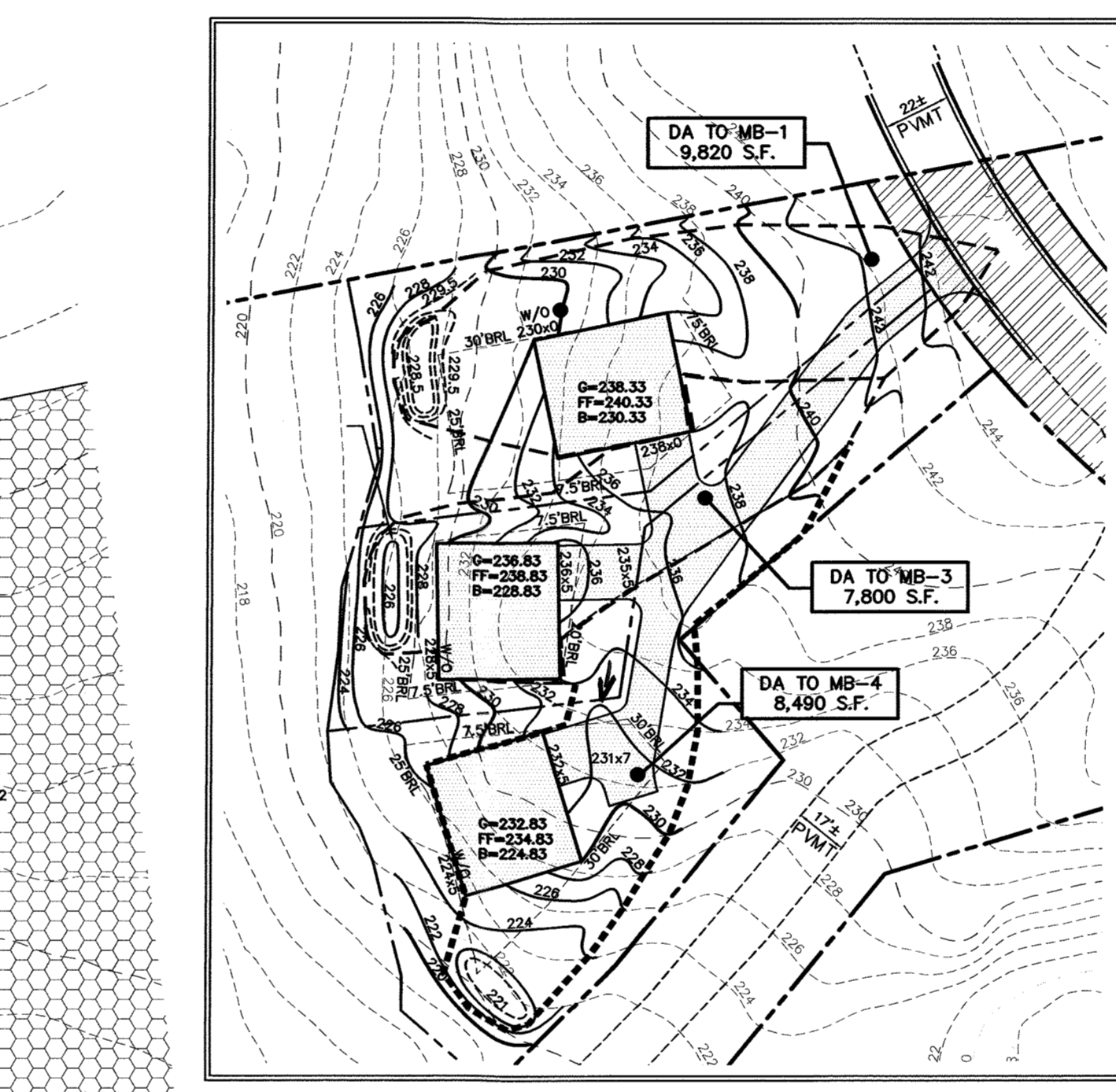


**SOILS TABLE**

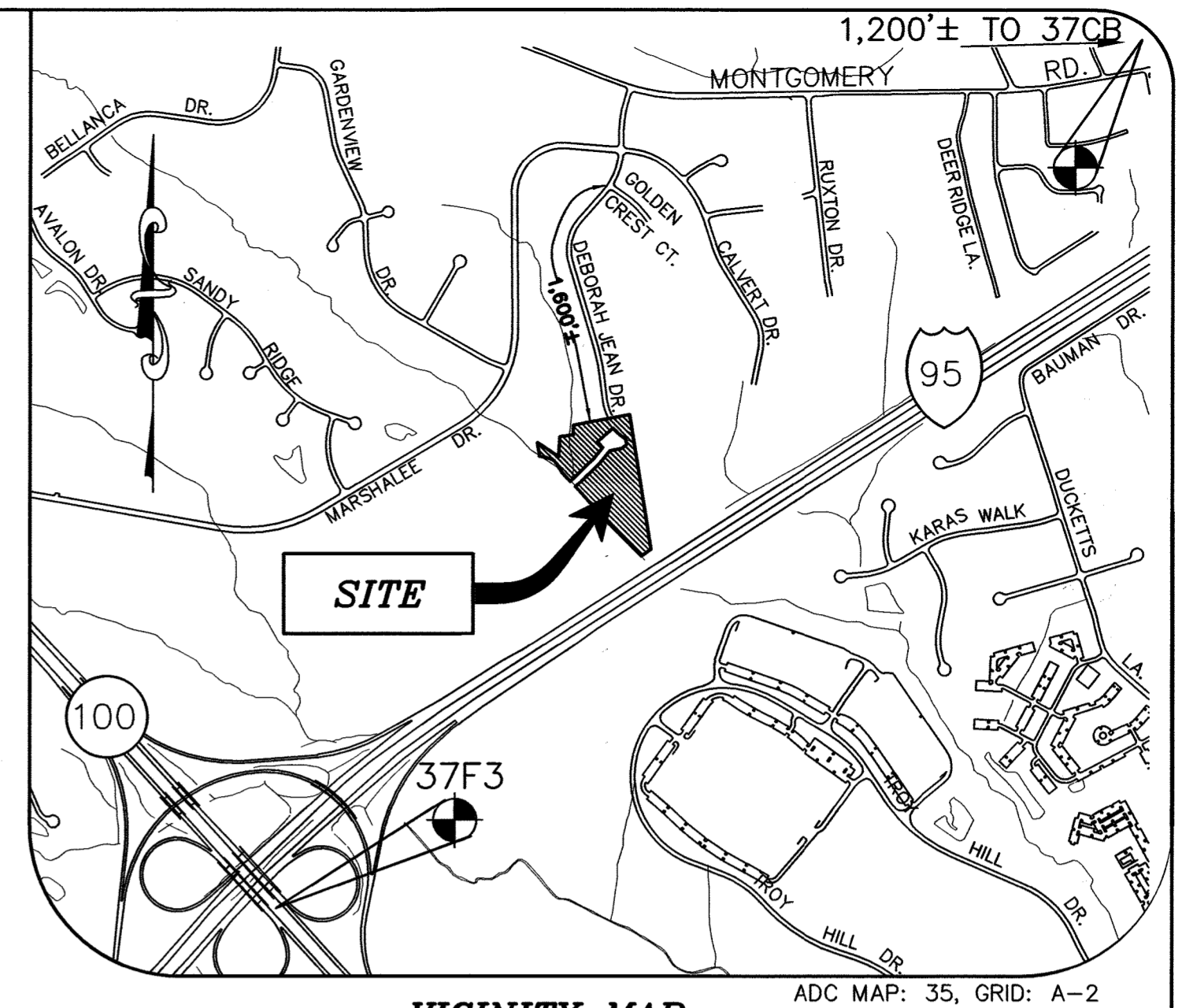
SYMBOL	RATING	NAME	K FACTOR	MAP NO.	COMMENTS
CeC	(B)	CHILLUM LOAM, 5-10% SLOPES	.37	19	HIGHLY ERODIBLE
CrD	(C)	CROOM AND EVESBORO SOILS, 10-15%	.37	19	HIGHLY ERODIBLE
FgaA	(D)	FALLSINGTON SANDY LOAM, 0-2% SLOPES	.24	19	
LoC	(B)	LEGORE SILT LOAM, 8-15% SLOPES	.37	19	
LmB	(B)	LEGORE-MONTALTO SILT LOAMS, 3-8% SLOPES	.17	19	
SrD	(B)	SASSAFRAS AND CROOM SOILS, 10-15% SLOPES	.37	19	HIGHLY ERODIBLE

**SITE ANALYSIS DATA:**

- AREA OF THE SITE = 6.84± AC (GROSS)
- AREA OF THE SITE = 3.80± AC (NET)
- LIMIT OF DISTURBANCE = 1.0 AC± (43,689 S.F.)
- AREA OF ROAD DEDICATION = 0.34 AC± (14,846 S.F.)
- AREA OF WETLANDS AND ITS BUFFERS = 0.94 AC± (41,162 S.F.)
- AREA OF 100 YR FLOODPLAIN = 2.71 AC± (118,048 S.F.)
- AREA OF STREAM BUFFER = 2.11 AC± (91,912 S.F.)
- AREA OF STEEP SLOPES (25% OR GREATER AT VERTICAL DISTANCE OF 10 FEET OR MORE) = 0.33 AC± (14,500 S.F.)
- AREA OF 15%-24.99% SLOPES = 0.47 AC± (20,270 S.F.)
- AREA OF FOREST = 1.74 AC± (75,790 S.F.)
- TOTAL ENVIRONMENTAL SENSITIVE AREA = 3.08 AC± (134,204 S.F.)
- AREA OF HIGHLY ERODIBLE SOILS = 4.51 AC±
- PROPOSED GREEN OPEN SPACE = 6.53 AC±
- TOTAL IMPERVIOUS AREA = 0.31 AC± (13,650 S.F.)
- THREE (3) SINGLE FAMILY DETACHED RESIDENTIAL UNITS ARE PROPOSED.
- AREA OF BUILDABLE LOTS: 0.65± (28,419 S.F.)
- AREA OF OPEN SPACE LOTS: REQUIRED: 3.42
- AREA OF OPEN SPACE PROVIDED: CREDITED: 3.43 AC (149,389 S.F.)
- AREA OF BULK PARCELS: 2.32 AC± (101,035 S.F.)



**SWM DRAINAGE AREA MAP**  
SCALE: 1"=50'



**VICINITY MAP**  
SCALE: 1" = 1000'

**NOTES:**

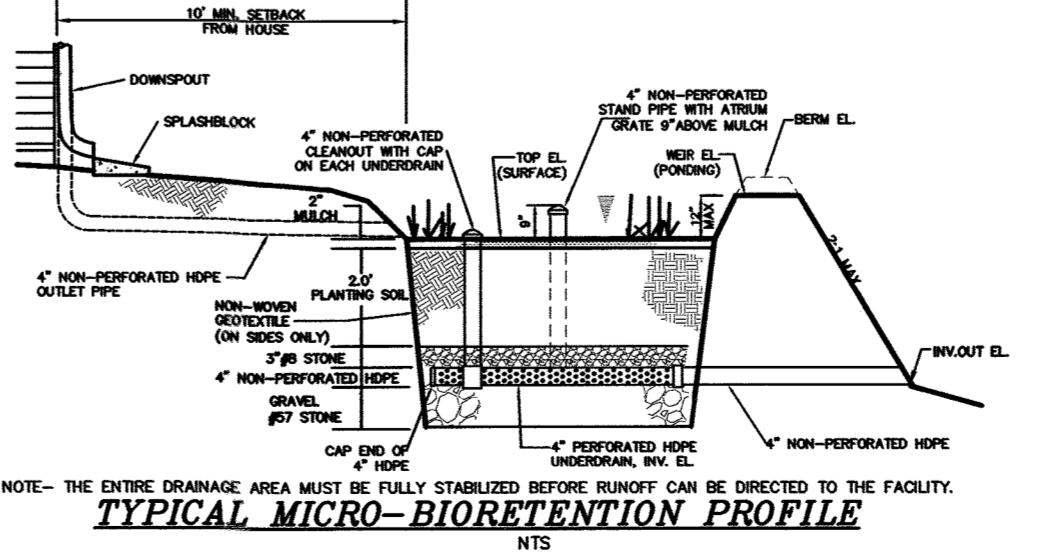
- SITE ANALYSIS DATA: LOCATION: TAX MAP: 37 PARCEL: 698 ELECTION DISTRICT: FIRST ZONING: R-ED PROPOSED USE FOR SITE: RESIDENTIAL. TOTAL NUMBER OF UNITS: 3 TYPE OF PROPOSED UNIT: SFD DEED REFERENCE: 14540/293
- HORIZONTAL AND VERTICAL DATUMS ARE RELATED TO THE MARYLAND STATE PLANE COORDINATE SYSTEM AS PROJECTED FROM HOWARD COUNTY CONTROL STATIONS NO. 37C3 & 37F3 STA. NO. 37CB EL. 257.145 N 562,930.787 E 1,384,957.348 STA. NO. 37F3 EL. 247.335 N 557,269.194 E 1,378,631.166
- PROJECT BOUNDARY IS BASED ON A FIELD RUN MONUMENTED BOUNDARY SURVEY PERFORMED ON OR ABOUT JANUARY, 2001 BY MILDBERG, BOENDER & ASSOC., INC.
- TOPOGRAPHY SHOWN HEREON IS BASED ON A FIELD RUN SURVEY PERFORMED ON OR ABOUT JANUARY 2001 BY MILDBERG, BOENDER & ASSOC., INC. VERIFIED IN MARCH 2018.
- PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT. PUBLIC WATER AND SEWER WILL BE UTILIZED UNDER CONTRACT #14-3529-D (WATER) AND #657-S (SEWER).
- NO CEMETERIES EXIST ON SITE.
- THIS SITE IS NOT LOCATED IN A HISTORIC DISTRICT.
- FOREST STAND AND WETLAND DELINEATION PERFORMED BY ECO-SCIENCE, INC. IN JULY 2018.
- ONE (1) SPECIMEN TREE EXISTS ON-SITE WHICH IS PROPOSED TO BE REMOVED. AN ALTERNATE COMPLIANCE TO SECTION 16.1205(g)(7) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS WILL BE APPLIED FOR TO ALLOW FOR THE REMOVAL OF THE SPECIMEN TREE.
- APPROVAL FROM THE MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) IS REQUIRED PRIOR TO ANY DISTURBANCE, GRADING, OR FILLING IN THE STREAM, STREAM BUFFER, WETLAND, OR WETLAND BUFFER.
- HORIZONTAL GEOMETRY OF THE MICRO-BIORETENTION MAY BE MODIFIED WHILE MAINTAINING SURFACE AREA.
- FOREST CONSERVATION OBLIGATIONS WILL BE SATISFIED BY PAYMENT OF FEE-IN-LIEU.
- 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 THE PROJECT PROGRESSES THROUGH THE PLAN REVIEW PROCESS.

**ESD NARRATIVE**

- TWO (2) STREAMS AND THEIR BUFFERS, FLOODPLAIN AND WETLANDS WITH 25' BUFFERS EXIST ON SITE. TOTAL AREA OF THE ENVIRONMENTAL SENSITIVE AREAS IS 3.08 ACRES, WHICH IS 45% OF THE SITE GROSS AREA. THIS FACT DRASTICALLY REDUCES THE AREA WHICH CAN BE DEVELOPED. TWO SEPARATE AREAS OF SLOPES 25% OR GREATER EXIST ON SITE. THEY ARE LOCATED ON PROPOSED NON-BUILDABLE BULK PARCEL B AND THEY ARE NOT IMPACTED BY THIS DEVELOPMENT. SUBDIVISION CONTAINS THREE (3) RESIDENTIAL LOTS AND TWO (2) OPEN SPACE LOT TWO (2) NON-BUILDABLE BULK PARCELS ARE PROPOSED. DISTURBANCE TO THE ON-SITE NATURAL FEATURES (STREAMS, STREAM BUFFERS, WETLANDS, AND WETLAND BUFFERS) WAS KEPT TO A MINIMUM FOR THE DESIGN OF THE SITE. THE ONLY PROPOSED DISTURBANCE TO ENVIRONMENTALLY SENSITIVE AREAS IS TO CONSTRUCT THE PROPOSED SEWER MAIN, WHICH IS THE ONLY WAY TO PROVIDE GRAVITY SEWER FOR THE PROPOSED LOTS. IT IS TEMPORARY DISTURBANCE. AFTER THE SEWER INSTALLATION, THE DISTURBED AREA WILL BE BROUGHT TO ITS NATURAL CONDITION. THREE (3) PROPOSED MICRO-BIORETENTION FACILITIES (M-6) WILL PROVIDE STORMWATER QUALITY TREATMENT FOR THE NEW DEVELOPMENT.
- THE IMPROVEMENTS AND DEVELOPED AREA WILL MAINTAIN THE EXISTING DRAINAGE PATTERNS AS CLOSELY AS POSSIBLE. NO IMPACT IS PROPOSED THAT WOULD ALTER ANY NATURAL FLOW PATTERNS.
- NON-STRUCTURAL PRACTICES SUCH AS ROOFTOP AND NON-ROOFTOP DISCONNECTIONS ARE NOT PERMITTED IN IN-FILL DEVELOPMENTS. MICRO-BIORETENTION FACILITIES WILL PROVIDE STORMWATER QUALITY TREATMENT FOR THE NEW DEVELOPMENT.
- THE REQUIRED EROSION AND SEDIMENT CONTROL MEASURES WILL BE IN ACCORDANCE WITH THE LATEST MDE STANDARDS AND SPECIFICATIONS UTILIZING SUPER SILT FENCES. NO SEDIMENT TRAPS OR BASINS ARE REQUIRED.
- TABLE 5.2, SUMMARY OF SITE DEVELOPMENT STRATEGIES WAS UTILIZED TO THE EXTENT ALLOWABLE BY THE CURRENT HOWARD COUNTY ZONING AND LAND DEVELOPMENT REGULATIONS.
- IN DESIGNING THIS PROJECT, AND AFTER WE PLAN THE PROJECT TO MINIMIZE IMPERVIOUS AREAS, WE UTILIZED ESD MEASURES IN THE FOLLOWING ORDER OF PREFERENCE:
  - MICRO-BIORETENTION (M-6).

**SWM PRACTICES SCHEDULE**

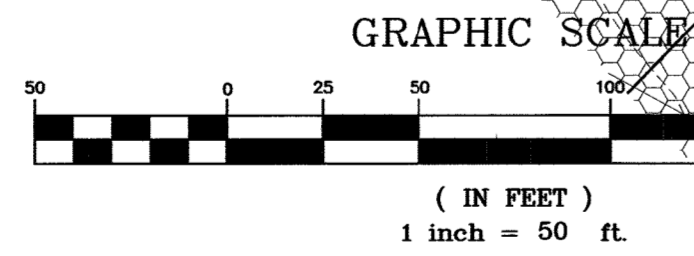
AREA	PROPOSED PRACTICES	REQUIRED ESDv	PROVIDED ESDv
PUBLIC ROAD	M-6, MICRO-BIORETENTION (MB #1)	264 C.F.	343 C.F.
LOT 1	M-6, MICRO-BIORETENTION (MB #2)	227 C.F.	283 C.F.
LOT 2	M-6, MICRO-BIORETENTION (MB #3)	264 C.F.	306 C.F.
LOT 3	M-6, MICRO-BIORETENTION (MB #4)	320 S.F.	380 C.F.
TOTAL		1,075 C.F.	1,312 C.F.



**TYPICAL MICRO-BIORETENTION PROFILE**  
NOTE: THE ENTIRE DRAINAGE AREA MUST BE FULLY STABILIZED BEFORE RUNOFF CAN BE DIRECTED TO THE FACILITY.

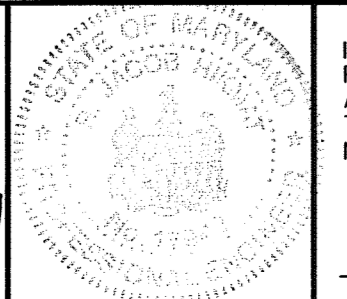
**LEGEND**

- WETLAND AREA
- FLOODPLAIN AREA
- AREA OF STEEP SLOPES, 25% OR GREATER AT VERTICAL DISTANCE OF 10 FEET OR MORE
- AREA OF 15%-24.99% SLOPES
- PROPOSED IMPERVIOUS AREA TREATED BY MICRO-BIORETENTION (M-6)
- ROAD DEDICATION
- SUPER SILT FENCE
- LIMIT OF DISTURBANCE
- EXISTING TREELINE
- PROPOSED TREELINE
- MICRO-BIORETENTION
- DRYWELL
- STABILIZED CONSTRUCTION ENTRANCE
- STREAM
- STREAM BANK BUFFER



P: 18-009 DOUGLAS MILDBERG BOENDER & ASSOC., INC. 18-009-ECP-JULY 2019.DWG

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 12-16-19  
 DATE  
 12-11-19  
 DATE



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. 17942, EXP. DATE 09/03/20.

**OWNER/DEVELOPER**  
 GP NORTH LLC  
 672 E. OLD MILL RD.  
 SUITE 308  
 MILLERSVILLE MD 21108  
 301-343-8092  
 J. DOUGLAS CASHMERE, MANAGER

date	DEC. 2019	engineering	MM	approval	RH
project	18-009	illustration	MM	scale	1"=50'

date		description	revisions
no.			

**DOUGLAS WOODS**  
**BOENDER & ASSOC., INC.**  
 ENGINEERS, PLANNERS, SURVEYORS  
 7350-B Grace Drive, Columbia, Maryland 21044  
 (410) 997-0296 Fax  
 ENVIRONMENTAL CONCEPT PLAN (ECP)  
 LOTS 1-3, OPEN SPACE LOTS 4 & 5 AND NON-BUILDABLE BULK PARCELS A & B  
 TAX MAP: 37, PARCEL 698, ZONING R-ED-7209 PEBBLE CREEK DR, ELKBRIDGE  
 FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

**MILDBERG, BOENDER & ASSOC., INC.**  
 ENGINEERS, PLANNERS, SURVEYORS  
 7350-B Grace Drive, Columbia, Maryland 21044  
 (410) 997-0296 Fax