STORMWATER MANAGEMENT NOTES & DESIGN NARRATIVE BELOW IS A LIST TO DESCRIBE THE STORMWATER MANAGEMENT REQUIREMENTS AND ACHIEVEMENTS FOR THE SITE PER

ENVIRONMENTAL CONCEPT PLAN CHESTNUT HILL ESTATES

SECTION TWO LOTS 13 & 14 HOWARD COUNTY, MARYLAND

SOILS LEGEND				
SYMBOL	NAME / DESCRIPTION	GROUP	'K' FACTOR	
GgB	GLADSTONE LOAM, 3 TO 8 PERCENT SLOPES	В	0.24	
GuB	GLENVILLE-URBAN LAND-UDORTHENTS COMPLEX, 0 TO 8 PERCENT SLOPES	C.	0.43	

1) SOIL INFORMATION HAS BEEN TAKEN FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE; NATURAL

RESOURCES CONSERVATION SERVICE, WEB SOIL SURVEY.

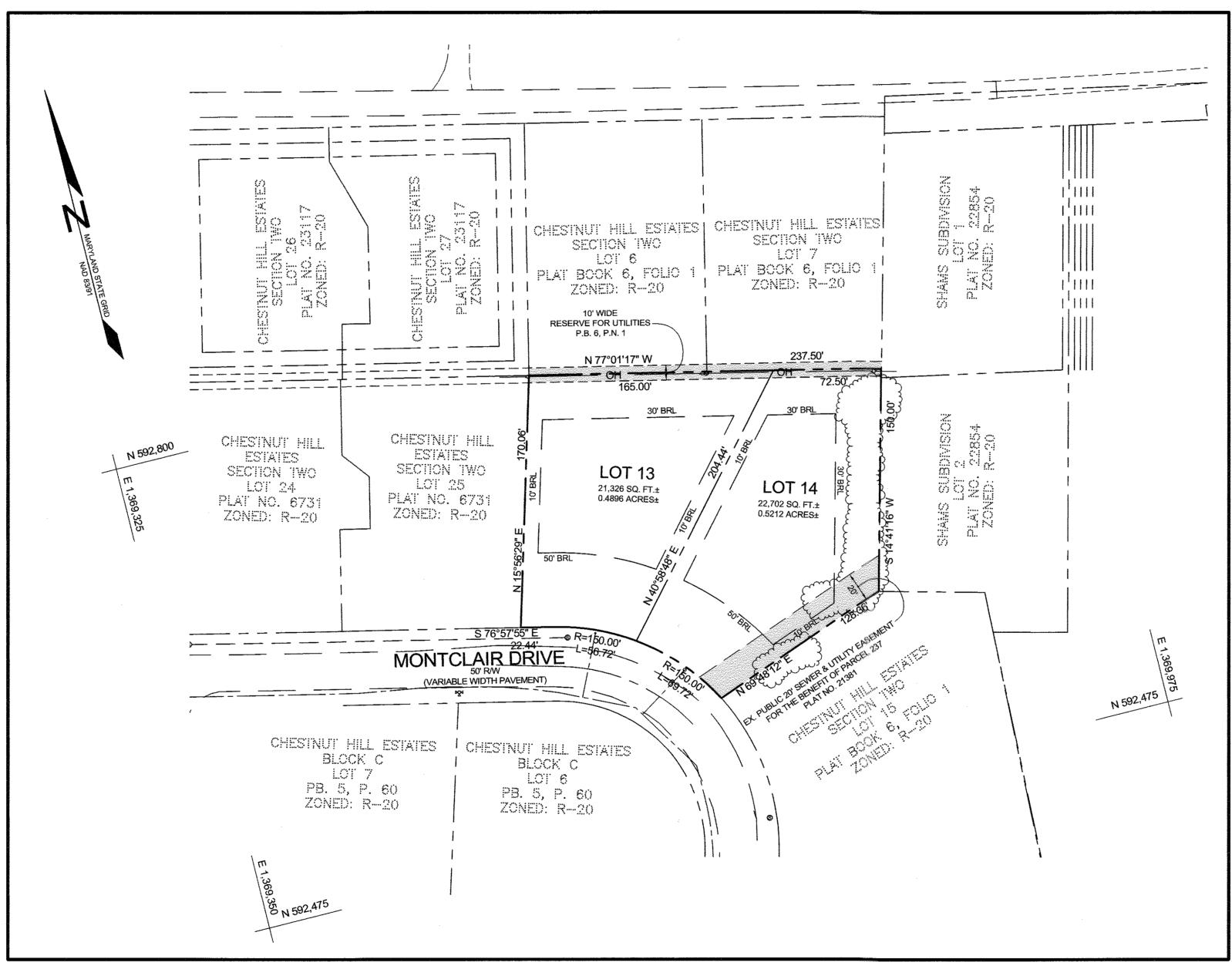
2) HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR 'K' GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT.

BENCHMARKS				
NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
17FB	593,214.401	1,365,669.05	456.316	4.5' NORTH OF RODGERS AVENUE
18DA	593,334.37	1,367,562.23	483.241	5' NORTH OF CHURCH LANE, 11.5' WEST OF HOUSE # 8432 MAIL BOX

	·
SITE ANALYSIS I	DATA CHART
ENVIRONMENTAL AREA	SIZE OR USE
TOTAL PROJECT AREA	1.01 ACRES±
LIMIT OF DISTURBANCE	0.98 ACRES±
GREEN OPEN AREA (LAWN)	0.77 ACRES±
IMPERVIOUS AREA	0.24 ACRES±
PROPOSED SITE USES	RESIDENTIAL
WETLANDS	0.00 ACRES±
WETLAND BUFFERS	0.00 ACRES±
FLOODPLAINS	0.00 ACRES±
FLOODPLAIN BUFFERS	0.00 ACRES±
EXISTING FOREST	0.00 ACRES±
SLOPES GREATER THAN 15%	0.00 ACRES±
HIGHLY ERODIBLE SOILS	0.21 ACRES±

NOTE: (1) HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR 'K' GREATER THAN 0.35 AND WITH A SLOPE GREATER

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING 10.2.17 CHIEF, DEVELOPMENT ENGINEERING DIVISION 9-25-17 DATE CHIEF, DIVISION OF LAND DEVELOPMENT



LOCATION MAP SCALE: 1"=50"

GENERAL NOTES SUBJECT PROPERTY ZONED R-20 PER 10/06/2013 COMPREHENSIVE ZONING PLAN.

2. TOTAL AREA OF PROPERTY: LOT 13 = 21,326 S.F. OR 0.4896 AC.±

PUBLIC WATER AND PUBLIC SEWER WILL BE USED WITHIN THIS SITE.

TOPOGRAPHY SHOWN OUTSIDE THE SITE IS BASED ON HOWARD COUNTY AERIAL TOPOGRAPHY FLOWN IN 2004. THE CONTOURS SHOWN ARE AT TWO-FOOT CONTOUR INTERVALS.

7. PROPERTY ADDRESS: 2821 MONTCLAIR ROAD, ELLICOTT CITY, MARYLAND 21043

PLAT REFERENCE: LOTS 13 & 14, BLOCK E, SECTION 2, CHESTNUT HILL ESTATES PLAT NO. 21381

13. A FIELD REVIEW PERFORMED BY SILL ENGINEERING GROUP, LLC IN JUNE, 2017 HAS CONFIRMED THAT NO WETLAND, STREAMS OR BUFFERS ARE PRESENT ON THE PROPERTY.

EXISTING UTILITIES ARE LOCATED BY THE USE OF ANY OR ALL OF THE FOLLOWING: ROAD CONSTRUCTION PLANS,

LOCATION OF THE EXISTING UTILITIES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY. 19. A PUBLIC SEWER MAIN SHOWN ON CONTRACT 244574-D WILL GO THROUGH LOT 14 IN THE EXISTING SEWER

EASEMENT RECORDED. THE EXISTING EASEMENT AND FUTURE WATER MAIN ARE SHOWN HEREON. 20. DRIVEWAY(S) SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW

DWELLINGS TO ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING

1) WIDTH - 12 FEET (16 FEET SERVING MORE THAN ONE RESIDENCE); 2) SURFACE - SIX (6") INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING (1-1/2"

3) GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE AND 45-FOOT TURNING RADIUS;

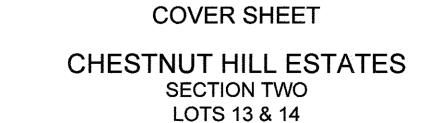
4) STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25-LOADING); DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH

OVER DRIVEWAY SURFACE; 6) MAINTENANCE - SUFFICIENT TO ENSURE ALL WEATHER USE

21. TBR = TO BE REMOVED

22. LIMIT OF DISTURBANCE = 42,480 SQ. FT. OR 0.9752 AC.± 23. ASSOCIATED DPZ FILE NOs.: F-11-033, 24-4574-D, 20 W&S, PLAT BOOK 6, FOLIO 1

SHEET INDEX			
SHEET NO.	DESCRIPTION		
1	COVER SHEET		
2	DEMOLITION PLAN		
3	CONCEPTUAL GRADING, LAYOUT, SEDIMENT & EROSION CONTROL AND SWM PLAN		
4	CONCEPTUAL DRAINAGE AREA MAP AND STORMWATER MANAGEMENT DETAILS		



TAX MAP 18 GRID 13 2ND ELECTION DISTRICT ZONED: R-20

SILL

Phone: 443.325.5076 Fax: 410.696.2022

ENGINEERING GROUP, LLC 1130 Dovedale Court, Suite 200 Marriottsville, Maryland 21104

LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 32025, EXPIRATION DATE: JUNE 20, 2019

CHECKED BY: PS SCALE: AS SHOWN DATE: SEPTEMBER 11, 2017

PROJECT#: <u>17-008</u> Email: info@sillengineering.com JANOVOE. Civil Engineering for Land Development OFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DUL

OWNER/DEVELOPER WOODSTOCK LAND LLC 3230 BETHANY LANE ELLICOTT CITY, MARYLAND 20142

410-203-9980

PARCEL 178

HOWARD COUNTY, MARYLAND

DESIGN BY: PS

DRAWN BY: AEA

BALTIMORE COUNTY

COUNTY

HOWARD COUNTY, MARYLAND ADC MAP 21, GRID C5 **VICINITY MAP**

GhC 1/1/1 EX. HOUSE EX. HOUSE EX. HOUSE zoweń: R-20 10' WIDE RESERVE FOR UTILITIES P.B. 6, F.N. 1 EX. SHED

EX. UTIL. POLE 11

EX. ELEC. LIGHTPOLE

EX. WO.

237.50 EX. BG&E POLE 262310 --EX. BG&E POLE 259750 EX. WOOD FENCE (TO REMAIN) 250104-1W0 101-24 PLAT 40: 678 LOT 14 LOT 25/ 22,702 SQ: FT,± PLAT NO. \$731 0.5212 ACRES± LOT 13 21,326 SQ. FT.± | ZONED: x(--20 0.4896 ACRES± EX. HOUSE EX. HOUSE S 76°57'55" E 1-56.72'

EX 6" SEWER CONTRACT NO. 20 W&S 22.44" MONTCLAIR DRIVE (VARIABLE WIDTH PAVEMENT) EX 6" WATER PLAN VIEW **GRAPHIC SCALE** (IN FEET) 1 INCH = 30 FEET APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING CHIEF, DEVELOPMENT ENGINEERING DIVISION JR OWNER/DEVELOPER WOODSTOCK LAND LLC 9-25-17 DATE 3230 BETHANY LANE ELLICOTT CITY, MARYLAND 20142 410-203-9980

LEGEND EXISTING CONTOUR -----382 **EXISTING TREELINE** SOIL BOUNDARY EXISTING WOOD FENCE OVERHEAD WIRES EXISTING UTILITY POLE



SILL ENGINEERING GROUP, LLC

CHECKED BY: PS Marriottsville, Maryland 21104 Phone: 443.325.5076 SCALE: _____1"=30' DATE: SEPTEMBER 11, 2017 Fax: 410,696.2022 PROJECT#: 17-008 Email: info@sillengineering.com

Civil Engineering for Land Development ROFESSIONAL CERTIFICATION: THEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME , AND THAT LAM A DUL

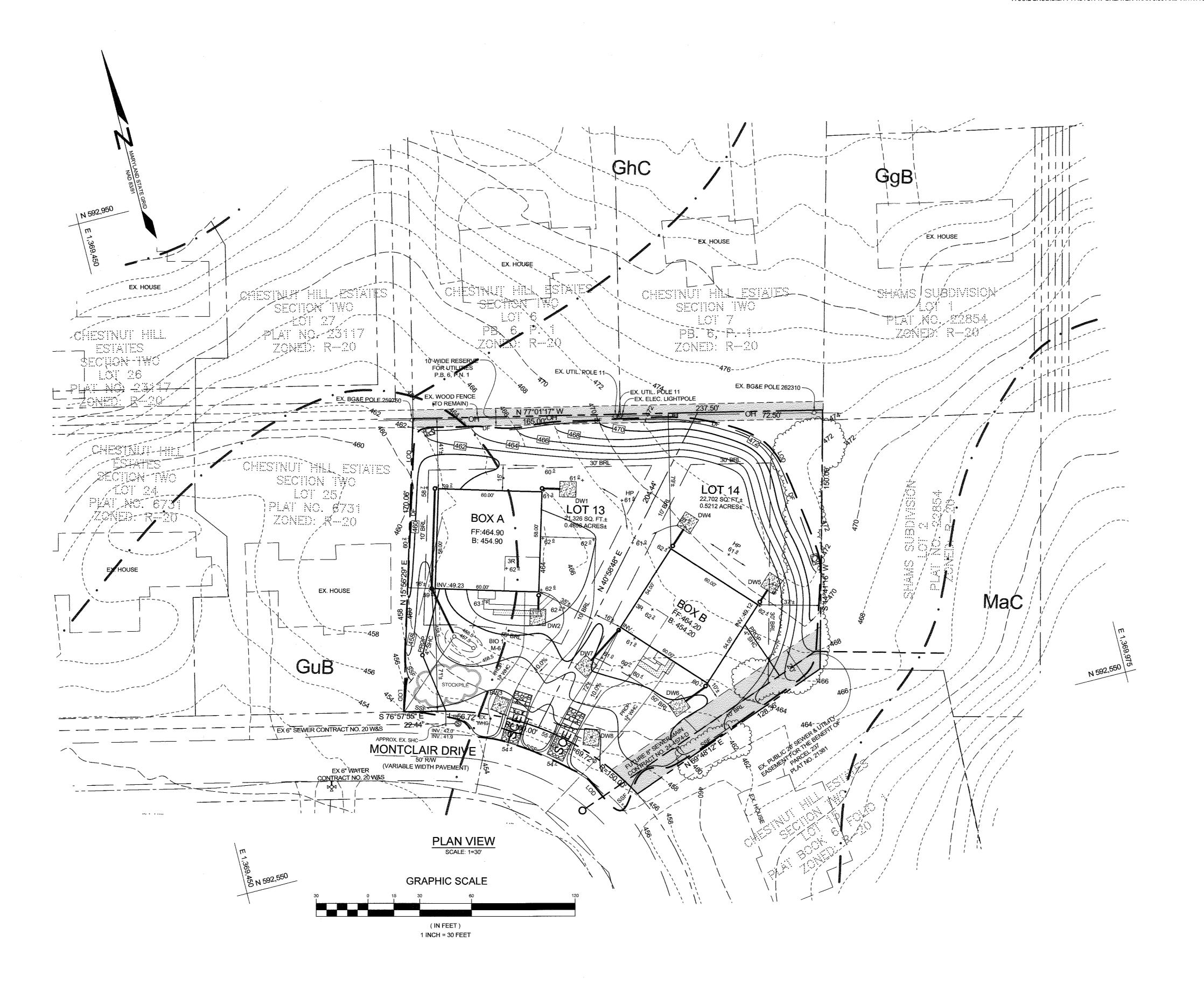
PARCEL 178

SOILS LEGEND NAME / DESCRIPTION GROUP 'K' FACTOR GgB GLADSTONE LOAM, 3 TO 8 PERCENT SLOPES
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LEGEND EXISTING CONTOUR ____382 PROPOSED CONTOUR PROPOSED SPOT ELEVATION DIRECTION OF FLOW $\sim\sim\sim$ **EXISTING TREELINE** SOIL BOUNDARY PROPOSED DRYWELL (4" PVC TYP. WITH DOWNSPOUT) PROPOSED DRYWELL (WITH INLET) PROP. WHC PROPOSED 1.5" WHC STABILIZED CONSTRUCTION ENTRANCE SUPER SILT FENCE LIMIT OF DISTURBANCE PROPOSED DRAINAGE DIVIDE OVERHEAD WIRES **EXISTING UTILITY POLE**

PROPOSED RIPRAP



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Q. 35.17 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION &

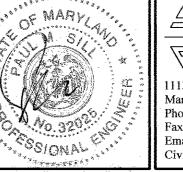
CHIEF, DIVISION OF LAND DEVELOPMENT, 5

CONCEPTUAL GRADING, LAYOUT, SEDIMENT & EROSION CONTROL AND STORMWATER MANAGEMENT PLAN CHESTNUT HILL ESTATES

SECTION TWO LOTS 13 & 14

TAX MAP 18 GRID 13 2ND ELECTION DISTRICT ZONED: R-20

PARCEL 178 HOWARD COUNTY, MARYLAND



11130 Dovedale Court, Suite 200 Marriottsville, Maryland 21104 Phone: 443.325.5076 Fax: 410.696,2022

PROFESSIONAL CERTIFICATION: 1 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. 32025, EXPIRATION DATE: JUNE 20, 2019

ENGINEERING GROUP, LLC CHECKED BY: PS SCALE: AS SHOWN DATE: SEPTEMBER 11, 2017 PROJECT#: 17-008 Email: info@sillengineering.com Civil Engineering for Land Development

OWNER/DEVELOPER WOODSTOCK LAND LLC 3230 BETHANY LANE ELLICOTT CITY, MARYLAND 20142 410-203-9980

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

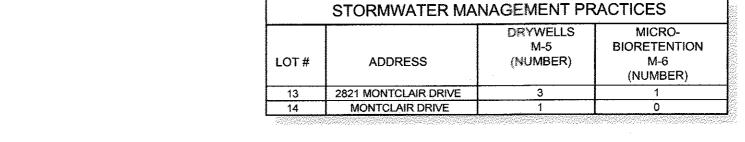
- PRIVATELY OWNED PRACTICES SHALL HAVE A MAINTENANCE PLAN AND SHALL BE PROTECTED BY EASEMENT, DEED RESTRICTION, ORDINANCE, OR OTHER LEGAL MEASURES PREVENTING ITS NEGLECT, ADVERSE ALTERATION, AND REMOVAL.
- DRY WELLS SHALL BE INSPECTED AND CLEANED ANNUALLY. THIS INCLUDES PIPES, GUTTERS, DOWNSPOUTS, AND ALL FILTERS.
- PONDING, STANDING WATER, OR ALGAL GROWTH ON TOP OF THE DRY WELL MAY INDICATE FAILURE DUE TO SEDIMENTATION IN THE GRAVEL MEDIA. IF WATER PONDS FOR MORE THAN 48 HOURS AFTER A MAJOR STORM OR MORE THAN SIX INCHES OF SEDIMENT HAS ACCUMULATED, THE GRAVEL MEDIA SHOULD BE EXCAVATED AND REPLACED.

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED BIORETENTION FACILITIES (M-6)

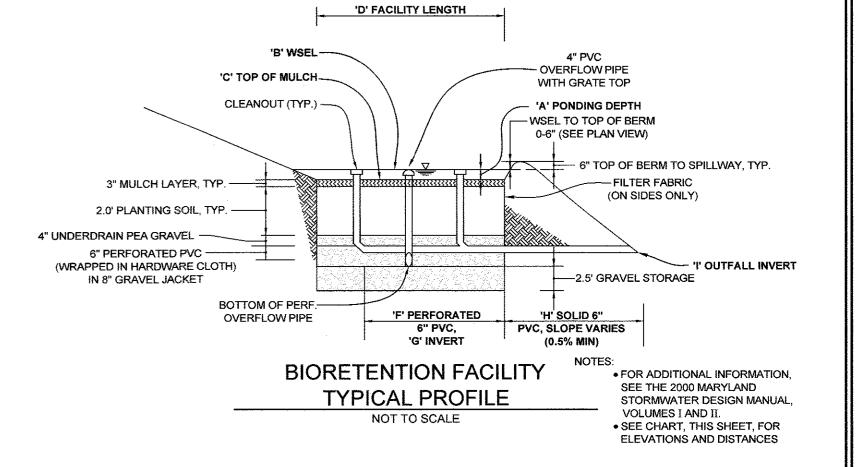
- a. THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUME II, TABLE A.4.1 AND 2.
- THE OWNER SHALL PERFORM A PLANT INSPECTION IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD OR DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL, TREAT DISEASED TREES AND SHRUBS, AND REPLACE ALL DEFICIENT STAKES AND WIRES.
- c. THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS. THE PREVIOUS MULCH LAYER SHALL BE REMOVED BEFORE THE NEW LAYER IS
- d. THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DISCONNECTION OF ROOFTOP RUNOFF (N-1) AND NON-ROOFTOP RUNOFF (N-2)

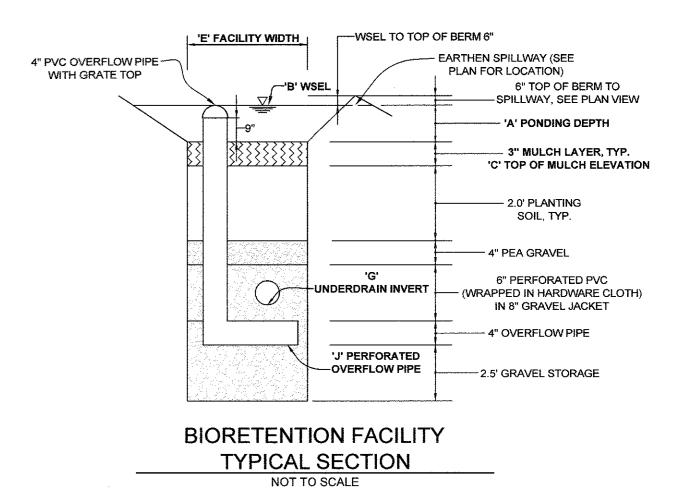
a. MAINTENANCE OF AREAS RECEIVING DISCONNECTED RUNOFF IS GENERALLY NO DIFFERENT THAN THAT REQUIRED FOR OTHER LAWN OR LANDSCAPED AREAS. THE OWNER SHALL ENSURE THE AREAS RECEIVING RUNOFF ARE PROTECTED FROM FUTURE COMPACTION OR DEVELOPMENT OF IMPERVIOUS AREA. IN COMMERCIAL AREAS, FOOT TRAFFIC SHOULD BE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



LEGEND **EXISTING CONTOUR** ----382 PROPOSED CONTOUR PROPOSED SPOT ELEVATION DIRECTION OF FLOW \sim **EXISTING TREELINE** SOIL BOUNDARY PROPOSED DRYWELL (4" PVC TYP. WITH DOWNSPOUT) PROPOSED DRYWELL (WITH INLET) PROP. WHC PROPOSED 1.5" WHC STABILIZED CONSTRUCTION ENTRANCE SUPER SILT FENCE LIMIT OF DISTURBANC PROPOSED DRAINAGE DIVIDE NON-ROOFTOP DISCONNECT



BIORETENTION ELEVA	TIONS AND DI	MENSI
DESCRIPTION	BIO 1	
'A' PONDING DEPTH	1.00'	
'B' WSEL	458.50'	
'C' TOP OF MULCH	457.50'	
'D' FACILITY LENGTH	23'	
'E' FACILITY WIDTH	14'	
'F' PERF. UNDERDRAIN DIMENSION	13.00'	
'G' UNDERDRAIN INVERT	454.33'	
'H' SOLID UNDERDRAIN DIMENSION	47.4'	
'I' OUTFALL INVERT	454.07'	
'J' OVERFLOW PIPE	453.91'	



ı		

MONTCLAIR DRIVE

(VARIABLE WIDTH PAVEMENT)

10 WIDE RESERV

(TO REMAIN) -

EX. UTIL. ROLE 11~

√21.326 SQ. FT.±

0.4896 ACRES±

EX. UTIL. POLE 1

EX. ELEC. LIGHTPOL

FOR UTILLE

DW4 M-5 9.5'x9.0'x5.0' 9.5'x9.0'x5.0' DW5 M-5 810 DW6 M-5 810 9.5'x9.0'x5.0' DW7 M-5 810 9.5'x9.0'x5.0' M-5 1,000 9.5'x9.0'x5.0' PRACTICE M-5: DRYWELLS

SWM DESIGN CHART

870

1,000

PRACTICE DRAINAGE AREA (SF)

M-5

M-5

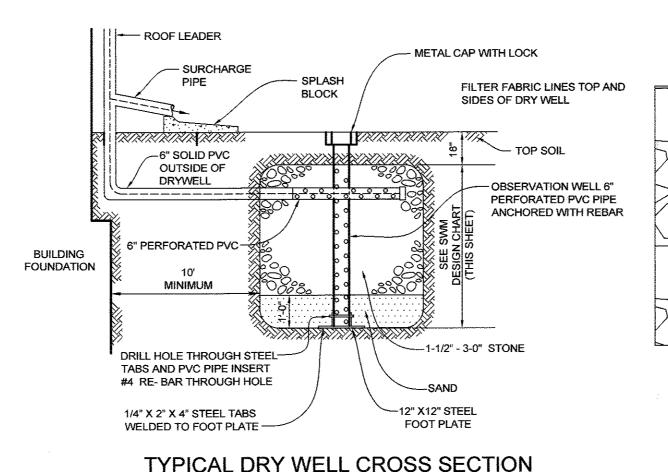
M-5

AREA

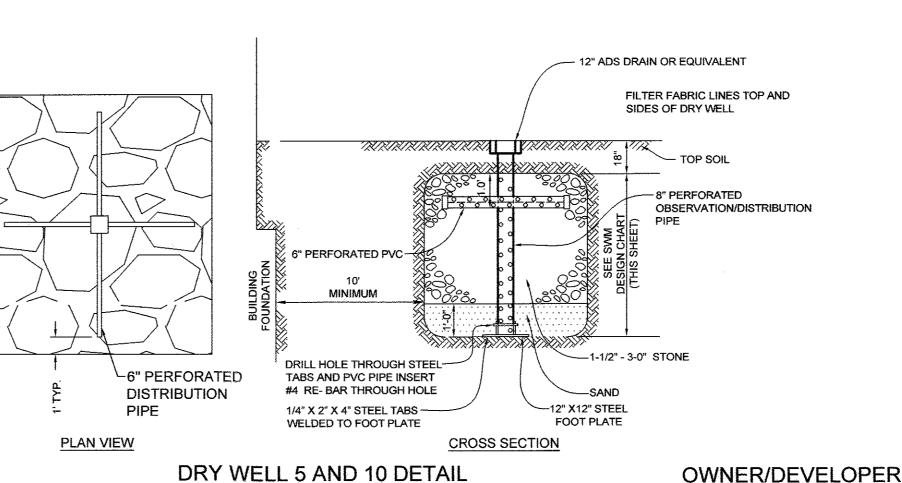
DW1

DW2

DW3



DRAINAGE AREA DETAIL



SECTION TWO TAX MAP 18 GRID 13 2ND ELECTION DISTRICT Fax: 410.696.2022 Email: info@sillengineering.com Civil Engineering for Land Development

WOODSTOCK LAND LLC

3230 BETHANY LANE ELLICOTT CITY, MARYLAND 20142

410-203-9980

LOTS 13 & 14 ZONED: R-20 HOWARD COUNTY, MARYLAND DESIGN BY: PS SILL ENGINEERING GROUP, LLC 11130 Dovedale Court, Suite 200 Marriottsville, Maryland 21104 Phone: 443.325.5076

CONCEPTUAL DRAINAGE AREA MAP

AND STORMWATER MANAGEMENT DETAILS

CHESTNUT HILL ESTATES

DRAWN BY: AEA CHECKED BY: PS SCALE: AS SHOWN DATE: SEPTEMBER 11, 2017 PROJECT#: <u>17-008</u> SHEET#: <u>4</u> of <u>4</u> RÔFESSIONAL CERTIFICATION: ! HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME , AND THAT I AM A DUL

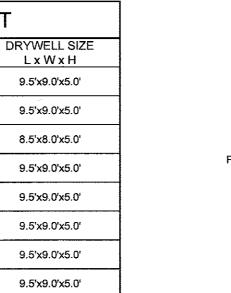
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING 10.2.17 DATE CHIEF, DEVELOPMENT ENGINEERING DIVISION

CHIEF, DIVISION OF LAND DEVELOPMENT

9.25 · 17

ICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 32025, EXPIRATION DATE: JUNE 20, 2019 ECP-18-001

PARCEL 178



TYPICAL DRY WELL CROSS SECTION

NOT TO SCALE

476---

LOT 14

22,702 SQ. FT.±

0.5212 ACRES±

EX. BG&E POL € 262310 -

DRY WELL 5 AND 10 DETAIL NOT TO SCALE