

VICINITY MAP  
SCALE: 1"=2000'  
ADC MAP 4934, GRID C-6.7

- GENERAL NOTES**
- THE SUBJECT PROPERTY IS ZONED R-20 PER THE 2-2-04 COMPREHENSIVE ZONING PLAN AND THE COMP LITE ZONING REGULATIONS AMENDMENTS EFFECTIVE 7-29-2008.
  - THIS PROJECT IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE ZONING REGULATIONS EFFECTIVE APRIL 13, 2004.
  - THE BOUNDARY SURVEY FOR THIS PROJECT WAS PREPARED BY PHRA DATED JANUARY, 2007.
  - THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD RUN SURVEYS WITH TWO FOOT CONTOUR INTERVALS PREPARED BY PHRA DATED JANUARY 2007 & SUPPLEMENTED WITH MDCO, GIS TOPOGRAPHICAL INFORMATION.
  - THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM, HOWARD COUNTY MONUMENT NOS. #296B AND #296C WERE USED FOR THIS PROJECT.
  - EXISTING UTILITIES SHOWN HAVE BEEN TAKEN FROM CONTRACT DRAWINGS #34-4170-D AND FIELD SURVEY LOCATIONS. IF NECESSARY, CONTRACTOR SHALL ADJUST ANY OR ALL STRUCTURE TOP ELEVATIONS TO MATCH PROPOSED GRADES.
  - THERE ARE 100 YEAR-FLOODPLAIN, STREAMS, STEEP SLOPES AND FORESTED AREAS LOCATED ON-SITE.
  - THERE ARE EXISTING STRUCTURES LOCATED ON THIS SITE TO BE REMOVED. THE HOUSE, GARAGE AND BARN ON PARCEL 165 WERE BUILT CIRCA 1958. THE 2 SHEDS ON PARCEL 8 WERE BUILT CIRCA 1958.
  - BASED ON AVAILABLE COUNTY MAPS AND RECORDS, THERE ARE NO HISTORIC STRUCTURES OR KNOWN CEMETERIES LOCATED ON THE SUBJECT PROPERTY.
  - A NOISE STUDY IS NOT REQUIRED FOR THIS DEVELOPMENT.
  - THIS PROJECT IS SUBJECT TO A TRAFFIC STUDY TO BE PREPARED AND SUBMITTED WITH THE SKETCH-PRELIMINARY PLAN SUBMISSION.
  - THIS SITE IS LOCATED WITHIN THE METROPOLITAN DISTRICT.
  - WATER & SEWER IS PUBLIC, CONNECTING INTO EX. CONTRACT #34-4170-D; THE DRAINAGE AREA IS LITTLE PATUXENT RIVER WATERSHED.
  - THE FOREST CONSERVATION ACT OBLIGATION FOR THIS PROJECT IS ANTICIPATED TO BE MET BY: THE RETENTION OF EXISTING FOREST WITHIN A FEE-ANY REQUIRED APPROPRIATION TO PLACE WITHIN A FEE AND PAYMENT OF A FEE-IN-LIEU FOR ANY REMAINING OBLIGATIONS.
  - ADEQUATE SITE DISTANCE IS AVAILABLE AT THE ENTRANCE BASED ON FIELD VERIFICATION. THIS PROJECT IS SUBJECT TO A SIGHT DISTANCE ANALYSIS TO BE PREPARED AND SUBMITTED WITH THE SKETCH-PRELIMINARY PLAN SUBMISSION.
  - THE GEOTECHNICAL REPORT FOR THIS PROJECT WAS PREPARED BY GEOTECHNICAL LABORATORIES, INC., DATED APRIL, 2007.
  - NO GRADING, REMOVAL OF VEGETATIVE COVER AND TREES ARE NOT PERMITTED IN WETLANDS, STREAMS, WETLAND BUFFERS, STREAM BUFFERS, FLOODPLAIN, STEEP SLOPES OR FOREST CONSERVATION EASEMENT AREAS. DISTURBANCE TO THE EXISTING INTERMITTENT STREAM AND ASSOCIATED BUFFER IS PROPOSED NEAR THE BEGINNING OF THE PUBLIC ACCESS PLACE. THIS IS A NECESSARY DISTURBANCE FOR ROAD AND UTILITY CONSTRUCTION. IMPACTS WILL BE MINIMIZED AND WILL INCLUDE ONLY THE AREA NECESSARY REQUIRED FOR THESE IMPROVEMENTS.
  - THERE ARE NO WETLANDS LOCATED ON-SITE AS OUTLINED IN A WETLAND DELINEATION PREPARED BY PHRA DATED 2007.
  - WATER PETITION WP-12-011 WAS APPROVED BY LETTER DATED AUGUST 10, 2011 TO WAIVE SECTION 16.1205(A)(7) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS TO ALLOW FOR THE REMOVAL OF SPECIMEN TREES HAVING A DIAMETER OF 3" OR GREATER, SUBJECT TO THE FOLLOWING CONDITIONS: 1) APPROVAL IS GIVEN FOR REMOVAL OF SEVEN OF SIXTEEN SPECIMEN TREES AS SHOWN ON THE WATER PETITION EXHIBIT AND IDENTIFIED AS SPECIMEN TREES NOS. 1 TO 7; 2) TWO LANDSCAPE TREES PER EVERY SPECIMEN TREE REMOVED SHALL BE PROVIDED HAVING A MINIMUM DIAMETER OF 3-1/2" (FOR A TOTAL OF 14 SHADE TREES). THE REPLACEMENT TREES ARE TO BE IN ADDITION TO THE REQUIRED PERIMETER LANDSCAPE TREES.
  - A DESIGN MANUAL WAIVER PETITION WILL BE SUBMITTED WITH THE SKETCH-PRELIMINARY PLAN TO WAIVE STD. R.101 OF THE HOWARD COUNTY DESIGN MANUAL VOL.1V TO ALLOW FOR THE USE OF A MODIFIED OPEN SECTION ROADWAY FOR A PUBLIC ACCESS PLACE WITHIN THE METROPOLITAN DISTRICT.
  - APPROVAL OF THIS ECP SHALL NOT BE CONSTRUED TO GRANT APPROVAL OF SHOWN SITE DEVELOPMENT, LANDSCAPING, OR FOREST CONSERVATION REQUIREMENTS WHICH SHALL BE REVIEWED AND APPROVED UNDER ASSOCIATED SUBDIVISION OR SITE DEVELOPMENT PLANS AS APPLICABLE. REVIEW OF THIS PROJECT FOR COMPLIANCE WITH THE SUBDIVISION AND ZONING REGULATIONS SHALL OCCUR AT THE APPLICABLE PLAN STAGE. ADDITIONAL REVIEW COMMENTS WILL BE GENERATED AND MAY ALTER THE SITE DESIGN AS SHOWN.

**SOILS LEGEND**

MAP SYMBOL	SOIL TYPE	MAPPING UNIT
Gbc	B	GLADSTONE LOAM - 3 TO 8 PERCENT SLOPES
GdB	B	GLADSTONE LOAM - 8 TO 15 PERCENT SLOPES
GmB	C	GLADSTONE SILT LOAM - 3 TO 8 PERCENT SLOPES
GmB	C	GLENNVILLE/BALE SILT LOAMS - 0 TO 8 PERCENT SLOPES
MaD	B	MANOR LOAM - 15 TO 25 PERCENT SLOPES

USDA WEBSITE

**MINIMUM LOT SIZE CHART**

LOT NO.	GROSS AREA	PIPESTEM AREA	MIN. LOT SIZE
7	12,885 SF.	445 SF.	12,015 SF.
8	12,571 SF.	445 SF.	12,126 SF.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*[Signature]*  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

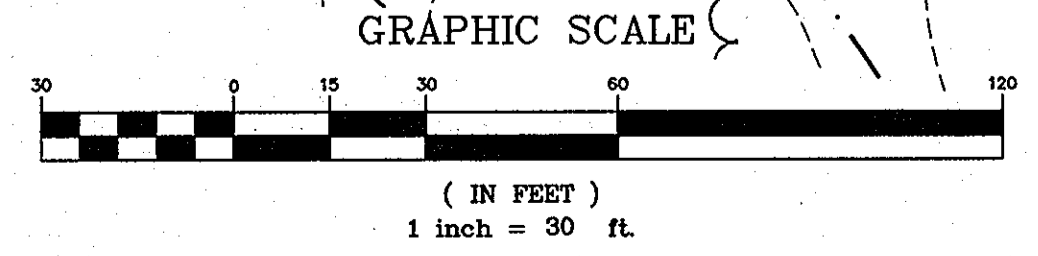
*[Signature]*  
CHIEF, DIVISION OF LAND DEVELOPMENT

8/21/11  
DATE

8/26/11  
DATE

**SHEET INDEX**

NO.	DESCRIPTION
1	PROPOSED ECP PLAN, NOTES AND DETAILS
2	ESD-SWM NOTES AND DETAILS
3	SEDIMENT & EROSION CONTROL PLAN



NO.	DATE	REVISION

**BENCHMARK ENGINEERING, INC.**  
ENGINEERS • LAND SURVEYORS • PLANNERS  
8480 BALTIMORE NATIONAL PIKE & SUITE 418 A ELICOTT CITY, MARYLAND 21043  
(P) 410-465-8105 (F) 410-465-8644  
60 THOMAS JOHNSON DRIVE & FREDERICK, MARYLAND 21702  
(P) 301-371-3505 (F) 301-371-3506  
WWW.BEI-CIVLENGINEERING.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. 28559; Expiration Date: 7-22-2013

*[Signature]*  
8/22/2011

DEVELOPER: TROTTER POINT, L.L.C.  
9695 NORFOLK AVENUE  
AUREL, MD 20723  
PHONE: 410-792-2565

OWNER (P.8): TROTTER POINT, L.L.C.  
11807 WOLLINGFORD CT.  
CLARKSVILLE, MD 21029  
PHONE: 410-792-2565

OWNER (P.9 & 135): RICHARD D. CONTE  
5770 TROTTER ROAD  
CLARKSVILLE, MD 21029  
c/o PHONE: 410-792-2565

PROJECT: TROTTERS POINT  
A RESUBDIVISION OF FOREST HILLS LOTS 13-15

LOCATION: TAX MAP 35 - GRID 2  
PARCELS 8, 9 & 165  
5th ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE: ENVIRONMENTAL CONCEPT PLAN  
PROPOSED ECP PLAN,  
NOTES AND DETAILS

DATE: JULY 2011  
AUGUST, 2011

PROJECT NO. 2238

Design: MCR Draft: MCR Check: BFC

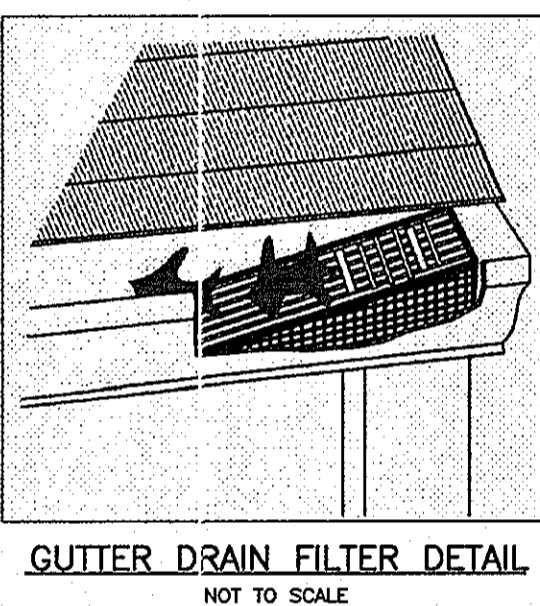
SCALE: AS SHOWN DRAWING 1 OF 3

ECP-11-067

MATERIAL	SPECIFICATION	SIZE	NOTES:
PLANTINGS (IF REQUIRED)	SEE APPENDIX A, TABLE A.4	N/A	PLANTINGS ARE SITE SPECIFIC
PLANTING SOIL (2' TO 4' DEEP)	LOAMY SAND (30-65%) & COMPOST (30-40%) OR LOAMY SAND (30%) COARSE SAND (30%) & COMPOST (30-40%)	N/A	USDA SOIL TYPES: LOAMY SAND, SANDY LOAM, CLAY CONTENT <5%
ORGANIC CONTENT	MIN. 10% BY DRY WEIGHT (ASTM D2974)	N/A	
MULCH	SHREDED HARDWOOD	N/A	AGED 6 MONTHS, MINIMUM
PEA GRAVEL DIAPHRAGM	PEA GRAVEL ASTM D-448	#8 OR #9 (1/8" TO 3/8")	
CURTAIN DRAIN	ORNAMENTAL STONE, WASHED COBBLES	2" TO 5"	
GEOTEXTILE (UNDERDRAINS & BERMS)	ASHTO M-43	N/A	PE TYPE 1 - NONWOVEN
UNDERDRAIN PIPING	75# TYPE PE20 OR ASHTO M-278	2" TO 3"	#8 STONE
POURED-IN-PLACE CONC. (IF REQUIRED)	MSHA MIX NO. 3, F=30000 PSI, 28 DAYS, NORMAL WEIGHT, AIR ENTRAINMENT, REINFORCING TO MEET ASTM 615-60	N/A	ON-SITE TESTING OF POURED-IN-PLACE CONC. REQUIRED; 28 DAY STRENGTH TEST AND SLUMP TEST. ALL CONC. DESIGN (CAST OR PRECAST) NOT USING PREVIOUSLY APPROVED STATE OR LOCAL STANDARDS REQUIRES DESIGN DRAWINGS SEALED AND APPROVED BY A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE STATE OF MARYLAND. DESIGN TO INCLUDE MEETING ACI CODE 308/R89: VERTICAL LOADING (H=10 or H=20) ALLOWABLE HORIZONTAL LOADING (BASED ON SOIL PRESSURES); AND ANALYSIS OF POTENTIAL CRACKING
SAND (1.0' DEEP)	ASHTO M-4 OR ASTM C-33	0.02" TO 0.04"	SAND SUBSTITUTIONS SUCH AS DUMPS AND GRASSSTONE (ASHTO #10) ARE NOT ACCEPTABLE; NO CALCIUM CARBONATED OR ORGANIC SAND SUBSTITUTIONS ARE ACCEPTABLE; NO "ROCK DUST" CAN BE USED FOR SAND

**OPERATION & MAINTENANCE SCHEDULE FOR (M-3) LANDSCAPE INFILTRATION**

- 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 ANY REPLACEMENT OF MULCH SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE & INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL & PRUNING.
- SCHEDULE OF PLANT INSPECTION WILL BE IN THE SPRING AND FALL. THIS INSPECTION WILL INCLUDE: REMOVAL OF DEAD & DISEASED VEGETATION CONSIDERING BEYOND TREATMENT; TREATMENT OF ALL DISEASED TREES & SHRUBS; AND REPLACEMENT OF ALL DEFICIENT STAKES & WIRES.
- MULCH SHALL BE INSPECTED EACH SPRING. REMOVE THE 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.



**PROJECT BACKGROUND INFORMATION**

PRESENT ZONING: R-20  
 LOCATION: TAX MAP 35 - GRID 2 - PARCELS 8, 9, & 135  
 APPLICABLE DPZ FILE REFERENCES: SDP-09-012, SP-07-012, F-08-162, #34-4497-D, S-06-012, S-06-011  
 DEED REFERENCES: P.8-L9289/F.926, P.9-L8014/F.604, P.135-L8014/F.594  
 PROPOSED USE OF SITE: RESIDENTIAL - SPD  
 PROPOSED WATER AND SEWER SYSTEMS: PUBLIC WATER & SEWER

**SITE DATA TABULATION**

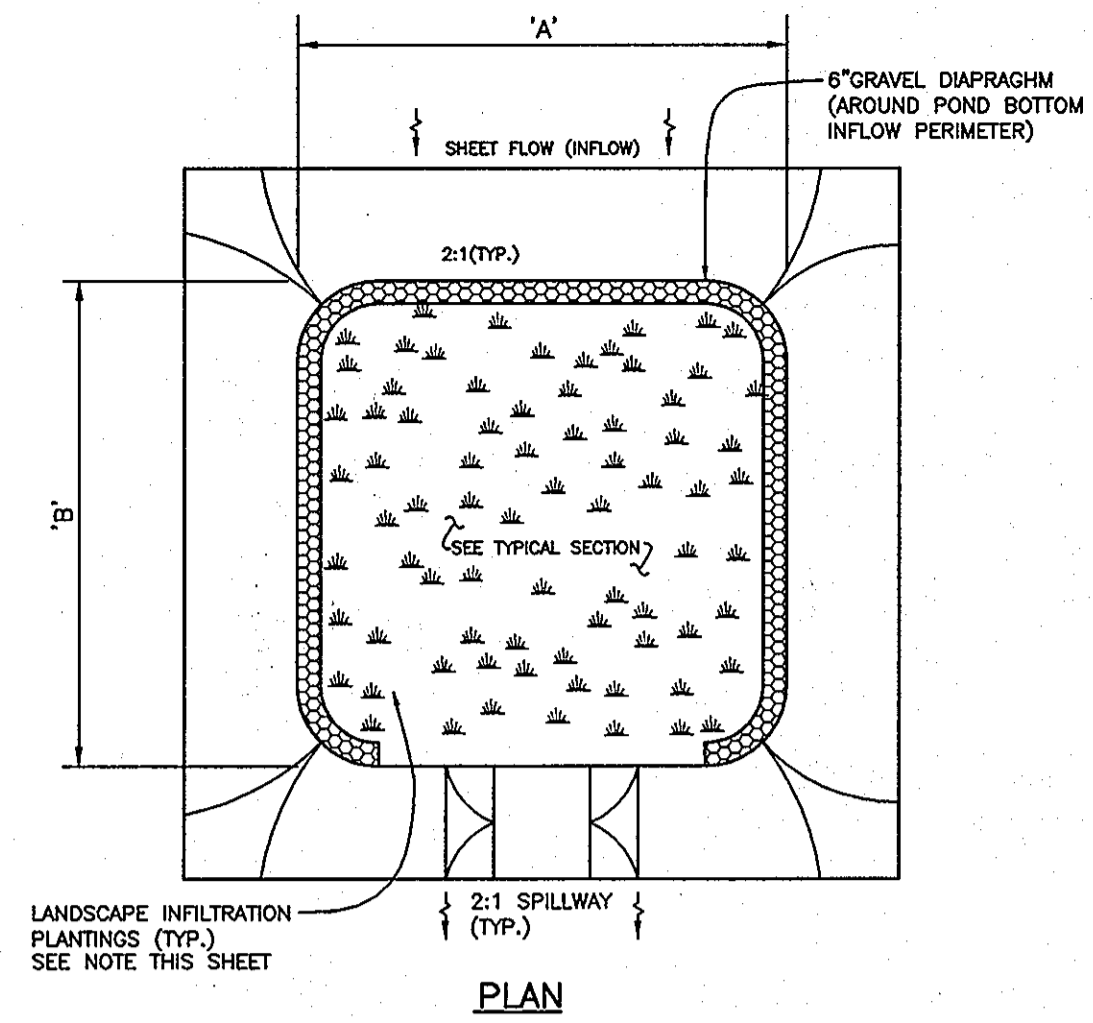
1) TOTAL PROJECT AREA.....	7.66±AC.
2) AREA OF 100-YR. FLOODPLAIN.....	0.90±AC.
3) AREA OF STEEP SLOPES (15% OR GREATER).....	0.25±AC.
4) AREA OF EXISTING FOREST.....	3.30±AC.
5) AREA OF ERODIBLE SOILS.....	0.00±AC.
6) AREA OF WETLANDS.....	0.00±AC.
7) NET AREA OF SITE(S).....	7.66±AC.
8) NUMBER OF UNITS ALLOWED.....	N/A
9) NUMBER OF RESIDENTIAL UNITS PROPOSED.....	N/A
10) AREA OF PLAN SUBMISSION.....	7.66±AC.
11) APPROXIMATE LIMIT OF DISTURBANCE.....	4.80±AC.
12) PRESENT ZONING DESIGNATION.....	R-20
13) PROPOSED USES FOR THE SITE & STRUCTURES.....	RESIDENTIAL - SPD
14) MINIMUM LOT SIZE.....	12,000 SF
15) OPEN SPACE REQUIRED (40%).....	3.06±AC.
16) OPEN SPACE PROVIDED.....	3.10±AC.
17) RECREATIONAL OPEN SPACE REQUIRED (200SF/1).....	2,800 SF(0.06±AC.)
18) RECREATIONAL OPEN SPACE PROVIDED.....	3,933 SF(0.09±AC.)
19) NUMBER OF PARKING SPACES REQUIRED.....	N/A
20) TOTAL NUMBER OF PARKING SPACES PROVIDED.....	N/A
21) BUILDING COVERAGE AREA (IMPERVIOUS).....	0.64±AC(±8%)
22) TOTAL IMPERVIOUS AREA.....	1.29±AC(±17%)

APPLICABLE DPZ FILE REFERENCES: SDP-09-012, SP-07-012, F-08-162, #34-4497-D, S-06-012, S-06-011

MATERIAL	SPECIFICATION	SIZE	NOTES:
PLANTINGS (IF REQUIRED)	SEE APPENDIX A, TABLE A.4	N/A	PLANTINGS ARE SITE SPECIFIC
PLANTING SOIL (2' TO 4' DEEP)	SAND: 35-60% CLAY: 10-25%	N/A	USDA SOIL TYPES: LOAMY SAND, SANDY LOAM OR LOAM
MULCH	SHREDED HARDWOOD	N/A	2" TO 3" DEPTH, AGED 6 MONTHS, MINIMUM
GEOTEXTILE (CLASS 'C')	APPARENT OPENING SIZE: (ASTM D-4751) GRAIN TENSILE STRENGTH: (ASTM D-4833) PUNCTURE RESISTANCE: (ASTM D-4833)	N/A	FOR USE AS NECESSARY BENEATH UNDERDRAINS ONLY
UNDERDRAIN GRAVEL	ASHTO M-43	0.375" TO 0.750"	
UNDERDRAIN PIPING	75# TYPE PE20 OR ASHTO M-278	4" TO 6" RIGID GRAVEL OVER PIPES, NOT NECESSARY UNDERNEATH PIPES	3/8" BERM, 6" O/C, 4 HOLES PER ROW, MINIMUM OF 3" OF GRAVEL OVER PIPES, NOT NECESSARY UNDERNEATH PIPES
POURED-IN-PLACE CONC. (IF REQUIRED)	MSHA MIX NO. 3, F=30000 PSI, 28 DAYS, NORMAL WEIGHT, AIR ENTRAINMENT, REINFORCING TO MEET ASTM 615-60	N/A	ON-SITE TESTING OF POURED-IN-PLACE CONC. REQUIRED; 28 DAY STRENGTH TEST AND SLUMP TEST. ALL CONC. DESIGN (CAST OR PRECAST) NOT USING PREVIOUSLY APPROVED STATE OR LOCAL STANDARDS REQUIRES DESIGN DRAWINGS SEALED AND APPROVED BY A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE STATE OF MARYLAND. DESIGN TO INCLUDE MEETING ACI CODE 308/R89: VERTICAL LOADING (H=10 or H=20) ALLOWABLE HORIZONTAL LOADING (BASED ON SOIL PRESSURES); AND ANALYSIS OF POTENTIAL CRACKING
CHECK DAM (TREATED WOOD)	AWPA STANDARD C6	6"x6" OR 6"x8"	DO NOT COAT WITH PRESERVE; EMBED AT LEAST 3" INTO SIDE SLOPES

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division: *[Signature]* 8/31/11  
 Chief, Division of Land Development: *[Signature]* 8/26/11

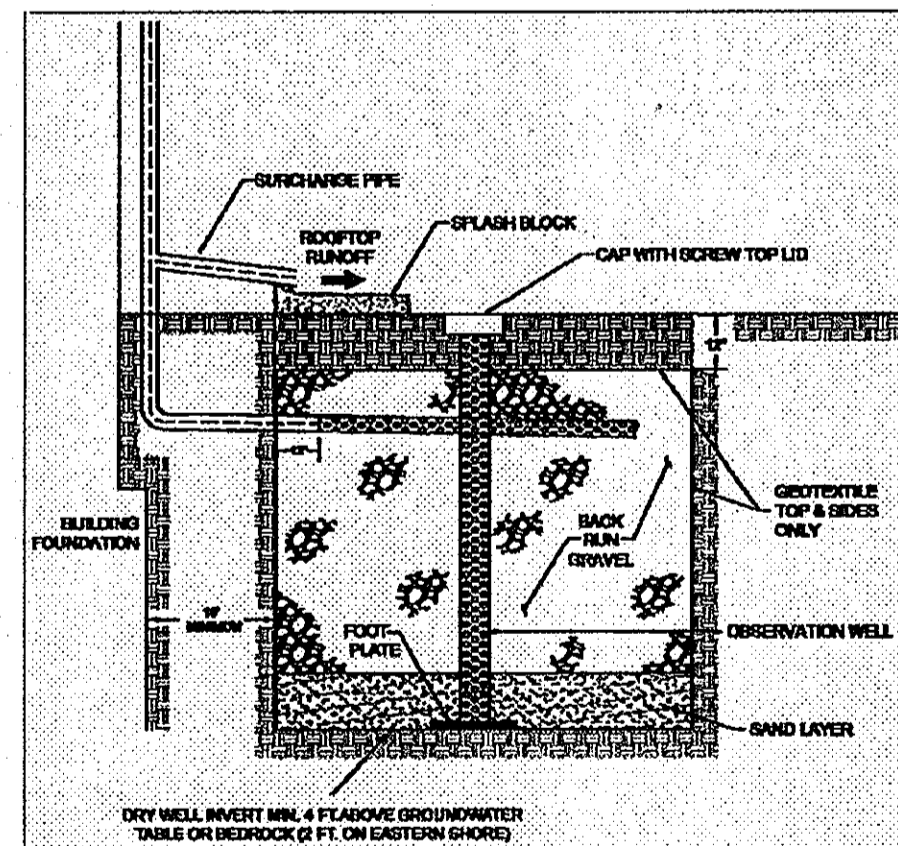
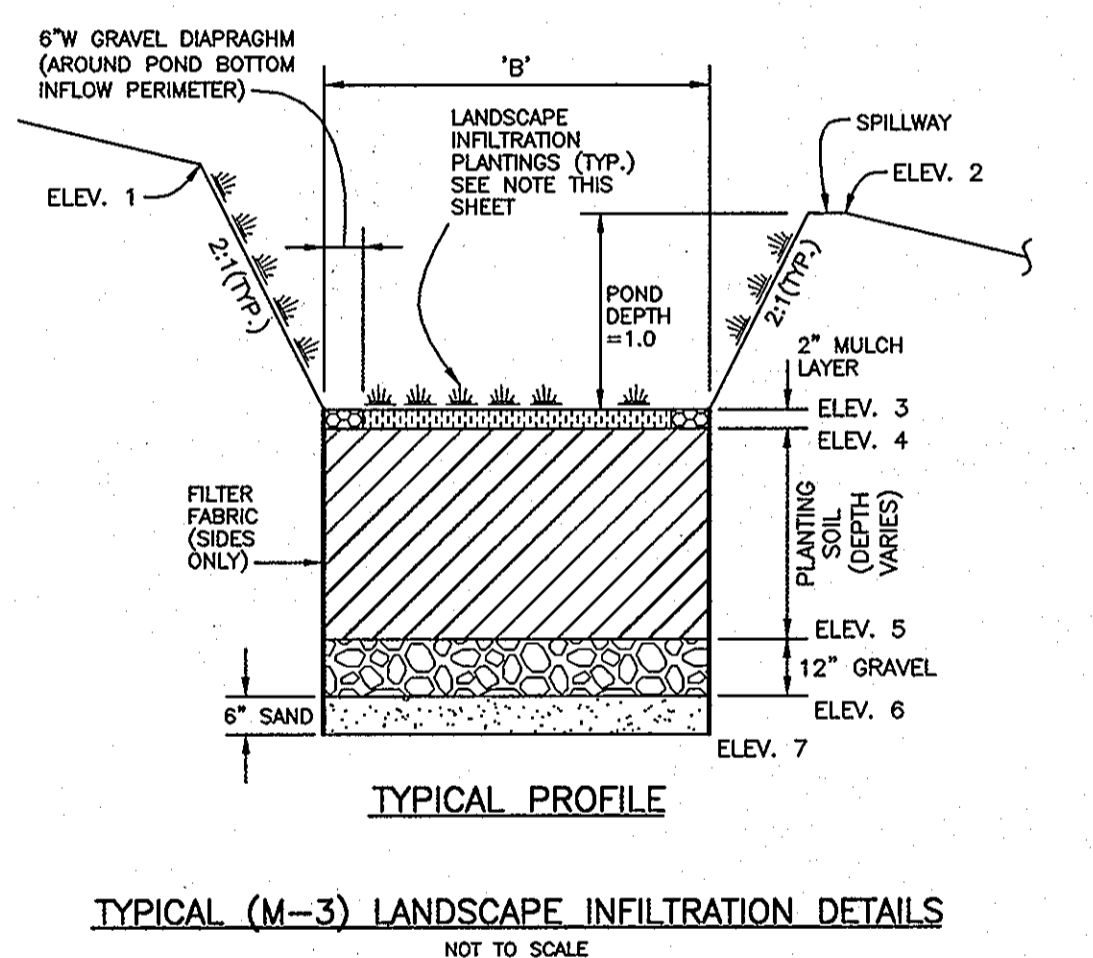
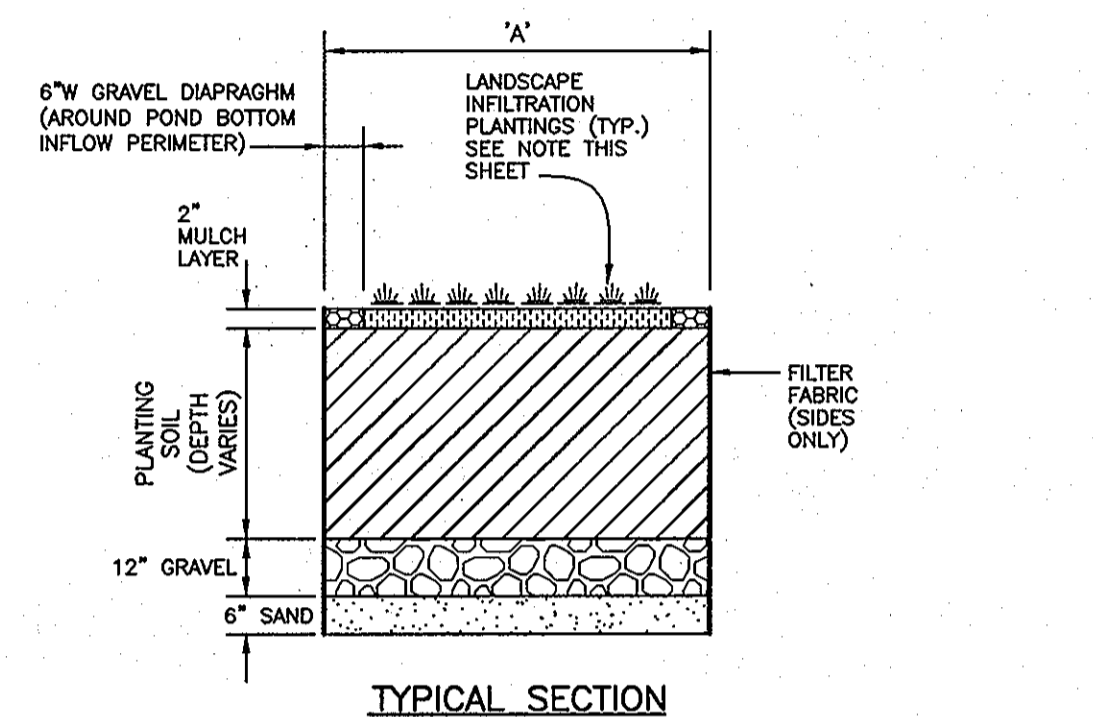


**INFILTRATION BERM CONSTRUCTION SPECIFICATIONS**

- FINAL GRADING FOR INFILTRATION BERMS SHALL NOT TAKE PLACE UNTIL THE SURROUNDING SITE IS STABILIZED.
- SOILS WITHIN THE STORAGE AREAS SHALL NOT BE COMPACTED.
- BERMS SHALL BE CONSTRUCTED WITH A GRAVEL CORE COMPRISED OF AASHTO M-43, EXTENDING TO A DEPTH EQUAL TO THE BOTTOM ELEVATION OF THE STORAGE AREA. THE SIDES AND TOPS OF THE BERMS SHALL BE COVERED WITH A 6" LAYER OF TOPSOIL, AND PERMANENTLY STABILIZED WITH GRASS, AS PER SHEET 3.
- TOPS OF BERMS SHALL BE LEVEL, AT THE PRESCRIBED ELEVATIONS, AND THE CREST SHALL BE A MINIMUM OF 2' WIDE.
- SIDES OF THE BERM SHALL BE A MAXIMUM OF 3:1 SLOPES.
- ALL CHANGES IN GRADING SHALL BE SMOOTHED AND ROUNDED, TO ENSURE EASE OF FUTURE MOWING.

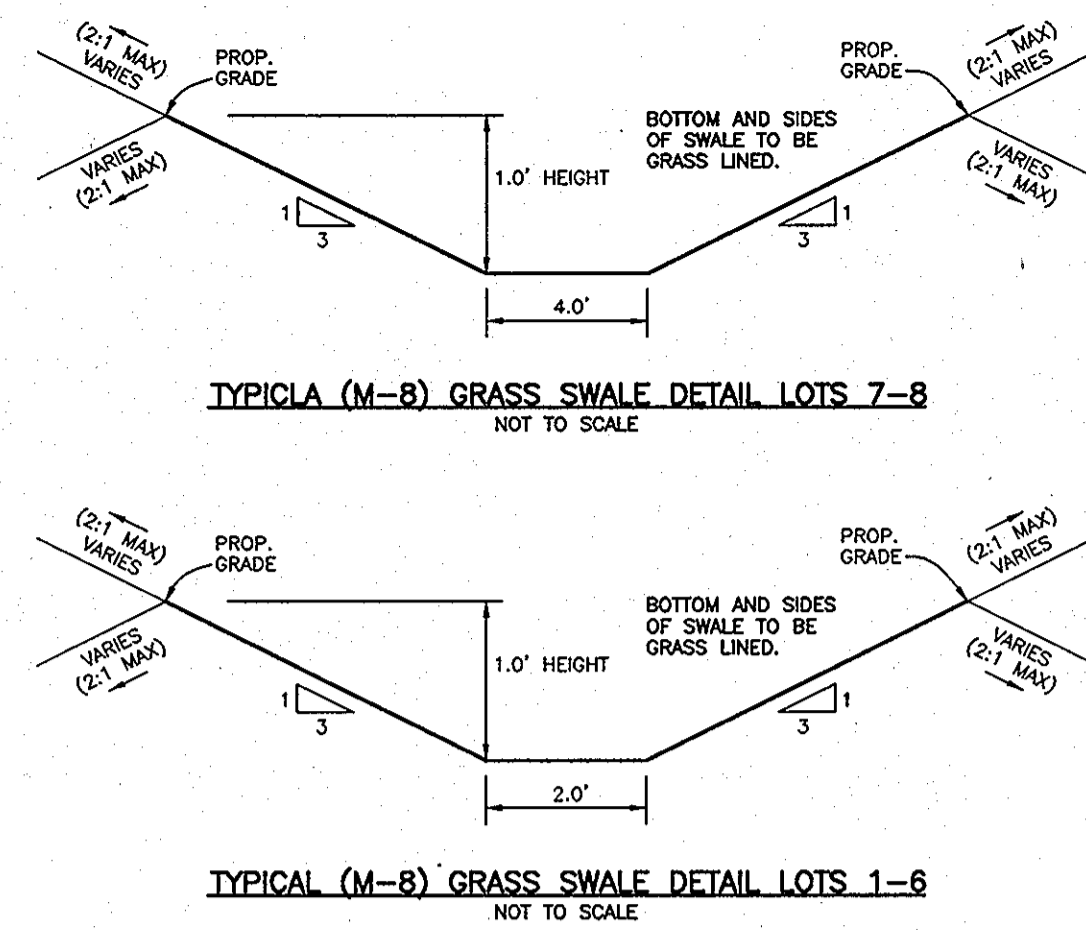
**OPERATION AND MAINTENANCE SCHEDULE FOR HOMEOWNER MAINTAINED INFILTRATION BERMS**

- FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS TO ENSURE THAT PONDING WATER DOES NOT CREATE NUISANCE CONDITIONS.
- SIGNS OF CONCENTRATED FLOW AND OTHER SURFACE EROSION SHOULD BE REPAIRED TO PROMOTE SHEETFLOW.
- A DENSE MAT OF VEGETATION SHOULD BE PRESENT AT ALL TIMES. VEGETATION SHOULD BE REPLACED AS NEEDED.



**OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED STORMWATER INFILTRATION TRENCHES (I-1), DRY WELLS (M-5)**

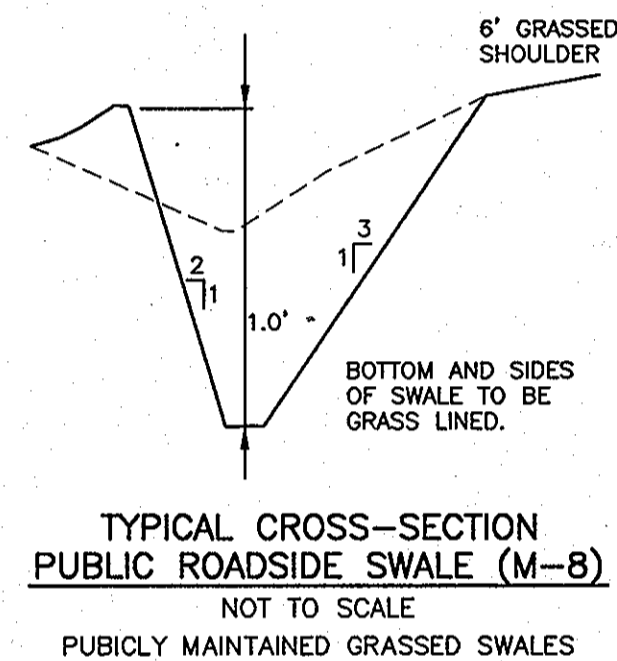
- The Owner shall inspect the monitoring wells and structures on a quarterly basis and after every heavy storm event.
  - The Owner shall record the water levels and sediment build up in the monitoring wells over a period of several days to insure trench drainage.
  - The Owner shall maintain a log book to determine the rate at which the facility drains.
  - When the facility becomes clogged so that it does not drain down within a seventy-two (72) hour time period, corrective action shall be taken.
  - The maintenance log book shall be available to Howard County for inspection to insure compliance with operation and maintenance criteria.
- Once the performance characteristics of the infiltration facility have been verified, the monitoring schedule can be reduced to an annual basis unless the performance data indicates that a more frequent schedule is required.



**OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY MAINTAINED GRASSED SWALES**

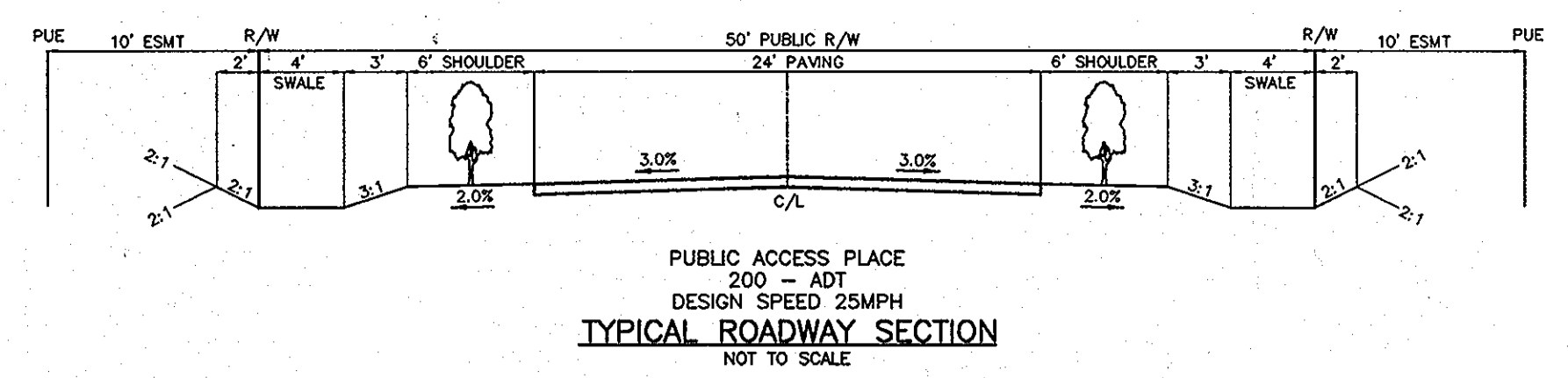
**ROUTINE MAINTENANCE TO BE PERFORMED BY H.O.A.**

- FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHALL BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE SWALE IS ADEQUATELY CONVEYING STORM FLOWS. SIDE SLOPES AND SWALE BOTTOMS SHALL BE MOWED AS NECESSARY TO MAINTAIN LESS THAN 6" IN HEIGHT. DEBRIS AND LITTER SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS. AND AS NEEDED. VISIBLE SIGNS OF EROSION IN THE SLOPES AS WELL AS THE RIP-RAP AREAS SHALL BE REPAIRED AS SOON AS IT IS NOTICED. SEDIMENTS SHALL BE REMOVED FROM THE SWALES AS NECESSARY.



**LEGEND**

SOILS CLASSIFICATION	ABC1
SOILS DELINEATION	---
EXISTING CONTOURS	---
PROPOSED CONTOURS	---
EXISTING WOODS LINE	---
PROPOSED WOODS LINE	---
EXISTING SPECIMEN TREE	---
EXISTING STREAM	---
EXISTING STREAM BANK	---
EXISTING STREAM BUFFER	---
EXISTING 100-YR FLOODPLAIN	---
EXISTING STRUCTURE	---
PROPOSED STRUCTURE	---
LIMIT OF DISTURBANCE	---●---
STABILIZED CONSTRUCTION ENTRANCE	---
SUPER SILT FENCE	SSF
EARTH DIKE	---
DRAINAGE AREA	---
DRAINAGE DIVIDE	---
TO STUDY PATH	Ⓐ Ⓑ
PRIVATE DRAINAGE & UTILITIES EASEMENTS	---
PUBLIC TREE MAINTENANCE & DRAINAGE UTILITY EASEMENTS	---
PUBLIC WATER, SEWER & UTILITIES EASEMENTS	---
PRIVATE USE-IN-COMMON ACCESS EASEMENTS	---



**DESIGN NARRATIVE**

The site currently is mostly woods and meadow with a single family dwelling and multiple auxiliary buildings. All existing structures are to be removed. The majority of the site drains northwest to southeast into an existing CI-I perennial stream along the southern boundary which currently flows under Trotter Road via an existing off-site culvert. The remaining areas of the site flow towards another intermittent stream/ditch which runs parallel with Trotter Road.

The proposed development shall consist of: fourteen (14) 12,000sf lots; a recreational open space lot; an open space lot which will include the existing stream & buffer along Trotter Road (note that this is a scenic road); an open space lot which shall contain the existing stream and environmental features along the southern boundary; and a public access place roadway utilizing an open section roadway design. It is understood that a Design Manual Waver must be obtained to utilize the proposed open-section roadway. A culvert will be analyzed and designed to convey the existing stream under the proposed roadway.

The area of this submission is all of Tax Map 35, Parcels 8, 9 & 165 and is approximately 7.66 acres total. All the properties are zoned R-20, including Parcel 8 which is currently subdivided into 5 lots per F-08-162. The site is located on the west side of Trotter Road, approximately 1/2 mile southeast of the intersection with MD Route 108 - Clarksville Pike. The entire site topography slopes south-southeast and flows towards Trotter Road and the aforementioned streams, into the Middle Patuxent River (HoCo 21311.06), and ultimately flows into the Little Patuxent River which is a major tributary to the Patuxent River Area Watershed (2-13-11) a Class I-A stream.

The existing impervious area consists of a single family dwelling with multiple auxiliary buildings and the site access macadam driveway. All existing features are to be removed. There will be approximately 1.29 acres of proposed impervious area added including: 0.64 ac. for the proposed buildings; 0.29 ac. for the roadway; and 0.36 ac. for driveways. The limit of disturbance being proposed for development is approximately 4.80 acres.

WQv is provided in accordance with the MDE criteria as the resulting imperviousness is treated by use of ESD to the MEP implementation.

The majority of the site's Natural Resources are protected as the proposed development has no significant encroachments into the surrounding environmental elements and buffers; saving and excepting the culvert at the site entrance within the existing stream & buffer. This minimal disturbance is limited to the immediate area of the proposed crossing, thus the overall natural and traditional character of the waterway shall be maintained. The natural flow patterns are generally maintained through the location of ESD practices which dissipate concentrated flows back into environmentally sensitive areas.

There is approximately 0.9 acres of 100-yr Floodplain associated with the CI-I perennial stream along the southern boundary; associated Stream Buffers for both of the streams identified on-site; 3.3 acres of existing Forest, including 16 Specimen Trees; and an area of Steep Slopes on-site. There are no existing Wetlands with Associated Buffers per Wetlands Study prepared by PHRA dated April, 2007, or highly Erodible Soils on-site.

The proposed development will: remove 7 Specimen Trees (it is understood a Waiver Petition will need to be submitted); remove 1.7 acres of Forest while retaining 1.6 acres of forest within an FCE on an Open Space Lot; and disturb approximately 0.15 acres of Stream Buffer for roadway construction and culvert/utility installation.

It is concluded that all ESD to the MEP requirements as defined in the Stormwater Management Act of 2007 have been met for the proposed development. The Water Quality has been provided by the implementation of Landscape Infiltration (M-3) facilities, Infiltration Berms (M-4), Dry Wells (M-5), Grassed Swales (M-8), and practical utilization of disconnection of impervious runoff. It is understood that a Design Manual Waver must be obtained to utilize the proposed open-section roadway. The infiltration practices utilized adhere to the results contained with the Geotechnical Report prepared by Geotechnical Laboratories, Inc. dated April 2007 & USDA Map Hydrologic soils information.

Per Practice	MDE Type	Total DA	Impervious Area	Qe	ESDv In Flow	Provided	At 2% MIN Depth	Required	Required	Provided	Rev
LOT 1	(M-3)	1,163	500	0.70		96	PASS	1.5	76	77	
LOT 2	(M-3)	1,089	500	0.74		96	PASS	1.5	76	77	
LOT 3	(M-3)	1,270	500	0.65		96	PASS	1.5	77	77	
LOT 4	(M-3)	1,196	500	0.68		96	PASS	1.5	76	77	
LOT 5	(M-3)	1,602	500	0.53		96	PASS	1.6	80	80	
LOT 9a	(M-3)	934	500	0.85		96	PASS	1.5	75	77	
LOT 9b	(M-3)	1,136	500	0.71		96	PASS	1.5	76	77	
LOT 10	(M-3)	1,193	500	0.68		96	PASS	1.5	68	77	
LOT 11	(M-3)	865	500	0.88		96	PASS	1.5	76	77	
LOT 12	(M-3)	865	500	0.89		96	PASS	1.5	74	77	
LOT 13	(M-3)	957	500	0.83		96	PASS	1.5	75	77	
LOT 14	(M-3)	960	500	0.83		96	PASS	1.5	75	77	
LOT 5	(M-5)	820	500	0.96		19	PASS	5.0	23	37	1781
LOT 6	(M-5)	1,640	1,000	0.98		37	PASS	5.0	45	75	
LOT 9	(M-5)	820	500	0.98		19	PASS	5.0	23	37	
LOT 11	(M-4)	4,440	1,000	0.40		181	PASS	1.0	110	181	
LOT 12	(M-4)	6,270	1,000	0.31		181	PASS	1.0	2	181	
LOT 13	(M-4)	6,737	1,000	0.29		181	PASS	1.0	-84	181	
LOT 14	(M-4)	6,906	1,000	0.29		181	PASS	1.0	-83	181	
Lots 1-6	(M-8)	34,336	4,500	0.27		1469	PASS	1.0	677	1469	1469
Lots 7-8	(M-8)	18,022	3,000	0.32		963	PASS	1.0	360	963	963
North/Egress	(M-8)	54,970	11,035	0.37		2807	PASS	1.0	1268	2849	2849
South/Egress	(M-8)	33,300	10,175	0.52		2807	PASS	1.0	1082	2807	2807
Totals		181,511	40,710	0.40	0	8,996			4,224	6,685	7,887

The use of Grassed Swales is applied to the Rev requirement \*

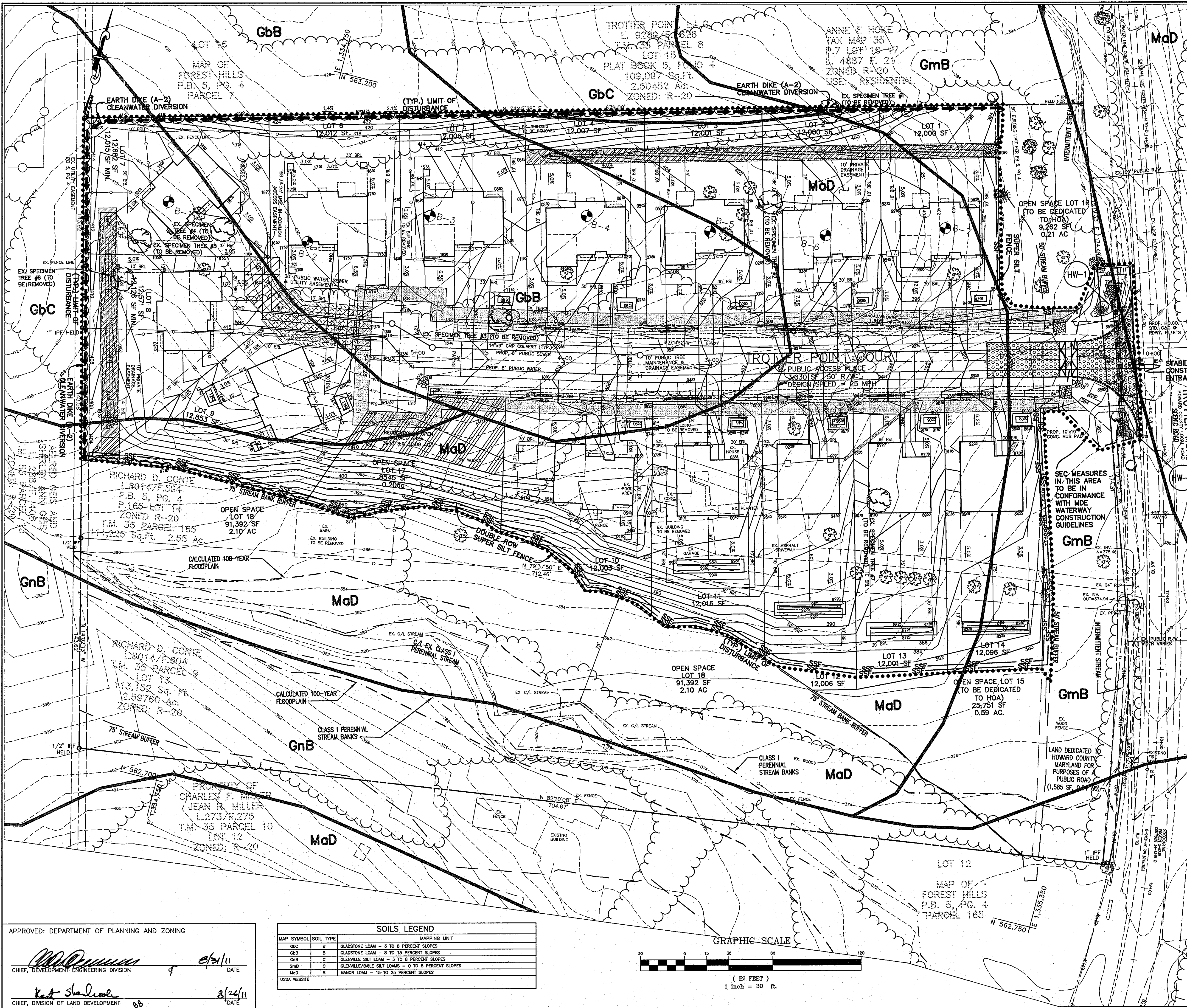
NO.	DATE	REVISION

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. 28559; Expiration Date: 7-22-2013

**BENCHMARK ENGINEERING, INC.**  
 ENGINEERS • LAND SURVEYORS • PLANNERS  
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 60 THOMAS JOHNSON DRIVE A FREDERICK, MARYLAND 21702  
 (P) 301-371-3505 (F) 301-371-3506  
 WWW.BEI-CVLENGINEERING.COM

8/22/2011

DEVELOPER: <b>TROTTER POINT, L.L.C.</b> 9695 NORFOLK AVENUE LAUREL, MD 20723 PHONE: 410-792-2565	PROJECT: <b>TROTTERS POINT</b> A RESUBDIVISION OF FOREST HILLS LOTS 13-15
OWNER (P.8): <b>TROTTER POINT, L.L.C.</b> 11807 WOLLINGFORD CT. CLARKSVILLE, MD 21029 PHONE: 410-792-2565	LOCATION: TAX MAP 35 - GRID 2 PARCELS 8, 9 & 165 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND
OWNER (P.9 & 135): <b>RICHARD D. CONTE</b> 5770 TROTTER ROAD CLARKSVILLE, MD 21029 c/o PHONE: 410-792-2565	TITLE: ENVIRONMENTAL CONCEPT PLAN <b>ESD-SWM</b> NOTES AND DETAILS
Design: MCR Draft: MCR Check: BFC	DATE: JULY 2011 / AUGUST 2011 PROJECT NO. 2238
SCALE: AS SHOWN	DRAWING 2 OF 3



**LEGEND**

SOILS CLASSIFICATION	AbC1
SOILS DELINEATION	---
EXISTING CONTOURS	---
PROPOSED CONTOURS	---
EXISTING WOODS LINE	---
PROPOSED WOODS LINE	---
EXISTING SPECIMEN TREE	○
EXISTING STREAM	---
EXISTING STREAM BANK	---
EXISTING STREAM BUFFER	---
EXISTING 100-YR FLOODPLAIN	---
EXISTING STRUCTURE	□
PROPOSED STRUCTURE	□
LIMIT OF DISTURBANCE	•••••
STABILIZED CONSTRUCTION ENTRANCE	▨
SUPER SILT FENCE	SSF
EARTH DIKE	→→→
DRAINAGE AREA	---
DRAINAGE DIVIDE	---
Tc STUDY PATH	Ⓐ Ⓑ
PRIVATE DRAINAGE & UTILITY EASEMENTS	▨
PUBLIC TREE MAINTENANCE & DRAINAGE UTILITY EASEMENTS	▨
PUBLIC WATER, SEWER & UTILITY EASEMENTS	▨
PRIVATE USE-IN-COMMON ACCESS EASEMENTS	▨

**Sequence of Construction**

The sequencing should follow this general outline and shall be in conformance with the latest approved version of the MDE Standards and Specifications for Sediment Control. The contractor shall notify the Sediment Control Division at least 48 hours prior to starting construction activities.

1. Obtain grading permit. A Letter of Authorization from MDE must be obtained prior to disturbance of the stream for the roadway culvert and utility crossing. Stream closure shall be between March 1<sup>st</sup> and June 15.
2. Clear and grub site for installation of perimeter sediment control devices established under the approved Final/Road Construction Plans (F-Plans).
3. Stabilize all disturbed areas in accordance with the temporary seedbed notes.
4. Install culvert along Trotter Road in accordance with the MDE Waterway Construction Guidelines. This work shall be approved by the inspector prior to proceeding with further disturbance/grading.
5. Begin installation of proposed sewer line at existing manhole. This process to include daily control measures i.e. trench backfill, installation/removal of silt fence, stabilization, etc. Upon completion, remove and/or abandon existing sewer systems.
6. Upon approval by the sediment control inspector, install open section roadway swales and begin mass grading remainder of site.
7. Begin installation of all other utilities as applicable.
8. Construct retaining walls and remaining utilities as applicable.
9. Install base course paving for roadway (Trotter Point Court).
10. Once the utility and roadway construction is completed, fully stabilize the remaining areas.
11. Construct proposed dwellings (utilize applicable single lot SEC practices) including the driveway culverts as applicable.
12. Final grade remainder of site and stabilize in accordance with permanent seeding notes.
13. Install final paving and complete ESD construction.
14. Install required landscaping.
15. Upon approval by Howard County sediment control inspector, remove remaining sediment control devices and permanently stabilize any remaining disturbed areas.

Please note that all super silt fences should be checked daily to ensure compliance. The areas of ESD implementation shall have limited access from heavy construction equipment to avoid unnecessary compaction when practical.

NO.	DATE	REVISION

**BENCHMARK ENGINEERING, INC.**

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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. 28559; Expiration Date: 7-22-2013

STATE OF MARYLAND  
 JOHN F. CLERK  
 PROFESSIONAL ENGINEER  
 8/22/2011

DEVELOPER: TROTTER POINT, L.L.C. 9695 NORFOLK AVENUE LAUREL, MD 20723 PHONE: 410-792-2565	PROJECT: <b>TROTTERS POINT</b> A RESUBDIVISION OF FOREST HILLS LOTS 13-15
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OWNER (P.9 & 135): RICHARD D. CONTE 5770 TROTTER ROAD CLARKSVILLE, MD 21029 c/o PHONE: 410-792-2565	TITLE: <b>ENVIRONMENTAL CONCEPT PLAN SEDIMENT &amp; EROSION CONTROL PLAN</b>
Design: MCR Draft: MCR Check: BFC	DATE: JULY 2011 AUGUST 2011 PROJECT NO. 2238
SCALE: AS SHOWN	DRAWING 3 OF 3

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 8/31/11  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* 8/24/11  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

**SOILS LEGEND**

MAP SYMBOL	SOIL TYPE	MAPPING UNIT
Gbc	B	GLADSTONE LOAM - 3 TO 8 PERCENT SLOPES
Gcb	B	GLADSTONE LOAM - 8 TO 15 PERCENT SLOPES
Gcb	C	GLENNVILLE SILT LOAM - 3 TO 8 PERCENT SLOPES
Gmb	C	GLENNVILLE/BAILE SILT LOAMS - 0 TO 8 PERCENT SLOPES
MaD	B	MANOR LOAM - 15 TO 25 PERCENT SLOPES

USDA WEBSITE

