

SHEET INDEX	
NO.	DESCRIPTION
1	EXISTING CONDITIONS AND OFFSITE TOPOGRAPHY PLAN
2	ENVIRONMENTAL CONCEPT PLAN

SPECIMEN TREE CHART				
KEY	SPECIES	SIZE (IN. DBH)	GT (FT RADII)	CONDITION - COMMENTS
1	SYCAMORE	48	72	GOOD CONDITION

GENERAL NOTES

- SUBJECT PROPERTY ZONED RR-DEO PER THE COMPREHENSIVE ZONING PLAN EFFECTIVE 10-6-2013.
- THIS PROJECT IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE ZONING REGULATIONS EFFECTIVE APRIL 13, 2004.
- PROJECT BOUNDARY AND TOPOGRAPHY WITHIN THE SUBDIVISION AREA ARE BASED ON FIELD RUN BOUNDARY SURVEY AND TOPO PERFORMED BY BENCHMARK ENGINEERING, INC., JULY, 2016.
- NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF WETLANDS, STREAM, OR THEIR REQUIRED BUFFERS UNLESS DEMED NECESSARY BY THE DEPARTMENT OF PLANNING AND ZONING.
- TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO CEMETERIES LOCATED ON THIS SITE.
- THE FOREST CONSERVATION ACT OBLIGATION FOR THIS PROJECT WILL BE ADDRESSED USING FOREST BANKING, ON A PARCEL OBTAINED BY THE DEVELOPER FOR THE PURPOSE OF DENSITY SENDING AND FOREST BANKING. THE FOREST CONSERVATION WILL BE FURTHER REVIEWED WITH THE SUBMISSION OF THE SUBDIVISION PLAN FOR THIS PROJECT.
- THERE ARE NO STEEP SLOPES (25% OR GREATER) ON THE SITE.
- A WETLAND DELINEATION AND FOREST STAND DELINEATION HAVE BEEN PERFORMED BY ECO-SCIENCE PROFESSIONALS, INC. AND A FINDINGS LETTER DATED MAY 24, 2016 HAS BEEN SUBMITTED WITH THIS ENVIRONMENTAL CONCEPT PLAN.
- PREVIOUS DPZ FILES: P-86-034, F-91-172, SP-17-001
- THE TYPICAL SECTION FOR THE PROPOSED ROAD IS OPEN SECTION WITH NO SIDEWALKS, HOWARD COUNTY STANDARD R-1.01. THIS PROJECT IS OUTSIDE THE PLANNED SERVICE AREA.
- APPROVAL OF THIS ECP DOES NOT CONSTITUTE AN APPROVAL OF ANY SUBSEQUENT AND ASSOCIATED SUBDIVISION PLAN, SITE DEVELOPMENT PLAN, OR GRADING OR BUILDING PERMIT PLAN. REVIEW OF THIS PROJECT FOR COMPLIANCE WITH THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE HOWARD COUNTY ZONING REGULATIONS SHALL OCCUR AT THE SUBDIVISION, SITE DEVELOPMENT PLAN, OR GRADING AND BUILDING PERMIT STAGES. THE APPLICANT AND CONSULTANT SHOULD EXPECT ADDITIONAL AND MORE DETAILED REVIEW COMMENTS (INCLUDING COMMENTS THAT MAY ALTER THE OVERALL SITE DESIGN) AS THIS PROJECT PROGRESSES THROUGH THE PLAN REVIEW PROCESS.

DESIGN NARRATIVE:

The site was analyzed as woods in good condition and a target RCN was determined. A target rainfall depth treatment (Pe) was determined based on the measured impervious areas and HSG soil types. The target Pe for this site is 1.1 inches. The target Pe was treated using Environmental Site Design practices as outlined in Chapter 5 of the 2000 Maryland Stormwater Design Manual, as amended by Maryland's Stormwater Management Act of 2007. The selected methods include Micro-bioretentation (M-8), Grass Swales (M-8), Dry Wells (M-5), and Non-roof Disconnections (N-2).

This site is a parcel comprised of pasture land and an active horse training center. To protect the natural resources in the area, it is important to delay release of stormwater runoff from new impervious areas to avoid increasing peak runoffs, and to adequately treat the stormwater to avoid damage to sensitive species. The design incorporates dry wells, disconnection and micro-bioretentation facilities to treat stormwater runoff, delay stormwater release and provide recharge. The outfalls for the facilities will discharge to stabilized, undisturbed areas. The stormwater outfalls are directed toward existing release points to help to mimic the natural flow of drainage.

Forest resources will be protected by providing offsite banking. There are no steep slopes, streams or wetlands on the property, but there is a stream buffer from the stream located on the adjacent parcel to the west. Water resources are being protected by keeping the stream buffer on the preservation parcel.

Sediment and erosion controls have been designed based on the 2011 Maryland Specifications for Soil Erosion and Sediment Control. Erosion control matting and silt fence will be used to prevent runoff containing unacceptable levels of TSS from leaving the site and entering the adjacent stream and wetlands during the construction. It will be the obligation of the contractor to install, inspect and maintain these practices.

The target Pe for this site is 1.1 inches. By using Environmental Site Design practices as outlined in Chapter 5 of the 2000 Maryland Stormwater Design Manual as amended by Maryland Stormwater Management Act of 2007, full treatment of the target Pe of 1.1 was achieved, fully addressing the stormwater management requirements.

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PROJECT:	The Preserve at Evergreen Farm	DATE:	10/4/2016
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PRACTICES AND SIZING									
Pe: 1.1 inches									
BIORETENTION FACILITIES (M-8)									
FACILITY	Drainage Area	Impervious	I (%)	Rv	ESDv (cf)	75% ESDv (cf)	Volume Stored	Volume Treated (V10.75)	Pe Treated
MB-1	3750	57%	0.560	351.2	263.3	603cf	603cf	603cf	2.17
MB-2	7267	3750	52%	0.514	354.1	265.8	478cf	478cf	2.05
MB-3	9813	4570	47%	0.469	436.1	327.0	432cf	432cf	1.50
MB-4	6704	3750	56%	0.553	351.4	263.6	471cf	471cf	2.03
MB-5	10961	5715	52%	0.519	539.1	404.3	440cf	440cf	1.24
MB-6	7250	4570	63%	0.617	423.3	317.9	440cf	440cf	1.57
MB-7	13043	4570	35%	0.365	451.4	338.5	440cf	440cf	1.48
MB-8	7532	4570	61%	0.586	425.3	318.9	440cf	440cf	1.57
MB-A	94196	8302	9%	0.129	1274.1				1.84
MB-A (CONTINUED)					120.3	1364.3	1400cf	1867cf	1.84
					TOTAL:	3644.3	1400cf	1867cf	6725cf

DRYWELL FACILITIES (M-5)											
FACILITY	Drainage Area	Impervious	I (%)	Rv	ESDv (cf)	Depth	Porosity	Width	Length	Volume Stored	Pe Treated
DW-1	826	826	100%	0.950	74.3	5.0	0.40	4'	4'	128	1.96
DW-2	826	826	100%	0.950	74.3	5.0	0.40	4'	4'	128	1.96
DW-4	826	826	100%	0.950	74.3	5.0	0.40	4'	4'	128	1.96
					TOTAL:					384cf	

ROADWAY TREATMENT				
	Area Treated (sf)	Pe	Converted to ESDv (cf)	Remaining
Grass Swales (M-8)	15600	1.200	1560	N/A
Non-roof Disconnection (N-2)	10662	1.000	880	120 (added to MBR-A)

DRIVEWAY TREATMENT			
	Area Treated (sf)	Converted to ESDv (cf)	
Non-roof Disconnection (N-2)	5200	1.000	433

SITE ANALYSIS DATA/TABULATION

- TOTAL PROJECT AREA: 19.71 ± AC. ENTIRE SITE: 19.71 ± AC.
- DEVELOPMENT AREA: 10.22 ± AC.
- AREA OF WETLANDS AND BUFFER: 0.00 ± AC.
- AREA OF 100-YR. FLOODPLAIN AND BUFFER: 0.00 ± AC.
- AREA OF FOREST: 0.00 ± AC.
- AREA OF STEEP SLOPES 15% - 24.99%: 1.92 ± AC.
- AREA OF STEEP SLOPES 25% OR GREATER: 0.00 ± AC.
- ERODIBLE SOILS: 8.37 ± AC. DEVELOPMENT AREA: 3.13 ± AC.
- AREA OF PLAN SUBMISSION: 19.71 ± AC.
- LIMIT OF DISTURBED AREA: 8.53 ± AC.
- GREEN OPEN AREA: 8.37 ± AC.
- PRESENT ZONING DESIGNATION: RR-DEO
- PROPOSED USES FOR THE SITE: SINGLE FAMILY DETACHED
- IMPERVIOUS COVER: 18.4%

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Keith C. ... 11.10.16
 CHIEF, DIVISION OF LAND DEVELOPMENT

Chad ... 11.10.16
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

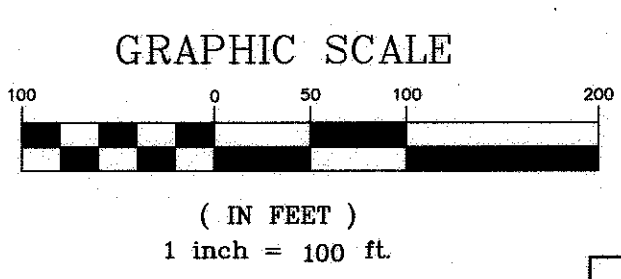
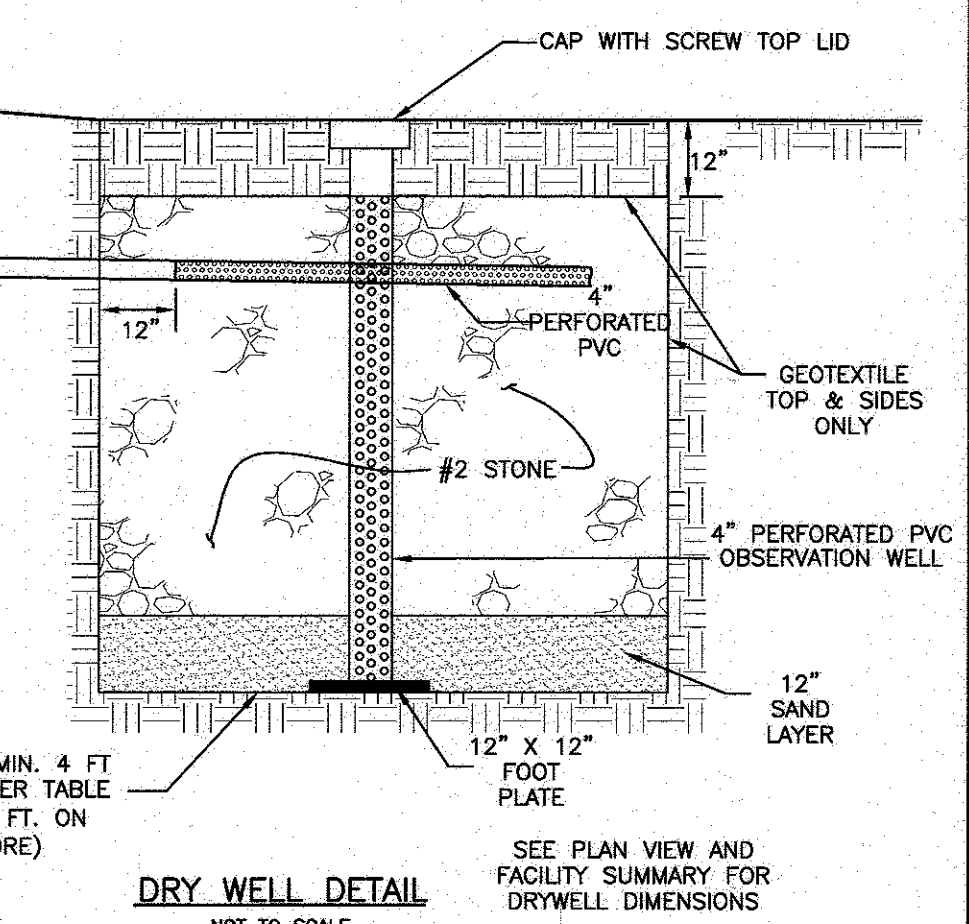
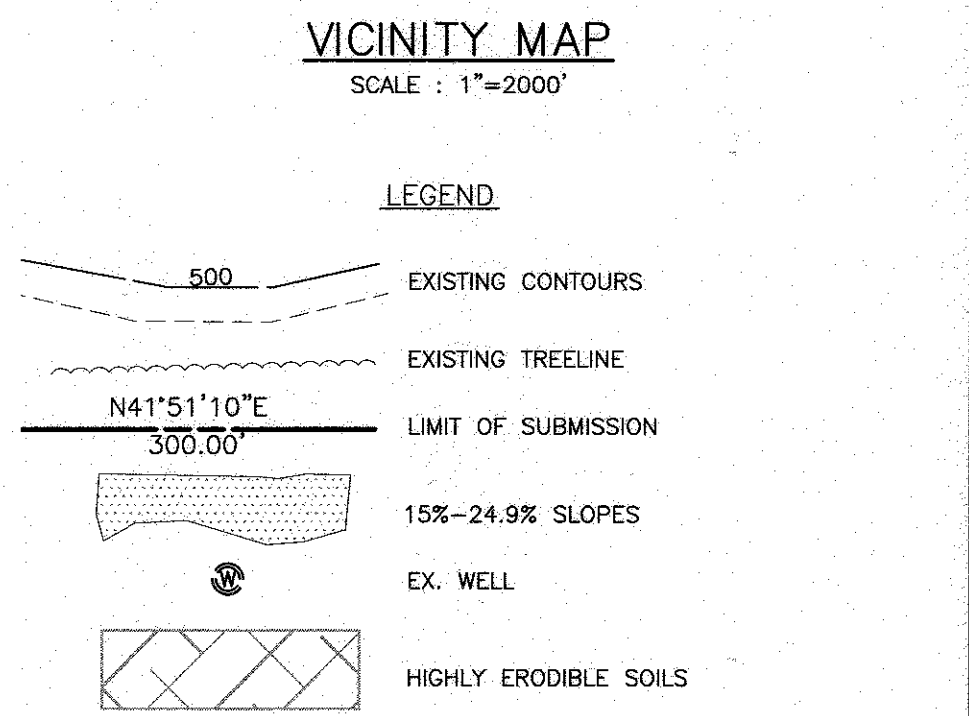
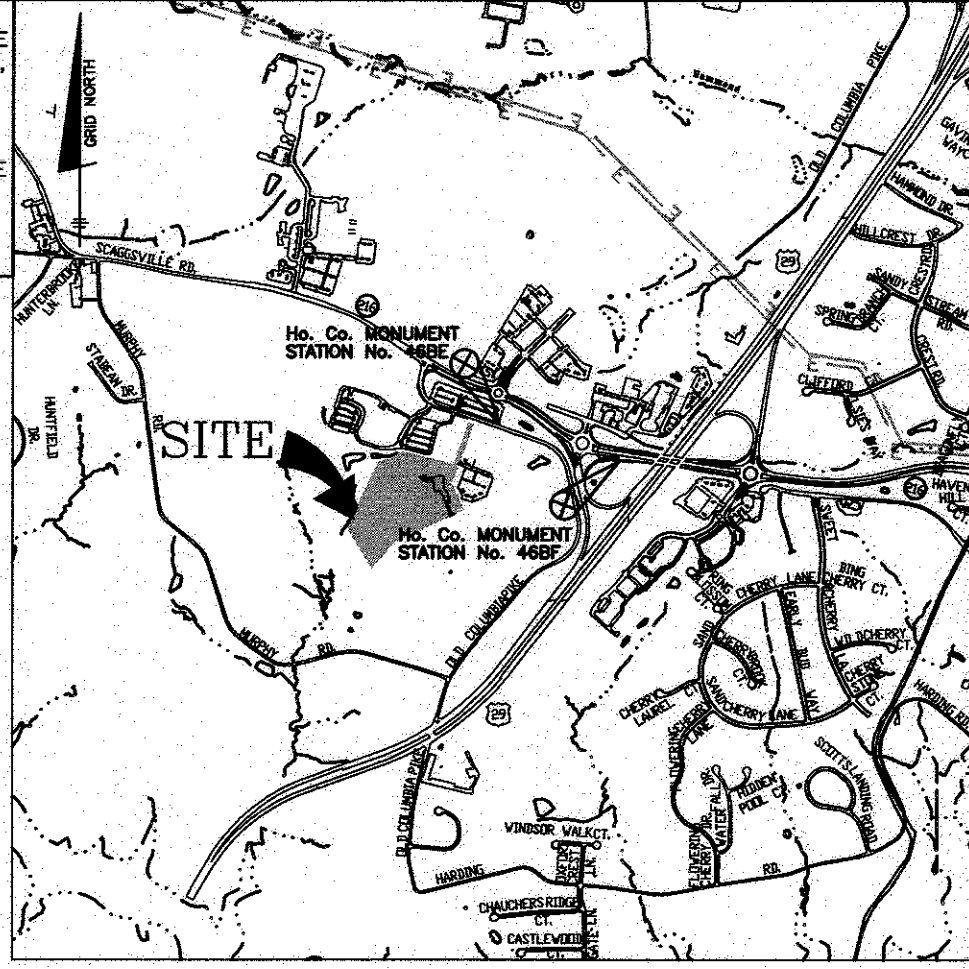
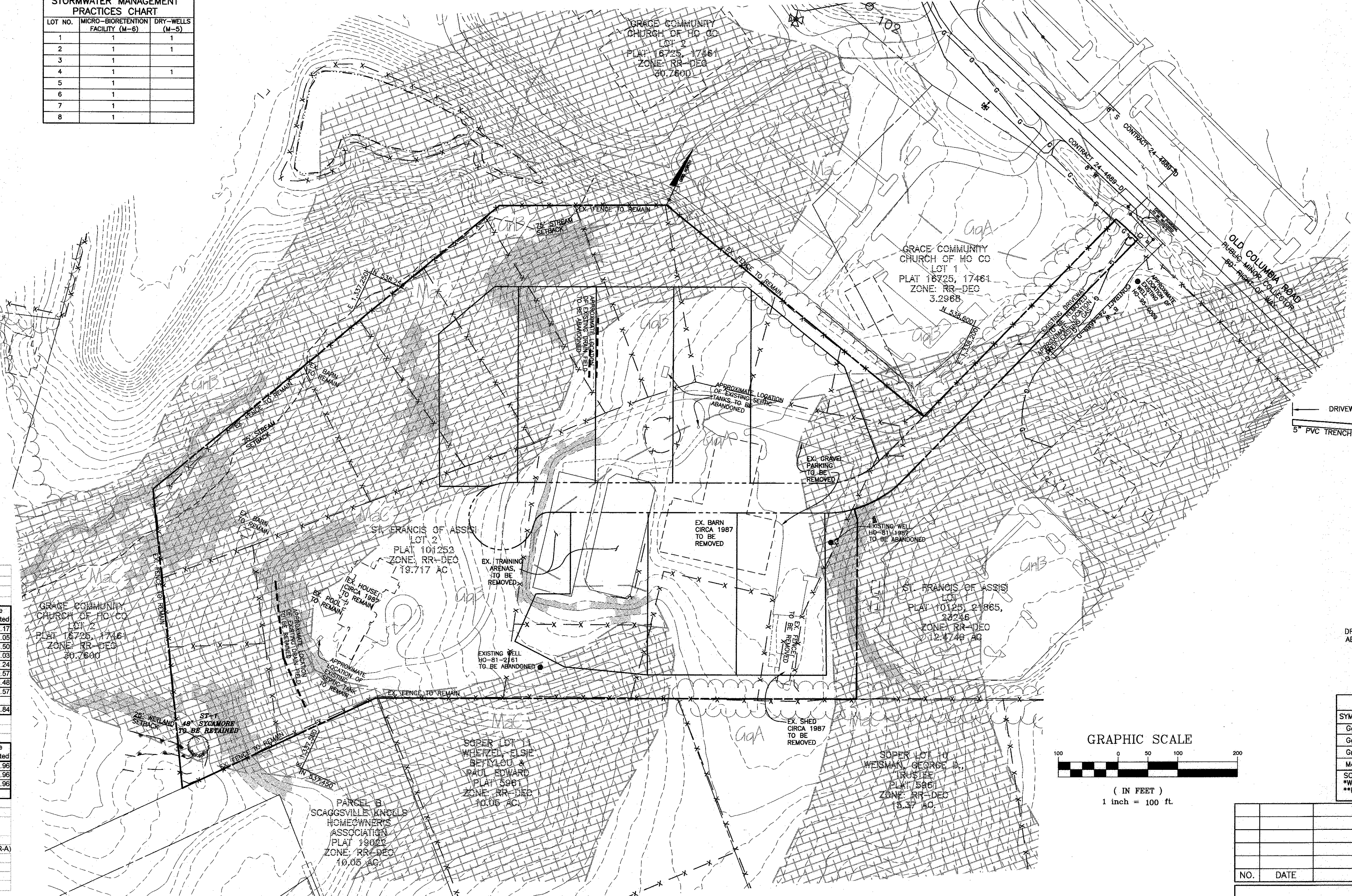
THE PRESERVE AT EVERGREEN FARM

5th ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

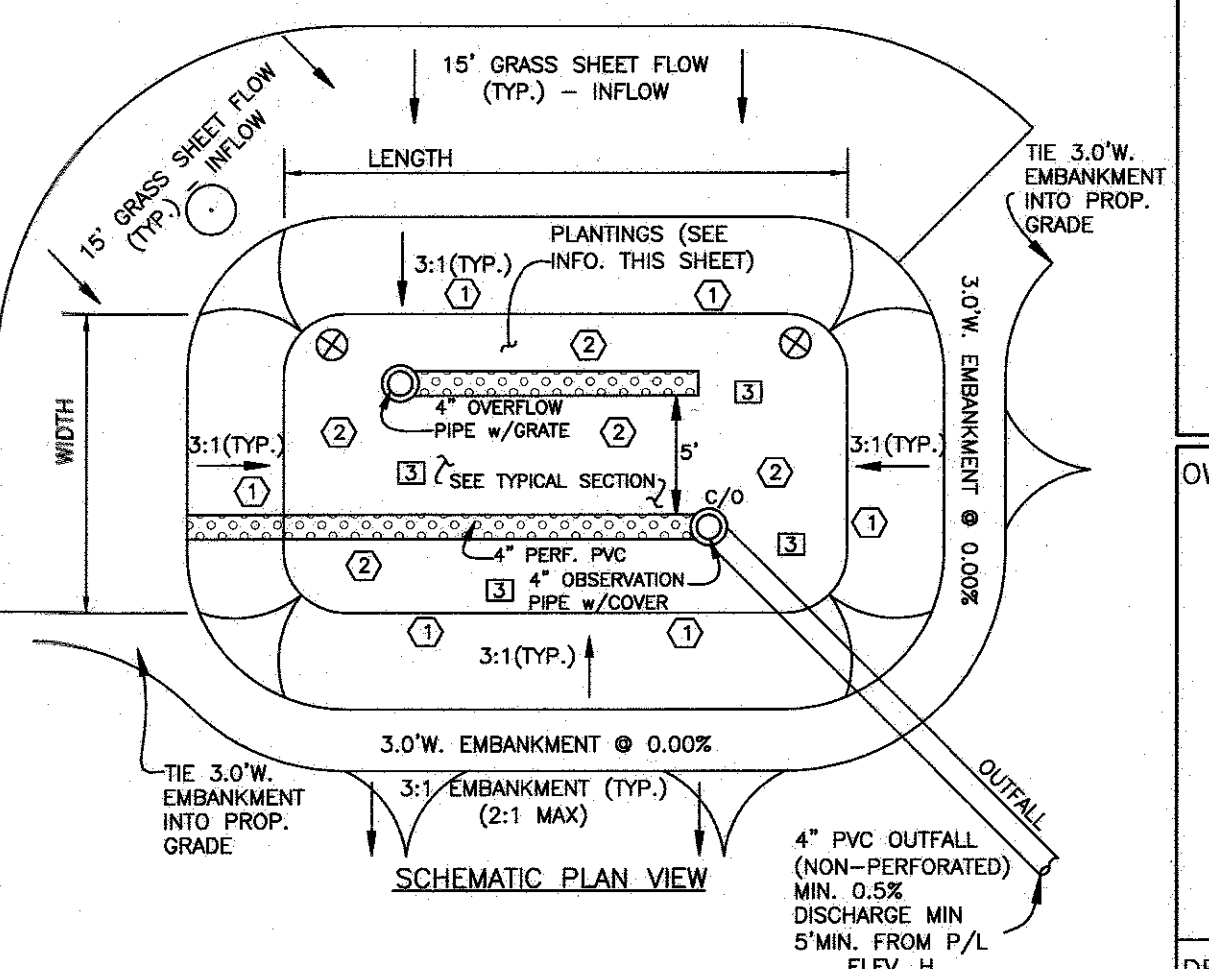
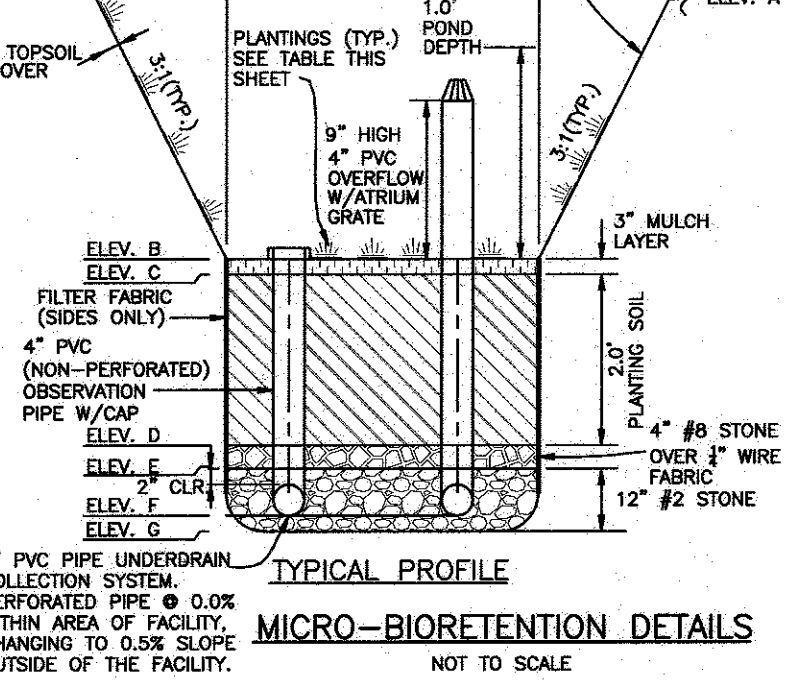
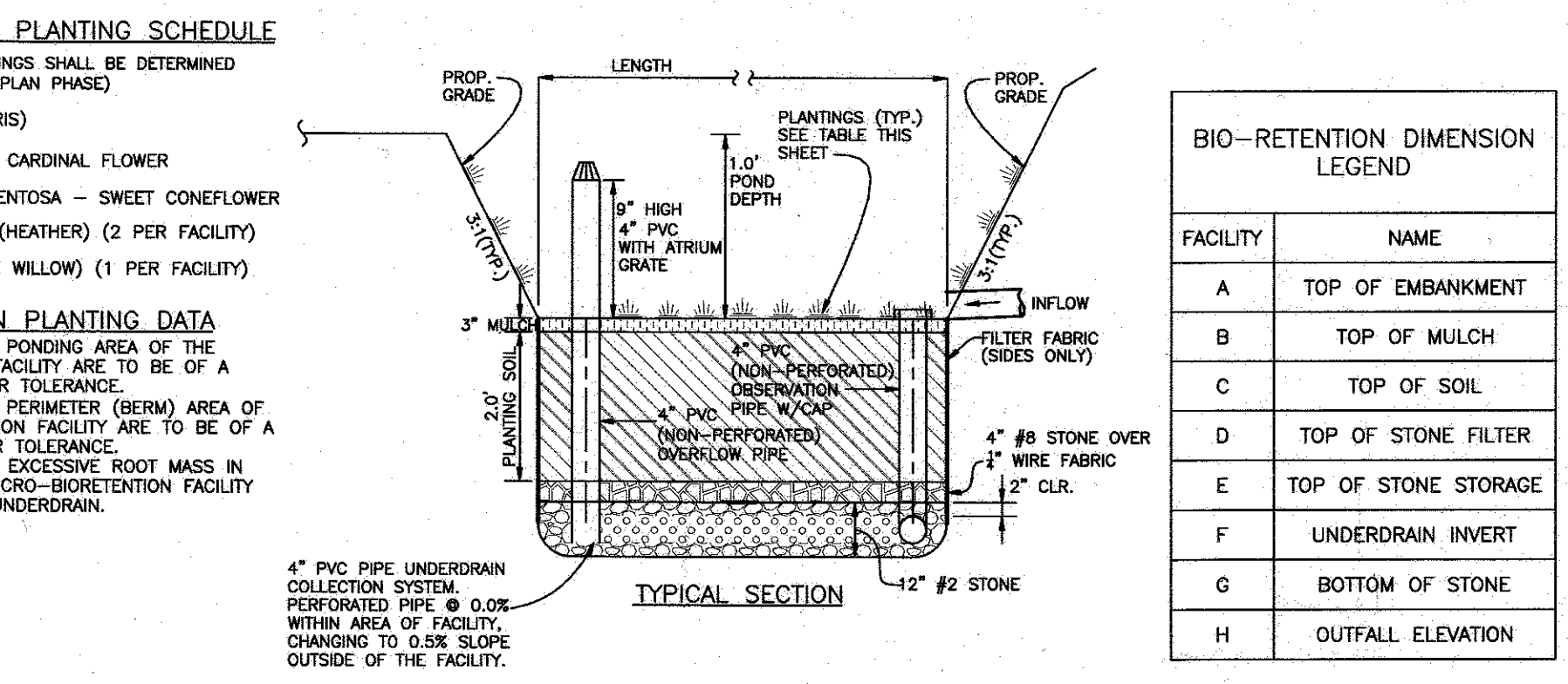
ENVIRONMENTAL CONCEPT PLAN

STORMWATER MANAGEMENT PRACTICES CHART		
LOT NO.	MICRO-BIORETENTION FACILITY (M-8)	DRY-WELLS (M-5)
1	1	1
2	1	1
3	1	
4	1	1
5	1	
6	1	
7	1	
8	1	



SOILS LEGEND			
SYMBOL	TYPE	K* FACTOR	NAME
GgA	B	20	GLENELG LOAM - 0 TO 3 PERCENT SLOPES
GgB	C	20	GLENELG LOAM - 3 TO 8 PERCENT SLOPES
GnB	C	.37*	GLENVILLE-BAILE SILT LOAM, 0 TO 8 PERCENT SLOPES
MgC	B	.24**	MANOR LOAM - 8 TO 15 PERCENT SLOPES

SOIL MAPPING TAKEN FROM NRCS WEB SOIL SURVEY, MARCH 2016. MAP 23
 **HIGHLY ERODIBLE SOILS K>0.35, AND/OR 15% OR GREATER SLOPES



BENCHMARK ENGINEERS & LAND SURVEYORS & PLANNERS
 8450 BALTIMORE NATIONAL PIKE SUITE 315 ELLICOTT CITY, MARYLAND 21043
 (P) 410-485-6105 (F) 410-485-6644
 WWW.BE-CVLENGINEERING.COM

STATE OF MARYLAND
 PROFESSIONAL ENGINEER
 License No. 28376, Expiration Date: 1-1-2017

OWNER: EVERGREEN STABLES FARM, LLC
 8250 OLD COLUMBIA ROAD
 FULTON, MARYLAND 20759
 301-725-0442

PROJECT: THE PRESERVE AT EVERGREEN FARM

LOCATION: TAX MAP: 46 - GRID: 03 - PARCEL: 337
 ZONED: RR-DEO
 ELECTION DISTRICT NO. 5 - HOWARD COUNTY, MARYLAND

TITLE: EXISTING CONDITIONS AND OFFSITE TOPOGRAPHY PLAN

DATE: NOVEMBER, 2016 PROJECT NO. 2761

DESIGN: AAM DRAFT: AAM CHECK: CAM SCALE: AS SHOWN SHEET 1 OF 2



LEGEND

500	EXISTING CONTOURS
---	EXISTING TREELINE
N41°51'10"E 300.00'	LIMIT OF SUBMISSION
▨	PROPOSED SEPTIC AREA
▨	EXISTING SEPTIC AREA
GaB MaC	SOILS DELINEATION
⊙	EX. WELL
□	PROPOSED DWELLING
▨	15%-24.9% SLOPES
▨	NON-ROOFTOP DISCONNECTION DISCONNECT RECEIVING
▨	STORM DRAIN DRAINAGE DIVIDE
▨	STORMWATER MANAGEMENT POND

SEQUENCE OF CONSTRUCTION

- NOTIFY SEDIMENT CONTROL DIVISION 48 HOURS PRIOR TO START OF CONSTRUCTION
- OBTAIN GRADING PERMIT. (DAY 1)
 - INSTALL STABILIZED CONSTRUCTION ENTRANCE AND SUPER SILT FENCE. (DAY 2-4)
 - UPON APPROVAL OF HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, CLEAR AND GRUB REMAINDER OF SITE. (DAY 5-16)
 - ESTABLISH ROAD GRADES, AND ROUGH GRADE STORMWATER MANAGEMENT AREAS. (DAY 17-26)
 - PAVE ROAD AND STABILIZE DISTURBED AREAS. (DAY 27-30)
 - UPON STABILIZATION OF DRAINAGE AREAS, CONSTRUCT STORMWATER FACILITIES.
 - UPON APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE ALL REMAINING SEDIMENT CONTROL DEVICES, AND STABILIZED DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES. (DAY 32-34)

- SEDIMENT CONTROL NOTES:
- SEDIMENT CONTROLS SHOWN ARE CONCEPTUAL IN NATURE. DETAILED SWALE COMPUTATIONS, SEDIMENT CONTROL DEVICES, NOTES AND DETAILS WILL BE PROVIDED ON THE FINAL CONSTRUCTION AND INDIVIDUAL PLOT PLANS. REQUIREMENT FOR, AND PLACEMENT OF EARTH DIKES AND SEDIMENT TRAP WILL BE COORDINATED WITH THE EXTENT OF MASS GRADING OF SITE DURING THE ROAD CONSTRUCTION.
 - ON-LOT SEC CONTROLS AND STORMWATER MANAGEMENT FACILITIES WILL BE DESIGNED AND CONSTRUCTED UNDER THE GRADING PERMIT FOR EACH BUILDING LOT.

SOILS LEGEND

SYMBOL	TYPE	R _f FACTOR	NAME
GaA	B	.20	GLENELG LOAM - 0 TO 3 PERCENT SLOPES
GgB	C	.20	GLENELG LOAM - 3 TO 8 PERCENT SLOPES
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MaC	B	.24**	MANOR LOAM - 8 TO 15 PERCENT SLOPES

SOIL MAPPING TAKEN FROM NRCS WEB SOIL SURVEY, MARCH 2016. MAP 23
 **WHOLE SOIL K FACTOR
 ***HIGHLY ERODIBLE SOILS K>0.35, AND/OR 15% OR GREATER SLOPES

NO.	DATE	REVISION

BENCHMARK ENGINEERING, INC.
 ENGINEERS & LAND SURVEYORS & PLANNERS
 8480 BALTIMORE NATIONAL PIKE & SUITE 515 & ELLICOTT CITY, MARYLAND 21043
 (P) 410-465-6105 (F) 410-465-6644
 WWW.BE-CIVLENGINEERING.COM

STATE OF MARYLAND
 PROFESSIONAL ENGINEER
 No. 28376
 Nov 16
 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. 28376, Expiration Date: 1-1-2017.

OWNER: EVERGREEN STABLES FARM, LLC
 8250 OLD COLUMBIA ROAD
 FULTON, MARYLAND 20759
 301-725-0442

PROJECT: **THE PRESERVE AT EVERGREEN FARM**

LOCATION: TAX MAP: 46 - GRID: 03 - PARCEL: 337
 ZONED: RR-DEO
 ELECTION DISTRICT NO. 5 - HOWARD COUNTY, MARYLAND

TITLE: ENVIRONMENTAL CONCEPT PLAN

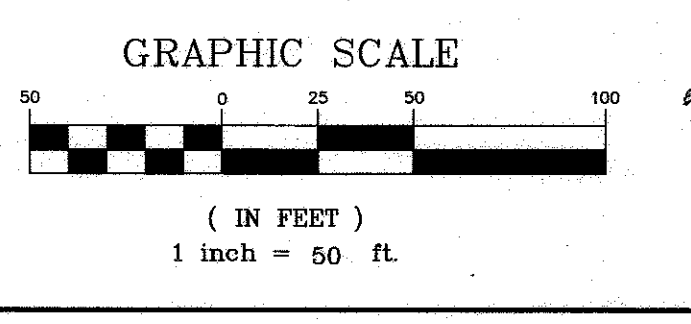
DATE: NOVEMBER, 2016 PROJECT NO. 2761

DESIGN: AAM DRAFT: AAM CHECK: CAM SCALE: AS SHOWN SHEET 2 OF 2

APPROVED: DEPARTMENT OF PLANNING AND ZONING

K. O. ... 11-03-16
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Chad ... 11-10-16
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE



ENVIRONMENTAL CONCEPT PLAN
 1" = 50'