

GENERAL NOTES

- SUBJECT PROPERTY IS ZONED R-12 PER THE 10/6/13 COMPREHENSIVE ZONING PLAN.
- THIS PROJECT IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.
- THE EXISTING TOPOGRAPHY IS BASED ON 2011 HOWARD COUNTY GIS. EXISTING UTILITIES IS BASED ON 2011 HOWARD COUNTY GIS.
- THE SPECIMEN TREES WERE FIELD LOCATED BY BENCHMARK ENGINEERING, INC., IN MAY, 2018.
- THIS SITE IS WITHIN THE METROPOLITAN DISTRICT.
- TO THE BEST OF OUR KNOWLEDGE, INFORMATION, AND BELIEF, THERE ARE NO HISTORIC STRUCTURES LOCATED ON THIS SITE.
- THIS PROJECT IS SUBJECT TO THE FOREST CONSERVATION REQUIREMENTS. FOREST CONSERVATION CHECKLIST AND PLAN SHALL BE PART OF THE PRELIMINARY PLAN SUBMITTAL.
- *APPROVAL OF THIS ECP DOES NOT CONSTITUTE AN APPROVAL OF ANY SUBSEQUENT AND ASSOCIATED SUBDIVISION PLAN/PLAT AND/OR SITE DEVELOPMENT PLAN AND/OR RED-LINE REVISION PLAN. REVIEW OF THIS PROJECT FOR COMPLIANCE WITH THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS SHALL OCCUR AT THE SUBDIVISION PLAN/PLAT AND/OR SITE DEVELOPMENT PLAN STAGES AND/OR RED-LINE REVISION PROCESS. 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*.
- STORMWATER MANAGEMENT PRACTICES SHOWN ON THIS PLAN ASSUME ADEQUATE SOIL BORING TEST RESULTS. THE DESIGN MAY NEED TO BE ADJUSTED AT THE PRELIMINARY PLAN STAGE AFTER SOIL BORING TESTING HAS BEEN COMPLETED AND ALTERNATE PRACTICES MAY NEED TO BE UTILIZED.
- THE SEDIMENT AND EROSION CONTROL SHOWN IN THIS PLAN SET IS A SCHEMATIC PRELIMINARY DESIGN. A MORE DETAILED DESIGN COMPLETE WITH SEQUENCE OF CONSTRUCTION, NOTES, DETAILS AND COMPUTATIONS SHALL BE PROVIDED AT THE PRELIMINARY PLAN STAGE.
- ALTERNATIVE COMPLIANCE, WP-19-053 TO REQUEST RELIEF FROM SECTION 16.1205(A)(7) SPECIMEN TREES RETENTION; SECTION 16.116(B) STEEP SLOPE DISTURBANCE; SECTION 16.120(B)(4)(iii)(A) STEEP SLOPES ON RESIDENTIAL LOTS; WAS APPROVED BY HOWARD COUNTY DIRECTOR OF PLANNING AND ZONING DATED APRIL 15, 2019.

APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:

- STEEP SLOPE DISTURBANCE IS LIMITED TO THOSE AREAS SHOWN ON THE WP EXHIBIT FOR WP-19-053. ANY PROPOSAL TO IMPACT ADDITIONAL STEEP SLOPE AREA WILL REQUIRE A NEW ALTERNATIVE COMPLIANCE REQUEST OR AN AMENDMENT TO THIS ALTERNATIVE COMPLIANCE.
- ALTERNATIVE COMPLIANCE APPROVAL IS LIMITED TO THE REMOVAL OF SPECIMEN TREES #1, 3 & 5 AS DEPICTED ON THE ALTERNATIVE COMPLIANCE EXHIBIT. ANY PROPOSAL TO REMOVE ADDITIONAL SPECIMEN TREES WILL REQUIRE A NEW ALTERNATIVE COMPLIANCE REQUEST OR AN AMENDMENT TO THIS ALTERNATIVE COMPLIANCE REQUEST.
- ALL ATTEMPTS MUST BE MADE TO PRESERVE SPECIMEN TREE #3. INDIVIDUAL TREE PROTECTION DEVICES (TREE FENCING) SHALL BE PLACED COMPLETELY AROUND SPECIMEN TREE #3 PRIOR TO THE COMMENCEMENT OF ANY GRADING. ROOT PRUNING WILL OCCUR. THESE MEASURES SHALL BE OUTLINED IN THE PRE-CONSTRUCTION MANAGEMENT PLAN OF THE FINAL FOREST CONSERVATION PLAN (FCP) AND WITHIN THE SEQUENCE OF CONSTRUCTION PROVIDED ON THE FINAL PLAN FOR 'THE AERIE IN ELKRIDGE'.
- A MINIMUM OF 6 ADDITIONAL, NATIVE, 2-3' CALIPER TREES SHALL BE PROVIDED ON SITE AS PART OF THE MITIGATION FOR THE SPECIMEN TREE REMOVAL. THIS MITIGATION WILL BE ADDRESSED WITH THE PROJECT KNOWN AS 'THE AERIE IN ELKRIDGE' AND WILL BE IN ADDITION TO ANY REQUIRED LANDSCAPE OR FOREST CONSERVATION PLANTINGS.
- THE MITIGATION PLANTINGS SHOULD BE PLACED (IF POSSIBLE) WITHIN THE REAR YARDS OF LOTS 5, 10 AND 12.
- THE EXISTING DRIVEWAY SHALL BE REMOVED AND THE AREA STABILIZED UNDER THE PRELIMINARY PLAN.
- THE SURFACE SAND FILTER WILL BE PRIVATELY OWNED AND JOINTLY MAINTAINED BY THE HOA AND HOWARD COUNTY.
- STORMWATER OUTFALL WILL BE CONSTRAINED BY THE DOWNSTREAM 15 INCH STORMDRAIN.
- COMMUNITY MEETING HELD ON 11/28/2018, 6:00 PM AT THE ELKRIDGE LIBRARY, 6540 WASHINGTON AVE., ELKRIDGE, MD.

SITE ANALYSIS DATA SHEET	
SITE USE:	RESIDENTIAL
GROSS AREA	5.25 AC
FLOODPLAIN & BUFFERS	0 AC
STEEP SLOPES 25% OR GREATER	1.07 AC
STEEP SLOPES 15% TO 25% *	1.20 AC
ERODIBLE SOILS	1.20 AC
NET AREA MINUS STEEP SLOPES	4.18± AC
WETLANDS AND BUFFERS	0 AC
STREAM	0 AC
STREAM BUFFER	0 AC
FOREST AREA (PER FSD)	3.4 AC
PROPOSED IMPERVIOUS	1.18 AC
LIMIT OF DISTURBANCE	4.18± AC
GREEN SPACE	3.18± AC
AREA OF LOTS (SFD)	2.43± AC
OPEN SPACE (PROVIDED)	2.27± AC
PUBLIC ROAD RIGHT-OF-WAY	0.55± AC

*20% TO 25% STEEP SLOPES ARE DEFINED AS STEEP SLOPES, PER THE MDE, NRCS, AND HSCD DEFINITION.

DESIGN NARRATIVE:

The site resides within the Deep Run Watershed and management for both the 10yr and 100yr storms will be provided on-site by using approved Environmental Site Design practices, **AND STRUCTURAL PRACTICE**.

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 1.5 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 (M-6)Micro-bioretention facilities, (M-5)Dry wells, and (F-1)Surface Sand Filter.

The site has some areas of steep slopes in excess of 25%, and a significant forested area. To protect natural resource areas, it is important to delay release of stormwater runoff from new impervious areas to avoid increasing peak runoffs. The design incorporates medium size lots with moderately sized houses and minimum width driveways in order to create the least possible stormwater runoff. In addition, small areas of steep slopes are shown to occur on proposed lots 1 and 12. Forest impacts are limited by utilizing smaller lots and clustering them together to retain as much open space as possible, and the steep slope areas, which are priority forest areas, are protected as much as possible.

Conceptual treatment has been designated based on preliminary grading, the site topography and the house, water main and sewer locations. The roads and driveways are treated with a Surface Sand Filter. Generally rooftop runoff will be addressed through the use of Dry wells and Micro-Bio-retention facilities. A single outfall is provided to release runoff into an existing stormdrain system to the south of the site. The site will provide 10yr and 100yr management within the Surface Sand Filter.

Sediment and erosion controls have been designed based on the 2011 Maryland Specifications for Soil Erosion and Sediment Control. Erosion control matting and super silt fence will be used to prevent runoff containing unacceptable levels of TSS from leaving the site and entering the adjacent 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 1.5 inches. The treatment methods and capacity were severely limited as a result of the steep slopes on site. This limits the use of surface treatments. The proposed practices captures or treats 51,387 s.f. of impervious. The overall Pe provided is 1.5 inches.

An Alternative Compliance will be required for the removal of specimen trees and steep slope disturbance.

A Design Manual Waiver will be required for road geometry.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Handwritten signature 4-29-19
 CHIEF, DIVISION OF LAND DEVELOPMENT
Handwritten signature 5-3-19
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

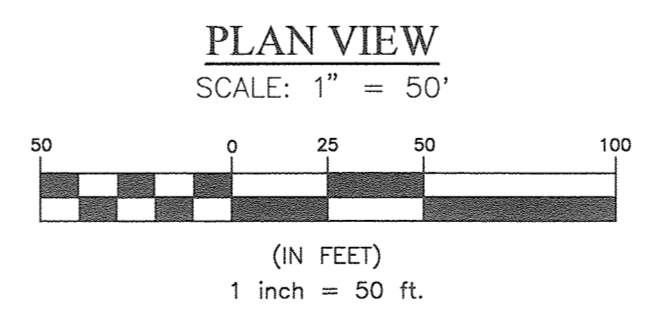
THE AERIE IN ELKRIDGE

1ST ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

ENVIRONMENTAL CONCEPT PLAN

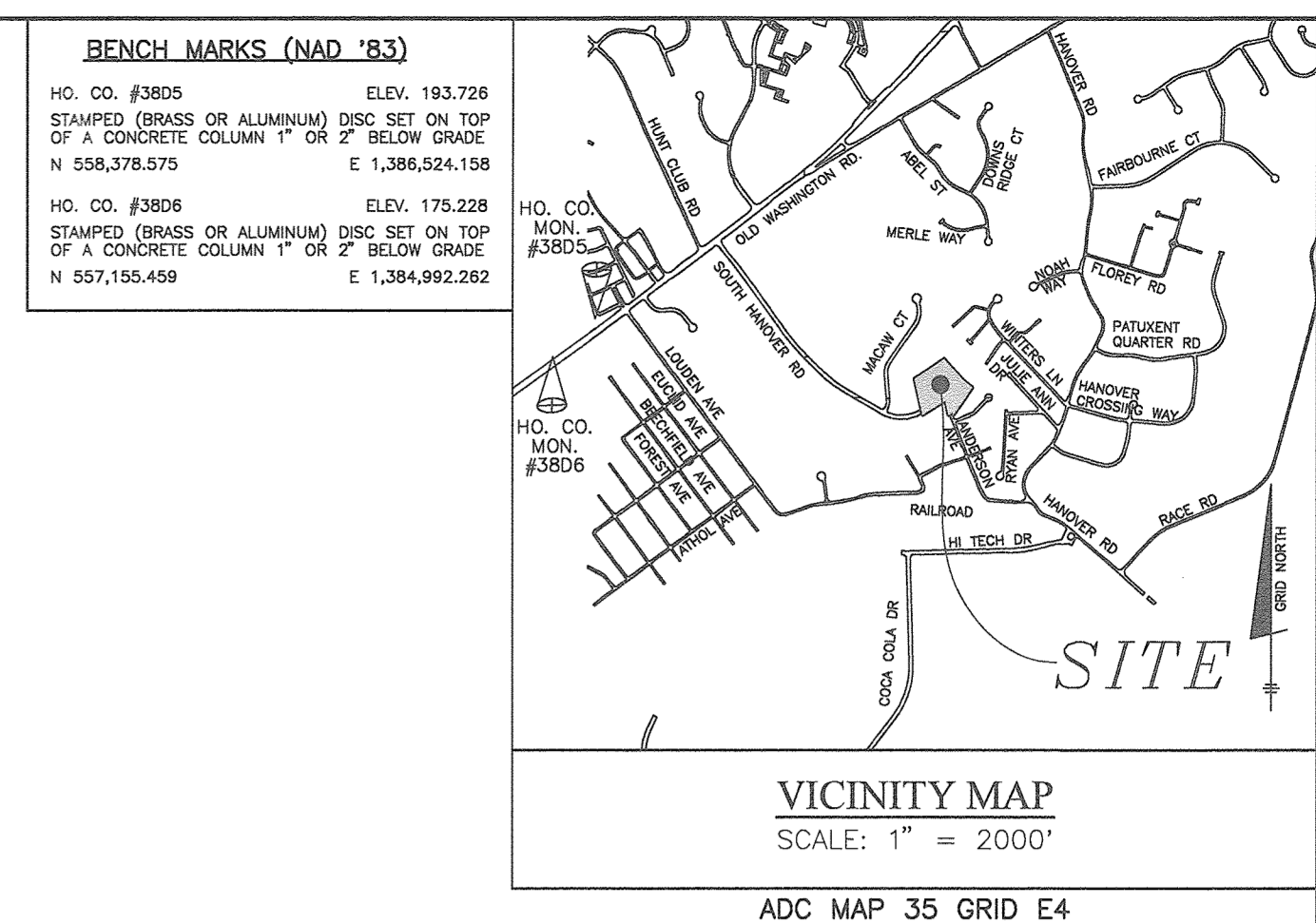


MDE Designation	Practice Description	Quantity of Each Practice	ESDv (cf) Required based on each DA	ESDv (cf) Provided	Ownership
F-1	Surface Sand Filter	1	5,424	6,512	HOA
M-5	Dry Wells	22	1,781	2,050	Private
M-6	Micro Bio-Retentions	1	185	188	Private
Totals			7,391	8,750	



SYMBOL	HYDRIC	HYDROLOGIC GROUP	ALTERNATE GROUP	NAME	k-VALUE
Rsc		G		RUSSETT FINE SANDY LOAM, 5 TO 10 PERCENT SLOPES	0.24
SiE**		B	B	SASSAFRAS AND CROOM SOIL, 15 TO 25 PERCENT SLOPES	0.24/0.28
SIB		B		SASSAFRAS GRAVELLY SAND LOAM, 2 TO 5 PERCENT SLOPE	0.24

** HIGHLY ERODIBLE, K>0.35 AND STEEPER THAN 5%, OR 15% AND GREATER SLOPES. TAKEN FROM THE NRCS WEB SOIL SURVEY HOWARD COUNTY, MARYLAND, SEPTEMBER 2017.



	PROPERTY BOUNDARY
	ADJACENT PROPERTY BOUNDARY
	GIS CONTOUR LINES
	PROPOSED CONTOUR LINES
	SOIL DELINEATION
	EXISTING BUILDINGS
	PROPOSED DWELLING
	STEEP SLOPES 15% TO 19.99%
	STEEP SLOPES 20% TO 24.99%
	STEEP SLOPES 25% OR GREATER
	EXISTING TREELINE
	PROPOSED TREELINE
	PROPOSED WATER
	PROPOSED SANITARY
	PROPOSED STORMDRAIN
	SPECIMEN TREE
	NO WOODY BUFFER
	STABILIZATION MATTING
	EXISTING DRIVEWAY (TO BE REMOVED)
	EXISTING STRUCTURES (TO BE REMOVED)

NO.	DESCRIPTION
1	LAYOUT PLAN AND EXISTING GRADING
2	ENVIRONMENTAL CONCEPT PLAN
3	ENVIRONMENTAL CONTROL PLAN SEDIMENT AND EROSION CONTROL PLAN
-	DRAINAGE AREA MAP, GWM NOTES AND DETAILS

BENCHMARK ENGINEERS & LAND SURVEYORS & PLANNERS
ENGINEERING, INC.
 8480 BALTIMORE NATIONAL PIKE & SUITE 315
 ELLICOTT CITY, MARYLAND 21043
 (P) 410-465-6105 & (F) 410-465-6644
 WWW.BEI-CIVILENGINEERING.COM

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: 01-01-2021.

OWNER:
 TROTTER 5857, LLC.
 1819 PANARAMA CT.
 MCCLEAN, VA 22101
 (P) 443-250-1555

THE AERIE IN ELKRIDGE

6399 ANDERSON AVE, HANOVER, MD 21076
 TAX MAP: 38 - GRID: 14 - PARCEL: 232
 ELECTION DISTRICT NO. 1 - HOWARD COUNTY, MARYLAND

LAYOUT PLAN AND EXISTING GRADING

DATE: APRIL, 2019 BEI PROJECT NO. 2894
 SCALE: AS SHOWN SHEET 1 OF 3

SOILS CHART - SOIL SURVEY HOWARD COUNTY, MARYLAND					
SYMBOL	HYDRIC	HYDROLOGIC GROUP	ALTERNATE GROUP	NAME	K-VALUE
R _s C		C		RUSSETT FINE SANDY LOAM, 5 TO 10 PERCENT SLOPES	0.24
SrE**		B		SASSAFRAS AND CROOM SOIL, 15 TO 25 PERCENT SLOPES	0.24/0.28
SrB		B		SASSAFRAS GRAVELLY SAND LOAM, 2 TO 5 PERCENT SLOPE	0.24

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CENTER LINE CURVE DATA								
CURVE	ALIGNMENT	STATION	RADIUS	ARC	DELTA	TANGENT	CHORD DIRECTION	CHORD LENGTH
C1	S. Hanover Road	0+22.15 TO 2+07.13	150.00'	184.98'	70°39'21"	106.32'	N22° 40' 08"E	173.48'
C2	S. Hanover Road	2+35.05 TO 4+15.87	150.00'	180.82'	69°04'05"	103.22'	N21° 52' 29"E	170.07'

Specimen Tree Chart

Key (X#)	Species	Size (in dbh)	CRZ (feet radius)	Comments
1	Black oak	30.5	45.75	fair, some trimming noted
2	Chestnut oak	31	46.5	CRZ impacted by offsite activity
3	Chestnut oak	32	48	fair, some dieback noted
4	Black oak	41	61.5	good
5	Chestnut oak	29.8	44.7	poor, heavy vine cover and dieback in canopy

LEGEND

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- PROPOSED WATER
- PROPOSED SANITARY
- PROPOSED STORMDRAIN
- SPECIMEN TREE
- NO WOODY BUFFER
- STABILIZATION MATTING
- EXISTING DRIVEWAY (TO BE REMOVED)
- EXISTING STRUCTURES (TO BE REMOVED)

PLAN VIEW
SCALE: 1" = 40'

(IN FEET)
1 inch = 40 ft.

*NOTE: THE POND APPEARS TO FALL WITHIN HAZARD CLASS 'B'. THIS WILL BE REEVALUATED AS NECESSARY WHEN A DETAILED DESIGN HAS BEEN PERFORMED.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Keith J. Cook
CHIEF, DIVISION OF LAND DEVELOPMENT
4-29-19
DATE

Chad
CHIEF, DEVELOPMENT ENGINEERING DIVISION
5-7-19
DATE

BENCHMARK
ENGINEERS & LAND SURVEYORS & PLANNERS

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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: 01-01-2021.

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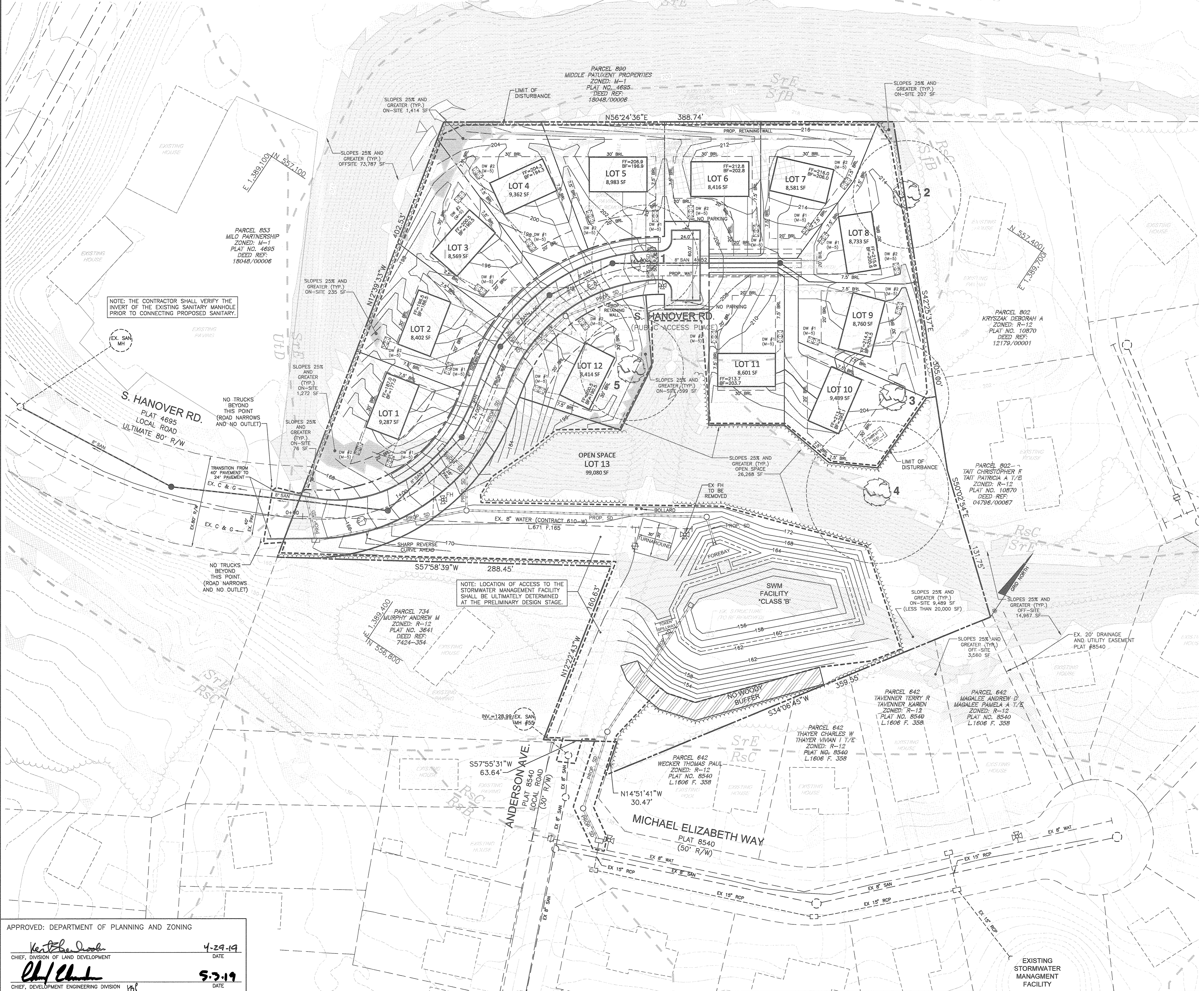
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ELECTION DISTRICT NO. 1 - HOWARD COUNTY, MARYLAND

ENVIRONMENTAL CONCEPT PLAN

DATE: APRIL, 2019
SCALE: AS SHOWN
DESIGN: LDD
DRAFT: LDD

BEI PROJECT NO. 2894
SHEET 2 OF 3

ECP-19-028



SOILS CHART - SOIL SURVEY HOWARD COUNTY, MARYLAND					
SYMBOL	HYDRIC	HYDROLOGIC GROUP	ALTERNATE GROUP	NAME	K-VALUE
R _s C		C		RUSSETT FINE SANDY LOAM, 5 TO 10 PERCENT SLOPES	0.24
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SEQUENCE OF CONSTRUCTION

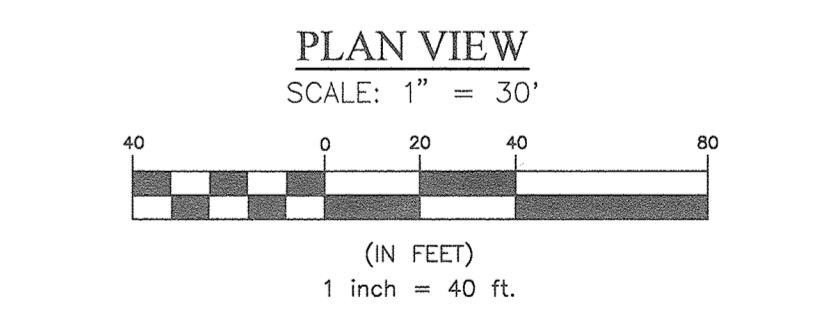
NOTIFY SEDIMENT CONTROL DIVISION 48 HOURS PRIOR TO START OF CONSTRUCTION

- OBTAIN GRADING PERMIT. (DAY 1)
- INSTALL STABILIZED CONSTRUCTION ENTRANCE SUPER SILT FENCE AND DIVERSION 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 SEEDBED NOTES. (DAY 32-34)

SEDIMENT CONTROL NOTES:
 1. SEDIMENT CONTROLS SHOWN ARE CONCEPTUAL IN NATURE. DETAILED SWALE COMPUTATIONS, SEDIMENT CONTROL DEVICES, NOTES AND DETAILS WILL BE PROVIDED ON THE FINAL CONSTRUCTION AND SITE DEVELOPMENT PLANS.

LEGEND

- PROPERTY BOUNDARY
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- PROPOSED WATER
- PROPOSED SANITARY
- PROPOSED STORMDRAIN
- STABILIZED CONSTRUCTION ENTRANCE WITH BERM
- SUPER SILT FENCE
- SILT FENCE
- TREE PROTECTION
- STABILIZATION MATTING
- EARTH DIKE
- TEMPORARY GABION OUTLET STRUCTURE



APPROVED: DEPARTMENT OF PLANNING AND ZONING
 4-29-19
 5.3.19

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**ENVIRONMENTAL CONTROL PLAN
 SEDIMENT AND EROSION CONTROL PLAN**

OWNER: TROTTER 5857, LLC, 1819 PANARAMA CT, MCCLEAN, VA 22101 (P) 443-250-1555

DATE: APRIL, 2019
 SCALE: AS SHOWN

BEI PROJECT NO. 2894
 SHEET 3 OF 3

DESIGN: LDD DRAFT: LDD