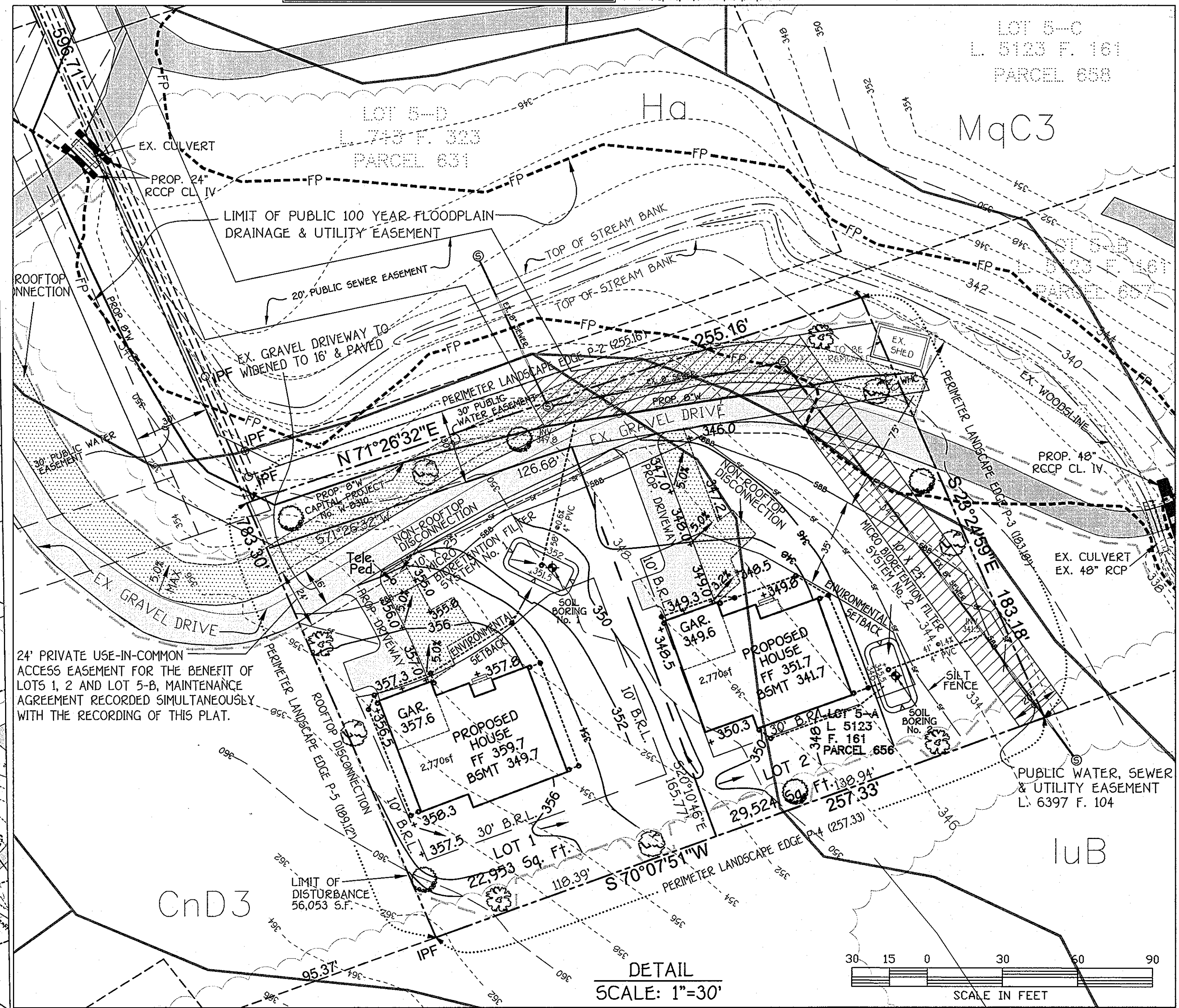
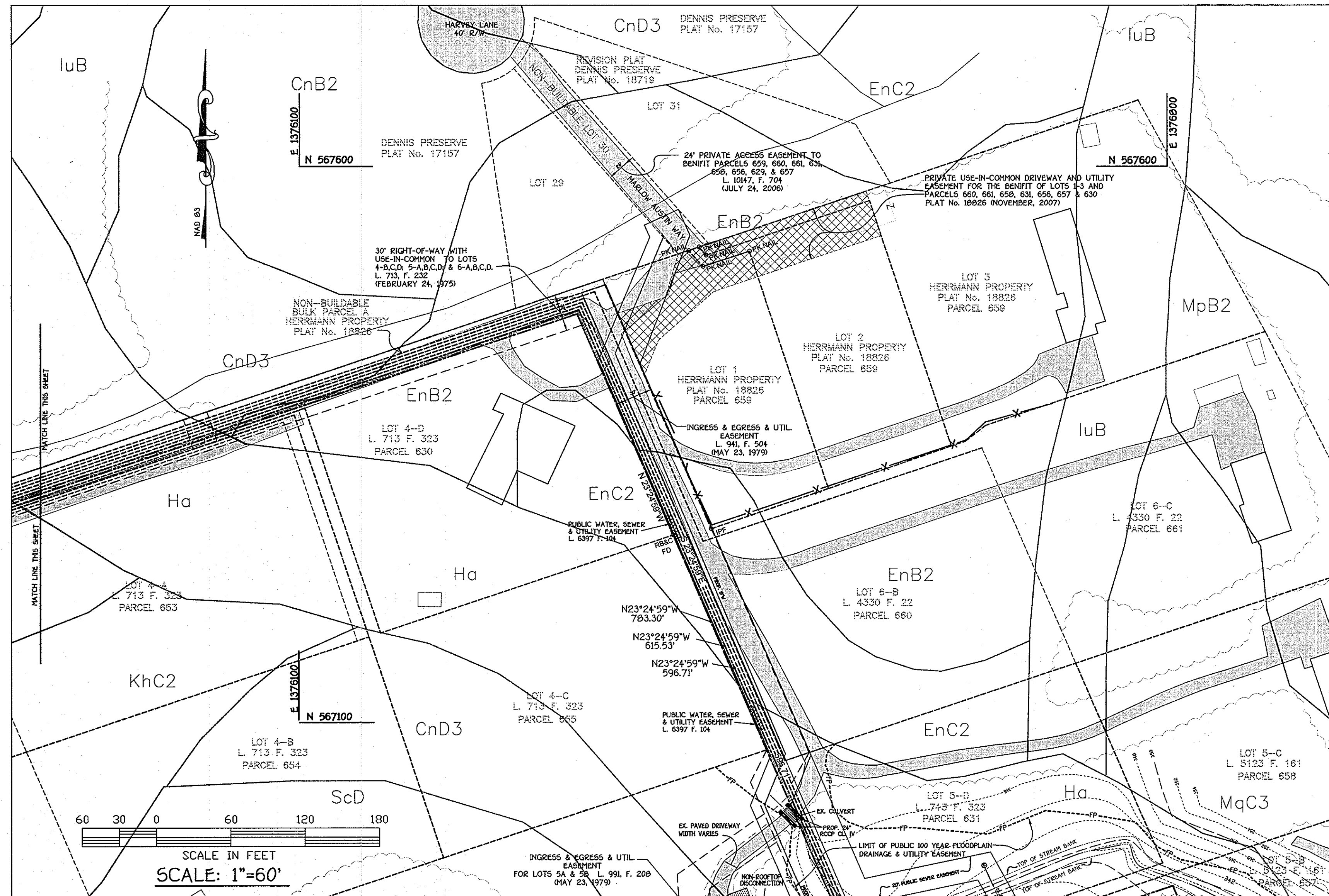
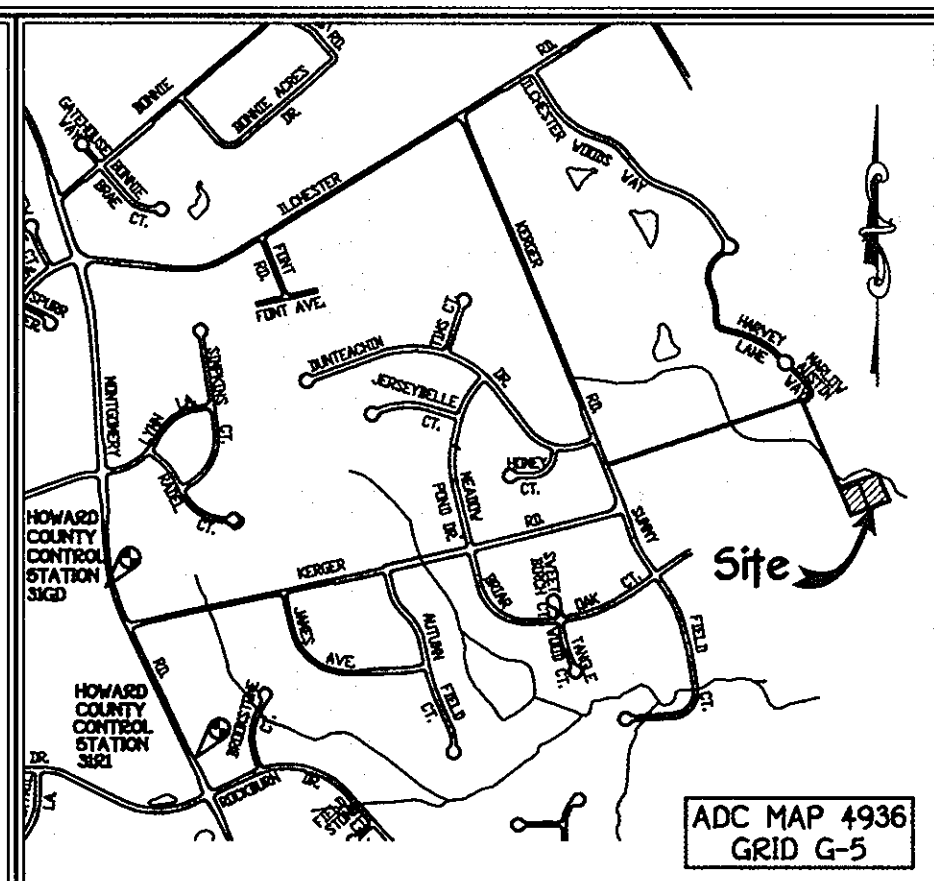


- SITE ANALYSIS DATA**
1. SITE AREA: 1.205 ACRES
 2. WETLAND AREA: NONE
 3. FLOODPLAIN: 0.10 ACRES
 4. FOREST: NONE
 5. STEEP SLOPES: NONE
 6. EROSION SOILS: NONE
 7. LIMIT OF DISTURBANCE: 1.29 ACRES
 8. PROPOSED SITE USE: RESIDENTIAL
 9. GREEN OPEN AREA: 110 ACRES
 10. DEVELOPABLE AREA: 0.80 ACRES
 11. IMPERVIOUS AREA: 0.27 ACRES

SOILS LEGEND

SOIL	NAME	CLASS
AgB2	Aren gravelly loam, 1 to 5 percent slopes, moderately eroded	B
BaB2	Beltville silt loam, 1 to 5 percent slopes, moderately eroded	C
CB3	Chilham gravelly loam, 5 to 10 percent slopes, severely eroded	C
CB3	Chilham gravelly loam, 10 to 15 percent slopes, moderately eroded	C
CnB2	Chilham silt loam, 1 to 5 percent slopes, moderately eroded	C
CnB2	Chilham-Fairfax loam, 1 to 5 percent slopes, moderately eroded	C
CnB3	Chilham-Fairfax loam, 5 to 15 percent slopes, severely eroded	C
EnB2	Enlboro loam, 3 to 8 percent slopes, moderately eroded	B
EnC2	Enlboro loam, 8 to 15 percent slopes, moderately eroded	B
Ha	Hilboro silt loam	D
Ha	Hilboro silt loam	D
LuB	Luau loam, local alluvium, 1 to 5 percent slopes	C
LuB	Luau silt loam, 3 to 10 percent slopes, moderately eroded	C
LuB2	Luau silt loam, 3 to 8 percent slopes, moderately eroded	D
LuB2	Luau silt loam, 8 to 15 percent slopes, moderately eroded	D
LuB2	Luau silt loam, 15 to 25 percent slopes, severely eroded	C
LuB2	Luau silt loam, 15 to 25 percent slopes, severely eroded	C
MpB2	Mixed alluvial sand	C
MpB2	Montalto silt loam, 3 to 8 percent slopes, moderately eroded	B
MpB2	Montalto silt loam, 8 to 15 percent slopes, severely eroded	B
MpB2	Montalto and Rocky soil, 15 to 45 percent slopes	B
NmB2	Newnam silt loam, 3 to 8 percent slopes, moderately eroded	B
NmC2	Newnam silt loam, 8 to 15 percent slopes, moderately eroded	B
NmC2	Newnam silt loam, 15 to 25 percent slopes, severely eroded	B
ScB	Sandy and clayey silt, gently sloping	D
ScD	Sandy and clayey silt, moderately sloping	D
SFB2	Sassafras gravelly sandy loam, 1 to 5 percent slopes, moderately eroded	B
SFB2	Sassafras gravelly sandy loam, 5 to 10 percent slopes, moderately eroded	B
SFB2	Sassafras loam, 1 to 5 percent slopes, moderately eroded	B
SFB2	Sassafras loam, 5 to 10 percent slopes, moderately eroded	B
SFB2	Sassafras loam, 10 to 15 percent slopes, moderately eroded	B
SFB2	Sassafras soil, 15 to 40 percent slopes	B
SuB2	Sunnyside fine sandy loam, 1 to 5 percent slopes, moderately eroded	B
SuB2	Sunnyside fine sandy loam, 5 to 15 percent slopes, moderately eroded	B
WaB	Wahanna silt loam, 3 to 8 percent slopes	D



ESD Narrative

1. There are several existing natural resources, as shown in Table 5.1 of the Maryland Stormwater Management (SWM) Design Manual (M2000), located on the site. They are portions of a 100-year floodplain and a 75-foot stream bank buffer associated with an adjacent existing stream. The floodplain will be protected by an easement on the Record Plat for the Wertz Property when it is recorded. The stream bank buffer will be protected by a restriction of construction activities within that area, except for the construction of the driveway. A Petition to Waive Section 16.116(a)(2)(ii) of the Subdivision of Land Development Regulations to allow grading within this buffer will be filed under a separate cover. Finally, according to Eco-Science Professionals, Consulting Ecologists, there are no wetlands or forest resources located on the property.
2. The existing drainage patterns will be maintained as closely as possible during and after the development of the site.
3. Efforts have been made to reduce the impervious areas; however, it is to be noted that a generic box has been used to site a proposed house on the site. Once the final house type has been selected, it may be possible to reduce the site imperviousness through better site design.
4. The required Sediment and Erosion control measures have been designed in accordance with the latest Howard County Soil Conservation District and Maryland Department of the Environment regulations. Based on the type and location of the ESD practices, there is no need to incorporate these measures into the SWM strategy.
5. The proposed Environmental Site Design measures have been implemented to the Maximum Extent Possible and meet the targeted Pe for this site. As such, no major structural practices as described in Chapter 3 of the above cited Manual will be required.
6. As mentioned above, a waiver to Section 16.116(a)(2)(ii) to allow grading within the existing stream bank buffer will be filed under a separate cover.
7. AS THE TWO PROPOSED 24" RCCP CULVERTS AND THE ONE 48" RCCP CULVERT ARE TOO SMALL TO PASS THE 100-YR. STORM, THE CULVERTS SHALL BE DESIGNED TO GUARANTEE THAT THE DRAINAGE ELEMENTS WITHIN A 100-YEAR FLOODPLAIN PASS THE 100-YEAR STORM WITH NO MORE THAN 1 FOOT OVER THE DRIVEWAY ON THE FINAL PLAN/PLAT.

STORMWATER MANAGEMENT NOTE

Stormwater Management requirements for this site will be met using Environmental Site Design to the Maximum Extent Possible in accordance with the Maryland Stormwater Design Manual, Volumes I & II, effective May, 2010. Proposed practices will be located on individual lots and the Use-in-Common driveway as follows:

1. Lots 1 & 2 will meet stormwater requirements using Micro-Bioreetention Systems (M-B) for the proposed houses and Non-Rooftop Disconnections (N-R) for the proposed driveways. These practices shall be privately owned and maintained in accordance with individual Declarations of Covenants.

IMPERVIOUS AREA

HOUSES -	5540 SQ.FT.
DRIVEWAYS -	6420 SQ.FT.
TOTAL	11,960 SQ.FT.

ENVIRONMENTAL CONCEPT PLAN

WERTZ PROPERTY

Lots 1 And 2
A Resubdivision of Lot 5-A
Parcel 656, Liber 5123, Folio 161
TAX MAP #31 PARCEL 656
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
ZONED: R-20
SCALE: AS SHOWN DATE: FEBRUARY 24, 2011
SHEET 1 OF 2

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Ket Shadlock 3/24/11
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

John P. Canoles 2/24/11
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE BUILDING - 10272 BALTIMORE NATIONAL PIKE
ELICOTT CITY, MARYLAND 21043
(410) 461-2255

OWNER/DEVELOPER
ROBERT AND PATRICIA WERTZ
8293 KERGER ROAD
ELICOTT CITY, MARYLAND 21043-7013

Eco-Science Professionals, Inc.
CONSULTING ECOLOGISTS

MD DNR Qualified Professional
USACE Wetland Delimitator
Certification # WDCP93M006100448

John P. Canoles
JOHN P. CANOLES

John P. Canoles 2/24/11
I hereby certify that these documents were prepared by me, and that I am a duly Licensed Professional Engineer under the laws of the State of Maryland, License No. 20728, Expiration Date 2-22-13.

ECF-11-006

LEGEND

- 492- EXISTING 2' CONTOURS
- 490- EXISTING 10' CONTOURS
- 102- PROPOSED CONTOUR
- SHEET FLOW (5% MAX.)
- DISCONNECTED IMPERVIOUS AREA
- DISCONNECTION RECEIVING AREA

NOTE: UNIT SIZE SHOWN REFLECT NOMINAL BUILDING SIZE AND IS SUBJECT TO FINAL ARCHITECTURE. FINAL DOWNSPOUT LOCATIONS SUBJECT TO FINAL ARCHITECTURE.

GLB2 SOILS LINES AND TYPE
MLC2

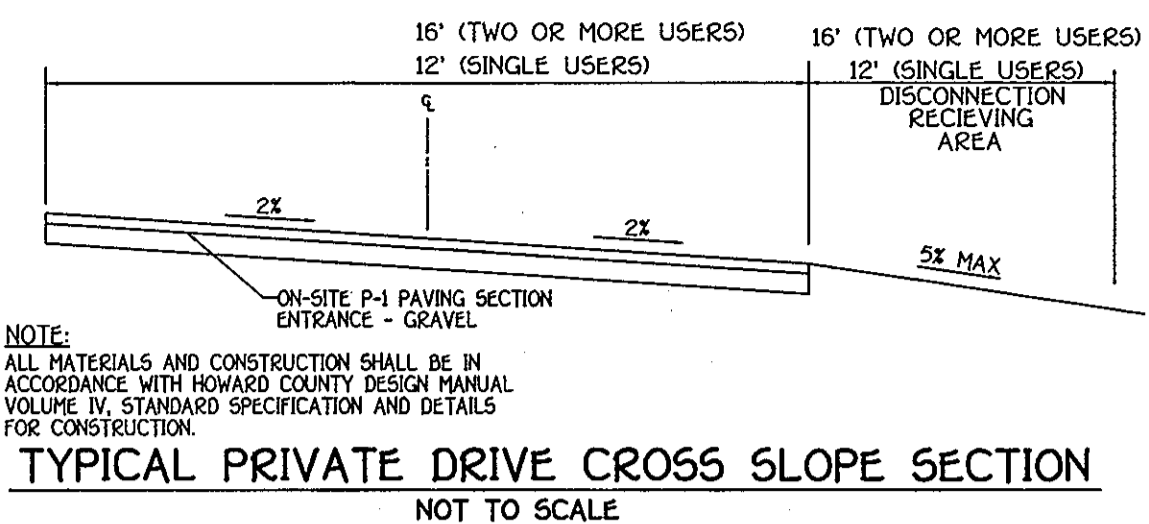
○ SPECIMEN TREE

L.O.D. LIMIT OF DISTURBANCE (L.O.D.)

STREAM AND TOP OF BANK

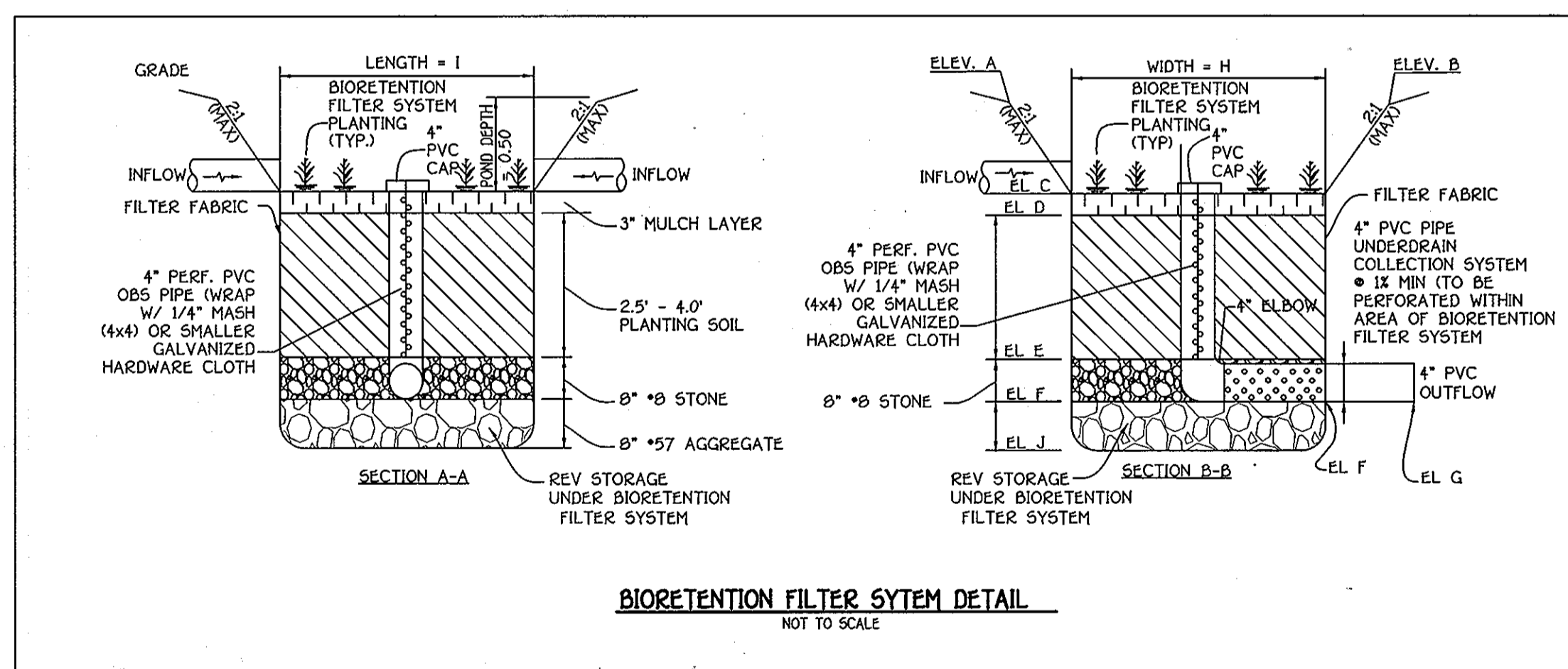
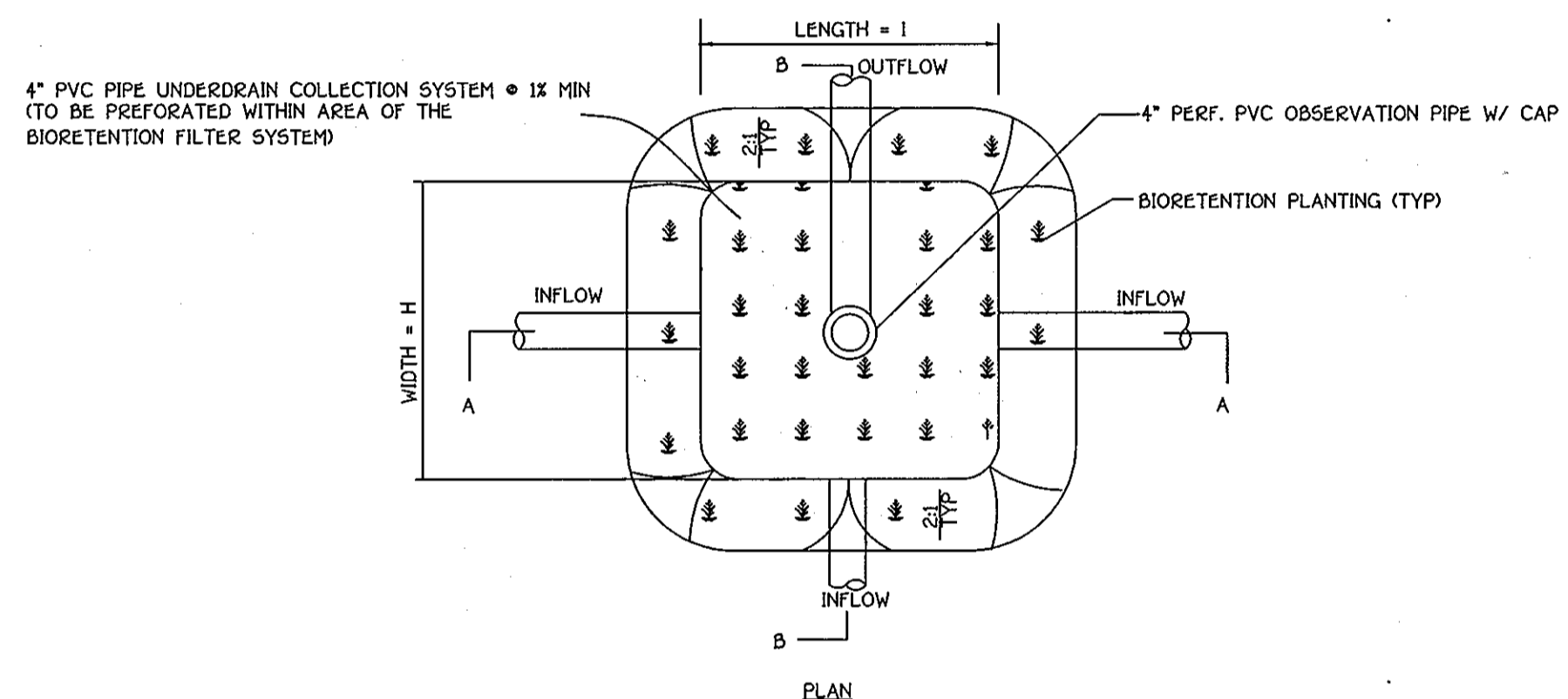
50B 75' TOP OF STREAM BANK BUFFER

FP LIMIT OF 100 YEAR FLOODPLAIN DRAINAGE & UTILITY EASEMENT



BIORETENTION FILTER DATA

BIORETENTION FILTER	A	B	C	D	E	F	G	H	I	J
1	352.00	352.00	351.50	351.25	348.75	348.00	347.80	10'	25'	347.45
2	346.00	346.00	345.50	345.25	342.75	342.00	341.50	10'	25'	341.15



BIORETENTION PLANTING DETAIL
NOT TO SCALE

- MIXED PERENNIALS*
CUT-LEAF CONEFLOWER
TRANSPARENT ASTER
- MIXED GRASSES*
TIFFIN FORTAL
BRUSH SEDGE
SWITCH GRASS
- SILKY DOGWOOD

NOTE: PLANT MATERIAL MUST COVER AT LEAST 50% OF THE SURFACE AREA OF THE RAINGARDEN.

* SEE PLANT MATERIAL CHARTS FOR QUANTITIES AND SPACING.

QUANTITY	NAME	MAXIMUM SPACING (FT.)
45	MIXED PERENNIALS	1 FT.
45	MIXED GRASSES	1 FT.
1	SILKY DOGWOOD	PLANT AWAY FROM INFLOW LOCATION

PRIVATE BIORETENTION OPERATION & MAINTENANCE SCHEDULE

- ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER AND SOIL LAYER IS REQUIRED. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING.
- SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL. THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASED VEGETATION CONSIDER BEYOND TREATMENT. TREATMENT OF ALL DISEASED TREES AND SHRUBS AND REPLACEMENT OF ALL DEFICIENT STAKES AND WIRES.
- MULCH SHALL BE INSPECTED EACH SPRING. REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER ONCE EVERY 2 TO 3 YEARS.
- SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.

OPERATION & MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DISCONNECTION OF NONROOFTOP RUNOFF (N-2)

- MAINTENANCE OF AREAS RECEIVING DISCONNECTION RUNOFF IS GENERALLY NO DIFFERENT THAN THAT REQUIRED FOR OTHER LAWN OR LANDSCAPED AREAS. THE AREAS RECEIVING RUNOFF SHOULD BE PROTECTED FROM FUTURE COMPACTION OR DEVELOPMENT OF IMPERVIOUS AREA. IN COMMERCIAL AREAS, FOOT TRAFFIC SHOULD BE DISCOURAGED AS WELL.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Vet Bedlow 3/24/11
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 3/5/11
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CONTINENTAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21114
4100 481 - 2899

OWNER/DEVELOPER
ROBERT AND PATRICIA WERTZ
5053 KERKER ROAD
ELLICOTT CITY, MARYLAND 21043-7013

[Signature] 2/25/11
ALDO VITUCCI, P.E. DATE
"Professional Seal" I hereby certify that these documents were prepared by me, and that I am a duly Licensed Professional Engineer under the laws of the State of Maryland, License No. 20748, Expiration Date 2-22-13."

ENVIRONMENTAL CONCEPT PLAN
WERTZ PROPERTY
Lots 1 And 2
A Resubdivision Of Lot 5-A
Parcel 656, Liber 5123, Folio 161
TAX MAP #31 PARCEL 656
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
ZONED: R-20
SCALE: AS SHOWN DATE: FEBRUARY 24, 2011
SHEET 2 OF 2

EGP-11-006