

STORMWATER MANAGEMENT PRACTICES

LOT NO.	ADDRESS	GREEN ROOF A-1 (Y/N)	PERMEABLE PAVING A-2 (Y/N)	REINFORCED TURF A-3 (Y/N)	DISCONNECTION OF ROOFTOP RUNOFF N-1 (Y/N)	DISCONNECTION OF NON-ROOFTOP RUNOFF N-2 (Y/N)	SHEET FLOW TO CONSERVATION AREAS N-3 (Y/N)	RAINWATER HARVESTING M-1 (NUMBER)	LANDSCAPE INFILTRATION M-3 (NUMBER)	INFILTRATION BUSH M-4 (NUMBER)	DRY WELLS M-5 (NUMBER)	MICRO BIO-RETENTION M-6 (NUMBER)	RAIN GARDENS M-7 (NUMBER)	SWALES M-8 (NUMBER)	ENHANCED FILTER M-9 (NUMBER)
1	5517 TROTTER ROAD		Y			Y					1				

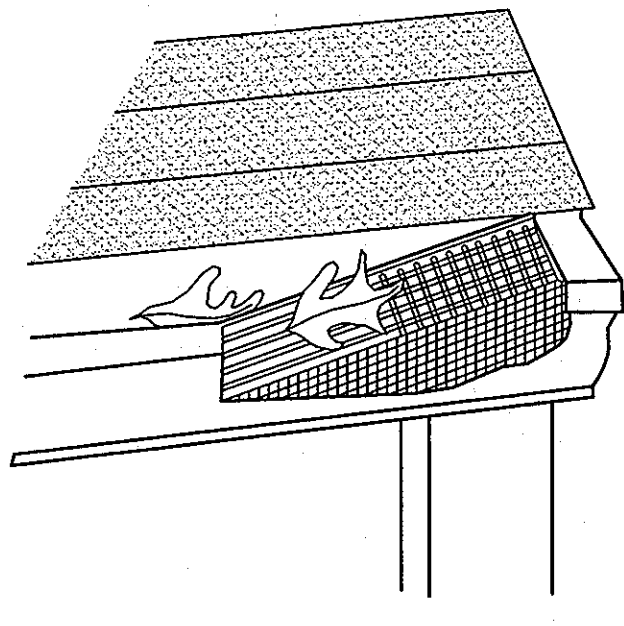
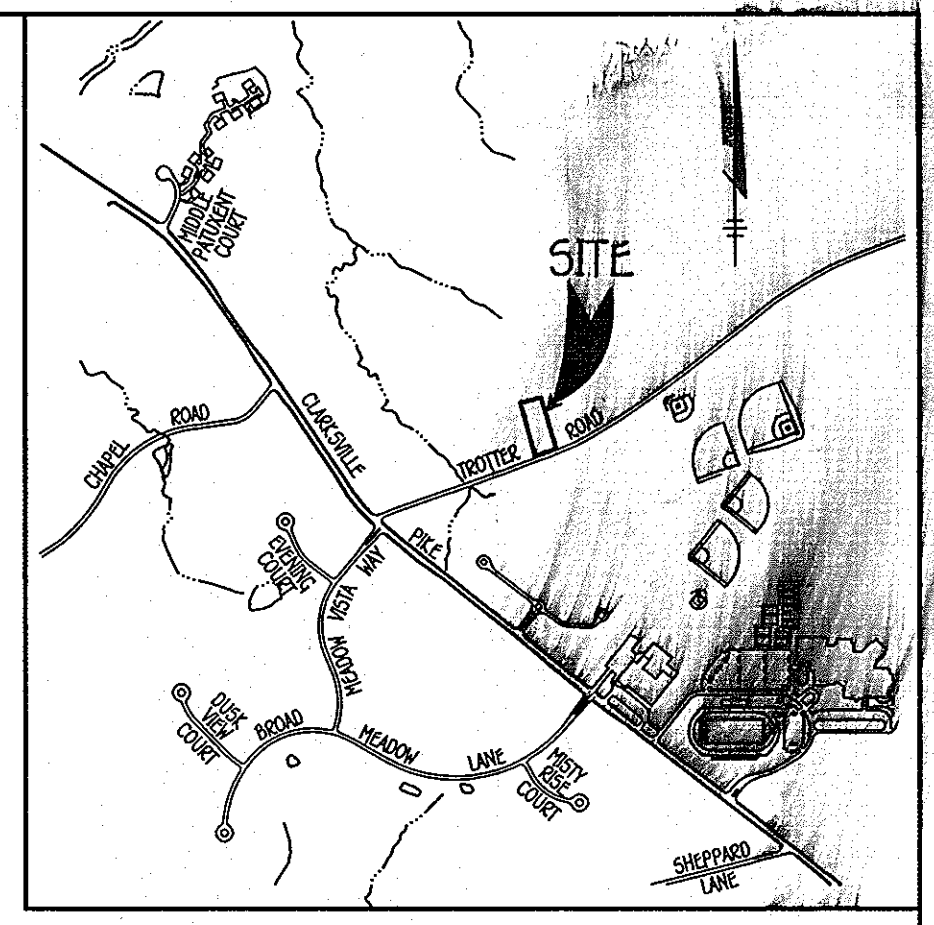
OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED PERMEABLE PAVEMENT (A-2)

- THE OWNER SHALL PERIODICALLY SWEEP (OR VACUUM POROUS CONCRETE PAVEMENT) THE PAVEMENT SURFACES TO REDUCE SEDIMENT ACCUMULATION AND INSURE CONTINUED SURFACE POROSITY. SWEEPING SHOULD BE PERFORMED AT LEAST TWICE ANNUALLY WITH A COMMERCIAL CLEANING UNIT. WASHING OR COMPRESSED AIR UNITS SHOULD NOT BE USED TO PERFORM SURFACE CLEANING.
- THE OWNER SHALL PERIODICALLY CLEAN DRAINAGE PIPES, INLETS, STONE EDGE DRAINS AND OTHER STRUCTURES WITHIN OR DRAINING TO THE SUB-BASE.
- THE OWNER SHALL USE DICERS IN MODERATION. DICERS SHOULD BE NON-TOXIC AND BE APPLIED EITHER AS CALCIUM MAGNESIUM ACETATE OR AS PRETREATED SALT.
- THE OWNER SHALL INSURE SNOW PLOWING IS PERFORMED CAREFULLY WITH BLADES SET ONE INCH ABOVE THE SURFACE. PLOWED SNOW PILES AND SNOWMELT SHOULD NOT BE DIRECTED TO PERMEABLE PAVEMENT.

SOILS LEGEND

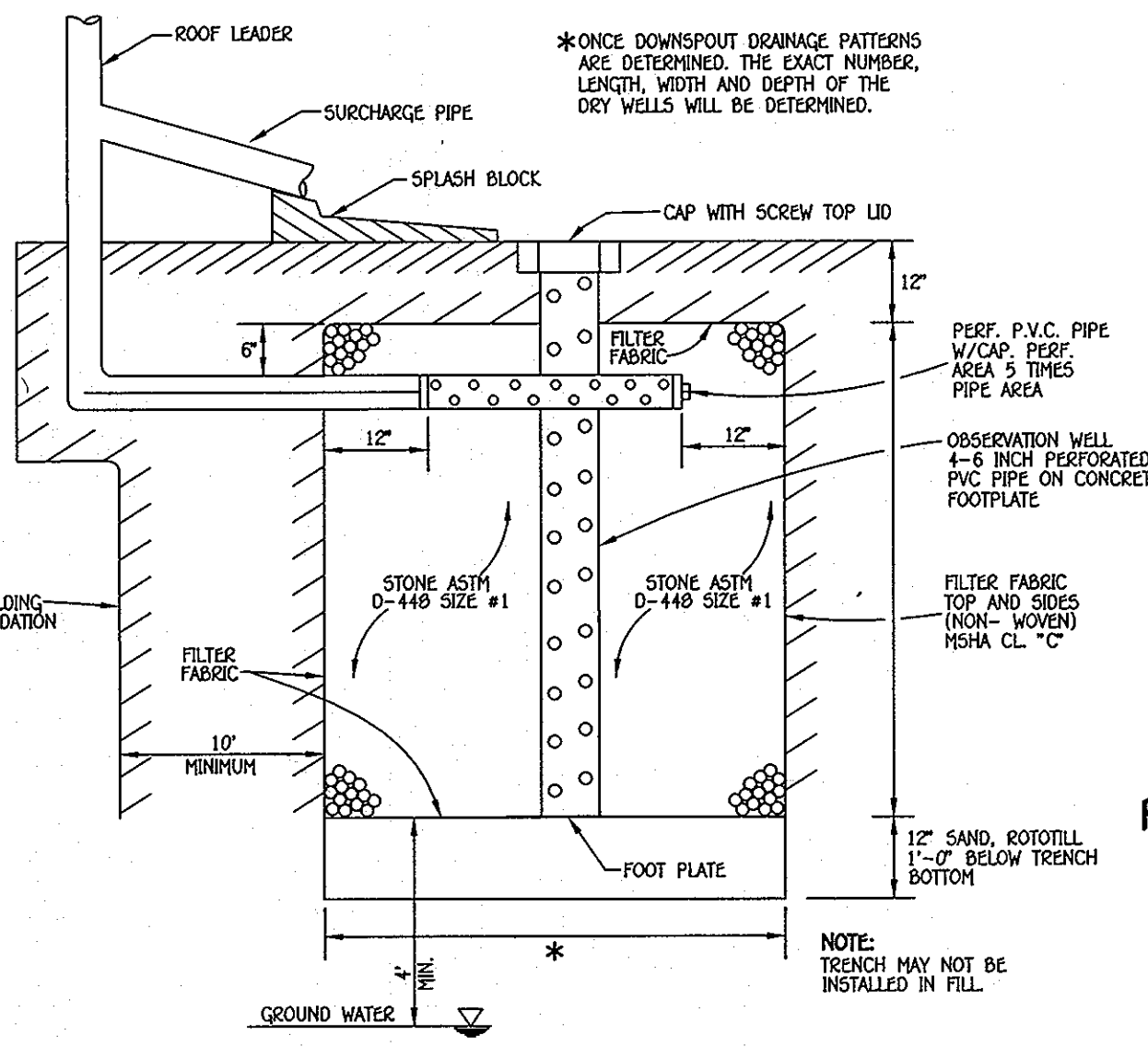
SOIL	NAME	CLASS
GbB	GLADSTONE LOAM, 3 TO 8 PERCENT SLOPES	B

- NOTES:**
- * HYDRIC SOILS AND/OR CONTAINS HYDRIC INCLUSIONS
 - ** MAY CONTAIN HYDRIC INCLUSIONS
 - † GENERALLY ONLY WITHIN 100-YEAR FLOODPLAIN AREAS



OPERATION & MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DISCONNECTION OF ROOFTOP (N-1) & 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.



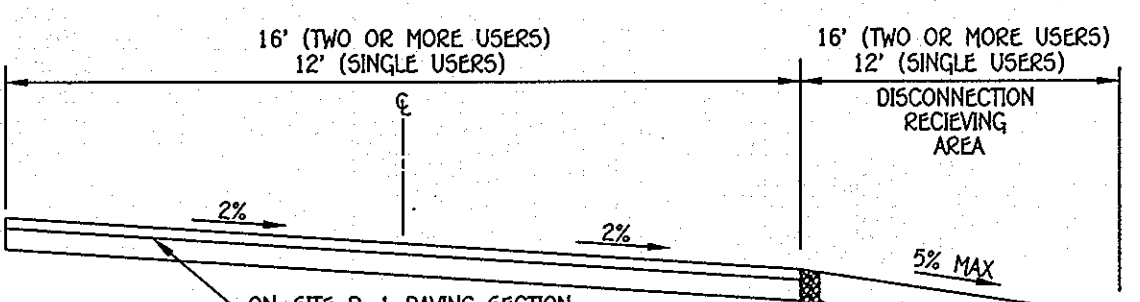
DRY WELL DETAIL
NOT TO SCALE

STORMWATER MANAGEMENT NOTES

- STORMWATER MANAGEMENT IS PROVIDED IN ACCORDANCE WITH CHAPTER 5, "ENVIRONMENTAL SITE DESIGN" OF THE 2007 MARYLAND STORMWATER MANAGEMENT DESIGN MANUAL, EFFECTIVE MAY 4, 2010.
- MAXIMUM CONTRIBUTING ROOF TOP AREA TO EACH DOWNSPOUT SHALL BE 500 SQ. FT. OR LESS.
- DRYWELLS SHALL BE PROVIDED AT LOCATIONS WHERE THE LENGTH OF DISCONNECTION IS LESS THAN 75' AT 2% SLOPE AND CONSTRUCTION OF THE DRYWELL SHALL BE IN ACCORDANCE WITH THE DETAIL SHOWN ON THIS SHEET.
- FINAL GRADING WILL BE SHOWN AT THE SITE DEVELOPMENT PLAN STAGE.

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DRY WELLS (M-5)

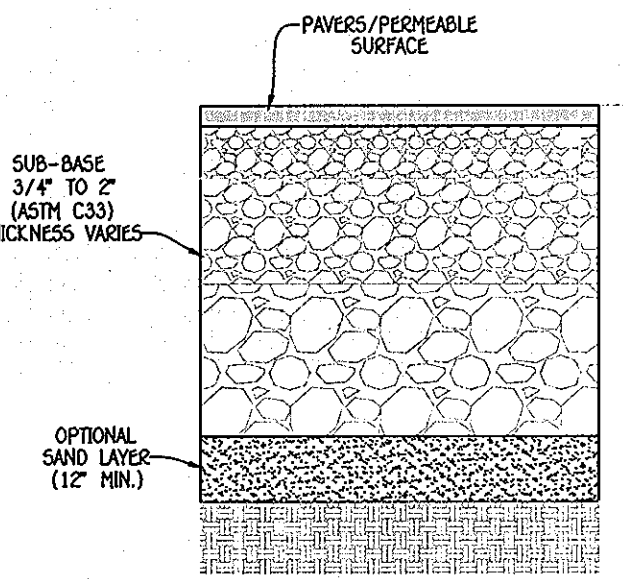
- THE OWNER SHALL INSPECT THE MONITORING WELLS AND STRUCTURES ON A QUARTERLY BASIS AND AFTER EVERY HEAVY STORM EVENT.
- THE OWNER SHALL RECORD THE WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING WELLS OVER A PERIOD OF SEVERAL DAYS TO INSURE TRENCH DRAINAGE.
- THE OWNER SHALL MAINTAIN A LOG BOOK 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.



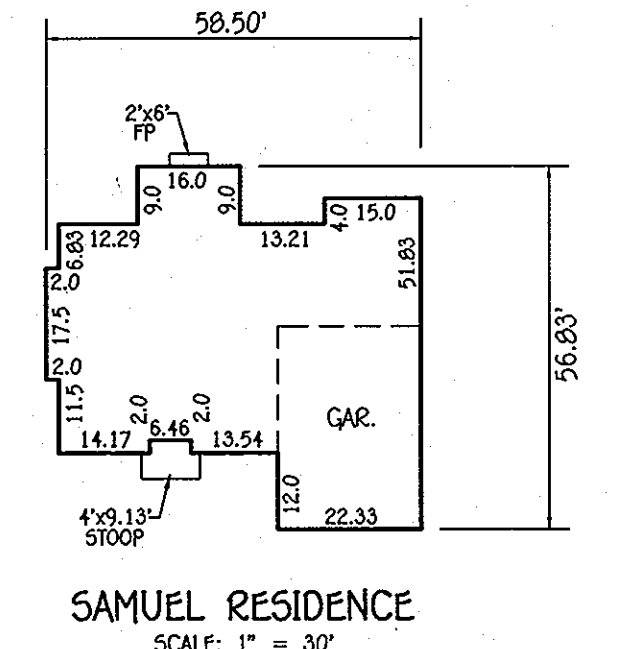
TYPICAL PRIVATE DRIVE CROSS SLOPE SECTION
NOT TO SCALE

LEGEND

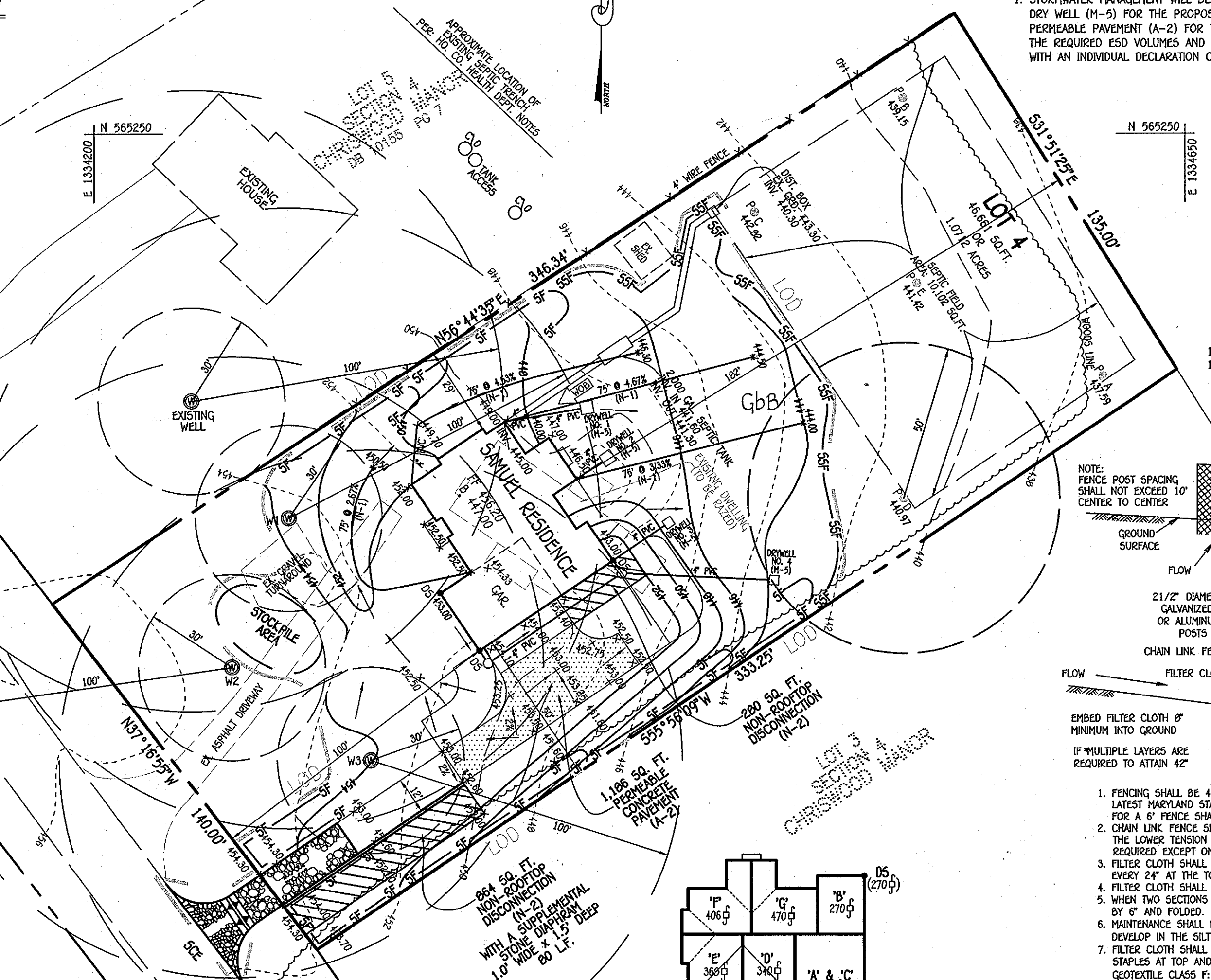
SYMBOL	DESCRIPTION
---	EXISTING 2' CONTOURS
---	EXISTING 10' CONTOURS
---	PROPOSED CONTOURS
x362.2	SPOT ELEVATION
-SF-SF-	SILT FENCE
---	EXISTING TREE LINE
---	SHEET FLOW (5% MAX.)
---	DISCONNECTED IMPERVIOUS AREA
---	DISCONNECTED RECEIVING AREA
---	PERVIOUS PAVEMENT
---	SOIL LINES AND TYPES
○	DENOTES PROPOSED WELL
○	DENOTES FAILED PERC
○	DENOTES PASSED PERC
---	LIMIT OF DISTURBANCE



LOT 4 TYPICAL SECTION PERMEABLE CONCRETE PAVEMENT W/12" SUB-BASE
NOT TO SCALE



SAMUEL RESIDENCE
SCALE: 1" = 30'



ROOFTOP DRAINAGE AREAS
SCALE: 1" = 30'

AREA	AREA (SQ. FT.)
HOUSE	2,580
DRIVEWAY	2,330
TOTAL	4,910

IMPERVIOUS AREA

SLOPE	SLOPE STEEPNESS	SLOPE LENGTH (MAXIMUM)	SILT FENCE LENGTH (MAXIMUM)
0 - 10%	0 - 10:1	UNLIMITED	UNLIMITED
10 - 20%	10:1 - 5:1	200 FEET	1,500 FEET
20 - 33%	5:1 - 3:1	100 FEET	1,000 FEET
33 - 50%	3:1 - 2:1	100 FEET	500 FEET
50% +	2:1 +	50 FEET	250 FEET

SUPER SILT FENCE
NOT TO SCALE

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. 9753, EXPIRATION DATE: 2/28/15.

Earl D. Collins
EARL D. COLLINS
DATE: 4/19/12

ESD NARRATIVE:

- THERE ARE NO EXISTING NATURAL RESOURCES, AS SHOWN IN TABLE 5.1 OF THE MARYLAND STORMWATER MANAGEMENT (SWM) DESIGN MANUAL (MANUAL), LOCATED ON THE SITE.
- THE EXISTING DRAINAGE PATTERNS WILL BE MAINTAINED AS CLOSELY AS POSSIBLE DURING AND AFTER THE DEVELOPMENT OF THE SITE.
- EFFORTS HAVE BEEN MADE TO REDUCE THE IMPERVIOUS AREAS; HOWEVER, WHEN THE FINAL HOUSE TYPE HAS BEEN SELECTED, IT MAY BE POSSIBLE TO REDUCE THE SITE IMPERVIOUSNESS THROUGH BETTER SITE DESIGN.
- THE REQUIRED SEDIMENT AND EROSION CONTROL MEASURES CONSISTING OF SUPER SILT FENCE, A STABILIZED CONSTRUCTION ENTRANCE AND EROSION CONTROL MATTING 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 WAS NO NEED TO INCORPORATE THESE MEASURES INTO THE SWM STRATEGY.
- 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.

ENGINEER'S CERTIFICATE

"I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Earl D. Collins
Signature of Engineer
EARL D. COLLINS
Date: 4/19/12

BUILDER/DEVELOPER'S CERTIFICATE

"I/We certify that all development and construction will be done according to this plan, for sediment and erosion control and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."

Thomas Samuel
Signature of Developer
Date: 4/19/12

OWNER/DEVELOPER

THOMAS SAMUEL
5517 TROTTER ROAD
CLARSBURG, MARYLAND 21029
301-552-0005

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Stacie
Chief, Division of Land Development
Date: 5/3/12

J.P.
Chief, Development Engineering Division
Date: 5/3/12

PROJECT	SECTION	LOT NO.
CRISWOOD MANOR	4	4

PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
	0020	R-20	0029	FIFTH	6068.02

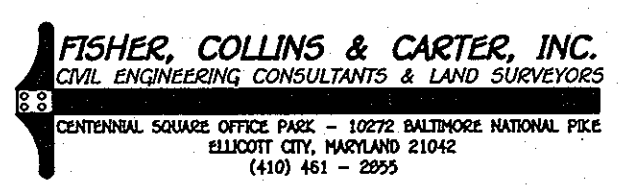
WATER CODE	SEWER CODE

ENVIRONMENTAL CONCEPT PLAN

5517 TROTTER ROAD
CRISWOOD MANOR
SECTION 4
LOT 4

TAX MAP NO.: 0029 PARCEL NO.: 0088 GRID NO.: 0020
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: 1" = 30' DATE: MARCH, 2012

SHEET 1 OF 1 ECP-12-017



NO.	REVISION	DATE

ECP 12-017