SHEET INDEX

SHEET NO.	DESCRIPTION
1	SUPPLEMENTAL, SOILS, LANDSCAPE, & FOREST CONSERVATION PLAN
2	SUPPLEMENTAL, LANDSCAPE, & FOREST CONSERVATION PLAN NOTES & DETAILS
3	STORMWATER MANAGEMENT NOTES & DETAILS

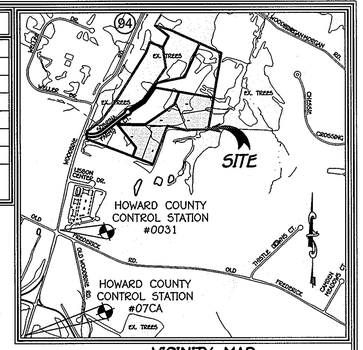
SPECIMEN TREE TABLE

KEY	SPECIES, SIZE (DBH)	CONDITION	STATUS
A	SYCAMORE, 34"	GOOD CONDITION	TO REMAIN
B	SYCAMORE, 36"	GOOD CONDITION	TO REMAIN
C	SYCAMORE, 36.5"	GOOD CONDITION	TO REMAIN
D	TULIP POPLAR, 52"	GOOD CONDITION	TO REMAIN
E	RED MAPLE, 33.5"	GOOD CONDITION	TO REMAIN
F	BLACK CHERRY, 31"	GOOD CONDITION	TO REMAIN
G	RED MAPLE, 30.5"	GOOD CONDITION, TREE APPEARS TO HAVE BEEN SPECIFICALLY RETAINED DURING CONSTRUCTION OF EXISTING HOUSE	TO REMAIN

NOTE: Critical root zone shall be 1.5':1" dbh

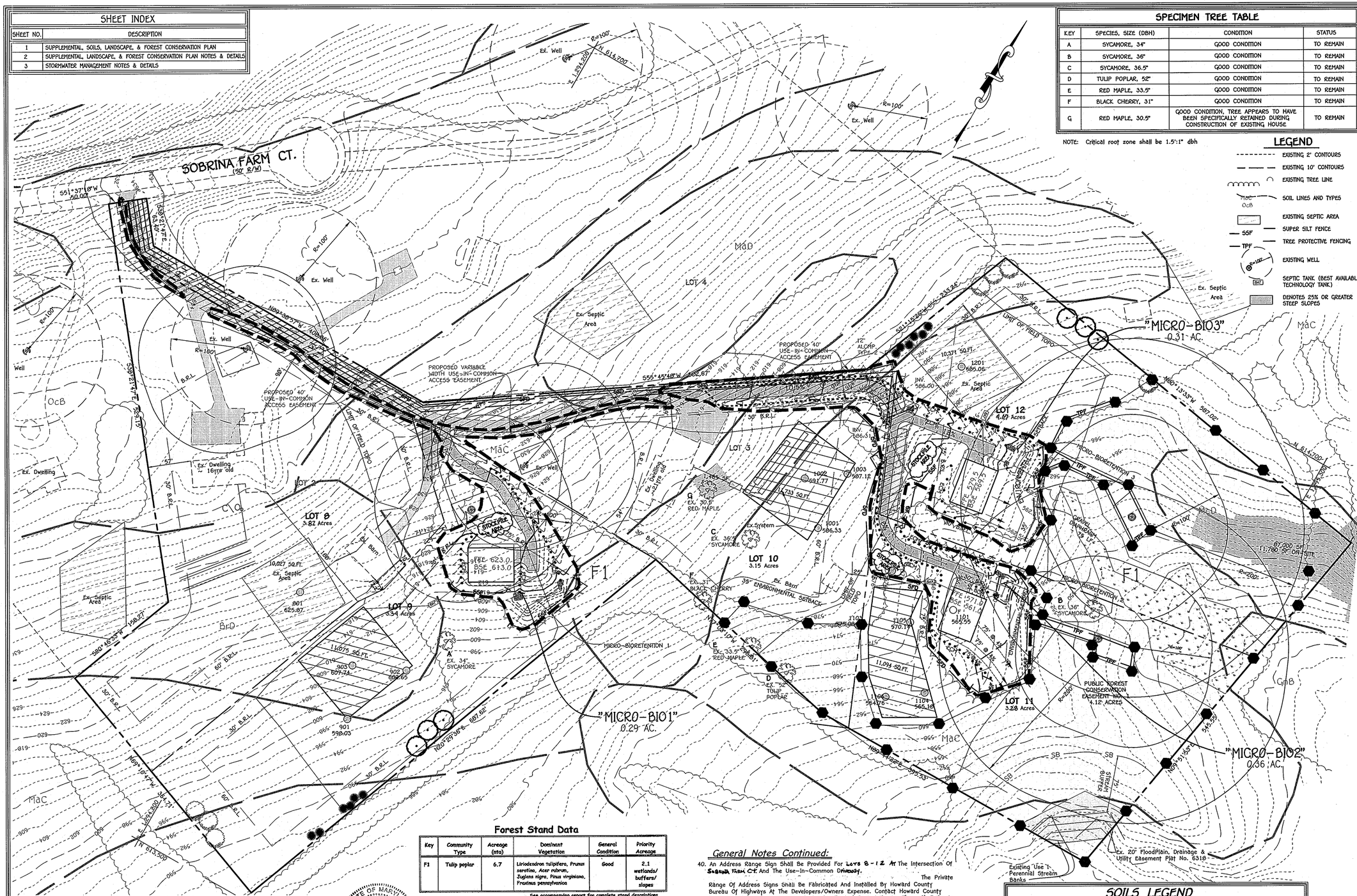
LEGEND

- EXISTING 2' CONTOURS
- EXISTING 10' CONTOURS
- EXISTING TREE LINE
- SOIL LINES AND TYPES
- EXISTING SEPTIC AREA
- SUPER SILT FENCE
- TREE PROTECTIVE FENCING
- EXISTING WELL
- SEPTIC TANK (BEST AVAILABLE TECHNOLOGY TANK)
- DENOTES 25% OR GREATER STEEP SLOPES



VICINITY MAP

SCALE : 1" = 1200'



General Notes:

1. This Area Designates A Private Sewerage Easement Of A Minimum Of 10,000 Square Feet As Required By The Maryland State Department Of The Environment For Individual Sewage Disposal. Improvements Of Any Nature In This Area Are Restricted Until Public Sewerage Is Available. These Easements Shall Become Null And Void Upon Connection To A Public Sewerage System. The County Health Officer Shall Have The Authority To Grant Variances For Encroachments Into The Private Sewerage Easement. Recordation Of A Modified Easement Shall Not Be Necessary.
2. The Lots Shown Hereon Comply With The Minimum Ownership Width And Lot Area As Required By The Maryland State Department Of The Environment.
3. Subject Property Is Zoned RC-DEO In Accordance With The October 6, 2013 Comprehensive Zoning Regulation.
4. Coordinates Based On Nad '83, Maryland Coordinate System As Projected By Howard County Geodetic Control Stations No. 0031 And No. 07CA:

Sta. 0031	N 612,436.142	E 1,292,000.708	Elev. 632.207
Sta. 07CA	N 610,731.506	E 1,292,224.520	Elev. 619.312

5. This Plan Is Based On A Field Run Monumented Boundary Survey Performed On Or About February, 2013, By Fisher, Collins & Carter, Inc.
6. B.R.L. Denotes Building Restriction Line.
7. Denotes Iron Pin Set Capped "F.C.C. 108".
8. Denotes Iron Pipe Or Iron Bar Found.
9. Denotes Angular Change In Bearing Of Boundary Or Rights-Of-Way.
10. Denotes Concrete Monument Set With Aluminum Plate "F.C.C. 108".
11. Denotes Concrete Monument Or Stone Found.
12. For Flag Or Pipestem Lots, Refuse Collection, Snow Removal And Road Maintenance Are Provided To The Junction Of The Flag Or Pipestem(s), And Road Right-Of-Way Line And Not Onto The Pipestem Lot Driveway.
13. Driveways Shall Be Provided Prior To Issuance Of A Use And Occupancy Permit For Any New Dwellings To Ensure Safe Access For Fire And Emergency Vehicles Per The Following (Minimum) Requirements:
   a) Width – 12 Feet (16 Feet Serving More Than One Residence);
   b) Surface – Six (6") Inches Of Compacted Crusher Run Base With Tar And Chip Coating. (1 -1/2" Minimum);
   c) Geometry – Maximum 15% Grade, Maximum 10% Grade Change And 45-Foot Turning Radius;
   d) Structures (Culverts/Bridges) – Capable Of Supporting 25 Gross Tons (HS25-Loading);
   e) Drainage Elements – Capable Of Safely Passing 100 Year Flood With No More Than 1 Foot Depth Over Surface;
   f) Structure Clearances – Minimum 12 Feet;
   g) Maintenance – Sufficient To Ensure All Weather Use.
14. All Lot Areas Are More Or Less (+).
15. The Forest Conservation Requirements Per Section 16.1200 Of The Howard County Code And The Forest Conservation Manual For This Subdivision Will Be Fulfilled By On-Site Retention Of 4.12 Acres Of Forest. There Is No Surety For Forest Retention. The Forest Retention For This Site Is Meeting The Break Even Point (BEP).
16. The Forest Stand Delineation And Wetland Report Dated March 5, 2013 Was Prepared By Eco-Science Professionals, Inc.
17. The Traffic Report For This Project Was Prepared By Mars Group Dated February, 2013.
18. Stormwater Management Is In Accordance With The 2000 Maryland Department Of The Environment Regulations As Amended In 2009. All On Lot Stormwater Management Practices Are Subject To A Declaration Of Covenants As Recorded With This Plat.
   Stormwater Management Provided As Follows:
   Lot 9: Micro-Bioretention (M-6) And Non-Rooftop Disconnection (N-2)
   Lot 11: Micro-Bioretention (M-6), Rooftop Disconnection (N-1), And Non-Rooftop Disconnection (N-2)
   Lot 12: Micro-Bioretention (M-6) And Sheet Flow To Conservation Area (N-3) With Infiltration Berm (M-4).
19. Plan Subject To Prior Department Of Planning And Zoning File Nos. F-82-126, S-85-22, P-85-24, S-88-102, F-89-114, WP-11-190, WP-13-007 And SDP-13-044.
20. This Subdivision Is Subject To The Amended Fifth Edition Of The Subdivision And Land Development Regulations And The 2004 Zoning Regulations Per Council Bill No. 75-2003. Development Or Construction On These Lots Or Parcels Must Comply With Setback And Buffer Regulations In Effect At The Time Of Submission Of A Building Or Grading Permit Application.
21. No Noise Study Is Required For This Project.
22. Private Well And Septic Shall Be Utilized Within This Development.
23. This Property Is Located Outside Of The Metropolitan District.
24. Site Is Not Adjacent To A Scenic Road.
25. No Cemeteries Or Historic Sites Are Located On This Property.
26. There Are Existing Structures On Lots 8 And 10 To Remain. No New Buildings, Extensions Or Additions To The Existing Dwelling(s) Are To Be Constructed At A Distance Less Than The Zoning Regulation Requirements.
27. No Grading, Removal Of Vegetative Cover Or Trees, Paving And New Structures Shall Be Permitted Within The Limits Of Wetlands, Stream(s), Or Their Required Buffers, Floodplain And Forest Conservation Easement Areas.
28. Distances Shown Are Based On Surface Measurement And Not Reduced To Nad '83 Grid.
29. The Floodplain Shown Is Based On Delineation From A Plat Entitled "Sobrina Farms Subdivision" Plat Nos. 8936 Thru 8938.
30. The Private Use-In-Common Access And Stormwater Management Easement For The Use And Benefit Of Lot 4, Sobrina Farms Subdivision–Plat Nos. 8936 Thru 8938, And Lots 8 Thru 12, Sobrina Farms Subdivision, Is Recorded Simultaneously With The Plat.
31. This Plan Has Been Prepared In Accordance With The Provisions Of Section 16.124 Of The Howard County Code And The Landscape Manual. In Accordance With Section 16.124 Of The Howard County Code And The Landscape Manual A Landscape Surety For 13 Shade Trees And 12 Evergreens In The Amount Of ($5,700.00) Is Provided With the Grading Permit.
   Lot 9 Surety: (6) Shade Trees @300/Shade Tree & (6) Evergreens @150/Evergreen = $2,700.00
   Lot 12 Surety: (7) Shade Trees @300/Shade Tree & (6) Evergreens @150/Evergreen =$3,000.00
32. A Pre-Submission Community Meeting Was Held For This Project On December 10, 2012.
33. All Wells Shall Be Drilled Prior To The Final Plat Recordation. It Is The Developers Responsibility To Schedule The Well Drilling Prior To Final Plat Submission. It Will Not Be Considered "Government Delay" If The Well Drilling Holds Up Health Department Signature Of The Record Plat.
34. On July 18, 2011 The Planning Director Approved A Waiver (WP-11-190) To: Section 16.1205(b)(4)(iii) Allow Floodplain, Wetlands, Streams, Their Buffers And Forest Conservation Easements To Be Located On The Lot Or Buildable Preservation Parcel Of 10 Acres If The Building Envelope Is No Closer Than 35 Feet From These Environmental Features. Section 16.1207(a) Requiring Provision Of Forest Retention, Afforestation Or Reforestation Financial Security In The Form Of A Bond, An Irrevocable Letter Of Credit Or Other Security Approved By The County Subject To:
   1). Prepare Final Resubdivision Plat For Review And Approval By The Department Of Planning And Zoning.
   2). On The Plat Provide Description Of Waiver Petition (WP-11-190)
   3). Provide A Pre-Submission Community Meeting Prior To Final Plat.
   4). Prepare And Obtain Approval Of Environmental Concept Plan (ECP).
   5). Establish Forest Conservation Easement On Final Plat.
   6). Provide A Professionally Certified Environmental Analysis Report.
   7). No Grading, Removal Of Vegetative Cover And Trees, Paving And New Structures Are Permitted Within The 100 Year Floodplain, Stream And Its Buffer For Proposed Lot 11.
   8). At The Final Resubdivision Plat Submission, The Applicant Should Make All Practical Efforts To Keep The Distance Between The Proposed House Sites And The Forest Retention Easement Areas At A Minimum To Avoid Future Encroachments By Homeowners Into The Forest Conservation Easement Areas.
   9). Provide The Required 35 Feet BRL From the Stream Buffer And Forest Conservation Easements On The Final Plat.
   10). Approval Of This Re-Subdivision Plan Is Subject To Approval By The Health Department For The Well And Septic Easement.
35. On August 7, 2012 The Planning Director Approved A Waiver (WP-13-007) To Section 16.1205(b)(4)(iii) And Section 16.1209(a) With The Same Conditions For Approval Listed In WP-11-190 (See General Note No. 34). The Purpose Of This Waiver Was To Request A Re-Approval Of The Previously Submitted WP-11-190.
36. Open Space Obligation For Lots 9, 11 And 12 Is Fulfilled With A Fee-In-Lieu Payment Of $4,500.00.
37. This Subdivision Is Within The Growth Tier IV Area, But It Is Not Affected By SB-236 (Sustainable Growth And Agricultural Preservation Act). Because The Developer Received Approval Of A Perc Test From The Health Department Before July 1, 2012; Has Submitted A Preliminary Plan Within 18 Months Of The Soil Percolation Test Approval; And Has Obtained Preliminary Plan Approval By October 1, 2016, No Further Subdivision Is Permitted For Lots 8-12 Under SB-236.
38. There Are Wetlands, Floodplains, And A Perennial Stream That Are Located On This Site. These Environmental Features Will Be Included As Part Of A Forest Conservation Easement That Shall Be Recorded As Part Of This Plat.
39. The Developer Shall Execute A MDHU Agreement And Covenants With The Howard County Housing Department Before Recordation Of This Final Plat. This MDHU Requirement For This Site Is 0.3 MDHU (3 Lots X 10% MDHU/Lot).

Forest Stand Data

Key	Community Type	Acreage (nta)	Dominant Vegetation	General Condition	Priority Acreage
F1	Tulip poplar	6.7	Liriodendron tulipifera, Prunus serotina, Acer rubrum, Juglans nigra, Pinus virginiana, Fraxinus pennsylvanica	Good	2.1 wetlands/ buffers/ slopes

See accompanying report for complete stand descriptions

General Notes Continued:

40. An Address Range Sign Shall Be Provided For Lots 8 - 12 At The Intersection Of Sobrina Farm Ct. And The Use-In-Common Driveway. The Private Range Of Address Signs Shall Be Fabricated And Installed By Howard County Bureau Of Highways At The Developers/Owners Expense. Contact Howard County Traffic Division At 410-313-2430 For Details And Cost Estimate. There Shall Be An Address Sign At The Point Where Each Individual Driveway Intersects With The Use-In-Common Driveway.
41. Seven Specimen Trees Are Present Within The Boundary Of This Resubdivision. These Specimen Trees Have Been Determined To Be In Good Condition And Will Remain On The Lots.

SOILS LEGEND

SOIL	NAME	CLASS	K FACTOR
BrD	Brinklow channery loam, 15 to 25 percent slopes	B	0.20
BtF	Brinklow-Blocktown channery loams, 25 to 65 percent slopes	B/C	0.24
GgB	Glenelg loam, 3 to 8 percent slopes	B	0.20
GgC	Glenelg loam, 8 to 15 percent slopes	B	0.20
GmB	Glenville silt loam, 3 to 8 percent slopes	C	0.37
GnB	Glenville-Baile silt loams, 0 to 8 percent slopes	C	0.37
MaB	Manor loam, 3 to 8 percent slopes	B	0.24
MaC	Manor loam, 8 to 15 percent slopes	B	0.24
MaD	Manor loam, 15 to 25 percent slopes	B	0.24
OcB	Occoquan loam, 3 to 8 percent slopes	B	0.20

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, LICENSE NO. 38386, EXPIRATION DATE: 01/12/2014.

Stephanie Jenkins 2/5/14
Signature Of Professional Engineer DATE

STATE OF MARYLAND STEPHANIE JENKINS No. 38386 PROFESSIONAL ENGINEER

STATE OF MARYLAND STEPHANIE JENSEN No. 3038 LANDSCAPE ARCHITECT

FSD NOTES:

1. No rare, threatened or endangered species were observed on the property.
2. Surrounding land use is primarily medium density residential and commercial development.
3. No historic elements were observed on the property.
4. Approximately 1.5 acres of forest is present on offsite properties within 100 feet of the property limits.

DEVELOPER'S / BUILDER'S CERTIFICATE

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

NAME 2/6/14 DATE

OWNER/DEVELOPER

LOT 2
JOHN A. HARTNER (DECEASED) AND EDWINA CARR HARTNER, TRUSTEES
610 SOBRINA FARMS COURT
WOODBINE, MARYLAND 21797-8765

LOT 3
JOHN E. HARTNER SR. AND VERONICA M. HARTNER
620 SOBRINA FARMS COURT
WOODBINE, MARYLAND 21797-8765

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 3/11/14
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 3.10.14

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

SUPPLEMENTAL, SOILS, LANDSCAPE, & FOREST CONSERVATION PLAN
SOBRINA FARMS SUBDIVISION
LOTS 8 THRU 12
A RESUBDIVISION OF LOTS 2 AND 3

ZONED: RC-DEO
TAX MAP No. 2 PARCEL No. 39 GRID No. 24
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: 1" = 60'
DATE: JANUARY, 2014
SHEET 1 OF 3

F14-040

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PLANTING / SOIL SPECIFICATIONS

1. Planting Of Nursery Stock Shall Take Place Between March 15th And April 30th Or September 15th And November 15th.
2. A Twelve (12) Inch Layer Of Topsoil Shall Be Spread Over All Reforestation Areas Impacted By Site Grading To Assure A Suitable Planting Area, If Applicable. Disturbed Areas Shall Be Seeded And Stabilized In Accordance With The Sediment & Erosion Control Plan For This Project. Planting Areas Not Impacted By Site Grading Shall Have No Additional Topsoil Installed.
3. All Bare Rood Planting Stock Shall Have Their Root System Dipped Into An Anti-Desiccant Gel Prior To Planting.
4. Plants Shall Be Installed So That The Top Of The Root Mass Is Level With The Top Of Existing Grade. BackFill In The Planting Pits Shall Consist of 3 Parts Existing Soil to 1 Part Pine Fines Or Equivalent.
5. Fertilizer Shall Consist Of Agriform 22-8-2, Or Equivalent, Applied As Per Manufacturer's Specifications.
6. A Two (2) Inch Layer Of Hardwood Mulch Shall Be Placed Over The Root Area Of All Plantings. See Planting Detail.
7. Plant Material Shall Be Transported To The Site In A Tarped Or Covered Truck. Plants Shall Be Kept Moist Prior To Planting.
8. All Non-Organic Debris Associated With The Planting Operation Shall Be Removed From The Site By The Contractor.

SEQUENCE OF CONSTRUCTION

1. Sediment Controls And Tree Protective Devices Shall Be Installed In Accordance With Sediment & Erosion Control Plans For This Site, If Applicable. Site Shall Be Graded In Accordance With The Plans.
2. Proposed Reforestation Areas Impacted By The Site Grading Shall Be Topsoiled And Stabilized As Per Note 2 Of The "Planting / Soil Specifications".
3. Plants Shall Be Installed And Maintained As Per Notes And Specifications For This Project.
4. Upon Completion Of The Plantings, Signage Shall Be Installed As Per The Signage Detail.
5. Plantings Shall Be Guaranteed and Maintained In Accordance With The "Guarantee Requirements" And "Maintenance Of Plantings" Associated With This Project.

MULTIFLORA ROSE CONTROL NOTE:

PRIOR TO PLANTING ALL MULTIFLORA ROSE WITHIN PLANTING AREAS SHALL BE REMOVED. Removal Of The Multiflora Rose May Be Performed With Mowing And Herbicide Treatments. Physical Removal Of All Top Growth Followed By A Periodic Herbicide Treatment Of Stump Sprouts Is Recommended. Native Tree And Shrub Species Occurring Within The Rose Thickets Should Be Retained Wherever Possible. Herbicide Treatments Shall Occur On Two (2) Month Intervals During The First Growing Seaseon And Once In The Spring And Once In the Fall For Subsequent Years. Herbicide Used Shall Be Made Specifically To Address Woody Plant Material And Shall Be Applied As Per Manufacturers Specifications. Care Should Be Taken Not To Spray Planted Trees Or Naturally Occurring Native Tree And Shrub Seedlings. It Is Recommended That Initiation Of Rose Removal Begin At Least Six Months Prior To Planting So That New Growth OF Roses Is Able To Be More Successfully Managed.

FOREST PROTECTION GENERAL NOTES

1. ALL FOREST RETENTION AREAS SHALL BE TEMPORARILY PROTECTED BY WELL ANCHORED BLAZE ORANGE PLASTIC MESH FENCING, AS NECESSARY, AND SIGNAGE AS INDICATED ON THE PLANS. THE DEVICES SHALL BE INSTALLED ALONG THE FOREST RETENTION BOUNDARY PRIOR TO ANY LAND CLEARING, GRUBBING, OR GRADING ACTIVITIES.
2. THE FOREST PROTECTION DEVICES SHALL BE INSTALLED SUCH THAT THE CRITICAL ROOT ZONES OF ALL TREES WITHIN THE RETENTION AREA NOT OTHERWISE PROTECTED WILL BE WITHIN FOREST PROTECTION DEVICES, UNLESS ROOT PRUNING IS PROPOSED.
3. ALL PROTECTION DEVICES SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION, INCLUDING SILT FENCE BEING USED AS PROTECTIVE FENCING. ALL DEVICES SHALL REMAIN IN PLACE UNTIL ALL CONSTRUCTION HAS CEASED IN THE IMMEDIATE VICINITY.
4. ATTACHMENT OF SIGNS, OR ANY OTHER OBJECTS TO TREES IS PROHIBITED. NO EQUIPMENT, MACHINERY, VEHICLES, MATERIALS OR EXCESSIVE PEDESTRIAN TRAFFIC SHALL BE ALLOWED WITHIN THESE PROTECTED AREAS.
5. INSTALLATION AND MAINTENANCE OF PROTECTIVE FENCING AND SIGNAGE SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. THE GENERAL CONTRACTOR SHALL TAKE THE UTMOST CARE TO PROTECT TREE ROOT SYSTEMS DURING ALL CONSTRUCTION ACTIVITIES. TREE ROOT SYSTEMS SHALL BE PROTECTED FROM SMOTHERING, FLOODING, EXCESSIVE WETTING FROM DE-WATERING OPERATIONS, OFF-SITE RUN OFF, SPILLAGE AND DRAINING OF MATERIALS THAT MAY BE HARMFUL TO TREES.
6. THE GENERAL CONTRACTOR SHALL PREVENT PARKING OF CONSTRUCTION VEHICLES AND EQUIPMENT, AND THE STORING OF BUILDING SUPPLIES OR STOCKPILING OF EARTH WITHIN FOREST CONSERVATION EASEMENTS.
7. REMOVAL OF TOPSOIL OR ROOT MAT WITHIN THE TREE PRESERVATION AREA SHALL BE PROHIBITED.
8. THE GENERAL CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY TREES DAMAGED OR DESTROYED WITHIN THE FOREST CONSERVATION EASEMENTS.
9. ROOT PRUNING SHALL BE USED AT THE LIMIT OF DISTURBANCE OR LIMIT OF GRADING WITHIN AND ADJACENT TO ALL PRESERVATION AREAS, AS NECESSARY.

PRE-CONSTRUCTION MEETING

1. AFTER THE BOUNDARIES OF THE FOREST RETENTION AREAS HAVE BEEN FIELD LOCATED AND MARKED, AND AFTER THE FOREST PROTECTION DEVICES HAVE BEEN INSTALLED, BUT BEFORE ANY OTHER DISTURBANCE HAS TAKEN PLACE ON SITE, A PRE-CONSTRUCTION MEETING SHALL TAKE PLACE ON SITE. THE DEVELOPER, CONTRACTOR OR PROJECT MANAGER, AND HOWARD COUNTY INSPECTORS SHALL ATTEND. THE PURPOSE OF THIS MEETING WILL BE:
   - A. TO IDENTIFY THE LOCATIONS OF THE FOREST RETENTION AREAS, SPECIMEN TREES WITHIN 50 FEET OF THE LIMIT OF DISTURBANCE, LIMITS OF CONSTRUCTION, EMPLOYEE PARKING AREAS AND EQUIPMENT STAGING AREAS;
   - B. INSPECT ALL FLAGGED BOUNDARIES AND PROTECTION DEVICES;
   - C. MAKE ALL NECESSARY ADJUSTMENTS;
   - D. ASSIGN RESPONSIBILITIES AS APPROPRIATE AND DISCUSS PENALTIES.

CONSTRUCTION MONITORING

1. THE SITE SHALL BE INSPECTED PERIODICALLY DURING THE CONSTRUCTION PHASE OF THE PROJECT. A QUALIFIED PROFESSIONAL SHALL BE RESPONSIBLE FOR IDENTIFYING DAMAGE TO PROTECTED FOREST AREAS OR INDIVIDUAL TREES WHICH MAY HAVE BEEN CAUSED BY CONSTRUCTION ACTIVITIES, SUCH AS SOIL COMPACTION, ROOT INJURY, TRUNK WOUNDS, LIMB INJURY, OR STRESS CAUSED BY FLOODING OR DROUGHT CONDITIONS.
2. ANY SUCH DAMAGE THAT MAY OCCUR SHALL BE REMEDIED IMMEDIATELY USING APPROPRIATE MEASURES. SEVERE PROBLEMS MAY REQUIRE CONSULTATION WITH A PROFESSIONAL ARBORIST.
3. THE CONSTRUCTION PROCEDURE SHALL NOT DAMAGE AREAS OUTSIDE OF THE LIMITS OF DISTURBANCE AS DESIGNATED ON THE PLANS. ANY DAMAGE SHALL BE RESTORED BY THE CONTRACTOR AT HIS EXPENSE AND TO THE SATISFACTION OF THE DESIGN TEAM OR ENGINEER.

FOREST CONSERVATION WORKSHEET VERSION 1.0

BASIC SITE DATA:

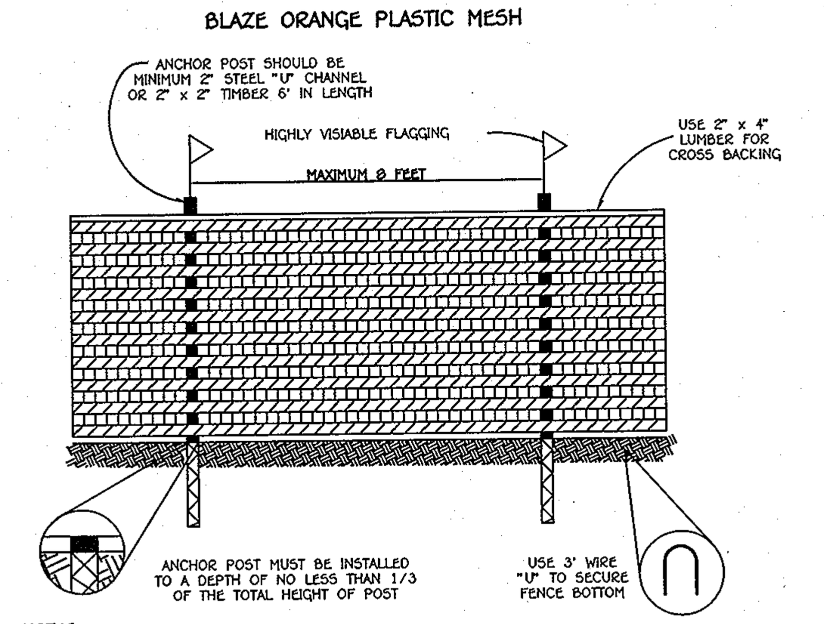
A. TOTAL TRACT AREA	=	17.66 Ac
B. AREA WITHIN 100 YEAR FLOODPLAIN & LOT 8	=	3.74
AREA TO REMAIN IN AGRICULTURAL PRODUCTION	=	0
C. NET TRACT AREA	=	13.92 Ac

LAND USE CATEGORY: (from table 3.2.1, page40, Manual)
ARA MDR (X) IDA HDR MPD CIA

INFORMATION FOR CALCULATIONS:

D. AFFORESTATION THRESHOLD	0.20% x D =	2.78
E. FOREST CONSERVATION THRESHOLD	0.25% x D =	3.48
EXISTING FOREST COVER:		
F. EXISTING FOREST COVER (EXCLUDING FLOODPLAIN)	=	6.70
G. AREA OF FOREST ABOVE CONSERVATION THRESHOLD:	=	3.22
BREAK EVEN POINT:		
H. FOREST RETENTION ABOVE THRESHOLD WITH NO MITIGATION	=	4.12
I. CLEARING PERMITTED WITHOUT MITIGATION	=	2.58
PROPOSED FOREST CLEARING:		
J. TOTAL AREA OF FOREST TO BE CLEARED	=	2.53
K. TOTAL AREA OF FOREST TO BE RETAINED	=	4.17
PLANTING REQUIREMENTS:		
L. REFORESTATION FOR CLEARING ABOVE CONSERVATION THRESHOLD	=	0.63
M. REFORESTATION FOR CLEARING BELOW CONSERVATION THRESHOLD	=	0
N. CREDIT FOR RETENTION ABOVE CONSERVATION THRESHOLD	=	0
P. TOTAL REFORESTATION REQUIRED	=	0
Q. TOTAL AFORESTION REQUIRED	=	0
R. TOTAL REFORESTATION AND AFFORESTATION REQUIRED	=	0
S. EXCESS FOREST CREDIT	=	0.06

NOTE: LOT 8 IS IN AGRICULTURAL USE AND THEREFORE BEING EXCLUDED FROM THE COMPUTATIONS.



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

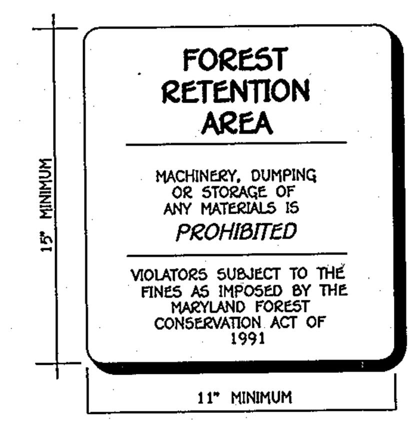
SCHEDULE A - PERIMETER LANDSCAPE EDGE

PERIMETER	1	2	3	4	5	6	TOTAL
CATEGORY	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES	ADJACENT TO PERIMETER PROPERTIES	
LANDSCAPE TYPE	A	A	A	A	A	A	
LINEAR FEET OF PERIMETER	233 L.F.	587 L.F.	546 L.F.	355 L.F.	688 L.F.	206 L.F.	
CREDIT FOR EXISTING VEGETATION LINEAR FEET (LF) OF CREDIT REMAINING PERIMETER (LF)	N/A	324 LF OF EX. TREES 363 LF REMAINING	546 LF OF EX. TREES 0 LF REMAINING	355 LF OF EX. TREES 0 LF REMAINING	315 LF OF EX. TREES 373 LF REMAINING	N/A	
NUMBER OF PLANTS REQUIRED SHADE TREES	4 (233'/60' = 3.9 OR 4)	6 (363'/60' = 6.1 OR 6)	0	0	6 (373'/60' = 6.2 OR 6)	3 (206'/60' = 3.4 OR 3)	19 0
CREDIT FOR EXISTING VEGETATION SHADE TREES SMALL/MEDIUM DECIDUOUS TREES (2:1 SUBSTITUTION)	0 0	0 0	0 0	0 0	0 0	0 0	0 0
NUMBER OF PLANTS PROVIDED SHADE TREES SMALL/MEDIUM DECIDUOUS TREES (2:1 SUBSTITUTION)	1 6	6 0	0 0	0 0	3 6	3 0	13 12

LANDSCAPING PLANT LIST

QTY.	KEY	NAME	SIZE
7		ACER RUBRUM 'RED SUNSET' (RED SUNSET RED MAPLE)	2.5"-3" CAL. FULL CROWN, B&B
6		TILIA CORDATA 'GREENSPIRE (GREENSPIRE LITTLELEAF LINDEN)	2.5"-3" CAL. FULL CROWN, B&B
12		THUJA PLICATA (GIANT ARBORVITAE 'GREEN GIANT')	5'-6' HT. B&B

TOTAL: 13 SHADE TREES, 12 EVERGREENS



NOTE: THE PROTECTIVE SIGNAGE SHALL BE IN PLACE FOR PERPETUITY.

FOREST CONSERVATION SIGN DETAIL
NOT TO SCALE

NOTES

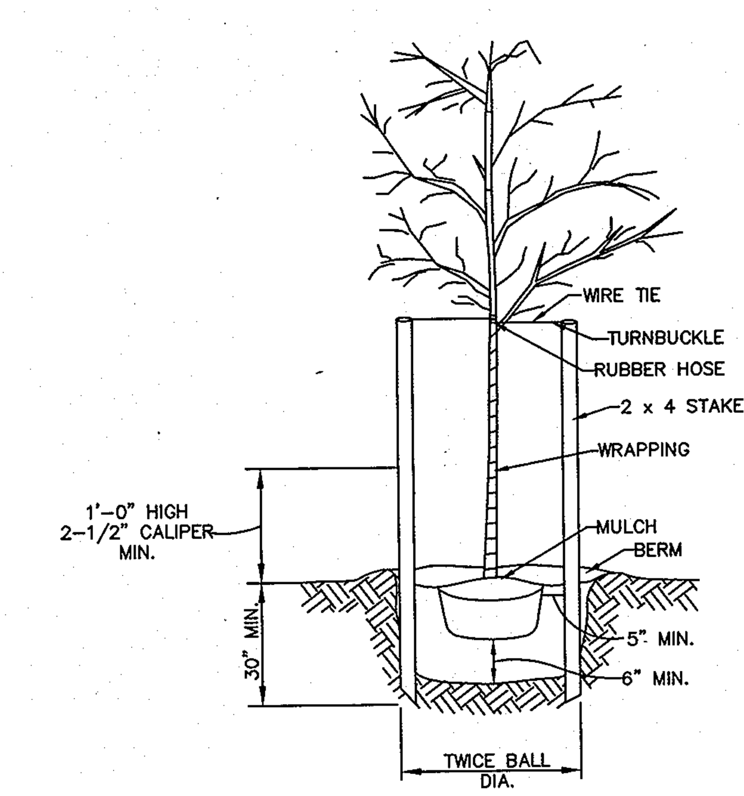
1. THIS PLAN COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION BY THE ON-SITE RETENTION OF 4.17 ACRES OF FOREST. SURETY IS NOT REQUIRED FOR RETENTION.
2. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL A LANDSCAPE SURETY FOR 13 SHADE TREES AND 12 EVERGREENS IN THE AMOUNT OF ($5,700.00) IS PROVIDED WITH THE GRADING PERMIT.

LOT 9 SURETY: (6) SHADE TREES @ 300/SHADE TREE & (6) EVERGREENS @ 150/EVERGREEN = $2,700.00
LOT 12 SURETY: (7) SHADE TREES @ 300/SHADE TREE & (6) EVERGREENS @ 150/EVERGREEN = $3,000.00

3. AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS HEREWITH LISTED AND APPROVED FOR THIS SITE, SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPING MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATION OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THIS APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO APPLICABLE PLANS AND CERTIFICATES.
4. THE OWNER, TENANT, AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.
5. SEE THE RECORD PLAT FOR THE BEARING AND DISTANCE DESCRIPTIONS OF THE FOREST CONSERVATION EASEMENTS.

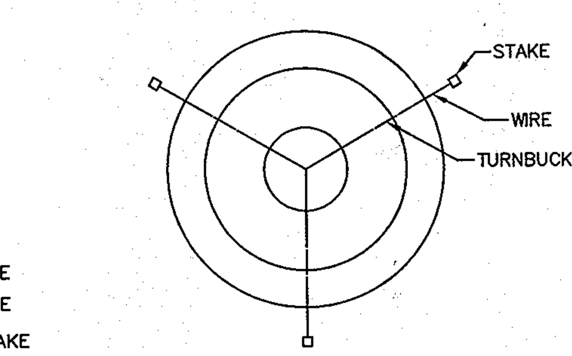
GUARANTEE REQUIREMENTS

A 75 PERCENT SURVIVAL RATE OF REFORESTATION PLANTINGS WILL BE REQUIRED AT THE END OF THE 24 MONTH MAINTENANCE PERIOD. ALL PLANT MATERIAL BELOW THE 75 PERCENT THRESHOLD WILL BE REPLACED AT THE BEGINNING OF THE NEXT GROWING SEASON.

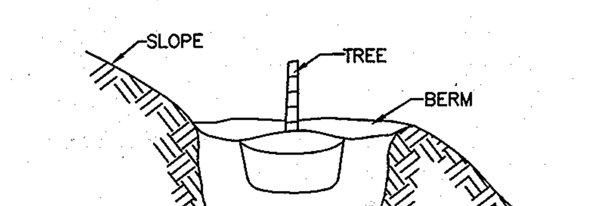


NOTE: REMOVE BURLAP FROM TOP 1/3 OF BALL

TREE PLANTING
NOT TO SCALE



STAKING DETAIL
NOT TO SCALE



GRADING FOR PLANTING ON SLOPES
NOT TO SCALE

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, LICENSE NO. 38386, EXPIRATION DATE: 01/12/2014.

Signature Of Professional Engineer — 2/5/14 DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — 3/11/14 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 3.10.14 DATE

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

DEVELOPER'S / BUILDER'S CERTIFICATE

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

NAME — 2/6/14 DATE

OWNER/DEVELOPER

LOT 2
JOHN A. HARTNER AND EDWINA CARR HARTNER, TRUSTEES
610 SOBRINA FARMS COURT
WOODBINE, MARYLAND 21797-8765

LOT 3
JOHN D. HARTNER SR. AND VERONICA M. HARTNER
620 SOBRINA FARMS COURT
WOODBINE, MARYLAND 21797-8765

SUPPLEMENTAL, LANDSCAPE, & FOREST CONSERVATION PLAN NOTES & DETAILS
SOBRINA FARMS SUBDIVISION
LOTS 8 THRU 12
A RESUBDIVISION OF LOTS 2 AND 3

ZONED: RC-DEO
TAX MAP No. 2 PARCEL No. 39 GRID No. 24
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: 1" = 60'
DATE: JANUARY, 2014
SHEET 2 OF 3

F-14-040

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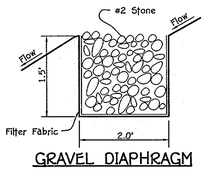
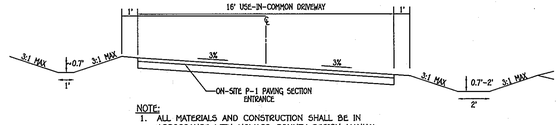


GRAVEL DIAPHRAGM

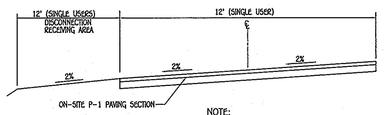
SCALE: 1"=2'



NOTE:
1. ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL VOLUME IV, STANDARD SPECIFICATION AND DETAILS FOR CONSTRUCTION.
2. SWALES ARE FOR CONVEYANCE OF RUNOFF AND NOT UTILIZED FOR TREATMENT CREDIT.

16' USE-IN-COMMON DRIVEWAY & SWALE CROSS SLOPE SECTION

NOT TO SCALE



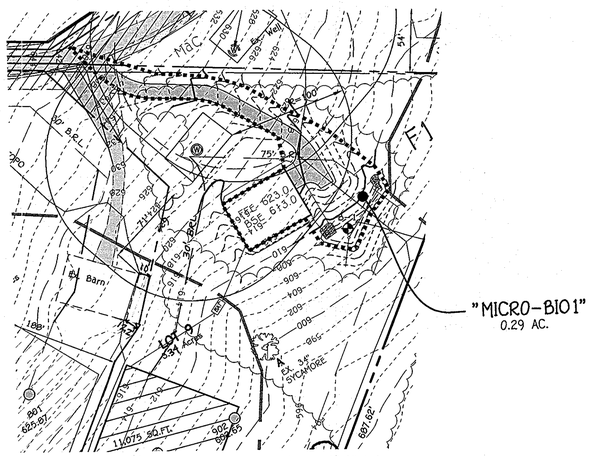
NOTE:
ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL VOLUME IV, STANDARD SPECIFICATION AND DETAILS FOR CONSTRUCTION.

TYPICAL PRIVATE DRIVE CROSS SLOPE SECTION

NOT TO SCALE

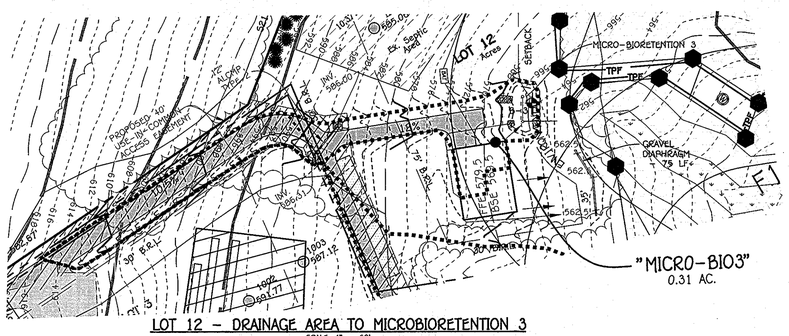
OPERATION & MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED, DISCONNECTION OF NONROOFTOP RUNOFF (N-2)

1. MAINTENANCE OF AREAS RECEIVING DISCONNECTION RUNOFF IS GENERALLY NO DIFFERENT THAN THAT REQUIRED FOR OTHER LAWN OR LANDSCAPED AREAS. THE AREAS RECEIVING RUNOFF SHOULD BE PROTECTED FROM FUTURE COMPACTION OR DEVELOPMENT OF IMPERVIOUS AREA. IN COMMERCIAL AREAS FOOT TRAFFIC SHOULD BE DISCOURAGED AS WELL.



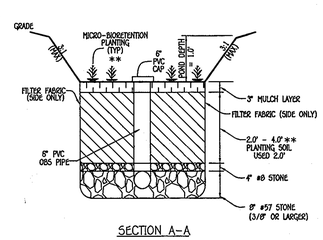
LOT 9 - DRAINAGE AREA TO MICROBIORETENTION 1

SCALE: 1" = 60'

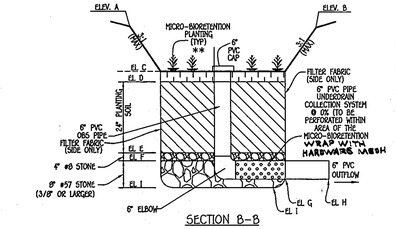


LOT 12 - DRAINAGE AREA TO MICROBIORETENTION 3

SCALE: 1" = 60'



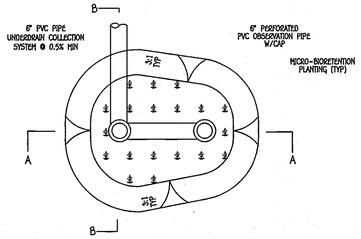
SECTION A-A



SECTION B-B

MICRO-BIORETENTION DETAIL (M-6)

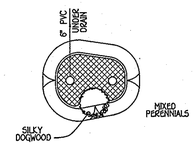
NOT TO SCALE



PLAN

NOT TO SCALE

MICRO-BIORETENTION									
BIORETENTION FILTER	A	B	C	D	E	F	G	H	I
1 (LOT 9)	608.00	608.00	607.00	606.75	604.75	604.42	603.92	603.68	603.75
2 (LOT 11)	560.00	560.00	559.00	558.75	556.75	556.42	555.92	555.52	555.75
3 (LOT 12)	568.00	568.00	567.00	566.75	564.75	564.42	563.92	563.64	563.75



MICRO-BIORETENTION PLANTING DETAIL

NOT TO SCALE

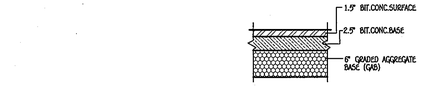
*MIXED PERENNIALS
CUT-LEAF CONEFLOWER (1.5' SP.)
BEEBALM (1.5' SP.)
JOE-PYE-WEED (3' SP.)

SILKY DOGWOOD

*SEE PLANT MATERIAL CHARTS FOR QUANTITIES AND SPACING

NOTE:
PLANT MATERIAL MUST COVER AT LEAST 50% OF THE SURFACE AREA OF THE MICRO-BIORETENTION

MICRO-BIORETENTION PLANT MATERIAL		
QUANTITY	NAME	MAXIMUM SPACING (FT.)
12	MIXED PERENNIALS	1.5 TO 3.0 FT.
1	SILKY DOGWOOD	PLANT AWAY FROM INFLOW LOCATION



P-1 DRIVEWAY PAVING SECTION

NOT TO SCALE

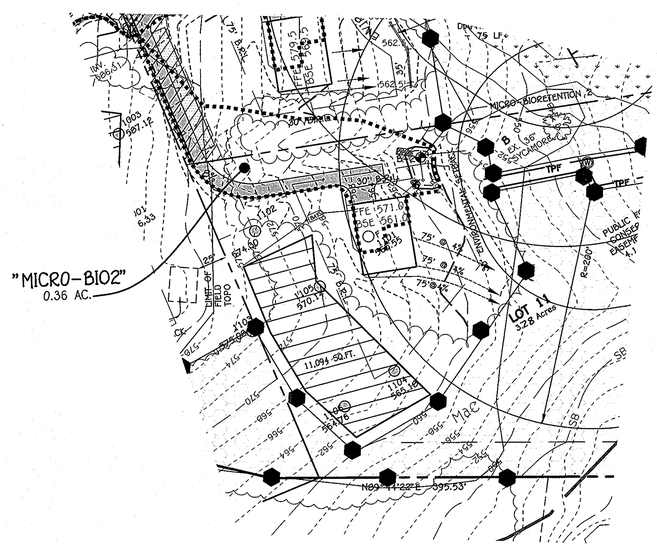
OPERATION & MAINTENANCE SCHEDULE FOR MICRO-BIORETENTION (M-6)

A. THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL VOLUME II, TABLE A.4.1 AND 2.
B. THE OWNER SHALL PERFORM A PLANT IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT. REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL. TREAT DISEASED TREES AND SHRUBS AND REPLACE ALL DEFICIENT STAKES AND WIRES.
C. THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS. THE PREVIOUS MULCH LAYER SHALL BE REMOVED BEFORE THE NEW LAYER IS APPLIED.
D. THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

STORMWATER MANAGEMENT SUMMARY CHART

AREA = 10.58 ACRES (LOTS 9, 11, & 12)
RCN = 70
TARGET PE = 1.6"

SWM SUMMARY CHART	
AREA ID	SWM TREATMENT PROVIDED
LOT 8	N/A (EXISTING HOUSE & DRIVEWAY)
LOT 9	MICRO-BIORETENTION (M-6) & NON-ROOFTOP DISCONNECTION (N-2)
LOT 10	N/A (EXISTING HOUSE & DRIVEWAY)
LOT 11	MICRO-BIORETENTION (M-6), ROOFTOP DISCONNECTION (N-1), & NON-ROOFTOP DISCONNECTION (N-2)
LOT 12	MICRO-BIORETENTION (M-6) & SHEET FLOW TO CONSERVATION AREA (N-3) WITH A GRAVEL DIAPHRAGM



LOT 11 - DRAINAGE AREA TO MICROBIORETENTION 2

SCALE: 1" = 60'

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, LICENSE NO. 38386, EXPIRATION DATE: 01/12/2014.

Stephanie J. Tuite 2/5/14
Signature Of Professional Engineer DATE

STATE OF MARYLAND STEPHANIE J. TUITE No. 38386 PROFESSIONAL ENGINEER

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 3/4/14
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 3.10.14

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
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OWNER/DEVELOPER

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JOHN A. HARTNER AND EDWINA CARR HARTNER, TRUSTEES
610 SOBRINA FARMS COURT
WOODBINE, MARYLAND 21797-8765

LOT 3
JOHN D. HARTNER SR. AND VERONICA M. HARTNER
620 SOBRINA FARMS COURT
WOODBINE, MARYLAND 21797-8765

STORMWATER MANAGEMENT NOTES & DETAILS
SOBRINA FARMS SUBDIVISION
LOTS 8 THRU 12
A RESUBDIVISION OF LOTS 2 AND 3

ZONED: RC-DEO
TAX MAP No. 2 PARCEL No. 39 GRID No. 24
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: 1" = 60'
DATE: JANUARY, 2014
SHEET 3 OF 3

F-14-040

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