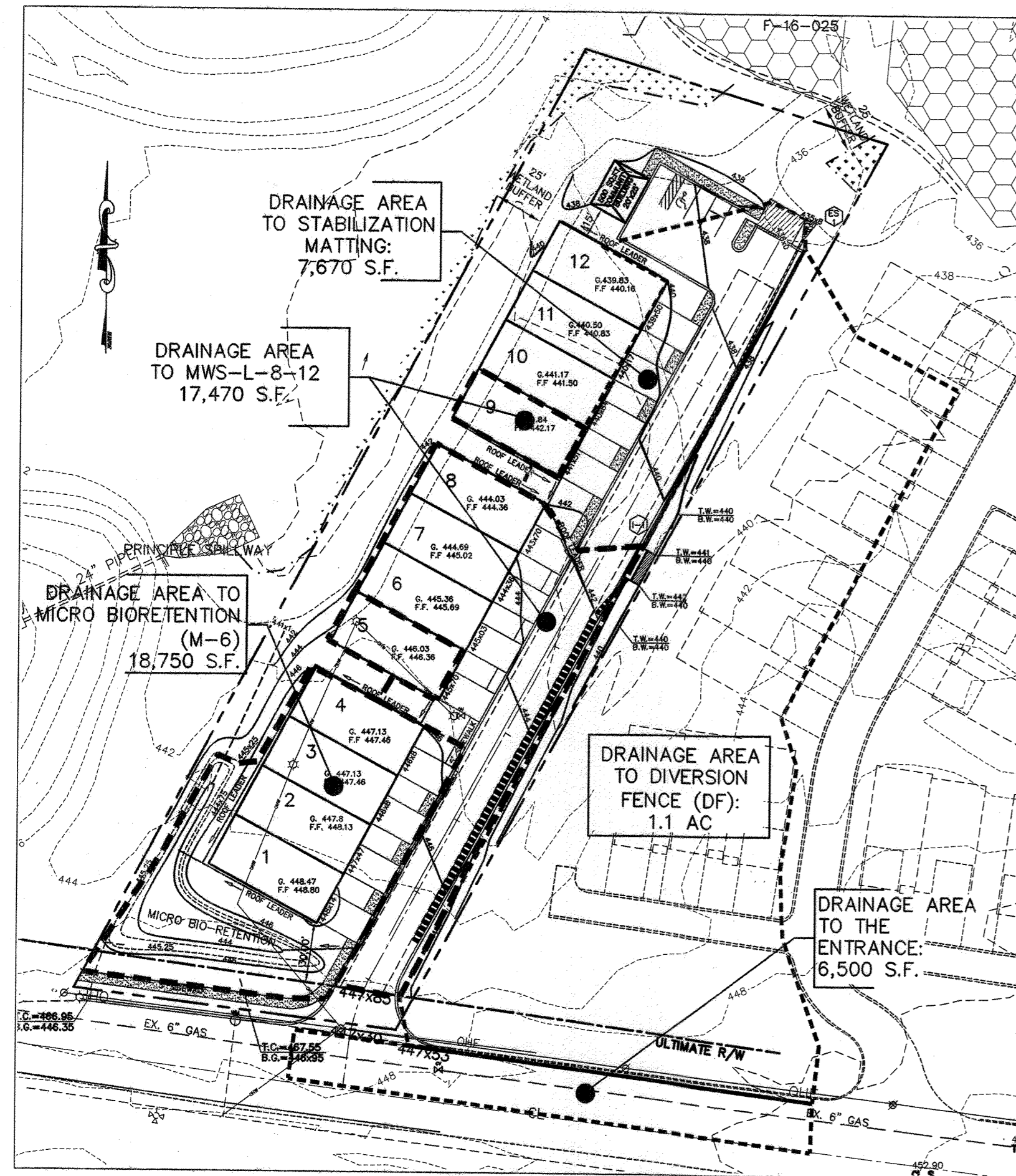


SOIL DESCRIPTIONS				
Symbol	Rating	Name	Kw Factor	Map
BaA	C/D	Baile silt loam, 0 to 3 percent slopes	0.49	
GmA	C	Glenville silt loam, 0 to 3 percent slopes	0.49	
GnB	C	Glenville-Baile silt loams, 0 to 8 percent slopes	0.49	

SWM PRACTICES SCHEDULE

AREA	PROPOSED PRACTICES	REQUIRED ESDv	PROVIDED ESDv
SITE:	MICRO BIO-RETENTION (M-6)	1,718 C.F.	1,794 C.F.
	MOULAR WETLAND SYSTEM (MWS)	2,349 C.F.	2,349 C.F.
	NON-ROOFTOP DISCONNECTION (N-2)	133 C.F.	74 C.F.
TOTAL:		4,200 C.F.	4,217 C.F.



DRAINAGE AREA MAP
SCALE: 1"=60'

DIVERSION FENCE

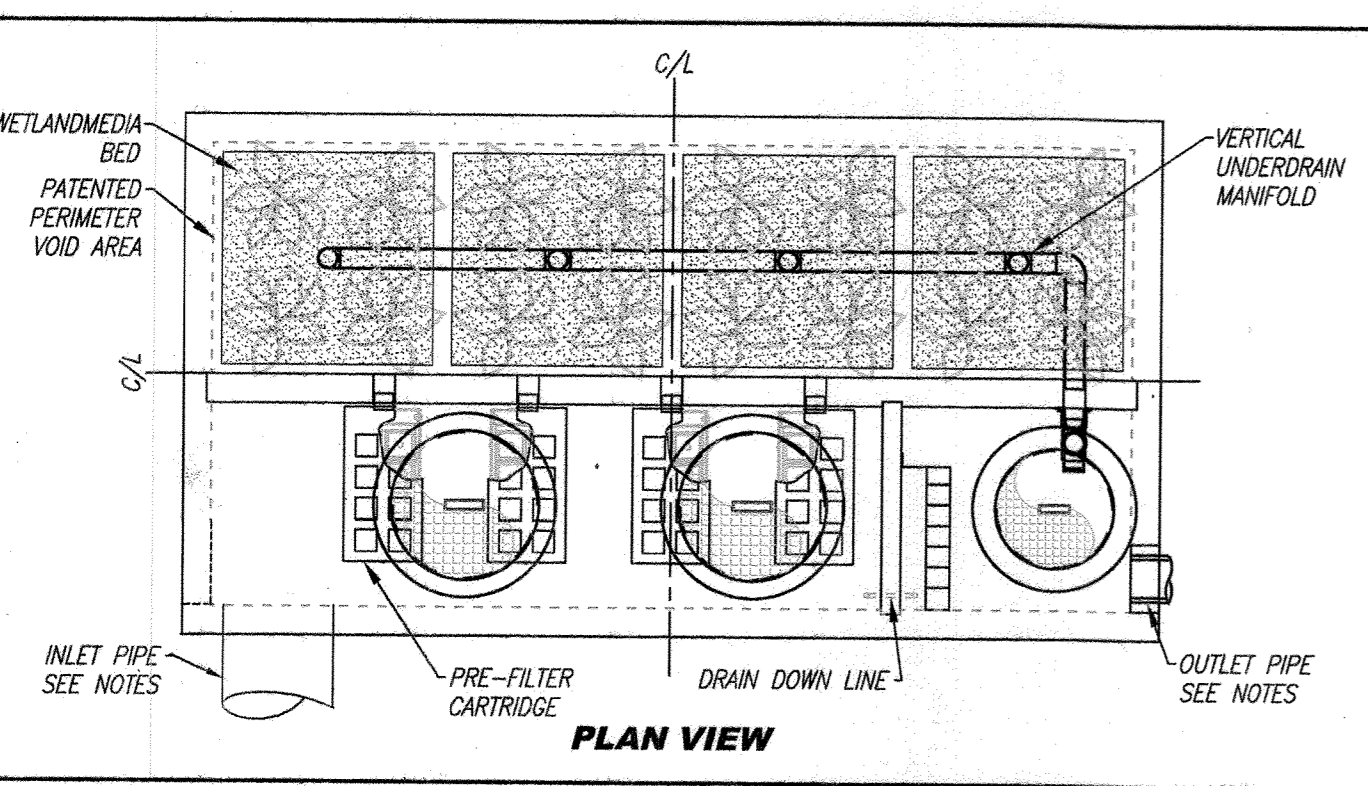
DRAINAGE AREA: 1.1 AC.
C FACTOR: 0.42
I (10-YEAR STORM): 6.6
Q = CIA: 3.05 CFS
CHANNEL SLOPE: 1.2%
MANNING'S N: 0.035
CHANNEL DEPTH: 2.0'
CHANNEL WIDTH: 0'
CHANNEL SIDES SLOPE: 3:1
FLOW DEPTH: 0.95'
10-YEAR VELOCITY: 2.25 FPS

STABILIZATION MATTING

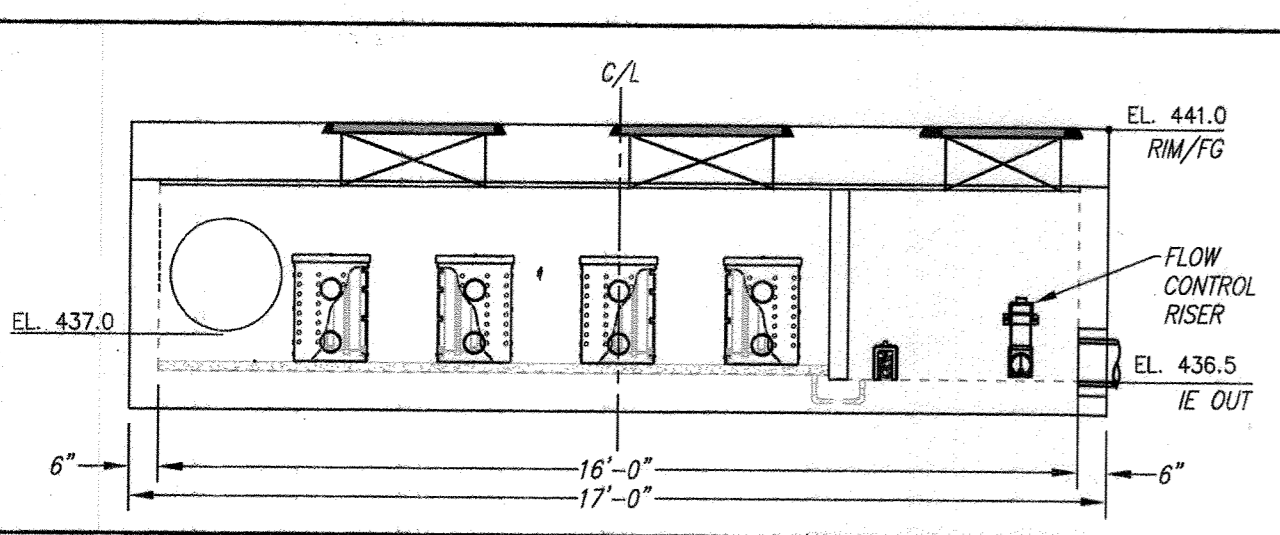
DRAINAGE AREA: 0.27 AC.
C FACTOR: 0.72
I (2-YEAR STORM): 4.51
I (10-YEAR STORM): 6.6
Q = CIA: Q₂ = 0.87 CFS
Q₁₀ = 1.28 CFS

DISCHARGE AT THE ENTRANCE

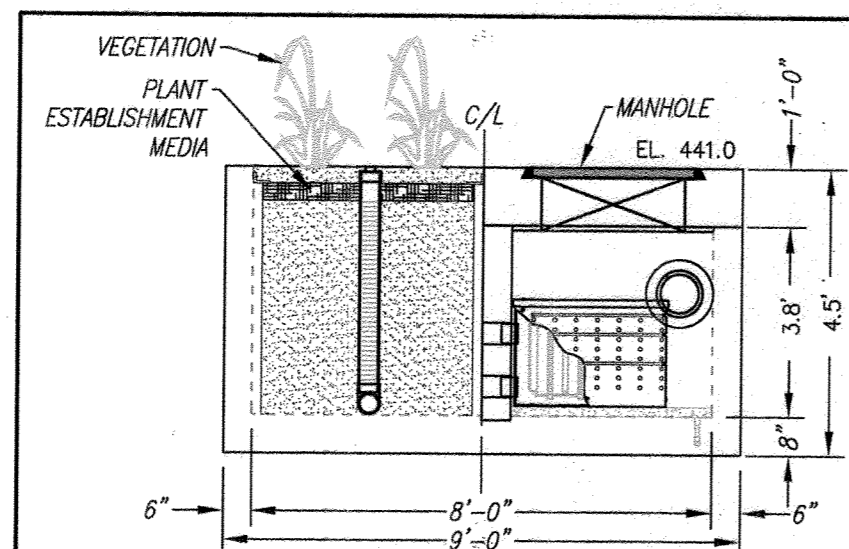
DRAINAGE AREA: 0.15 AC.
C FACTOR: 0.85
I (2-YEAR STORM): 4.5
I (10-YEAR STORM): 6.6
Q = CIA: Q₁₀ = 0.84 CFS
Q₂ = 0.57 CFS



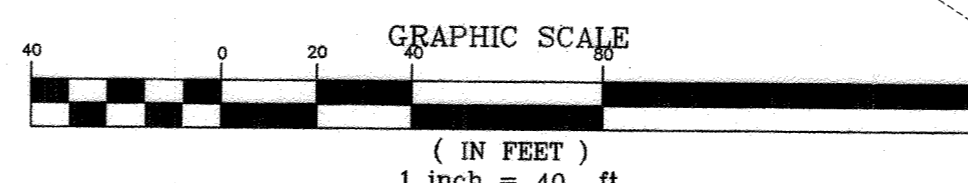
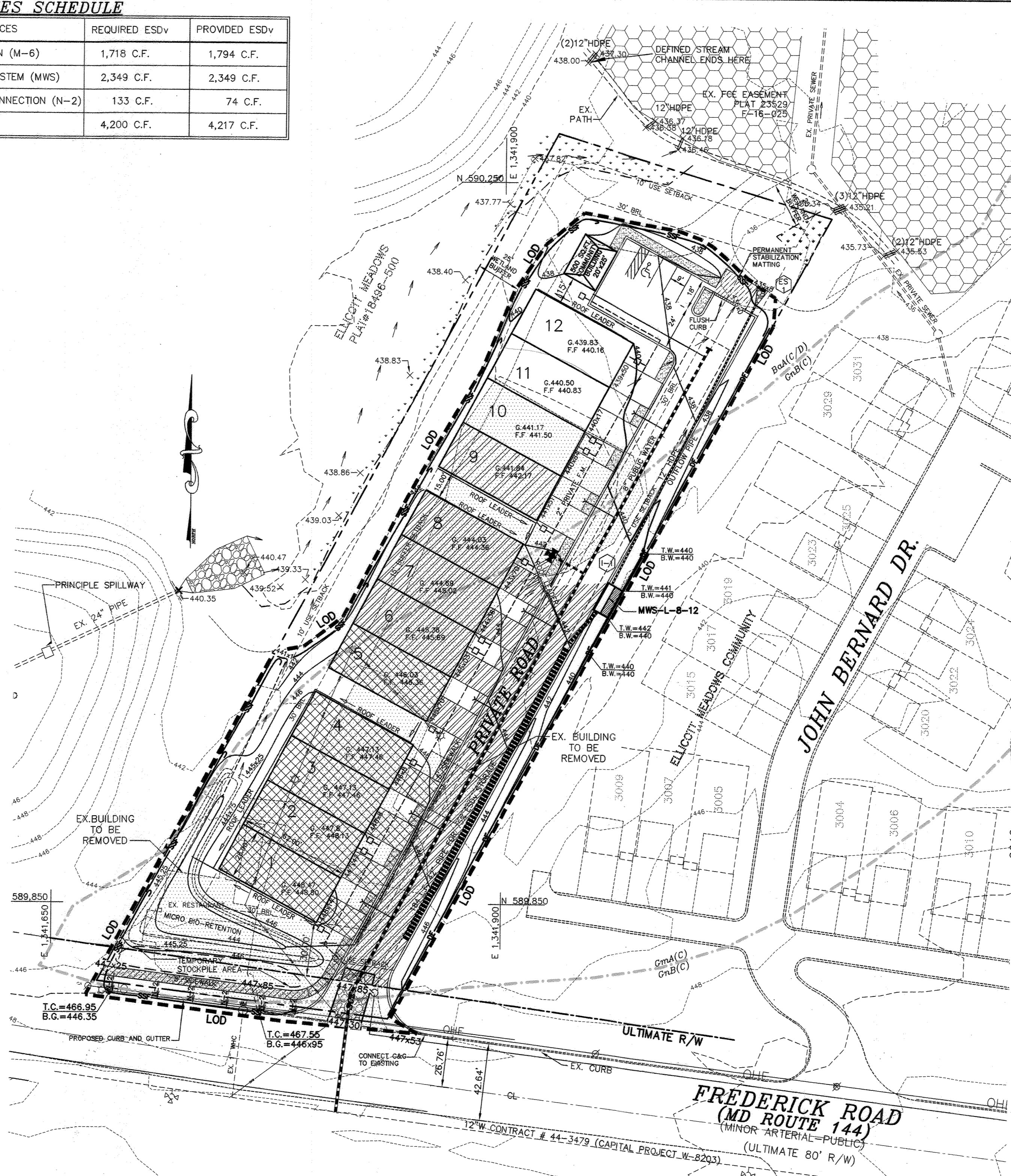
MODULAR WETLAND SYSTEM PLAN
NTS



MODULAR WETLAND SYSTEM SECTION
NTS

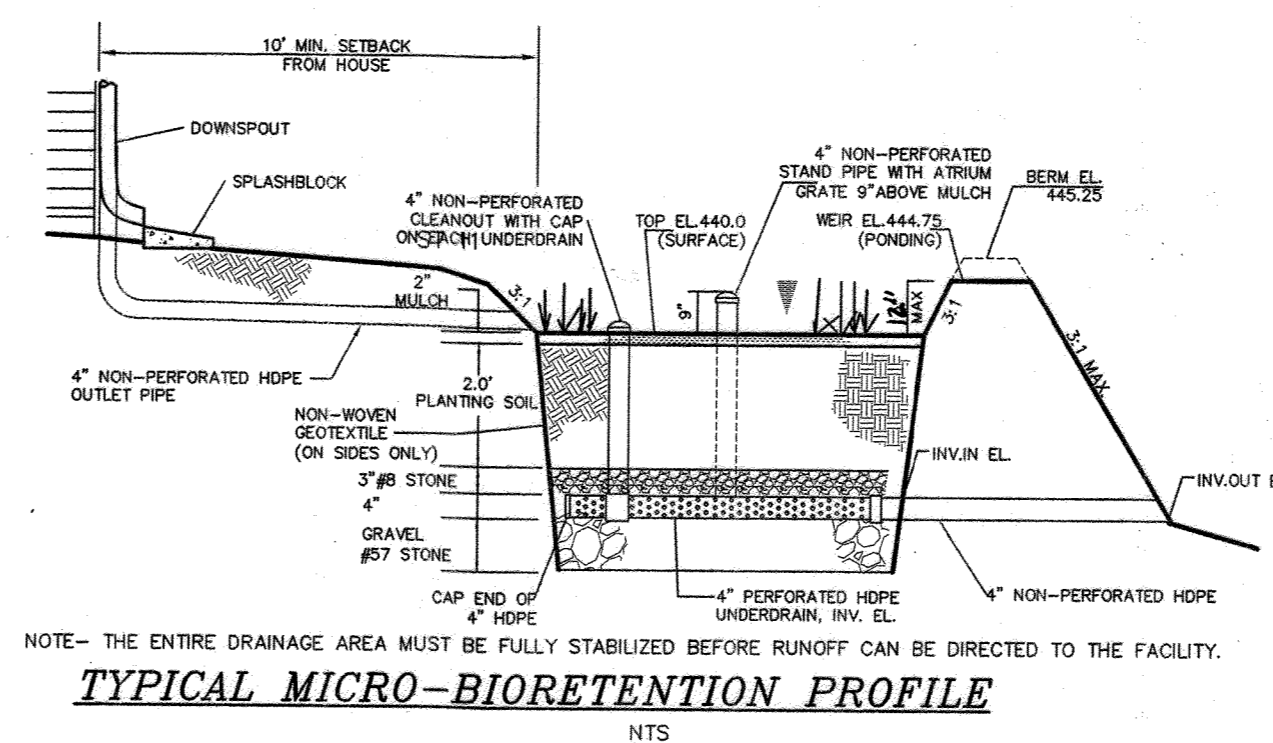


MODULAR WETLAND SYSTEM SECTION
NTS

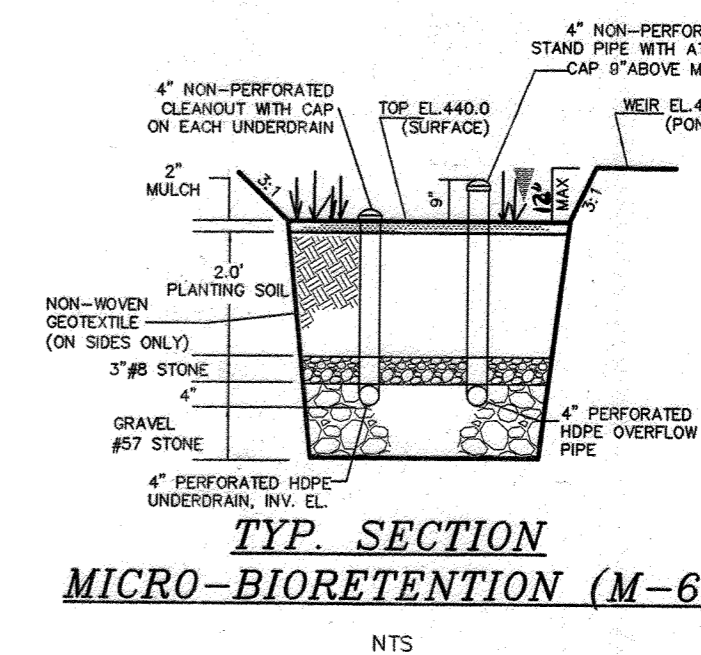


LEGEND

- STABILIZED CONSTRUCTION ENTRANCE
- PROPOSED SUPER SILT FENCE
- PROPOSED DIVERSION FENCE
- LIMITS OF DISTURBANCE
- DRAINAGE AREA
- EXISTING IMPERVIOUS AREA
- WETLANDS
- IMPERVIOUS AREA TREATED BY MODULAR WETLAND SYSTEM
- IMPERVIOUS AREA TREATED BY NON-ROOFTOP DISCONNECTION (N-2)
- IMPERVIOUS AREA TREATED BY MICRO-BIO-RETENTION (M-6)



TYPICAL MICRO-BIORETENTION PROFILE
NTS



TYP. SECTION MICRO-BIORETENTION (M-6)
NTS

VICINITY MAP
SCALE: 1"=1,000'
ADC MAP 14, GRID H-6
STA. 16HC: N 589,780.930;
E 1,341,529.866;
EL. 448.644
STA. 16IH: N 589,067.974;
E 1,345,191.346;
EL. 470.377

- ### GENERAL NOTES:
- THIS SUBJECT PROPERTY IS ZONED B-1 PER THE OCTOBER 6, 2013 COMPREHENSIVE ZONING PLAN.
 - PARCEL BACKGROUND:**
ADDRESS: 11074 FREDERICK RD. ROAD, ELLICOTT CITY, MD 21042
TAX MAP 16 - GRID: 022 - PARCEL 98
ELECTION DISTRICT: THIRD
DEED REFERENCE: 18045/00210
AREA: 1.84 ACRES ±
 - TOPOGRAPHY SHOWN HERE IS BASED ON HOWARD COUNTY GIS INFORMATION.
 - HORIZONTAL AND VERTICAL DATUMS ARE RELATED TO THE MARYLAND STATE PLANE COORDINATE SYSTEM AS PROJECTED FROM HOWARD COUNTY CONTROL STATIONS NO. 16HC & 16IH
 - NO CEMETERIES OR HISTORIC STRUCTURES EXIST ON SITE.
 - NO FOREST, STREAM, OR FLOODPLAIN EXIST ON SITE.
 - WETLANDS EXIST ON SITE.
 - PROPOSED USES: AGE RESTRICTED COMMUNITY (12 UNITS)
 - APPROVAL OF THIS ECP DOES NOT CONSTITUTE ANY APPROVAL OF SUBSEQUENT SUBDIVISION OR SITE DEVELOPMENT PLANS. FURTHER COMMENTS WILL BE GENERATED UPON REVIEW OF THE APPLICABLE DEVELOPMENT PLANS IN ACCORDANCE WITH THE SUBDIVISION AND ZONING REGULATIONS. 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 WAS DESIGNED IN ACCORDANCE WITH REDEVELOPMENT AS THIS PROJECT MEETS THE REDEVELOPMENT CRITERIA.
 - THIS PROJECT IS A SUBJECT TO DESIGN MANUAL WAIVER FOR LOW PRESSURE SEWER SYSTEM.
 - AN ALTERNATIVE COMPLIANCE TO REDUCE THE WETLAND BUFFER SETBACK WILL BE SUBMITTED UNDER THE SITE DEVELOPMENT PLAN STAGE FOR THIS PROJECT.
 - ALTERNATIVE COMPLIANCE TO SECTION 16.120(b)(4)(ii)(d) "FOR CONDOMINIUM UNITS AND RENTAL APARTMENTS, PROTECTED ENVIRONMENTAL FEATURES SHALL BE LOCATED IN OPEN SPACE WITH UNITS NO CLOSER THAN 15' FROM THE PROTECTED FEATURES" WILL BE SUBMITTED WITH THE NEXT STAGE OF THE PROJECT.

SITE ANALYSIS DATA:

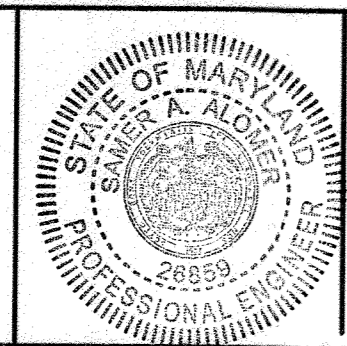
- AREA OF THE SITE = 1.84 AC ±
- AREA OF WETLANDS AND ITS BUFFERS = 0.28 AC ±
- AREA OF FLOODPLAIN = 0.00 AC ±
- AREA OF EXISTING FOREST = 0.0 SQ.FT.
- AREA OF STREAM BUFFER = 0.00 AC ±
- AREA OF STEEP SLOPES 15% OR GREATER = 0.00 AC ±
- AREA OF STEEP SLOPES 25% OR GREATER = 0.00 AC ±
- NET BUILDABLE AREA = 1.56 AC ±
- AREA OF ERODIBLE SOILS = 1.84 AC ±
- LIMIT OF DISTURBANCE AREA = 1.60 AC ±
- GREEN OPEN AREA (PERVIOUS) = 0.82 AC ±
- PROPOSED IMPERVIOUS AREA: 1.02 AC ±

ESD NARRATIVE

- NO NATURAL RESOURCES SUCH AS STEEP SLOPES, STREAMS, OR REGULATED FOREST LAND OR FLOODPLAIN EXIST ON-SITE. WETLANDS DO EXIST ON-SITE. THE PROPOSED MICRO-BIO-RETENTION AND MODULAR WETLAND SYSTEM WILL PROVIDE STORMWATER QUALITY TREATMENT FOR THE NEW DEVELOPMENT, WHICH WILL BE AN IMPROVEMENT OVER EXISTING CONDITIONS. NO TREATMENT EXISTS FOR THE EXISTING STRUCTURES AND DRIVEWAY.
- 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.
- MICRO-BIO-RETENTION (M-6) AND MODULAR WETLAND SYSTEM 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 SILT FENCES AND SUPER SILT FENCES. NO CONCENTRATION FLOW IS PROPOSED. NO SEDIMENT TRAPS OR BASINS ARE REQUIRED.
- TABLE 5.2, SUMMARY OF SITE DEVELOPMENT STRATEGIES WERE UTILIZED TO THE EXTENT ALLOWABLE BY THE CURRENT HOWARD COUNTY ZONING AND LAND DEVELOPMENT REGULATIONS.
- THIS PROJECT WAS DESIGNED TO MINIMIZE THE IMPERVIOUS AREAS. ESD MEASURES WERE UTILIZED IN THE FOLLOWING ORDER OF PREFERENCE:
MODULAR WETLAND SYSTEM

APPROVED: DEPARTMENT OF PLANNING AND ZONING

[Signature]
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE: 4/5/23
CHIEF, DIVISION OF LAND DEVELOPMENT
DATE: 3/30/23



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. 26859, EXP DATE 08/08/23

SAMER A. ALOMER P.E.
DATE: 03/20/2023

DEVELOPERS

WAVERLY INVESTORS LLC,
8316 FORREST ST. SUITE 200
ELLICOTT CITY, MD 21043
410 992 4600

Project	date	description	approval
21-020	03.27.2023	engineering	MMK
		scale	MMK
		1"=40'	SAA

no.	description	date
	revisions	

FRIENDLY INN
11074 FREDERICK RD. ROAD, ELLICOTT CITY, MD 21042
TAX MAP: 16 - GRID: 22 - PARCEL: 98
THIRD ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
ENVIRONMENTAL CONCEPT PLAN

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
8818 Forrest Street, Suite 300, Ellicott City, Maryland 21043
(410) 997-0296 Tel. (410) 997-0298 Fax.