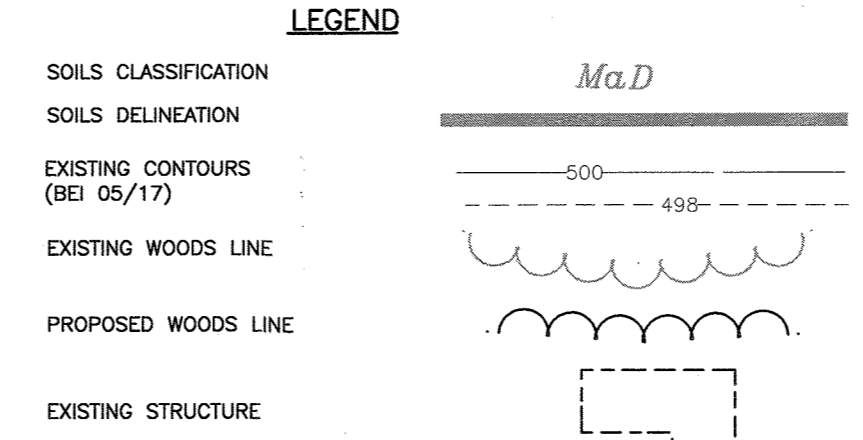
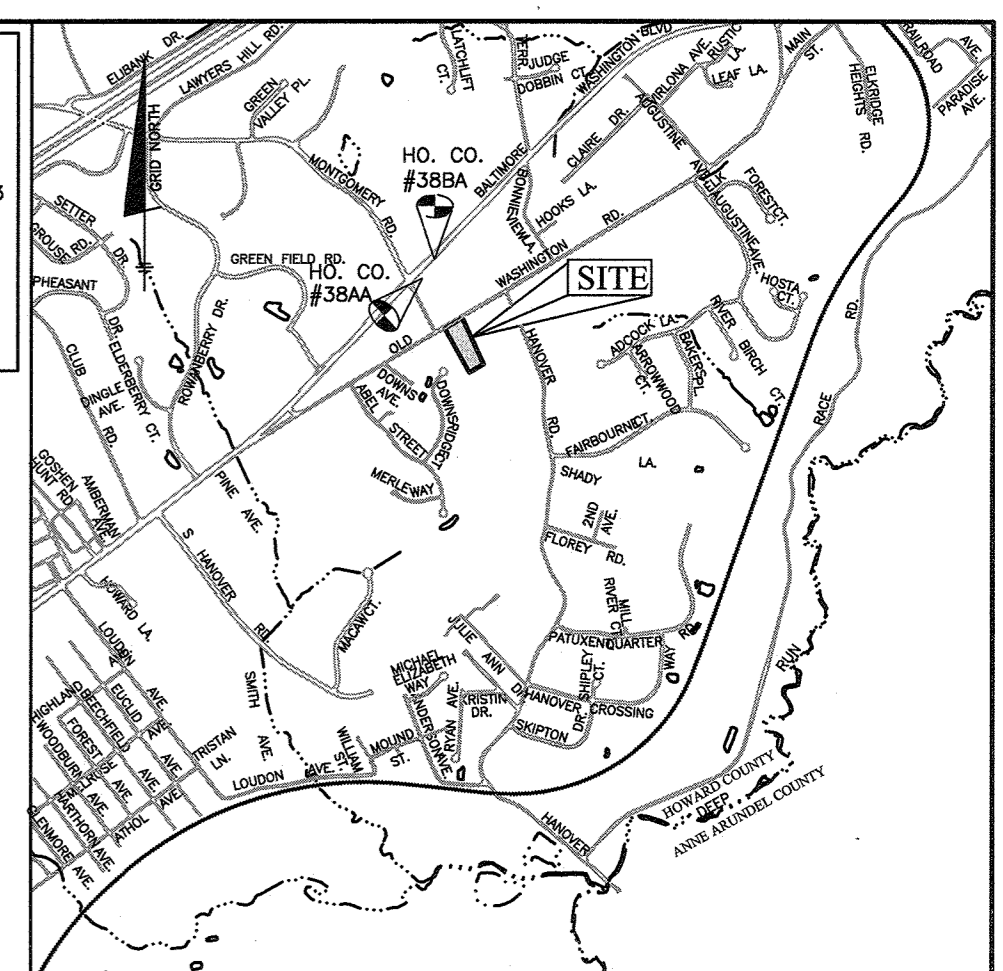


Practice	DA (sf)	Imp Area (sf)	% Imp	Rv	Required	Provided	ESDv	Pe	Rev (ac-ft)	Ownership	
(F-1) Surface Sand Filter	#6	86,463	12,598	15%	0.18	223	1010	PASS	1566	1521	1.55
(M-6) Micro Bio-Retention	#1	2,515	1,473	59%	0.58	50	74	PASS	145	190	1.57
(M-6) Micro Bio-Retention	#2	2,588	1,405	54%	0.54	52	120	PASS	139	247	2.13
(M-6) Micro Bio-Retention	#3	4,919	1,354	28%	0.30	98	102	PASS	146	234	1.92
(M-6) Micro Bio-Retention	#4	6,160	1,899	28%	0.30	123	132	PASS	184	292	1.91
(M-6) Micro Bio-Retention	#5	6,989	2,198	31%	0.33	140	221	PASS	233	450	2.32
(M-6) Micro Bio-Retention	#7	2,414	1,473	61%	0.60	48	71	PASS	145	211	1.75
Totals per individual Drainage Areas		96,483	22,200	23%	0.26	735	1306		2568	3144	1.52
Totals per Whole Site		101,132	24,363	24%					2888	3144	1.57

STAMPED DISK SET ON TOP OF CONCRETE BASE.	HO. CO. #388A	ELEVATION: 220.084
N 581158.817	E 1389726.33	
STAMPED DISK SET ON TOP OF CONCRETE BASE.	HO. CO. #388A	ELEVATION: 166.184
N 562553.33	E 1390967.86	



AREAS ARE APPROXIMATE	Value
Gross Area	2.35 ac
100yr Floodplain	0.00 ac
Steep Slopes 15% or greater	0.51 ac
Wetlands (outside of floodplain)	0.00 ac
Wetlands Buffer (outside of floodplain)	0.00 ac
Stream	0.11 ac
Stream Buffer (outside floodplain)	0.00 ac
Forested Area	1.06 ac
Highly Erodible Soils	1.40 ac
Limit of Disturbance	2.21 ac
Impervious Area	0.64 ac
Green Space (within LOD)	1.57 ac
Number of Proposed Lots	6
Area of Proposed Lots	2.32 ac
Area of Proposed Driveway	0.40 ac
Area of Road Dedication	0.02 ac
Open Space Provided	8,471 SF
Non-Credited Open Space	1,319 SF
Credited Open Space	7,152 SF
Required Open Space (full obligation)	8,189 SF
Open Space Provided	87%
Fee-In-Lieu of Open Space Required	1 Lot

LOT NO.	GROSS AREA	PIPESTEM AREA	MIN. LOT SIZE
1	13,734 SF	1,202 SF	12,532 SF
2	13,365 SF	1,365 SF	12,000 SF
3	13,918 SF	1,826 SF	12,092 SF
4	13,535 SF	1,534 SF	12,001 SF
5	13,038 SF	1,028 SF	12,010 SF
6	13,044 SF	500 SF	12,544 SF

SHEET	TITLE
1	SKETCH PLAN
2	GRADING, UTILITY AND STORMWATER MANAGEMENT PLAN

Total Number of Lots/Units Proposed	7
Number of MIHU Required	0.7
Number of MIHU Provided Onsite (exempt from APFO allocations)	0
Number of APFO Allocations Required (remaining lots/units)	6
MIHU Fee-In-Lieu (indicate lot/unit numbers)	1-5, 7

- THIS PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
- SUBJECT PROPERTY ZONED R-12 PER THE 10-06-2013 COMPREHENSIVE ZONING PLAN.
- DEED REFERENCE: 17498/00062.
- THE EXISTING TOPOGRAPHY ON-SITE IS TAKEN FROM FIELD SURVEY WITH 2 FOOT CONTOUR INTERVALS PREPARED BY BENCHMARK ENGINEERING, INC. DATED APRIL 2017, SURROUNDING TOPOGRAPHY IS TAKEN FROM HOWARD COUNTY GIS.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENTS NO. 388A AND 388B WERE USED FOR THIS PROJECT.
- PROJECT BOUNDARY IS BASED ON A SURVEY PERFORMED BY BENCHMARK ENGINEERING, INC. DATED APRIL 2017.
- THIS LOT WILL UTILIZE A CUSTOM SEDIMENT AND EROSION PLAN SINCE THE LIMIT OF DISTURBANCE IS FOR MORE THAN ONE LOT.
- WATER IS PRIVATE CONTRACT 44-0906. DRAINAGE IS MIDDLE PATUKENT.
- SEWER IS PRIVATE CONTRACT 22-5. DRAINAGE IS MIDDLE PATUKENT.
- THERE IS ONE EXISTING DWELLING ON SITE. IT IS TO BE RETAINED. ONE ACCESSORY STRUCTURE IS TO BE REMOVED AND ONE IS TO BE RETAINED.
- EXISTING UTILITIES ARE BASED ON FIELD SURVEY LOCATIONS, CONTRACT DRAWINGS AND HOWARD COUNTY GIS.
- STORMWATER MANAGEMENT SYSTEM SHOWN ON SHEET 2 IS AN APPROXIMATION OF THE SIZE, SHAPE AND LOCATION. IT IS UNDERSTOOD THAT THIS SYSTEM HAS NOT BEEN DESIGNED AND THE ACTUAL DESIGN MAY CHANGE, ALTERING THE NUMBER OF UNITS ALLOCATED FOR THIS DEVELOPMENT.
- A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT.
- TRAFFIC STUDY WAS PREPARED BY MARS GROUP ON MAY 3, 2017.
- FREE FLOW SPEED STUDY WAS PREPARED BY MARS GROUP ON MAY 10, 2017.
- THE FOREST STAND DELINEATION WAS PERFORMED BY ECO-SCIENCE PROFESSIONALS, INC. THERE IS ONE SPECIMEN TREE LOCATED JUST OFF SITE AND THE TREE IS TO REMAIN.
- THERE ARE NO WETLANDS, STREAMS, THEIR REQUIRED BUFFERS, 100-YEAR FLOODPLAIN OR STEEP SLOPES LOCATED ON THE SITE.
- TO THE BEST OF OUR KNOWLEDGE AND BELIEF THERE ARE NO CEMETERIES ON-SITE. THE EXISTING DWELLING ON-SITE IS HISTORIC AND IS LISTED ON THE HISTORIC SITES INVENTORY AS PART OF THE OLD WASHINGTON ROAD SURVEY DISTRICT.
- EC-18-026 WAS APPROVED BY DED PER LETTER DATED APRIL 23, 2018. THE ORIGINAL MYLARS WERE SIGNED ON 10/17/18.
- THE REQUIRED PRESUBMISSION MEETING WAS HELD ON MARCH 12, 2018 AT 6:00PM AT MELVILLE CHAPEL UMC.
- THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT AND PUBLIC WATER AND SEWER SHALL BE UTILIZED WITHIN THIS DEVELOPMENT.
- A PRIVATE RANGE OF ADDRESS SIGN ASSEMBLY SHALL BE FABRICATED AND INSTALLED BY HOWARD COUNTY BUREAU OF HIGHWAYS AT THE DEVELOPERS/OWNERS EXPENSE. CONTACT HOWARD COUNTY TRAFFIC DIVISION AT 410-313-2430 FOR DETAILS AND COST ESTIMATES.
- THE FOREST CONSERVATION REQUIREMENTS FOR THIS SUBDIVISION SHALL BE ADDRESSED PRIOR TO RECORDATION OF THE FINAL SUBDIVISION PLAN AND SHALL BE PROVIDED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.1200 OF THE SUBDIVISION REGULATIONS AND FOREST CONSERVATION MANUAL. THE FOREST CONSERVATION OBLIGATION FOR THIS SUBDIVISION SHALL BE SATISFIED BY THE USE OF AN OFFSITE MITIGATION BANK OR PAYMENT OF A FEE-IN-LIEU.
- THIS DEVELOPMENT IS DESIGNED TO BE IN ACCORDANCE WITH SECTION 16.127 - RESIDENTIAL INFILL DEVELOPMENT - OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. THE DEVELOPER OF THIS PROJECT SHALL CREATE COMPATIBILITY WITH THE EXISTING NEIGHBORHOOD THROUGH THE USE OF ENHANCED PERIMETER LANDSCAPING, BERMS, FENCES, SIMILAR HOUSING UNIT TYPES AND THE DIRECTIONAL ORIENTATION OF THE PROPOSED HOUSES.
- THIS PROJECT IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS PER COUNCIL BILL 45-2003 AND THE ZONING REGULATIONS, AS AMENDED BY COUNCIL BILL 75-2003. DEVELOPMENT OR CONSTRUCTION ON THESE LOTS MUST COMPLY WITH THE USE OF ENHANCED PERIMETER LANDSCAPING, BERMS, FENCES, SIMILAR HOUSING UNIT TYPES AND THE DIRECTIONAL ORIENTATION OF THE PROPOSED HOUSES.
- THE PERMETER LANDSCAPING REQUIREMENTS SHALL BE ADDRESSED PRIOR TO RECORDATION OF THE FINAL SUBDIVISION PLAN AND SHALL BE PROVIDED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
- THE PROJECT IS SUBJECT TO SECTION 13.402 OF THE COUNTY CODE FOR MODERATE INCOME HOUSING UNITS (MIHU).
- APPROVAL OF A DESIGN MANUAL WAIVER WILL BE NECESSARY FOR HOWARD COUNTY DESIGN MANUAL ROADS AND BRIDGES, VOLUME III, SECTION 6.6(A), 6.6(B) AND APPENDIX A TO ALLOW MORE THAN 6 LOTS ACCESSING A PUBLIC ROAD VIA A PRIVATE DRIVEWAY. THE JUSTIFICATION IS THAT THE INTERSECTION WITH MONTGOMERY ROAD, THE LOCATION OF THE HIGH POINT OF OLD WASHINGTON ROAD AND THE ZONING REGULATIONS SECTION 16.127(C)(4) LIMIT THE BEST SINGLE ACCESS POINT TO THE NORTHERN PART OF THE PROPERTY. ADEQUATE INTERSECTION AND STOPPING SIGN DISTANCE IS AVAILABLE AT THE LOCATION SHOWN.
- THERE ARE ERODIBLE SOILS WITHIN THE PROPERTY LIMITS.
- OPEN SPACE WILL BE PROVIDED BY LOT 8 AND A PAYMENT OF A FEE-IN-LIEU OF OPEN SPACE OF \$1500 FOR ONE LOT. SEE SITE ANALYSIS DATA CHART.
- THIS PLAN WENT BEFORE THE HISTORIC PRESERVATION COMMISSION FOR ADVISORY COMMENTS ON FEBRUARY 1, 2018 IN CASE HPC-18-06. THE COMMENTS OFFERED INCLUDE A REQUEST TO MOVE THE PROPOSED DRIVEWAY FURTHER FROM THE EAST SIDE OF THE HISTORIC STRUCTURE. THE DRIVEWAY HAS BEEN RECONFIGURED.
- THE R1-1 ("STOP") SIGN AND STREET NAME SIGN (SNS) ASSEMBLY FOR THIS DEVELOPMENT MUST BE INSTALLED BEFORE THE BASE PAVING IS COMPLETED.
- THE TRAFFIC CONTROL DEVICE LOCATIONS SHOWN ON THE BASE PLANS ARE APPROXIMATE AND MUST BE FIELD APPROVED BY HOWARD COUNTY TRAFFIC DIVISION (410-313-2430) PRIOR TO THE INSTALLATION OF ANY OF THE TRAFFIC CONTROL DEVICES.
- ALL TRAFFIC CONTROL DEVICES AND THEIR LOCATIONS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUMUTCD).
- ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL PERFORATED ("QUICK PUNCH"), SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE) - 3' LONG. THE ANCHOR SHALL NOT EXTEND MORE THAN TWO "QUICK PUNCH" HOLES ABOVE GROUND LEVEL. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
- APPROVAL OF THIS SKETCH SHALL BE SUBJECT TO THE APPROVAL OF THE FINAL LAYOUT OR APPROVAL OF NECESSARY DESIGN MANUAL WAIVERS OR ALTERNATIVE COMPLIANCE APPLICATIONS MORE DETAILED COMMENTS MAY BE MADE ON FUTURE SUBMISSIONS THAT MAY ALTER THE FINAL LOT LAYOUT, INCLUDING BUT NOT LIMITED TO SITE ACCESS TO SITE ACCESS. FUTURE PLAN APPROVALS WILL BE SUBJECT TO APPROVAL OF A DESIGN MANUAL WAIVER TO PERMIT TO ALLOW 7 LOTS TO USE A SHARED DRIVEWAY, AND APPROVAL OF AN ALTERNATIVE COMPLIANCE APPLICATION FROM DLD TO SECTION 16.120(C)(2) TO ALLOW ACCESS VIA AN ACCESSORY DRIVEWAY WITHOUT A PIPESTEM PROVIDING ROAD FRONTAGE TO LOT 7.

NO.	DATE	REVISION

BENCHMARK
ENGINEERS & LAND SURVEYORS & PLANNERS
ENGINEERING, INC.
8450 BALTIMORE NATIONAL, PRICE & SUITE 315, ELLICOTT CITY, MARYLAND 21043
(P) 410-465-6105 (F) 410-465-6644
WWW.BE-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. 46577, Exp. 06/08/2020.

OWNER/DEVELOPER:
HARMONY BUILDERS INC
4228 COLUMBIA ROAD
ELLICOTT CITY, MD 21042
410-461-0833

ELKRIS HILL
LOTS 1-7 AND OPEN SPACE LOT 8
TAX MAP: 38, GRID: 08, PARCEL: 198, ZONED: R-12
6285 OLD WASHINGTON ROAD
ELKRIS, MD 21075
ELECTION DISTRICT NO. 1 - HOWARD COUNTY, MARYLAND

DESIGN: JC
DRAWN: JC

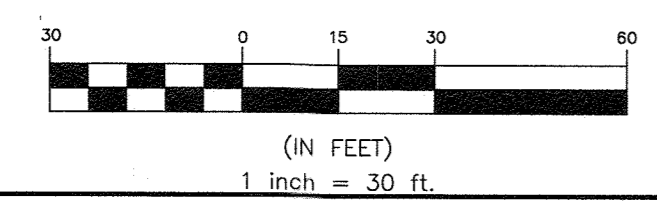
DATE: SEPT., 2018
SCALE: AS SHOWN

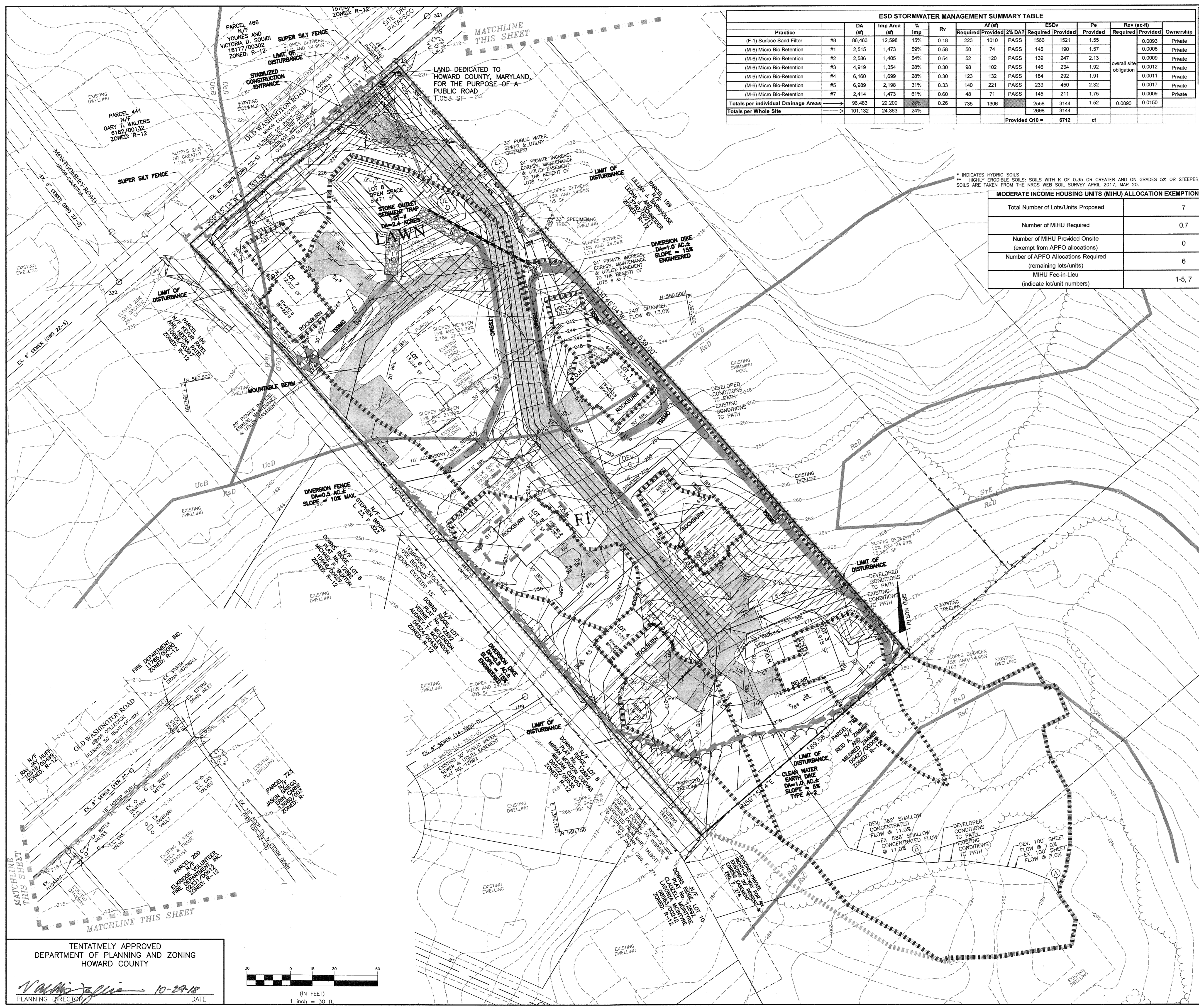
BEI PROJECT NO.: 2818
SHEET 1 OF 2

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY

James J. Kelly
PLANNING DIRECTOR

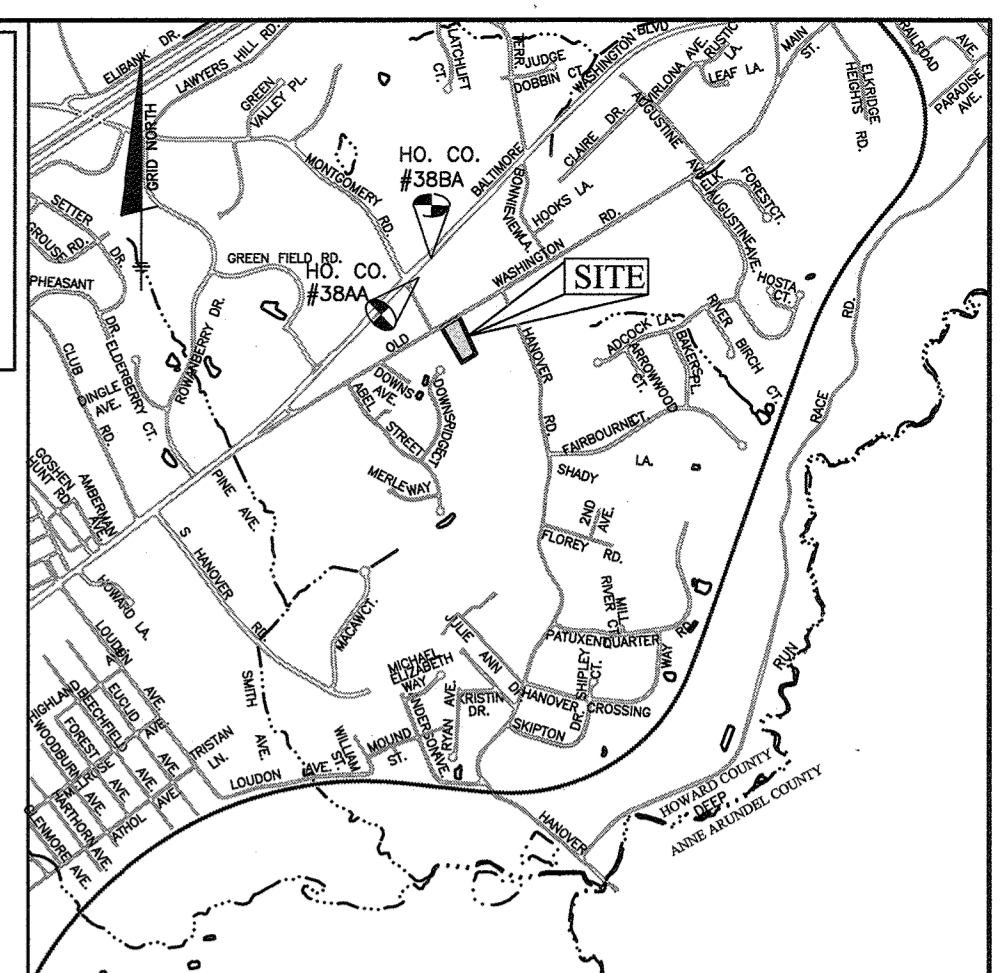
10-29-18
DATE





Practice	DA (sf)	Imp Area (sf)	% Imp	Rv	Required	Provided	2% DA?	ESDv Required	ESDv Provided	Pe Provided	Rev (ac-ft) Required	Rev (ac-ft) Provided	Ownership
(F-1) Surface Sand Filter	#1	86,463	12,598	15%	0.18	223	1010	PASS	1566	1521	1.55		Private
(M-6) Micro Bio-Retention	#1	2,515	1,473	59%	0.58	50	74	PASS	145	190	1.57		Private
(M-6) Micro Bio-Retention	#2	2,586	1,405	54%	0.54	52	120	PASS	139	247	2.13		Private
(M-6) Micro Bio-Retention	#3	4,919	1,354	28%	0.30	98	102	PASS	146	234	1.92		Private
(M-6) Micro Bio-Retention	#4	6,160	1,699	28%	0.30	123	132	PASS	184	292	1.91		Private
(M-6) Micro Bio-Retention	#5	6,989	2,198	31%	0.33	140	221	PASS	233	450	2.32		Private
(M-6) Micro Bio-Retention	#7	2,414	1,473	61%	0.60	48	71	PASS	145	211	1.75		Private
Totals per individual Drainage Areas		96,483	22,200	23%	0.26	735	1306		2558	3144	1.52	0.0090	0.0150
Totals per Whole Site		101,132	24,363	24%					2698	3144			
													Provided Q10 = 6712 cf

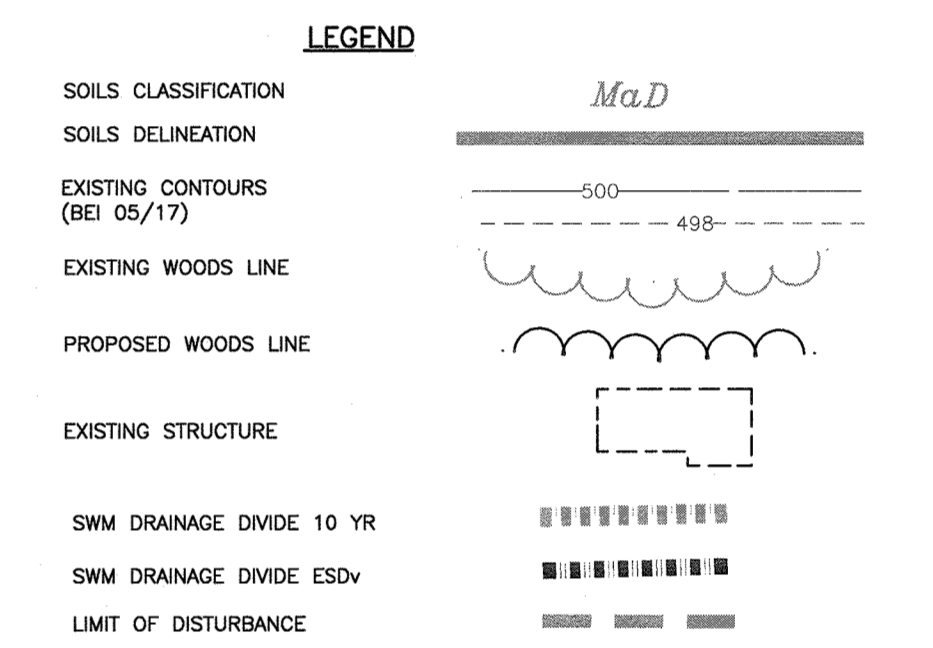
BENCHMARK
 HO. CO. #388A
 STAMPED DISK SET ON TOP OF CONCRETE BASE.
 N 561158.817 E 1389726.33
 ELEVATION: 220.084
 HO. CO. #388A
 STAMPED DISK SET ON TOP OF CONCRETE BASE.
 N 562553.31 E 1390967.86
 ELEVATION: 166.184



* INDICATES HYDRIC SOILS
 ** HIGHLY ERODIBLE SOILS: SOILS WITH K OF 0.35 OR GREATER AND ON GRADES 5% OR STEEPER; OR SOILS ON GRADES 15% OR GREATER.
 SOILS ARE TAKEN FROM THE NRCS WEB SOIL SURVEY APRIL 2017, MAP 20.

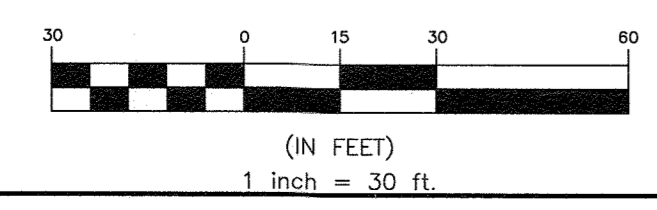
Total Number of Lots/Units Proposed	7
Number of MIHU Required	0.7
Number of MIHU Provided Onsite (exempt from APFO allocations)	0
Number of APFO Allocations Required (remaining lots/units)	6
MIHU Fee-in-Lieu (indicate lot/unit numbers)	1-5, 7

LOT NUMBER	ADDRESS	MICRO BIO-RETENTION (M-6) QUANTITY	SURFACE SAND FILTER (F-1) QUANTITY
1	OLD WASHINGTON ROAD ELKRIDGE MD, 21075	1	0
2	OLD WASHINGTON ROAD ELKRIDGE MD, 21075	1	0
3	OLD WASHINGTON ROAD ELKRIDGE MD, 21075	1	0
4	OLD WASHINGTON ROAD ELKRIDGE MD, 21075	1	0
5	OLD WASHINGTON ROAD ELKRIDGE MD, 21075	1	0
7	OLD WASHINGTON ROAD ELKRIDGE MD, 21075	1	0
O.S.8	OLD WASHINGTON ROAD ELKRIDGE MD, 21075	0	1



SWM DESIGN NARRATIVE:
 NATURAL RESOURCES SHALL BE PRESERVED TO THE EXTENT FEASIBLE. THERE ARE ENVIRONMENTALLY SENSITIVE (SLOPES, ERODIBLE SOILS, FOREST) AREAS ON-SITE. MOST OF THESE FEATURES ARE BEING DISTURBED BY THIS PLAN. THERE IS ALSO A SPECIFIC TREE NEAR THE SITE, THAT IS NOT BEING DISTURBED. THERE ARE NO WETLAND, STREAMS OR THEIR BUFFER ON SITE, THEREFOR NONE ARE BEING DISTURBED. THE IMPERVIOUS AREA OF THE SITE IS MINIMIZED. SITING THE SWM PRACTICE NEAR THE DRIVEWAY, UTILIZING A SHARED DRIVEWAY, MINIMIZING WIDTH OF THE DRIVEWAY AND KEEPING THE DRIVEWAY LENGTH MINIMAL ALL ARE CONDITIONS THAT REDUCE THE IMPERVIOUS AREAS. ERODIBLE SOILS WITH A K_w OF 0.35 OR GREATER ARE BEING DISTURBED BUT ADEQUATE SEDIMENT AND EROSION CONTROL SHALL BE PROVIDED. FOREST IS DISTURBED AND WILL BE REPLACED IN A BANK, OFFSITE MITIGATION AREA OR BY FEE-IN-LIEU OF PLANTING.
 EXISTING FLOW PATTERNS SHALL BE MAINTAINED. UNDER ULTIMATE CONDITIONS MOST DRAINAGE FLOW SHALL EXIT TO OLD WASHINGTON ROAD. THE LOCATION OF THE DISCHARGE IS AT A BETTER LOCATION THAN THE EXISTING CONDITIONS THAT FLOWS TOWARDS THE NEIGHBORING STRUCTURES AND THEN INTO OLD WASHINGTON ROAD.
 THERE IS NO DEFINED DISCHARGE POINT OR ADEQUATE OUTFALL LOCATION. THE SURFACE SAND FILTER HAS BEEN DESIGNED TO PROVIDE RETENTION ABOVE THE ESDV VOLUME.
 IMPERVIOUS AREA IS BEING HELD TO A MINIMUM BY LOCATING THE PROPOSED HOUSES CLOSE TO SHARED DRIVEWAY AND BY UTILIZING THE MINIMUM WIDTH FOR DRIVEWAYS.
 SEDIMENT AND EROSION CONTROL SHALL BE PROVIDED. A SCHEMATIC CONCEPT IS SHOWN WITHIN THIS PLAN SET. IT IS ANTICIPATED THAT IT WILL CONSIST MAINLY OF EARTH DIKES AND SUPER SILT FENCE ALONG THE PERMETER AND A SEDIMENT BASIN AT THE SURFACE SAND (F-1) FILTER LOCATION. EROSION CONTROL MATTING SHALL BE USED FOR SWALES. THERE ARE NO IMPACTS TO SWM DESIGN BASED ON SEDIMENT AND EROSION CONTROL.
 THE PROPOSED (F-1) SURFACE SAND FILTER AND (M-6) MICRO-BIORETENTION FACILITIES SHALL ADEQUATELY TREAT THE PROPOSED IMPERVIOUS AREAS. THE PRACTICES SHALL DISCHARGE AT LOCATIONS THAT ARE NOT DETRIMENTAL TO THE ADJACENT PROPERTIES. INLETS OR A WEIR WALL SHALL BE PLACED IN THE SURFACE SAND FILTER (F-1) AND MICRO-BIORETENTIONS (M-6) SO HIGHER STORMS WILL FLOW TO THE STONE CHAMBERS AND UNDERDRAIN PIPES. FULL TREATMENT IS BEING PROVIDED THEREFORE THIS PROJECT CAN BE CONSIDERED TO BE TREATED TO THE MAXIMUM EXTENT PRACTICAL.

TENTATIVELY APPROVED
 DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY
 10-29-18
 PLANNING DIRECTOR



NO.	DATE	REVISION

BENCHMARK ENGINEERING, INC.
 ENGINEERS & LAND SURVEYORS & PLANNERS
 8480 BALTIMORE NATIONAL PIKE & SUITE 315 ELLICOTT CITY, MARYLAND 21043
 (P) 410-465-6105 (F) 410-465-6644
 WWW.BEI-CVLENGINEERING.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. 45577, Expiration Date: 06-08-2020.

ELKRISE HILL
 LOTS 1-7 AND OPEN SPACE LOT 8
 TAX MAP: 38, GRID: 08, PARCEL: 198, ZONED: R-12
 6289 OLD WASHINGTON ROAD
 ELKRIDGE, MD 21075
 ELECTION DISTRICT NO. 1 - HOWARD COUNTY, MARYLAND
 GRADING, UTILITY AND STORMWATER MANAGEMENT PLAN
 DATE: SEPT., 2018 BEI PROJECT NO: 2818
 DESIGN: JC DRAWN: JC SCALE: AS SHOWN SHEET 2 OF 2