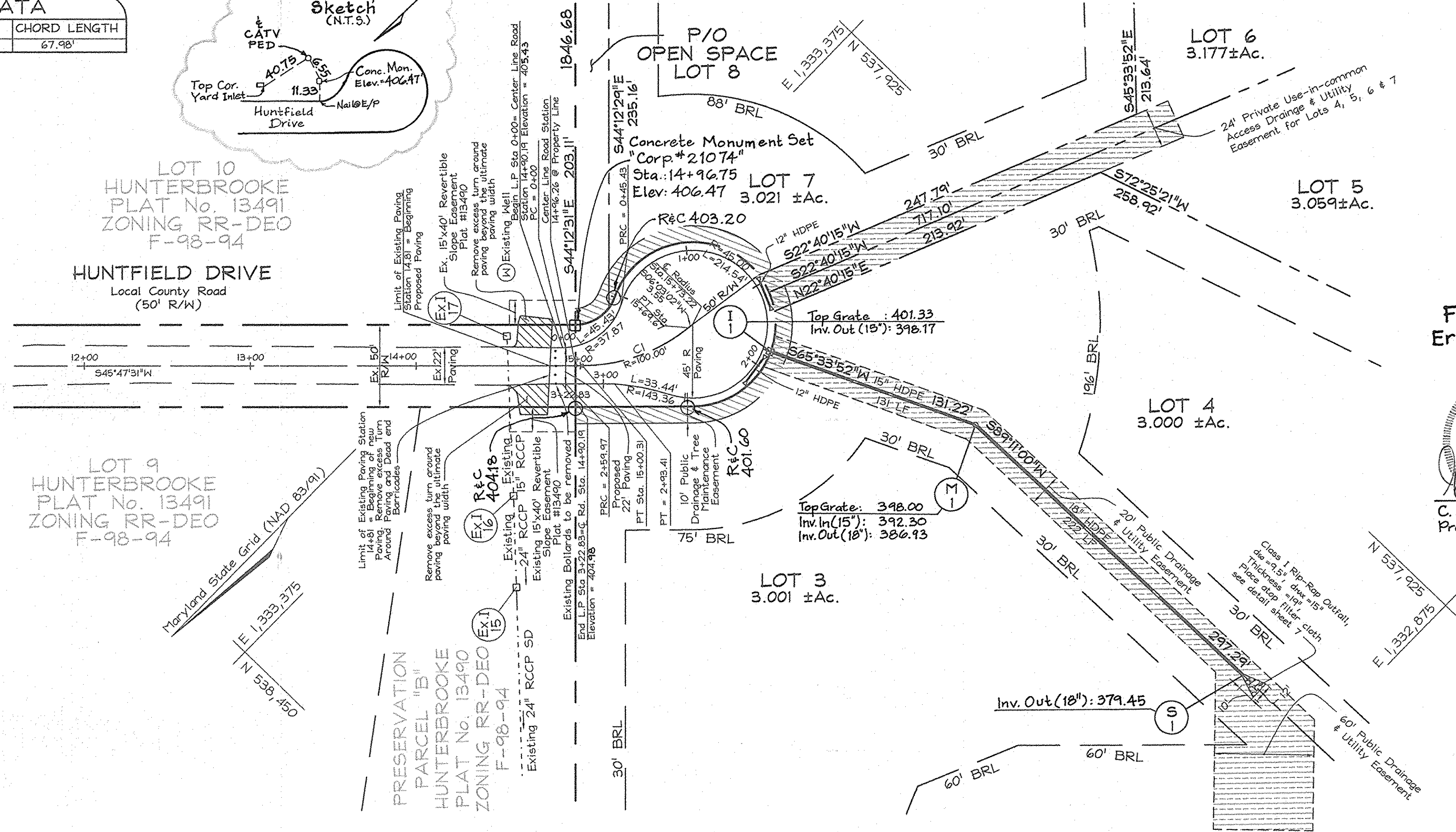
Notes:  
Paving sections shown relates to a CBR value of 7. Actual CBR test results may cause modification of these paving sections.

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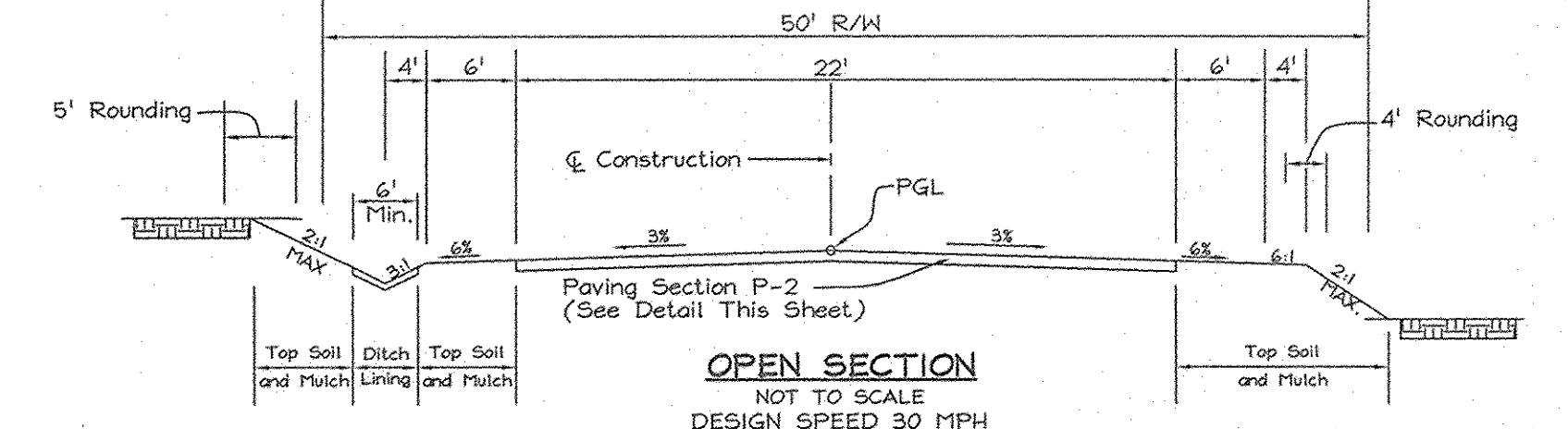
*William F. ...* 2.23.07  
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

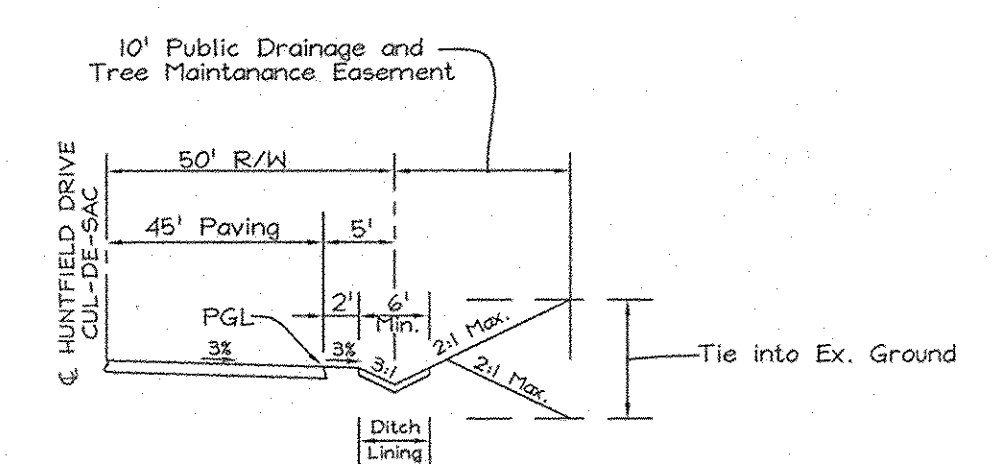
*Cheryl ...* 3/2/07  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE  
*...* 2/20/07  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE



PLAN VIEW  
SCALE: 1"=50'



TYPICAL SECTION HUNTFIELD DRIVE  
NOT TO SCALE  
DESIGN SPEED 30 MPH



TYPICAL CUL-DE-SAC SECTION HUNTFIELD DRIVE  
NOT TO SCALE

As-Built  
For Roads, Storm Drains,  
Erosion & Sediment Controls

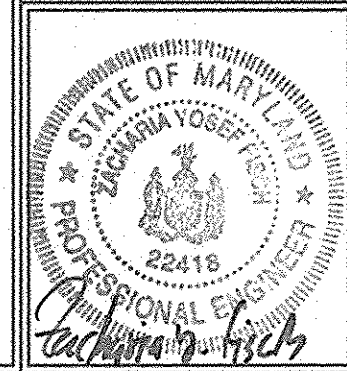
C. Brooke Miller  
Prop L.S. #135

10/11/2007  
Date

OWNER  
THE ESTATE OF  
FLORENCE UNDINE PRINCE LITCHFIELD-SEAL  
c/o JOSEPH LEONARD LITCHFIELD  
4743 Sellman Road  
Beltsville, Maryland 20705  
Telephone: (301) 437-3900

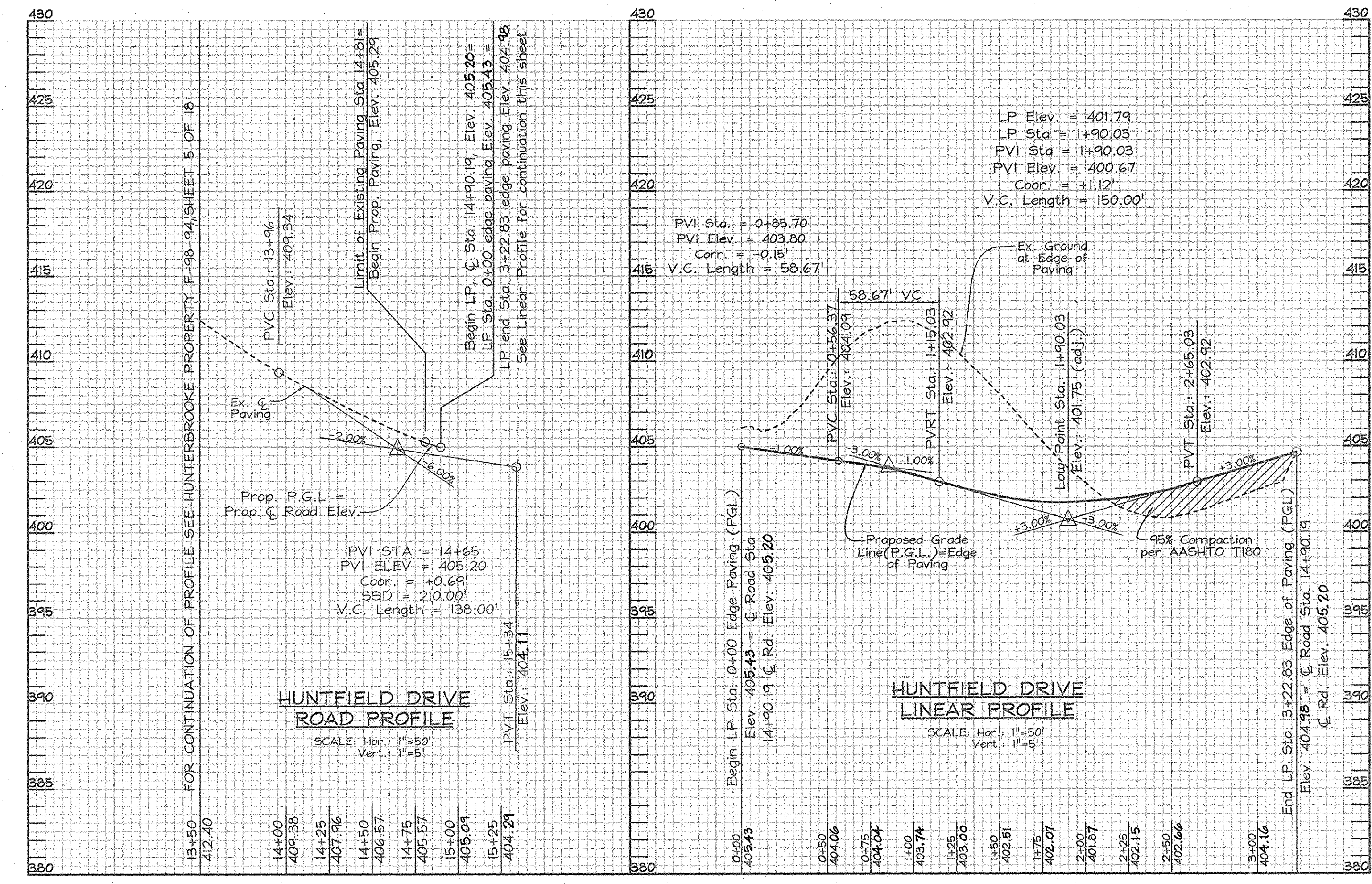
CONTRACT PURCHASER/  
DEVELOPER  
PRINCE INVESTMENTS LLC  
3905 National Drive, Suite 105  
Burlington, Maryland 20866  
Telephone: (301) 476-7715

HUNTFIELD DRIVE  
ROAD PLAN AND PROFILE  
PRINCE PROPERTY  
LOTS 1 THRU 7  
AND OPEN SPACE LOTS 8 & 9  
TAX MAP 46 GRID 01  
5TH ELECTION DISTRICT  
PARCEL 104  
HOWARD COUNTY, MARYLAND



FSH Associates  
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DESIGN BY: MLT  
DRAWN BY: SAR  
CHECKED BY: ZYF  
SCALE: As Shown  
DATE: Feb 15, 2007  
W.O. No.: 3227  
SHEET No.: 3 OF 10



HUNTFIELD DRIVE  
ROAD PROFILE  
SCALE: Hor. 1"=50'  
Vert. 1"=5'

HUNTFIELD DRIVE  
LINEAR PROFILE  
SCALE: Hor. 1"=50'  
Vert. 1"=5'

SOILS LEGEND		
SYMBOL	NAME / DESCRIPTION	SOIL GROUP
ChB2	Chester silt loam, 3 to 8 percent slopes, moderately eroded	B
EKB2	Eliok silt loam, 3 to 8 percent slopes, moderately eroded	B
EIC3	Eliok silty clay loam, 8 to 15 percent slopes, severely eroded	B
MIC3	Minor loam, 8 to 15 percent slopes, severely eroded	B
MID3	Minor loam, 15 to 25 percent slopes, severely eroded	B

LEGEND	
Existing Contour	--- 352
Proposed Contour	--- 352
Spot Elevation	+82.53
Direction of Flow	→
Tree Protection Fence	--- (wavy line)
Existing Trees to Remain	(cloud symbol)
Stabilized Construction Entrance	--- (hatched)
Silt Fence	--- (SF)
Super Silt Fence	--- (SSSF)
Double Super Silt Fence	--- (DSSSF)
Earth Dike	--- (ED A-1)
Limit of Disturbance	--- (LOD)
Erosion Control Matting	--- (ECM)
Soil Boundary	--- (dotted)
Rip-Rap Inflow Protection	--- (RRP)
Removable Pumping Station	--- (RPS)
Standard Inlet Protection	--- (SIP)
15-24.99% Slopes	(stippled pattern)
25-50% Slopes	(cross-hatched pattern)
Inlet Protection	--- (square symbol)



**As-Built**  
For Roads, Storm Drains,  
Erosion & Sediment Controls

G. Brooke Miller  
Prop. L.S. #135  
Date: 10/11/2007

Note: Only the grading required for installation of Hunterbrooke Lane and the Storm Drain is proposed under this contract.

Note: All grading beyond the grading required for the installation of Hunterbrooke Lane and the Storm Drains will be done in the future under a private plot plan for the lots.

Note: Contractor to install Erosion Control Matting on all graded areas beyond and to the side of the Proposed T-Turnaround at the end of Hunterbrooke Lane

**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 2/15/07  
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.

Manager 2/15/07  
SIGNATURE OF DEVELOPER DATE  
Prince Investments, LLC

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.

Jim Murray 2/22/07  
USDA-NATURAL RESOURCES CONSERVATION SERVICE DATE

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

John K. Robinson 2/22/07  
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

Walter F. Walters 2-23-07  
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Cindy Hammit 2/21/07  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Chief, Development Engineering Division 2/20/07 DATE

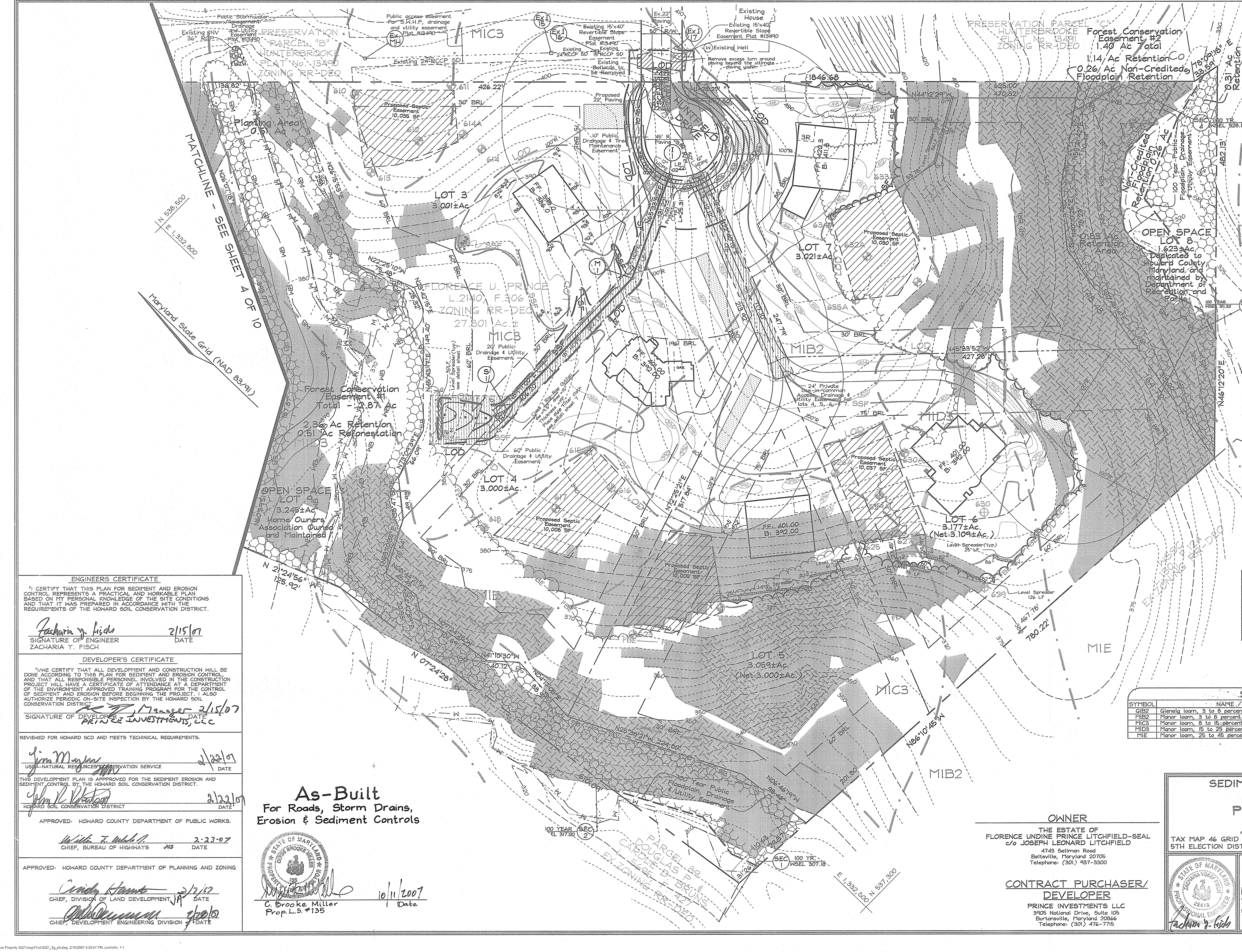
**OWNER**  
THE ESTATE OF FLORENCE UNDINE PRINCE LITCHFIELD-SEAL  
c/o JOSEPH LEONARD LITCHFIELD  
4743 Sellman Road  
Beltville, Maryland 20705  
Telephone: (301) 937-3300

**CONTRACT PURCHASER/DEVELOPER**  
PRINCE INVESTMENTS LLC  
3905 National Drive, Suite 105  
Burtonsville, Maryland 20866  
Telephone: (301) 476-7715

**SEDIMENT & EROSION CONTROL AND GRADING PLAN**  
**PRINCE PROPERTY**  
LOTS 1 THRU 7  
AND OPEN SPACE LOTS 8 & 9  
TAX MAP 46 GRID 01  
5TH ELECTION DISTRICT  
PARCEL 104  
HOWARD COUNTY, MARYLAND

**FSH Associates**  
Engineers Planners Surveyors  
6339 Howard Lane Elridge, MD 21075  
Tel: 410-567-5200 Fax: 410-798-1562  
E-mail: info@fsheri.com

DESIGN BY: MT  
DRAIN BY: SAR  
CHECKED BY: ZYF  
SCALE: 1"=50'  
DATE: Feb 15, 2007  
P.L.O. No.: 3227  
SHEET No.: 5 OF 10



### LEGEND

- Existing Contour: ---302
- Proposed Contour: ---4253
- Spot Elevation: 4253
- Direction of Flow: [Arrow]
- Tree Protection Fence: [Symbol]
- Existing Trees to Remain: [Symbol]
- Light Poles: Post Top, Overhead, Ballard
- Stabilized Construction Entrance: [Symbol]
- Silt Fence: SF, SSF
- Super Silt Fence: SSF
- Earth Dike: ED A-1
- Limit of Disturbance: LOD
- Erosion Control Matting: EC1
- Soil Boundary: [Symbol]
- Existing Septic Easement: [Symbol]
- Proposed Septic Easement: [Symbol]
- Proposed Well Area: [Symbol]
- Existing Perc Test: 601
- 15-24.99% Slopes: [Symbol]
- 25-50% Slopes: [Symbol]
- Inlet Protection: [Symbol]

Note: Only the grading required for installation of Huntfield Court and the Storm Drain is proposed under this contract.

Note: All grading beyond the grading required for the installation of Huntfield Court and Storm Drain will be done in the future under a private plot plan for the lots.

### SOILS LEGEND

SYMBOL	NAME / DESCRIPTION	SOIL GROUP
MIB2	Glenelg loam, 3 to 8 percent slopes, moderately eroded	B
MIB3	Manor loam, 3 to 8 percent slopes, moderately eroded	B
MIC3	Manor loam, 8 to 15 percent slopes, severely eroded	B
MIB3	Manor loam, 15 to 25 percent slopes, severely eroded	B
MIE	Manor loam, 25 to 45 percent slopes	B

### 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* 2/15/07  
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.

*Prince Investments, LLC* 2/15/07  
SIGNATURE OF DEVELOPER DATE  
PRINCE INVESTMENTS, LLC

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.

*Jim Masten* 2/22/07  
USDA-NATURAL RESOURCES CONSERVATION SERVICE DATE

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

*John R. Watson* 2/22/07  
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

*Walter J. Wald* 2-23-07  
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Candy Hunt* 2/2/07  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*John R. Watson* 2/2/07  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

## As-Built

### For Roads, Storm Drains, Erosion & Sediment Controls

*C. Brooke Miller* 10/11/2007  
C. Brooke Miller Date  
Prop. L.S. #135

### OWNER

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### CONTRACT PURCHASER/ DEVELOPER

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### SEDIMENT & EROSION CONTROL AND GRADING PLAN

## PRINCE PROPERTY

LOTS 1 THRU 7 AND OPEN SPACE LOTS 8 & 9

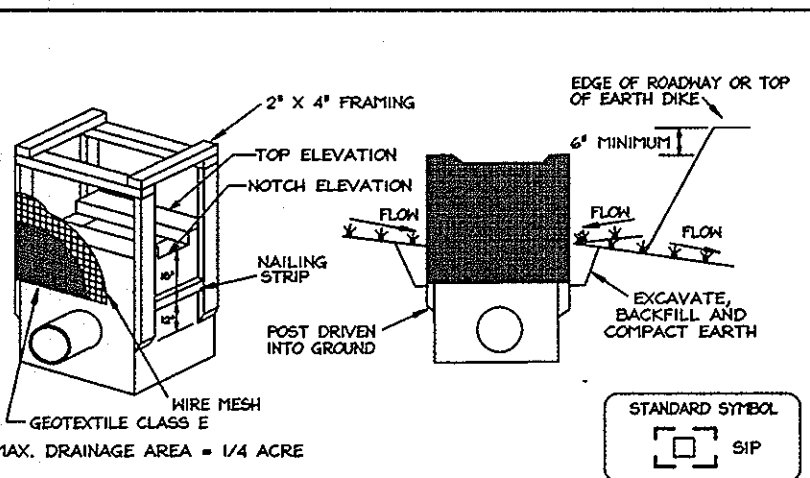
TAX MAP 46 GRID 01 PARCEL 104  
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

DESIGN BY: MT  
DRAWN BY: SAR  
CHECKED BY: ZYF  
SCALE: 1"=50'  
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W.O. No.: 3227  
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### FSH Associates

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E-mail: info@fshri.com

**DETAIL 23A - STANDARD INLET PROTECTION**

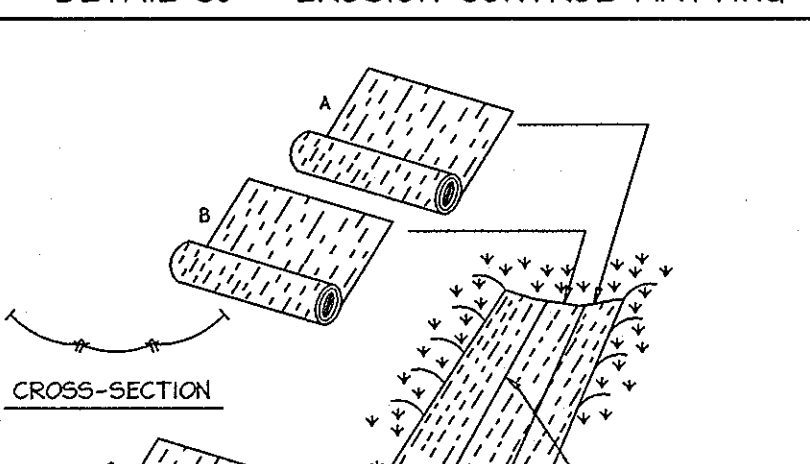


Construction Specifications

- Excavate completely around the inlet to a depth of 18" below the notch elevation.
- Drive the 2' x 4' construction grade lumber posts 1' into the ground at each corner of the inlet. Place nail strips between the posts on the ends of the inlet. Assemble the top portion of the 2' x 4' frame using the overlap joint shown on Detail 23A. The top of the frame (over) must be 6" below adjacent roadway where flooding and safety issues may arise.
- Stretch the 1/2" x 1/2" wire mesh tightly around the frame and fasten securely. The ends must meet and overlap at a post.
- Stretch the Geotextile Class E tightly over the wire mesh with the geotextile extending from the top of the frame to 18" below the inlet notch elevation. Fasten the geotextile firmly to the frame. The ends of the geotextile must meet at a post, be overlapped and folded, then fastened down.
- Backfill around the inlet in compacted 6" layers until the layer of earth is level with the notch elevation on the ends and top elevation on the sides.
- If the inlet is not in a sump, construct a compacted earth dike across the ditch line directly below it. The top of the earth dike should be at least 6" higher than the top of the frame.
- The structure must be inspected periodically and after each rain and the geotextile replaced when it becomes clogged.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E - 11 - 5 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

**DETAIL 30 - EROSION CONTROL MATTING**

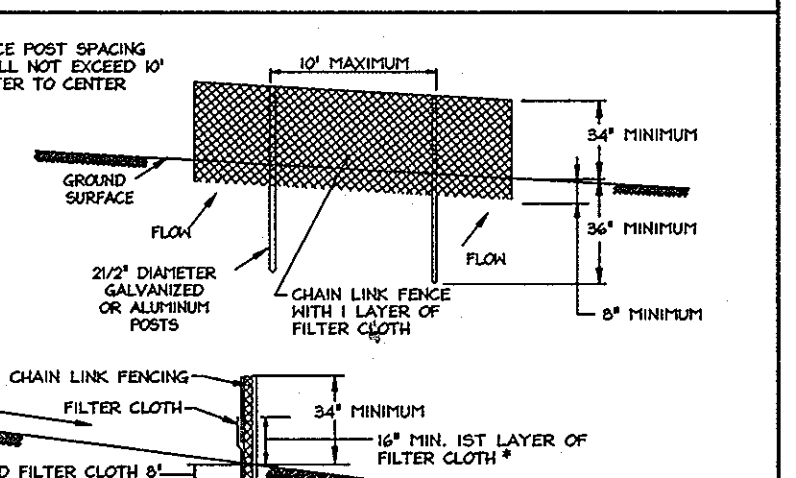


Construction Specifications

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

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

**DETAIL 33 - SUPER SILT FENCE**

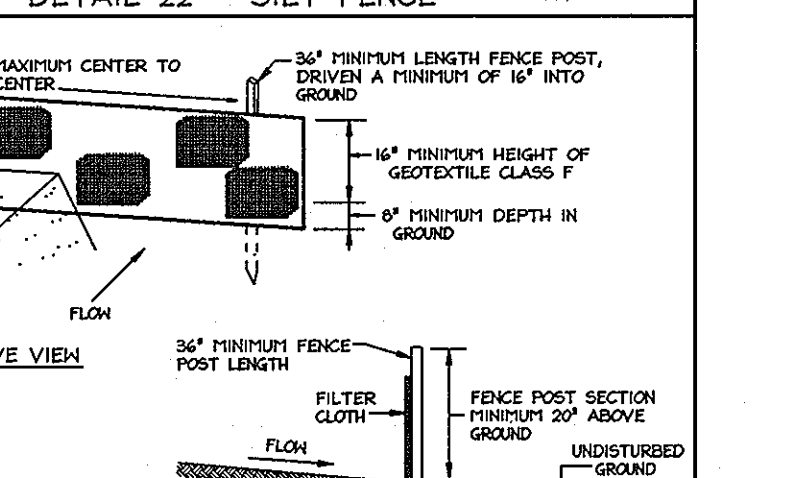


Construction Specifications

- 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.
- Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and brass rods, drive anchors and post caps are not required except on the ends of the fence.
- Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
- When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
- Maintenance shall be performed as needed and all bulges removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height.
- 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 lb/in (min.) Test: HST 504
  - Tensile Modulus 20 lb/in (min.) Test: HST 504
  - Flow Rate 0.3 gal/ft. Min/Sec (max.) Test: HST 322
  - Filtering Efficiency 75% (min.) Test: HST 322

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE H - 26 - 3 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

**DETAIL 22 - SILT FENCE**

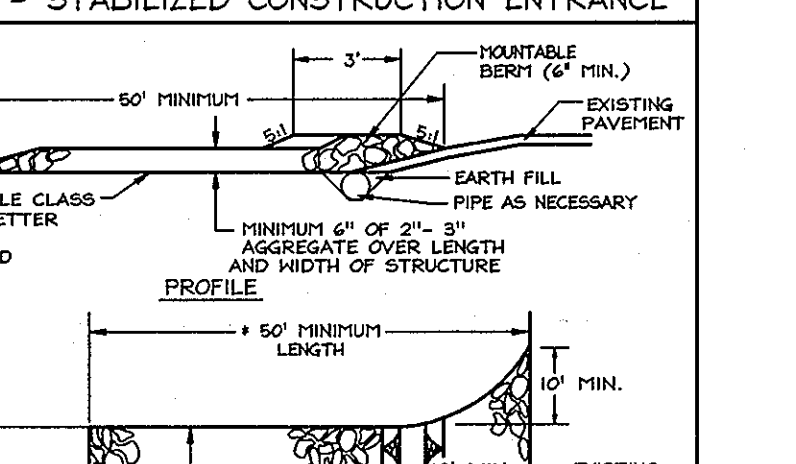


Construction Specifications

- Fence posts shall be a minimum of 3/4" diameter, driven 18" minimum into the ground. Posts shall be 1 1/2" x 1 1/2" (minimum) sq. or 1 3/4" diameter (minimum) round and shall be of solid quality hardwood. Steel posts will be standard T or U section weighing not less than 100 pounds per linear foot.
- Geotextile shall be fastened securely to each fence post with wire ties or staples at top mid-section and shall meet the following requirements for Geotextile Class F:
  - Tensile Strength 50 lb/in (min.) Test: HST 504
  - Tensile Modulus 20 lb/in (min.) Test: HST 504
  - Flow Rate 0.3 gal/ft. Min/Sec (max.) Test: HST 322
  - Filtering Efficiency 75% (min.) Test: HST 322
- Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment by-pass.
- 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 - 6 - 3 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

**DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE**

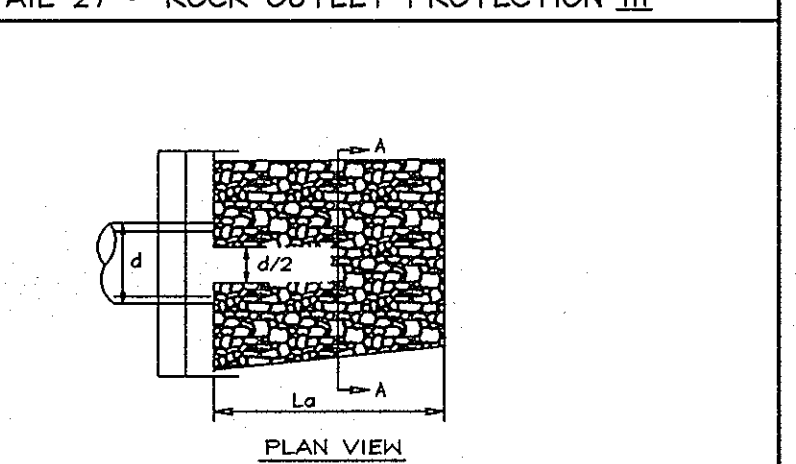


Construction Specifications

- Length - minimum of 50' (+ 30' for a single residence lot).
- Width - 10' minimum, should be flared at the existing road to provide a turning radius.
- Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. The plan approval authority may not require single family residences to use geotextile.
- Stone - crushed aggregate (2 1/2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.
- Service Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipes installed beneath the stabilized entrance shall be protected with a rip-rap berm with 5' slopes and a minimum of 6" of stone over the pipe. Pipes have to be installed according to the drainage. When the pipe is located at a high spot and 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.
- 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

**DETAIL 27 - ROCK OUTLET PROTECTION III**



Construction Specifications

- The subgrade for the filter, rip-rap, or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.
- The rock or gravel shall conform to the specified grading limits when installed respectively in the rip-rap or filter.
- Geotextile shall be protected from punching, cutting, or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of geotextile over the damaged part or by completely replacing the geotextile. All overlaps whether for repairs or for joining two pieces of geotextile shall be a minimum of one foot.
- Stone for the rip-rap or gabion outlets may be placed by equipment. They shall be constructed to the full course thickness in one operation and in such manner as to avoid displacement of underlying materials. The stone for rip-rap or gabion outlets shall be delivered and placed in a manner that will ensure that it is reasonably homogeneous with the smaller stones and spalls filling the voids between the larger stones. Rip-rap shall be placed in a manner to prevent damage to the filter blanket or geotextile. Hand placement will be required to the extent necessary to prevent damage to the permanent works.
- The stone shall be placed so that it blends in with the existing ground. If the stone is placed too high then the flow will be forced out of the channel and scour adjacent to the stone will occur.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE F - 18 - 10 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

**ROCK OUTLET PROTECTION III**

Construction Specifications

- The subgrade for the filter, rip-rap, or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.
- The rock or gravel shall conform to the specified grading limits when installed respectively in the rip-rap or filter.
- Geotextile shall be protected from punching, cutting, or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of geotextile over the damaged part or by completely replacing the geotextile. All overlaps whether for repairs or for joining two pieces of geotextile shall be a minimum of one foot.
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- The stone shall be placed so that it blends in with the existing ground. If the stone is placed too high then the flow will be forced out of the channel and scour adjacent to the stone will occur.

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

**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 the following schedule: Apply 2 tons per acre dolomite limestone (42 lbs/1000 sq. ft.) And 900 lbs. / acre (20.7 lbs./1000 sq. ft.) of 10-20-20 before seeding. Harrow or disc into upper 3 in. of soil.

SEEDING: Apply a mixture of Turf Type Tall Fescue (50%) and Hard Fescue (20%) in accordance with seeding dates and rates shown in the Permanent Seeding Summary shown on this sheet. For stabilization outside of the seeding dates, apply straw mulch at rates and methods specified below and apply permanent seeding when within proper seeding dates.

MULCHING: Immediately following seeding, apply a uniform 1-2 in. Deep layer of un-rotted small grain straw at rate of 2.5 Tons/acre. (Apply 2.5 Tons/acre if a mulch anchoring tool is used). Straw may be anchored with wood cellulose fiber at a rate of 750 lbs. / acre mixed at a ratio of 50 lbs. Of wood fiber/ 100 gal. of water. Synthetic liquid binders such as Terra Tax II, Acrylic DLR (Agro-Tack), DCA-70, Petrosol and other approved equals may be used at rates recommended by the manufacturers.

**Permanent Seeding Summary**

No.	Species	Application Rate (lb/acre)	Seeding Dates	Seeding Depths	Fertilizer Rate (10-20-20)			Lime Rate
					N	P2O5	K2O	
10	Tall Fescue (80%) Hard Fescue (20%)	120 30	3/15-5/15 8/15-11/15	0.5 in.	90lb/acre (2.0lb/1000sqft)	175lb/acre (4.4lb/1000sqft)	175lb/acre (4.4lb/1000sqft)	2tons/acre (100lb/1000sqft)

**TEMPORARY SEEDING NOTES**

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 the following schedule: Apply 2 tons per acre dolomite limestone (42 lbs/1000 sq. ft.) And 600 lbs. / acre (15 lbs./1000 sq. ft.) of 10-10-10 before seeding. Harrow or disc into upper 3 in. of soil.

SEEDING: Apply the Maryland State Highway approved seed mixture of Barley or Rye plus Foxtail Millet in accordance with seeding dates and rates shown in the Temporary Seeding Summary shown on this sheet. For stabilization outside of the seeding dates, apply straw mulch at rates and methods specified below.

MULCHING: Immediately following seeding, apply a uniform 1-2 in. Deep layer of un-rotted small grain straw at rate of 2.5 Tons/acre. (Apply 2.5 Tons/acre if a mulch anchoring tool is used). Straw may be anchored with wood cellulose fiber at a rate of 750 lbs. / acre mixed at a ratio of 50 lbs. Of wood fiber/ 100 gal. of water. Synthetic liquid binders such as Terra Tax II, Acrylic DLR (Agro-Tack), DCA-70, Petrosol and other approved equals may be used at rates recommended by the manufacturers.

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

**Temporary Seeding Summary**

No.	Species	Application Rate (lb/acre)	Seeding Dates	Seeding Depths	Fertilizer Rate (10-10-10)			Lime Rate
					N	P2O5	K2O	
2	Barley or Rye plus Foxtail Millet	150 lbs (3.5lb/1000sqft)	2/1-11/30 (7a) 3/15-10/31 (6a)	1/4 in - 1/2 in	600 lb/acre (15lb/1000sqft)		2 tons/acre (100lb/1000sqft)	

**SEDIMENT CONTROL NOTES**

- 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).
- 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.
- Following initial soil disturbance or redistribution, 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 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. I, Chapter 7, 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, sod, temporary seeding, and mulching (Sec. G). Temporary stabilization with mulch alone shall 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	27,800 Acres +/-
Area Disturbed	2,228 Acres +/-
Area to be roofed or paved	0.58 Acres +/-
Area to be vegetatively stabilized	1.92 Acres +/-
Total Cut	2,500 CY
Total Fill	2,500 CY
Offsite waste/borrow area location	#2
- 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 controls 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.

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

\*\* 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**

- 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 vegetable 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 nutrients.
  - The original soil to be vegetated contains material toxic to plant growth.
  - The soil is so acidic that treatment with limestone is not feasible.
- For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.

**Construction and Material Specifications**

- 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 substituted 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.
  - Place topsoil (if required) and apply soil amendments specified in 20.0 Vegetative Stabilization - Section 1 - Vegetative Stabilization Methods and Materials.
  - 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.
  - Grades on 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 or 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 or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.
- 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.

**SEQUENCE OF CONSTRUCTION**

NOTE: THIS SEQUENCE OF CONSTRUCTION IS FOR THE CONSTRUCTION OF ROADS AND STORM DRAINS ONLY. SEEDING AROUND LOTS ARE FUTURE CONSTRUCTION SHOWN ON PLANS FOR REPRESENTATION ONLY.

- Obtain grading permit and contact Howard County Sediment Control Inspector (SCI) to arrange a pre-construction meeting. (1 Day)
- Install Stabilized Construction Entrance at Hunterbrook Drive and Huntfield Court. (1 Day)
- Clear and grub as necessary for installation of sediment control features for road grading. (3 Days)
- Install all sediment control measures (silt fence / super silt fence) as necessary for construction of roads and storm drains only. (1 Week)
- With permission of the Sediment Control Inspector grade roads to subgrade, install all storm drains and riprap outfall at 5-1 outfall. (2 Weeks)
- Fine grade roads and complete paving and final vegetative stabilization. (1 Week)
- With permission of SCI remove all sediment control measures, install riprap at 5-2 outfall, and apply permanent stabilization to those areas. (5 Days)

**As-Built For Roads, Storm Drains, Erosion & Sediment Controls**



C. Brooke Miller  
Prop. L.S. #135

10/11/2007  
Date

**SEDIMENT & EROSION CONTROL NOTES AND DETAILS PRINCE PROPERTY**

LOTS 1 THRU 7  
AND OPEN SPACE LOTS 8 & 9

TAX MAP 46 GRID 01  
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DRAWN BY: CW  
CHECKED BY: ZYF  
SCALE: Not to Scale  
DATE: Feb 15, 2007  
H.O. No.: 3227  
SHEET No.: 6 OF 10

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.

Jim Meyer  
USDA NATURAL RESOURCES CONSERVATION SERVICE  
DATE: 2/22/07

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

John L. Christman  
HOWARD SOIL CONSERVATION DISTRICT  
DATE: 2/22/07

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chris Hamer  
CHIEF, DIVISION OF LAND DEVELOPMENT  
DATE: 2/22/07

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

William J. Muehl  
CHIEF, BUREAU OF HIGHWAYS #43 4  
DATE: 2-23-07

**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 RECEIVED AND ACCORDING TO THE REQUIREMENTS 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: Prince Investments, LLC  
DATE: 2/15/07

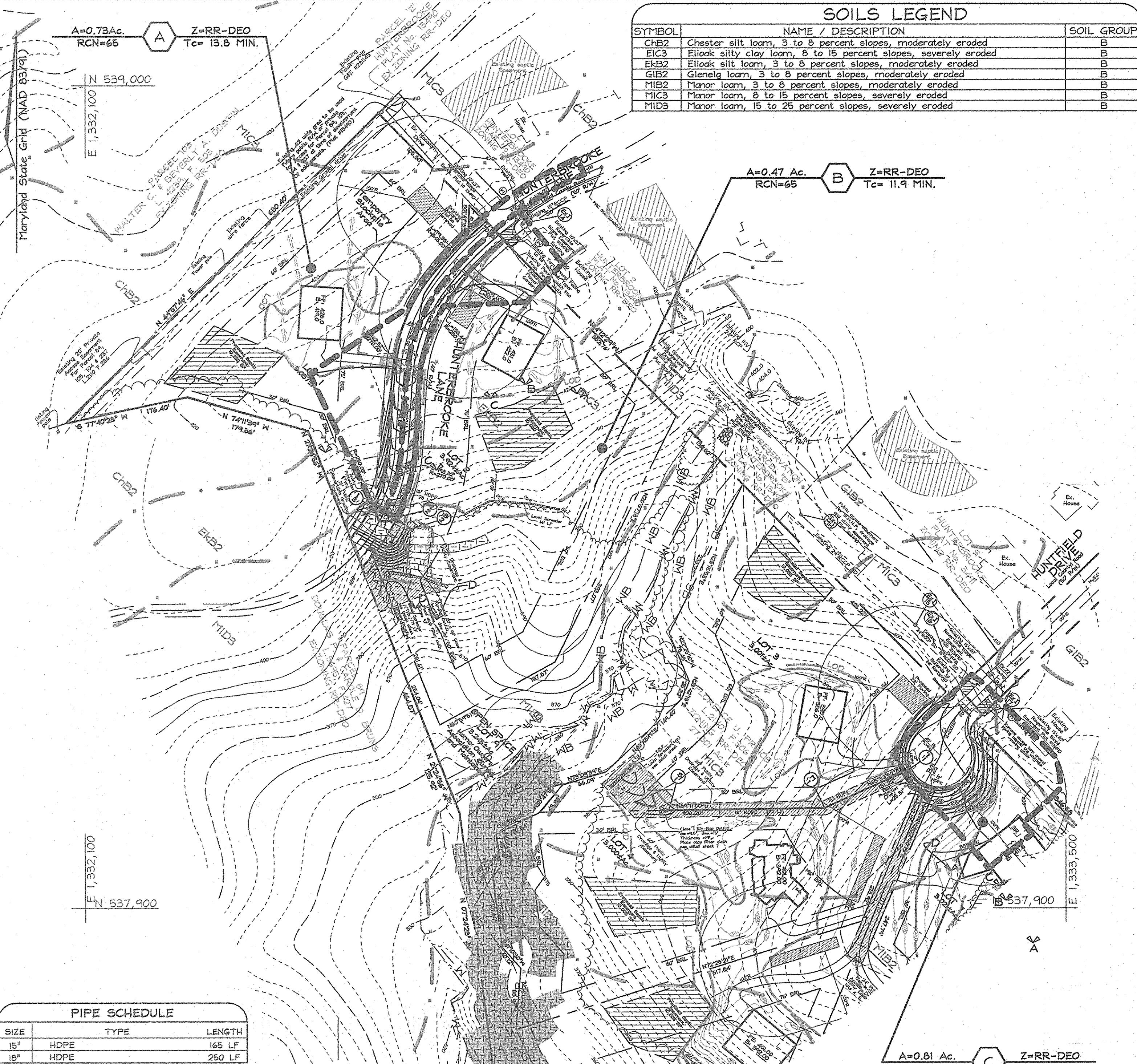
**ENGINEER'S CERTIFICATE**

I/WE 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 AND APPROVED BY A REGISTERED PROFESSIONAL ENGINEER OF THE HOWARD SOIL CONSERVATION DISTRICT.

Signature of Engineer: Zacharia Y. Fisch  
DATE: 2/15/07

**APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING**

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.



### SOILS LEGEND

SYMBOL	NAME / DESCRIPTION	SOIL GROUP
CHB2	Chester silt loam, 3 to 8 percent slopes, moderately eroded	B
EC3	Elkton silty clay loam, 8 to 15 percent slopes, severely eroded	B
EK2	Elkton silt loam, 3 to 8 percent slopes, moderately eroded	B
GI2	Glenelg loam, 3 to 8 percent slopes, moderately eroded	B
MIB2	Manor loam, 3 to 8 percent slopes, moderately eroded	B
MIC3	Manor loam, 8 to 15 percent slopes, severely eroded	B
MID3	Manor loam, 15 to 25 percent slopes, severely eroded	B

### PIPE SCHEDULE

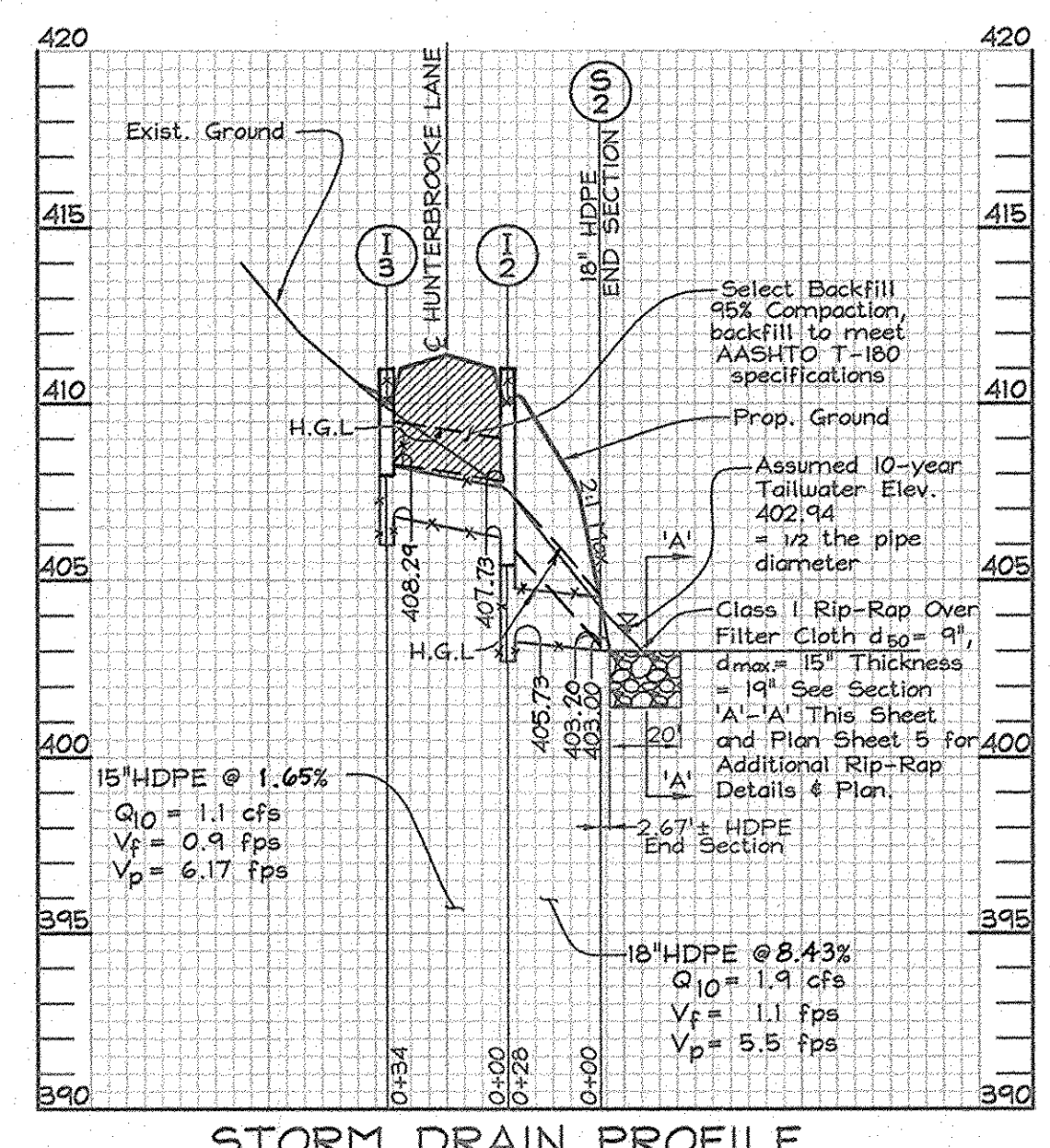
SIZE	TYPE	LENGTH
15"	HDPE	165 LF
18"	HDPE	250 LF

### STRUCTURE SCHEDULE

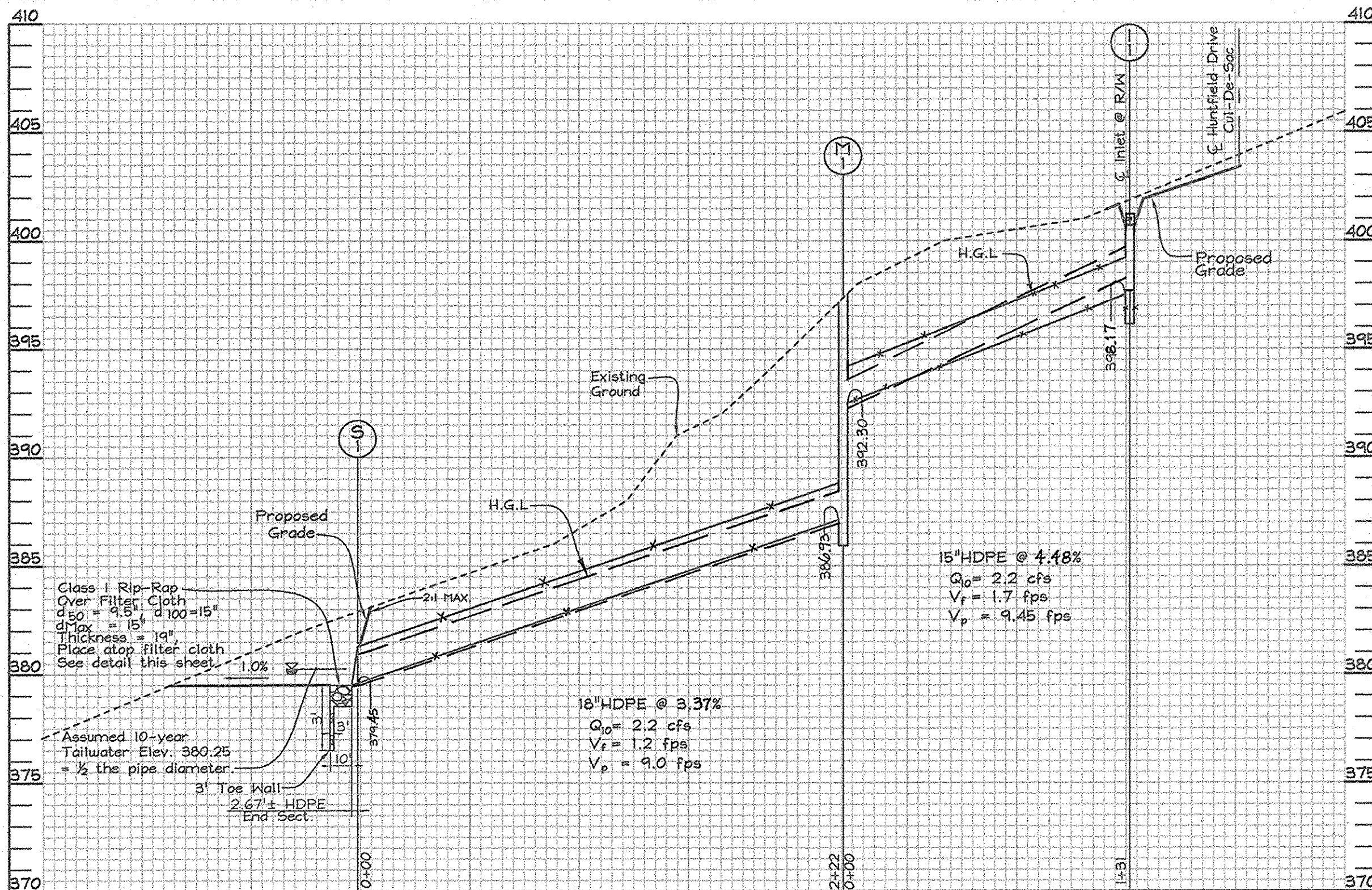
NO.	TYPE	LOCATION	TOP ELEV.	INV. IN.	INV. OUT.	REMARKS
1-1	Precast Open End Grate	LP Sta. 1+90.03 @ R/W	401.33	---	398.17	S.D. 4.36
1-2	Precast Open End Grate	G Sta. 27+11.85 @ 17' RT	411.03	407.73	405.73	S.D. 4.36
1-3	Precast Open End Grate	G Sta. 27+11.85 @ 17' RT	410.99	---	408.23	S.D. 4.36
M-1	Standard Precast Manhole	N 530,043.63 E 1,333,155.36	398.00	392.30	386.13	G 5.12
S-1	HDPE End Section	N 530,040.46 E 1,332,932.96	---	379.45	379.40	Manor or equiv.
S-2	HDPE End Section	N 530,445.26, E 1,332,565.05	---	403.20	403.00	Manor or equiv.

- NOTES:
- Top elevations and locations for the Precast Open End Grate inlets are to the Center Line of Open Roadway Ditch.
  - Top elevations and location for Precast Manhole are to the center top of manhole cover.
  - The HDPE End Sections location correspond to the point where the end section meets the incoming pipe.
  - Top Elevation for Precast Open End Inlet is to G of Throat Opening (Not Grate Elevation).

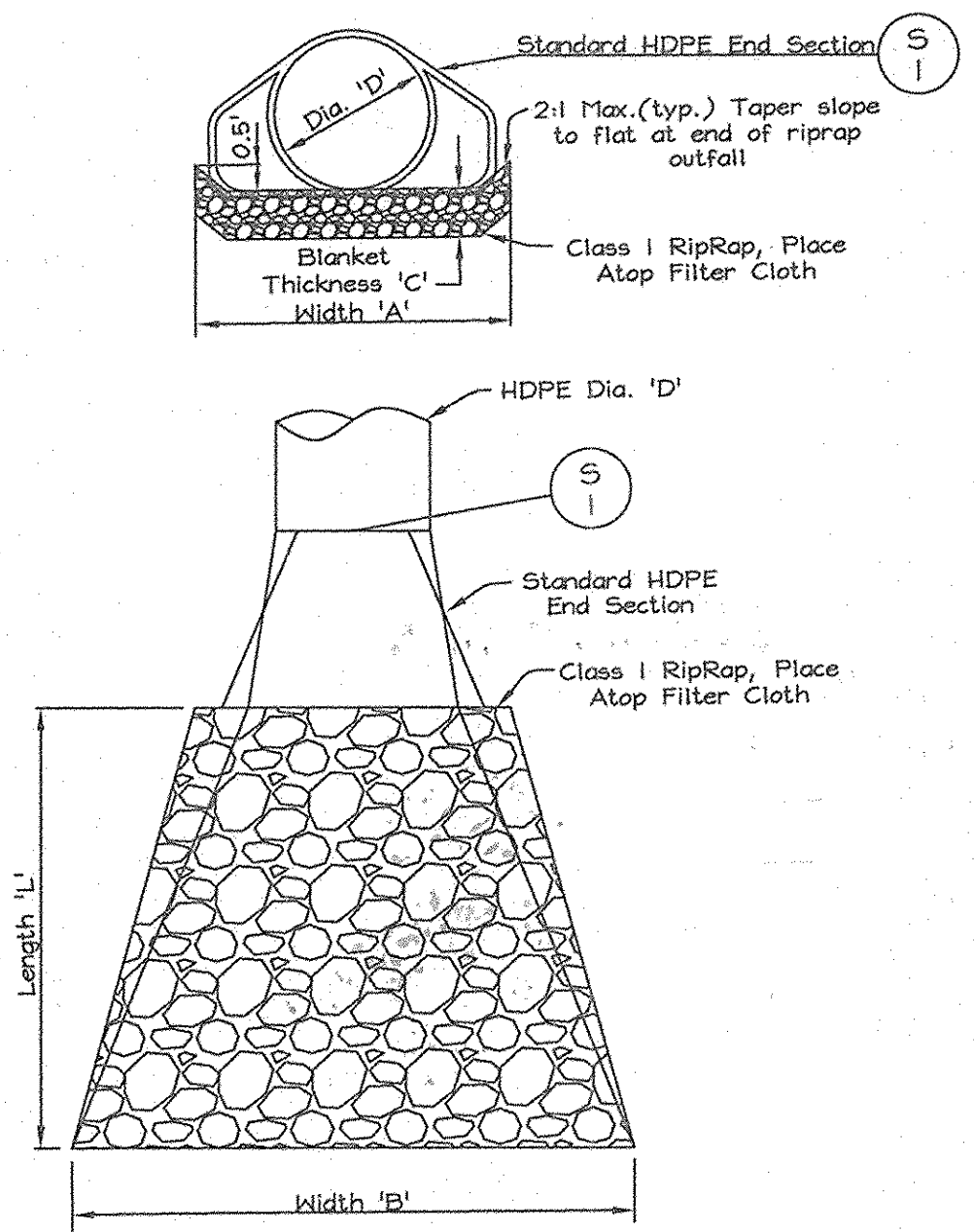
**STORM DRAIN DRAINAGE AREA MAP**  
SCALE: 1"=100'



**STORM DRAIN PROFILE**  
SCALE: 1"=50' HORIZONTAL 1"=5'  
VERTICAL 1"=5'

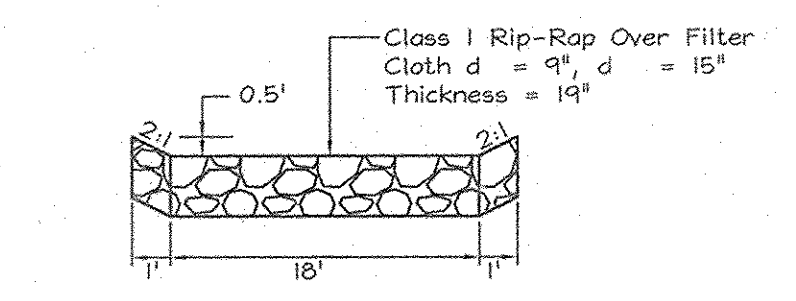


**STORM DRAIN PROFILE**  
SCALE: 1"=50' HORIZONTAL 1"=5'  
VERTICAL 1"=5'

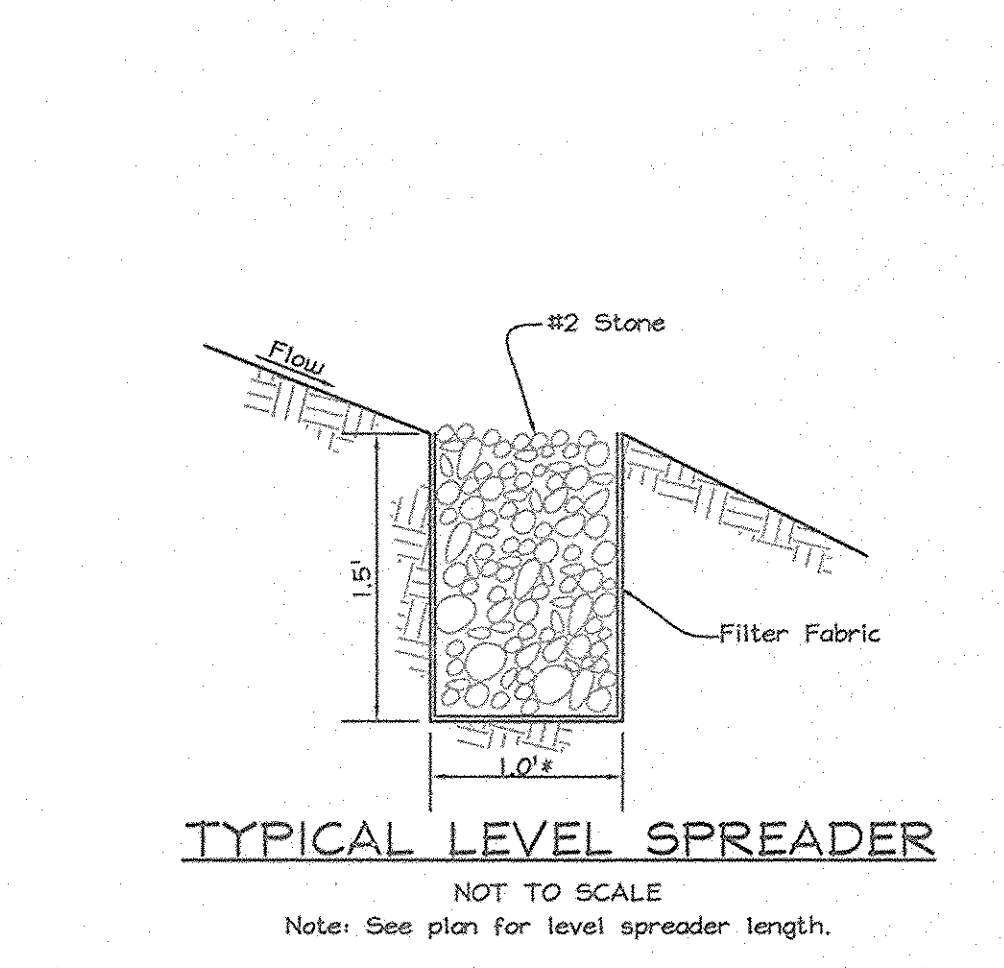
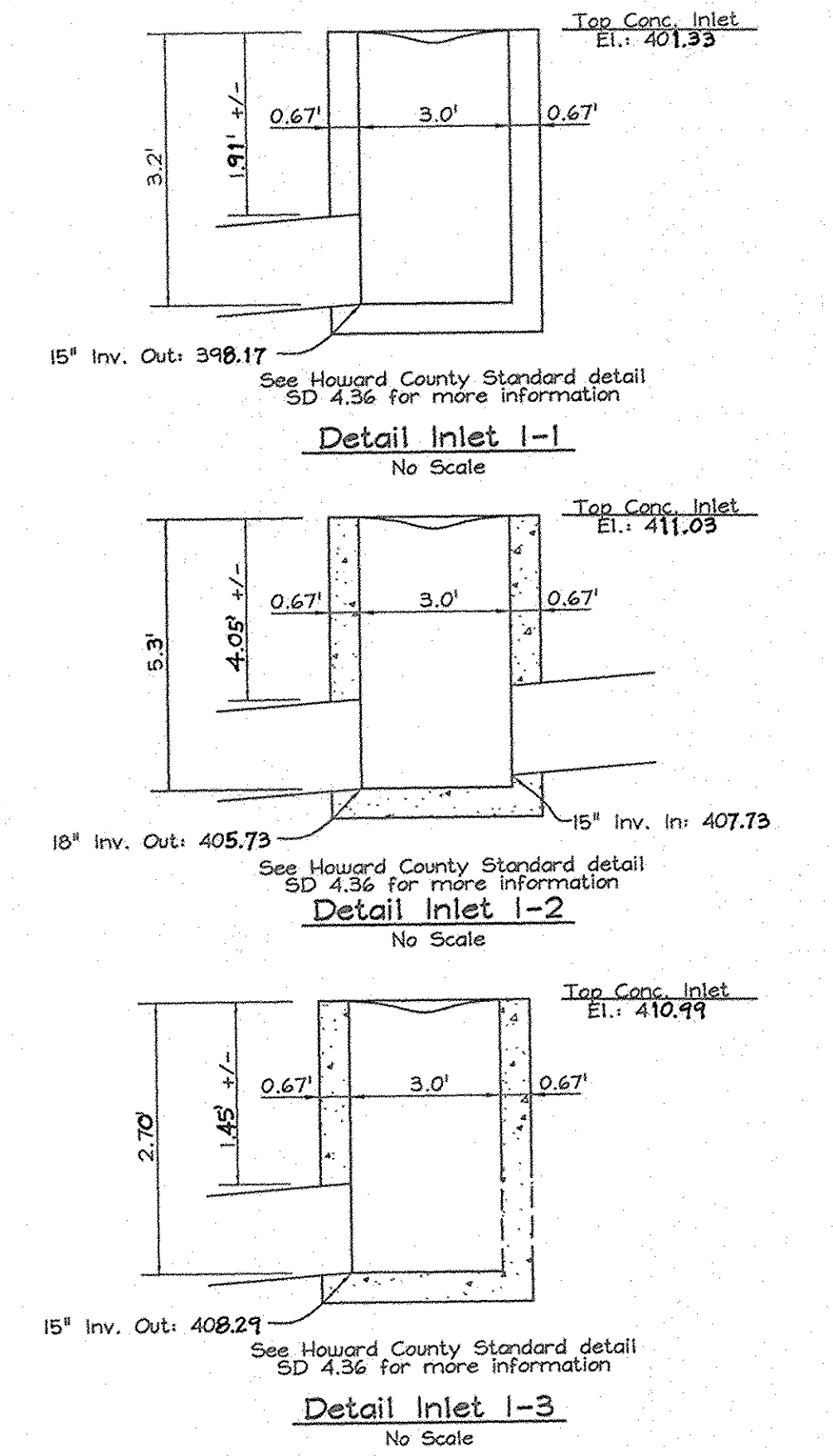


**S-1 OUTFALL DETAIL**  
Not to Scale  
NOTE: See plan sheet 2 for S-2 outfall dimensions.

Structure	G(c.f.s.)	D	L	A	W	C	d <sub>1</sub>	d <sub>2</sub>
S-1	2.2 c.f.s.	18"	10'	3'	11.5'	14"	15"	9.5"



**S-2 OUTFALL RIP-RAP DETAIL**  
SECTION 'B'-'B'  
Not to Scale



**OWNER**  
THE ESTATE OF  
FLORENCE UNDINE PRINCE LITCHFIELD-SEAL  
c/o JOSEPH LEONARD LITCHFIELD  
4749 Sellman Road  
Beltsville, Maryland 20705  
Telephone: (301) 937-3300

**CONTRACT PURCHASER/ DEVELOPER**  
PRINCE INVESTMENTS LLC  
3905 National Drive, Suite 105  
Burtonsville, Maryland 20866  
Telephone: (301) 476-7715

**STORM DRAIN DRAINAGE AREA MAP, PROFILES AND DETAILS PRINCE PROPERTY**  
LOTS 1 THRU 7  
AND OPEN SPACE LOTS 8 & 9  
TAX MAP 46 GRID 01 PARGEL 104  
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

**FSH Associates**  
Engineers Planners Surveyors  
6338 Howard Lane Elkridge, MD 21075  
Tel: 410-567-5200 Fax: 410-796-1562  
E-mail: info@fshri.com

DESIGN BY: MIT  
DRAWN BY: SAR  
CHECKED BY: ZYE  
SCALE: As Shown  
DATE: Feb 15, 2007  
N.O. No.: 3227  
SHEET No.: 7 of 10

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.  
*William Z. ...* 2-23-07  
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
*Cathy ...* 2/2/07  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*...* 2/26/07  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

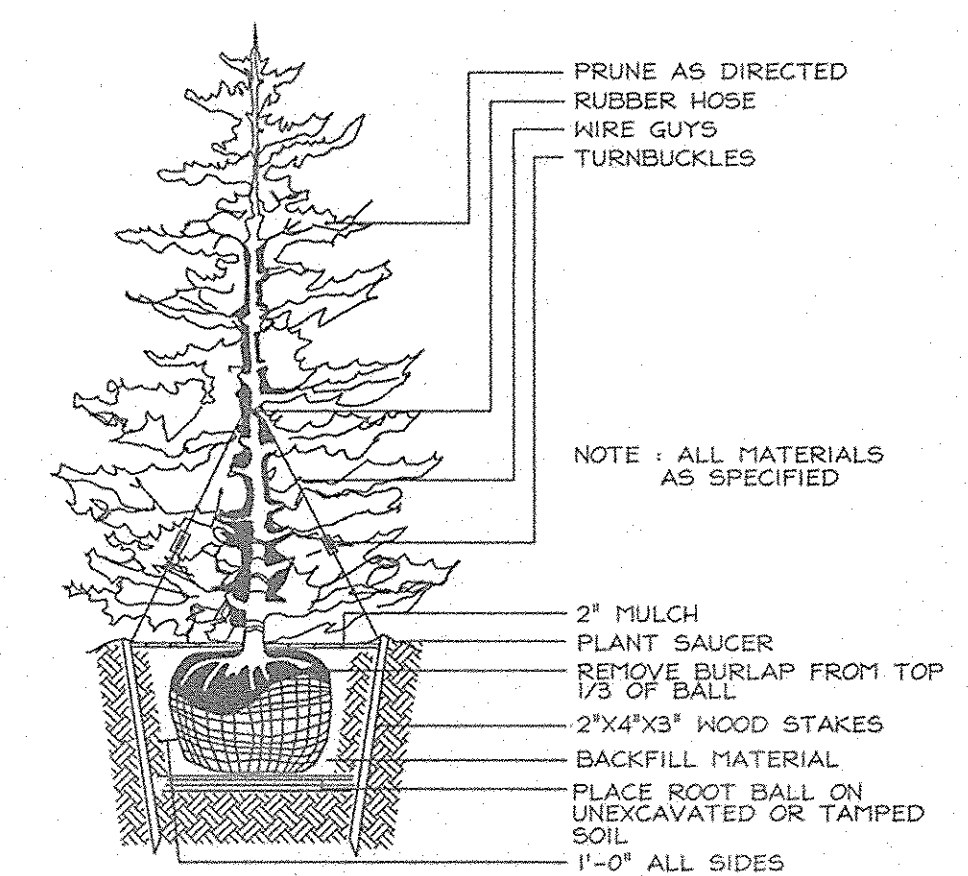
**As-Built**  
For Roads, Storm Drains,  
Erosion & Sediment Controls

*C. Brooke Miller* 10/11/2007  
Prop. L.S. #135 Date



**LEGEND**

- Existing contours ----- 552
- Existing Spot Elevation 302.3
- Existing Trees to Remain
- 25' Wetlands Buffer ----- WB
- Stream Bank Buffer ----- SB
- Wetland ----- W
- Stream -----
- Gas Electric Utility Pole
- Temporary Grading -----



TYPICAL EVERGREEN TREE PLANTING DETAIL  
NOT TO SCALE

**STREET TREE LANDSCAPE SCHEDULE**

KEY	QUAN.	BOTANICAL NAME	SIZE	NOTE
8	8	Acer Rubrum 'October Glory'	2 1/2"-3" Cal.	B & B
8	26	October Glory Red Maple	2 1/2"-3" Cal.	B & B
		Zelkova serrata	2 1/2"-3" Cal.	B & B
		Japanese Zelkova		

**As-Built**  
For Roads, Storm Drains,  
Erosion & Sediment Controls



C. Brooke Miller  
Prop. L.S. #195  
Date

**LANDSCAPE SCHEDULE**

KEY	QUAN.	BOTANICAL NAME	SIZE	NOTE
10	10	Quercus rubra	2 1/2"-3" Cal.	B & B
9	9	Liquidambar styraciflua	2 1/2"-3" Cal.	B & B
6	6	Sweetgum	2 1/2"-3" Cal.	B & B
6	6	Fagus grandifolia	2 1/2"-3" Cal.	B & B
8	8	American Beech		
8	8	Prunus serrulata 'Kwanzan'	8'-10' HT.	B & B
8	8	Kwanon Cherry		
8	8	Pinus strobus	5'-6' HT.	B & B
8	8	White Pine		

**OWNER**

THE ESTATE OF  
FLORENCE UNDINE PRINCE LITCHFIELD-SEAL  
c/o JOSEPH LEONARD LITCHFIELD  
4743 Sellman Road  
Beltsville, Maryland 20705  
Telephone: (301) 937-3500

**CONTRACT PURCHASER/  
DEVELOPER**  
PRINCE INVESTMENTS LLC  
3925 National Drive, Suite 105  
Burtonsville, Maryland 20666  
Telephone: (301) 476-7715

**LANDSCAPING AND STREET TREE PLAN  
PRINCE PROPERTY**

LOTS 1 THRU 7  
AND OPEN SPACE LOTS 8 & 9  
TAX MAP 46 GRID 01 PARCEL 104  
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

**SCHEDULE A  
PERIMETER LANDSCAPE EDGE**

CATEGORY	ADJACENT TO ROADWAYS		ADJACENT TO PERIMETER PROPERTIES			
	1	2	3	4	5	6
Perimeter/Frontage Designation	4	1	2	3	5	6
Linear Feet of Roadway Frontage/Perimeter	166	1262	1518	597	911	659
Credit for Existing Vegetation (Yes, No, Linear Feet)	No	Yes 1262 (0)	Yes 1518 (0)	No	No	Yes 508 (151)
Remaining Perimeter Length (Yes, No, Linear Feet)	No	No	No	No	No	No
Remaining Perimeter Length						
Number of Plants Required						
Shade Trees	1:50 3	-	-	1:60 10	1:60 15	1:60 3
Evergreen Trees	1:40 4	-	-	-	-	-
Shrubs	-	-	-	-	-	-
Number of Plants Provided						
Shade Trees	3	-	-	8	12	2
Evergreen Trees	4	-	-	4	4	-
Other Trees 2:1	-	-	-	4	2	1
Shrubs	-	-	-	-	-	-

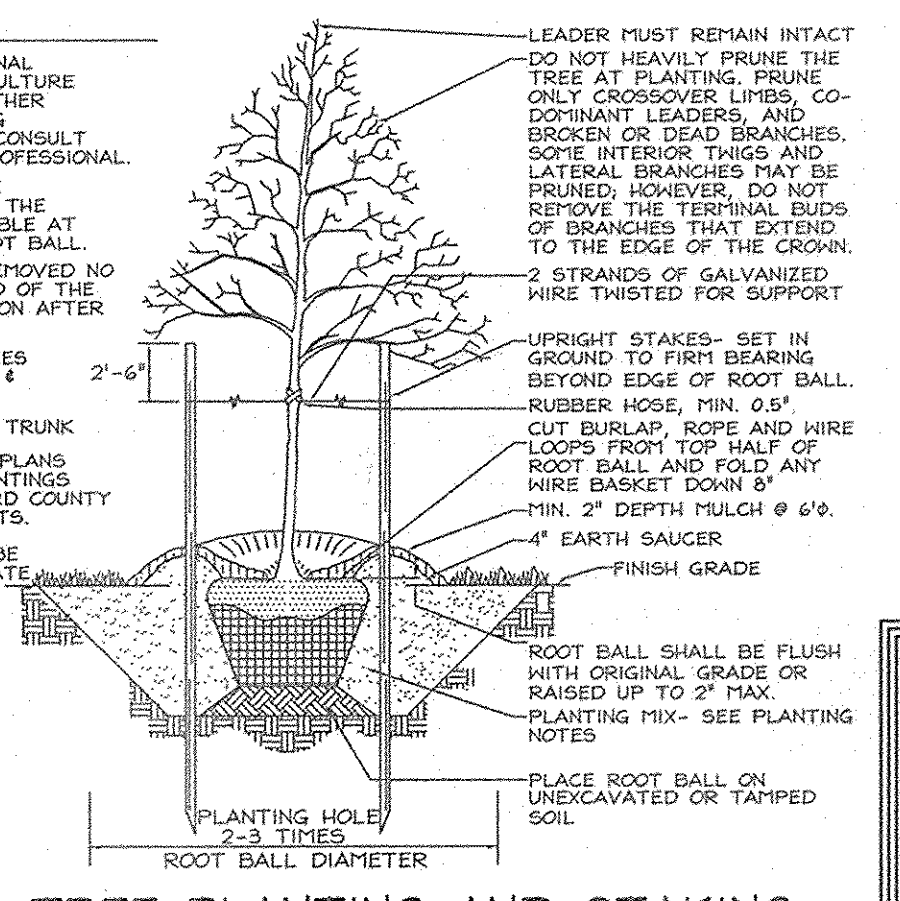
\* Existing woods to remain

**LANDSCAPE NOTES**

- At the time of installation, 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.
- 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.
- Landscaping for Lots 1-9 is provided in accordance with Section 16.124 of the Howard County code and the Landscapes Manual. Financial surety in the amount of \$9,900 (31 shade trees @ \$300 per shade tree and 4 evergreen trees @ \$150 per evergreen tree) will be posted with the Developers Agreement.

**NOTES**

- CONSULT INTERNATIONAL SOCIETY OF ARBORICULTURE GUIDELINES FOR FURTHER DETAILS OF PLANTING SPECIFICATIONS, OR CONSULT WITH A QUALIFIED PROFESSIONAL.
- EACH TREE SHALL BE PLANTED SUCH THAT THE TRUNK FLARE IS VISIBLE AT THE TOP OF THE ROOT BALL.
- STAKES SHALL BE REMOVED NO LATER THAN THE END OF THE FIRST GROWING SEASON AFTER PLANTING.
- PLACE UPRIGHT STAKES PARALLEL TO WALKS & BUILDINGS.
- KEEP MULCH 1" FROM TRUNK.
- SEE ARCHITECTURAL PLANS FOR ADDITIONAL PLANTINGS WHICH EXCEED HOWARD COUNTY MINIMUM REQUIREMENTS.
- TREES ARE NOT TO BE PLANTED OVER PRIVATE SEWAGE EASEMENT.

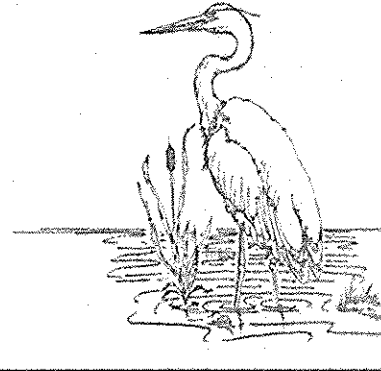


TYPICAL TREE PLANTING AND STAKING  
DECIDUOUS TREES UP TO 2-1/2" CALIPER  
NOT TO SCALE

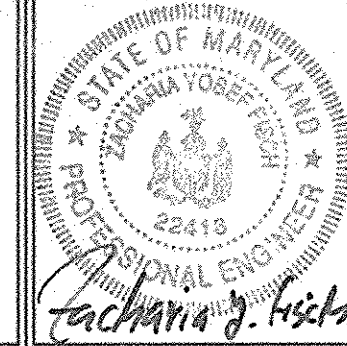
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.  
*Walter C. Beverly* 2-23-07  
CHIEF, BUREAU OF HIGHWAYS 105 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
*Condy Hamrick* 2/23/07  
CHIEF, DIVISION OF LAND DEVELOPMENT 118 DATE  
*Chris Williams* 2/20/07  
CHIEF, DEVELOPMENT ENGINEERING DIVISION 118 DATE

**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.  
*Prince Investments, L.L.C.* 2/15/07  
SIGNATURE OF DEVELOPER DATE



**EXPLORATION RESEARCH, INC.**  
ENVIRONMENTAL CONSULTANTS  
LANDSCAPE ARCHITECTS  
6339 HOWARD LANE  
ELK RIDGE, MARYLAND 21075  
TEL: (410) 567-5210 FAX: (410) 798-1568

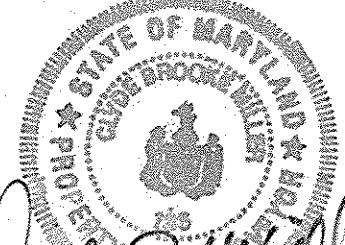


**FSH Associates**  
Engineers Planners Surveyors  
8339 Howard Lane Elkridge, MD 21075  
Tel: 410-567-5200 Fax: 410-798-1562  
E-mail: info@fshri.com

DESIGN BY: MT/RAB  
DRAWN BY: RAB  
CHECKED BY: ZYF  
SCALE: 1"=100'  
DATE: Feb 15, 2007  
N.O. No.: 3227  
SHEET No.: 8 OF 10

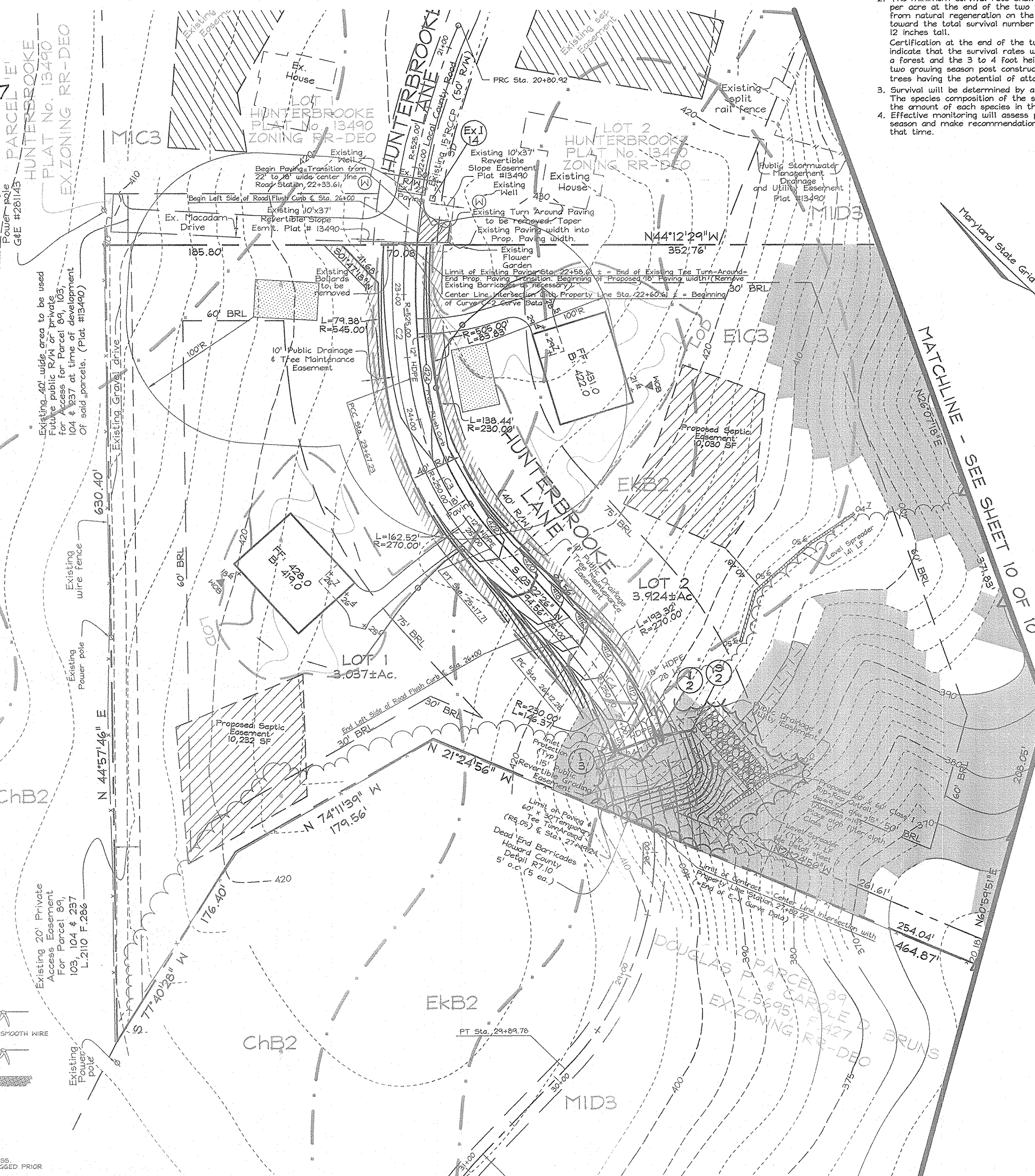


# As-Built For Roads, Storm Drains, Erosion & Sediment Controls



C. Brooke Miller  
Prop. L.S. #195

10/11/2007  
Date



### Reforestation Area Monitoring Notes

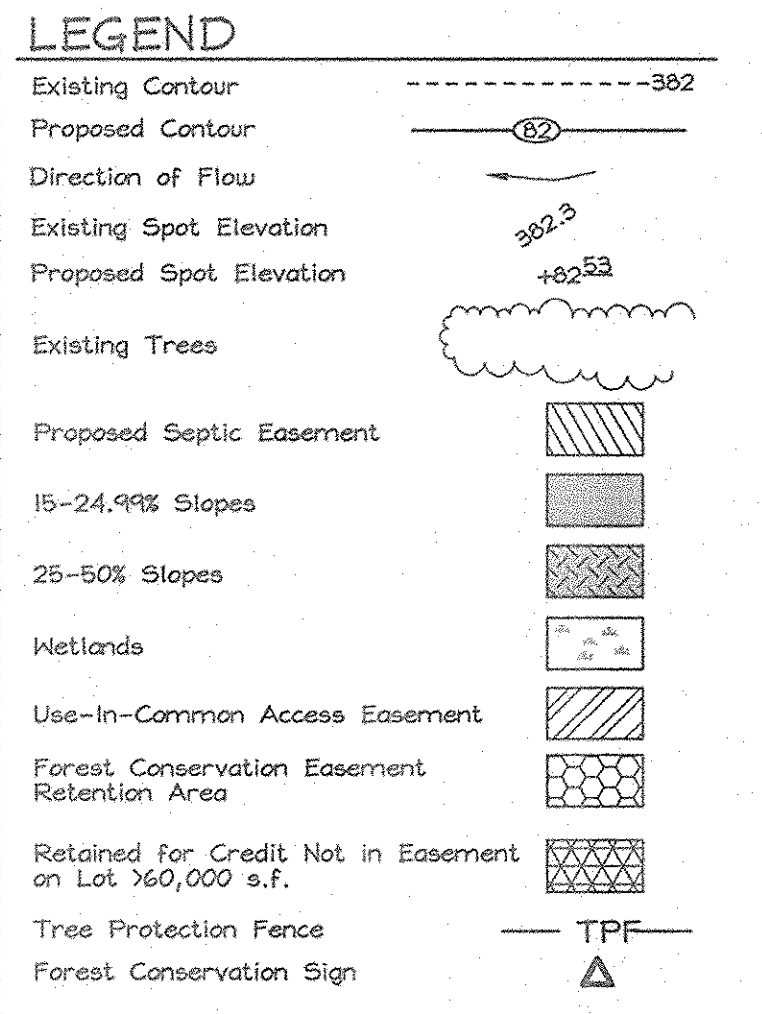
- Monthly visits during the first growing season are to assess the success of the plantings and to determine if supplemental watering, pest control or other actions are necessary. Early spring visits will document winter kill and autumn visits will document summer kill.
- The minimum survival rate shall be 75% of the total number of trees planted per acre at the end of the two year maintenance period. Wild tree seedlings from natural regeneration on the planting site may be counted up to 50% toward the total survival number if they are healthy native species at least 12 inches tall.
- Certification at the end of the two-year post construction period must indicate that the survival rates will result in a 100 trees per acre ratio for a forest and the 3 to 4 foot height standard for whips by the end of the two growing season post construction period, with at least 50% of those trees having the potential of attaining a 2" caliper DBH within 7 years.
- Survival will be determined by a stratified random sample of the plantings. The species composition of the sample population should be proportionate to the amount of each species in the entire planting to be sampled.
- Effective monitoring will assess plant survivability during the first growing season and make recommendations for reinforcement planting if required at that time.

### FOREST RETENTION ON LOTS >60,000 S.F. TABLE

LOT	AREA (AC.)
4	0.76
5	1.43
6	1.25
7	0.76
<b>TOTAL</b>	<b>4.20</b>

### FOREST CONSERVATION WORKSHEET

Net Tract Area	Acres
A. Total Tract Area	27.80
B. Area Within 100 Year Floodplain	0.36
C. Other deductions	---
D. Net Tract Area	27.44
Zoning Use Category: RESIDENTIAL-RURAL MED. DENSITY	
Land Use Category	
E. Afforestation Minimum (20 % x D)	5.49
F. Conservation Threshold (25 % x D)	6.86
Existing Forest Cover	
G. Existing Forest on Net Tract Area	12.72
H. Forest Area Above Conservation Threshold Breakeven Point	5.86
I. Forest Retention Above Threshold with no Mitigation	8.03
J. Clearing Permitted without Mitigation	4.69
Proposed Forest Clearing	
K. Forest Areas to be Cleared	5.02
L. Forest Areas to be Retained	7.70*
Planting Requirements	
M. Reforestation for Clearing Above Threshold	1.26
N. Reforestation for Clearing Below the Threshold	0
P. Credit for Retention Above Conservation Threshold	0.84
Q. Total Reforestation Required	0.42
R. Total Afforestation Required	0
S. Total Reforestation and Afforestation Requirement	0.42

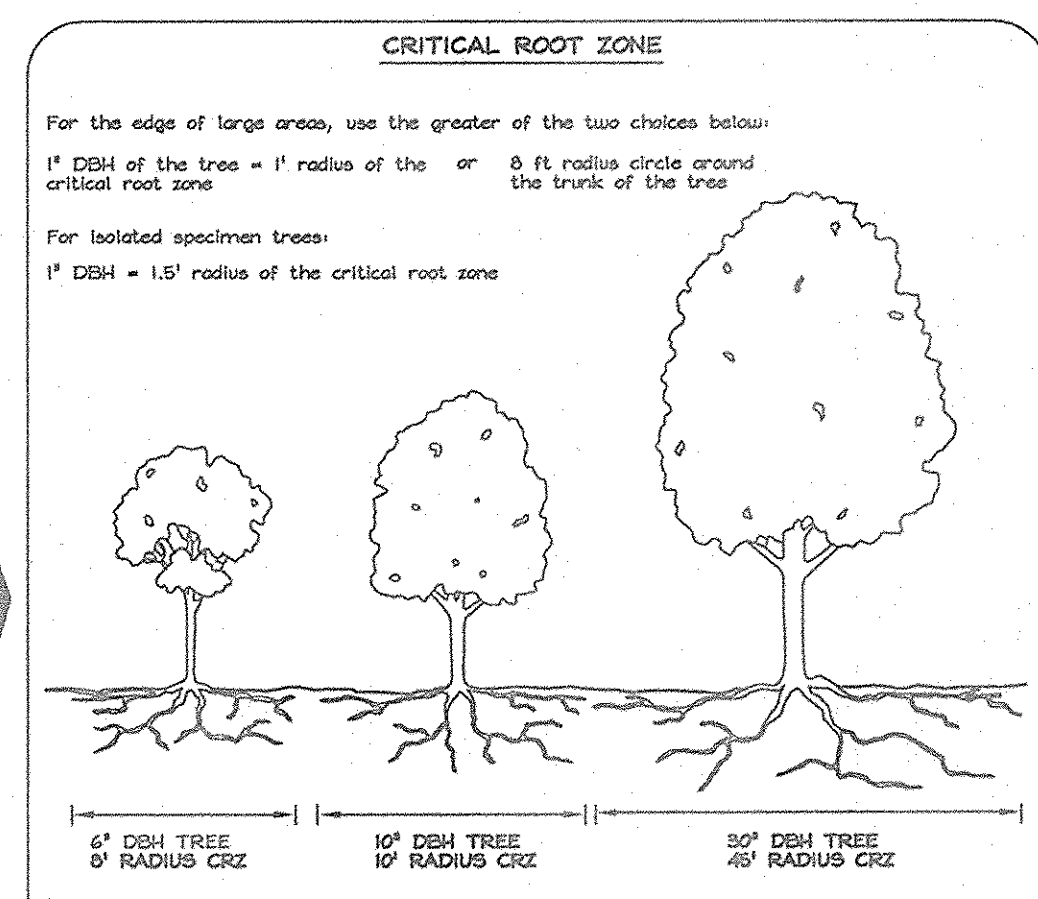


### Forest Conservation Narrative

This Forest Conservation Plan was prepared in accordance with the Howard County Forest Conservation Manual. The subject property has a net tract area of 27.44 Ac. with 0.36 Ac. of floodplain. There is 12.72 Ac. of forest in the net tract. There are several specimen trees identified on the site, which will be preserved where possible. There are numerous other trees over 30" DBH, but they have not been called out individually due to their being located on steep slopes and other areas that will not have any impacts associated; only those in the vicinity of development are shown.

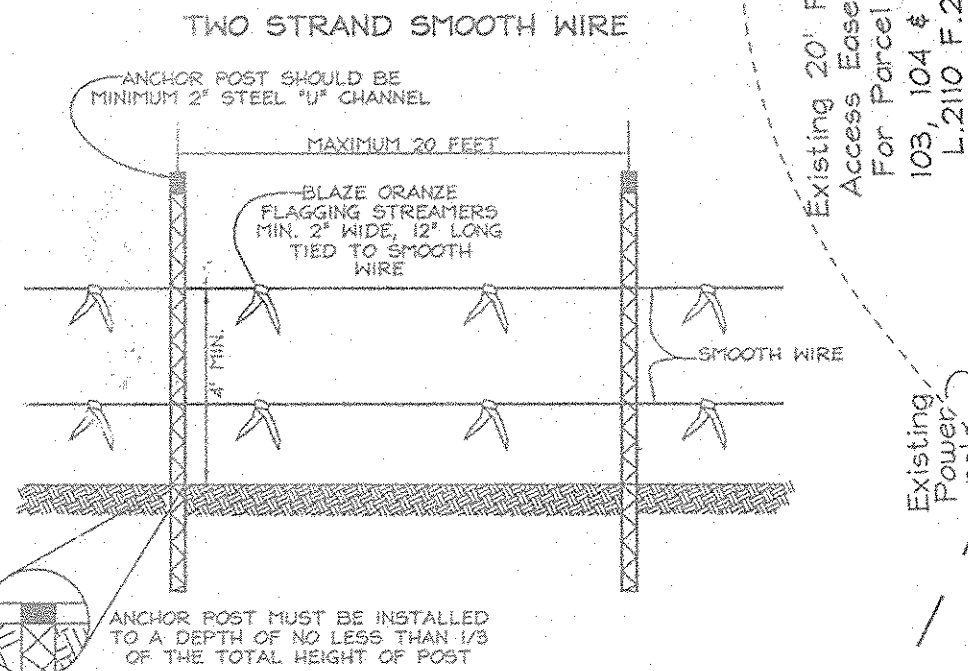
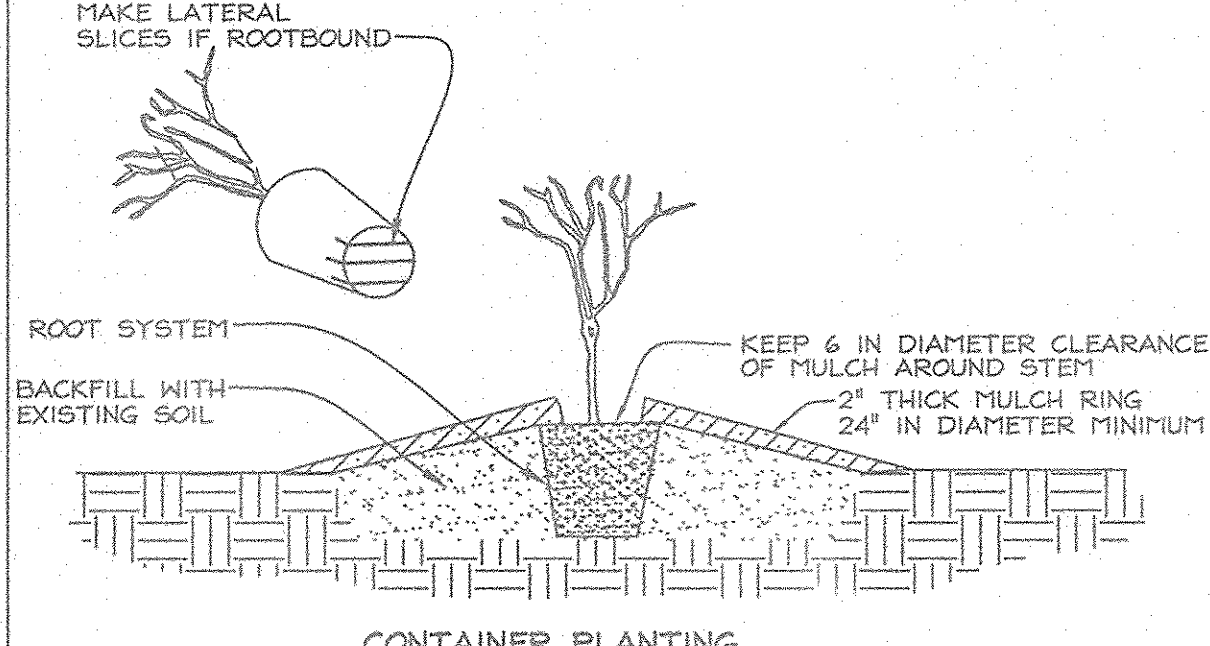
Forest has been retained to the greatest extent possible. Forest totaling 3.50 Ac will be retained in two easements on open space lots, and 4.20 Ac is retained on lots larger than 60,000 s.f. without requiring an easement, as shown on the plan. Lots 4, 5, 6 and 7 contain retention areas, as detailed on the FCP sheets. Several areas, though considered cleared for forest conservation calculations, will be preserved as well. Total mitigation required is 0.42 Ac, though by agreement with the Department of Planning and Zoning all the priority area on Open Space Lot 9 will be planted.

The two easements will contain mixed areas of retention and reforestation. Easement #1 will contain 2.36 Ac of retention and 0.51 Ac of reforestation. The plantings, located in Priority Areas, will reflect existing forest make-up appropriate to the location. Easement #2 will contain 1.14 Ac of retention and 0.26 Ac of uncredited forested Floodplain Retention, in order to have a contiguous area meeting all requirements for easement dimensions. The total forest conservation easement obligation met on this site is 4.01 Ac, with a total forest conservation surety amount of \$41,600.00 (retention of 3.50 Ac/152,460 sf X \$0.20/sf = \$30,492.00 and reforestation of 0.51 Ac/22,216 sf X \$0.50/sf = \$11,108.00). On lot retention of 4.20 Ac, as noted above, is not placed into easement, and therefore does not require surety. A substantial planting obligation would be incurred without this on-lot retention, as allowed by current DPZ policy.



### Reforestation Area Planting Notes

- Initial planting inspection and certification required. Planting contractor to notify ERI qualified professional 24 hours in advance of planting.
- Reforestation areas may be planted as soon as reasonable to do so. Late winter- early spring plantings are preferred. Earliest planting dates will vary from year to year but planting may generally begin as soon as the ground is no longer frozen. Alternate planting dates may be considered as conditions warrant.
- Soil amendments and fertilization recommendations will be made based upon the results of soil analysis for nitrogen, phosphorus, potassium, organic matter content and pH. If required, fertilizer will be provided using a slow release, soluble 16-8-16 analysis designed to last 5-8 years contained in polyethylene perforated bags such as manufactured by ADCO Works, P.O. Box 310 Hollis, N.Y. 11423 or approved equal.
- Plant materials shall be planted in accordance with the planting diagram, planting details and planting schedule.
- Plant stock must be protected from desiccation at all times prior to planting. Materials held for planting shall be moistened and placed in cool shaded areas until ready for placement.
- Planting materials shall be nursery grown and inspected prior to planting. Plants not conforming to the American Standards for Nursery Stock specifications for size, form, vigor, or roots, or due to trunk wounds, breakage, desiccation, insect or disease must be replaced.
- Newly planted trees may require watering at least once per week during the first growing season depending on rainfall in order to get established. The initial planting operation should allow for watering during installation.
- Mulch shall be applied in accordance with the diagram provided and shall consist of composted, shredded hardwood bark mulch, free of weed allopath and other debris.
- Planting holes should be excavated to a minimum diameter of 2.5 to 3 times the diameter of the root ball or container. Mechanical angling is preferred with scarification of the sides of each hole.
- All nursery stock to be sprayed with deer repellent containing Bitrex such as Repellex All nursery stock to be grown with deer repellent tablets in growing medium, such as Repellex Tablets.



- NOTES:
- FOREST PROTECTION DEVICE ONLY.
  - RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
  - BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICES.
  - ROOT DAMAGING SHOULD BE AVOIDED.
  - PROTECTIVE SIGNAGE MAY ALSO BE USED.
  - DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

### APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 2/20/07  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 3/1/07

### SPECIMEN TREES

NO.	DBH	COMMON NAME	SCIENTIFIC NAME	CONDITION
ST-1	34"	Yellow poplar	Liriodendron tulipifera	Fair
ST-2	30.5"	Yellow poplar	Liriodendron tulipifera	Fair
ST-3	32"	Yellow poplar	Liriodendron tulipifera	Fair
ST-4	38"	Yellow poplar	Liriodendron tulipifera	Poor
ST-5	36"	Yellow poplar	Liriodendron tulipifera	Fair
ST-6	35"	Yellow poplar	Liriodendron tulipifera	Good
ST-7	31"	Yellow poplar	Liriodendron tulipifera	Fair
ST-8	33"	Yellow poplar	Liriodendron tulipifera	Fair
ST-9	34"	Yellow poplar	Liriodendron tulipifera	Fair
ST-10	37"	Yellow poplar	Liriodendron tulipifera	Fair

All trees should be retained.

### FOREST CONSERVATION EASEMENT TABLE

EASEMENT	TYPE	AREA (AC.)
1	Retention Reforestation	2.36
		0.51
2	Retention Floodplain Retention	1.14
		0.26
<b>TOTALS</b>	<b>Retention Reforestation</b>	<b>3.50</b>
	<b>Floodplain Retention (Not for credit)</b>	<b>0.51</b>
		<b>0.26</b>
	<b>Total Easement Area</b>	<b>4.27</b>



**EXPLORATION RESEARCH, INC.**  
 ENVIRONMENTAL CONSULTANTS  
 LANDSCAPE ARCHITECTS  
 6509 ROUTE 142  
 HUNTERSVILLE, MARYLAND 21076  
 TEL: (410) 607-6529 FAX: (410) 798-1682

**OWNER**  
 THE ESTATE OF FLORENCE UNDINE PRINCE LITCHFIELD-SEAL  
 c/o JOSEPH LEONARD LITCHFIELD  
 4743 Sellman Road  
 Beltsville, Maryland 20705  
 Telephone: (301) 937-3500

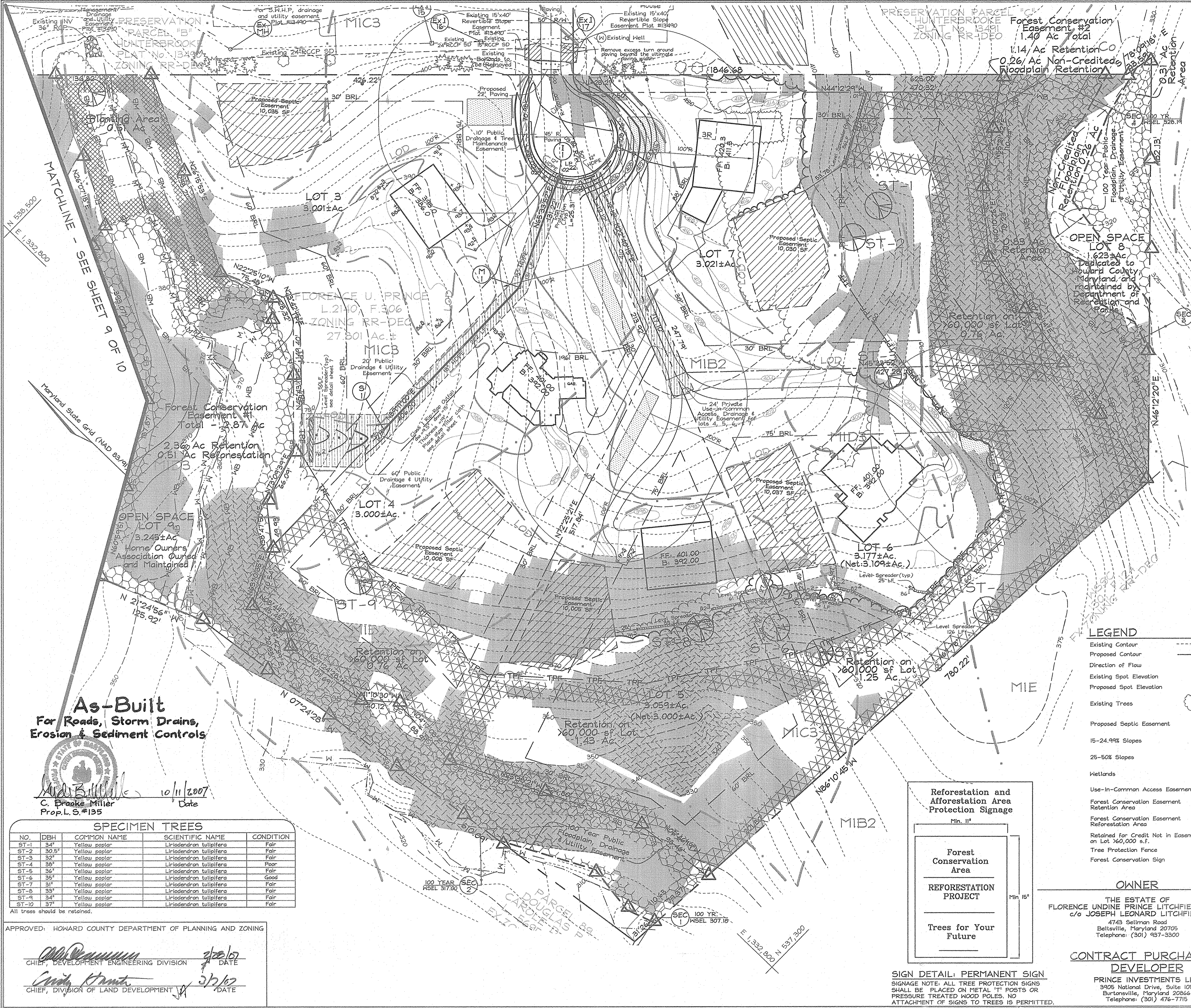
**CONTRACT PURCHASER/ DEVELOPER**  
 PRINCE INVESTMENTS LLC  
 3925 National Drive, Suite 105  
 Burtonsville, Maryland 20866  
 Telephone: (301) 476-7715

### FOREST CONSERVATION PLAN

**PRINCE PROPERTY**  
 LOTS 1 THRU 7  
 AND OPEN SPACE LOTS 8 & 9  
 TAX MAP 46 GRID 01 PARCEL 104  
 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

DESIGN BY: **RAB**  
 DRAWN BY: **RAB**  
 CHECKED BY: **ZYF**  
 SCALE: 1"=50'  
 DATE: Feb 15, 2007  
 P.O. No.: 3227  
 SHEET No.: 9 OF 10

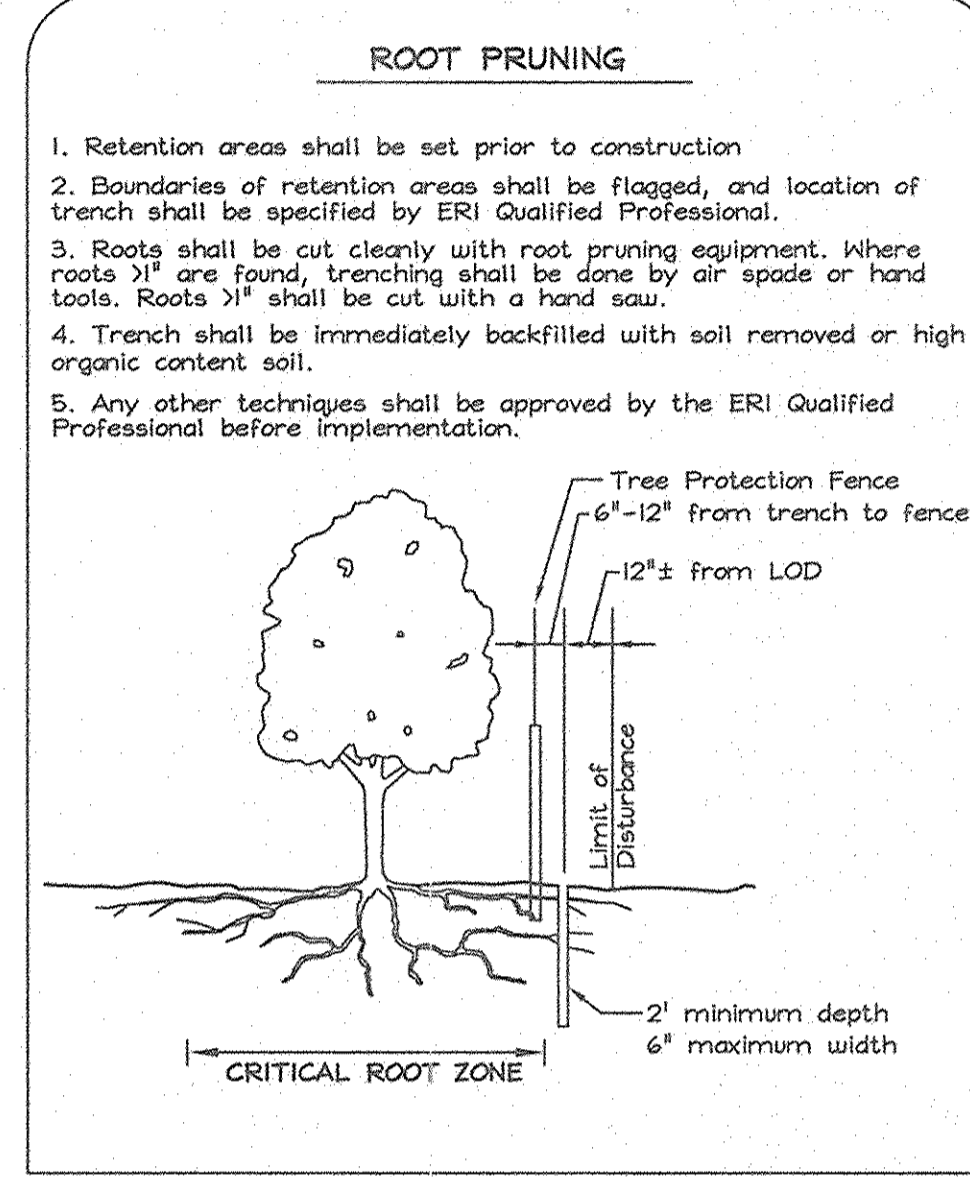
**FSH Associates**  
 Engineers Planners Surveyors  
 6339 Howard Lane Elkridge, MD 21075  
 Tel: 410-777-5200 Fax: 410-798-1562  
 E-mail: info@fsh.com



**FOREST RETENTION ON LOTS**  
**>60,000 S.F. TABLE**

LOT	AREA (AC.)
4	0.76
5	1.43
6	1.25
7	0.76
<b>TOTAL</b>	<b>4.20</b>

- Soil Protection Zone Notes**
- The Soil Protection Zone shall include all areas contained inside the Limit of Disturbance.
  - 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.
  - No construction activity is permitted within the Soil Protection Zone.
  - 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 Schedule, shown on this plan.
  - Root pruning shall occur prior to the beginning of construction.
  - 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.
  - Prior to construction, the Limits of Disturbance shall be marked and the ERI Professional shall determine which trees will need preventative treatment or removal.
  - Tree maintenance and removal shall be undertaken by a qualified MD Tree Expert to ensure damage to surrounding trees is minimized.
  - 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.



**REFORESTATION AREA : 0.51 AC**  
 350 TPA - 2'-3" Whip planting X 0.51 Ac. = 174 trees

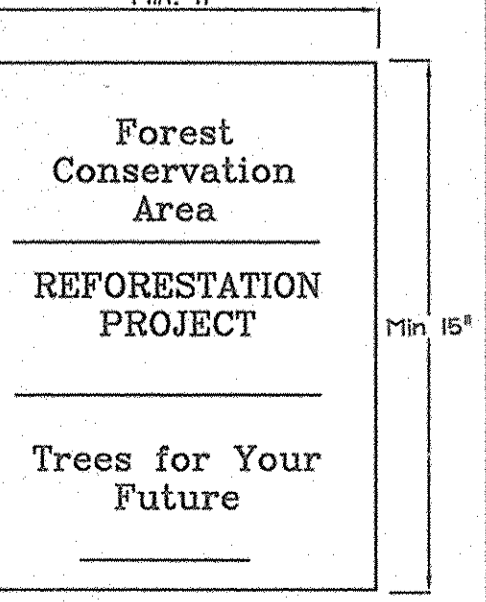
Qty	Botanical Name	Common Name	Min. Size	Spacing	Notes
35	<i>Acer rubrum</i>	Red Maple	WHIP 2'-3'	11' o.c.	1-3 Gallon Container Growth
35	<i>Amelanchier canadensis</i>	Serviceberry	WHIP 2'-3'	11' o.c.	Tree Shelters
35	<i>Nyssa sylvatica</i>	Black Gum	WHIP 2'-3'	11' o.c.	
35	<i>Quercus palustris</i>	Pin Oak	WHIP 2'-3'	11' o.c.	
35	<i>Pinus virginiana</i>	Virginia Pine	WHIP 2'-3'	11' o.c.	

- Forest Tree Protection and Management Notes**
- Tree protection devices shall be installed prior to any grading or land clearing.
  - 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.
  - Provide maintenance to tree protection devices and signage to maintain their integrity throughout the duration of the project.
  - Attachment of signs to tree protection devices to maintain their integrity throughout the duration of the project.
  - Any significant changes made to the Forest Conservation Plan shall be made with the prior approval of the Howard County Dept of Planning and Zoning.
  - No burial of discarded material is permitted within the Forest Conservation and Planting areas.
  - No open burning within 100 feet of wooded areas is permitted.
  - Post construction phase:
    - Inspect existing trees around the perimeter of the site for signs of root or trunk damage and excessive soil compaction.
    - Remove dead or dying trees or evaluate for hazard tree removal.
    - All temporary forest protection devices will be removed after construction.
    - Following completion of construction, prior to use, the county inspector shall inspect the entire site for compliance with this Forest Conservation Plan.
- licensed Arborist or Forester should be retained for this service as needed.

**LEGEND**

- Existing Contour
- Proposed Contour
- Direction of Flow
- Existing Spot Elevation
- Proposed Spot Elevation
- Existing Trees
- Proposed Septic Easement
- 15-24.99% Slopes
- 25-50% Slopes
- Wetlands
- Use-In-Common Access Easement
- Forest Conservation Easement Retention Area
- Forest Conservation Easement Reforestation Area
- Retained for Credit Not in Easement on Lot >60,000 s.f.
- Tree Protection Fence
- Forest Conservation Sign

**Reforestation and Afforestation Area Protection Signage**  
 Min. 11"

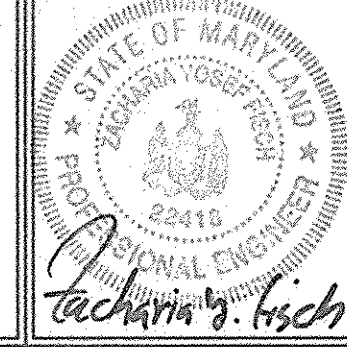


**SIGN DETAIL: PERMANENT SIGN**  
 SIGNAGE NOTE: ALL TREE PROTECTION SIGNS SHALL BE PLACED ON METAL 1" POSTS OR PRESSURE TREATED WOOD POLES. NO ATTACHMENT OF SIGNS TO TREES IS PERMITTED.



**EXPLORATION RESEARCH, INC.**  
 ENVIRONMENTAL CONSULTANTS  
 LANDSCAPE ARCHITECTS  
 8200 WOODLAND LAKE  
 BELTSVILLE, MARYLAND 21075  
 TEL: (410) 687-8210 FAX: (410) 798-1562

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 E-mail: info@fsh.com

**As-Built**  
 For Roads, Storm Drains,  
 Erosion & Sediment Controls

*C. Brooks Miller*  
 C. Brooks Miller  
 Prop. L.S. #135  
 10/11/2007  
 Date

**SPECIMEN TREES**

NO.	DBH	COMMON NAME	SCIENTIFIC NAME	CONDITION
ST-1	34"	Yellow poplar	<i>Liriodendron tulipifera</i>	Fair
ST-2	30.5"	Yellow poplar	<i>Liriodendron tulipifera</i>	Fair
ST-3	32"	Yellow poplar	<i>Liriodendron tulipifera</i>	Fair
ST-4	38"	Yellow poplar	<i>Liriodendron tulipifera</i>	Poor
ST-5	34"	Yellow poplar	<i>Liriodendron tulipifera</i>	Fair
ST-6	35"	Yellow poplar	<i>Liriodendron tulipifera</i>	Good
ST-7	31"	Yellow poplar	<i>Liriodendron tulipifera</i>	Fair
ST-8	33"	Yellow poplar	<i>Liriodendron tulipifera</i>	Fair
ST-9	34"	Yellow poplar	<i>Liriodendron tulipifera</i>	Fair
ST-10	37"	Yellow poplar	<i>Liriodendron tulipifera</i>	Fair

All trees should be retained.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*John D. ...* 3/2/07  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*Caroly Hunt* 3/2/07  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE