

GENERAL NOTES

- I. Design Narration
  - a. Natural Resource Protection and Enhancement
 

As an R-ED development, the proposed development is graded centrally within the 122.74 acre tract of land. The central part of the property, and where the development is to be located is bordered on the east and west by two small tributaries. These tributaries drain south to north into the Patapsco River. The project proposes to avoid all impacts to the streams and associated buffers with exception of temporary impacts required by utilities, such as storm drain and sewer and a possible foot trail stream crossing. The project will also minimize impacts to steep slopes by containing the development out of steep slope areas with exception of minor utility grading, installation of sediment controls, and a few isolated areas associated with lot grading.
  - b. The project as described in 'a.' above will drain stormwater to two small tributaries; one to the east and one to the west. Natural drainage patterns associated with these drainage areas to each tributary will be held as close as possible.
  - c. The project will include Environmental Site Design (ESD) and planning techniques for all impervious surfaces which will include bio-retention, porous paving sidewalks and driveways, and if necessary rain barrels for the roof structures.
  - d. Onsite erosion and sediment controls will be provided including sediment traps, perimeter earth dikes, silt fence and super silt fence. Since the site will implement ESD in its entirety no regional or onsite stormwater management ponds are proposed and will not be included in the design of sediment controls.
2. The existing topography is taken from aerial survey prepared by Aero-Metric dated 1-25-09. Contour Interval = two feet.
3. The coordinates shown hereon are based upon the Howard County Geodetic Control which is based upon the Maryland State Plane Coordinate System. Howard County Monument Nos. 17-FA and 17-F7 were used for this project.
4. Water shall be public. Contract number not yet assigned.
5. Sewer shall be public. Contract number not yet assigned.
6. Stormwater management shall be provided by microbio-retention facilities located on private lots.
7. Existing utilities are based on the aerial survey and field survey by Ben Dyer Associates.
8. The floodplain study for this project was prepared by Ben Dyer Associates, dated February, 2012.
9. The wetlands delineation study for this project was prepared by Ben Dyer Associates, dated December, 2012.
10. The geotechnical report for this project was prepared by Hilles-Carnes Engineering Associates, dated January 4, 2012.
11. General Site Data:  
 Location: Tax Map: 17, grids 5, 6, 11 and 12  
 Election District: 2nd  
 Existing Zoning: R-20 and R-ED per the 2/02/04 Comprehensive Zoning Plan  
 Gross Tract Area: 122.7447 acres  
 Area of 100-year Floodplain: 8.43 acres (includes FP in SHA FC Easement(3.43 acres outside of SHA FC Easement))  
 Area of Steep Slopes Outside the Floodplain: 16.07 acres  
 Net Tract Area: 48.24 acres  
 Area of Proposed Buildable Lots : 35.34 Acres  
 Area of Open Space Required: 50% x 122.74= 61.40 acres  
 Area of Open Space Provided: 77.74 acres= 63.4% (includes 55.65 acres. SHA FC Easement)  
 Recreational Open Space Required: 300 SF x 195 lots= 58,500 SF (1.3 acres)  
 Recreational Open Space Provided: 61,015 SF or 1.4 acres  
 Area of Proposed Right-of-Way: 4.66 acres  
 Number of Lots Permitted (48.24 Net Acres x 2/acre): 196 buildable lots plus 1 density transferred for R-20 Development = 197\*  
 Number of Lots Proposed: 195 buildable lots  
 Total Approximate Disturbed Area: 54.22 acres (49.76 acres on-site/4.46 acres off-site)  
 Applicable DFZ File Reference(s): ECP-13-024, Walters WP-13-165, PB Case No. 403  
 Proposed Use: Single Family Detached Residential (195 fee-simple lots)  

\*This subdivision must transfer one unit to develop R-ED lot sizes in the R-20 Zoned portion. In accordance with Section 108.F.2 a bonus of up to 10% more units than achievable in the R-ED Zoned land is allowed. The developer, however, has optioned to transfer only one unit.
12. In accordance with Section 108.F.1-3 of the Howard County Zoning Regulations, the applicant will be transferring one development right from a sending parcel in order to develop the entire subdivision under the R-ED bulk regulations as well as to gain one additional development lot.
13. Approval of this ECP does not constitute an approval of any associated development plans for this site. Further comments will be generated upon review of future subdivision and/or site development plans or other applicable plans.
14. Grading and disturbance of environmental features as applicable for outfall locations and/or utility construction is considered essential disturbance. No other grading, disturbance or vegetative removal is permitted in wetlands, streams, their buffers, flood plain or forest conservation easement areas.

# ENVIRONMENTAL CONCEPT PLAN

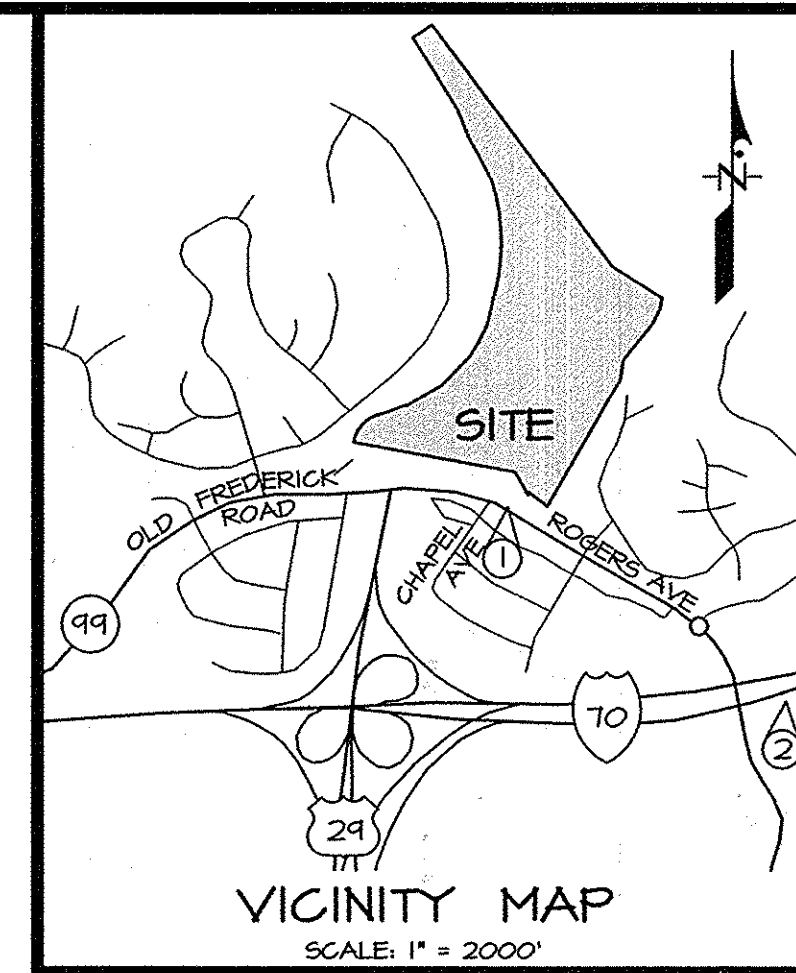
## THE ESTATES

### AT PATAPSCO PARK

DRAWING INDEX		
NAME	SHEET NO.	DRAWING NO.
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OVERALL LAYOUT, GRADING, SWM, SEDIMENT CONTROL PLAN	2 OF 14	4.002-Y
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CONCEPTUAL FOREST CONSERVATION PLAN 1	10 OF 14	54.004-Y
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CONCEPTUAL FOREST CONSERVATION PLAN 4	13 OF 14	54.007-Y
CONCEPTUAL FOREST CONSERVATION PLAN DETAILS	14 OF 14	54.008-Y

**CONTROL POINTS:**  
 1) HOWARD COUNTY 17-F7  
 NAD83 (Adj. 07)  
 N 545829.6904  
 E 1363088.3419  
 2) HOWARD COUNTY 17-FA  
 NAD83 (Adj. 07)  
 N 544448.4276  
 E 1364626.7188

**ADC MAP COORDINATES:**  
 N 535,200 E 850,500  
 MAP PAGE 12, GRID C-3



APPROVED, DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 10-14-14  
 Chief, Development Engineering Division *[initials]* Date

*[Signature]* 10/28/14  
 Chief, Division of Land Development *[initials]* Date

COVER SHEET  
 for  
 ENVIRONMENTAL CONCEPT PLAN  
 EXISTING PARCELS 1-4  
 (PROPOSED LOTS 1-188 and  
 OPEN SPACE LOTS 189 & 190)  
**THE ESTATES AT PATAPSCO PARK**  
 DISTRICT No. 2  
 HOWARD COUNTY, MARYLAND

ECP-13-024  
 1 SHEET OF 14

OWNER/APPLICANT  
 PATAPSCO ASSOCIATES, LP  
 1216 ARBIE ROAD  
 SILVER SPRING, MD 20904  
 ATTN: MR. SIMON ROSENBERG  
 (301) 622-0645

<p><small>PROFESSIONAL CERTIFICATION</small>                  I HEREBY 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.                  NORRIN A. MALIBETA, PE                  LICENSE NO. 34788                  EXPIRATION DATE: 10/22/15</p>		<p>1721 WOODMORE ROAD, SUITE 200                  MITCHELLVILLE, MARYLAND 20721</p> <p><b>BEN DYER ASSOCIATES, INC.</b>                  Engineers / Surveyors / Planners                  TELEPHONE (800) 430-2000</p> <p><small>COPYRIGHT © 2012 BEN DYER ASSOCIATES, INC.                  DRAWN BY (DESIGNED BY) (CHECKED BY) (RECORDED BY)                  JRB / CS / PJB / JRB                  J-B08034</small></p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>DATE</th> <th>DESCRIPTION</th> <th>BY</th> <th>SCALE</th> <th>NO SCALE</th> <th>DRWG. NO.</th> </tr> </thead> <tbody> <tr> <td>10/17/14</td> <td>REVISIONS</td> <td></td> <td></td> <td></td> <td>4.001-Y</td> </tr> </tbody> </table>	DATE	DESCRIPTION	BY	SCALE	NO SCALE	DRWG. NO.	10/17/14	REVISIONS				4.001-Y
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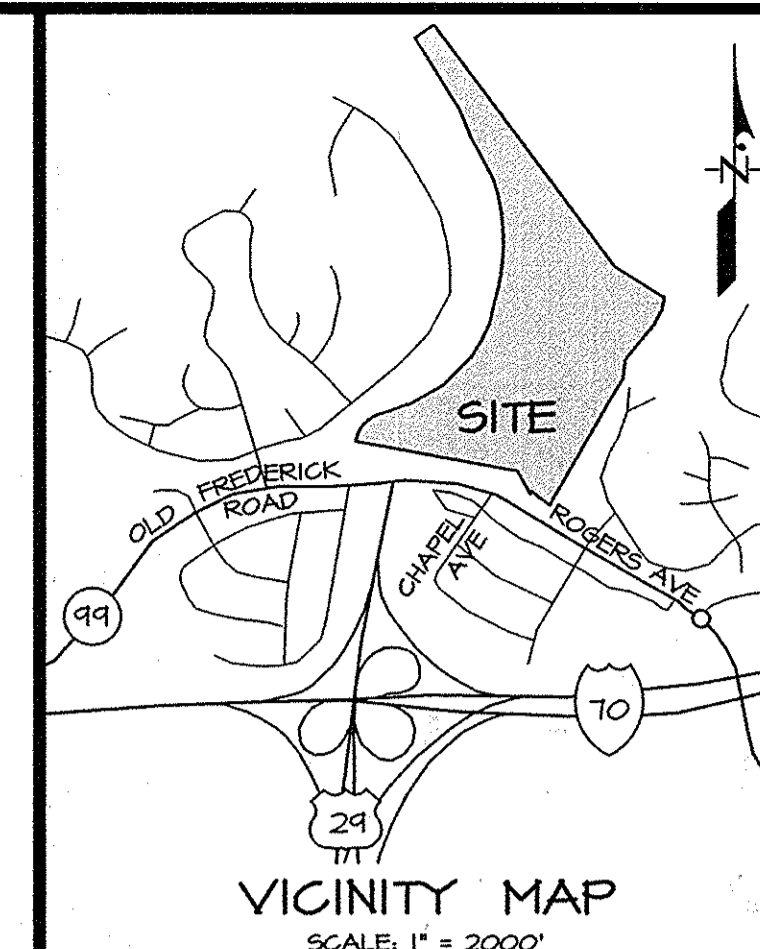
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LEGEND

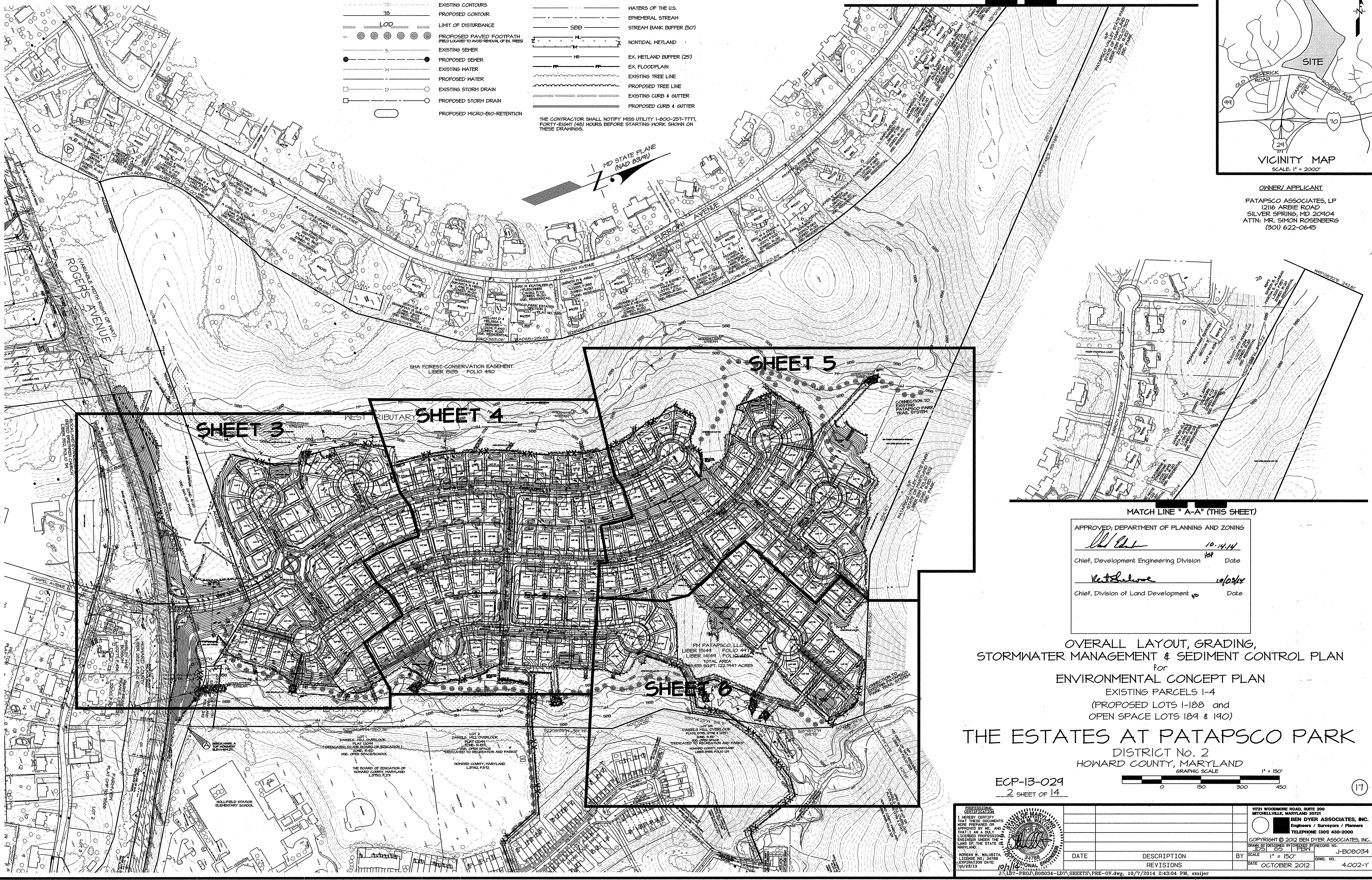
- EXISTING CONTOURS
- - - PROPOSED CONTOUR
- LOD --- LIMIT OF DISTURBANCE
- PROPOSED PAVED FOOTPATH (FIELD LOCATED TO AVOID REMOVAL OF EX. TREES)
- S --- EXISTING SEWER
- PROPOSED SEWER
- W --- EXISTING WATER
- P --- PROPOSED WATER
- D --- EXISTING STORM DRAIN
- O --- PROPOSED STORM DRAIN
- PROPOSED MICRO-BIO-RETENTION
- WATERS OF THE U.S.
- EPHEMERAL STREAM
- SBB --- STREAM BANK BUFFER (50')
- NONTIDAL WETLAND
- EX. WETLAND BUFFER (25')
- EX. FLOODPLAIN
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING CURB & GUTTER
- PROPOSED CURB & GUTTER

THE CONTRACTOR SHALL NOTIFY MISS UTILITY 1-800-251-TTTT, FORTY-EIGHT (48) HOURS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.

MATCH LINE "A-A" (THIS SHEET)



OWNER/APPLICANT  
 PATAPSCO ASSOCIATES, LP  
 12116 ARBIE ROAD  
 SILVER SPRING, MD 20904  
 ATTN: MR. SIMON ROSENBERG  
 (301) 622-0645



SHEET 3

SHEET 4

SHEET 5

SHEET 6



MATCH LINE "A-A" (THIS SHEET)

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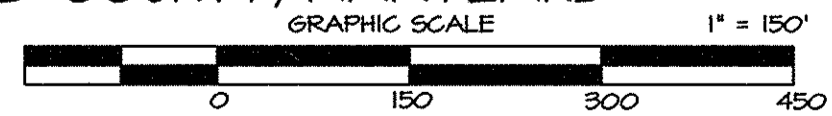
*[Signature]* 10/14/14  
 Chief, Development Engineering Division Date

*[Signature]* 10/20/14  
 Chief, Division of Land Development Date

OVERALL LAYOUT, GRADING,  
 STORMWATER MANAGEMENT & SEDIMENT CONTROL PLAN  
 for  
 ENVIRONMENTAL CONCEPT PLAN  
 EXISTING PARCELS 1-4  
 (PROPOSED LOTS 1-188 and  
 OPEN SPACE LOTS 189 & 190)

THE ESTATES AT PATAPSCO PARK  
 DISTRICT No. 2  
 HOWARD COUNTY, MARYLAND

ECP-13-029  
 2 SHEET OF 14



PROFESSIONAL CERTIFICATION  
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A QUALIFIED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.  
 WORMAN M. HALLIBETA  
 LICENSE NO. 34785  
 EXPIRATION DATE: 10/23/13



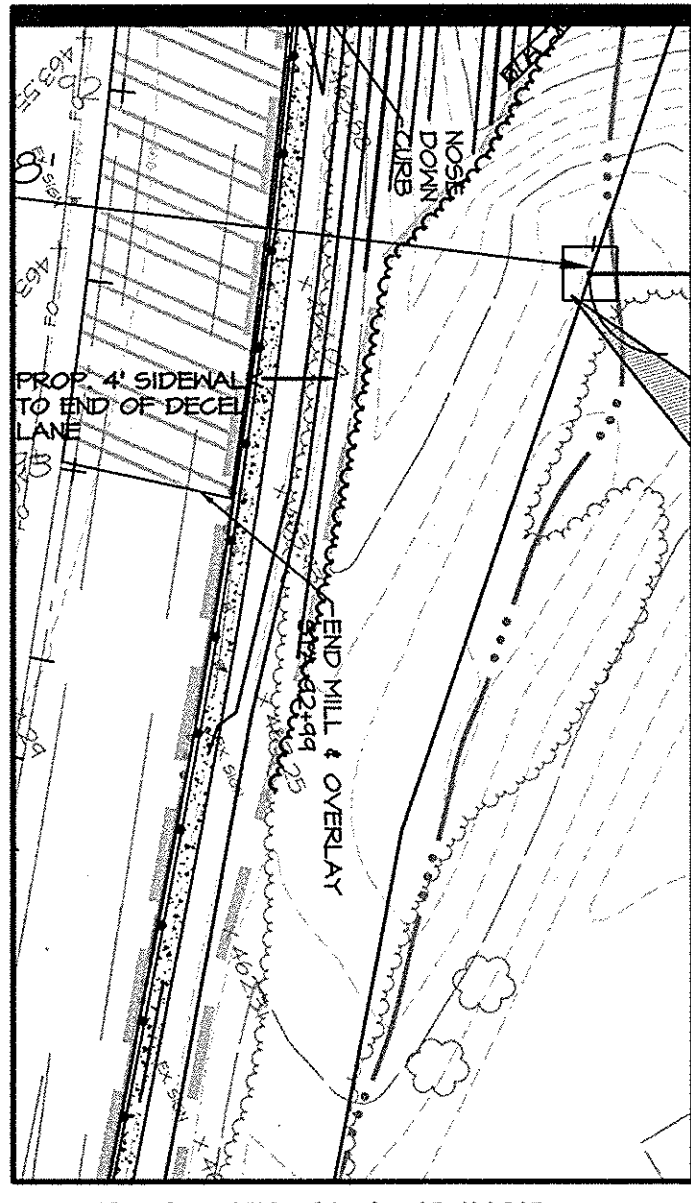
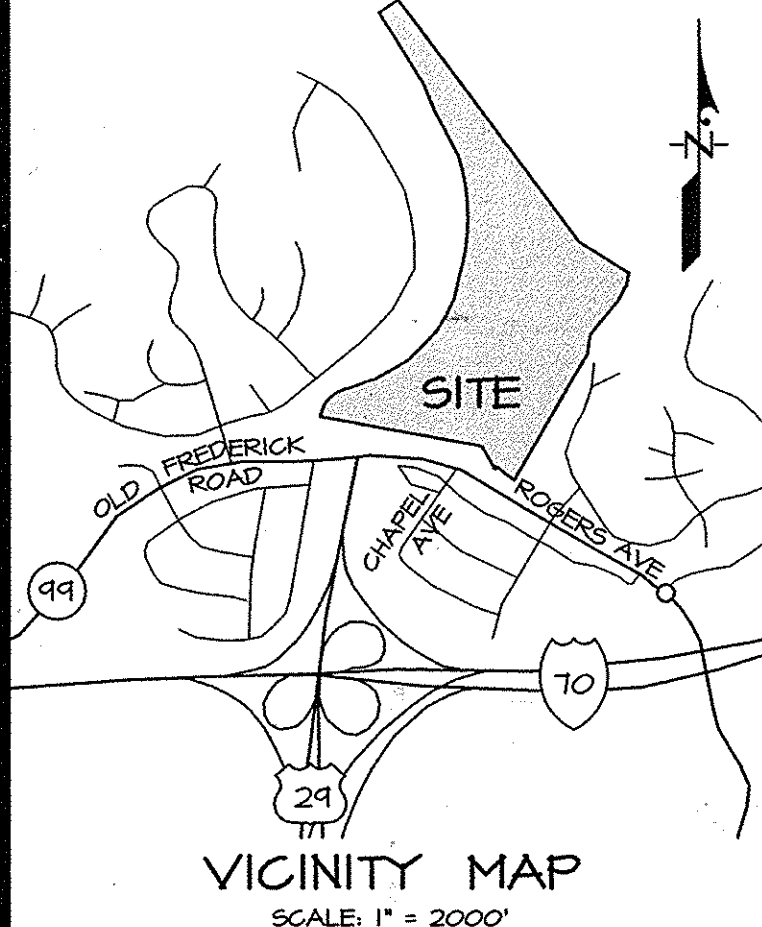
DATE	DESCRIPTION	BY	SCALE	DATE
	REVISIONS		1" = 150'	OCTOBER 2012
		DRWG. NO.	4.002-Y	

1721 WOODMORE ROAD, SUITE 200  
 MITCHELLVILLE, MARYLAND 20721  
**BEN DYER ASSOCIATES, INC.**  
 Engineers / Surveyors / Planners  
 TELEPHONE (301) 400-0000  
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 DRAWN BY DESIGNED BY CHECKED BY RECORDED NO.  
 JPS CS PBN J-B08034  
 DATE OCTOBER 2012



**SEDIMENT CONTROL LEGEND**

- SUPER SILT FENCE: XX XX
- EARTH DIKE: - - - - -
- PROPOSED DRAINAGE AREA: [Symbol]
- STABILIZED CONSTRUCTION ENTRANCE: [Symbol] SCE
- STONE OUTLET STRUCTURE: [Symbol] SOS



**LEGEND**

- LOD: LIMIT OF DISTURBANCE
- PROPOSED CONCRETE SIDEWALK
- PROPOSED ASPHALT TRAIL HEAD
- PROPOSED PAVED FOOTPATH
- EXISTING SEWER
- PROPOSED SEWER
- EXISTING WATER
- PROPOSED WATER
- EXISTING STORM DRAIN
- PROPOSED STORM DRAIN
- PROPOSED UNDERDRAIN
- MATERIALS OF THE U.S. STREAM BANK BUFFER (50')
- NONTIDAL WETLAND
- EX. WETLAND BUFFER (25')
- EX. FLOODPLAIN
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING 15-24.9% OR GREATER SLOPES
- EXISTING 25% OR GREATER SLOPES
- RECREATIONAL OPEN SPACE
- EXISTING TRAIL
- EXISTING CURB & GUTTER
- PROPOSED CURB & GUTTER
- PROPOSED RETAINING WALL
- EXISTING FENCE
- EXISTING ELECTRIC
- EXISTING GUARDRAIL

THE CONTRACTOR SHALL NOTIFY MISS UTILITY 1-800-251-7777, FORTY-EIGHT (48) HOURS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 10/14/14  
 Chief, Development Engineering Division Date

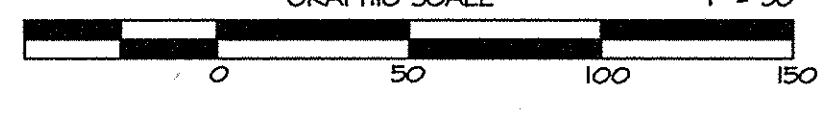
*[Signature]* 10/29/14  
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**OWNER/APPLICANT**  
 PATAPSCO ASSOCIATES, LP  
 1216 ARBIE ROAD  
 SILVER SPRING, MD 20904  
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 (301) 622-0645

**LAYOUT, GRADING, STORMWATER MANAGEMENT & SEDIMENT CONTROL PLAN**  
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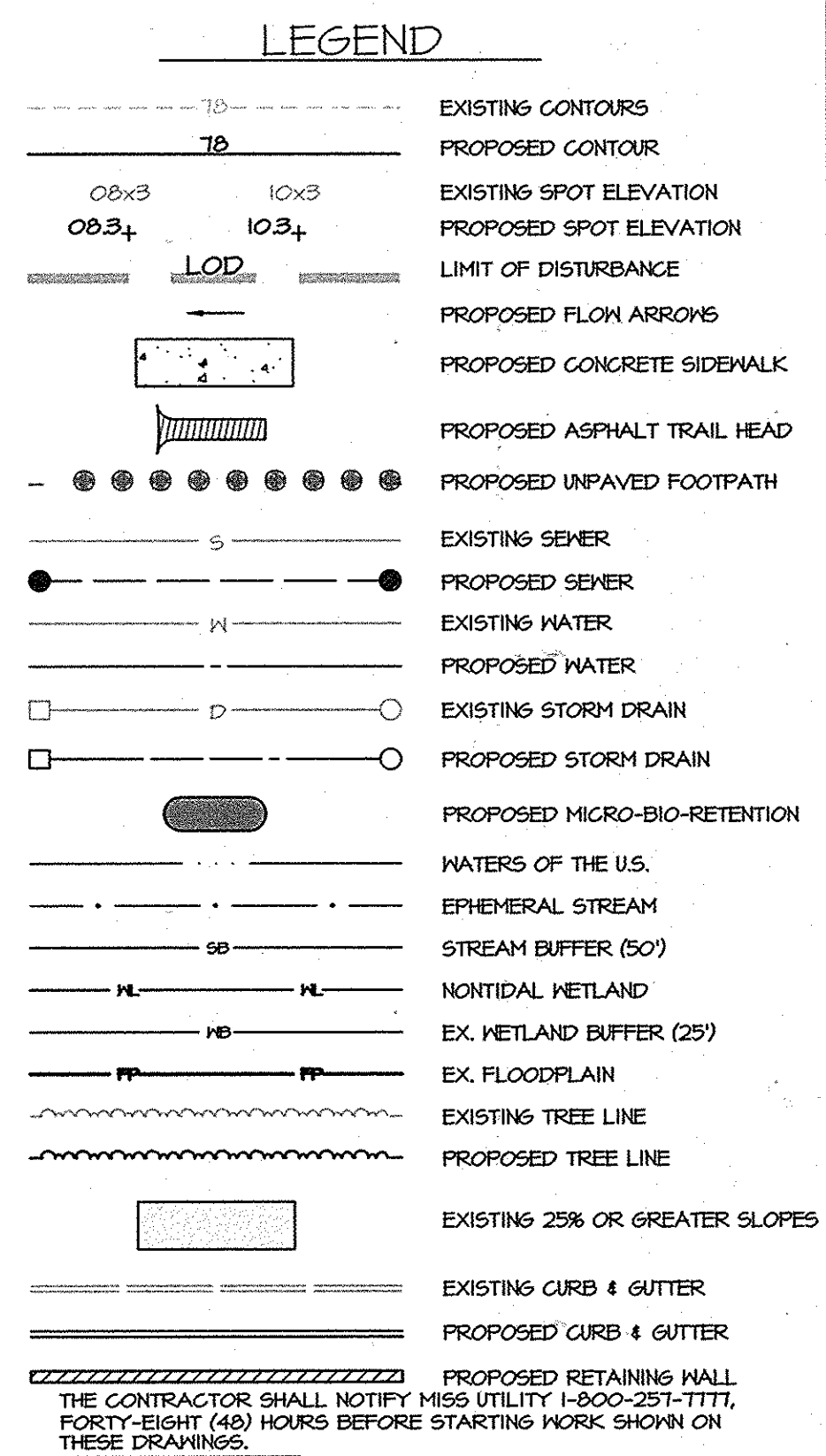
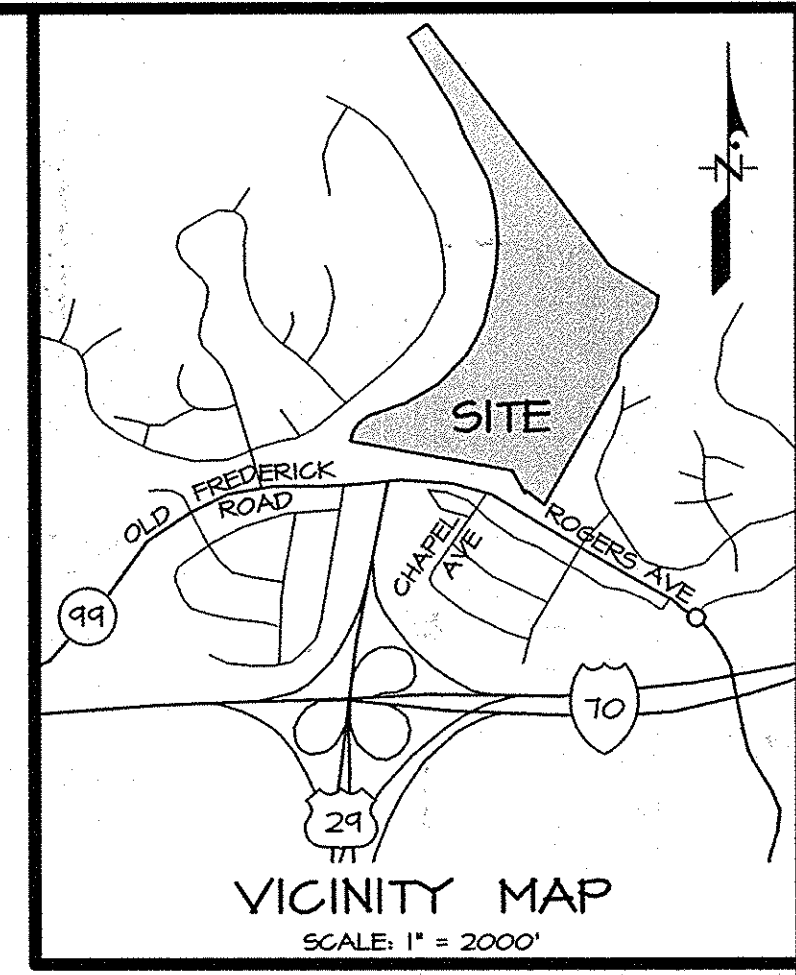
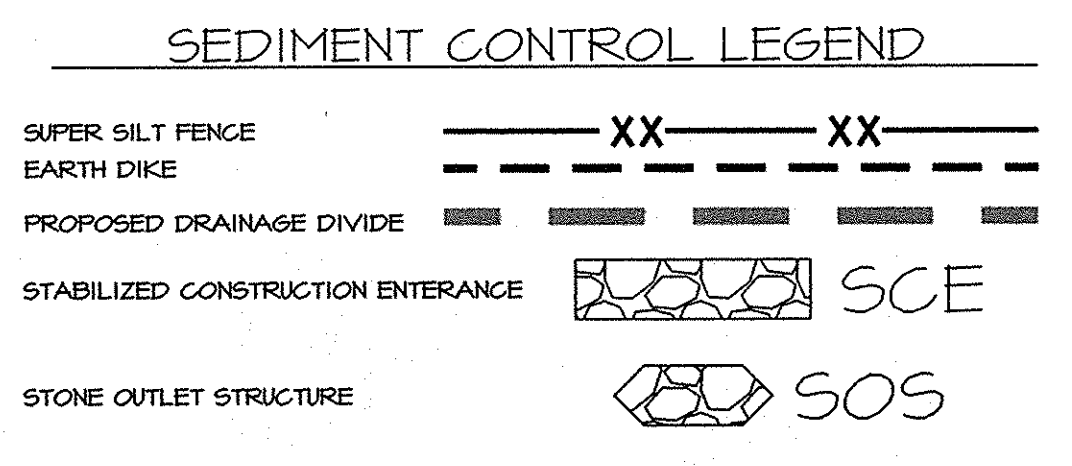
ECP-13-029  
 3 SHEET OF 14



SEE ROAD FRONTAGE INSET THIS PAGE FOR CONTINUATION

PROFESSIONAL CERTIFICATION I HEREBY 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. MORGAN H. MALLIBETA LICENSE NO. 34788 EXPIRATION DATE: 10/23/13 10/7/14		1721 WOODMORE ROAD, SUITE 200 MITCHELLVILLE, MARYLAND 20721 <b>BEN DYER ASSOCIATES, INC.</b> Engineers / Surveyors / Planners TELEPHONE (301) 430-2000 COPYRIGHT © 2012 BEN DYER ASSOCIATES, INC. DRAWN BY DESIGNED BY CHECKED BY RECORDED BY JPS / GS / PBW / J-B08034 SCALE: 1" = 50' DRWG. NO.: 4.003-Y DATE: OCTOBER 2012	
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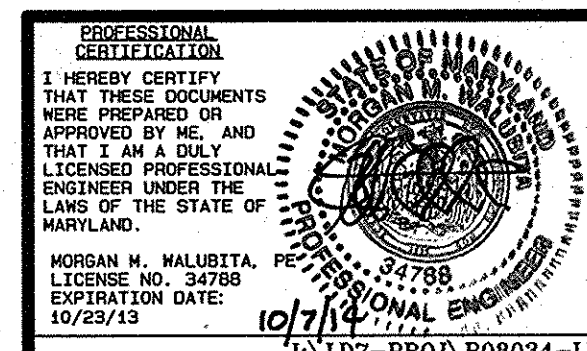
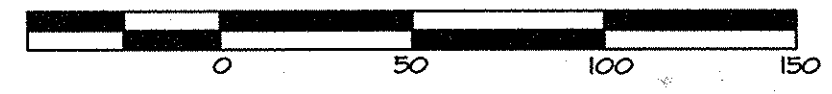
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 Chief, Division of Land Development Date

OWNER/ APPLICANT  
 PATAPSCO ASSOCIATES, LP  
 12116 ARBIE ROAD  
 SILVER SPRING, MD 20910-4  
 ATTN: MR. SIMON ROSENBERG  
 (301) 622-0645

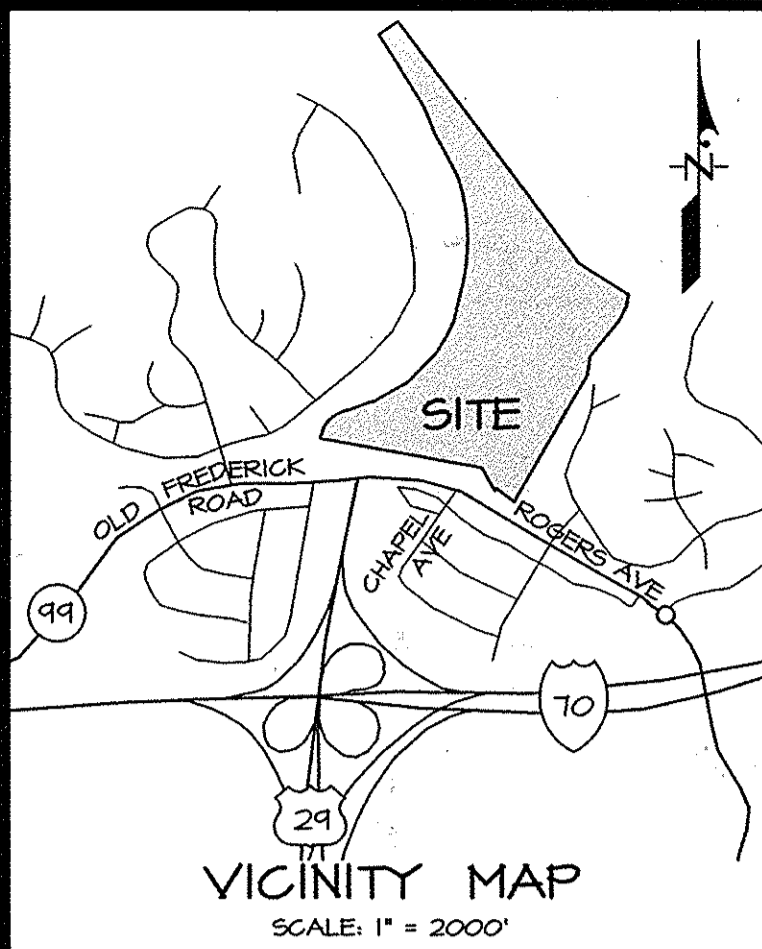
LAYOUT, GRADING, STORMWATER  
 MANAGEMENT & SEDIMENT CONTROL PLAN  
 for  
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 EXISTING PARCELS I-4  
 (PROPOSED LOTS I-188 and  
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**THE ESTATES AT PATAPSCO PARK**  
 DISTRICT No. 2  
 HOWARD COUNTY, MARYLAND

ECP-13-029  
 4 SHEET OF 14



DATE	DESCRIPTION	BY	SCALE	DRWG. NO.
	REVISIONS		1" = 50'	J-E08034
			DATE	4.004-Y
			OCTOBER 2012	



**LEGEND**

	EXISTING CONTOURS
	PROPOSED CONTOUR
	EXISTING SPOT ELEVATION
	PROPOSED SPOT ELEVATION
	LIMIT OF DISTURBANCE
	PROPOSED FLOW ARROWS
	PROPOSED CONCRETE SIDEWALK
	PROPOSED ASPHALT TRAIL HEAD
	PROPOSED UNPAVED FOOTPATH
	EXISTING SEWER
	PROPOSED SEWER
	EXISTING WATER
	PROPOSED WATER
	EXISTING STORM DRAIN
	PROPOSED STORM DRAIN
	PROPOSED MICRO-BIO-RETENTION
	WATERS OF THE U.S.
	EPHEMERAL STREAM
	STREAM BUFFER (50')
	NONTIDAL WETLAND
	EX WETLAND BUFFER (25')
	EX FLOODPLAIN
	EXISTING TREE LINE
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	EXISTING 25% OR GREATER SLOPES
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	PROPOSED RETAINING WALL

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APPROVED; DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 10/14/14  
 Chief, Development Engineering Division Date

*[Signature]* 10/03/14  
 Chief, Division of Land Development Date

OWNER/APPLICANT  
 PATAPSCO ASSOCIATES, LP  
 12116 ARBIE ROAD  
 SILVER SPRING, MD 209104  
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LAYOUT, GRADING, STORMWATER  
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 HOWARD COUNTY, MARYLAND  
 GRAPHIC SCALE 1" = 50'

ECP-13-029  
 5 SHEET OF 14



**SEDIMENT CONTROL LEGEND**

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	— — — — —
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	SOS

PROFESSIONAL CERTIFICATION  
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*[Signature]*  
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 LICENSE NO. 34788  
 EXPIRATION DATE: 10/23/13

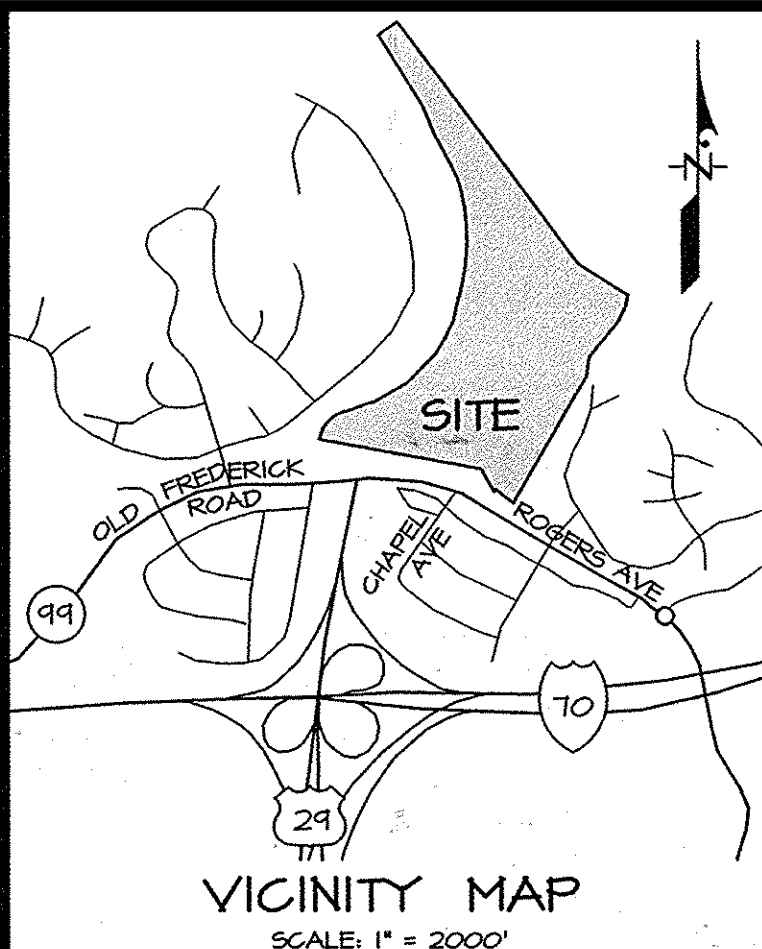
11721 WOODMORE ROAD, SUITE 200  
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DATE DESCRIPTION BY  
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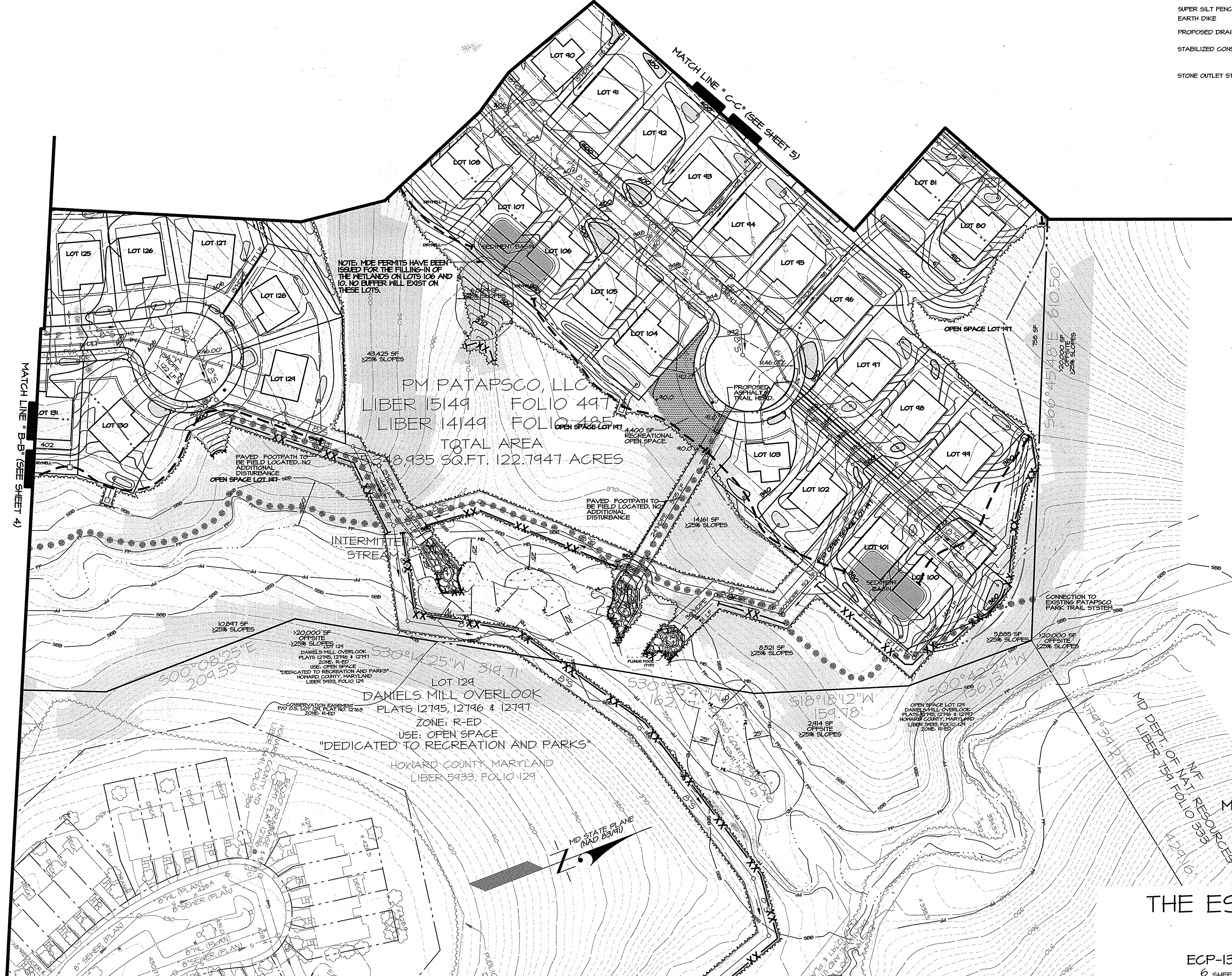
SEDIMENT CONTROL LEGEND

- SUPER SILT FENCE
- EARTH DIKE
- PROPOSED DRAINAGE DIVIDE
- STABILIZED CONSTRUCTION ENTRANCE
- STONE OUTLET STRUCTURE



LEGEND

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APPROVED, DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 11/14/14  
Chief, Development Engineering Division Date

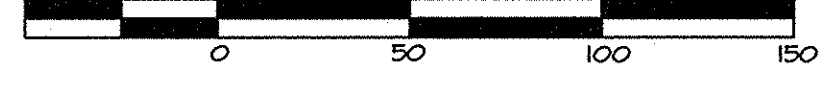
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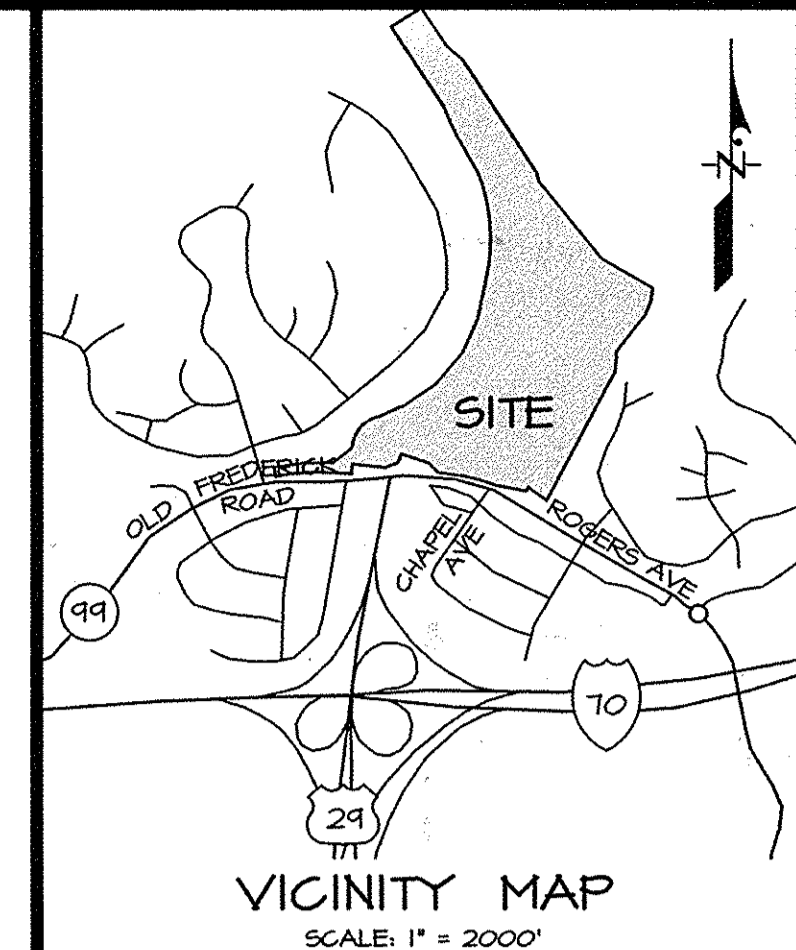
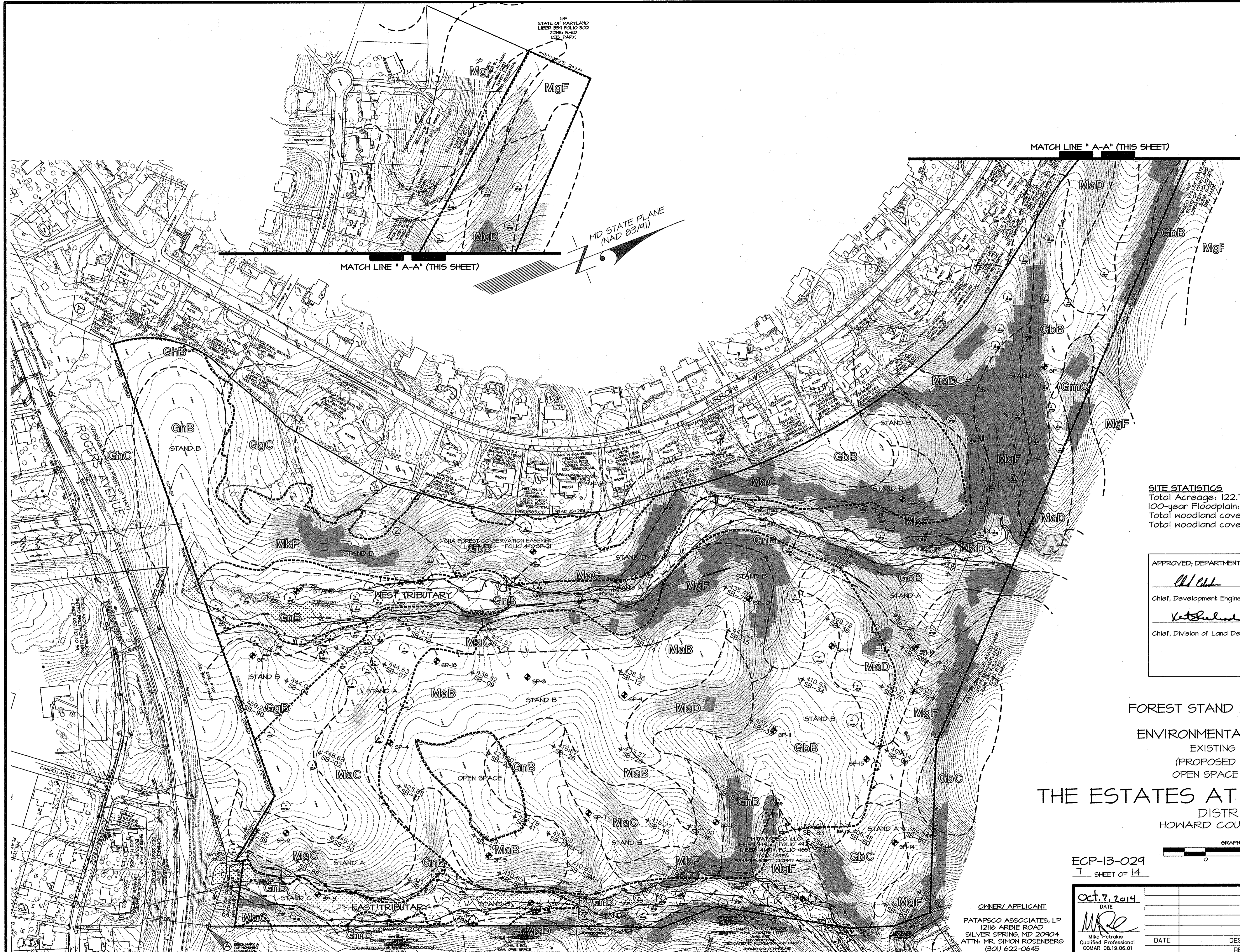
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GRAPHIC SCALE 1" = 50'

ECP-13-029  
6 SHEET OF 14



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DATE	DESCRIPTION	BY	SCALE
	REVISIONS		1" = 50'
			DATE OCTOBER 2012
			DRWG. NO. 4.006-Y



**LEGEND**

PROPERTY BOUNDARY	---
EX. ZONE LINE	— R-R —
EX. CONTOUR (2')	---
EX. CONTOUR (10')	---
EX. TREELINE	---
WATERS OF THE U.S.	---
STREAM BUFFER (50')	SB
NONTIDAL WETLAND	---
EX. WETLAND BUFFER (25')	WB
EX. EASEMENT	---
EX. FLOODPLAIN	---
FSD DATA SAMPLE POINT	SP-1
15-25% SLOPES	---
25% SLOPES & GREATER	---
FOREST STAND BOUNDARY	STAND A
SOIL TYPE & DELINEATION	MgF
SPECIMEN TREE	ST-1

**SITE STATISTICS**  
 Total Acreage: 122.74 ac.  
 100-year Floodplain: 8.43 ac.  
 Total woodland coverage: 117.58 ac.  
 Total woodland coverage in the floodplain: 8.43 ac.

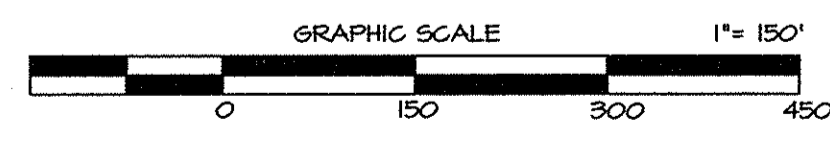
APPROVED; DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 10.14.14/  
 Chief, Development Engineering Division Date

*[Signature]* 10/28/14  
 Chief, Division of Land Development Date

FOREST STAND DELINEATION PLAN  
 for  
 ENVIRONMENTAL CONCEPT PLAN  
 EXISTING PARCELS I-4  
 (PROPOSED LOTS I-188 and  
 OPEN SPACE LOTS 189 & 190)

**THE ESTATES AT PATAPSCO PARK**  
 DISTRICT No. 2  
 HOWARD COUNTY, MARYLAND



ECP-13-029  
 SHEET OF 14

OWNER/APPLICANT  
 PATAPSCO ASSOCIATES, LP  
 12116 ARBIE ROAD  
 SILVER SPRING, MD 20904  
 ATTN: MR. SIMON ROSENBERG  
 (301) 622-0645

DATE	DESCRIPTION	BY	DATE
Oct. 7, 2014			
 Mike Petrakis Qualified Professional COMAR 08.19.06.01			
11721 WOODMORE ROAD, SUITE 200 MITCHELLVILLE, MARYLAND 20721 BEN DYER ASSOCIATES, INC. Engineers / Surveyors / Planners TELEPHONE (301) 430-2000 COPYRIGHT © 2012 BEN DYER ASSOCIATES, INC. DRAWN BY (DESIGNED BY) (CHECKED BY) (RECORD NO.) PCN MP MP J-B08034 SCALE 1" = 150' DATE OCTOBER 2012 DRWG. NO. 54.001-Y			

No.	Common Name	Scientific Name	DBH (inches)	Condition Rating
1	tulip poplar	Liriodendron tulipifera	34"	Fair
2	tulip poplar	Liriodendron tulipifera	42"	Fair
3	tulip poplar	Liriodendron tulipifera	34.5"	Fair
4	tulip poplar	Liriodendron tulipifera	32"	Fair
5	tulip poplar	Liriodendron tulipifera	34.5"	Fair
6	yellow poplar	Liriodendron tulipifera	32.5"	Fair
7	red oak	Quercus rubra	48"	Poor
8	silver maple	Acer saccharinum	44"	Good
9	sycamore	Platanus occidentalis	71.5"	Good
10	tulip poplar	Liriodendron tulipifera	34.5"	Fair
11	white oak	Quercus alba	32"	Good
12	tulip poplar	Liriodendron tulipifera	34.5"	Fair
13	red oak	Quercus rubra	32.5"	Fair
14	tulip poplar	Liriodendron tulipifera	32.5"	Fair
15	chestnut oak	Quercus prinus	50" dbh	Fair
16	tulip poplar	Liriodendron tulipifera	31.5"	Fair
17	white oak	Quercus alba	32"	Good
18	white oak	Quercus alba	32"	Good
19	tulip poplar	Liriodendron tulipifera	34"	Fair
20	tulip poplar	Liriodendron tulipifera	35"	Fair
21	tulip poplar	Liriodendron tulipifera	35"	Good
22	tulip poplar	Liriodendron tulipifera	54" dbh	Fair
23	tulip poplar	Liriodendron tulipifera	32"	Fair
24	tulip poplar	Liriodendron tulipifera	32.5"	Fair
25	chestnut oak	Quercus prinus	33.5"	Fair
26	tulip poplar	Liriodendron tulipifera	32"	Fair
27	tulip poplar	Liriodendron tulipifera	36"	Fair
28	tulip poplar	Liriodendron tulipifera	42.5" dbh	Good
29	pin oak	Quercus palustris	34"	Fair
30	tulip poplar	Liriodendron tulipifera	44"	Fair
31	tulip poplar	Liriodendron tulipifera	35.5"	Fair
32	tulip poplar	Liriodendron tulipifera	34"	Fair
33	tulip poplar	Liriodendron tulipifera	33.5"	Fair
34	tulip poplar	Liriodendron tulipifera	34.5"	Fair
35	tulip poplar	Liriodendron tulipifera	32.5"	Fair
36	tulip poplar	Liriodendron tulipifera	32"	Fair
37	tulip poplar	Liriodendron tulipifera	38.5"	Fair
38	tulip poplar	Liriodendron tulipifera	31"	Fair
39	sycamore	Platanus occidentalis	41"	Good
40	tulip poplar	Liriodendron tulipifera	57" dbh	Good
41	tulip poplar	Liriodendron tulipifera	32.5"	Good
42	pin oak	Quercus palustris	33"	Good
43	tulip poplar	Liriodendron tulipifera	45.5" dbh	Fair
44	green ash	Fraxinus pennsylvanica	40.5"	Fair
45	white oak	Quercus alba	41"	Fair
46	red oak	Quercus rubra	34"	Fair
47	tulip poplar	Liriodendron tulipifera	35"	Fair
48	tulip poplar	Liriodendron tulipifera	34.5"	Fair
49	sycamore	Platanus occidentalis	31"	Fair
50	silver maple	Acer saccharinum	40.5" dbh	Poor
51	silver maple	Acer saccharinum	55"	Fair
52	silver maple	Acer saccharinum	34"	Fair
53	silver maple	Acer saccharinum	45.5"	Fair
54	silver maple	Acer saccharinum	30"	Poor
55	silver maple	Acer saccharinum	30" trp	Fair
56	silver maple	Acer saccharinum	30"	Fair
57	white pine	Pinus strobus	30"	Fair
58	silver maple	Acer saccharinum	44"	Good
59	willow oak	Quercus phellos	35.5"	Poor
60	willow oak	Quercus phellos	30"	Fair
61	silver maple	Acer saccharinum	44"	Good
62	silver maple	Acer saccharinum	30"	Fair
63	silver maple	Acer saccharinum	40"	Good
64	sycamore	Platanus occidentalis	33.5"	Fair
65	sycamore	Platanus occidentalis	43.5"	Good
66	green ash	Fraxinus pennsylvanica	30"	Good
67	sycamore	Platanus occidentalis	30"	Good
68	sycamore	Platanus occidentalis	32" dbh	Fair
69	tulip poplar	Liriodendron tulipifera	50"	Fair
70	tulip poplar	Liriodendron tulipifera	37"	Fair
71	tulip poplar	Liriodendron tulipifera	30"	Fair
72	tulip poplar	Liriodendron tulipifera	33"	Fair

No.	Common Name	Scientific Name	DBH (inches)	Condition Rating
145	tulip poplar	Liriodendron tulipifera	31.5"	Fair
146	tulip poplar	Liriodendron tulipifera	31.5"	Fair

SOILS FOUND ON SITE					
SYMBOL	NAME/DESCRIPTION	K-FACTOR	HYDRIC	HYDROLOGIC GROUP	DRAINAGE CLASS
GtB	Gladstone loam, 3 to 8 percent slopes	0.20	No	B	WELL DRAINED
GtC	Gladstone loam, 8 to 15 percent slopes	0.20	No	B	WELL DRAINED
GgB	Glenelg loam, 3 to 8 percent slopes	0.20	No	B	WELL DRAINED
GgC	Glenelg loam, 8 to 15 percent slopes	0.20	No	B	WELL DRAINED
GhB	Glenelg-Urban land complex, 0 to 8 percent slopes		No	B	
GhC	Glenelg-Urban land complex, 8 to 15 percent slopes	0.20	No	B	WELL DRAINED
GmB	Glenville silt loam, 3 to 8 percent slopes	0.37	Yes	C	MODERATELY WELL DRAINED
GmC	Glenville silt loam, 8 to 15 percent slopes	0.37	No	C	MODERATELY WELL DRAINED
GnB	Glenville-Baile silt loams, 0 to 8 percent slopes	0.37	Yes	C	MODERATELY WELL DRAINED
GoB	Glenville-Codonus silt loams, 0 to 8 percent slopes	0.37	No	C	MODERATELY WELL DRAINED
MaB	Manor loam, 3 to 8 percent slopes	0.24	No	B	WELL DRAINED
MaC	Manor loam, 8 to 15 percent slopes	0.24	No	B	WELL DRAINED
MaD	Manor loam, 15 to 25 percent slopes	0.24	No	B	WELL DRAINED
MgD	Manor-Bramertown sandy loams, 15 to 25 percent slopes, rocky	0.24	No	B	WELL DRAINED
MgF	Manor-Bramertown sandy loams, 25 to 65 percent slopes, rocky	0.24	No	B	WELL DRAINED
MkF	Manor-Brinklow complex, 25 to 65 percent slopes, very rocky	0.24	No	B	WELL DRAINED

FOREST STAND SUMMARY															
Stand	Ac.	Forest Type	Dominant Size Class	Dominant Trees	Co-Dominant Canopy Trees	Number of Trees Per Acre	Number of Dead Trees Per Acre	Common Understory Species	Forest Structure Value	% Canopy Coverage	% Herbaceous Coverage	% Understory	% Invasive Species	Retention Features	Retention Consideration
A	51.10	Mature Upland Deciduous Stand	>30" dbh	Tulip Poplar	Red Maple, Oak spp.	180	18	Spicebush, Flowering Dogwood	14 (Good)	97	57	80	73	Specimen Trees, Steep Slopes, Erodible Soils	Moderate
B	58.81	Intermediate Aged Deciduous Stand	7-14.9" dbh	Red Maple	Black Cherry, Box Elder, Tulip Poplar	240	14	Flowering Dogwood, Red Maple	14 (Good)	84	77	76	77	Specimen Trees, Wetlands, Waters of the U.S.	Low High*
C	7.67	Mature Bottomland Riparian Stand	>30" dbh	Tulip Poplar, Sycamore	Red Maple, Green Ash	186	0	Spicebush, Serviceberry	13 (Good)	87	67	63	53	Waters of the U.S., Erodible Soils, Nontidal Wetlands	High

NOTE: Forest structure value calculated with spring and summer parameters. \* Portions of Stand B located on steep slopes or within the stream buffer a high retention priority.

**SITE STATISTICS**  
 Total Acreage: 122.74 ac.  
 100-year Floodplain: 8.43 ac.  
 Total woodland coverage: 117.58 ac.  
 Total woodland coverage in the floodplain: 8.43 ac.

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
  
 Chief, Development Engineering Division Date 10/14/14  
  
 Chief, Division of Land Development Date 10/09/14

FOREST STAND DELINEATION DETAILS  
 for  
 ENVIRONMENTAL CONCEPT PLAN  
 EXISTING PARCELS I-4  
 (PROPOSED LOTS I-188 and  
 OPEN SPACE LOTS 189 & 190)

THE ESTATES AT PATAPSCO PARK  
 DISTRICT No. 2  
 HOWARD COUNTY, MARYLAND

ECP-13-029  
 8 SHEET OF 14

OWNER/APPLICANT  
 PATAPSCO ASSOCIATES, LP  
 12116 ARBIE ROAD  
 SILVER SPRING, MD 20904  
 ATTN: MR. SIMON ROSENBERG  
 (301) 622-0645

DATE  
  
 Mike Petrakis  
 Qualified Professional  
 COMAR 08.19.06.01

DATE	DESCRIPTION	BY
OCTOBER 2012	REVISIONS	

1721 WOODMORE ROAD, SUITE 200  
 MITCHELLVILLE, MARYLAND 20721  
 BEN DYER ASSOCIATES, INC.  
 Engineers / Surveyors / Planners  
 TELEPHONE (301) 430-2000  
 COPYRIGHT © 2012 BEN DYER ASSOCIATES, INC.  
 DESIGN BY: SCEN MP MP  
 CHECKED BY: J-BOB034  
 SCALE: DRWG. NO. 54.002-Z  
 DATE: OCTOBER 2012



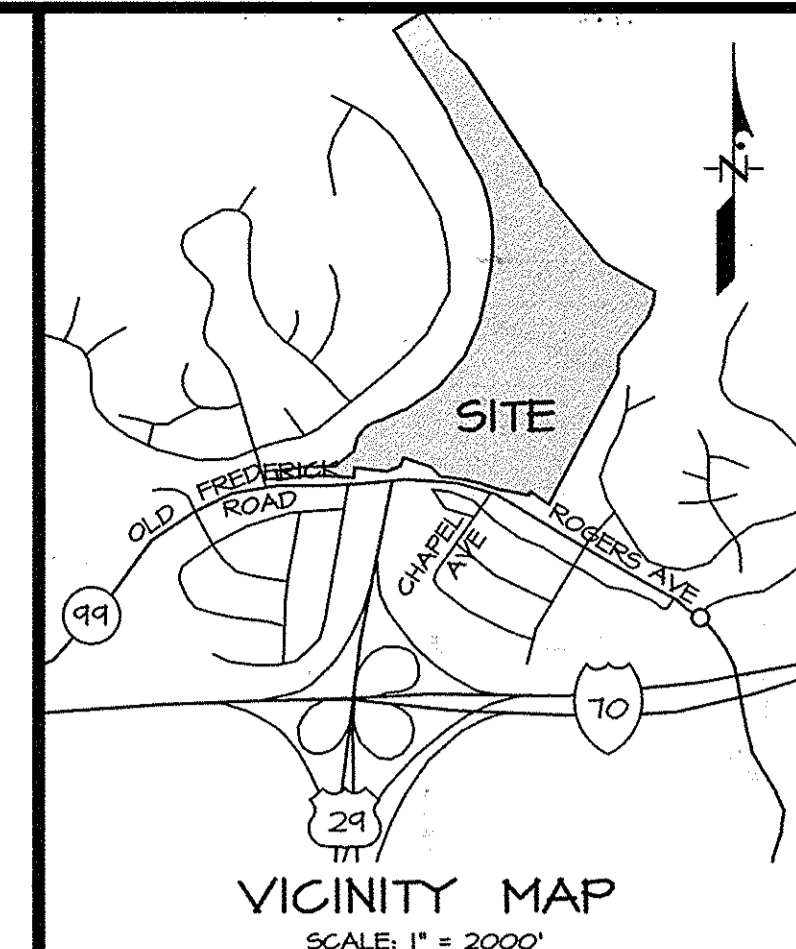
MD STATE PLANE  
(NAD 83/91)

NF  
STATE OF MARYLAND  
LIBER 204 FOLIO 922  
ZONE R-ED  
USEL PARK

REFORESTATION AREA (RA)		PRESERVATION AREA (PA) (RETENTION AREA)		CLEARING AREAS (CA)	
No.	AREA (AC)	No.	AREA (AC)	No.	AREA (AC)
1	0.30	1	0.10	1	41.38
2	0.06	2	4.40		
3	0.03	3	0.01		
4	0.01	4	1.38		
5	0.03	5	0.35		
6	0.19	6	0.50		
7	0.03	7	0.22		
8	0.43	8	0.15		
9	0.03	9	1.72		
10	0.15	10	0.90		
11	0.08	11	0.15		
12	0.02	12	0.94		
13	0.02	13	1.53		
14	0.02	14	0.43		
15	0.32	15	0.46		
16	0.06	16	0.30		
17	0.05				
18	0.10	TOTAL	13.54		
19	0.02				
20	0.02				
TOTAL	1.91				

**Forest Conservation Notes**

1. Forest Conservation for the site shall be provided through on-site forest retention and reforestation. Existing forest coverage retained shall be protected in a conservation easement.
2. This project will comply with requirements of the Forest Conservation Act of Howard County that cannot be met on-site by the procurement of off-site forest conservation in an approved woodland conservation bank.



MATCH LINE "A-A" (THIS SHEET)

**SITE STATISTICS**  
 Total Acreage: 125.72 ac.  
 100-year Floodplain: 3.80 ac.  
 Previously Dedicated Land: 55.65 ac.  
 Net Track Area: 66.27 ac.  
 Existing Forest on Net Tract: 63.72 ac.

MATCH LINE "B-B" (THIS SHEET)

**LEGEND**

- PROPERTY BOUNDARY
- EX. ZONE LINE
- EX. CONTOUR (2')
- EX. CONTOUR (10')
- EX. TREELINE
- PROP. TREELINE
- LIMITS OF DISTURBANCE
- WATERS OF THE U.S.
- STREAM BANK BUFFER (50')
- NONTIDAL WETLAND
- EX. WETLAND BUFFER (25')
- EX. FLOODPLAIN
- 15-25% SLOPES
- 25% SLOPES & GREATER
- FOREST STAND BOUNDARY
- SOIL TYPE & DELINEATION
- SPECIMEN TREE
- SPECIMEN TREE TO BE REMOVED
- PRESERVATION AREA
- REFORESTATION AREA
- STATE HIGHWAY ADMINISTRATION FOREST CONSERVATION EASEMENT
- TREE PROTECTION FENCE
- TREE PROTECTION SIGNAGE (PRESERVATION)
- TREE PROTECTION SIGNAGE (REFORESTATION)
- SPECIMEN TREE SIGN
- PROPOSED PAVED FOOTPATH (FIELD LOCATED TO AVOID REMOVAL OF EX. TREES)

APPROVED, DEPARTMENT OF PLANNING AND ZONING

*Chad...* 10/14/14  
 Chief, Development Engineering Division Date

*West...* 10/29/14  
 Chief, Division of Land Development Date

CONCEPTUAL FOREST CONSERVATION PLAN - OVERALL  
 for  
 ENVIRONMENTAL CONCEPT PLAN  
 EXISTING PARCELS 1-4  
 (PROPOSED LOTS 1-188 and  
 OPEN SPACE LOTS 189 & 190)  
**THE ESTATES AT PATAPSCO PARK**  
 DISTRICT No. 2  
 HOWARD COUNTY, MARYLAND

ECP-13-029  
 9 SHEET OF 14

GRAPHIC SCALE 1" = 150'  
 0 150 300 450

OWNER/APPLICANT  
 PATAPSCO ASSOCIATES, LP  
 12116 ARBIE ROAD  
 SILVER SPRING, MD 20904  
 ATTN: MR. SIMON ROSENBERG  
 (301) 622-0645

DATE	Oct. 7, 2014	BY	Mike Petrakis
DATE	08.19.06.01	BY	DATE
DESCRIPTION	REVISIONS	DATE	OCTOBER 2012
DATE	OCTOBER 2012	BY	DATE

1721 WOODMORE ROAD, SUITE 200  
 MITCHELLVILLE, MARYLAND 20721  
**BEN DYER ASSOCIATES, INC.**  
 Engineers / Surveyors / Planners  
 TELEPHONE: (301) 400-0000  
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 FROM REVISIONS BY (DATE) BY (RECORD NO.)  
 J-B08034  
 SCALE: 1" = 150'  
 DRAWING NO. 54.003-Z

MATCH LINE "B-B" (THIS SHEET)



**FOREST CONSERVATION WORKSHEET**

Net Tract Area:

- A. Total Tract Area = 122.14 ac
- B. Deductions Floodplain = 3.43 ac
- C. Previously Dedicated = 55.65 ac
- D. Net Tract Area = 63.21 ac

Land Use Category: Residential-Suburban

- E. Afforestation Threshold (Net Tract area x 15%) = 4.48 ac
- F. Conservation Threshold (Net Tract area x 20%) = 12.64 ac

Existing Forest Cover:

- G. Existing Forest Cover (excluding Floodplain) = 60.42 ac
- H. Area of forest above afforestation threshold = 51.44 ac
- I. Area of forest above conservation threshold = 48.28 ac

Break Even Point:

- J. Forest retention above threshold with no mitigation = 22.50 ac
- K. Clearing permitted without mitigation = 38.62 ac

Proposed Forest Clearing:

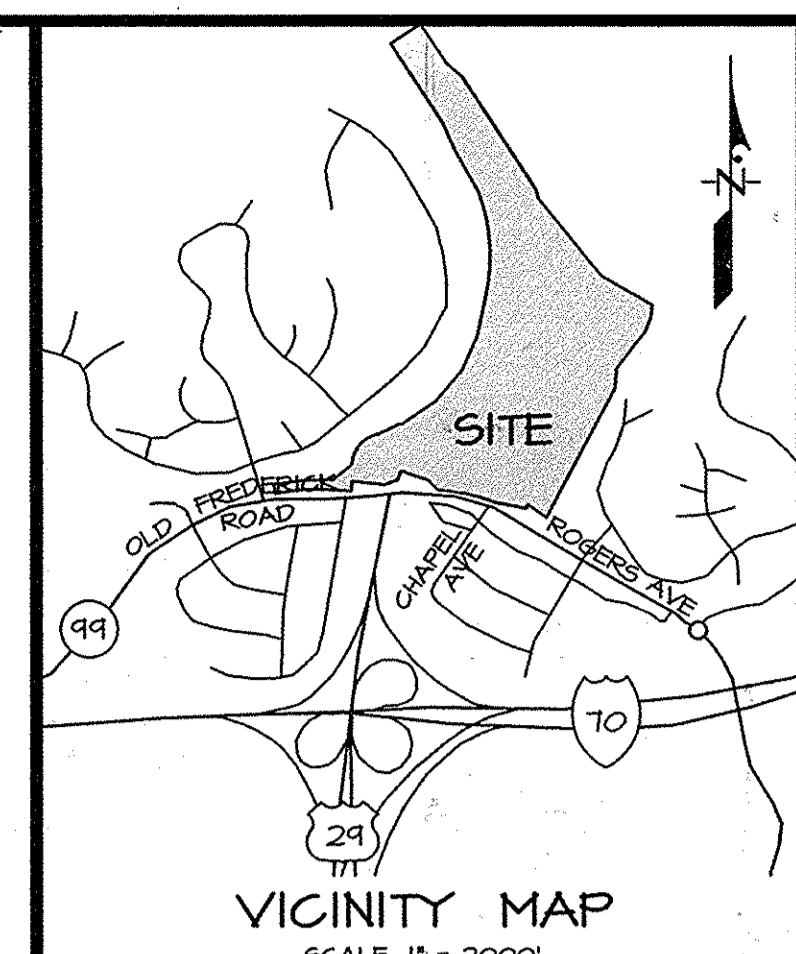
- L. Total area of forest to be cleared = 41.38 ac
- M. Total area of forest to be retained = 13.54 ac

Planting Requirements

- N. reforestation for clearing above conservation threshold = 11.85 ac
- O. Reforestation for clearing below conservation threshold = 0.02 ac
- P. Credit for retention above conservation threshold = 0.40 ac
- Q. Total reforestation required = 10.45 ac
- R. Total afforestation required = 0.00 ac
- S. Total reforestation and afforestation required = 10.45 ac\*\*

\*\*55.65 Acres previously placed in FC Easement for SHA.  
 \*\*10.45 Acres of reforestation provided on-site (or off-site as applicable). Forest Conservation obligations in accordance with Section 16.1202 of the Forest Conservation Manual will be fulfilled by 19.54 acres of retention, 1.46 acres of reforestation and a fee-in-lieu for 9.48 acres of reforestation. In addition, the developer shall either pay a fee-in-lieu or provide obligations off-site for disturbance of the established Forest Conservation Retention Easement located on adjoining Open Space Lot 124 of the Daniels Mill Overlook Subdivision. Disturbance in this area is necessary for public sewer connections to the eastern Daniels Mill Overlook Pump Station. The obligation for this disturbance has not yet been determined but will be fulfilled prior to plat recordation of this subdivision. Recordation of a Forest Conservation Plat of easement will be necessary to show the revised easement area on Open Space Lot 124. The area of SHA Forest conservation easement is not utilized in fulfillment of forest conservation obligation for the proposed development.

Note: Forest Conservation Easements located on-site which may be less than 35' in width are located adjacent to the Patapsco State Park and are permitted per DPZ Policy Memo dated 11/01/10 (permitted when adjoining permanently protected State Parkland).



**LEGEND**

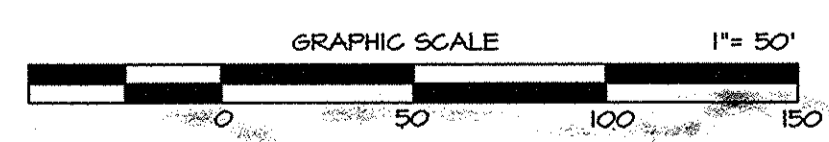
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- EX. CONTOUR (10')
- EX. TREELINE
- PROP. TREELINE
- LIMITS OF DISTURBANCE
- WATERS OF THE U.S.
- STREAM BANK BUFFER (50')
- NONTIDAL WETLAND
- EX. WETLAND BUFFER (25')
- EX. FLOODPLAIN
- 15-25% SLOPES
- 25% SLOPES & GREATER
- FOREST STAND BOUNDARY
- SOIL TYPE & DELINEATION
- SPECIMEN TREE
- SPECIMEN TREE TO BE REMOVED
- PRESERVATION AREA
- REFORESTATION AREA
- STATE HIGHWAY ADMINISTRATION FOREST CONSERVATION EASEMENT
- TREE PROTECTION FENCE
- TREE PROTECTION SIGNAGE (PRESERVATION)
- TREE PROTECTION SIGNAGE (REFORESTATION)
- SPECIMEN TREE SIGN
- PROPOSED PAVED FOOTPATH (FIELD LOCATED TO AVOID REMOVAL OF EX TREES)

APPROVED, DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 10-14-14  
 Chief, Development Engineering Division Date

*[Signature]* 10/14/14  
 Chief, Division of Land Development Date

**CONCEPTUAL FOREST CONSERVATION PLAN I**  
 for  
**ENVIRONMENTAL CONCEPT PLAN**  
 EXISTING PARCELS 1-4  
 (PROPOSED LOTS 1-188 and  
 OPEN SPACE LOTS 189 & 190)  
**THE ESTATES AT PATAPSCO PARK**  
 DISTRICT No. 2  
 HOWARD COUNTY, MARYLAND



OWNER/APPLICANT  
 PATAPSCO ASSOCIATES, LP  
 12116 ARBIE ROAD  
 SILVER SPRING, MD 20904  
 ATTN: MR. SIMON ROSENBERG  
 (301) 622-0645

10 SHEET OF 14

Oct. 7, 2014  
 DATE  
*[Signature]*  
 Mike Petrakis  
 Qualified Professional  
 COMAR 06.19.05.01

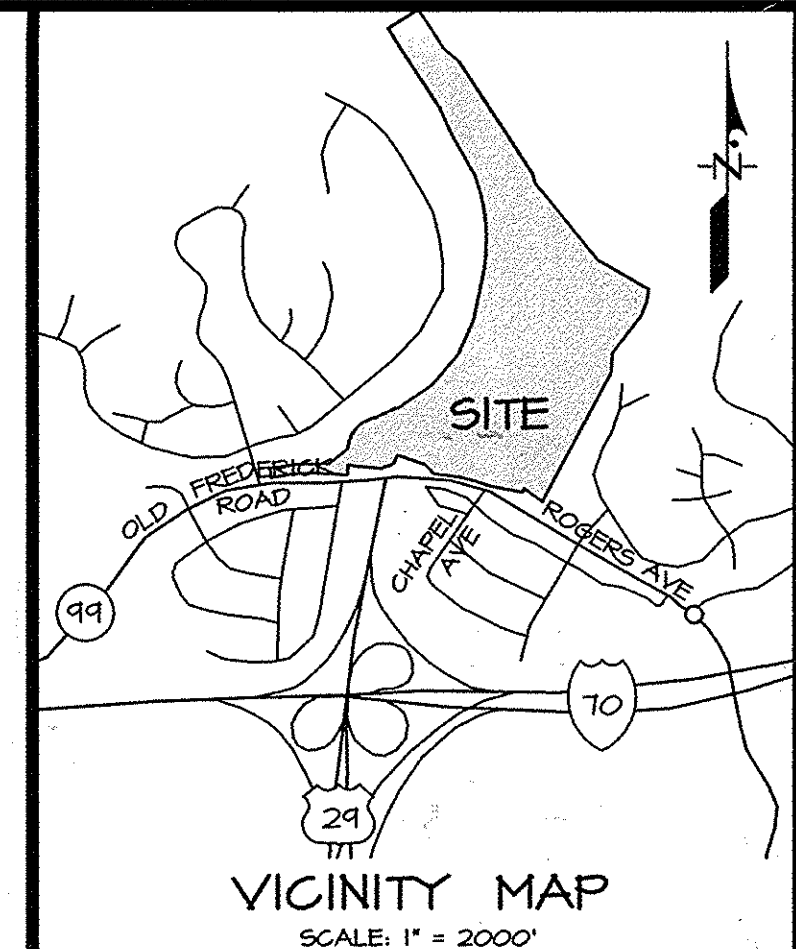
DATE	DESCRIPTION

1721 WOODMOORE ROAD, SUITE 200  
 MITCHELLVILLE, MARYLAND 20721  
**BEN DYER ASSOCIATES, INC.**  
 Engineers / Surveyors / Planners  
 Telephone (301) 430-2000  
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 DRAWN BY (DESIGNED BY) CHECKED BY RECORD NO.  
 MPN MP J-BOB034  
 SCALE 1" = 50'  
 DATE OCTOBER 2012 DRWG. NO. 54.004-Y



SOILS FOUND ON SITE

SYMBOL	NAME/DESCRIPTION	K-FACTOR	HYDRIC	HYDROLOGIC GROUP	DRAINAGE CLASS
6bB	Gladstone loam, 3 to 8 percent slopes	0.20	No	B	WELL DRAINED
6bC	Gladstone loam, 8 to 15 percent slopes	0.20	No	B	WELL DRAINED
6gB	Glenelg loam, 3 to 8 percent slopes	0.20	No	B	WELL DRAINED
6gC	Glenelg loam, 8 to 15 percent slopes	0.20	No	B	WELL DRAINED
6hB	Glenelg-Urban land complex, 0 to 8 percent slopes		No	B	
6hC	Glenelg-Urban land complex, 8 to 15 percent slopes	0.20	No	B	WELL DRAINED
6mB	Glenville silt loam, 3 to 8 percent slopes	0.37	Yes	C	MODERATELY WELL DRAINED
6mC	Glenville silt loam, 8 to 15 percent slopes	0.37	No	C	MODERATELY WELL DRAINED
6nB	Glenville-Baile silt loams, 0 to 8 percent slopes	0.37	Yes	C	MODERATELY WELL DRAINED
6oB	Glenville-Codorus silt loams, 0 to 8 percent slopes	0.37	No	C	MODERATELY WELL DRAINED
MaB	Manor loam, 3 to 8 percent slopes	0.24	No	B	WELL DRAINED
MaC	Manor loam, 8 to 15 percent slopes	0.24	No	B	WELL DRAINED
MaD	Manor loam, 15 to 25 percent slopes	0.24	No	B	WELL DRAINED
MgD	Manor-Branntown sandy loams, 15 to 25 percent slopes, rocky	0.24	No	B	WELL DRAINED
MgF	Manor-Branntown sandy loams, 25 to 65 percent slopes, rocky	0.24	No	B	WELL DRAINED
MkF	Manor-Brinklow complex, 25 to 65 percent slopes, very rocky	0.24	No	B	WELL DRAINED



APPROVED, DEPARTMENT OF PLANNING AND ZONING

*Ch/Chad* 10.14.14  
 Chief, Development Engineering Division <sup>HP</sup> Date

*Wetzel* 10.08.14  
 Chief, Division of Land Development <sup>SS</sup> Date

CONCEPTUAL FOREST CONSERVATION PLAN 2  
 for  
 ENVIRONMENTAL CONCEPT PLAN  
 EXISTING PARCELS 1-4  
 (PROPOSED LOTS 1-188 and  
 OPEN SPACE LOTS 189 & 190)  
**THE ESTATES AT PATAPSCO PARK**  
 DISTRICT No. 2  
 HOWARD COUNTY, MARYLAND

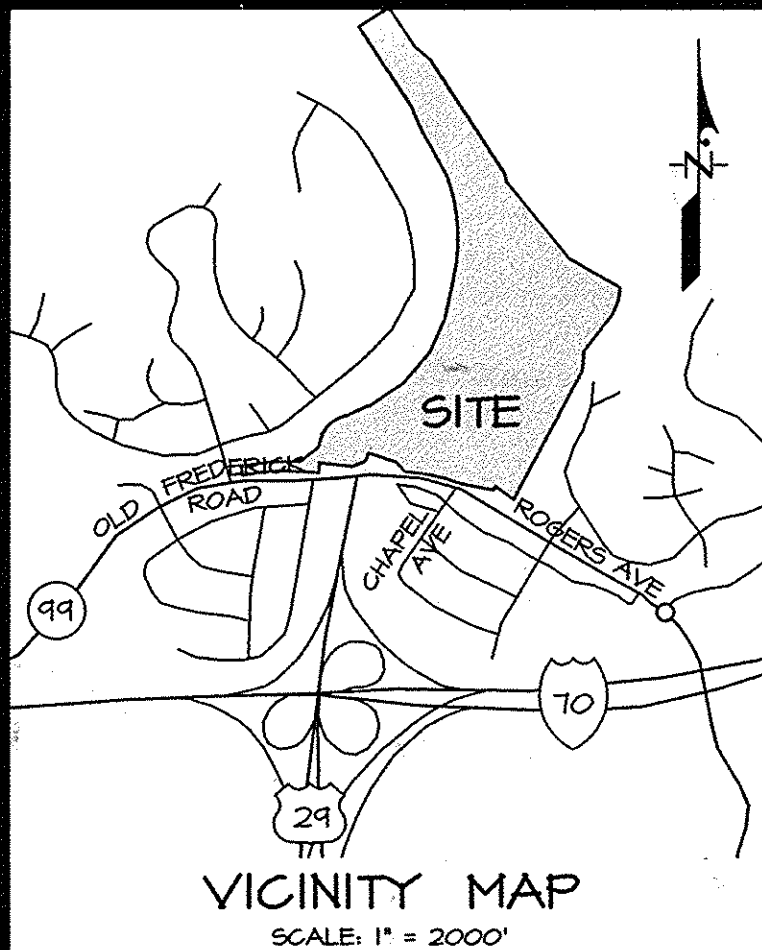
ECP-13-029 GRAPHIC SCALE 1" = 50'  
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OWNER/APPLICANT  
 PATAPSCO ASSOCIATES, LP  
 1216 ARBIE ROAD  
 SILVER SPRING, MD 20904  
 ATTN: MR. SIMON ROSENBERG  
 (301) 622-0645

DATE  
 Oct. 7, 2014

DATE	DESCRIPTION
	REVISIONS

1721 WOODMORE ROAD, SUITE 200  
 MITCHELLVILLE, MARYLAND 20721  
  
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 DESIGNED BY: [ ] CHECKED BY: [ ]  
 SCALE: 1" = 50'  
 DATE: OCTOBER 2012  
 DRAWING NO.: J-B08034  
 REV. NO.: 54.005-Y



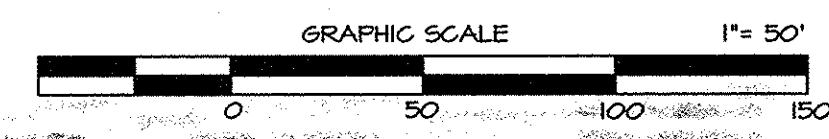
FOREST CONSERVATION  
EASEMENT G = 1.84 ACRES

APPROVED, DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 10-14-14  
Chief, Development Engineering Division 158 Date

*[Signature]* 10-08-14  
Chief, Division of Land Development 68 Date

CONCEPTUAL FOREST CONSERVATION PLAN 3  
for  
ENVIRONMENTAL CONCEPT PLAN  
EXISTING PARCELS 1-4  
(PROPOSED LOTS 1-188 and  
OPEN SPACE LOTS 189 & 190)  
**THE ESTATES AT PATAPSCO PARK**  
DISTRICT No. 2  
HOWARD COUNTY, MARYLAND

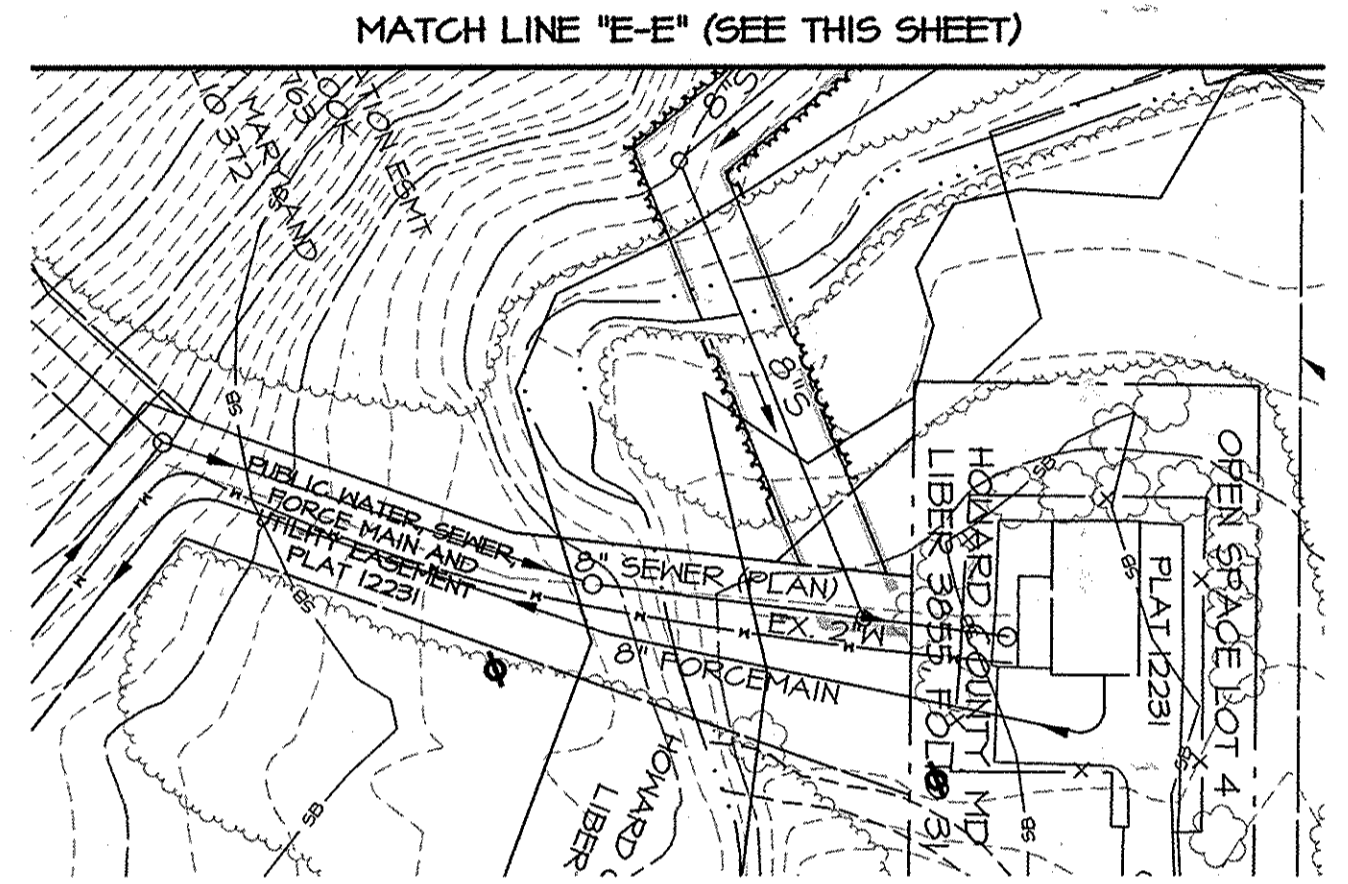
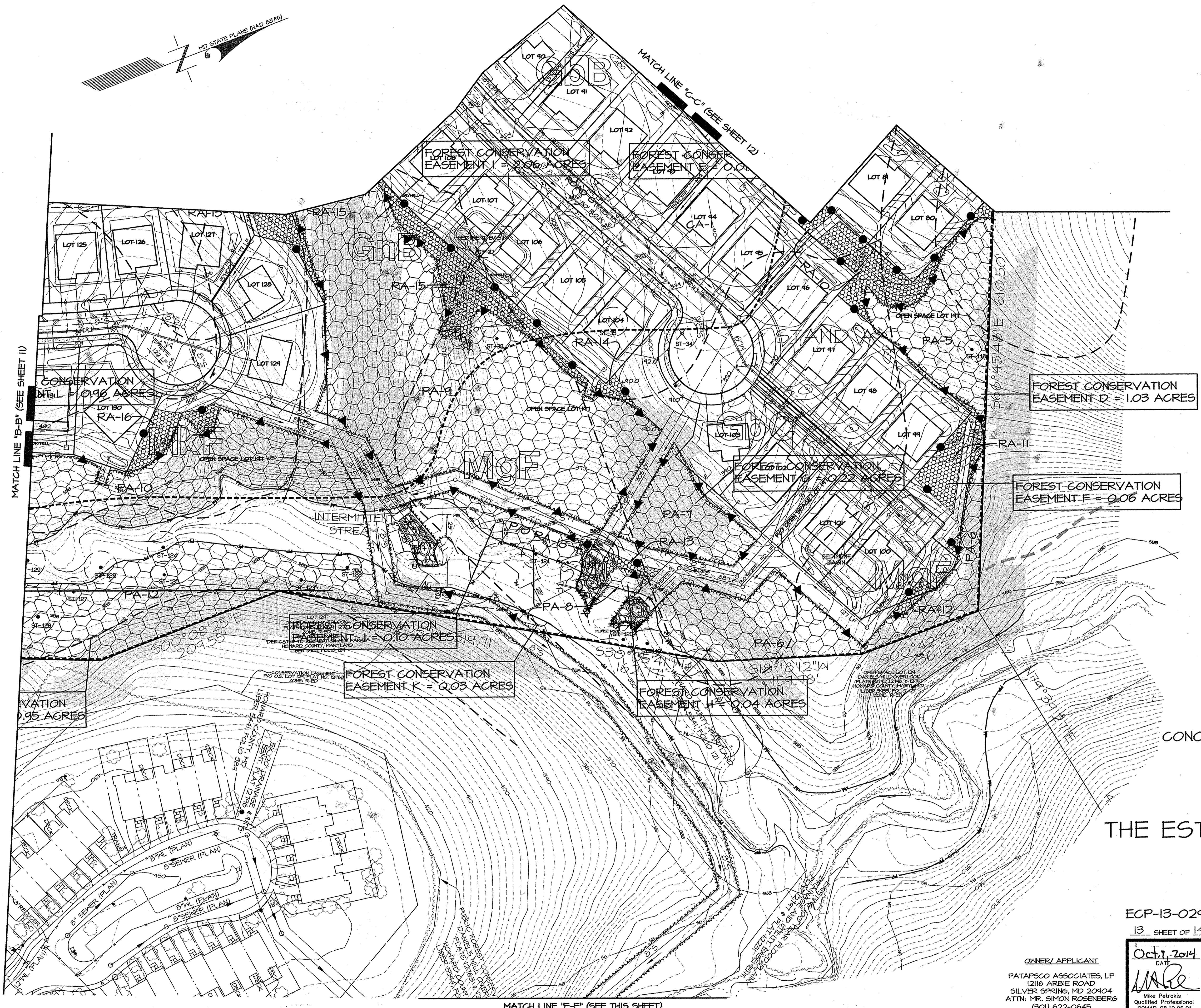
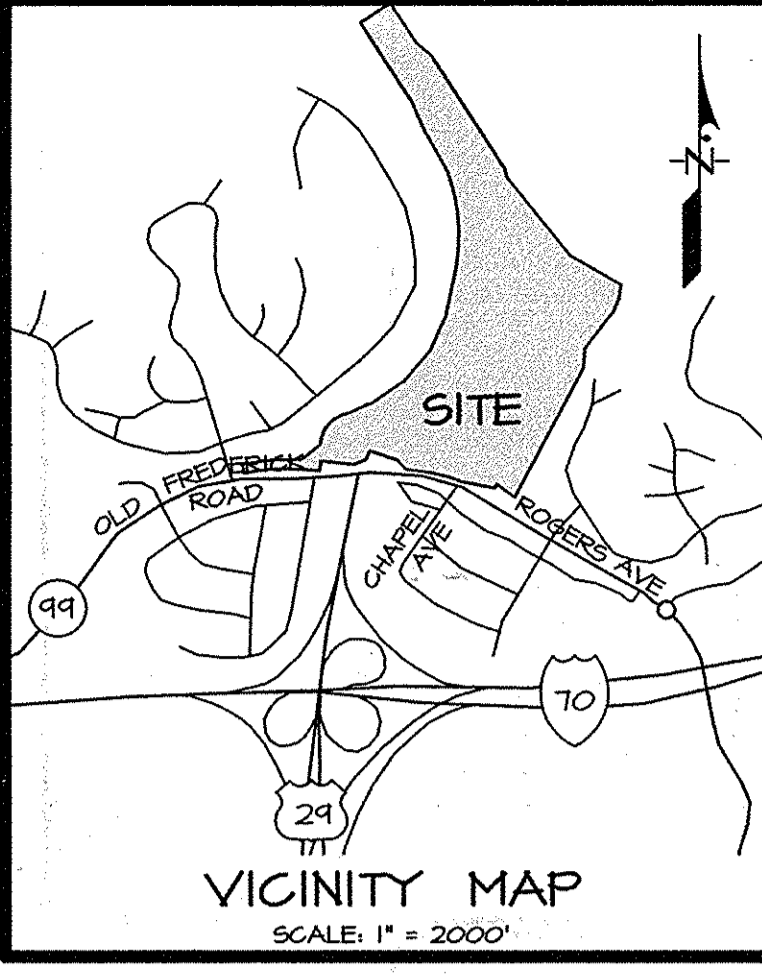
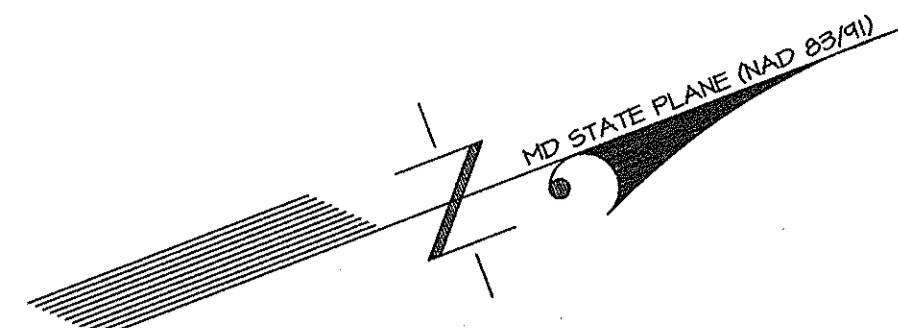


ECP-13-029  
12 SHEET OF 14

OWNER/APPLICANT  
PATAPSCO ASSOCIATES, LP  
1216 ARBIE ROAD  
SILVER SPRING, MD 20904  
ATTN: MR. SIMON ROSENBERG  
(301) 622-0645

DATE	DESCRIPTION	BY	DATE
Oct. 7, 2014			

1721 WOODMORE ROAD, SUITE 200  
MITCHELLVILLE, MARYLAND 20721  
**BEN DYER ASSOCIATES, INC.**  
Engineers / Surveyors / Planners  
TELEPHONE (301) 430-2000  
COPYRIGHT © 2012 BEN DYER ASSOCIATES, INC.  
DRAWN BY DESIGNED BY CHECKED BY RECORDED NO.  
FCAN MP J-BO8034  
SCALE 1" = 50'  
DATE OCTOBER 2012 DRWG. NO. 54.006-Y

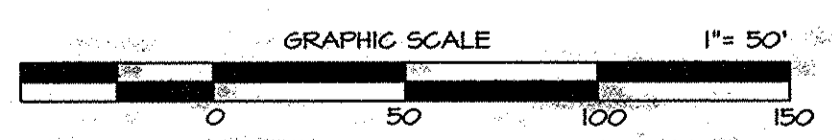


APPROVED, DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 10-14-14  
 Chief, Development Engineering Division Date

*[Signature]* 10-03-14  
 Chief, Division of Land Development Date

CONCEPTUAL FOREST CONSERVATION PLAN 4  
 for  
 ENVIRONMENTAL CONCEPT PLAN  
 EXISTING PARCELS 1-4  
 (PROPOSED LOTS 1-188 and  
 OPEN SPACE LOTS 189 & 190)  
**THE ESTATES AT PATAPSCO PARK**  
 DISTRICT No. 2  
 HOWARD COUNTY, MARYLAND



ECP-13-029  
 13 SHEET OF 14

OWNER/APPLICANT  
 PATAPSCO ASSOCIATES, LP  
 12116 ARBIE ROAD  
 SILVER SPRING, MD 20904  
 ATTN: MR. SIMON ROSENBERG  
 (301) 622-0645

DATE		10/1/2014		1721 WOODMORE ROAD, SUITE 200 MITCHELLVILLE, MARYLAND 20721	
BY		<i>[Signature]</i>		BEN DYER ASSOCIATES, INC. Engineers / Surveyors / Planners TELEPHONE (301) 430-2000	
DATE	DESCRIPTION	BY	REVISIONS	SCALE	PROJECT NO.
OCTOBER 2012				1" = 50'	J-E08034
					54.001-Y

J:\LD7-PROJ\B08034-LD7\SHEETS\FCP-2-6-Y.DWG, 10/7/2014 3:49:54 PM, smijer

No.	Common Name	Scientific Name	DBH (Inches)	Condition	Disposition
1	tulip poplar	Liriodendron tulipifera	34"	Fair	To Remain
2	tulip poplar	Liriodendron tulipifera	42"	Fair	To Remain
3	tulip poplar	Liriodendron tulipifera	34.5"	Fair	To Be Removed
4	tulip poplar	Liriodendron tulipifera	32"	Fair	To Be Removed
5	tulip poplar	Liriodendron tulipifera	34.5"	Fair	To Be Removed
6	yellow poplar	Liriodendron tulipifera	32.5"	Fair	To Be Removed
7	red oak	Quercus rubra	48"	Poor	To Be Removed
8	silver maple	Acer saccharinum	44"	Good	To Remain
9	sycamore	Platanus occidentalis	71.5"	Good	To Remain
10	tulip poplar	Liriodendron tulipifera	34.5"	Fair	To Be Removed
11	white oak	Quercus alba	32"	Good	To Remain
12	tulip poplar	Liriodendron tulipifera	34.5"	Fair	To Be Removed
13	red oak	Quercus rubra	32.5"	Fair	To Be Removed
14	tulip poplar	Liriodendron tulipifera	32.5"	Fair	To Remain
15	chestnut oak	Quercus prinus	50" db	Fair	To Be Removed
16	tulip poplar	Liriodendron tulipifera	31.5"	Fair	To Be Removed
17	white oak	Quercus alba	32"	Good	To Remain
18	white oak	Quercus alba	32"	Good	To Remain
19	tulip poplar	Liriodendron tulipifera	34"	Fair	To Be Removed
20	tulip poplar	Liriodendron tulipifera	35"	Fair	To Remain
21	tulip poplar	Liriodendron tulipifera	35"	Good	To Remain
22	tulip poplar	Liriodendron tulipifera	54" db	Fair	To Be Removed
23	tulip poplar	Liriodendron tulipifera	32"	Fair	To Be Removed
24	tulip poplar	Liriodendron tulipifera	32.5"	Fair	To Be Removed
25	chestnut oak	Quercus prinus	33.5"	Fair	To Be Removed
26	tulip poplar	Liriodendron tulipifera	32"	Fair	To Remain
27	tulip poplar	Liriodendron tulipifera	36"	Fair	To Remain
28	tulip poplar	Liriodendron tulipifera	42.5" db	Good	To Remain
29	pin oak	Quercus palustris	34"	Fair	To Be Removed
30	tulip poplar	Liriodendron tulipifera	44"	Fair	To Be Removed
31	tulip poplar	Liriodendron tulipifera	35.5"	Fair	To Be Removed
32	tulip poplar	Liriodendron tulipifera	34"	Fair	To Be Removed
33	tulip poplar	Liriodendron tulipifera	33.5"	Fair	To Be Removed
34	tulip poplar	Liriodendron tulipifera	34.5"	Fair	To Be Removed
35	tulip poplar	Liriodendron tulipifera	32.5"	Fair	To Be Removed
36	tulip poplar	Liriodendron tulipifera	32"	Fair	To Be Removed
37	tulip poplar	Liriodendron tulipifera	38.5"	Fair	To Be Removed
38	tulip poplar	Liriodendron tulipifera	31"	Fair	To Remain
39	sycamore	Platanus occidentalis	41"	Good	To Remain
40	tulip poplar	Liriodendron tulipifera	57" db	Good	To Remain
41	tulip poplar	Liriodendron tulipifera	32.5"	Good	To Be Removed
42	pin oak	Quercus palustris	33"	Good	To Be Removed
43	tulip poplar	Liriodendron tulipifera	45.5" db	Fair	To Remain
44	green ash	Fraxinus pennsylvanica	40.5"	Fair	To Remain
45	white oak	Quercus alba	41"	Fair	To Remain
46	red oak	Quercus rubra	34"	Fair	To Remain
47	tulip poplar	Liriodendron tulipifera	35"	Fair	To Remain
48	tulip poplar	Liriodendron tulipifera	34.5"	Fair	To Remain
49	sycamore	Platanus occidentalis	31"	Fair	To Remain
50	silver maple	Acer saccharinum	40.5" db	Poor	To Remain
51	silver maple	Acer saccharinum	55"	Fair	To Remain
52	silver maple	Acer saccharinum	34"	Fair	To Remain
53	silver maple	Acer saccharinum	45.5"	Fair	To Remain
54	silver maple	Acer saccharinum	30"	Poor	To Remain
55	silver maple	Acer saccharinum	30" tp	Fair	To Remain
56	silver maple	Acer saccharinum	30"	Fair	To Remain
57	white pine	Pinus strobus	30"	Fair	To Remain
58	silver maple	Acer saccharinum	44"	Good	To Remain
59	yellow oak	Quercus phellos	35.5"	Poor	To Remain
60	yellow oak	Quercus phellos	30"	Fair	To Remain
61	silver maple	Acer saccharinum	44"	Good	To Remain
62	silver maple	Acer saccharinum	30"	Fair	To Remain
63	silver maple	Acer saccharinum	40"	Good	To Remain
64	sycamore	Platanus occidentalis	33.5"	Fair	To Remain
65	sycamore	Platanus occidentalis	43.5"	Good	To Remain
66	green ash	Fraxinus pennsylvanica	30"	Fair	To Remain
67	sycamore	Platanus occidentalis	30"	Good	To Remain
68	sycamore	Platanus occidentalis	32" db	Fair	To Remain
69	tulip poplar	Liriodendron tulipifera	50"	Fair	To Remain
70	tulip poplar	Liriodendron tulipifera	37"	Fair	To Remain
71	tulip poplar	Liriodendron tulipifera	30"	Fair	To Remain
72	tulip poplar	Liriodendron tulipifera	33"	Fair	To Remain
73	tulip poplar	Liriodendron tulipifera	31"	Fair	To Remain

No.	Common Name	Scientific Name	DBH (Inches)	Condition	Disposition
74	tulip poplar	Liriodendron tulipifera	46.5"	Fair	To Remain
75	tulip poplar	Liriodendron tulipifera	33"	Fair	To Remain
76	tulip poplar	Liriodendron tulipifera	32"	Fair	To Remain
77	tulip poplar	Liriodendron tulipifera	30"	Fair	To Remain
78	tulip poplar	Liriodendron tulipifera	31"	Fair	To Remain
79	tulip poplar	Liriodendron tulipifera	33"	Fair	To Remain
80	tulip poplar	Liriodendron tulipifera	30"	Fair	To Remain
81	tulip poplar	Liriodendron tulipifera	30"	Fair	To Remain
82	tulip poplar	Liriodendron tulipifera	32"	Fair	To Remain
83	red oak	Quercus rubra	30"	Fair	To Remain
84	tulip poplar	Liriodendron tulipifera	33"	Fair	To Remain
85	tulip poplar	Liriodendron tulipifera	34"	Fair	To Remain
86	tulip poplar	Liriodendron tulipifera	35.5"	Poor	To Remain
87	tulip poplar	Liriodendron tulipifera	36"	Fair	To Remain
88	tulip poplar	Liriodendron tulipifera	31"	Fair	To Remain
89	tulip poplar	Liriodendron tulipifera	30"	Fair	To Remain
90	tulip poplar	Liriodendron tulipifera	34"	Fair	To Remain
91	tulip poplar	Liriodendron tulipifera	30"	Fair	To Remain
92	tulip poplar	Liriodendron tulipifera	30"	Fair	To Remain
93	tulip poplar	Liriodendron tulipifera	30"	Fair	To Remain
94	tulip poplar	Liriodendron tulipifera	32"	Fair	To Remain
95	pin oak	Quercus palustris	32"	Good	To Remain
96	tulip poplar	Liriodendron tulipifera	32.5"	Fair	To Remain
97	tulip poplar	Liriodendron tulipifera	30"	Fair	To Remain
98	american beech	Fagus grandifolia	32"	Good	To Remain
99	chestnut oak	Quercus prinus	34.5"	Good	To Remain
100	red oak	Quercus rubra	32"	Fair	To Remain
101	tulip poplar	Liriodendron tulipifera	32"	Fair	To Remain
102	tulip poplar	Liriodendron tulipifera	32"	Fair	To Remain
103	pin oak	Quercus palustris	30"	Good	To Remain
104	tulip poplar	Liriodendron tulipifera	35.5"	Good	To Remain
105	tulip poplar	Liriodendron tulipifera	32"	Good	To Remain
106	pin oak	Quercus palustris	32"	Good	To Remain
107	tulip poplar	Liriodendron tulipifera	32"	Fair	To Remain
108	tulip poplar	Liriodendron tulipifera	30.5"	Fair	To Remain
109	tulip poplar	Liriodendron tulipifera	31"	Fair	To Remain
110	pin oak	Quercus palustris	34"	Good	To Remain
111	tulip poplar	Liriodendron tulipifera	31"	Fair	To Remain
112	tulip poplar	Liriodendron tulipifera	30.5"	Fair	To Remain
113	tulip poplar	Liriodendron tulipifera	32"	Fair	To Remain
114	tulip poplar	Liriodendron tulipifera	32"	Fair	To Remain
115	american beech	Fagus grandifolia	31"	Fair	To Remain
116	tulip poplar	Liriodendron tulipifera	36"	Fair	To Be Removed
117	tulip poplar	Liriodendron tulipifera	31.5"	Fair	To Remain
118	tulip poplar	Liriodendron tulipifera	30.5"	Fair	To Remain
119	tulip poplar	Liriodendron tulipifera	34"	Fair	To Remain
120	tulip poplar	Liriodendron tulipifera	31"	Fair	To Remain
121	tulip poplar	Liriodendron tulipifera	31"	Fair	To Remain
122	tulip poplar	Liriodendron tulipifera	30"	Fair	To Remain
123	green ash	Fraxinus pennsylvanica	34"	Good	To Remain
124	pin oak	Quercus palustris	35"	Good	To Remain
125	tulip poplar	Liriodendron tulipifera	30"	Fair	To Remain
126	tulip poplar	Liriodendron tulipifera	36"	Fair	To Remain
127	tulip poplar	Liriodendron tulipifera	31.5"	Fair	To Remain
128	tulip poplar	Liriodendron tulipifera	36"	Fair	To Remain
129	sycamore	Platanus occidentalis	34"	Good	To Remain
130	green ash	Fraxinus pennsylvanica	30"	Good	To Remain
131	sycamore	Platanus occidentalis	45"	Fair	To Remain
132	sycamore	Platanus occidentalis	34"	Fair	To Remain
133	sycamore	Platanus occidentalis	34"	Good	To Remain
134	sycamore	Platanus occidentalis	31"	Good	To Remain
135	sycamore	Platanus occidentalis	30"	Poor	To Remain
136	sycamore	Platanus occidentalis	36"	Good	To Remain
137	sycamore	Platanus occidentalis	44"	Good	To Remain
138	sycamore	Platanus occidentalis	48"	Fair	To Remain
139	green ash	Fraxinus pennsylvanica	30.5"	Fair	To Remain
140	red oak	Quercus rubra	34"	Fair	To Remain
141	tulip poplar	Liriodendron tulipifera	36"	Fair	To Remain
142	tulip poplar	Liriodendron tulipifera	31.5"	Fair	To Be Removed
143	yellow poplar	Liriodendron tulipifera	31.5"	Fair	To Be Removed
144	chestnut oak	Quercus prinus	31.5"	Good	To Be Removed
145	tulip poplar	Liriodendron tulipifera	31.5"	Fair	To Be Removed
146	tulip poplar	Liriodendron tulipifera	31.5"	Fair	To Be Removed

### FOREST CONSERVATION NOTES

- Cutting or clearing of woodland not in conformance with this plan or without the expressed written consent of Howard County Department of Planning and Zoning or designee, is prohibited.
- Notify Howard County Environmental Department, 48 hours in advance, at (410) 315-4755 for the pre-construction meeting, inspection of retention line (tree protection device), completion of construction activities and for inspection of reforestation/afforestation as it is being installed.

- Property owners shall be notified by the Developer or Contractor, of any Woodland Conservation Areas (Tree Save Areas, Reforestation Areas, Afforestation Areas or Selective Clearing Areas) located on their lot or parcel of land and the associated fines for unauthorized disturbances to these areas. Upon the sale of the property the owner/developer or owners representative shall notify the purchaser of the property of any Woodland Conservation Areas.
- Fires permitted in the construction area shall conform with State and local regulations for fire control, and may not enter the retention area or its canopy.

- The location of all Tree Protection Devices (TPD's) shown on this Plan, shall be flagged or staked in the field prior to the pre-construction meeting with the Howard County Environmental Department. Upon approval of the flagged or staked TPD locations by the inspector, installation of the TPD's may begin. TPD installation shall be completed prior to installation of initial sediment controls. No cutting or clearing of trees may begin before final approval of the TPD installation.
- All field personnel, including equipment operators and supervisors who might work or direct work in the vicinity of protected trees are to be instructed in techniques for avoiding damage to these trees by the landscape Architect, DNR or a Qualified Professional.

- The layout of the construction site shall provide for special, marked areas for fueling, oil changing and equipment maintenance and stockpiling. These activities shall not be permitted closer to the retention line than the deposit of silt or the washing or leaching of petroleum products or other harmful substances, into the tree save areas.
- The following are not allowed within a tree save area:
  - Depositing of refuse, construction debris, spill, petroleum products and vehicle or equipment waste water.
  - Dumping of limbs, stumps, and other clearing debris.
  - Driving of any vehicle or equipment.
  - Storage or stockpiling of materials and supplies.
  - Lighting of any fire, including cooking or warming fires.
- Woodland Conservation - Tree Save Areas and/or Reforestation shall be posted as shown at the same time as the Tree Protective Device installation and/or start of reforestation activities. These signs shall remain in place for five years after completion of work.

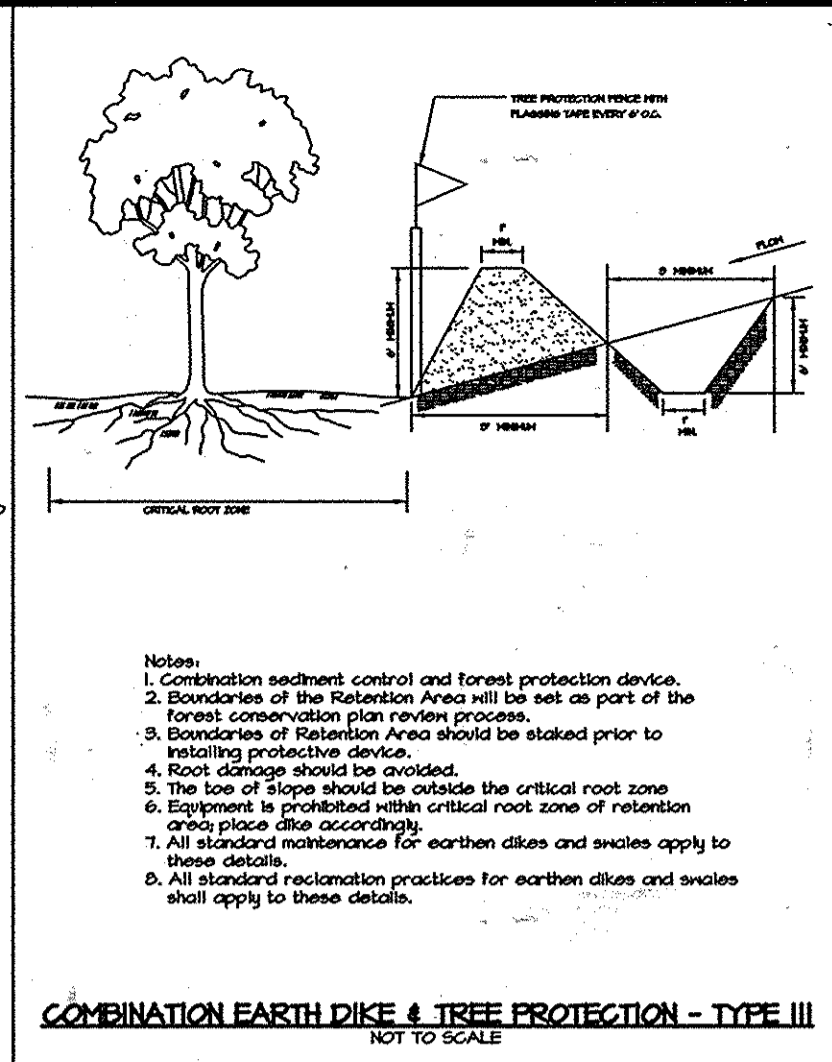
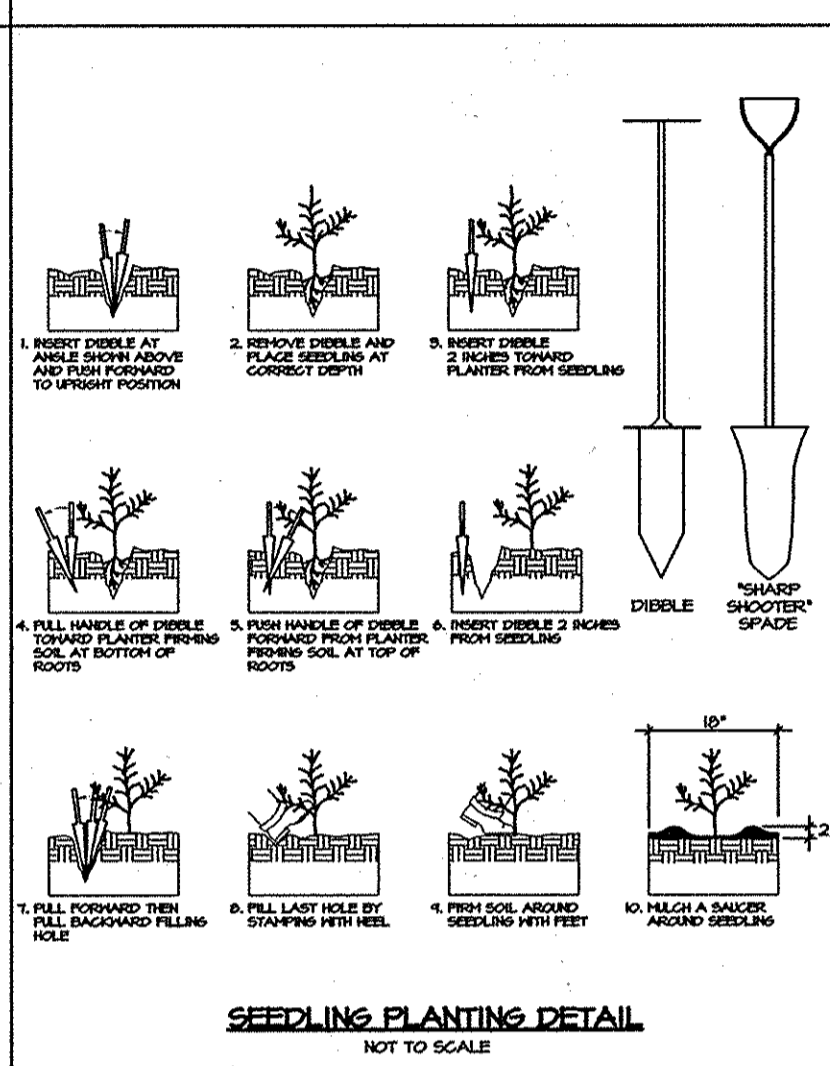
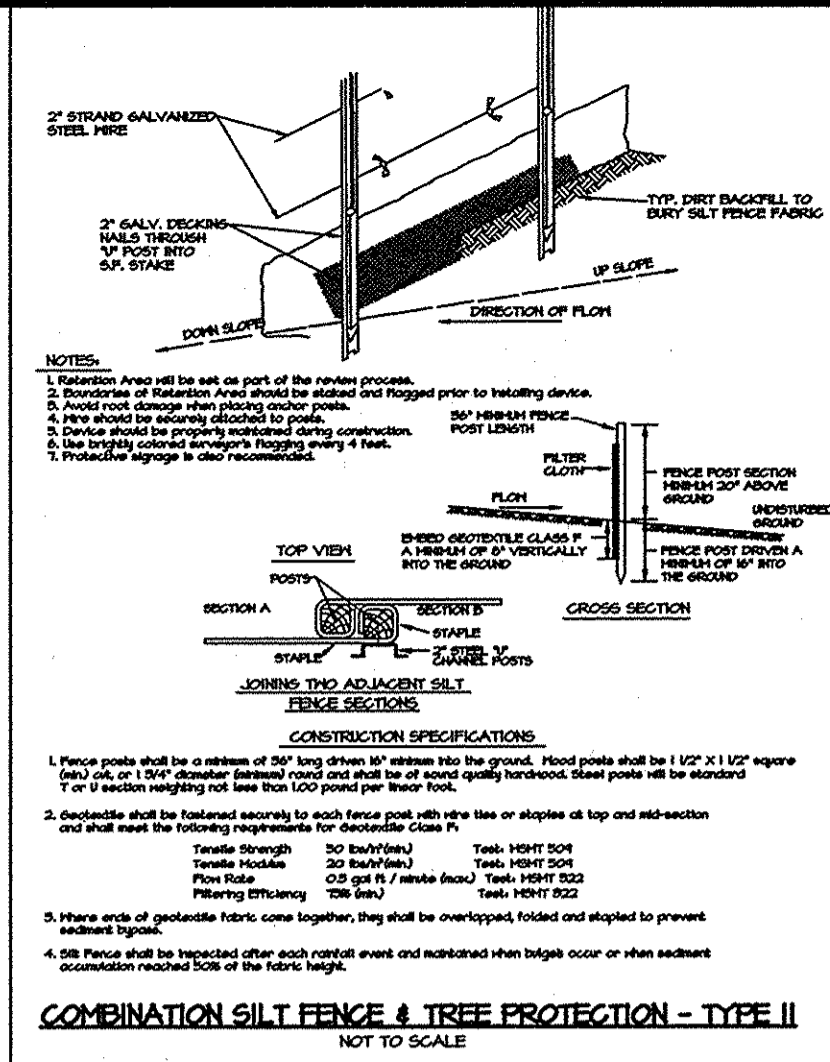
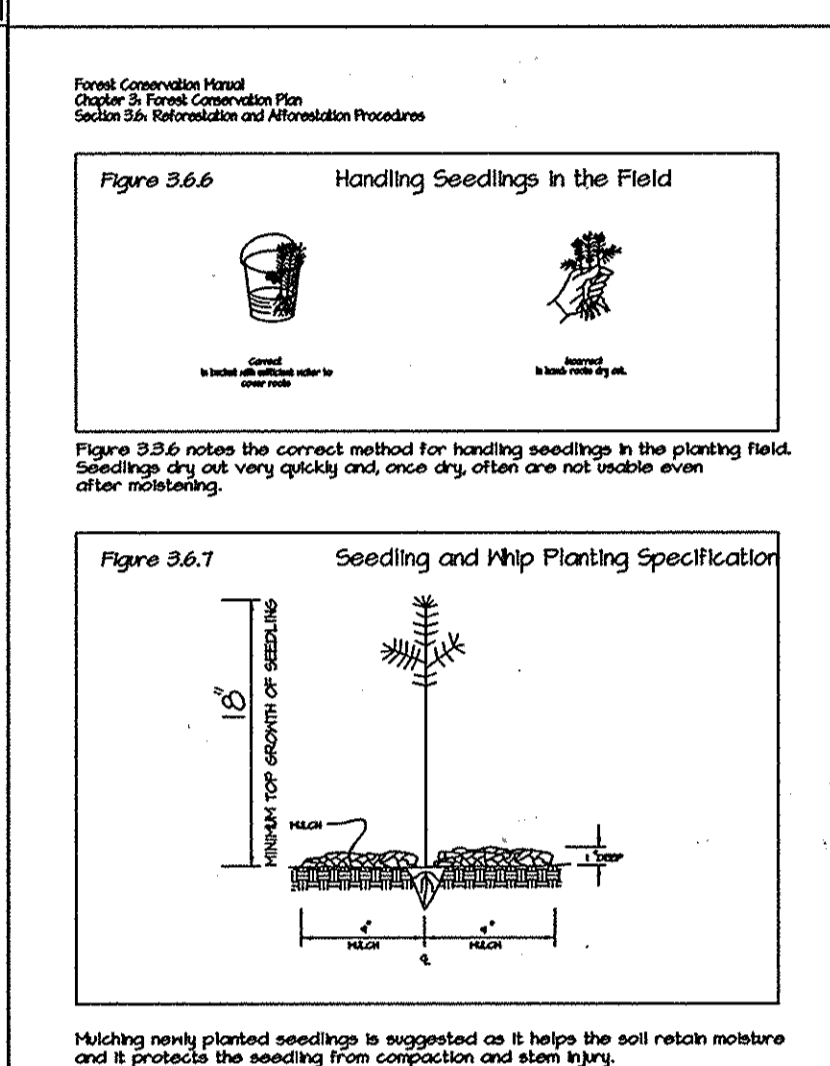
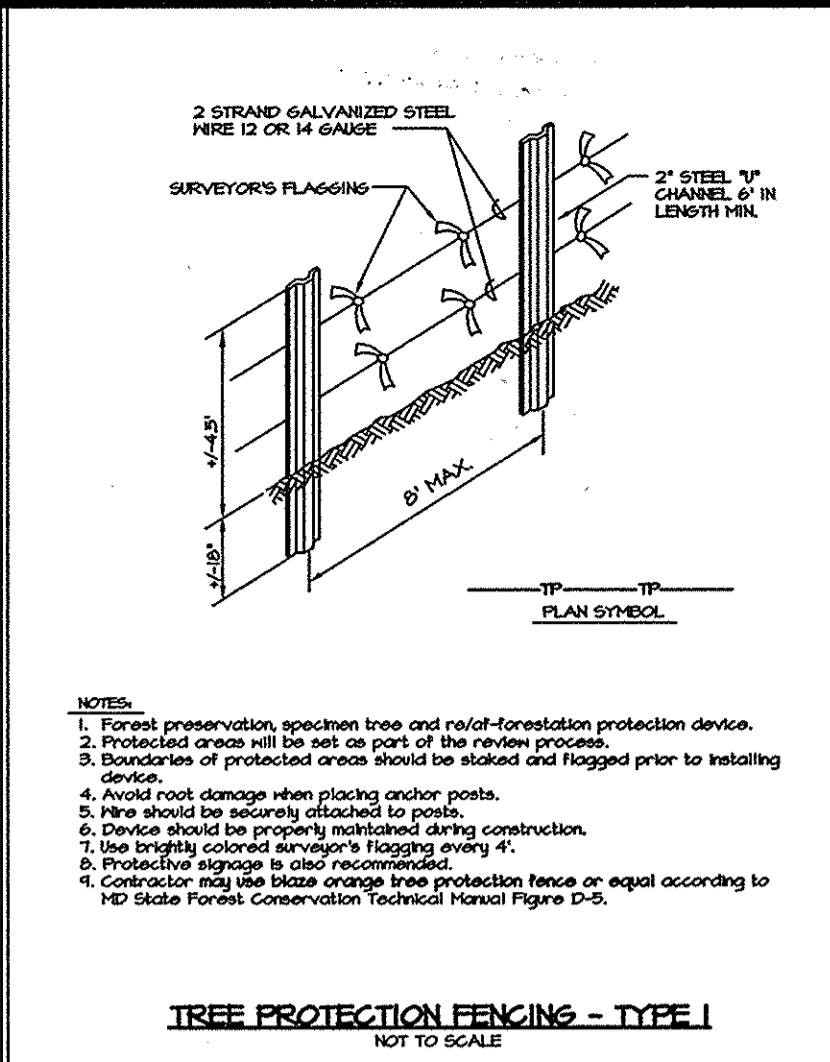
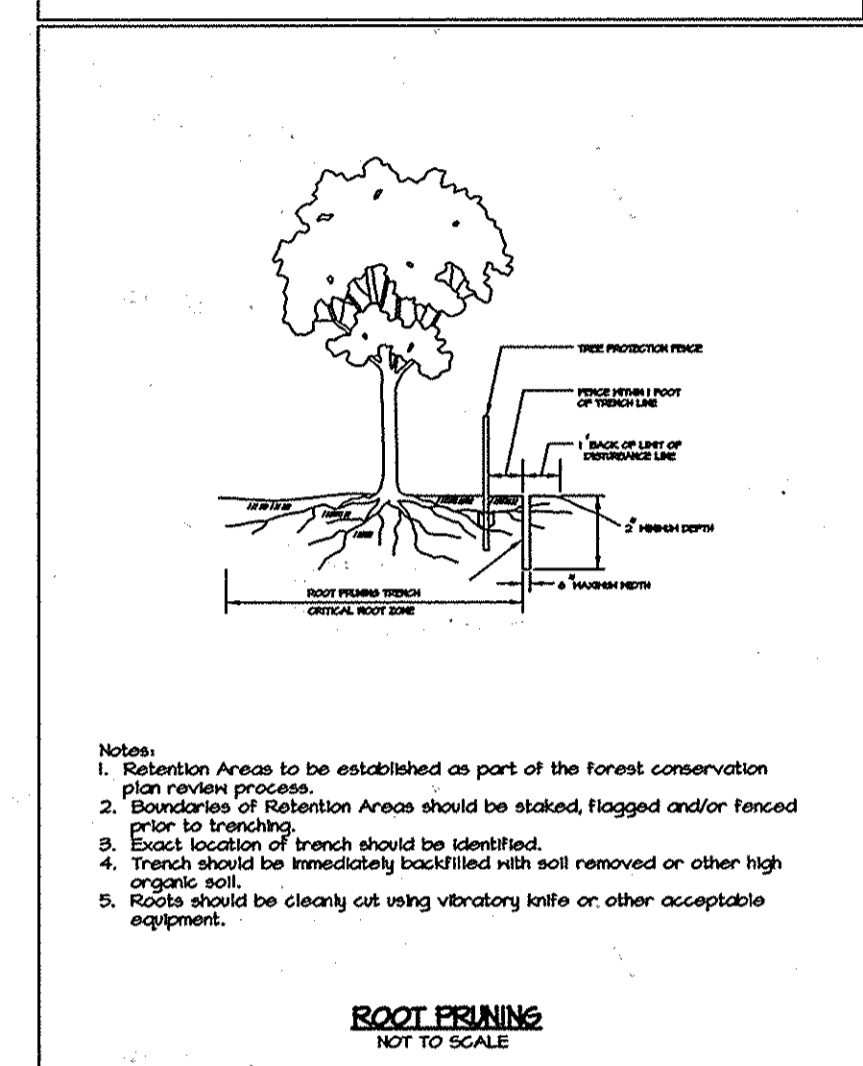
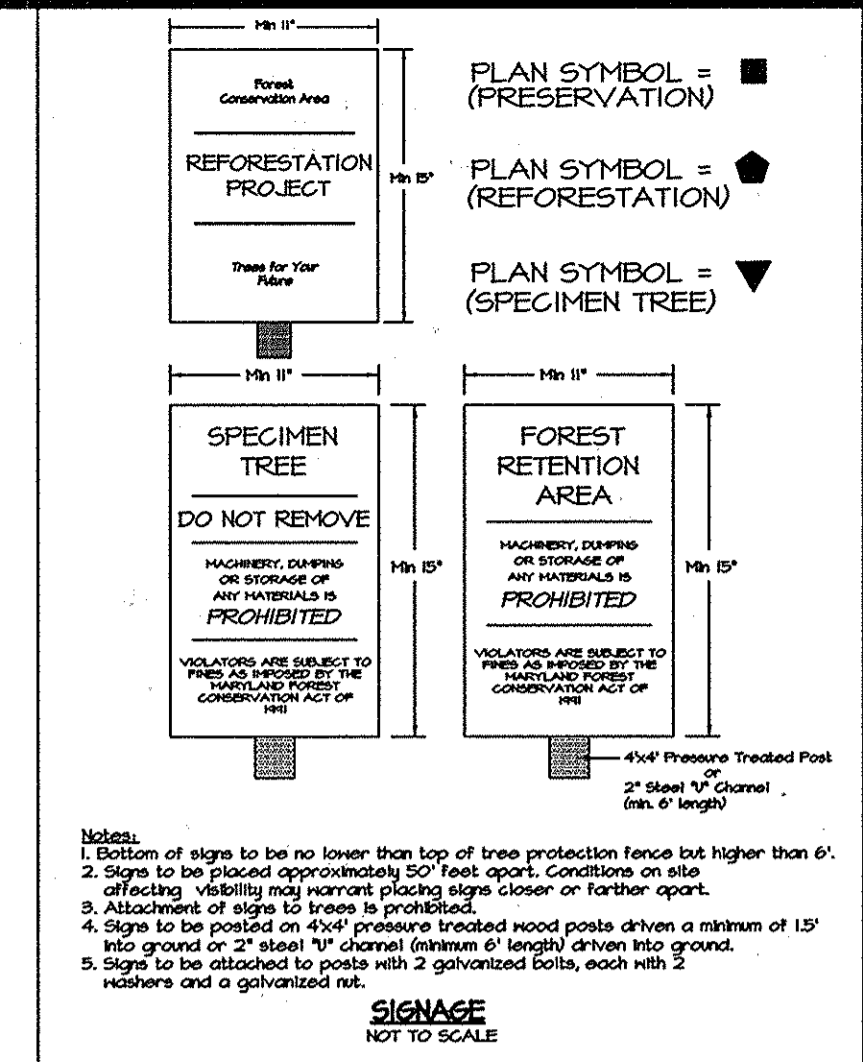
- All Tree conservation shall be performed in accordance with the Howard County Forest Conservation Manual, latest edition.
- Reforestation planting shall be completed within 1 year or 2 growing seasons after the completion of the development project.

- PRE-CONSTRUCTION ACTIVITIES**
- Prior to any disturbance of the site, the tree save lines shall be field located by surveying techniques and the appropriate tree protective device (see detail) shall be erected along these designated lines. Only after the tree protective devices have been installed shall any tree cutting or other clearing, grubbing or grading operations begin. All protection devices shall remain in place until all construction has ceased in the immediate vicinity. Devices shall be maintained throughout construction. Attachment of signs, or any other objects, to trees is prohibited. No equipment, machinery, vehicles, materials or excessive pedestrian traffic shall be allowed within protected areas.
  - After the boundaries of the retention area have been staked and flagged and before any disturbance has taken place on site, a pre-construction meeting at the construction site shall take place. The developer, contractor or project manager, and appropriate local inspectors shall attend.

- Reforestation planting shall be done after the final grading is established, stabilized and approved. Reforestation techniques and methods must comply with the details and specifications provided hereon.

- PLANTING SPECIFICATIONS FOR RE/AFFORESTATION AREAS**
- Quantity: (see Plant Schedule)
  - Type: (see Plant Schedule)
  - Plant Quality Standards: The plants selected shall be healthy and sturdy representatives of their species. Seedlings shall have a minimum top growth of 18". The diameter of the root collar (the part of the root just below ground level) shall be at least 3/8". The roots shall be well developed and at least 6" long. No more than twenty-five percent (25%) of the root system (both primary and auxiliary/fibrous) shall show evidence of being cut (pruned) or stripped from the plant during the digging process. Substantial auxiliary/fibrous roots shall be present.

- Plants that do not have an abundance of well developed terminal buds on the leaders and branches shall be rejected.
- Plants shall be shipped by the nursery immediately after lifting from the field or removal from the greenhouse, and planted immediately upon receipt by the landscape contractor.
- If the plants cannot be planted immediately after delivery to the reforestation site, they shall be stored in the shade with their root masses protected from direct exposure to sun and wind by the use of straw, peat moss, compost, or other suitable material and shall be maintained through periodic watering, until the time of planting.
- Plant Handling: The quantity of seedlings taken to the field shall not exceed the quantity that can be planted in a day. Seedlings, once removed from the nursery or temporary storage area shall be planted immediately.
  - Timing of Planting: The best time to plant seedlings is while they are dormant, prior to spring budding. The most suitable months for planting are March and April, when the soil is moist. November and early December are also acceptable planting times for this region as cool and cloudy weather is considered ideal. Planting shall occur within one growing season of the issuance of grading/building permits and/or reaching the final grades and stabilization of planting areas.
  - Seeding Planting: Tree seedlings can be hand planted using a dibble bar or sharp-shooter shovel. It is important that the seedling be placed in the hole so that the roots can spread out naturally; they should not be twisted, balled up, or bent. Moist soil should then be packed firmly around the roots. Seedlings should be planted at a depth where their roots collars lie just below the ground surface. Air pockets should not be left after closing the hole which would allow the roots to dry out. See planting details for further explanation. If the contractor wishes to plant by another method, the preparer of this tree conservation plan must be contacted and give his approval before planting may begin.
  - Spacing: See Plant Schedule and/or Planting Plan for spacing requirements. Also refer to the Planting Layout detail for a description of the general planting theory.
  - Soil: Upon the completion of all grading operations, a soil test shall be conducted to determine what soil preparation and soil amendments, if any, are necessary to create good tree growing conditions. Soil samples shall be taken at a rate that provides one soil sample for each area that appears to have a different soil type (if the entire area appears uniform, then only one sample is necessary), and submitted for testing to a private company. The company of choice shall make recommendations for improving the existing soil. The soil will be tested and recommended for corrections of soil texture, pH, magnesium, phosphorus, potassium, calcium and organic matter.
  - Soil Improvement Measures: The soil shall then be improved according to the recommendations made by the testing company.
  - Fencing & Signage: Final protective fencing shall be placed on the visible and/or development side of planting areas. The protective fence shall be installed upon completion of planting operations. Signs shall be posted per the signage detail on this sheet.



**PLANT SCHEDULE FOR RE/AFFORESTATION**

STOCK SPECIFICATION:  
 100 SEEDLINGS PER ACRE

TOTAL RE/AFFORESTATION PROVIDED: 1,411 ACRES

Reforestation Area	Acreage	Seedling Selection						Total No. of Seedlings
		Box Elder	Tulip Poplar	Sycamore	Red Oak	White Oak		
1	0.30	42	42	42	42	42	210	
2	0.06	4	4	4	4	4	45	
3	0.03	5	5	5	5	5	45	
4	0.01	2	2	2	2	2	10	
5	0.03	5	5	5	5	5	25	
6	0.14	27	27	27	27</			