PRELIMINARY EQUIVALENT SKETCH PLAN

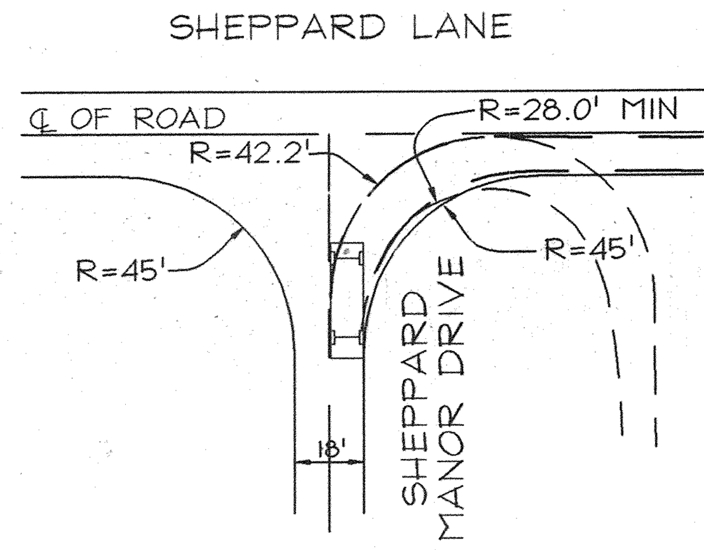
SHEPPARD MANOR

LOTS 1 THRU 19 AND NON-BUILDABLE PRESERVATION PARCELS 'A', 'B', 'C' & 'D'

HOWARD COUNTY, MARYLAND

GENERAL NOTES

1. Subject property zoned RC-DEO per 02/02/04 Comprehensive Zoning Plan.
2. Private water and sewer will be used within this site. Lots 1 thru 6 and 15 thru 19 will utilize a shared septic system.
3. Total area of property: 42.885 ac.±
4. Area of proposed public R/W: 2.116 ac.±
5. Number of proposed buildable lots: 19
   Area of proposed buildable lots: 19.182 ac.±
6. Number of proposed non-buildable preservation parcels: 4
   Area of proposed non-buildable preservation parcels: 21.59 ac.±
7. Density calculations:
   a.) Total area of property = 42.885 Ac.±
   b.) Area of steep slopes = 2.060 Ac.±
   c.) Net Area of property = 40.825 Ac.±
   d.) Total number of Units based on own density:
   42.885 Ac./4.25 Ac.per unit=10.1 units therefore 10 units.
   e.) Maximum number of units allowed utilizing the DEO option:
   40.825 Ac. / 2 Acres per Unit = 20 Units
   f.) Number of DEO Units required = 19-10 = 9 DEO Units
8. The lots shown hereon comply with the minimum ownership, width and lot area as required by the Maryland State Department of the Environment.
9. ▨ This area designates a private sewage easement of at least 10,000 square feet (or 10,000 square feet per lot for shared drain fields associated with a shared sewage disposal facility) 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 adjustments to the private sewage easement.
10. All wells and septic fields within 100' of property's boundary have been shown.
11. All percolation test holes and their elevations have been field located by FSH Associates registered land surveyor.
12. On-site topography based on a Field Run Topographic Survey prepared by FSH Associates dated 1/12/04. Off-site and non-critical topography based on Howard County 1998 Aerial Topographic Surveys with five foot contours.
13. All wells to be drilled prior to submittal of final 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.
14. Groundwater appropriations permit #HO20056007(01)
15. A.P.F.O. traffic study prepared by Street Traffic Studies on September 24, 2004.
16. Wetlands Analysis prepared by Exploration Research Inc.
17. The project is not within the metropolitan district.
18. The project is in conformance with the latest Howard County Standards unless waivers have been approved.
19. The coordinates shown hereon are based upon the Howard County Geodetic Control which is based on the Maryland State Plane Coordinate system. Howard County monument numbers 0019 and 0040 were used for this project.
20. S.W.M. for cpv and wqv is provided in a Micro Pool Extended Detention facility and grass channels. Rev will be provided in grass swales. The facility will be privately owned with joint maintenance by the H.O.A. and Howard County.
21. No clearing, grading or construction is permitted within wetlands, streams or their required buffers. The disturbance of the wetlands and stream buffers for breaching the existing pond is approved under section 16.116(c).
22. The geotechnical report for this project was prepared by Herbst, Benson and Associates dated August, 2004.
23. Street trees along Road 'A' and perimeter landscaping will be shown at Final Plan stage.
24. 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.
25. Forest Conservation for this project is met partially by retention of 11.50 Ac of existing forest on Preservation Parcel 'A' and 'C', and 0.85 Ac of planting on Parcel 'C'. Preliminary surety estimate: $ 118,701.00.
26. Preservation parcels 'A' & 'C' shall be privately owned and maintained with Howard County and Homeowners Association, as Easement Holders. Preservation parcels 'B' and 'D' shall be Homeowners Association owned and maintained with Howard County as easement holders.
27. All existing structures on site shall be removed prior to record plat signature and recordation.
28. All wells to be field located after being drilled by a licensed surveyor prior to building permit issuance.
29. A groundwater discharge permit must be issued by the Maryland Department of the Environment prior to final approval of the shared septic system.
30. Sheppard Lane is a scenic road. The scenic road exhibit was approved by comment dated December 23, 2004.
31. There are no Historic structures on-site.
32. There are no cemetaries on-site.
33. Lots 1 thru 6 and 15 thru 19 shall be served by the shared septic system.



MINIMUM TURNING PATH FOR SU DESIGN VEHICLE

SCALE 1"=50'

ROAD CLASSIFICATION

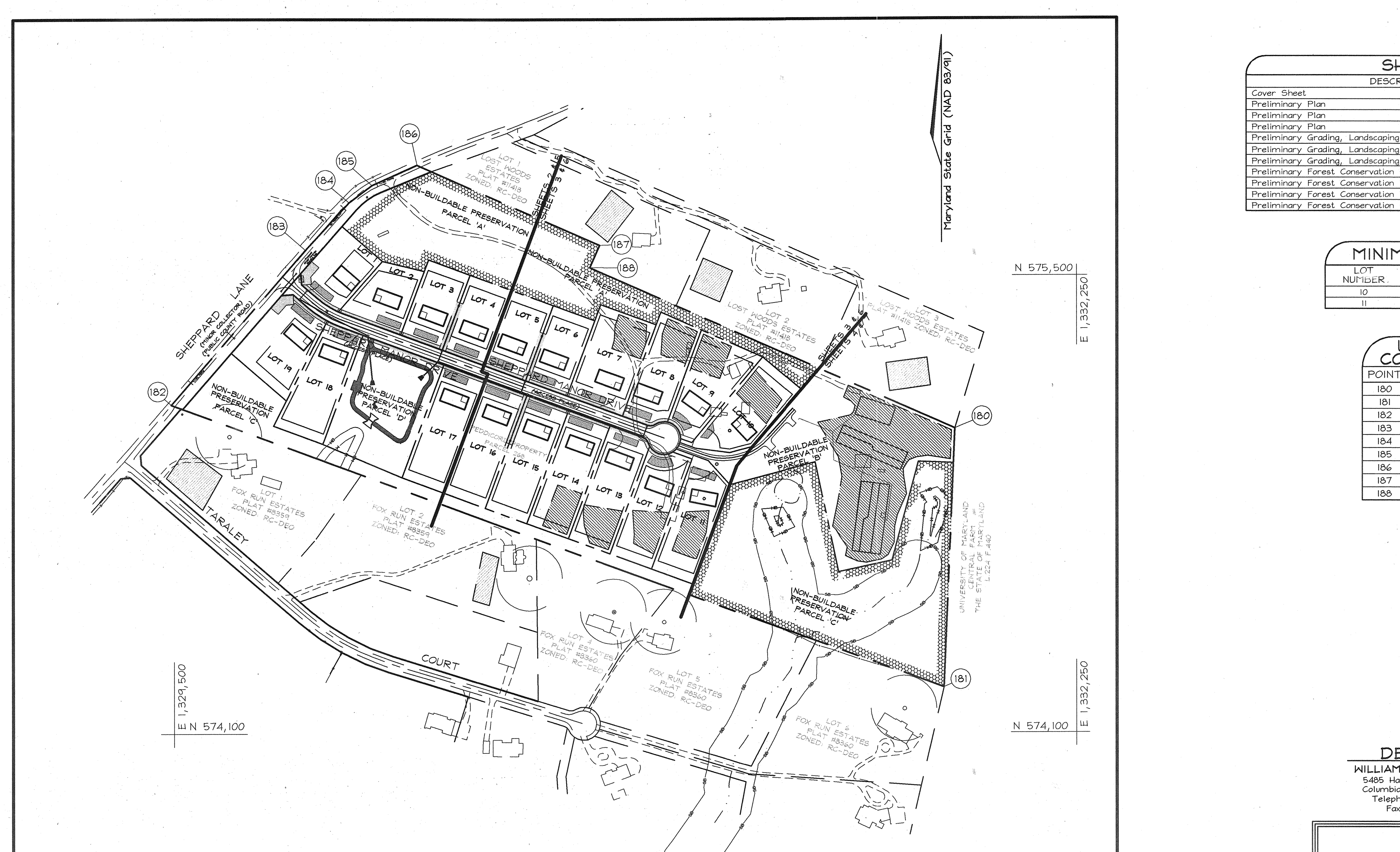
ROAD NAME	CLASSIFICATION	R/W
Road 'A'	Public Access Place	40'

CENTERLINE ROAD CURVE DATA

CURVE No.	RADIUS	LENGTH	DELTA	TANGENT	CHORD BEARING
C1	300.00	108.33	20°41'23"	54.76	N59°25'20"W 107.74

APPROVED : FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS IN ACCORDANCE WITH THE MASTER PLAN OF HOWARD COUNTY

for Robert J. Weber — 5/13/05
COUNTY HEALTH OFFICER — DATE
HOWARD COUNTY HEALTH DEPARTMENT

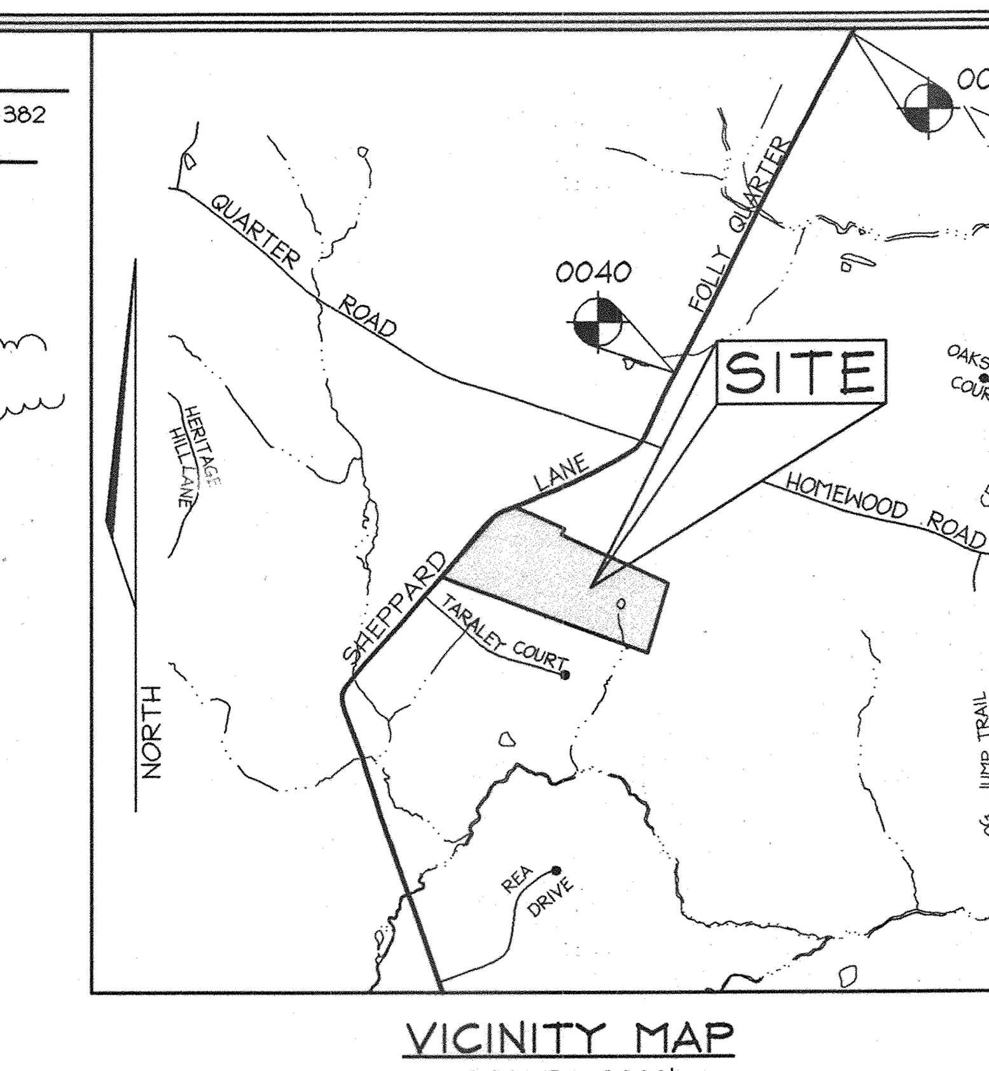


LOCATION MAP

SCALE: 1"=200'

LEGEND

Existing Contour	- - - - - - - - - -382
Proposed Contour	—(444)—
Direction of Flow	←
Existing Spot Elevation	382.3
Proposed Spot Elevation	+82⁵³
Existing Trees	
Proposed Septic Easement	▨
Existing Septic Easement	▨
15-24.99% Slopes	▒
25-50% Slopes	▩
Wetlands	
Use-In_Common Access Easement	▨
Existing Perc Test(Passed)	619 ●
Existing Perc Test(Failed)	F618 ⊕



VICINITY MAP

SCALE:1=2000'

BENCHMARKS

Sta. 0019	N 176,927.0394	E 406,505.1110	El.: 117.6061 (meters)
	N 580,468.128	E 1,333,675.518	El.: 385.846 (feet)
Sta. 0040	N 175,952.4260	E 405,995.1970	El.: 111.3465 (meters)
	N 577,270.584	E 1,332,002.575	El.: 365.309 (feet)

SHEET INDEX

MINIMUM LOT SIZE CHART

LOT NUMBER	GROSS AREA (sf)	PIPESTEM AREA (sf)	MINIMUM LOT SIZE
10	47,182±	267±	46,915±
11	48,708±	439±	48,269±

U.S. EQUIVALENT COORDINATE TABLE

POINT	NORTHING	EASTING
180	575,031.8070	1,331,879.1180
181	574,239.8160	1,331,846.0630
182	575,107.5480	1,329,491.6380
183	575,582.0730	1,329,900.7110
184	575,728.0700	1,330,033.3260
185	575,781.0180	1,330,102.9060
186	575,842.9280	1,330,240.6460
187	575,597.1480	1,330,797.2270
188	575,528.7570	1,330,767.1090

TENTATIVELY APPROVED
DEPT. OF PLANNING AND ZONING OF HOWARD COUNTY

[illegible] — 6/15/05
PLANNING DIRECTOR — DATE
JA

DEVELOPER
WILLIAMSBURG GROUP LLC
5485 Harpers Farm Road #200
Columbia, Maryland 21044-3834
Telephone: (410) 997-8800
Fax: (410) 997-4358

OWNER
David C. Peddicord
4485 Sheppard Lane
Ellicott City, Maryland 21042

COVER SHEET

SHEPPARD MANOR
LOTS 1 THRU 19 AND NON-BUILDABLE PRESERVATION PARCELS 'A', 'B', 'C' & 'D'
TAX MAP 29 GRID 01 — PARCEL 268
5TH ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

STATE OF MARYLAND ★ ZACHARIA YOSEF FISCH 22418 PROFESSIONAL ENGINEER ★
Zacharia y. Fisch

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Engineers Planners Surveyors
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DESIGN BY: KO
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SCALE: As Shown
DATE: May 3, 2005
W.O. No.: 3160
SHEET No.: 1 OF 11

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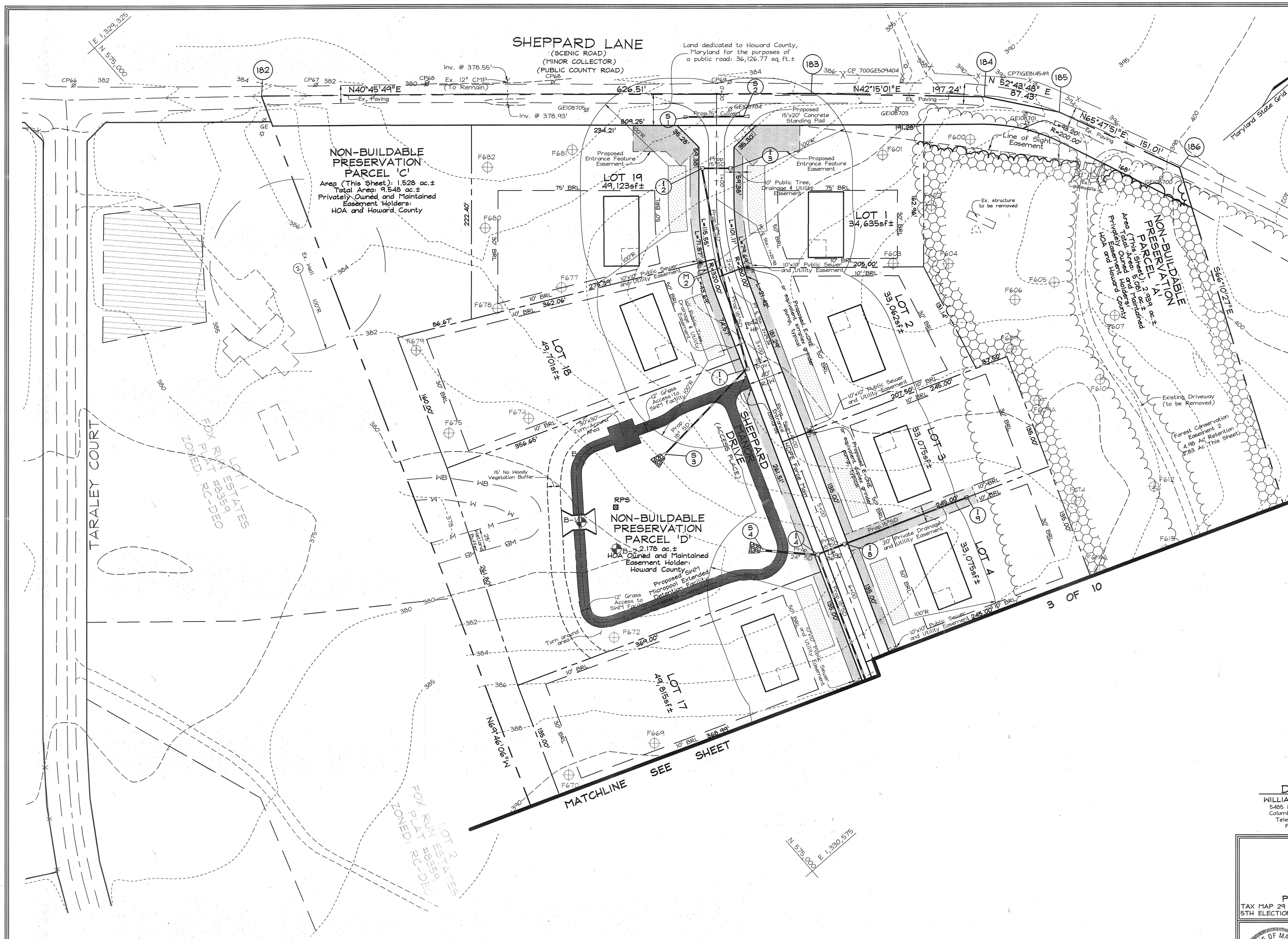

APPROVED : FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS IN ACCORDANCE WITH THE MASTER PLAN OF HOWARD COUNTY

for Robert J. Weber — 5/13/05

COUNTY HEALTH OFFICER
HOWARD COUNTY HEALTH DEPARTMENT — DATE

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[illegible] — 6/15/05
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DEVELOPER	OWNER
WILLIAMSBURG GROUP LLC 5485 Harpers Farm Road #200 Columbia, Maryland 21044-3834 Telephone: (410) 997-8800 Fax: (410) 997-4358	David C. Peddicord 4485 Sheppard Lane Ellicott City, Maryland 21042

PRELIMINARY EQUIVALENT SKETCH PLAN

SHEPPARD MANOR

LOTS 1 THRU 19 AND NON-BUILDABLE PRESERVATION PARCELS 'A', 'B', 'C' & 'D'

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5TH ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

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COUNTY HEALTH OFFICER, HOWARD COUNTY HEALTH DEPARTMENT — 5/13/05 DATE

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SHEPPARD MANOR
LOTS 1 THRU 19 AND NON-BUILDABLE PRESERVATION PARCELS 'A', 'B', 'C' & 'D'

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5TH ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

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

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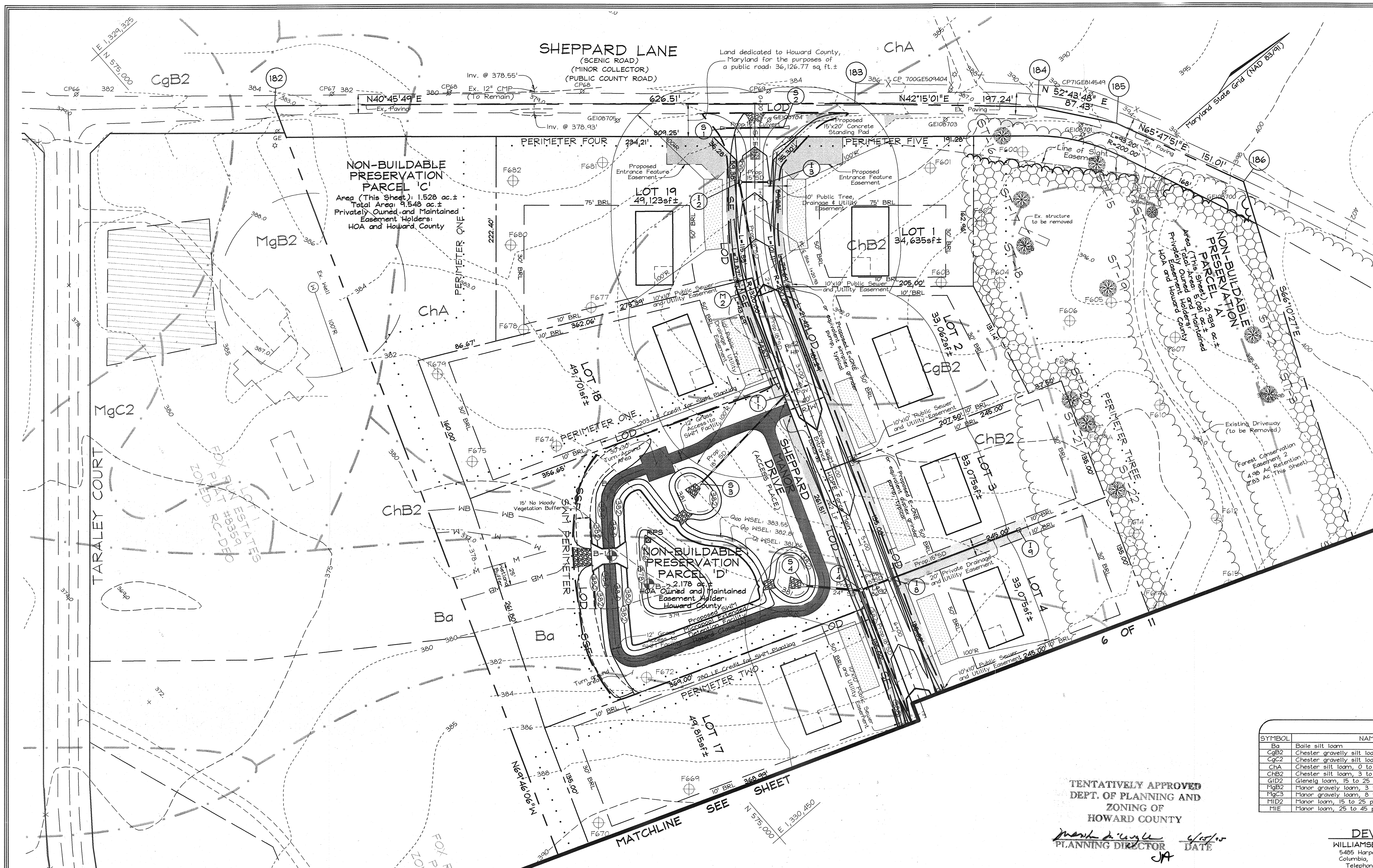

LEGEND

Existing Contour	- - - - - - -382
Proposed Contour	—(82)—
Spot Elevation	+82 53
Direction of Flow	←
Tree Protection Fence	
Existing Trees to Remain	
Stabilized Construction Entrance	SCE
Silt Fence	—SF—SF—
Super Silt Fence	—SSF—SSF—
Limit of Disturbance	— LOD —
Landscape Perimeter	PERIMETER ONE
Removable Pumping Station	⊠RPS

SOILS LEGEND

SYMBOL	NAME / DESCRIPTION	SOIL GROUP
Ba	Baile silt loam	D
CgB2	Chester gravelly silt loam, 3 to 8 percent slopes, moderately eroded	B
CgC2	Chester gravelly silt loam, 8 to 15 percent slopes, moderately eroded	B
ChA	Chester silt loam, 0 to 3 percent slopes	B
ChB2	Chester silt loam, 3 to 8 percent slopes, moderately eroded	B
GlD2	Glenelg loam, 15 to 25 percent slopes, moderately eroded	B
MgB2	Manor gravely loam, 3 to 8 percent slopes, moderately eroded	B
MgC3	Manor gravely loam, 8 to 15 percent slopes, severely eroded	B
MlD2	Manor loam, 15 to 25 percent slopes, moderately eroded	B
MlE	Manor loam, 25 to 45 percent slopes	B

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SCHEDULE D : STORMWATER MANAGEMENT AREA LANDSCAPING

Linear Feet of Perimeter	1038 LF
Credit for Existing Vegetation (No, Yes and Linear Feet)	No
Credit for other Landscaping (No, Yes and %)	N/A
Number of Trees Required Shade Trees Evergreen Trees	 21 Shade Trees 26 Evergreen Trees

SCHEDULE A PERIMETER LANDSCAPE EDGE

CATEGORY	ADJACENT TO ROADWAYS			ADJACENT TO PERIMETER PROPERTIES			
Perimeter/Frontage Designation Landscape Type	4 B	5 B		1 A	2 A	3 A	
Linear Feet of Roadway Frontage/Perimeter	234	191		826	1840	2099	
Credit for Existing Vegetation (Yes, No, Linear Feet) Remaining Perimeter Length	No	No		Yes** 203 (623)	Yes*&*** 717 (1123)	Yes*&*** 1679 (420)	
Credit for Wall, Fence or Berm (Yes, No, Linear Feet) Remaining Perimeter Length	No	No		No	No	No	
Number of Plants Required Shade Trees Evergreen Trees Shrubs	 1:50 5 1:40 6 –	 1:50 4 1:40 5 –		 1:60 11 – –	 1:60 19 – –	 1:60 33 – –	

* Credit from FCE Perimeter
** Credit from SWM Perimeter
*** Existing woods to remain

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for COUNTY HEALTH OFFICER 5/13/05
HOWARD COUNTY HEALTH DEPARTMENT DATE

PRELIMINARY GRADING, LANDSCAPE, SEDIMENT AND EROSION CONTROL AND SOILS PLAN

SHEPPARD MANOR

LOTS 1 THRU 19 AND NON-BUILDABLE PRESERVATION PARCELS 'A', 'B', 'C' & 'D'

TAX MAP 29 GRID 01 PARCEL 268
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

STATE OF MARYLAND ZACHARIA YOSEF FISCH 22418 PROFESSIONAL ENGINEER

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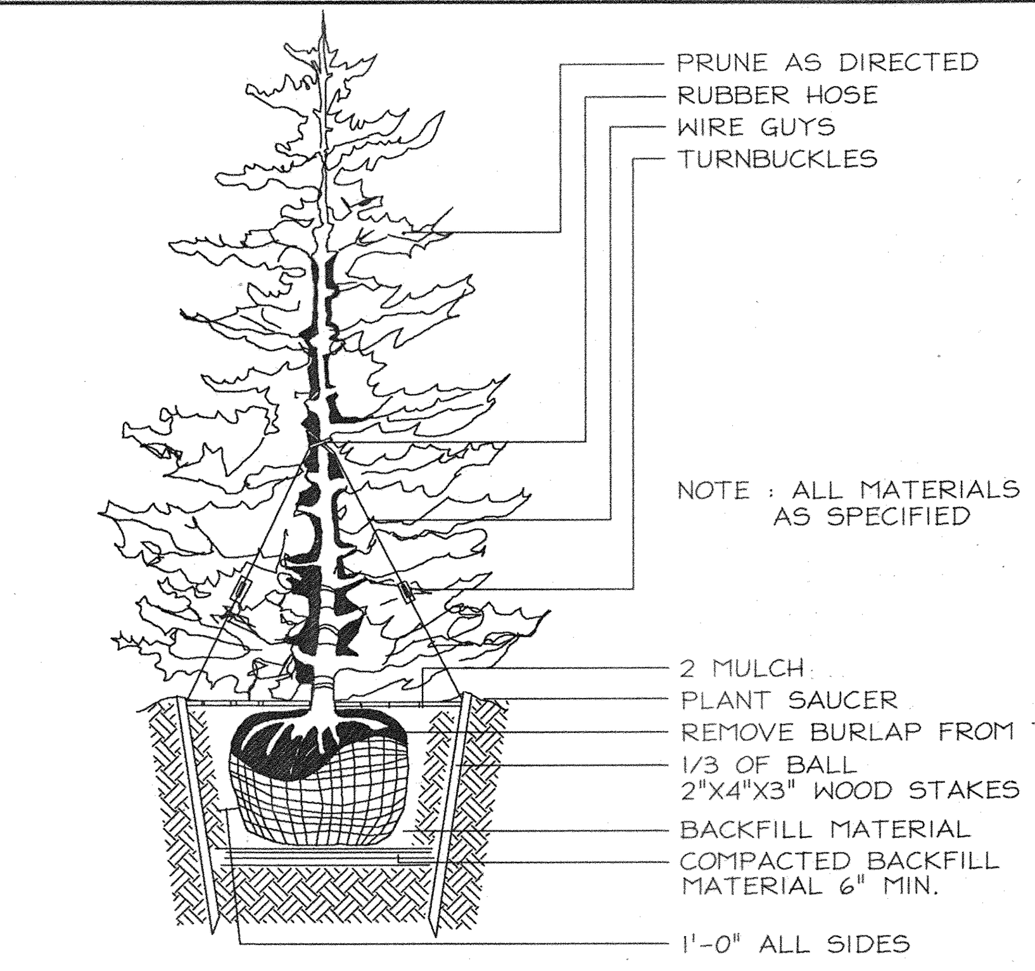
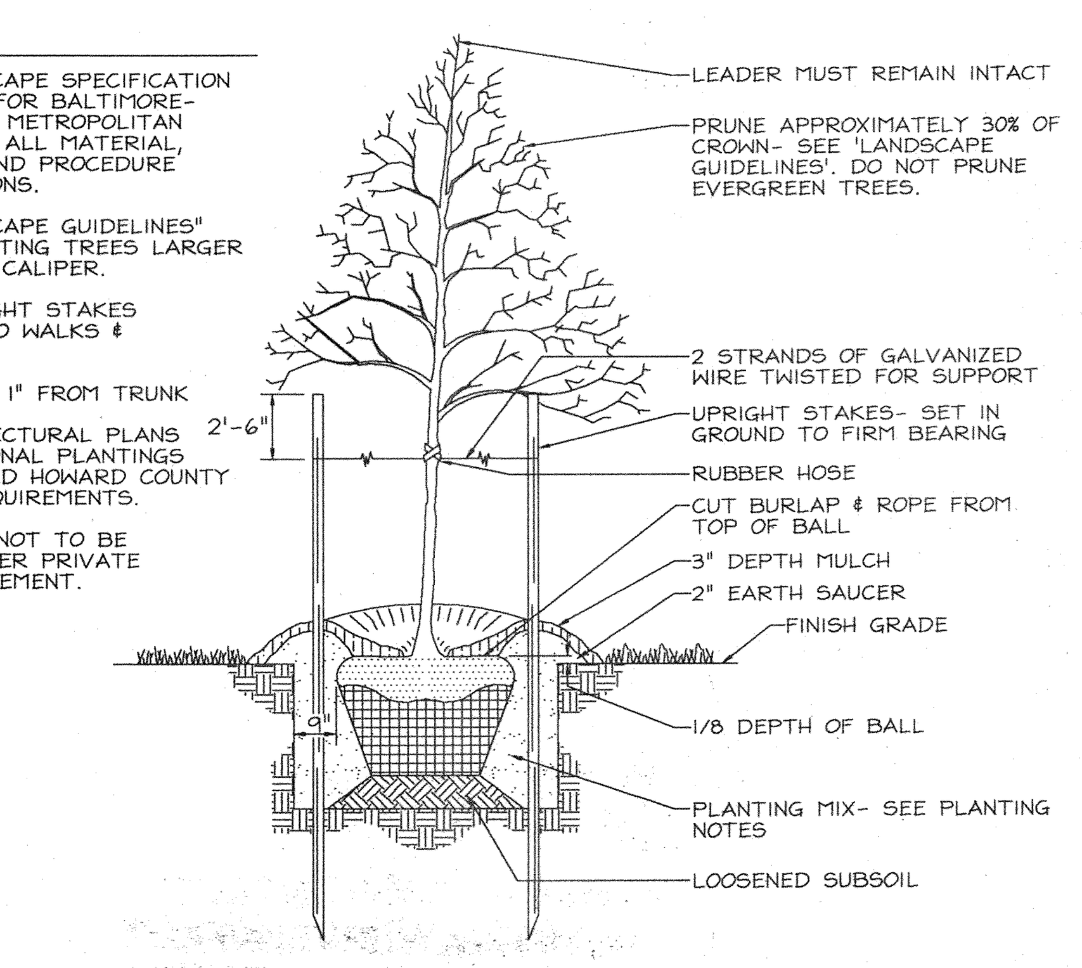


TYPICAL EVERGREEN TREE PLANTING DETAIL

NOT TO SCALE

NOTES

1. SEE "LANDSCAPE SPECIFICATION GUIDELINES FOR BALTIMORE-WASHINGTON METROPOLITAN AREAS" FOR ALL MATERIAL, PRODUCT, AND PROCEDURE SPECIFICATIONS.
2. SEE "LANDSCAPE GUIDELINES" FOR SUPPORTING TREES LARGER THAN 2-1/2" CALIPER.
3. PLACE UPRIGHT STAKES PARALLEL TO WALKS & BUILDINGS.
4. KEEP MULCH 1" FROM TRUNK
5. SEE ARCHITECTURAL PLANS FOR ADDITIONAL PLANTINGS WHICH EXCEED HOWARD COUNTY MINIMUM REQUIREMENTS.
6. 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

DEVELOPER

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Robert J. Weber 5/13/05
for COUNTY HEALTH OFFICER DATE
HOWARD COUNTY HEALTH DEPARTMENT

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Zacharia Y. Fisch

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Robert J. Weber 5/13/05
COUNTY HEALTH OFFICER — DATE
HOWARD COUNTY HEALTH DEPARTMENT

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EXPLORATION RESEARCH, INC.
ENVIRONMENTAL CONSULTANTS
LANDSCAPE ARCHITECTS
8318 FORREST STREET
ELLICOTT CITY, MARYLAND 21043
TEL: (410) 750-1150 FAX:(410) 750-7350
EMAIL: EXPLORATIONRES@CS.COM

SPECIMEN TREE LIST

Number	Common name	Species	Condition	DBH	Retain
ST-1	Red oak	Quercus rubra	Fair	35"	Yes
ST-2	Black oak	Quercus velutina	Fair	37"	Yes
ST-3	Black oak	Quercus velutina	Good	32"	Yes
ST-4	Black oak	Quercus velutina	Fair	31"	Yes
ST-5	Red oak	Quercus rubra	Fair	30"	No
ST-6	Red oak	Quercus rubra	Good	45"	No
ST-7	White ash	Fraxinus americana	Good	34"	No
ST-8	Red oak	Quercus rubra	Fair	42"	Yes
ST-9	Red oak	Quercus rubra	Good	35"	No
ST-10	White ash	Fraxinus americana	Good	45"	No
ST-11	Red oak	Quercus rubra	Fair	42"	No
ST-12	Yellow poplar	Liriodendron tulipifera	Fair	31"	No
ST-13	Yellow poplar	Liriodendron tulipifera	Fair	37"	No
ST-14	Black oak	Quercus velutina	Fair	33"	Yes
ST-15	Red oak	Quercus rubra	Poor	40"	Yes
ST-16	White oak	Quercus alba	Good	48"	Yes
ST-17	Mockernut hickory	Carya tomentosa	Good	30"	Yes
ST-18	Red oak	Quercus rubra	Poor	47"	Yes
ST-19	Red oak	Quercus rubra	Fair	30"	Yes
ST-20	Black oak	Quercus velutina	Fair	31"	No
ST-21	White oak	Quercus alba	Fair	31"	No
ST-22	Yellow poplar	Liriodendron tulipifera	Good	30"	No
ST-23	White oak	Quercus alba	Fair	31"	No
ST-24	Black oak	Quercus velutina	Fair	31"	No
ST-25	Yellow poplar	Liriodendron tulipifera	Good	31"	Yes
ST-26	Yellow poplar	Liriodendron tulipifera	Fair	31"	Yes
ST-27	Yellow poplar	Liriodendron tulipifera	Fair	33"	Yes
ST-28	Yellow poplar	Liriodendron tulipifera	Good	30"	Yes

Note: Specimen Trees will be retained where possible. This preliminary assessment of retention is subject to change in non-easement areas.

LEGEND

⬡ Forest Conservation Easement Retention Area
▨ Forest Conservation Easement Reforestation Area
△ FCE Signage
—TPF— Tree Protection Fence

DEVELOPER
WILLIAMSBURG GROUP LLC
5485 Harpers Farm Road #200
Columbia, Maryland 21044-3834
Telephone: (410) 997-8800
Fax: (410) 997-4358

OWNER
David C. Peddicord
4485 Sheppard Lane
Ellicott City, Maryland 21042

PRELIMINARY FOREST CONSERVATION PLAN
SHEPPARD MANOR
LOTS 1 THRU 19 AND NON-BUILDABLE PRESERVATION PARCELS 'A', 'B', 'C' & 'D'
TAX MAP 29 GRID 01 PARCEL 268
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

STATE OF MARYLAND ZACHARIA YOSEF FISCH 22418 PROFESSIONAL ENGINEER
Zacharia Y. Fisch

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

DESIGN BY: AB
DRAWN BY: AB
CHECKED BY: ZYF
SCALE: 1"=50'
DATE: May 3, 2005
W.O. No.: 3160
SHEET No.: 8 OF 11

SP-05-08

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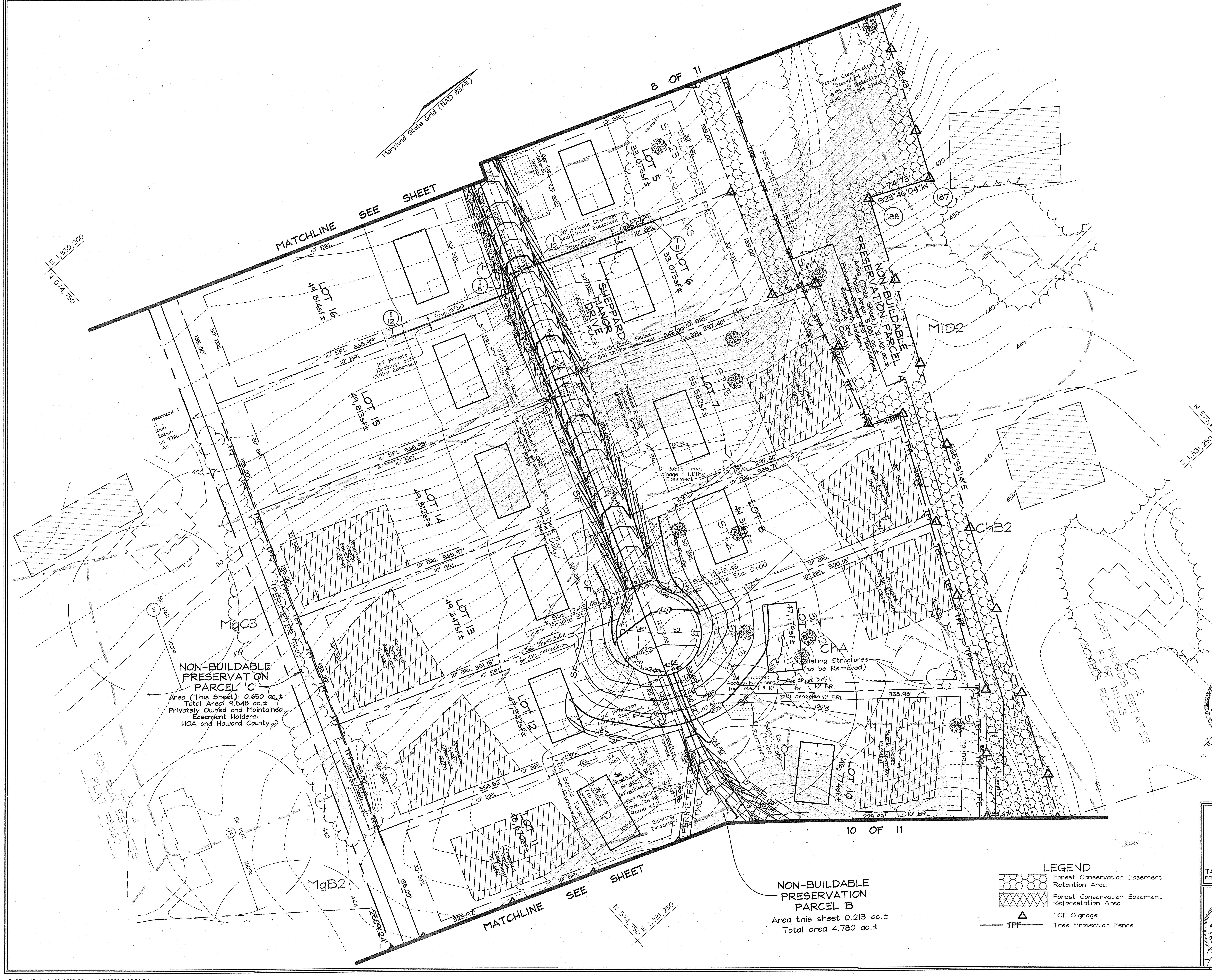

SPECIMEN TREE LIST

Number	Common name	Species	Condition	DBH	Retain
ST-1	Red oak	Quercus rubra	Fair	35"	Yes
ST-2	Black oak	Quercus velutina	Fair	37"	Yes
ST-3	Black oak	Quercus velutina	Good	32"	Yes
ST-4	Black oak	Quercus velutina	Fair	31"	Yes
ST-5	Red oak	Quercus rubra	Fair	30"	No
ST-6	Red oak	Quercus rubra	Good	45"	No
ST-7	White ash	Fraxinus americana	Good	34"	No
ST-8	Red oak	Quercus rubra	Fair	42"	Yes
ST-9	Red oak	Quercus rubra	Good	35"	No
ST-10	White ash	Fraxinus americana	Good	45"	No
ST-11	Red oak	Quercus rubra	Fair	42"	No
ST-12	Yellow poplar	Liriodendron tulipifera	Fair	31"	No
ST-13	Yellow poplar	Liriodendron tulipifera	Fair	37"	No
ST-14	Black oak	Quercus velutina	Fair	33"	Yes
ST-15	Red oak	Quercus rubra	Poor	40"	Yes
ST-16	White oak	Quercus alba	Good	48"	Yes
ST-17	Mockernut hickory	Carya tomentosa	Good	30"	Yes
ST-18	Red oak	Quercus rubra	Poor	47"	Yes
ST-19	Red oak	Quercus rubra	Fair	30"	Yes
ST-20	Black oak	Quercus velutina	Fair	31"	No
ST-21	White oak	Quercus alba	Fair	31"	No
ST-22	Yellow poplar	Liriodendron tulipifera	Good	30"	No
ST-23	White oak	Quercus alba	Fair	31"	No
ST-24	Black oak	Quercus velutina	Fair	31"	No
ST-25	Yellow poplar	Liriodendron tulipifera	Good	31"	Yes
ST-26	Yellow poplar	Liriodendron tulipifera	Fair	31"	Yes
ST-27	Yellow poplar	Liriodendron tulipifera	Fair	33"	Yes
ST-28	Yellow poplar	Liriodendron tulipifera	Good	30"	Yes

Note: Specimen Trees will be retained where possible. This preliminary assessment of retention is subject to change in non-easement areas.

TENTATIVELY APPROVED
DEPT. OF PLANNING AND
ZONING OF
HOWARD COUNTY
PLANNING DIRECTOR 6/8/05 DATE
JA

STATE OF MARYLAND STEPHEN L. HUBER REGISTERED PROFESSIONAL FORESTER

EXPLORATION RESEARCH, INC.
ENVIRONMENTAL CONSULTANTS
LANDSCAPE ARCHITECTS
8318 FORREST STREET
ELLICOTT CITY, MARYLAND 21043
TEL: (410) 750-1150 FAX:(410) 750-7350
EMAIL: EXPLORATIONRES@CS.COM

DEVELOPER	OWNER
WILLIAMSBURG GROUP LLC 5485 Harpers Farm Road #200 Columbia, Maryland 21044-3834 Telephone: (410) 997-8800 Fax: (410) 997-4358	David C. Peddicord 4485 Sheppard Lane Ellicott City, Maryland 21042

LEGEND

- Forest Conservation Easement Retention Area
- Forest Conservation Easement Reforestation Area
- △ FCE Signage
- —TPF— Tree Protection Fence

PRELIMINARY FOREST CONSERVATION PLAN

SHEPPARD MANOR

LOTS 1 THRU 19 AND NON-BUILDABLE
PRESERVATION PARCELS 'A', 'B', 'C' & 'D'

TAX MAP 29 GRID 01 PARCEL 268
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

STATE OF MARYLAND PROFESSIONAL ... Zacharia Y. Fisch

FSH Associates
Engineers Planners Surveyors
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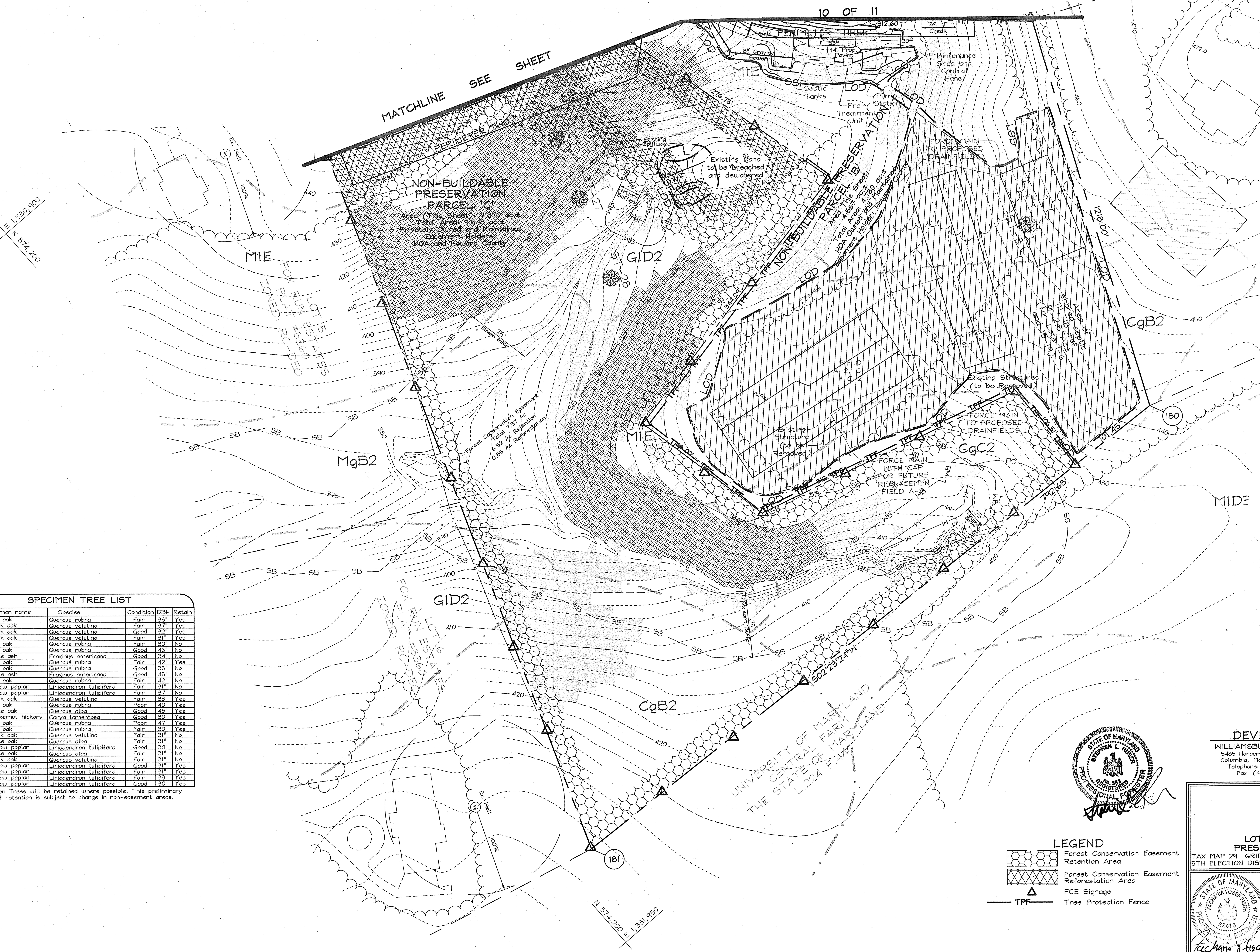

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[illegible] 6/15/05
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JA

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STATE OF MARYLAND
STEPHEN L. HUBER
No. 363
REGISTERED
PROFESSIONAL FORESTER
[illegible]

DEVELOPER	OWNER
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LEGEND

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PRELIMINARY FOREST
CONSERVATION PLAN

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FOREST CONSERVATION NARRATIVE

This Forest Conservation Plan has been developed in accordance with the Howard County Forest Conservation Act of 1991. Additionally, the rules for Rural Cluster Subdivisions, Option C have been utilized. The total tract area consists of 42.89 acres of land. The site contains 17.91 acres of forest cover on the net tract.

Forest retained in easements will total 11.50 acres. A total of 0.85 acres of reforestation planting is proposed. Two forest conservation easements will be established. Total area contained within easements is 12.35 acres. Easement 1 will have retention and newly forested area for credit, including large caliper stock to also meet landscape buffering requirements. Easement 2 will be all retention, including areas shown as existing driveway, which have complete canopy closure and are within critical root zone areas for the stand. The driveway will be removed and the forest floor allowed to regenerate naturally. Additionally, Easement 1 contains an existing pond, which will be dewatered and breached to allow planting. All easements contain some wetlands, streams and their buffers, and steep slopes.

New on-site plantings will be 2.5" cal. stock in area utilized for perimeter buffering and 2-3' containerized whip stock planted at 350 stems/acre with tree shelters in all other areas. Plant material will be chosen to match existing forest resources, as appropriate.

Forest Conservation Surety in the amount of $118,701.00 will be posted with the Developers Agreement.
Reforestation-0.84 Ac./37,026 s.f. @ $0.50/s.f. = $18,513.00
Retention-11.51 Ac./500,940 s.f. @ $0.20/s.f. = $100,188.00

FOREST CONSERVATION EASEMENT TABLE

EASMENT	TYPE	AREA (ACRES)
1	Reforestation Retention	0.85 6.52
2	Retention	4.98
TOTAL		12.35
	Reforestation Retention	0.85 11.50

Easement 1: PLANTING AREA: 0.85 Ac.

Qty	Botanical Name	Common Name	Size	S.F. Credit/Plant	Total Credit
36	Amalanchier canadensis	Serviceberry	2-3' ht.	125.0	4,500
35	Carya tomentosa	Mockernut Hickory	2-3' ht.	125.0	4,375
35	Cornus florida	Flowering Dogwood	2-3' ht.	125.0	4,375
35	Juniperus virginiana	Eastern Redcedar	2-3' ht.	125.0	4,375
2	Liriodendron tulipifera	Tulip Poplar	2.5" cal.+	400	800
34	Liriodendron tulipifera	Tulip Poplar	2-3' ht.	125.0	4,250
34	Pinus strobus	White Pine	2-3' ht.	125.0	4,250
2	Quercus alba	White Oak	2.5" cal.+	400	800
34	Quercus alba	White Oak	2-3' ht.	125.0	4,250
2	Quercus rubra	Red Oak	2.5" cal.+	400	800
34	Quercus rubra	Red Oak	2-3' ht.	125.0	4,250
	Total				0.85 Ac = 37,025 s.f.

Management Notes for Retention Areas

1. All proposed activities shall adhere to the conditions, schedules and terms of an approved sediment control and erosion plan.
2. After the boundaries of the retention area have been staked and flagged and before any disturbance has taken place on-site, a preconstruction meeting at the construction site shall take place. The developer, contractor or project manager, and appropriate County inspectors shall attend.
3. Tree protection for all retained areas:
   a. All retention areas within 50 feet of proposed construction activitie shall be protected by highly visible, well anchored temporary protection dev (silt fence or blaze orange plastic mesh).
   b. All protection devices shall be in place prior to any grading or land clearing.
   c. All protection devices shall be properly maintained and shall remain place until construction has ceased.
   d. Attachment of signs, fencing or other objects to trees is prohibited.
   e. No equipment, machinery, vehicles, materials or excessive pedestrian traffic shall be allowed within protected areas.
4. If the critical root zone (see detail) is affected by construction activities such as grade change, digging for foundations and roads or utility installation:
   a. Prune roots with a clean cut using proper pruning equipment (see root pruning detail)
   b. Water and fertilize as needed.
5. During construction phase, monitor and correct condition of retained trees for: soil compaction, root injury, flood conditions, drought conditions and other stress signs.
6. Post-Construction Phase
   a. Inspect existing trees around the perimeter of disturbed limits for evidence of soil compaction, root injury, limb injury, or other stress signs and correct with proper management techniques such as root or limb pruning, soil aeration, fertilization, crown reduction or watering. Inspection and evaluation shall be performed by a licensed arborist.
   b. Inspect for dead or dying trees or limbs which may pose safety hazard and remove.
   c. No burial of discarded materials will occur onsite within the conservation areas.
   d. No burning within 100 feet of wooded area.
   e. All temporary forest protection structures will be removed after construction. Temporary signage shall be replaced with permanent signage on posts in locations shown.
   f. Following completion of construction, prior to use, the County inspector shall inspect the entire area.

Soil Protection Zone Notes

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

Reforestation Area Monitoring Notes

1. 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.
2. 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 tree 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.
3. 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.
4. Effective monitoring will assess plant survivability during the first growing season and make recommendations for reinforcement planting if required at that time.

Reforestation Area Planting No

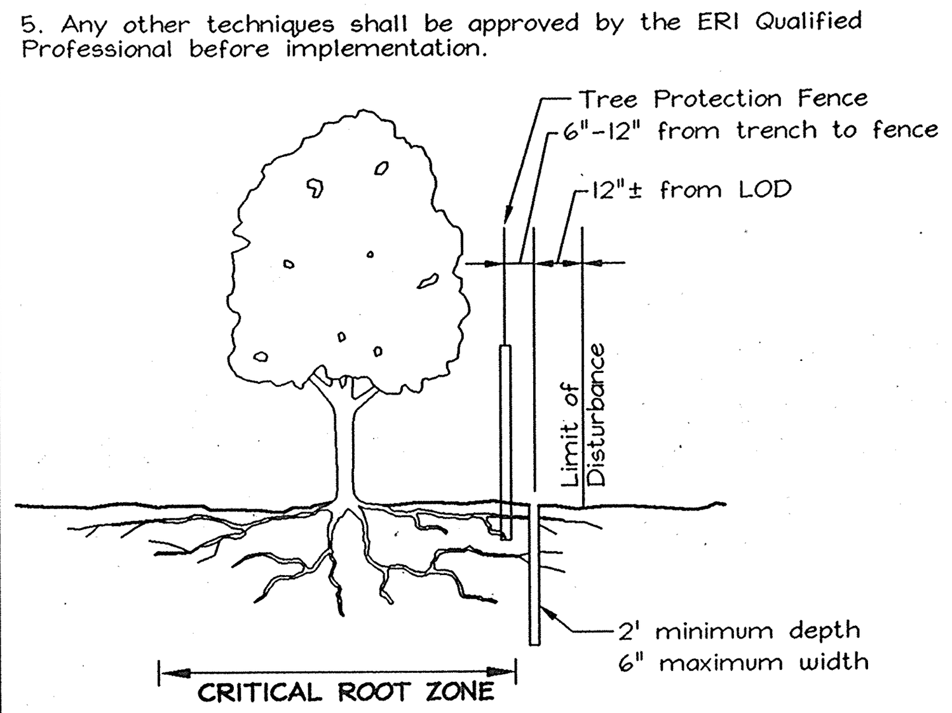
1. Initial planting inspection and certification lantin contractor to notify ERI qualified professional 24 hours in adv
2. Reforestation areas may be planted as to do so. Late winter- early spring plantings are prefe nting dates will vary from year to year but planting as soon as the ground is no longer frozen. Alternate be considered as conditions warrants.
3. Soil amendments and fertilization re l be made based upon the results of soil analysis for nit horus, potassium, organic matter content and pH. If requi will be provided using a slow release, soluble 16-8-16 ed to last 5-8 years contained in polyethylene perforated bags nufactured by ADCO Works, P.O. Box 310 Hollins, N.Y approved equal.
4. Plant materials shall be planted in accord the planting diagram, planting details and planting sche
5. Plant stock must be protected from desic at all times prior to planting. Materials held for planting sha stened and placed in cool shaded areas until ready for placem
6. Planting materials shall be nursery grown ected prior to planting. Plants not conforming to the American St Nursery Stock specifications for size, form, vigor, or root to trunk wounds, breakage, desiccation, insect or disease m placed.
7. Newly planted trees may require watering once per week during the first growing season depending on rain der to get established. The initial planting operation should allow ing during installation to completely soak backfill materials.
8. Mulch shall be applied in accordance with agram provided and shall consist of composted, shredded hard d bark mulch, free of wood alcohol.
9. Planting holes should be excavated to a minimum diameter of 2.5 to 3 times the diameter of the root ball or container. Mechanical angering is preferred with scarification of the sides of each hole.
10. All ery 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 Repell Tablets.

FOREST CONSERVATION WORKSHEET

	Acres
Net Tract Area	
A. Total Tract Area	42.89
B. Area Within 100 Year Floodplain	0
C. Other deductions (Area p/o FCP for F-00-115)	0
D. Net Tract Area	42.89
Zoning Use Category: Residential	
Land Use Category	
E. Afforestation Minimum (20 % x D)	8.58
F. Conservation Threshold (25 % x D)	10.72
Existing Forest Cover	
G. Existing Forest on Net Tract Area	17.91
H. Forest Area Above Conservation Threshold	7.19
Breakeven Point	
I. Forest Retention Above Threshold with no Mitigation	12.16
J. Clearing Permitted without Mitigation	5.75
Proposed Forest Clearing	
K. Forest Areas to be Cleared	6.41
L. Forest Areas to be Retained	11.50
Planting Requirements	
M. Reforestation for Clearing Above Threshold	1.60
N. Reforestation for Clearing Below the Threshold	0
P. Credit for Retention Above Conservation Threshold	0.78
Q. Total Reforestation Required	0.82
R. Total Afforestation Required	0
S. Total Reforestation and Afforestation Requirement	0.82

ROOT PRUNING

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



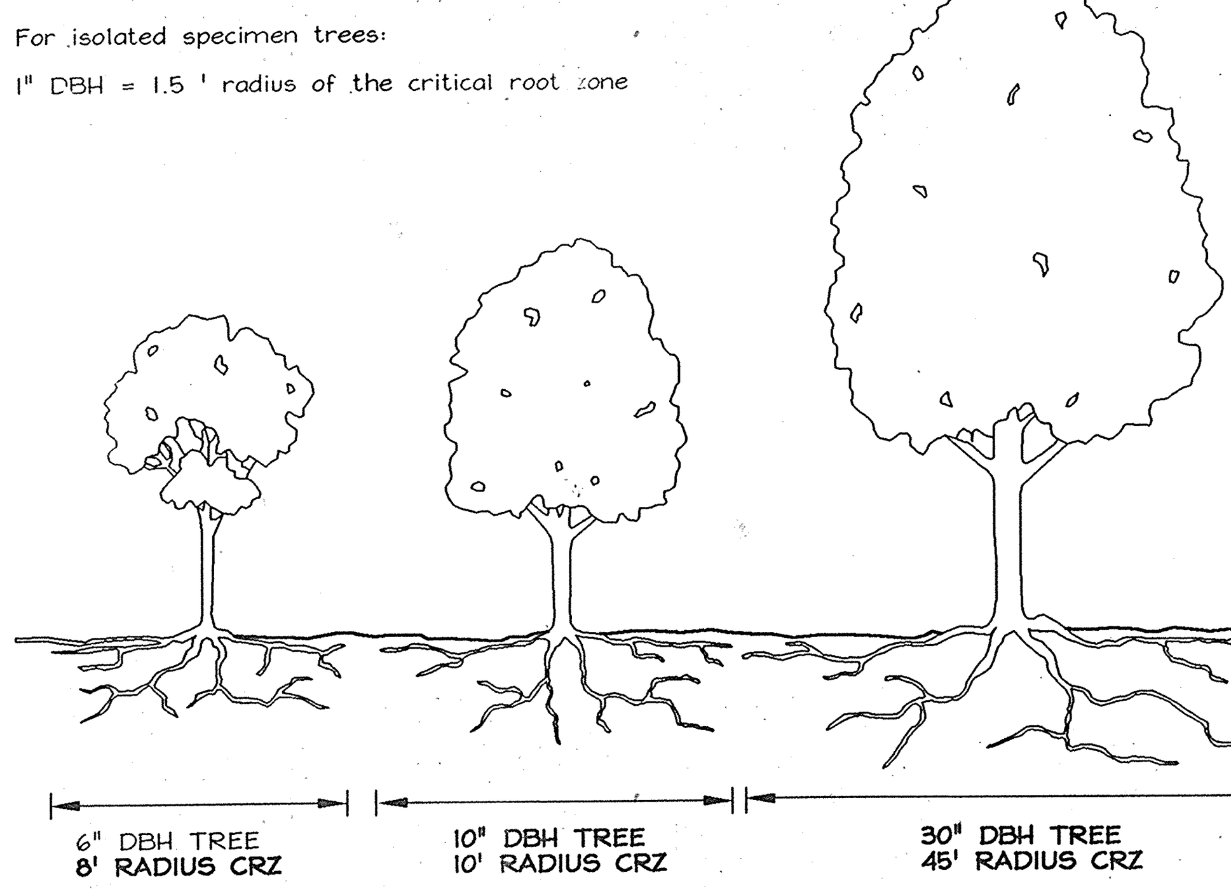
CRITICAL ROOT ZONE

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

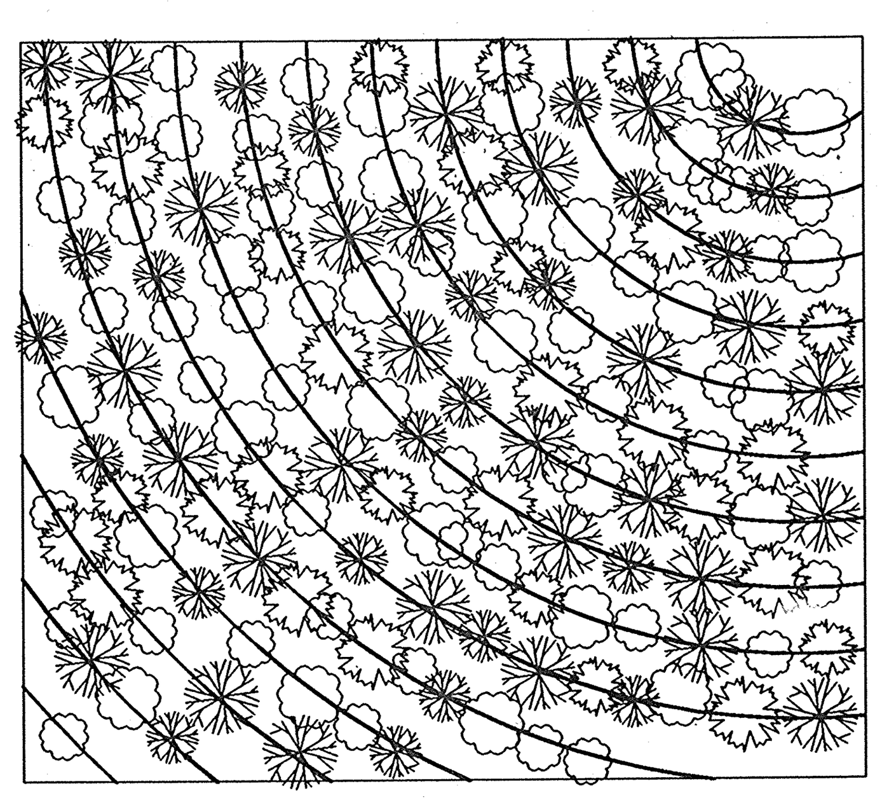
1" DBH of the tree = 1' radius of the critical root zone or 8 ft radius circle around the trunk of the tree

For isolated specimen trees:

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



CURVEILINEAR RANDOMIZED PLANTING

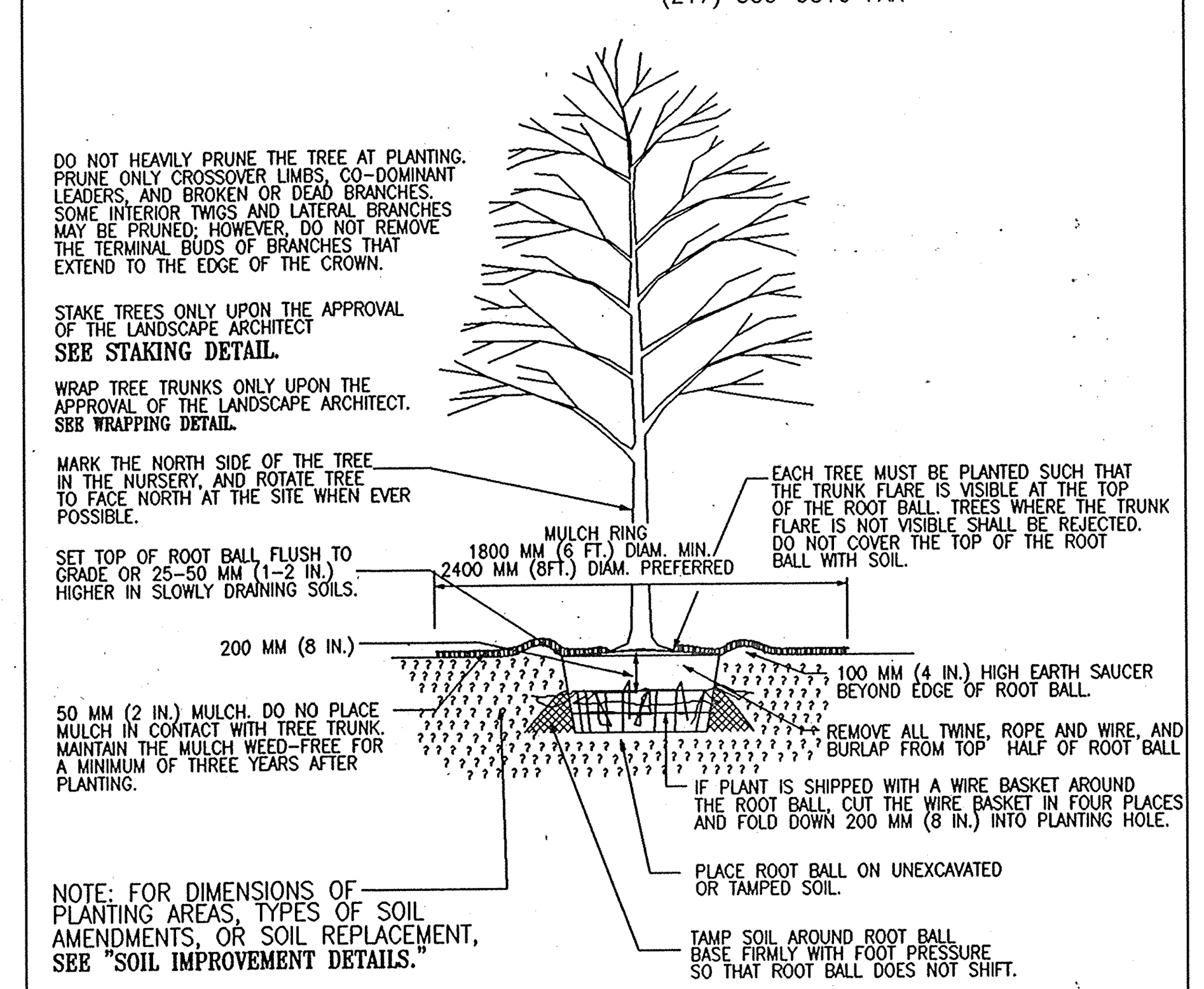


PLANT PLACEMENT DETAIL
NOT TO SCALE

1. MIX TREE AND SHRUB SPECIES IN THE STAGING AREA.
2. SET THE GUIDE CURVILINEAR LINE AS CLOSE TO CONTOUR AS POSSIBLE

INTERNATIONAL SOCIETY OF ARBORICULTURE

INTERNATIONAL SOCIETY OF ARBORICULTURE
1400 WEST ANTHONY DRIVE
CHAMPAIGN, IL 61821
(217) 355-9411
(217) 355-9516 FAX



NOTES
1. PLEASE REFER TO INTRODUCTION AND USE CRITERIA PRIOR TO USING THIS DETAIL.

TREE PLANTING DETAIL – B&B TREES IN ALL SOIL TYPES

NOTE: THIS DETAIL ASSUMES THAT THE PLANTING SPACE IS LARGER THAN 2400 MM (8 FT.) SQUARE, OPEN TO THE SKY, AND NOT COVERED BY ANY PAVING OR GRATING.

INTERNATIONAL SOCIETY OF ARBORICULTURE

INTERNATIONAL SOCIETY OF ARBORICULTURE
1400 WEST ANTHONY DRIVE
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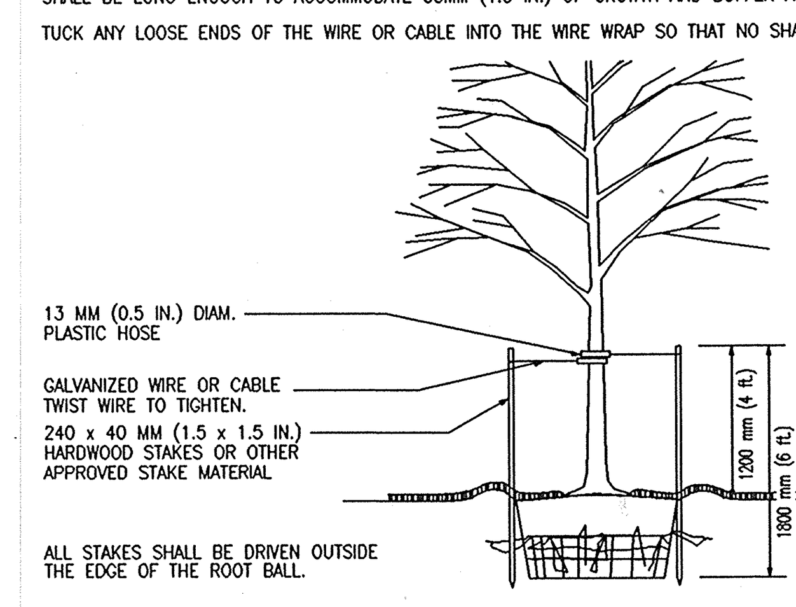
WIRE OR CABLE SIZES SHALL BE AS FOLLOWS:
TREES UP TO 65 MM (2.5 IN.) CALIPER – 14 GAUGE
TREES 65 MM (2.5 IN.) TO 75 MM (3 IN.) CALIPER – 12 GAUGE

TIGHTEN WIRE OR CABLE ONLY ENOUGH TO KEEP FROM SLIPPING. ALLOW FOR SOME TRUNK MOVEMENT. PLASTIC HOSE SHALL BE LONG ENOUGH TO ACCOMMODATE 35MM (1.5 IN.) OF GROWTH AND BUFFER ALL BRANCHES FROM THE WIRE.

TUCK ANY LOOSE ENDS OF THE WIRE OR CABLE INTO THE WIRE WRAP SO THAT NO SHARP WIRE ENDS ARE EXPOSED.



ASSURE THAT THE BEARING SURFACE OF THE PROTECTIVE COVERING OF THE WIRE OR CABLE AGAINST THE TREE TRUNK IS A MINIMUM OF 12 MM (0.5 IN.).

REMOVE ALL STAKING AS SOON AS THE TREE HAS GROWN SUFFICIENT ROOTS TO OVERCOME THE PROBLEM THAT REQUIRED THE TREE TO BE STAKED. STAKES SHALL BE REMOVED NO LATER THE END OF THE FIRST GROWING SEASON AFTER PLANTING.

TREES NORMALLY DO NOT NEED TO BE STAKED AND STAKING CAN BE HARMFUL TO THE TREE. STAKING SHOULD BE DONE ONLY WITH THE APPROVAL OF THE LANDSCAPE ARCHITECT IF IT IS EXPECTED THAT THE TREE WILL NOT BE ABLE TO SUPPORT ITSELF. THE FOLLOWING ARE REASONS WHY TREES DO NOT REMAIN STRAIGHT.
- o TREES WITH POOR – QUALITY ROOT BALLS OR ROOT BALLS THAT HAVE BEEN CRACKED OR DAMAGED. REJECT RATHER THAN STAKE.
- o TREES THAT HAVE GROWN TOO CLOSE TOGETHER IN THE NURSERY, RESULTING IN WEAK TRUNKS. REJECT RATHER THAN STAKE.
- o PLANTING PROCEDURES THAT DO NOT ADEQUATELY TAMP SOILS AROUND THE ROOT BALL. CORRECT THE PLANTING PROCEDURE.
- o ROOT BALLS PLACED ON SOFT SOIL. TAMP SOILS UNDER ROOT BALL PRIOR TO PLANTING.
- o ROOT BALLS WITH VERY SANDY SOIL OR VERY WET CLAY SOIL. STAKING ADVISABLE.
- o TREES LOCATED IN A PLACE OF EXTREMELY WINDY CONDITIONS. STAKING ADVISABLE.

NOTES
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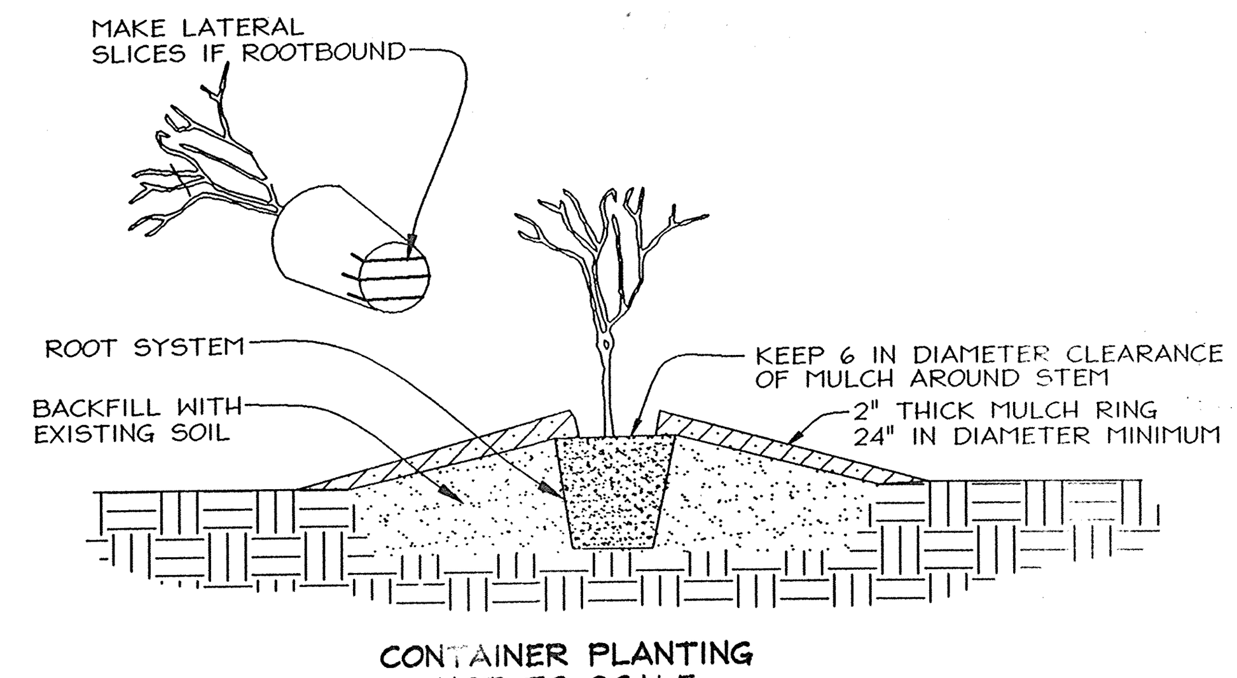
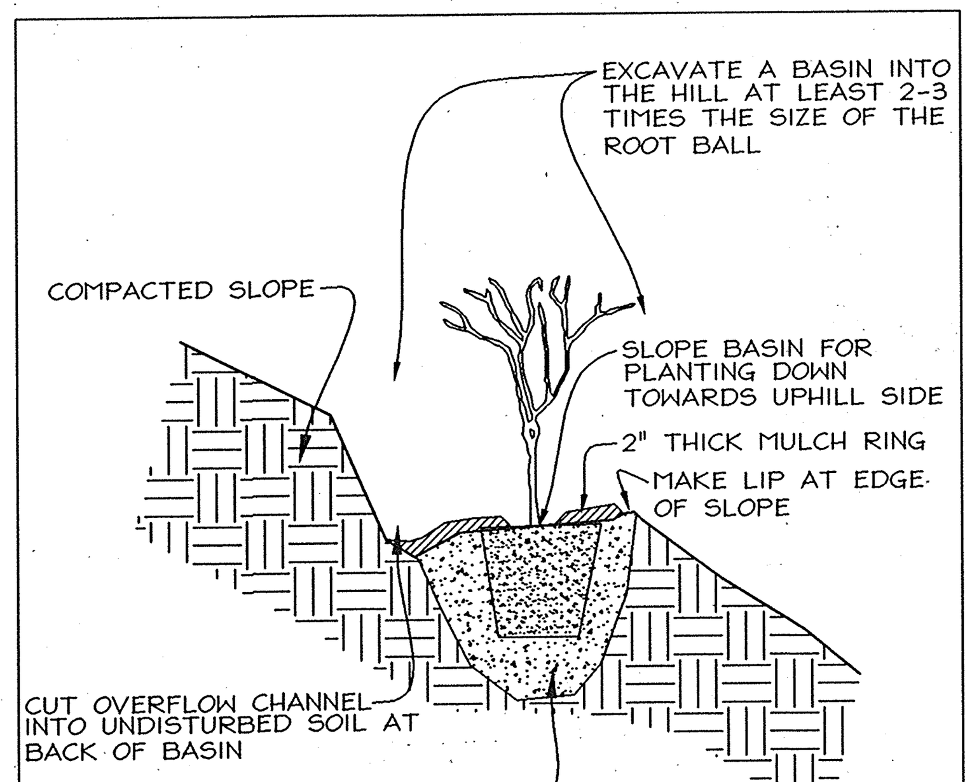
TREE STAKING DETAIL – TREES 75MM (3 IN.) CALIPER OR LESS



CONTAINER PLANTING
NOT TO SCALE

PLANTING PROCEDURE FOR CONTAINER GROWN PLANTS

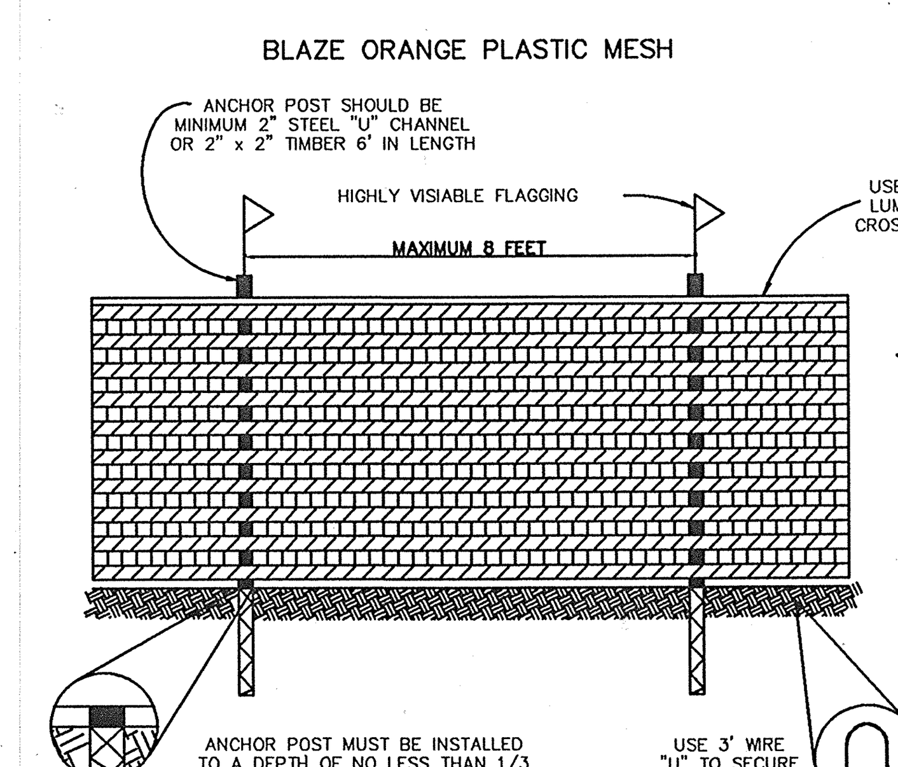
1. REMOVE THE PLANT EITHER BY CUTTING OR INVERTING THE CON
2. USE A KNIFE TO CUT THROUGH BOTTOM HALF OF THE ROOT BA
3. PLANT SHRUBS ON FORMED UP MOUNDS 4" ABOVE THE EXISTIN WHEN HIGH WATER TABLE CONDITIONS EXIST,OTHERWISE PLANT WITH EXISTING GRADE.
4. PLANTING HOLE TO BE 2-3 TIMES THE DIAMETER OF THE CON
5. INSERT FERTILIZER TABLET, BACKFILL 2/3 OF THE ROOT BALL AND WATER.
6. AFTER WATER PERCOLATES, BACKFILL HOLE TO TOP OF ROOT BALL AND GENTLY TAMP SOIL TO FIRM CONTACT WITH PLANT.
7. APPLY MULCH RING AROUND PLANT KEEPING A 6 IN CLEARANCE FROM STEM.



PLANTING ON STEEP SLOPES
NOT TO SCALE

1. PLANT AS PER CONTAINER PLANTING DETAIL EXCEPT PREP OF PLANTING AREA
2. A BASIN FOR PLANTING IS CUT INTO THE SLOPE WITH PLANT BEING PLACED NEAR THE DOWNHILL EDGE OF THE BASIN.
3. BASIN SHOULD SLOPE TOWARD UPHILL SIDE TO ALLOW RAIN TO BE CAPTURED AND INFILTRATE.
4. AN OVERFLOW CHANNEL SHALL BE CUT INTO UNDISTURBED SOIL AT THE REAR OF THE BASIN TO ALLOW EXCESS RUNOFF AND SEDIMENT TO ESCAPE WITHOUT DAMAGING THE BASIN.
5. MULCH AROUND PLANT IN BASIN.

BLAZE ORANGE PLASTIC MESH



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

TREE PROTECTION DETAIL
NOT TO SCALE

Forest Retention Area Protection Signage

Min. 11"

FOREST RETENTION AREA

MACHINERY, DUMPING OR STORAGE OF ANY MATERIALS IS PROHIBITED

VIOLATORS ARE SUBJECT TO FINES AS IMPOSED BY THE MARYLAND FOREST CONSERVATION ACT OF 1991

Min 15"

SIGN DETAIL: PERMANENT SIGN

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

TENTATIVELY APPROVED
DEPT. OF PLANNING AND
ZONING OF
HOWARD COUNTY

[illegible] 6/15/05
PLANNING DIRECTOR DATE
JA

STATE OF MARYLAND
STEPHEN L. HUBER
No. 303
REGISTERED
PROFESSIONAL FORESTER
[illegible]

EXPLORATION RESEARCH, INC.
ENVIRONMENTAL CONSULTANTS
LANDSCAPE ARCHITECTS
8318 FORREST STREET
ELLICOTT CITY, MARYLAND 21043
TEL: (410) 750-1150 FAX:(410) 750-7350
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DEVELOPER
WILLIAMSBURG GROUP LLC
5485 Harpers Farm Road #200
Columbia, Maryland 21044-3834
Telephone: (410) 997-8800
Fax: (410) 997-4358

OWNER
Davia C. Peddicord
4485 Sheppard Lane
Ellicott City, Maryland 21042

PRELIMINARY FOREST CONSERVATION NOTES AND DETAILS

SHEPPARD MANOR

LOTS 1 THRU 1 ION-BUILDABLE
PRESERVATION PA 'A', 'B', 'C' & 'D'

TAX MAP 29 GRID 01 PARCEL 268
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

STATE OF MARYLAND
ZACHARIA YOSEF FISCH
22410
PROFESSIONAL ENGINEER
Zacharia Y. Fisch

FSH Associates
Engineers P Surveyors
8318 Forrest Stre y, MD 21043
Tel.: 410-750-22 750-7350
E-mail: info@fsl

DESIGN BY:	AB
DRAWN BY:	AB
CHECKED BY:	ZYF
SCALE:	1"=50'
DATE:	May 3, 2005
W.O. No.:	3160
SHEET No.:	11 OF 11

SP-05-08