

SHEET INDEX	
SHEET NO.	DESCRIPTION
1	SUPPLEMENTAL PLAN - TITLE SHEET
2	SUPPLEMENTAL PLAN - TOPOGRAPHY, SOILS, STORMWATER MANAGEMENT, LANDSCAPE & FOREST CONSERVATION
3	FOREST CONSERVATION & LANDSCAPE DETAILS
4	SEDIMENT & EROSION CONTROL NOTES & DETAILS

SUPPLEMENTAL PLAN - LANDSCAPE, FOREST CONSERVATION & SOILS RIZK PROPERTY

LOTS 1 THRU 4
TAX MAP No. 9 GRID No. 09 PARCEL NO. 75
THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

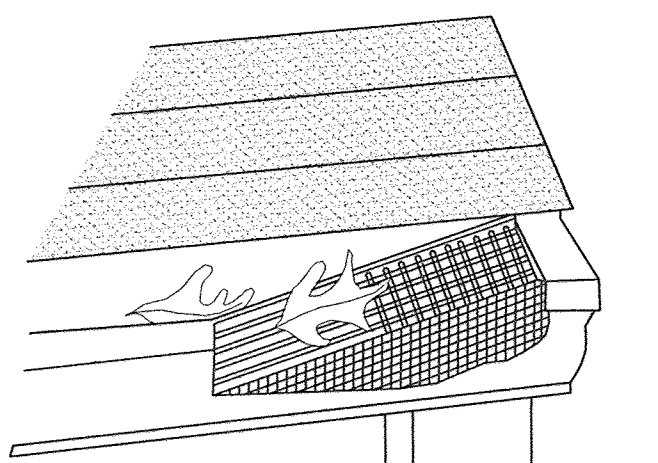
LEGEND			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	EXISTING 2' CONTOURS		PROPOSED CONTOUR
	EXISTING 10' CONTOURS		SPOT ELEVATION
	SOILS LINES AND TYPE		LIMITS OF DISTURBANCE
	EXISTING TREELINE		DRAINAGE AREA DIVIDE
	INDIVIDUAL TREES & SHRUBS		SILT FENCE
	EXISTING FENCE LINE		FLOW ARROWS
	EXISTING & PROPOSED PAVING		STABILIZES CONSTRUCTION ENTRANCE

SOILS LEGEND			
SOIL	NAME	CLASS	K FACTOR
GgB	Glenelg loam, 3 to 8 percent slopes	B	.37
GmB	Glenville silt loam, 3 to 8 percent slopes	C	.43
GnB	Glenville-Baile silt loams, 0 to 8 percent slopes	C	.43

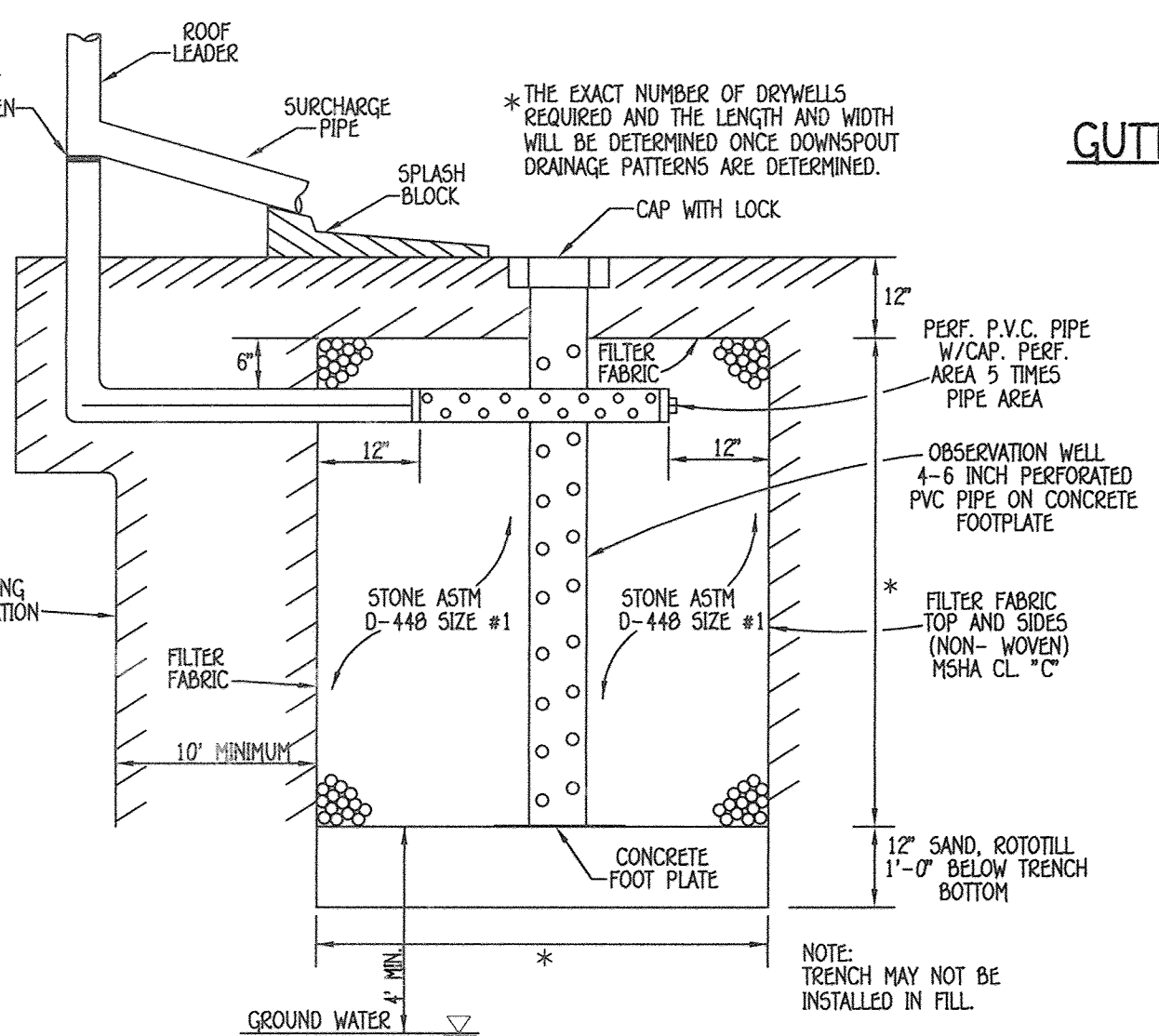
Soil Map Number: _____

STORMWATER MANAGEMENT SUMMARY			
AREA ID.	ESDV REQUIRED CU.FT.	ESDV PROVIDED CU.FT.	REMARKS
SITE	4,914	5,662	DRYWELLS (M-5), MICRO-BIORETENTION (M-6), & NON-ROOFTOP DISCONNECTION (N-2)
TOTAL	4,914	5,662	

GROSS AREA = 11.98 ACRES (EXCLUDES AREA OF LOT 1 NOT WITHIN LOD)
LOD = 5.19 ACRES
TARGET Pe = 1.0'



GUTTER DRAIN FILTER DETAIL
NOT TO SCALE



DRY WELL DETAIL (M-5)
NOT TO SCALE

OPERATION & MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DRY WELLS (M-5)

- THE OWNER SHALL INSPECT THE MONITORING WELLS AND STRUCTURES ON A QUARTERLY BASIS AND AFTER EVERY HEAVY STORM EVENT.
- THE OWNER SHALL RECORD THE WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING WELLS OVER A PERIOD OF SEVERAL DAYS TO ENSURE TRENCH DRAINAGE.
- THE OWNER SHALL MAINTAIN A LOG BOOK TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
- WHEN THE FACILITY BECOMES CLOGGED SO THAT IT DOES NOT DRAIN DOWN WITHIN A SEVENTY-TWO (72) HOUR TIME PERIOD, CORRECTIVE ACTION SHALL BE TAKEN.
- THE MAINTENANCE LOG BOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
- ONCE THE PERFORMANCE CHARACTERISTICS OF THE INFILTRATION FACILITY HAVE BEEN VERIFIED, THE MONITORING SCHEDULE CAN BE REDUCED TO AN ANNUAL BASIS UNLESS THE PERFORMANCE DATA INDICATES THAT A MORE FREQUENT SCHEDULE IS REQUIRED.

DRY WELL CHART						
DRYWELL ID.	AREA OF ROOF PER DOWN SPOUT	VOLUME REQUIRED	VOLUME PROVIDED	AREA OF TREATMENT	L	W
LOT 2 (FT RT)	875 SQ. FT.	70 C.F.	280 C.F.	100%	12'	12' x 5'
LOT 2 (RR LT)	875 SQ. FT.	70 C.F.	280 C.F.	100%	12'	12' x 5'
LOT 3 (FT RT)	875 SQ. FT.	70 C.F.	280 C.F.	100%	12'	12' x 5'
LOT 3 (RR LT)	875 SQ. FT.	70 C.F.	280 C.F.	100%	12'	12' x 5'
LOT 4 (FT LT)	875 SQ. FT.	70 C.F.	280 C.F.	100%	12'	12' x 5'
LOT 4 (FT RT)	875 SQ. FT.	70 C.F.	280 C.F.	100%	12'	12' x 5'
LOT 4 (RR LT)	875 SQ. FT.	70 C.F.	280 C.F.	100%	12'	12' x 5'
LOT 4 (RR RT)	875 SQ. FT.	70 C.F.	280 C.F.	100%	12'	12' x 5'

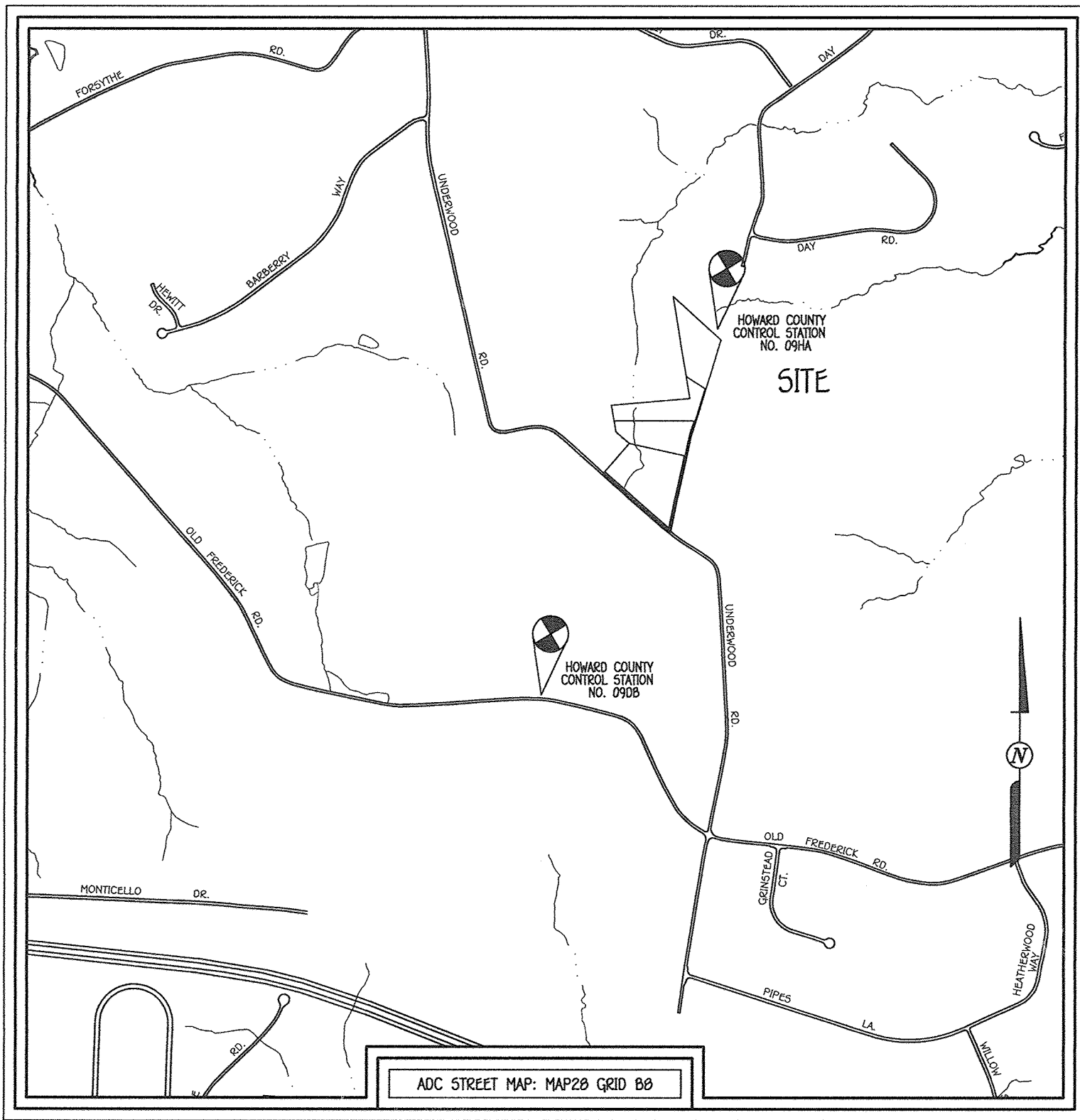
* AREA OF TREATMENT EXCEEDS THAT REQUIRED.

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

- 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 COMPACTOR OR DEVELOPMENT OF IMPERVIOUS AREA IN COMMERCIAL AREAS FOOT TRAFFIC SHOULD BE DISCOURAGED AS WELL.

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

- 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 HARPLAND STORMWATER DESIGN MANUAL VOLUME II, TABLE A.4.1 AND 2.
- 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 DISCOURAGED VEGETATION CONSIDERED BEYOND TREATMENT. REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL. TREAT DISCOURAGED TREES AND SHRUBS AND REPLACE ALL DEFICIENT STAKES AND WIRES.
- 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.
- THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

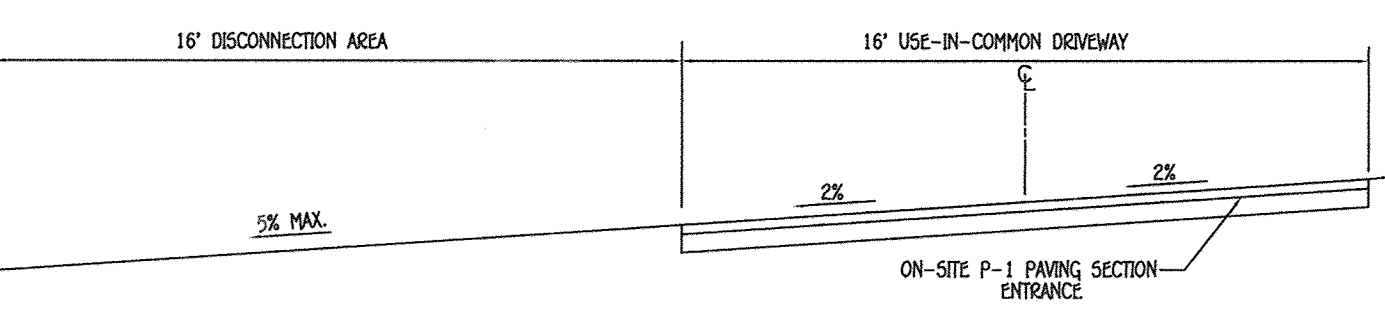


VICINITY MAP
SCALE: 1" = 1200'

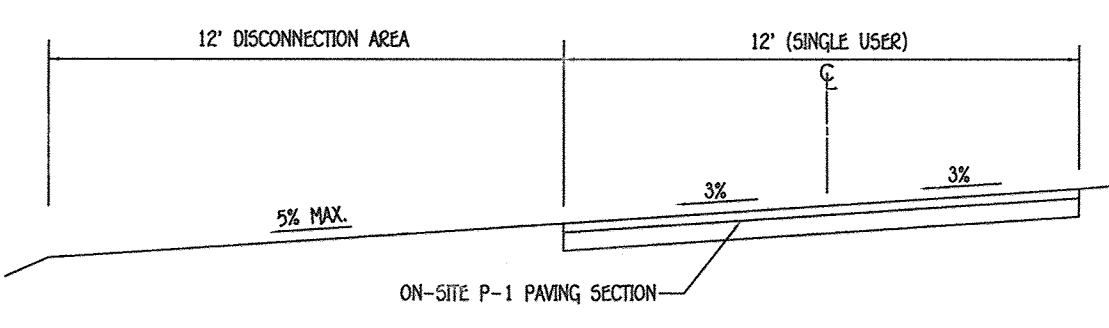
BENCHMARK INFORMATION	
B.M.#1 - HOWARD COUNTY CONTROL STATION #090B - HORIZONTAL - (NAD '83)	N 605,072.376 E 1,316,990.470 ELEVATION = 609.208 - VERTICAL - (NAVD '86)
B.M.#2 - HOWARD COUNTY CONTROL STATION #090A - HORIZONTAL - (NAD '83)	N 605,283.522 E 1,318,531.119 ELEVATION = 604.464 - VERTICAL - (NAVD '86)

SITE ANALYSIS DATA CHART

- TOTAL AREA OF THIS SUBMISSION IS 18.20 AC* (STORMWATER MANAGEMENT IS BASED ON 11.98 AC* WHICH EXCLUDES THE AREA OF LOT 1 NOT WITHIN THE LOD)
 - LIMIT OF DISTURBED AREA = 3.19 AC*
 - PRESENT ZONING DESIGNATION = RC-DEO (PER 10/06/2013 COMPREHENSIVE ZONING PLAN)
 - PROPOSED USE: RESIDENTIAL
 - PREVIOUS HOWARD COUNTY FILES: **MM ECP-17-058, WP-18-114**
 - TOTAL AREA OF FLOODPLAIN LOCATED ON-SITE = 3.72 AC*
 - TOTAL AREA OF STEEP SLOPES:
MODERATED STEEP SLOPES: 15%-24.9% = 0.00 AC
STEEP SLOPES: 25% OR GREATER = 0.00 AC
 - TOTAL AREA OF WETLANDS (INCLUDING BUFFER) = 3.57 AC* (2.29 AC* WETLANDS)
 - TOTAL AREA OF STREAM (INCLUDING BUFFER) = 1.87 AC*
 - TOTAL AREA OF EXISTING FOREST = 12.30 AC* (OUTSIDE OF FLOODPLAIN)
 - TOTAL AREA OF FOREST TO BE RETAINED = 6.84 AC* (5.36 AC IN EASEMENT)
 - TOTAL AREA OF LOTS / BUILDABLE PARCELS = 17.75 AC*
 - TOTAL GREEN OPEN AREA = 17.28 AC*
 - TOTAL IMPERVIOUS AREA = 0.92 AC*
 - TOTAL AREA OF ERODIBLE SOILS = 8.00 AC*
 - TOTAL AREA OF ROAD DEDICATION = 0.45 AC*
- SUBJECT PROPERTY ZONED RC-DEO PER 10/06/13 COMPREHENSIVE ZONING PLAN.
 - COORDINATES BASED ON NAD '83, MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 0900B AND NO. 0901A.
 - BOUNDARY SHOWN HEREON IS BASED ON FIELD SURVEY MONUMENTED BOUNDARY SURVEY PERFORMED BY FISHER, COLLINS & CARTER, INC. DATED APRIL 2017. TOPOGRAPHY SHOWN HEREON IS BASED ON A TOPOGRAPHIC SURVEY PERFORMED BY FISHER, COLLINS & CARTER, INC. IN APRIL 2017 AND SUPPLEMENTED WITH HOWARD COUNTY GIS TOPOGRAPHY AT 2' CONTOUR INTERVAL INTERPOLATED FOR 2' CONTOUR INTERVAL.
 - B.R.L. DENOTES BUILDING RESTRICTION LINE.
 - DENOTES IRON PIN SET CAPPED "F.C.C. 106".
 - DENOTES IRON PIPE OR IRON BAR FOUND.
 - DENOTES ANGULAR CHANGE IN BEARING OF BOUNDARY OR RIGHTS-OF-WAY.
 - DENOTES CONCRETE MONUMENT SET WITH ALUMINUM PLATE "F.C.C. 106".
 - DENOTES CONCRETE MONUMENT OR STONE FOUND.
 - ALL AREAS ARE MORE OR LESS (±).
 - DISTANCES SHOWN ARE BASED ON SURFACE MEASUREMENT AND NOT REDUCED TO NAD '83 GRID MEASUREMENT.
 - FOR FLAG OR PIPE STEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE ARE PROVIDED TO THE JUNCTION OF FLAG OR PIPE STEM AND ROAD RIGHT-OF-WAY LINE ONLY AND NOT ONTO THE FLAG OR PIPE STEM LOT DRIVEWAY.
 - 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.
C). GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE AND 45-FOOT TURNING RADIUS.
D). STRUCTURES - CULVERTS/BRIDGES - CAPABLE OF SUPPORTING 25 GROSS TONS (1025-LOADING).
E). DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER SURFACE.
 - MAINTENANCE - SUFFICIENT TO ENSURE ALL WEATHER USE.
 - PROPERTY SUBJECT TO PRIOR DEPARTMENT OF PLANNING AND ZONING FILE NO'S: ECP-17-058.
 - CONCRETE EASEMENT ON THE SUBJECT PROPERTY BASED ON VISUAL OBSERVATION OR LISTED IN AVAILABLE HOWARD COUNTY CEMETERY INVENTORY MAP.
 - THERE IS AN EXISTING DWELLING ON LOT 1 TO REMAIN. NO NEW BUILDINGS, EXTENSIONS OR ADDITIONS TO THE EXISTING DWELLING ARE TO BE CONSTRUCTED AT A DISTANCE LESS THAN THE ZONING REGULATION REQUIREMENTS.
 - SITE IS ADJACENT TO A SCenic ROAD (UNDERWOOD ROAD).
 - THE FOREST CONSERVATION EASEMENT ASSOCIATED WITH THIS SUBDIVISION HAVE BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE AND THE FOREST CONSERVATION ACT. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT. FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION ARE ALLOWED. THE FOREST CONSERVATION ACT REQUIREMENTS FOR SUBDIVISION WILL BE MET THROUGH THE ON-SITE RETENTION OF (5.36 AC. CREDITED). NO SURVEY IS REQUIRED FOR ON-SITE RETENTION.
 - STORMWATER MANAGEMENT IS IN ACCORDANCE WITH THE M.D.E. STORM WATER DESIGN MANUAL, VOLUMES I & II, REVISED 2009. NON-STRUCTURAL PRACTICES IN ACCORDANCE WITH CHAPTER 5 ARE BEING UTILIZED.
 - THIS AREA DESIGNATES A PRIVATE SEWERAGE EASEMENT OF AT LEAST 10,000 SQUARE FEET AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWERAGE 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 ADJUSTMENTS TO THE PRIVATE SEWERAGE EASEMENT. RECORDATION OF A MODIFIED EASEMENT SHALL NOT BE NECESSARY.
 - THE LOTS SHOWN HEREON COMPLY WITH THE MINIMUM OWNERSHIP WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT.
 - ALL WELLS HAVE BEEN DRILLED PRIOR TO FINAL PLAT RECORDATION.
 - ALL WELLS AND SEPTIC SYSTEMS CONSTRUCTION MUST BE PROPERLY ABANDONED AND NOTIFICATION OF SUCH SUBMITTED TO THE HEALTH DEPARTMENT PRIOR TO HEALTH OFFICER SIGNATURE OF THE FINAL PLAT.
 - FOREST STAND DELINEATION AND WETLAND DELINEATION WAS PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. DATED MAY 22, 2017.
 - LANDSCAPING FOR LOT 4 IS PROVIDED IN ACCORDANCE WITH A CERTIFIED LANDSCAPE PLAN ON FILE WITH THE PLAT. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.1214 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE REQUIRED PERMITS AND LANDSCAPING WILL BE POSTED AS PART OF THE BUILDERS GRADING PERMIT FOR LOTS 1-4. THE AMOUNT IS \$50,000 BASED ON 22 SHADE TREES @ \$300.00 EACH AND 18 EVERGREENS @ \$1,500.00 EACH.
 - LOT 1 IS TO REMAIN UNDEVELOPED FROM THE PERMITS FROM THE REQUIREMENTS OF SECTION 16.1214 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL BECAUSE IT CONTAINS AN EXISTING DWELLING TO REMAIN.
 - OPEN SPACE REQUIREMENTS ARE PROVIDED BY A FEE-IN-LIEU PAYMENT OF \$4,500.00.
 - COMMUNITY MEETING WAS CONDUCTED ON JANUARY 15, 2017 FOR THE BENEFIT OF THE DEVELOPER TO PROVIDE INFORMATION TO THE COMMUNITY REGARDING THE PROPOSED RESIDENTIAL DEVELOPMENT AND TO ALLOW THE COMMUNITY TO ASK QUESTIONS AND TO MAKE COMMENTS, PER SECTION 16.128(D) OF THE SUBDIVISION REGULATIONS.
 - A TRAFFIC STUDY IS NOT REQUIRED FOR THIS PROJECT.
 - SUBDIVISION IS SUBJECT TO SECTION 16.04(F) OF THE ZONING REGULATIONS. AT LEAST 10% OF THE DWELLING UNITS SHALL BE MODERATE INCOME HOUSING UNITS (M.I.H.U.) OR AN ALTERNATIVE COMPLIANCE WILL BE PROVIDED. THE DEVELOPER SHALL EXECUTE A M.I.H.U. AGREEMENT WITH THE DEPARTMENT OF HOUSING TO INDICATE HOW THE M.I.H.U. REQUIREMENT WILL BE MET. THE M.I.H.U. AGREEMENT AND COVENANTS WILL BE RECORDED SIMULTANEOUSLY WITH THIS PLAT IN THE LAND RECORDS OFFICE OF HOWARD COUNTY, MARYLAND. THIS DEVELOPMENT WILL MEET M.I.H.U. ALTERNATIVE COMPLIANCE BY A PAYMENT OF A FEE-IN-LIEU TO THE DEPARTMENT OF HOUSING FOR EACH REQUIRED UNIT.
MODERATE INCOME HOUSING UNIT (M.I.H.U.) TABULATION:
A. M.I.H.U. REQUIRED = (5 LOTS x 10%) = 0.5 M.I.H.U.
B. M.I.H.U. PROVIDED = DEVELOPER WILL PROVIDE ALTERNATIVE COMPLIANCE BY PAYING A FEE-IN-LIEU TO THE HOWARD COUNTY HOUSING DEPARTMENT FOR THE UNITS REQUIRED BY THE DEVELOPMENT.
C. AN EXECUTED M.I.H.U. AGREEMENT WITH THE HOWARD COUNTY HOUSING DEPARTMENT HAS BEEN COMPLETED AND RECORDED SIMULTANEOUSLY WITH THIS PLAT.
 - THE PRIVATE USE-IN-COMMON, ACCESS, DRAINAGE & UTILITY EASEMENT FOR THE USE AND BENEFIT OF LOTS 1 THRU 4 AND MAINTENANCE AGREEMENT IS RECORDED SIMULTANEOUSLY WITH THE PLAT.
 - THE LOTS SHOWN HEREON COMPLY WITH THE MINIMUM OWNERSHIP WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT.
 - NO NOISE STUDY IS REQUIRED BECAUSE THE PROJECT DOES NOT FALL WITHIN THE GUIDELINES OF DESIGN MANUAL, VOLUME III, ROADS, BRIDGES, SECTION 5.2.2.2.
 - AN M.I.H.U. AGREEMENT AND DECLARATION OF COVENANTS ARE RECORDED SIMULTANEOUSLY WITH THE PLAT.
 - NO HISTORIC STRUCTURES EXIST WITHIN THE LIMITS OF THIS PLAT SUBMISSION.
 - THE PLAN IS IN COMPLIANCE WITH THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS PER COUNCIL BILL 45-2003 AND THE 10/06/13 COMPREHENSIVE ZONING PLAN. DEVELOPMENT OR CONSTRUCTION ON THESE LOTS MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE SITE DEVELOPMENT PLAN, WAREHOUSE PERMIT APPLICATION, OR BUILDING/GRADING PERMIT.
 - NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF WETLANDS, STREAMS(5), OR THEIR REQUIRED BUFFERS, FLOODPLAIN AND FOREST CONSERVATION EASEMENT AREAS.
 - THIS PLAT IS SUBJECT TO WP-18-114 WHICH ON JUNE 13, 2018 THE PLANNING DIRECTOR APPROVED A REQUEST FOR AN ALTERNATIVE COMPLIANCE WITH SECTION 16.1200(A)(7) TO ALLOW REMOVAL OF THE SEVEN (7) TREES 30" IN DIAMETER OR LARGER, AND SECTION 16.1200(A)(8)(B) TO ALLOW FLOODPLAINS, WETLANDS, STREAMS, THEIR BUFFERS, AND FOREST CONSERVATION EASEMENTS FOR AFFORESTATION, REFORESTATION, OR RESTORATION BE PERMITTED ON LOTS LESS THAN 10 ACRES IN SIZE. APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:
1. REMOVAL OF THE SEVEN (7) SPECIMEN TREES WILL REQUIRE REPLACEMENT MITIGATION AT A RATIO OF TWO (2) LARGER CALIBER NATIVE TREE SPECIES (AT LEAST THREE (3) INCHES DBH) FOR EACH SPECIMEN TREE REMOVED (14 TREES TOTAL). THE MITIGATION PLANTING CAN BE PROVIDED AS PART OF THE REQUIRED FORESTED LANDSCAPING FOR THIS PROJECT. YOU MUST SUBMIT A SUPPLEMENTAL PLAN WITH YOUR FINAL SUBDIVISION PLAN FOR THIS PROJECT THAT SHOWS HOW YOU PLAN TO ADDRESS THIS ALTERNATIVE FOREST CONSERVATION/LANDSCAPE MITIGATION.
2. SPECIMEN TREES 4, 5, 8, 9, 11 AND 30 MUST BE PROTECTED DURING CONSTRUCTION. A REGISTERED ARBORIST MUST INSPECT THE TREES AND IMPLEMENT RECOMMENDATIONS FOR PROFESSIONAL PRUNING OF ROOTS AND FOLIAGE. ALL PRUNING MUST BE PERFORMED BY A MARYLAND LICENSED TREE EXPERT. TREE PROTECTION FENCING MUST BE INSTALLED AROUND THE ENTIRE PERIMETER OF EACH SPECIMEN TREE TO THE GREATEST EXTENT POSSIBLE TO PREVENT ROOT AND FOLIAGE DAMAGE DURING CONSTRUCTION. ALTERNATIVE DESIGNING OF THE SITE MUST BE CONDUCTED BY THE CONSULTANT IN ORDER TO MINIMIZE ROOT DAMAGE.
3. THE PROPOSED DRIVEWAY TO SERVE NEW LOTS 2 THROUGH 4 SHALL COMPLY WITH SECTION 16.1200(B)(5)(VI) OF THE HOWARD COUNTY SUBDIVISION REGULATIONS. PER SECTION 16.1200(B)(5)(VI), "THE DRIVEWAYS FOR FIRST-TIER LOTS SHALL BE LOCATED AT LEAST TEN FEET FROM THE PROJECT BOUNDARY TO PROVIDE SPACE FOR REQUIRED FORESTED LANDSCAPING TO BUFFER THE ADJACENT PROPERTY, WHERE A TEN-FOOT BUFFER IS NOT POSSIBLE DUE TO THE EXISTING PARCELS' CONFIGURATION, DRAINAGE, OR EASEMENT CONSTRAINTS, OR BE LOCATED WITHIN THE PROJECT BOUNDARY TO PROVIDE SPACE FOR AFFORESTATION, REFORESTATION, OR RESTORATION. THE USE-IN-COMMON DRIVEWAY UNDER SUBSECTION (C)(2)(IV) OF THIS SECTION, THE DEPARTMENT OF PLANNING AND ZONING MAY APPROVE A FIVE-FOOT DRIVEWAY BUFFER. IN SUCH INSTANCES, A HEDGE, SOLID FENCE, WALL, OR TREE IS REQUIRED, EXCEPT IN LANDSCAPED AREAS. APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:
4. THERE SHALL BE NO DISTURBANCE WITHIN ANY FLOODPLAINS, WETLANDS, STREAMS, THEIR BUFFERS, AND FOREST CONSERVATION EASEMENT AREAS FOR AFFORESTATION, REFORESTATION, OR RESTORATION.
5. THE FUTURE HOUSES ON LOTS 2, 3 AND 4 SHALL MAINTAIN A 100-FOOT DISTANCE FROM THE FOREST CONSERVATION EASEMENTS TO AVOID ENCROACHMENTS AND TO ALLOW A USEABLE YARD."



TYPICAL PRIVATE COMMON DRIVE CROSS SLOPE SECTION
NOT TO SCALE



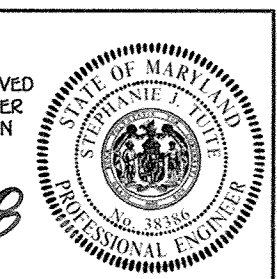
TYPICAL PRIVATE DRIVE CROSS SLOPE SECTION
NOT TO SCALE

Table B.4. Materials Specifications for Micro-Bioretenition, Rain Gardens & Landscape Infiltration

Material	Specification	Size	Notes
Plantings	see Appendix A Table A.4	n/a	plantings are site-specific
Filtering soil (2" to 4" deep)	loamy sand 60-85% comely sand 30-40% or sandy loam 30% coarse sand 30% compost 40%		USDA soil types loamy sand or sandy loam; clay content <5%
Organic Content	Min. 10% by dry weight (ASTM D 2974)		
Mulch	shredded hardwood		aged 6 months, minimum
Pea gravel diaphragm	pea gravel: ASTM-D-440	No. 8 or No. 9 (1/8" to 3/8")	
Curtain drain	ornamental stone: washed cobble	stone: 2" to 5"	
Geotextile		n/a	PE Type 1 nonwoven
Gravel (underdrains and infiltration berms)	ASTM M-43	No. 57 or No. Aggregate (3/8" to 3/4")	
Underdrain piping	1" 750, Type PS 2B or ASTM M-276	4" to 6" rigid schedule 40 PVC or SDR35	Slotted or perforated pipe; 3/8" per ft. @ center. 4 holes per row, minimum of 3" of gravel over pipe; not necessary underneath pipes. Perforated pipe shall be wrapped with 1/4 inch galvanized hardware cloth.
Poured in place concrete (if required)	NSHA Mix No. 3; f = 3500 psi at 28 days, normal weight; air-entrained; reinforcing to meet ASTM-A919-60	n/a	on-site testing of poured-in-place concrete required: 28 day strength and slump test; all concrete design (cast-in-place or pre-cast) not using previously approved Stone or local standards requires design drawings sealed and approved by a professional structural engineer licensed in the State of Maryland - design to include meeting ACI Code 350.8/R99, vertical loading 10-10 or 11-20; allowable horizontal loading (based on soil pressure); and analysis of potential cracking.
Sand	ASTM M-6 or ASTM-C-33	0.02" to 0.04"	Sand substitutions such as Diabase and Graystone (ASTM) #10 are not acceptable. No calcium carbonated or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Karla O. ...
Chief, Division of Land Development
Chad ...
Chief, Development Engineering Division

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. 36386, EXPIRATION DATE: 01/01/2020.
Stephen ...
Signature of Professional Engineer DATE: 7/9/18



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

OWNER/DEVELOPER
CHARBEL RIZK
1445 UNDERWOOD ROAD
SYKESVILLE, MARYLAND 21784

TITLE SHEET
RIZK PROPERTY,
LOTS 1 THRU 4

ZONED: RC-DEO
TAX MAP #9 GRID 0009 PARCEL: 75
THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: 1"=40' DATE: JULY, 2018
SHEET 1 OF 4

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10772 BALPOUR NATIONAL PARK
GLIENCOFF CITY, MARYLAND 21042
(410) 461-2399

LANDSCAPING PLANT LIST			
QTY.	KEY	NAME	SIZE
5	(Symbol)	ACER RUBRUM 'RED SUNSET' (RED SUNSET RED MAPLE)	2.5" - 3" CAL. FULL CROWN, B&B
3	(Symbol)	TILIA CORDATA 'GREENSPIRE' (GREENSPIRE LITTLELEAF LINDEN)	2.5" - 3" CAL. FULL CROWN, B&B
11	(Symbol)	THUJA PLICATA (GIANT ARBOVITAE 'GREEN GIANT')	5' - 6' HT. B&B
7	(Symbol)	ILEX 'NELLIE R. STEVENS' (NELLIE STEVENS HOLLY)	5' - 6' HT. B&B
14	(Symbol)	QUERCUS RUBRA (RED OAK)	3" CAL. B&B

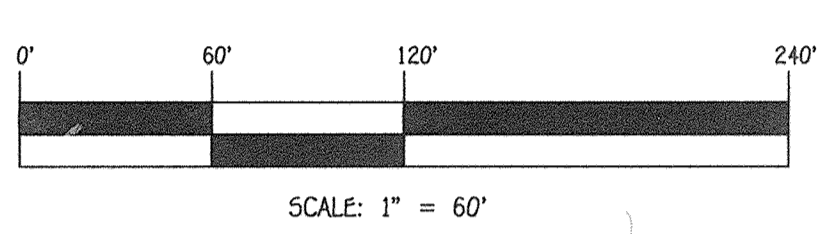
TOTAL 23 SHADE TREES & 18 EVERGREENS DEVELOPER'S & BUILDER'S CERTIFICATE

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: *[Signature]* DATE: 7/10/18

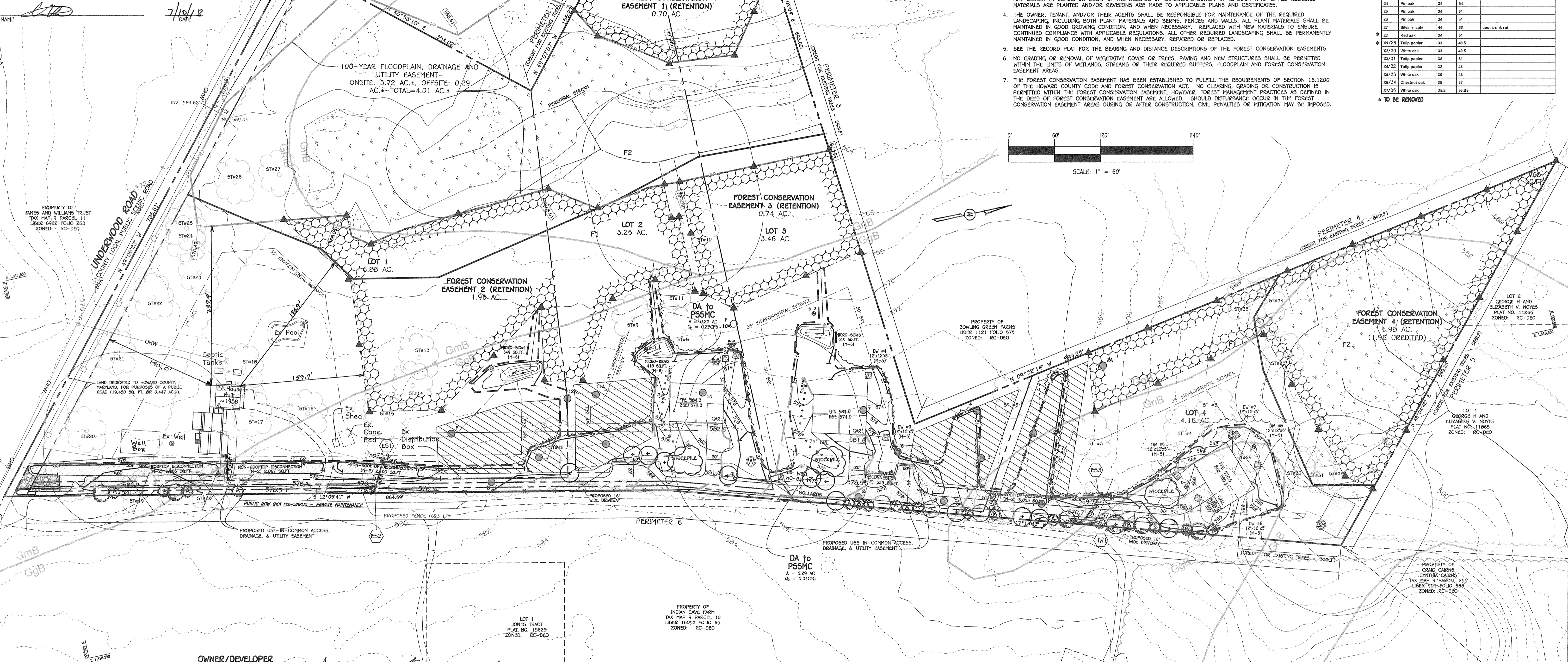
LEGEND			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
(Symbol)	EXISTING 2' CONTOURS	(Symbol)	PROPOSED CONTOUR
(Symbol)	EXISTING 10' CONTOURS	(Symbol)	SPOT ELEVATION
(Symbol)	SOILS LINES AND TYPE	(Symbol)	LIMITS OF DISTURBANCE
(Symbol)	EXISTING TREELINE	(Symbol)	DRAINAGE AREA DIVIDE
(Symbol)	INDIVIDUAL TREES & SHRUBS	(Symbol)	SILT FENCE
(Symbol)	EXISTING FENCE LINE	(Symbol)	FLOW ARROWS
(Symbol)	EXISTING & PROPOSED PAVING	(Symbol)	STABILIZES CONSTRUCTION ENTRANCE

- NOTES**
- THIS PLAN COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION BY THE ON-SITE RETENTION OF 5.36 ACRES OF FOREST TO MEET THE BREAK-EVEN REQUIREMENT. NO SURETY IS REQUIRED TO BE POSTED.
 - 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 23 SHADE TREES AT \$300/TREE AND 18 EVERGREEN TREES AT \$150/TREE IN THE AMOUNT OF (\$9300.00) WILL BE POSTED AS PART OF THE BUILDER'S GRADING PERMITS (\$1500 FOR LOT 2, \$900 FOR LOT 3, AND \$6900 FOR LOT 4).
 - 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 LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATION OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THIS APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO APPLICABLE PLANS AND CERTIFICATES.
 - THE OWNER, TENANT, AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.
 - SEE THE RECORD PLAT FOR THE BEARING AND DISTANCE DESCRIPTIONS OF THE FOREST CONSERVATION EASEMENTS.
 - NO GRADING OR REMOVAL OF VEGETATIVE COVER OR TREES, PAVES AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF WETLANDS, STREAMS OR THEIR REQUIRED BUFFERS, FLOODPLAIN AND FOREST CONSERVATION EASEMENT AREAS.
 - THE FOREST CONSERVATION EASEMENT HAS BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION ACT. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT, HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED. SHOULD DISTURBANCE OCCUR IN THE FOREST CONSERVATION EASEMENT AREAS DURING OR AFTER CONSTRUCTION, CIVIL PENALTIES OR MITIGATION MAY BE IMPOSED.



Specimen Tree Chart					
Key (DBH)	Species	Size (inches)	CRZ (feet)	Comments	Notes
1	Tulip poplar	35.5	53.25	fair, limb dieback	
2	Red oak	34.5	51.75	fair, limb dieback	
3	White oak	33.5	50.25	poor, major limb dieback	
4	Tulip poplar	36.5	54.75		
5	Tulip poplar	35	52.5		
6	Red oak	31.5	47.25		
7	Red oak	40	60		
8	Black oak	30	45	poor, storm damage	
9	Red oak	34.5	51.75		
10	Red oak	46.5	69.75		
11	Red oak	31	46.5	very poor, major limb dieback	
12	Black oak	32	48		
13	Red oak	30	45		
14	Red oak	38.5	57.75	poor, major limb broken	
15	Red oak	33	49.5		
16	Black oak	32	48	poor, rot in limbs	
17	White oak	33.5	50.25		
18	Black oak	32	48		
19	Black oak	34.5	51.75	poor, trunk rot	
20	Black gum	33	49.5		
21	Black oak	31	46.5		
22	Black oak	33	49.5		
23	Pin oak	38	57	poor, trunk rot	
24	Pin oak	35	52.5		
25	Pin oak	34	51		
26	Pin oak	34	51		
27	Silver maple	44	66	poor, trunk rot	
28	Red oak	34	51		
29	Tulip poplar	33	49.5		
30	White oak	33	49.5		
31	Black oak	34	51		
32	Tulip poplar	32	48		
33	White oak	38	57		
34	Chestnut oak	38	57		
35	White oak	35.5	53.25		

• TO BE REMOVED



DEVELOPER'S CERTIFICATE

I/We certify that all development and construction will be done according to this plan for sediment and erosion control, and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District.

Signature of Developer: *[Signature]* Date: 7/10/18

OWNER/DEVELOPER

CHARBEL RIZK
1445 UNDERWOOD ROAD
SYKESVILLE, MARYLAND 21784

[Signature]
OWNER/DEVELOPER

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] Date: 7/19/18
[Signature] Date: 7/31/18
[Signature] Date: 7/23/18

ENGINEER'S CERTIFICATE

I certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.

[Signature] Date: 7/9/18
Signature of Engineer

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. 38306, EXPIRATION DATE: 01/12/2020.

[Signature] Date: 7/9/18
Signature of Professional Engineer

PERIMETER	SCHEDULE A - PERIMETER LANDSCAPE EDGE						REPLACEMENT FOR SPECIMEN TREES	TOTAL
	P-1	P-2	P-3	P-4	P-5	P-6		
ADJACENT TO PERIMETER PROPERTIES	A	A	A	A	A	A		
ADJACENT TO PERIMETER PROPERTIES	A	A	A	A	A	A		
ADJACENT TO PERIMETER PROPERTIES	A	A	A	A	A	A		
ADJACENT TO PERIMETER PROPERTIES	A	A	A	A	A	A		
ADJACENT TO PERIMETER PROPERTIES	A	A	A	A	A	A		
ADJACENT TO PERIMETER PROPERTIES	A	A	A	A	A	A		
CREDIT FOR EXISTING VEGETATION SHADE TREES	156 L.F.	235 L.F.	693 L.F.	899 L.F.	569 L.F.	1712 L.F.		
CREDIT FOR EXISTING VEGETATION SMALL/MEDIUM DECIDUOUS TREES (2:1 SUBSTITUTION)	CREDIT FOR 156L.F OF TREES (OLF REMAINING)	CREDIT FOR 235L.F OF TREES (OLF REMAINING)	CREDIT FOR 693L.F OF TREES (OLF REMAINING)	CREDIT FOR 899L.F OF TREES (59L.F REMAINING)	CREDIT FOR 569L.F OF TREES (OLF REMAINING)	CREDIT FOR 133L.F OF TREES (157L.F REMAINING)		
NUMBER OF PLANTS REQUIRED SHADE TREES	0	0	0	(59/60' = 1)	0	0	14	31
NUMBER OF PLANTS PROVIDED SHADE TREES	0	0	0	1 TREE REQUIRED HAS BEEN RELOCATED TO PERIMETER 6	0	0	18	22
NUMBER OF PLANTS PROVIDED EVERGREEN TREES	0	0	0	0	0	0	0	18

NOTE: TREE REQUIRED ALONG PERIMETER 4 WAS BETTER UTILIZED TO SUPPLEMENT PLANTINGS ALONG THE DRIVEWAY.

SUPPLEMENTAL PLAN - TOPOGRAPHY, SOILS, STORMWATER MANAGEMENT, LANDSCAPE & FOREST CONSERVATION

RIZK PROPERTY, LOTS 1 THRU 4

ZONED: RC-DEO
TAX MAP #9 GRID 0009 PARCEL: 75
THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: 1"=60' DATE: JULY, 2018
SHEET 2 OF 4

PLANTING / SOIL SPECIFICATIONS

- Planting of Nursery Stock Shall Take Place Between March 15th And April 30th Or September 15th And November 15th.
- 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.
- All Bare Root Planting Stock Shall Have Their Root System Dipped Into An Anti-Desiccant Gel Prior To Planting.
- 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.
- Fertilizer Shall Consist Of Agriform 22-8-2, Or Equivalent, Applied As Per Manufacturer's Specifications.
- A Two (2) Inch Layer Of Hardwood Mulch Shall Be Placed Over The Root Area Of All Plantings. See Planting Detail.
- Plant Material Shall Be Transported To The Site In A Tarped Or Covered Truck. Plants Shall Be Kept Moist Prior To Planting.
- All Non-Organic Debris Associated With The Planting Operation Shall Be Removed From The Site By The Contractor.

MAINTENANCE OF PLANTINGS

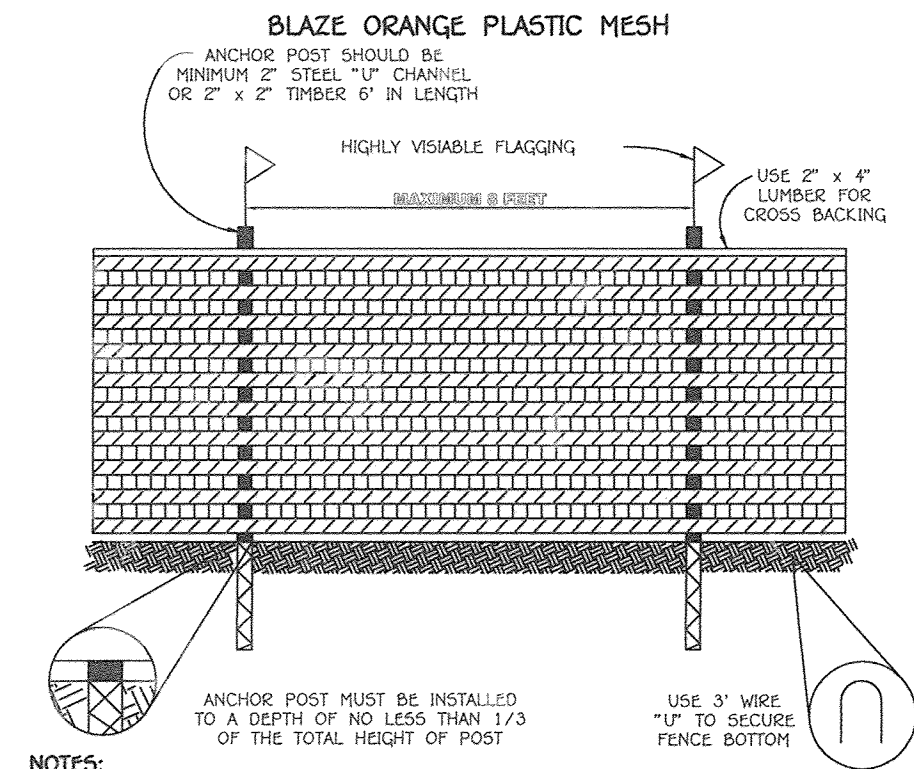
- Maintenance Of Plantings Shall Last For A Period Of 26 Months.
- All Plant Material Shall Be Generally Watered Twice A Month During The 1st Growing Season. Watering May Be More Or Less Frequent Depending On Weather Conditions.
- During The 2nd Growing Season, Plant Material Shall Be Watered Once A Month From May To September, As Needed.
- Invasive Exotic And Noxious Weeds Shall Be Removed From The Reforestation Area(s). Old Field Successional Species Shall Be Retained.
- Plants Shall Be Examined A Minimum Of Two (2) Times During The Growing Season For Serious Plant Pests And Diseases With The Appropriate Agent.
- Dead Branched Shall Be Pruned From The Plantings.

GUARANTEE REQUIREMENTS

A 75% Survival Rate For The Reforestation Plantings Is Required At The End Of The 24 Month Maintenance Period. All Plant Material Below The 75% Threshold Is Required To Be Replaced At The Beginning Of The Next Growing Season.

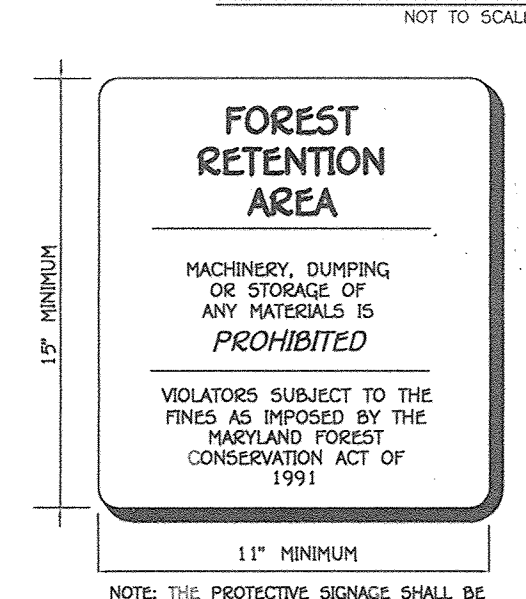
MULTIFLORA ROSE CONTROL NOTE:

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 Season 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.



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

TREE PROTECTION DETAIL



FOREST CONSERVATION SIGN DETAIL

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK • 10272 BALTIMORE NATIONAL PIKE
 SUITE 200 • GAITHERSBURG, MARYLAND 20878
 (410) 461-2995

FOREST PROTECTION GENERAL NOTES

- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- REMOVAL OF TOPSOIL OR ROOT MAT WITHIN THE TREE PRESERVATION AREA SHALL BE PROHIBITED.
- THE GENERAL CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY TREES DAMAGED OR DESTROYED WITHIN THE FOREST CONSERVATION EASEMENTS.
- 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

- 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:
 - TO IDENTIFY THE LOCATIONS OF THE FOREST RETENTION TREES WITHIN 50 FEET OF THE LIMIT OF DISTURBANCE, LIMITS OF CONSTRUCTION, EMPLOYEE PARKING AREAS AND EQUIPMENT STAGING AREAS;
 - INSPECT ALL FLAGGED BOUNDARIES AND PROTECTION DEVICES;
 - MAKE ALL NECESSARY ADJUSTMENTS;
 - ASSIGN RESPONSIBILITIES AS APPROPRIATE AND DISCUSS PENALTIES.

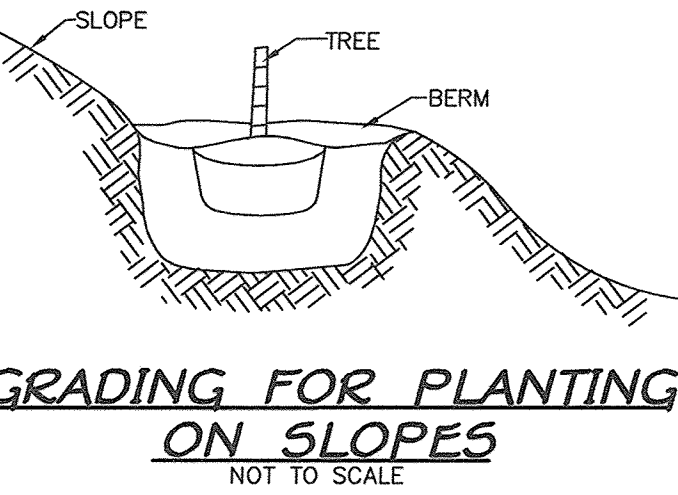
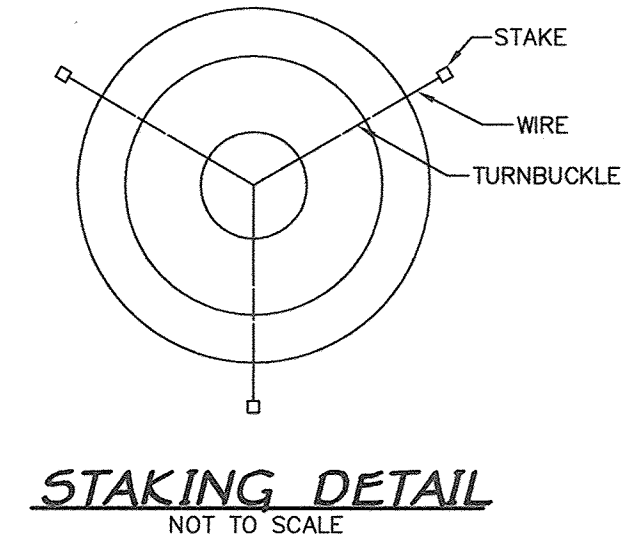
CONSTRUCTION MONITORING

- 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.
- ANY SUCH DAMAGE THAT MAY OCCUR SHALL BE REMEDIATED IMMEDIATELY USING APPROPRIATE MEASURES. SEVERE PROBLEMS MAY REQUIRE CONSULTATION WITH A PROFESSIONAL ARBORIST.
- 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.

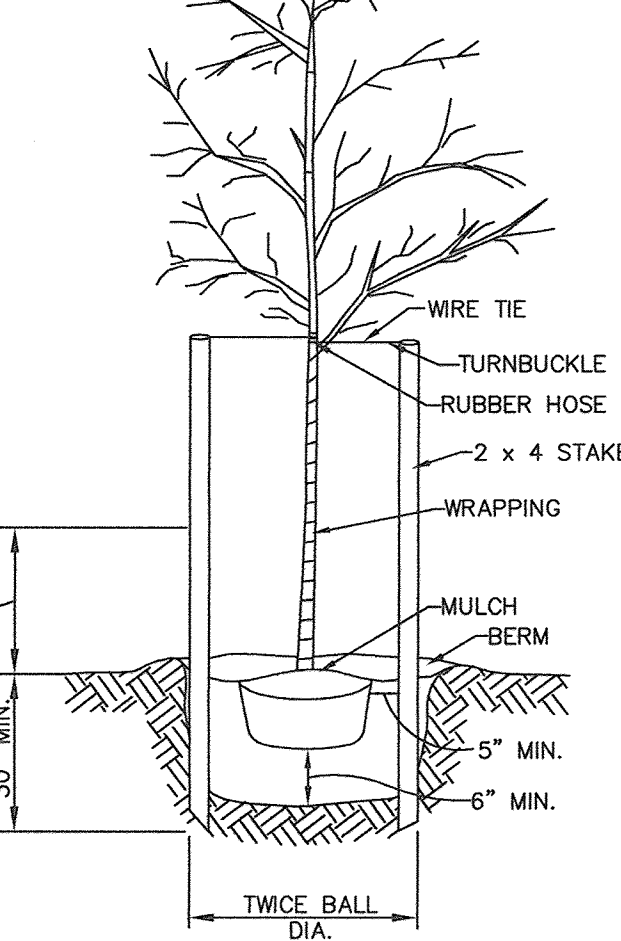
FOREST CONSERVATION WORKSHEET
VERSION 1.0

NET TRACT AREA	ACRES
A. TOTAL TRACT AREA	18.20
B. DEDUCTIONS (AREA WITHIN 100 YEAR FLOODPLAIN)	3.72
C. AREA TO REMAIN IN AGRICULTURAL PRODUCTION	0.00
D. NET TRACT AREA	14.48
LAND USE CATEGORY: MEDIUM DENSITY RESIDENTIAL	
E. AFFORESTATION THRESHOLD (NET TRACT AREA (E3 x 20%))	2.90
F. CONSERVATION THRESHOLD (NET TRACT AREA (E3 x 25%))	3.62
EXISTING FOREST COVER	
G. EXISTING FOREST COVER WITHIN THE NET TRACT AREA	12.30
H. AREA OF FOREST ABOVE AFFORESTATION THRESHOLD	9.40
I. AREA OF FOREST ABOVE CONSERVATION THRESHOLD	8.68
BREAK-EVEN POINT	
J. FOREST RETENTION ABOVE THRESHOLD WITH NO MITIGATION	5.36
BREAK-EVEN POINT	
K. CLEARING PERMITTED WITHOUT MITIGATION	6.94
PROPOSED FOREST CLEARING	
L. TOTAL AREA OF FOREST TO BE RETAINED	5.36
M. TOTAL AREA OF FOREST TO BE CLEARED OR RETAINED OUTSIDE PCE	6.94
PLANTING REQUIREMENTS	
N. REFORESTATION FOR CLEARING ABOVE THE CONSERVATION THRESHOLD	1.74
P. REFORESTATION FOR CLEARING BELOW THE CONSERVATION THRESHOLD	0
Q. CREDIT FOR RETENTION ABOVE THE CONSERVATION THRESHOLD	1.74
R. TOTAL REFORESTATION REQUIRED	0
S. TOTAL AFFORESTATION REQUIRED	0
T. TOTAL PLANTING REQUIREMENT	0

FOREST CONSERVATION DATA					
EASEMENT NO.	TOTAL RETENTION AREA (CREDITED)	TOTAL RETENTION AREA (NON-CREDITED)	RETENTION OUTSIDE FLOODPLAIN	RETENTION INSIDE FLOODPLAIN	TOTAL EASEMENT
1	0.70 AC.	0.00 AC.	0.70 AC.	0.00 AC.	0.70 AC.
2	1.96 AC.	0.00 AC.	1.96 AC.	0.00 AC.	1.96 AC.
3	0.74 AC.	0.00 AC.	0.74 AC.	0.00 AC.	0.74 AC.
4	1.96 AC.	0.02 AC.	1.90 AC.	0.00 AC.	1.90 AC.
TOTAL	5.36 AC.	0.02 AC.	5.38 AC.	0.00 AC.	5.38 AC.



GRADING FOR PLANTING ON SLOPES

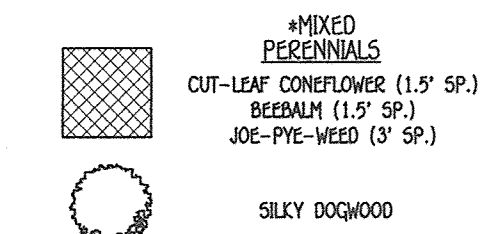


TREE PLANTING

NOTE: REMOVE BURLAP FROM TOP 1/3 OF BALL

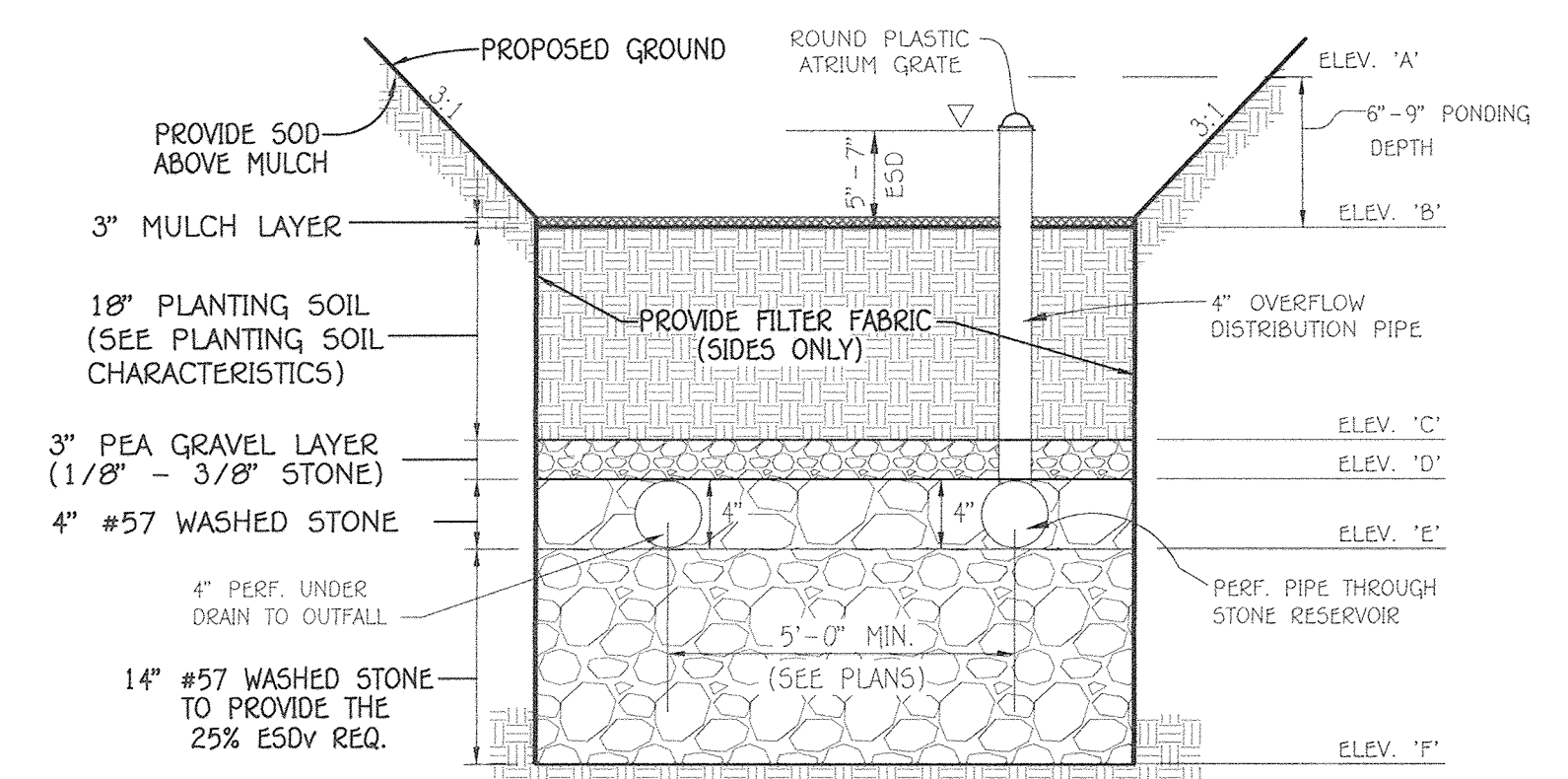
MICRO-BIORETENTION PLANT MATERIAL				
MICRO-BIO 1 QUANTITY	MICRO-BIO 2 QUANTITY	MICRO-BIO 3 QUANTITY	NAME	MAXIMUM SPACING (FT.)
35	60	95	MIXED PERENNIALS	1.5 TO 3.0 FT.
1	1	1	SILKY DOGWOOD	PLANT AWAY FROM INFLOW LOCATION

MICRO-BIORETENTION							
BIO-RETENTION FILTER	A	B	C	D	E	F	G
#1	573.50	573.00	571.50	571.25	570.92	569.75	570.00
#2	572.00	571.25	569.75	569.42	569.09	567.92	568.50
#3	571.75	571.00	569.50	569.25	568.92	567.75	568.40

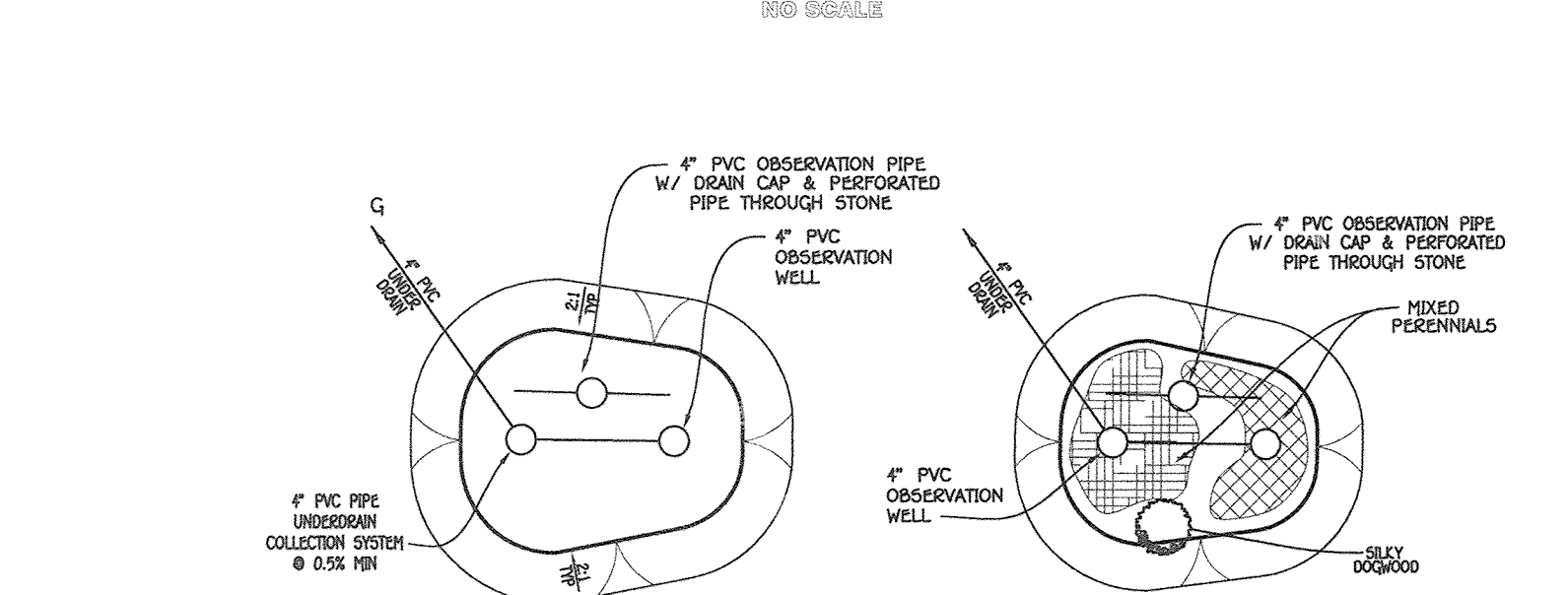


* SEE PLANT MATERIAL CHARTS FOR QUANTITIES AND SPACING

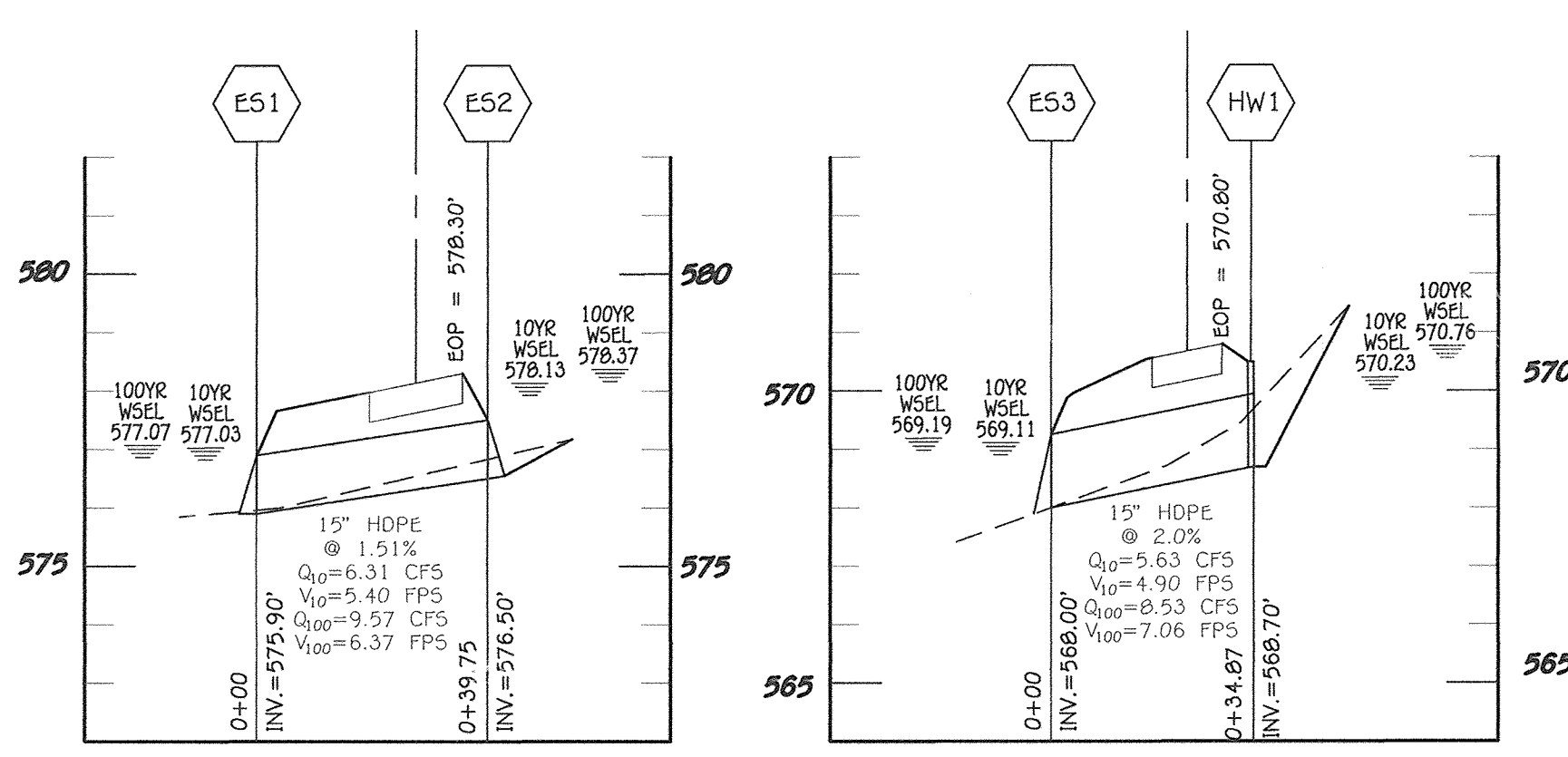
NOTE: PLANT MATERIAL MUST COVER AT LEAST 50% OF THE SURFACE AREA OF THE MICRO-BIORETENTION



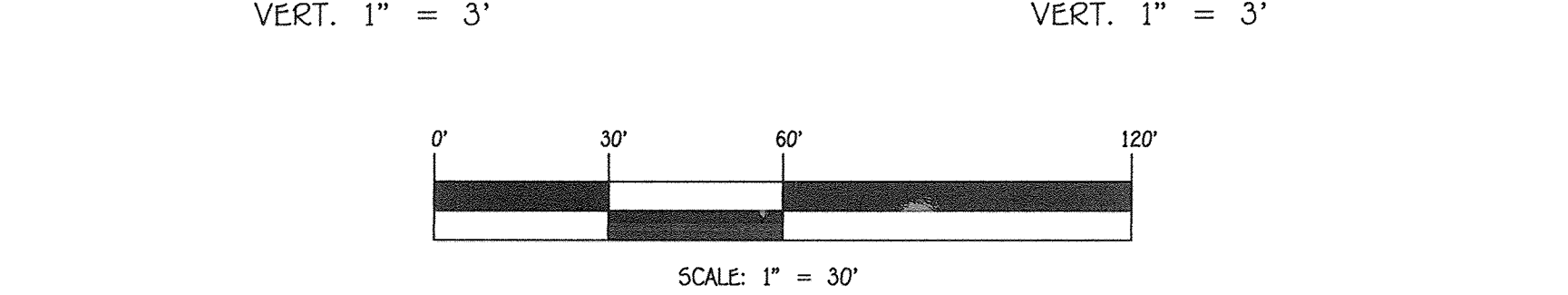
MICRO BIO-RETENTION SECTION WITH 6\"/>



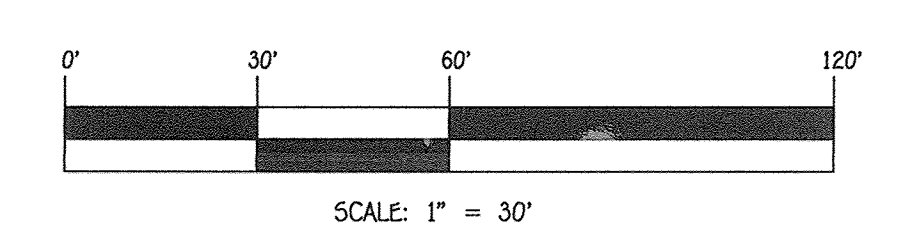
MICRO BIO-RETENTION PLANTING DETAIL



CULVERT 1 PROFILE (E5-1 to E5-2) SCALE HORZ. 1" = 30' VERT. 1" = 3'



CULVERT 2 PROFILE (E5-3 to HW-1) SCALE HORZ. 1" = 30' VERT. 1" = 3'



FOREST CONSERVATION & LANDSCAPE DETAILS
RIZK PROPERTY, LOTS 1 THRU 4
 ZONED: RC-050
 TAX MAP #9 G50 0009 PARCEL: 75
 THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN DATE: JULY, 2018
 SHEET 3 OF 4

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

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: 01/18/2020

[Signature] 7/30/18 Date
 Chief, Division of Land Development

[Signature] 7/23/18 Date
 Chief, Development Engineering Division

[Seal] STATE OF MARYLAND PROFESSIONAL ENGINEER

OWNER/DEVELOPER
 CHARBEL RIZK
 1445 UNDERWOOD ROAD
 SYKESVILLE, MARYLAND 21784

SOIL PREPARATION, TOPSOILING AND SOIL AMENDMENTS (B-4-2)

A. Soil Preparation

1. Temporary Stabilization

- Seeded preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment. Seeded preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment. Seeded preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment. Seeded preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment.
- Apply fertilizer and lime as prescribed on the plans.

2. Permanent Stabilization

- A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:
 - Soil pH between 6.0 and 7.0
 - Soluble salts less than 500 parts per million (ppm)
 - Soil contains less than 40 percent clay but enough fine grained material (greater than 30 percent silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception: if lowgrass will be planted, then a sandy soil (less than 30 percent silt plus clay) would be acceptable.
 - Soil contains 1.5 percent minimum organic matter by weight.
 - Soil contains sufficient pore space to permit adequate root penetration.
- Application of amendments or topsoil is required if on-site soils do not meet the above conditions.
- Graded areas must be maintained in a true and even grade as specified on the approved plan, then scribbled or otherwise loosened to a depth of 3 to 5 inches.
- Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test.
- Mix soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Rake lawn areas to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Loosen surface soil or raking with a heavy chain or other equipment to roughen the surface where site conditions will not permit normal seeded preparation. Track slopes 3:1 or flatter with tracked equipment leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. Leave the top 1 to 3 inches of soil loose and friable. Seeded loosening may be unnecessary on newly disturbed areas.

B. Topsoiling

- Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is to provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.
- Topsoil added from an existing site may be used provided it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be added for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-NRCS.
- Topsoiling is limited to areas having 2:1 or flatter slopes where:
 - The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
 - The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
 - The original soil to be vegetated contains material toxic to plant growth.
 - The soil is so acidic that treatment with limestone is not feasible.
- Areas having slopes steeper than 2:1 require special consideration and design.
- Topsoil Specifications: Soil to be used as topsoil must meet the following criteria:
 - Topsoil must be a loam, sandy loam, clay loam, silt loam, sandy clay loam, or loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Topsoil must be a mixture of contrasting textures and must contain less than 3 percent by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 1/2 inches in diameter.
 - Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nut sedge, poison ivy, thistle, or others as specified.
 - Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.
- Topsoil Application
 - Erosion and sediment control practices must be maintained when applying topsoil.
 - Uniformly distribute topsoil in a 5 to 8 inch layer and lightly compact to a minimum thickness of 4 inches. Spreading to be performed in a manner that sodding or seeding can proceed with a minimum of additional soil preparation and filling of depressions in the surface resulting from topsoiling or other operations must be corrected in order to prevent the formation of depressions or water pockets.
 - Topsoil must not be placed if the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seeded preparation.

C. Soil Amendments (Fertilizer and Lime Specifications)

- Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas of 5 acres or more. Soil analysis may be performed by a recognized private or commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
- Fertilizers must be suitable for accurate application by the appropriate application equipment. Fertilizers must be delivered to the site fully labeled according to the applicable laws and must bear the name, trade name or trademark and warranty of the producer.
- Lime materials (hydrated lime or burnt lime) may be substituted except when hydroseeding, which contains at least 50 percent total oxides (calcium oxide plus magnesium oxide). Limestone must be ground so fine that at least 50 percent will pass through a #20 mesh sieve and 98 to 100 percent will pass through a #40 mesh sieve.
- Lime and fertilizer are to be evenly distributed and incorporated into the top 3 to 5 inches of soil by disking or other suitable means.
- Where the subsoil is either highly acidic or composed of heavy clays, spread ground limestone at the rate of 4 to 6 tons/acre (200-100 pounds per 1,000 square feet) prior to the placement of topsoil.

B-4-3 STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING

- The application of seed and mulch to establish vegetative cover.
 - To protect disturbed soils from erosion during and at the end of construction.
 - To the surface of all perimeter controls, slopes, and any disturbed area not under active grading.
- Seeding
 - All seed must meet the requirement of the Maryland State Seed Law. All seed must be subject to re-testing by a recognized seed laboratory. All seed used must have been tested within the 6 months immediately preceding the date of sowing such material on any project. Refer to Table B.4 regarding the quality of seed. Seed tests must be available upon request to the inspector to verify type of seed and seeding rate.
 - Mulch alone may be applied between the fall and spring seeding dates only if the ground is frozen. The appropriate seeding mixture must be applied when the ground is not frozen.
 - Inoculants: The inoculant for treating legume seed in the seed mixtures must be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Inoculants must not be used later than the date indicated on the container. Add fresh inoculants as directed on the package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less effective.
 - Sod or seed must not be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit desorption of phytotoxic materials.

- Application
 - Drill Seeding: This includes use of conventional drop or broadcast spreaders.
 - Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.1, Permanent Seeding Table B.3, or site-specific seeding amendments.
 - Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seeded area with weighted roller to provide good seed to soil contact.
 - Disc or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.
 - Cultipacker seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seeded must be firm after planting.
 - Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction.
 - Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer).
 - If fertilizer is being applied at the time of seeding, the application rates should not exceed the following: nitrogen, 100 pounds per acre total of soluble nitrogen; P (phosphorus), 200 pounds per acre; K (potassium), 200 pounds per acre.
 - Lime: Use only ground agricultural limestone (up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
 - Mix seed and fertilizer on site and seed immediately and without interruption.
 - When hydroseeding do not incorporate seed into the soil.

- Mulching
 - Mulch Materials (in order of preference)
 - Straw consisting of thoroughly treated wheat, rye, oat, or barley and reasonably bright in color. Straw is to be free of noxious weed seeds as specified in the Maryland Seed Law and not musty, moldy, coked, decayed, or excessively dusty. Note: Use only sterile straw mulch in areas where no species of grass is desired.
 - Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into uniform fibrous physical wood.

- WCFM is to be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly applied slurry.
- WCFM, including dye, must contain no germination or growth inhibiting factors.
- WCFM materials are to be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material must form a blotter-like ground cover, on application, having moisture absorption and retention properties and must cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
- WCFM materials must not contain sodium elements or compounds at concentration levels that will be phytotoxic.
- WCFM must conform to the following physical requirements: fiber length of approximately 10 millimeters, diameter approximately 1 millimeter, pH ranging of 4.0 to 8.5, ash content of 1.6 percent maximum and water holding capacity of 90 percent minimum.

- Application
 - Apply mulch to all seeded areas immediately after seeding.
 - When straw mulch is used, spread it over all seeded areas at the rate of 2 tons per acre to a uniform loose depth of 1 to 2 inches. Apply mulch to achieve a uniform distribution and depth so that the soil surface is not exposed. When using a mulch anchoring tool, increase the application rate to 2.5 tons per acre.
 - Wood cellulose fiber used as mulch must be applied to a wet dry weight of 1500 pounds per acre. Mix the wood cellulose fiber with water to obtain a mixture with a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
- Anchoring
 - Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon the size of the area and erosion hazard:
 - A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of 2 inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should follow the contour.
 - Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at a net dry weight of 750 pounds per acre. Mix the wood cellulose fiber with water at a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
 - Synthetic binders such as Acrylic DLR (Ago-Tek), DCA-70, Petrolon, Terra Ton 8, Terra Track AK or other approved products may be used for anchoring straw. Application of liquid binders needs to be heavier at the edges where wind catches mulch, such as in valleys and on crests of banks. Use of asphalt binders is strictly prohibited.
 - Lightweight plastic netting may be stapled over the mulch according to manufacturer recommendations. Netting is usually available in rolls 4-15 feet wide and 300 to 3,000 feet long.

TEMPORARY SEEDING NOTES (B-4-4)

- To stabilize disturbed soils with vegetation for up to 6 months.
 - Definition
 - To use fast growing vegetation that provides cover on disturbed soils.
 - Conditions Where Practice Applies
 - Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time, permanent stabilization practices are required.
 - Criteria
 - Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardiness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below along with application rates, seeding depths, and seeding dates. If this Summary is not put on the plan and completed, then Table B.1 plus fertilizer and lime rates must be put on the plan.
 - For sites having soil tests performed, use and show the recommended rates by the testing agency. Soil tests are not required for Temporary Seeding.
 - When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section B-4-3A.1.b and maintain until the next seeding season.

Species	Application Rate (lb/acre)	Seeding Dates	Seeding Depth (in.)	Fertilizer Rate (10-20-20) (lb/acre)	Lime Rate (90 lb/100 sf)
GRASS	800	3/15 - 8/15	1"	435 lb/acre (10 lb/1000 sf)	2 tons/acre (90 lb/100 sf)
GRASS	750	3/15 - 8/15	1"		
RYE	918		1"		

Hardness Zone (from Figure B.3)	Seed Mixture (from Table B.1)	Fertilizer Rate (10-20-20)	Lime Rate
6b			

Site Analysis	Total Area of Site	Area Disturbed	Area to be seeded or paved	Area to be vegetatively stabilized	Total Cost	Total File
	18.00	0.23	0.22	0.22	2,500	2,500

- General Use
 - Figure B.3) and based on the site condition or purpose found on Table B.2. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.
 - Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guide, Section 342 - Critical Area Planting.
 - For sites having disturbed area of 5 acres, use and show the rates recommended by the soil testing agency. For areas receiving low maintenance, apply urea fertilizer (46-0-0) at 3 1/2 pounds per 1,000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary.
- Turfgrass Mixtures
 - Areas where turfgrasses may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.
 - Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The summary is to be placed on the plan.
 - Kentucky Bluegrass: Full Sun Mixture: For use in areas that receive intensive management, irrigation required in the areas of Central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds per 1,000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
 - Kentucky Bluegrass/Perennial Rye: Full Sun Mixture: For use in full sun areas where rigid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1,000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
 - Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium maintenance in full sun to medium shade. Recommended mixture includes Certified Tall Fescue Cultivars 95 to 100 percent, Certified Kentucky Bluegrass Cultivars 0 to 5 percent. Seeding Rate: 5 to 8 pounds per 1,000 square feet. One or more cultivars may be blended.
 - Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use in areas with shade in Bluegrass lawns. For establishment in high quality, intensively maintained turf areas. Mixture includes: Certified Kentucky Bluegrass Cultivars 30 to 40 percent and Certified Fine Fescue and 60 to 70 percent. Seeding Rate: 1 1/2 to 3 pounds per 1,000 square feet.

Hardness Zone (from Figure B.3)	Seed Mixture (from Table B.3)	Fertilizer Rate (10-20-20)	Lime Rate
6b			

No.	Species	Application Rate (lb/acre)	Seeding Dates	Seeding Depth (in.)	N	P ₂ O ₅	K ₂ O	2 tons/acre
1	TALL FESCUE	100	Mar. 1-May 15 Aug. 15-Oct. 15	1/4-1/2	45 lb. per acre (1.0 lb/1000 sf)	90 lb/acre (2 lb/1000 sf)	90 lb/acre (2 lb/1000 sf)	2 tons/acre (90 lb/1000 sf)

Hardness Zone (from Figure B.3)	Seed Mixture (from Table B.3)	Fertilizer Rate (10-20-20)	Lime Rate
6b			

ENGINEER'S CERTIFICATE

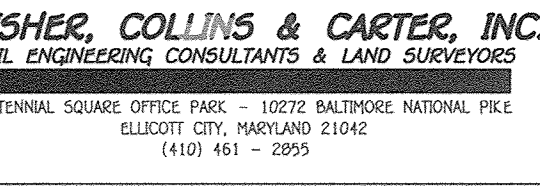
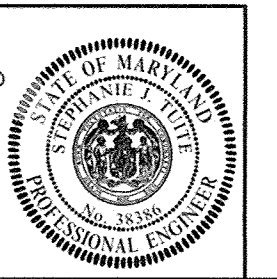
"I certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Signature of Engineer: *Stephen J. Smith* Date: 7/19/18

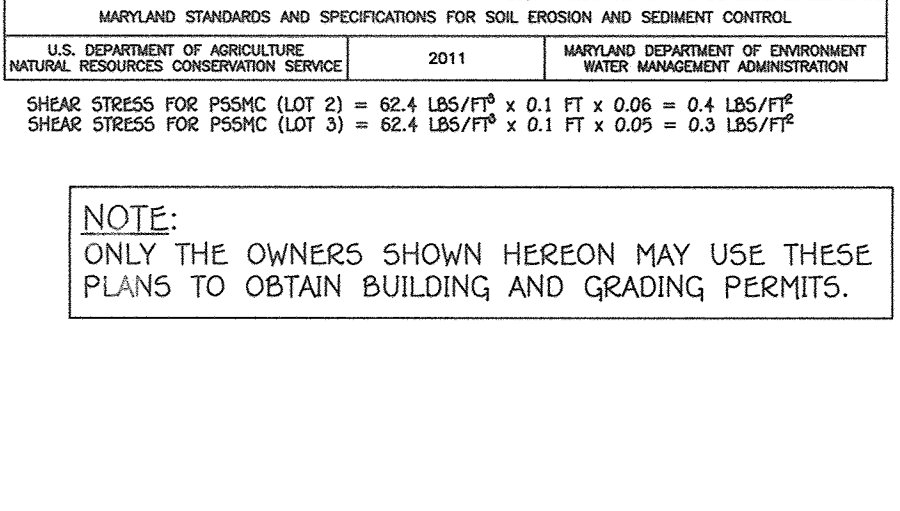
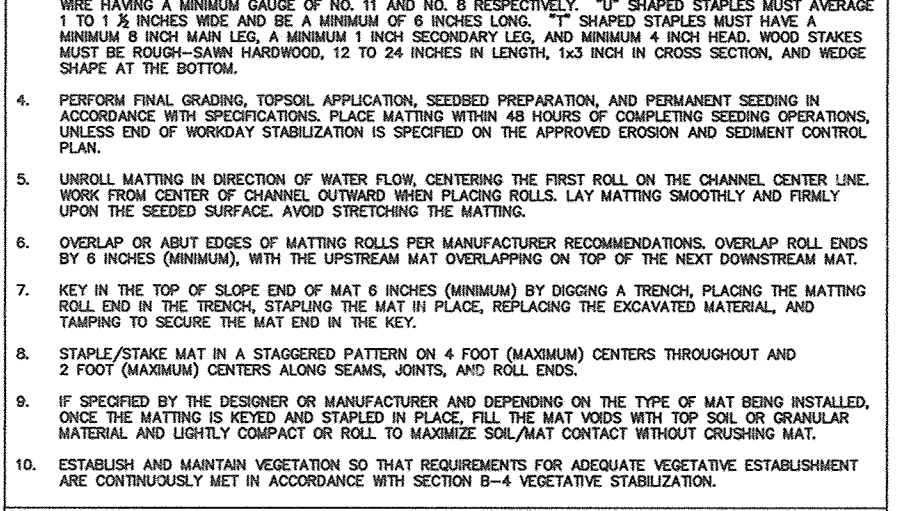
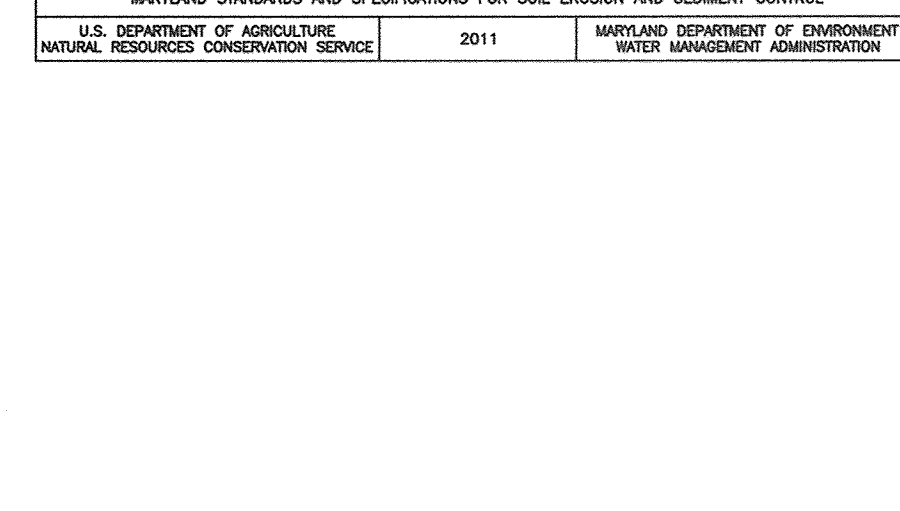
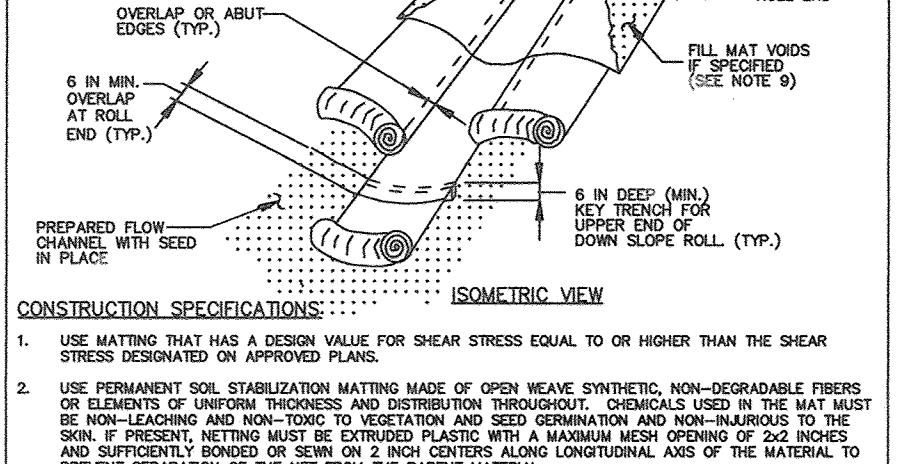
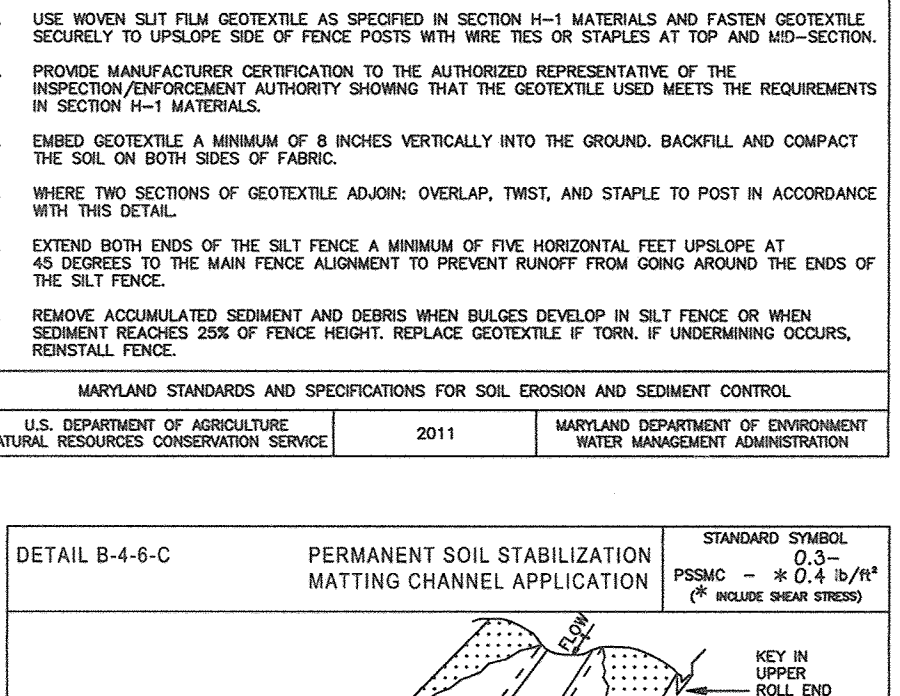
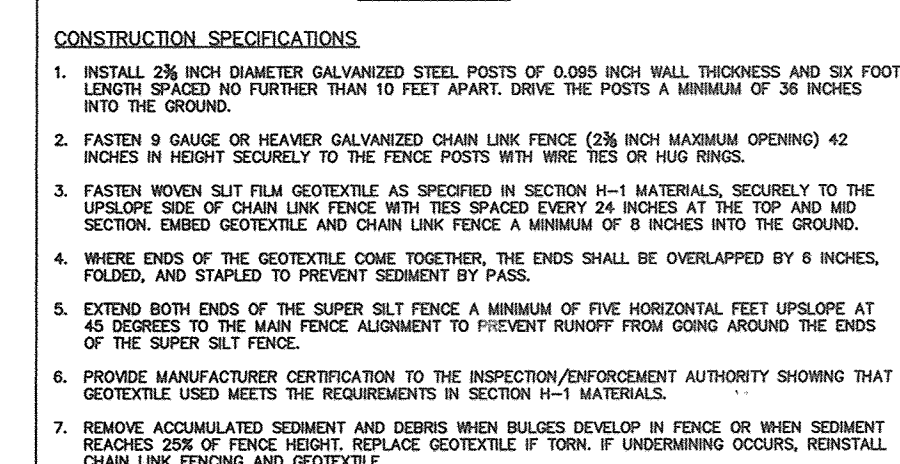
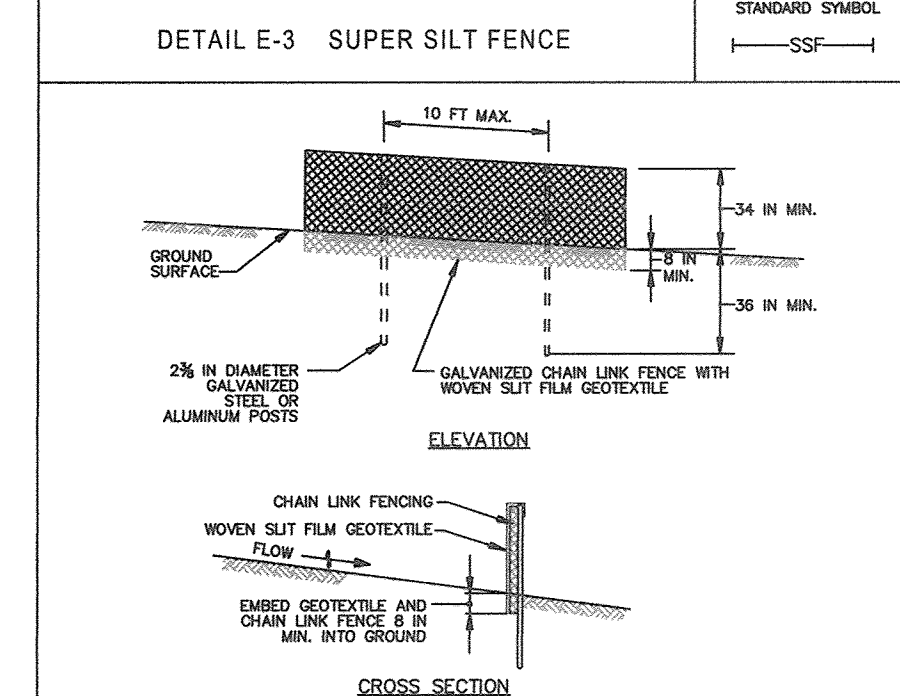
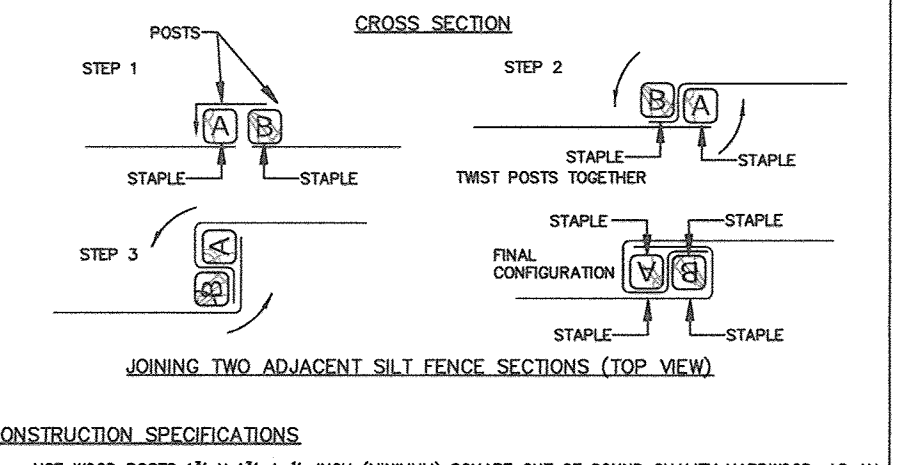
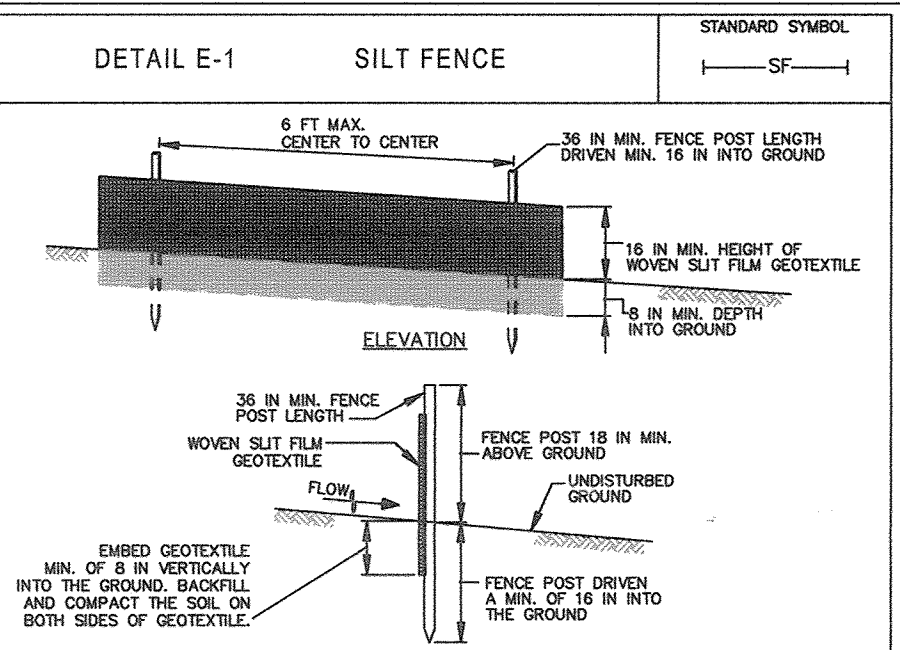
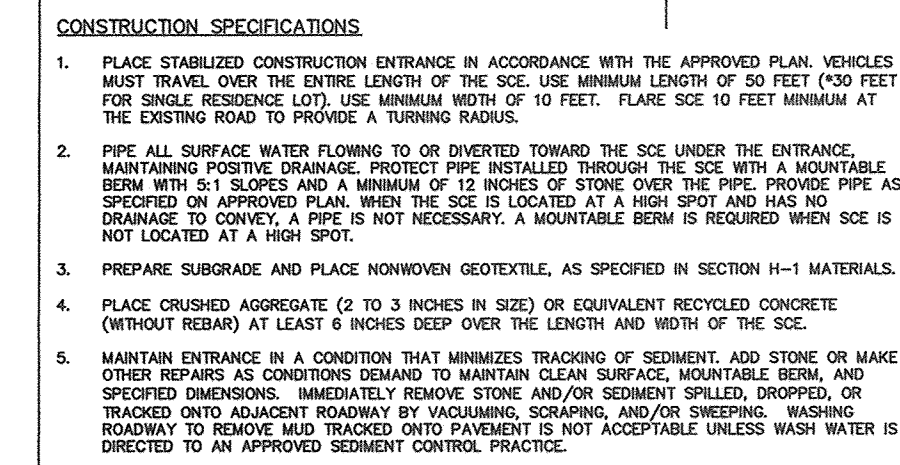
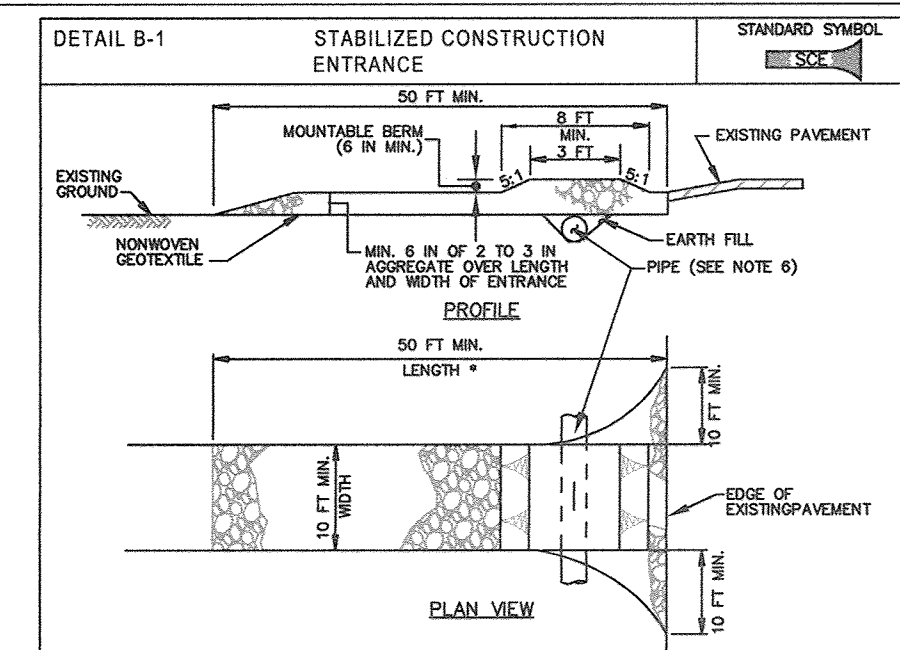
DEVELOPER'S CERTIFICATE

"I/we certify that all development and construction will be done according to this plan for sediment and erosion control, and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."

Signature of Developer: *[Signature]* Date: 7/10/18



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division: *Charles...* Date: 7/30/18
 Chief, Division of Land Development: *[Signature]* Date: 7/23/18



NOTE: ONLY THE OWNERS SHOWN HEREON MAY USE THESE PLANS TO OBTAIN BUILDING AND GRADING PERMITS.

SEDIMENT & EROSION CONTROL NOTES & DETAILS
RIZK PROPERTY, LOTS 1 THRU 4
 ZONED: RC-600
 TAX MAP 49 GRID CORNER PARCEL: 75
 THIRD ELECTION DISTRICT: HOWARD COUNTY, MARYLAND
 SCALE: NOT TO SCALE DATE: JULY, 2018
 SHEET 4 OF 4
OWNER/DEVELOPER
 CHARBEL RIZK
 1445 UNDRWOOD ROAD
 SKYVILLE, MARYLAND 21784
 F-17-089