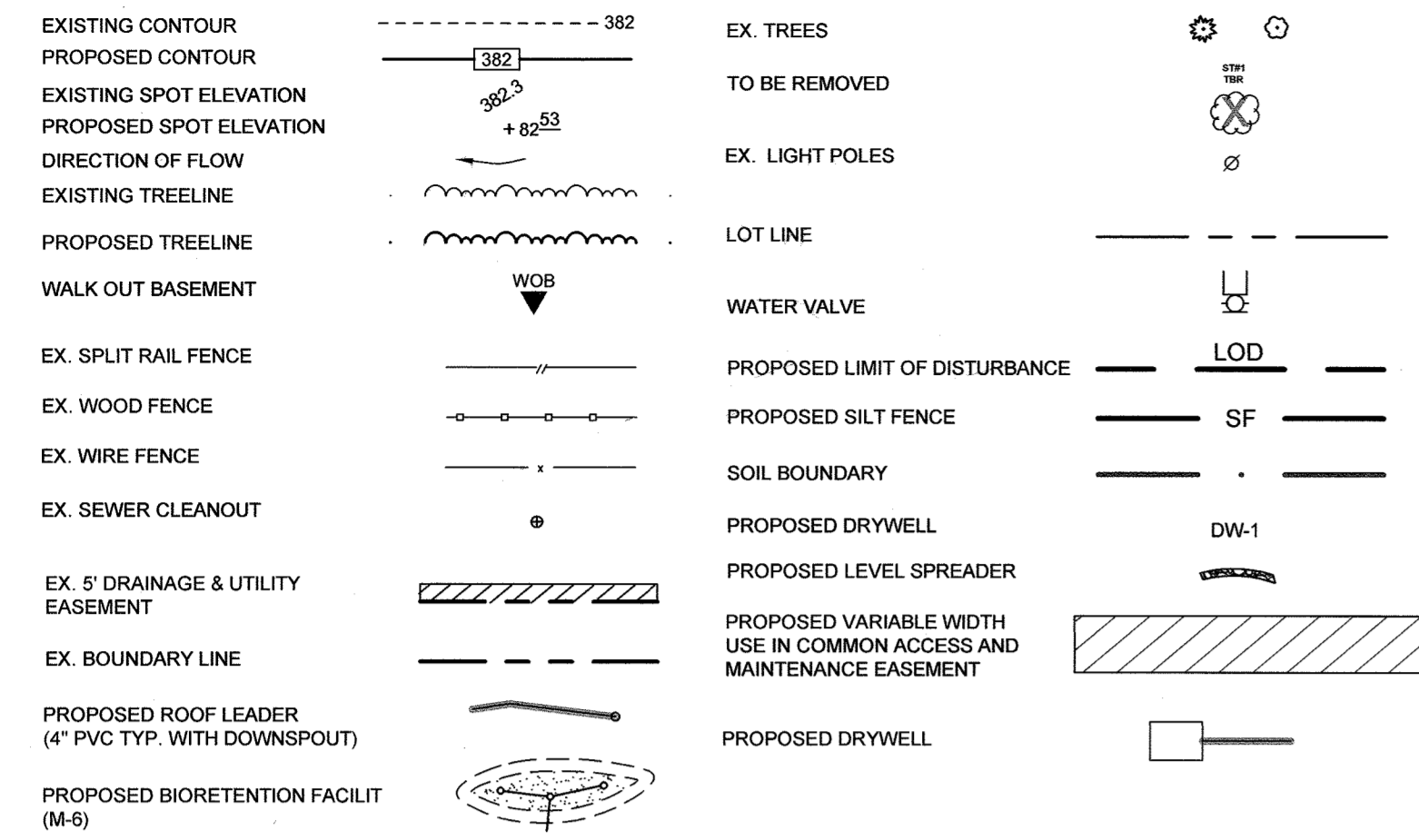


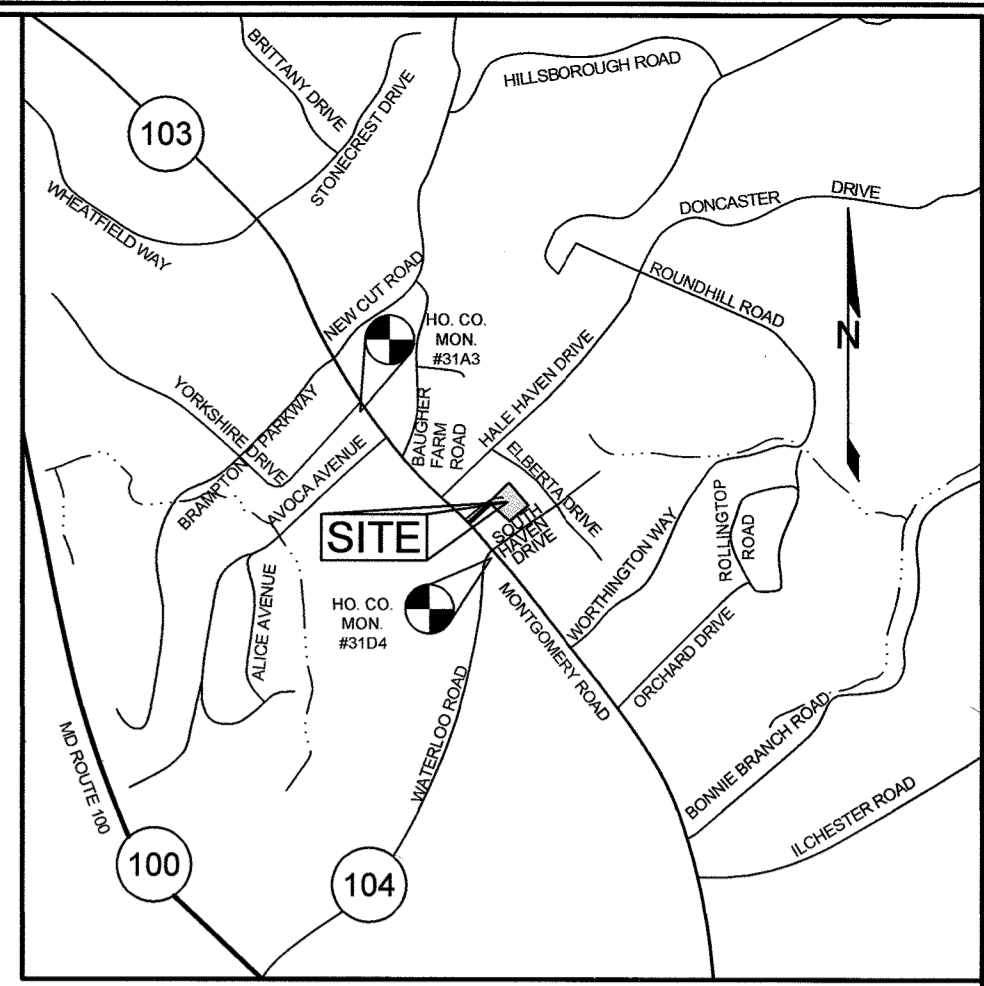
**LEGEND**



# ENVIRONMENTAL CONCEPT PLAN

## GARRIAN ACRES

### LOTS 5,6 & 7 A RESUBDIVISION OF GARRIAN ACRES LOT 2 HOWARD COUNTY, MARYLAND



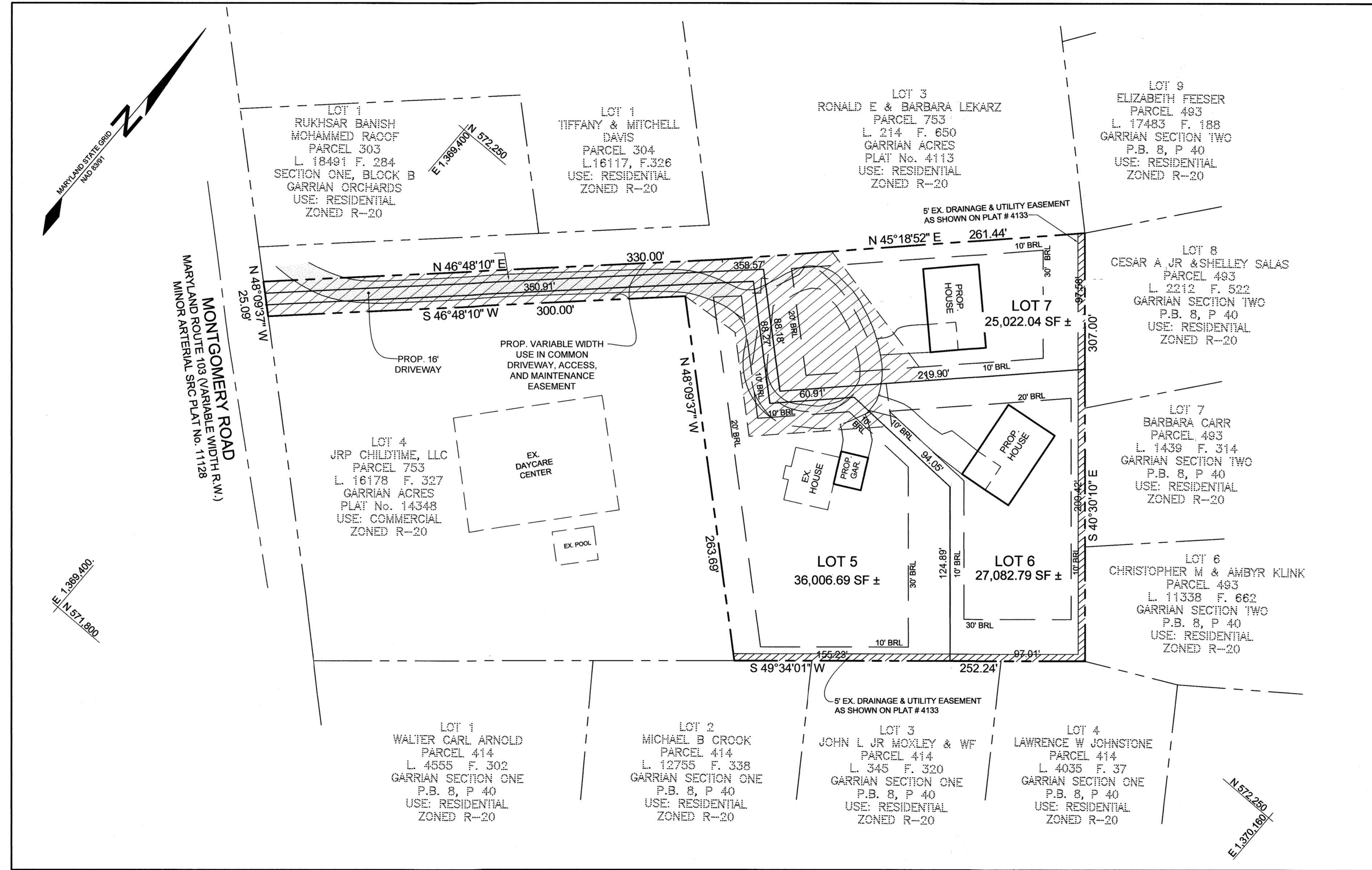
BENCHMARKS				
NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
31D4	571,700.664	1,369,606.417	494.445	27.5' FROM MANHOLE, 40.7' FROM INLET, 16.5' FROM TRAFFIC POLE, 60.1' FROM PC
31A3	573,217.889	1,368,237.788	486.905	1' FROM WALK, 2.5' TO FIG, 29' FROM THE LIGHT POLE, 102.4' FROM POLE G&E 34284

**GENERAL NOTES**

- SUBJECT PROPERTY ZONED R-20 PER 10/06/13 COMPREHENSIVE ZONING PLAN.
- PROPERTY ADDRESS: 4889 MONTGOMERY ROAD, ELLICOTT CITY 21043
- TOTAL AREA OF PROPERTY = 2.023 AC ±
- PROPOSED NUMBER OF LOTS = 3
- PROPOSED AREA OF LOTS = 2.023 AC ±
- PUBLIC WATER AND PUBLIC SEWER WILL BE USED WITHIN THIS SITE.
- THE BOUNDARY SHOWN HEREON IS FROM A SURVEY BY NJR & ASSOCIATES LLC, JANUARY 2, 2014
- THE TOPOGRAPHY SHOWN IS FROM NJR & ASSOCIATES LLC, JANUARY 2, 2014
- REFERENCE: LIBER 16283, FOLIO 001
- PREVIOUS HOWARD COUNTY FILE NUMBERS: RECORD PLAT NO. 14348 AND HOWARD COUNTY FILE NUMBERS F-914, F-01-006, AND WF-00-069 AND RECORDED PLAT 4133
- THE SOILS SHOWN HAVE BEEN TAKEN FROM THE US DEPARTMENT OF AGRICULTURE, NATURAL RESOURCE CONSERVATION SERVICE, WEB SOIL SURVEY WEBSITE, HOWARD COUNTY SOILS GRID 14, SUB-GRID 56.
- A WETLAND AND STREAM STUDY HAS BEEN PREPARED BY SILL ENGINEERING GROUP LLC, IN NOVEMBER 2018.
- THE LOTS SHOWN HEREON COMPLY WITH THE MINIMUM OWNERSHIP WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT.
- EXISTING UTILITIES ARE LOCATED BY THE USE OF ANY OR ALL OF THE FOLLOWING: ROAD CONSTRUCTION PLANS, FIELD SURVEYS, PUBLIC WATER AND SEWER PLANS AND OTHER AVAILABLE RECORD DRAWINGS. APPROXIMATE LOCATION OF THE EXISTING UTILITIES ARE SHOWN FOR THE CONTRACTORS INFORMATION. CONTRACTOR SHALL LOCATE EXISTING UTILITIES WELL IN ADVANCE OF CONSTRUCTION ACTIVITIES AND TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO THE CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
- PRELIMINARY GEOTECHNICAL INFORMATION HAS BEEN TAKEN FROM THE US DEPARTMENT OF AGRICULTURE, NATURAL RESOURCE CONSERVATION SERVICE WEB SOIL SURVEY WEBSITE AND FIELD INVESTIGATIONS. IF FUTURE INVESTIGATIONS SHOW UNSATISFACTORY SOIL CONDITIONS FOR ANY OF THE STORMWATER MANAGEMENT TREATMENTS SHOWN, EITHER UNDERDRAINS WILL BE PROVIDED OR A DIFFERENT PRACTICE WILL BE SUBSTITUTED.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL, WHICH IS BASED ON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NUMBERS 31D4 AND 31A3 WERE USED FOR THIS PROJECT.
- NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF WETLANDS, STREAMS, OR THEIR REQUIRED BUFFERS, FLOODPLAIN AND FOREST CONSERVATION EASEMENT AREAS, UNLESS WAIVERS HAVE BEEN APPROVED OR ACTIVITIES HAVE BEEN DETERMINED ESSENTIAL BY THE DEPARTMENT OF PLANNING AND ZONING.
- THE STORMWATER MANAGEMENT SYSTEM SHOWN ON THESE PLANS IS AN APPROXIMATION OF THE SIZE, SHAPE, AND LOCATION. IT IS UNDERSTOOD THAT THIS SYSTEM HAS NOT BEEN DESIGNED AND THE ACTUAL DESIGN MAY CHANGE, ALTERING THE NUMBER OF UNITS ALLOCATED FOR THIS DEVELOPMENT.
- ALL SWALES TO HAVE EROSION CONTROL MATTING.
- APPROVAL OF THIS ECP DOES NOT CONSTITUTE APPROVAL OF SUBSEQUENT AND ASSOCIATED SUBDIVISION PLANS, SITE DEVELOPMENT PLANS OR RED-LINE REVISIONS. REVIEW OF THIS PROJECT FOR COMPLIANCE WITH THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE HOWARD COUNTY ZONING REGULATIONS SHALL OCCUR AT THE SUBDIVISION OR SITE DEVELOPMENT PLAN STAGES OR RED-LINE REVISION PROCESS. 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.
- A SIMPLIFIED FOREST STAND DELINEATION HAS BEEN COMPLETED AND NO FOREST EXIST FOR THIS SITE. IT IS NOT LOCATED IN A 100 YEAR FLOODPLAIN, AND THERE ARE NO STREAMS, WETLANDS OR STREAM BUFFERS ON SITE. THERE ARE NO STEEP SLOPES AND NO CRITICAL HABITAT AREAS. THERE ARE NO NON-TIDAL OR TIDAL WETLANDS ON SITE. NO RARE, THREATENED OR ENDANGERED SPECIES, OR THEIR HABITATS, WERE OBSERVED ON THE PROPERTY. NO HISTORIC ELEMENTS OR CEMETERIES ARE KNOWN TO OCCUR ON THE PROPERTY. SURROUNDING LAND USE IS PRIMARILY MEDIUM DENSITY RESIDENTIAL DEVELOPMENT. THE SITE IS LOCATED IN THE LITTLE PATUXENT AND PATAPSCO RIVER WATERSHED, THE CLOSEST TRIBUTARIES ARE CLASSIFIED AS USE CLASS I.

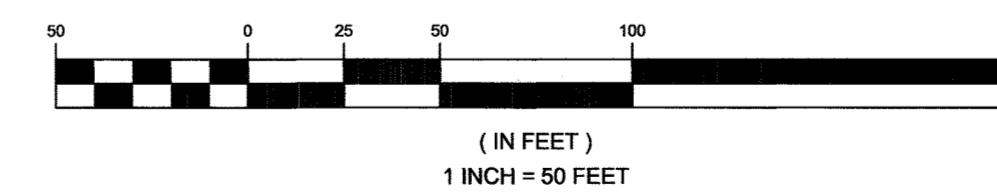
MINIMUM LOT SIZE CHART			
LOT NUMBER	GROSS AREA (SF)	PIPESTEM AREA (SF)	MINIMUM LOT SIZE (SF)
5	36,006.69 ±	2487.27 ±	33,519.42 SF ±
6	27,082.79 ±	4162.97 ±	22,919.82 SF ±
7	25,022.04 ±	3011.35 ±	22,010.69 SF ±

SITE ANALYSIS DATA SHEET	
ENVIRONMENTAL AREA	SIZE OR USE
TOTAL PROJECT AREA	2.023 AC ±
ROW TO BE DEDICATED	N/A
ZONING DESIGNATION	R-20
NUMBER OF UNITS ALLOWED	3
NUMBER OF UNITS PROPOSED	3
LIMIT OF DISTURBANCE	0.97 AC ±
GREEN OPEN AREA (LAWN)	1.79 AC ±
PROPOSED IMPERVIOUS AREA	0.23 AC ±
IMPERVIOUS AREA EXISTING	0.28 AC ±
PROPOSED SITE USES	RESIDENTIAL
REQUIRED PARKING SPACES	2.5 SPACES/LOT
PROVIDED PARKING SPACES	2.5 SPACES/LOT
WETLANDS	0.0 AC ±
WETLAND BUFFERS	0.0 AC ±
FLOODPLAINS	0.0 AC ±
FLOODPLAIN BUFFERS	0.0 AC ±
EXISTING FOREST	0.0 AC ±
FOREST TO BE CLEARED	0.0 AC ±
FOREST TO REMAIN	0.0 AC ±
STREAM ON SITE	0.0 AC ±
STREAM BUFFER	0.0 AC ±
SLOPES GREATER THAN 15%	0.0 AC ±
SLOPES GREATER THAN 25%	0.0 AC ±
HIGHLY ERODIBLE SOILS	0.0 AC ±



**PLAN VIEW**  
SCALE 1"=50'

**GRAPHIC SCALE**



**STORMWATER MANAGEMENT NOTES & DESIGN NARRATIVE**

- ENVIRONMENTALLY SENSITIVE AREAS (STREAMS AND STEEP SLOPES) DO NOT EXIST ON-SITE IN THE AREA OF DEVELOPMENT.
- STORMWATER MANAGEMENT OBLIGATIONS WILL BE TREATED BY UTILIZING TWO MICRO-BIORETENTION FACILITIES AND SEVEN DRYWELLS FOR THE PROPOSED DRIVEWAYS AND HOUSES.
- THE SITE DOES NOT HAVE ANY NATURAL RESOURCES.
- TO THE GREATEST EXTENT PRACTICABLE THE NATURAL FLOW PATTERNS OF THE SITE HAVE BEEN MAINTAINED BY DIRECTING STORM DRAIN, BIORETENTION AND SHEET FLOW RUNOFF TO LOCATIONS WITHIN THE NATURAL DRAINAGE DIVIDES.
- IMPERVIOUS AREAS HAVE BEEN REDUCED BY THE USE OF THE SMALLEST DRIVEWAY WIDTH ALLOWABLE AND BY UTILIZING PERVIOUS AREAS FOR TREATMENT.
- THE REQUIRED P<sub>6</sub> FOR THE SITE (1.2") HAS BEEN TREATED THROUGH THE USE OF MICRO-BIORETENTION (M-6) AND DRYWELLS (M-5). SEDIMENT CONTROL WILL BE PROVIDED BY SILT FENCE. NO STRUCTURAL BMP'S OR SEDIMENT BASINS ARE REQUIRED.
- THIS SITE IS ZONED R-20; THEREFORE COMPLIANCE WITH "FULL DEVELOPMENT".

SPECIMEN TREE TABLE					
KEY	SIZE	CRZ	TYPE	CONDITION	REMARKS
ST-1	38"	57'	BLACK OAK	GOOD	

**NOTE:**

THIS SUBDIVISION IS EXEMPT FROM THE FOREST CONSERVATION PROTECTION PLAN. THE LOD IS LESS THAN 40,000 SF, AND NO FOREST EXIST ON SITE. THE SPECIMEN TREE IS NOT SUBJECT TO THE REGULATIONS PERTAINING TO THE RETENTION OF SPECIMEN TREES.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 4/27/20  
  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 4/28/2020

**OWNER/DEVELOPER**

METRO HOUSING PROJECT LLC  
 4889 MONTGOMERY ROAD  
 ELLICOTT CITY, MARYLAND 21043  
 C/O JAMES JOO  
 1-301-500-0606

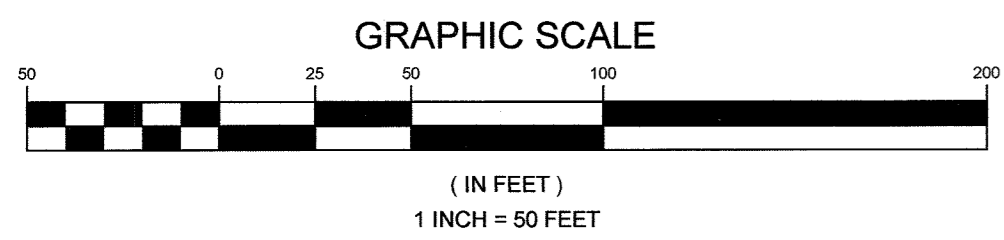
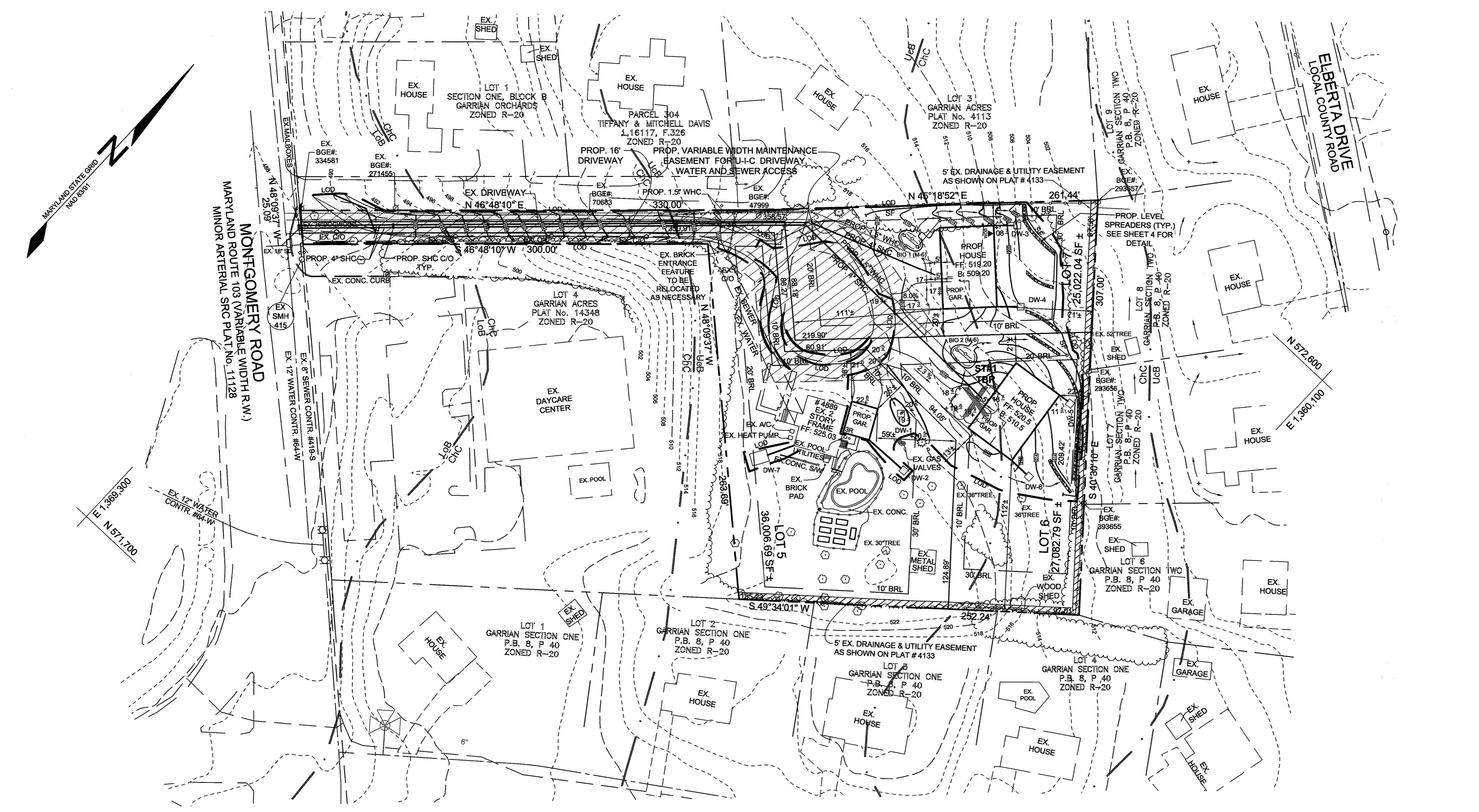
SHEET INDEX	
SHEET NO.	DESCRIPTION
1	COVER SHEET
2	CONCEPTUAL GRADING, SEDIMENT & EROSION CONTROL AND SIMPLIFIED FSD PLAN
3	CONCEPTUAL STORMWATER MANAGEMENT DRAINAGE AREA MAP
4	CONCEPTUAL STORMWATER MANAGEMENT PLAN, NOTES, AND DETAILS

**COVER SHEET**  
**GARRIAN ACRES**  
 LOTS 5,6 & 7 A RESUBDIVISION OF GARRIAN ACRES LOT 2  
 4889 MONTGOMERY ROAD  
 ZONED R-20  
 TAX MAP 31 GRID 8 2ND ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 PARCEL 0753

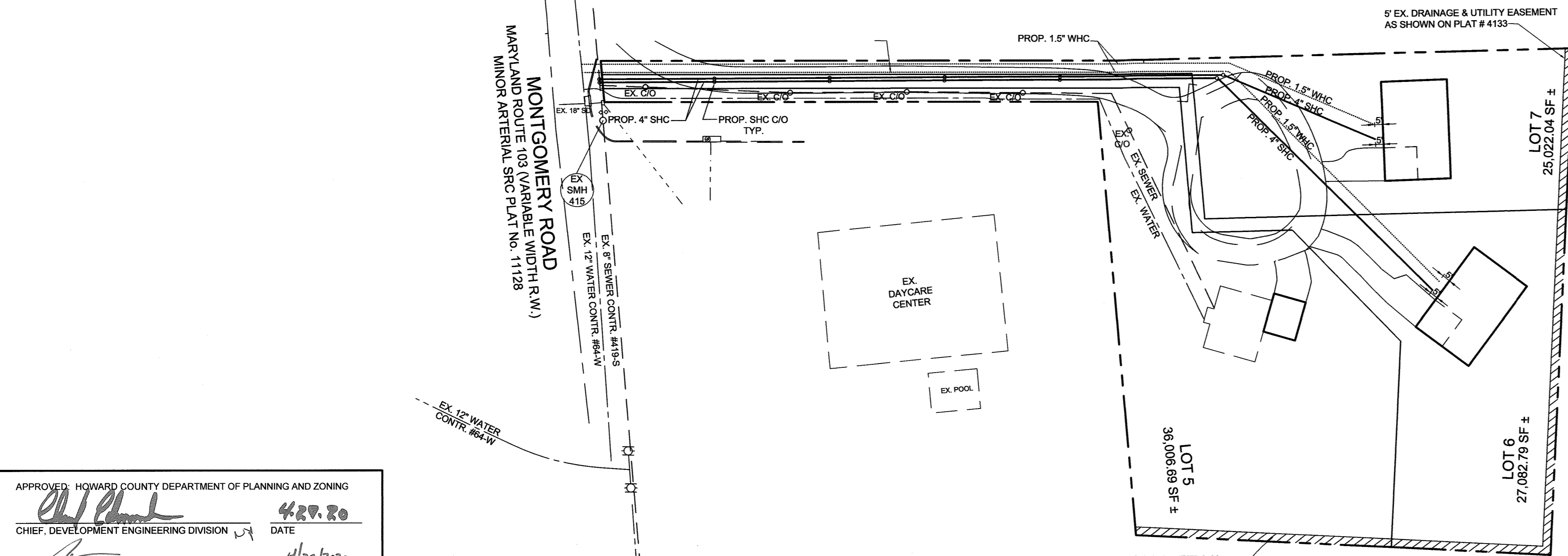
 SILL ENGINEERING GROUP, LLC 16005 Frederick Road, 2nd Floor Woodbine, MD 21797 Phone: 443.325.5076 Fax: 410.696.2022 Email: info@sillengr.com Civil Engineering for Land Development	DESIGN BY: PS DRAWN BY: NM CHECKED BY: PS SCALE: AS SHOWN DATE: MARCH 25, 2020 PROJECT #: 18-076 SHEET #: 1 of 4
	PROFESSIONAL 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. 32025, EXPIRATION DATE: JUNE 29, 2021.

SOILS LEGEND			
SYMBOL	NAME / DESCRIPTION	GROUP	'K' FACTOR
LoB	LEGORE-MONTALTO-URBAN LAND COMPLEX, 0 TO 8 PERCENT SLOPES	C	—
ChC	CHILLUM-RUSSETT LOAMS, 5 TO 10 PERCENT SLOPES	C	0.43
UcB	URBAN LAND-CHILLUM-BELTSVILLE COMPLEX, 0 TO 5 PERCENT SLOPES	C	0.43

NOTES:  
 1) SOIL INFORMATION HAS BEEN TAKEN FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE: WEBB 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.



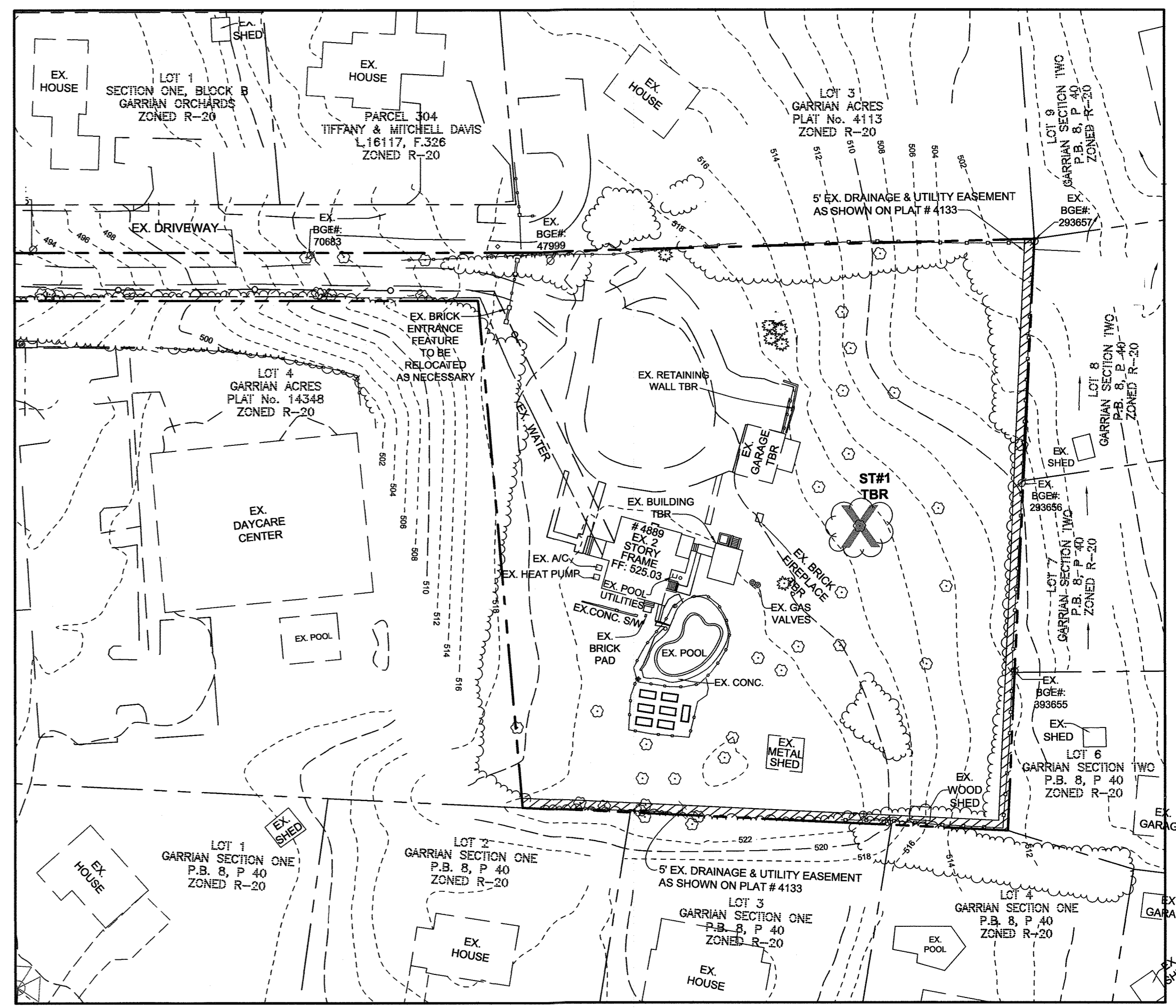
PLAN VIEW  
SCALE: 1"=50'



WATER & SEWER CONNECTION DETAIL  
SCALE: 1"=50'

LEGEND

EXISTING CONTOUR		EX. TREES	
PROPOSED CONTOUR		TO BE REMOVED	
EXISTING SPOT ELEVATION		EX. LIGHT POLES	
PROPOSED SPOT ELEVATION		LOT LINE	
DIRECTION OF FLOW		WATER VALVE	
EXISTING TREELINE		PROPOSED LIMIT OF DISTURBANCE	
PROPOSED TREELINE		PROPOSED SILT FENCE	
WALK OUT BASEMENT		SOIL BOUNDARY	
EX. SPLIT RAIL FENCE		PROPOSED DRYWELL	
EX. WOOD FENCE		PROPOSED LEVEL SPREADER	
EX. WIRE FENCE		PROPOSED VARIABLE WIDTH USE IN COMMON ACCESS AND MAINTENANCE EASEMENT	
EX. SEWER CLEANOUT		PROPOSED DRYWELL	
EX. 5' DRAINAGE & UTILITY EASEMENT			
EX. BOUNDARY LINE			
PROPOSED ROOF LEADER (4" PVC TYP. WITH DOWNSPOUT)			
PROPOSED BIORETENTION FACILITY (M-6)			



EXISTING CONDITION PLAN  
SCALE: 1"=50'

EXISTING CONDITIONS SIMPLIFIED FOREST STAND DELINEATION

IN NOVEMBER 2018, A SIMPLIFIED FOREST STAND DELINEATION WAS CONDUCTED AT THE PROPERTY LOCATED AT 4889 MONTGOMERY ROAD, IN HOWARD COUNTY MARYLAND. THE SITE IS 2.023 AC ±, AND IS SHOWN ON COUNTY TAX MAP 31 AND PARCEL 0753. THE PROPERTY IS SITUATED SOUTH OF ELLICOTT CITY, NEAR MONTGOMERY ROAD AND IS BOUNDED BY MEDIUM DENSITY RESIDENTIAL DEVELOPMENT AND A DAY CARE CENTER.  
 THE PROPERTY CURRENTLY HAS AN EXISTING SINGLE FAMILY HOUSE, AND THE SITE HAS A MIXTURE OF MATURE, LARGE AND ORNAMENTAL DECIDUOUS TREES AND A MIXTURE OF EVERGREEN TREES.  
 NO AREA OF THE SITE MEET THE DEFINITION OF FOREST PER THE STATE FOREST CONSERVATION TECHNICAL MANUAL, THIRD EDITION, 1997.

CONCEPTUAL GRADING, SEDIMENT & EROSION CONTROL AND SIMPLIFIED FSD PLAN  
GARRIAN ACRES

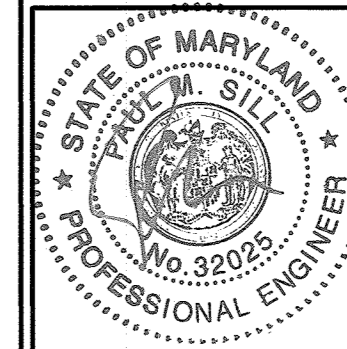
LOTS 5, 6 & 7 A RESUBDIVISION OF GARRIAN ACRES LOT 2  
4889 MONTGOMERY ROAD  
ZONED R-20

TAX MAP 31 GRID 8 2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND PARCEL 0753

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 4/23/2020

OWNER/DEVELOPER

METRO HOUSING PROJECT LLC  
 4889 MONTGOMERY ROAD  
 ELLICOTT CITY, MARYLAND 21043  
 C/O JAMES JOO  
 1-301-500-0606

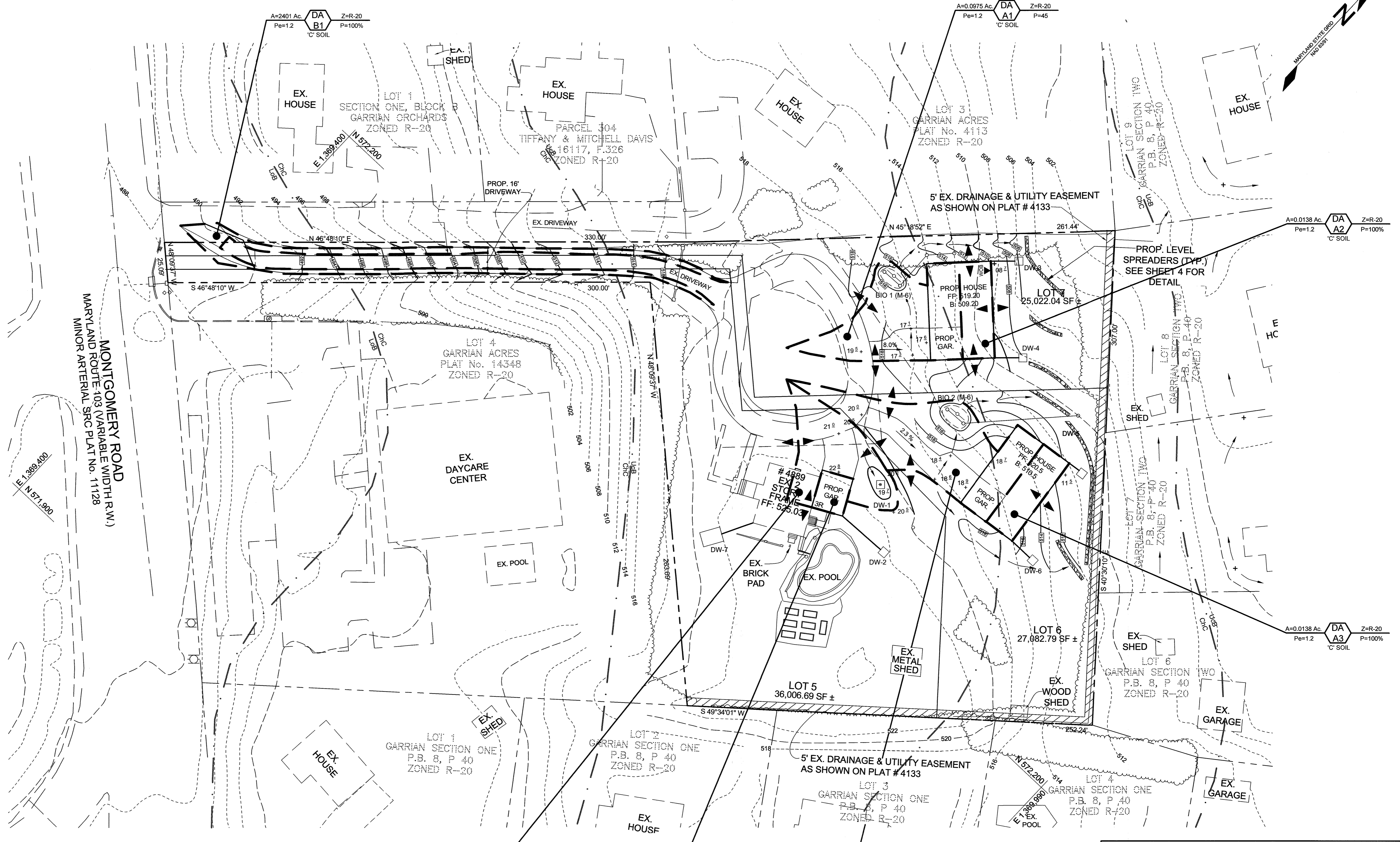
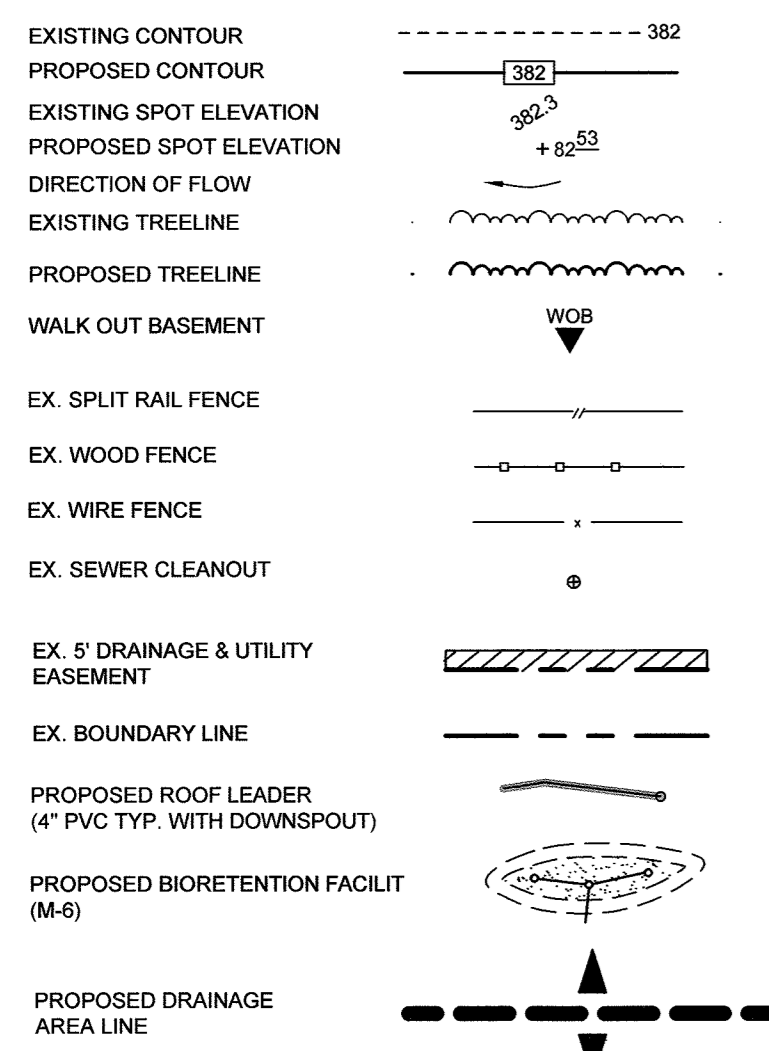


SILL ENGINEERING GROUP, LLC  
 16005 Frederick Road, 2nd Floor  
 Woodbine, MD 21797  
 Phone: 443.325.5076  
 Fax: 410.696.2022  
 Email: info@sillengineering.com  
 Civil Engineering for Land Development

DESIGN BY: PS  
 DRAWN BY: NM  
 CHECKED BY: PS  
 SCALE: AS SHOWN  
 DATE: MARCH 25, 2020  
 PROJECT #: 18-076  
 SHEET #: 2 of 4

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. 92025, EXPIRATION DATE: JUNE 20, 2021

**LEGEND**



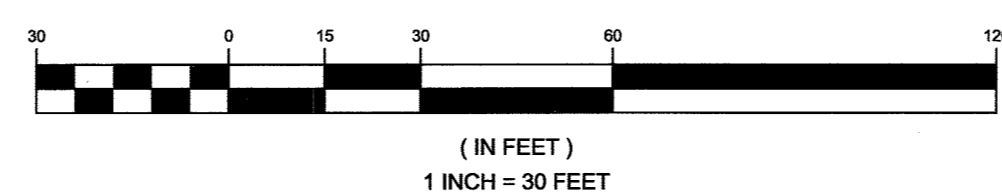
**SOILS LEGEND**

SYMBOL	NAME / DESCRIPTION	GROUP	K* FACTOR
LoB	LEGORE-MONTALTO-URBAN LAND COMPLEX, 0 TO 8 PERCENT SLOPES	C	—
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APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION *[Signature]* DATE: 4/27/20  
 CHIEF, DIVISION OF LAND DEVELOPMENT *[Signature]* DATE: 4/27/20

**GRAPHIC SCALE**



**OWNER/DEVELOPER**

METRO HOUSING PROJECT LLC  
 4889 MONTGOMERY ROAD  
 ELLICOTT CITY, MARYLAND 21043  
 ©JAMES JOO  
 1-301-500-0606

**CONCEPTUAL STORMWATER MANAGEMENT DRAINAGE AREA MAP**

GARRIAN ACRES  
 LOTS 5, 6 & 7 A RESUBDIVISION OF GARRIAN ACRES LOT 2  
 4889 MONTGOMERY ROAD  
 ZONED R-20

TAX MAP 31 GRID 8  
 2ND ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

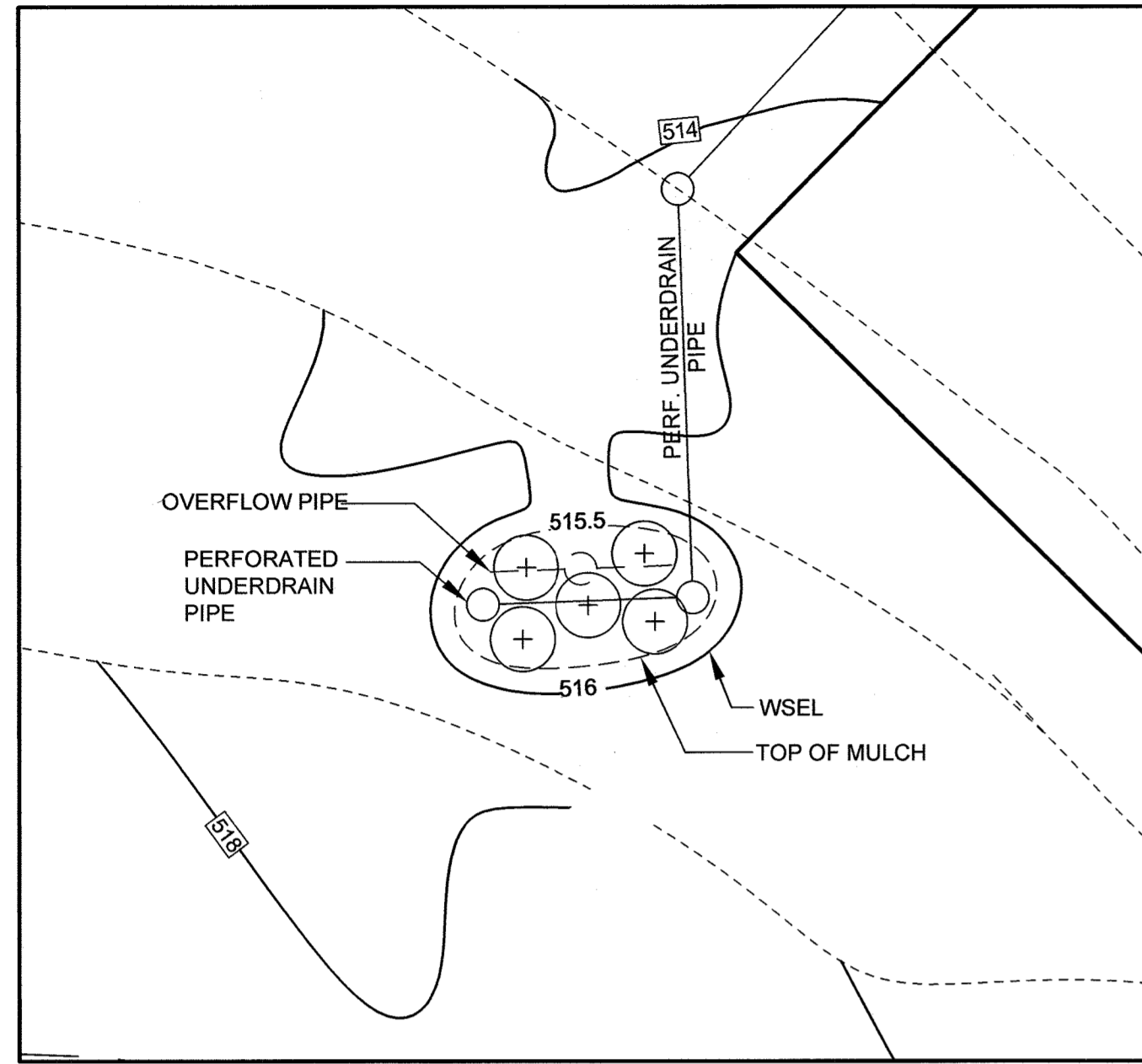


**SILL ENGINEERING GROUP, LLC**

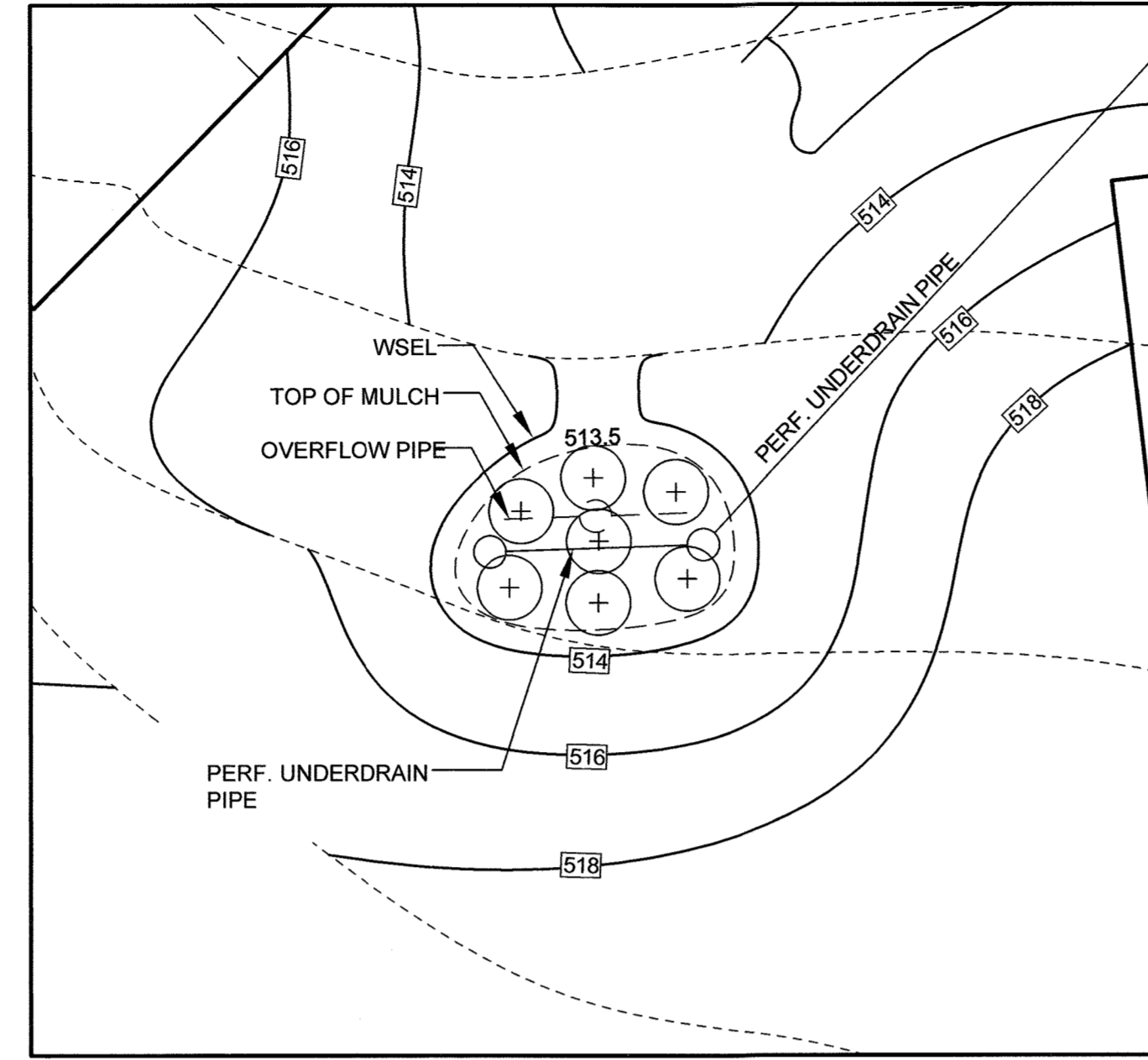
16005 Frederick Road, 2nd Floor  
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DESIGN BY: PS  
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 SCALE: AS SHOWN  
 DATE: MARCH 25, 2020  
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 SHEET #: 3 of 4

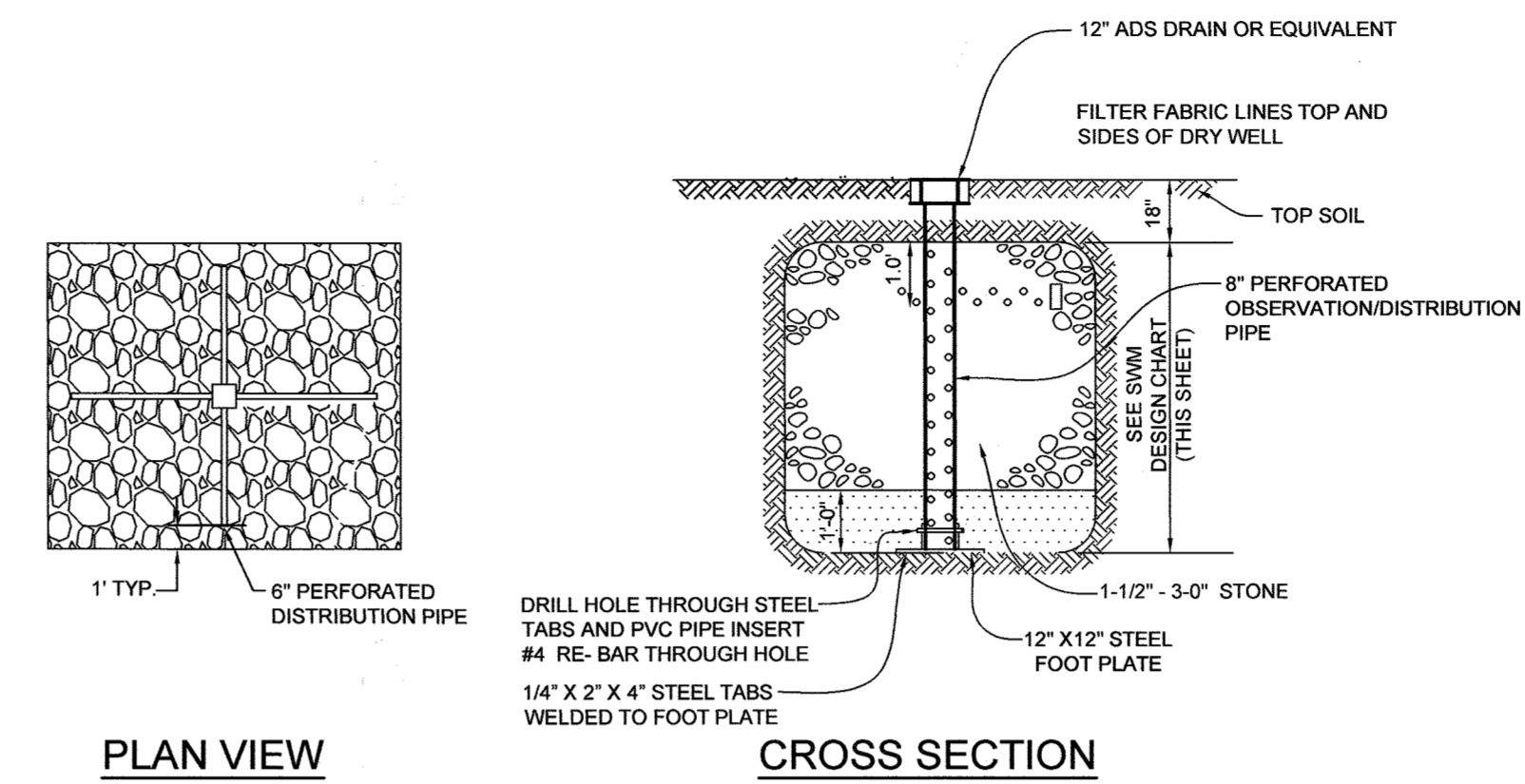
PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 32023, EXPIRATION DATE: JUNE 20, 2021.



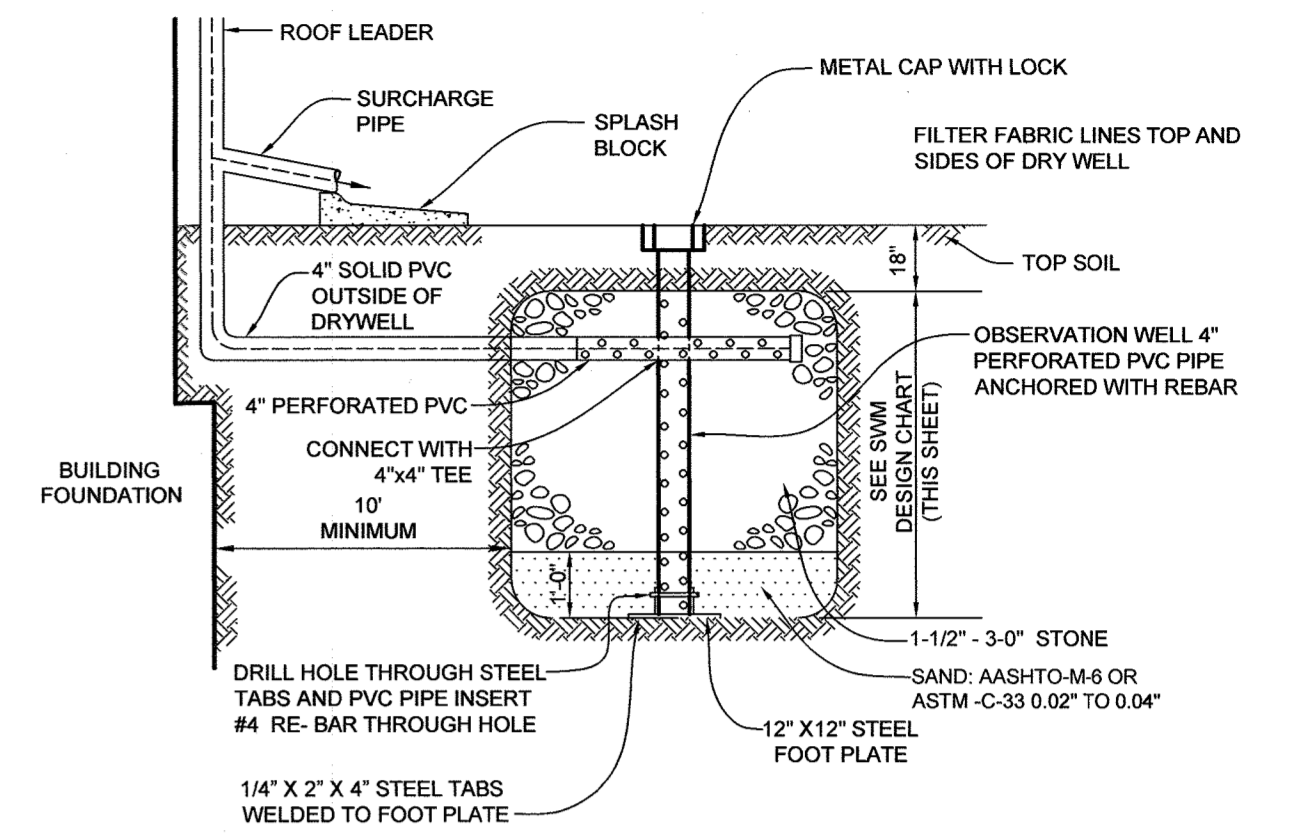
LANDSCAPING PLAN - M-6  
MICRO-BIORETENTION FACILITY 1  
SCALE: 1"=10'



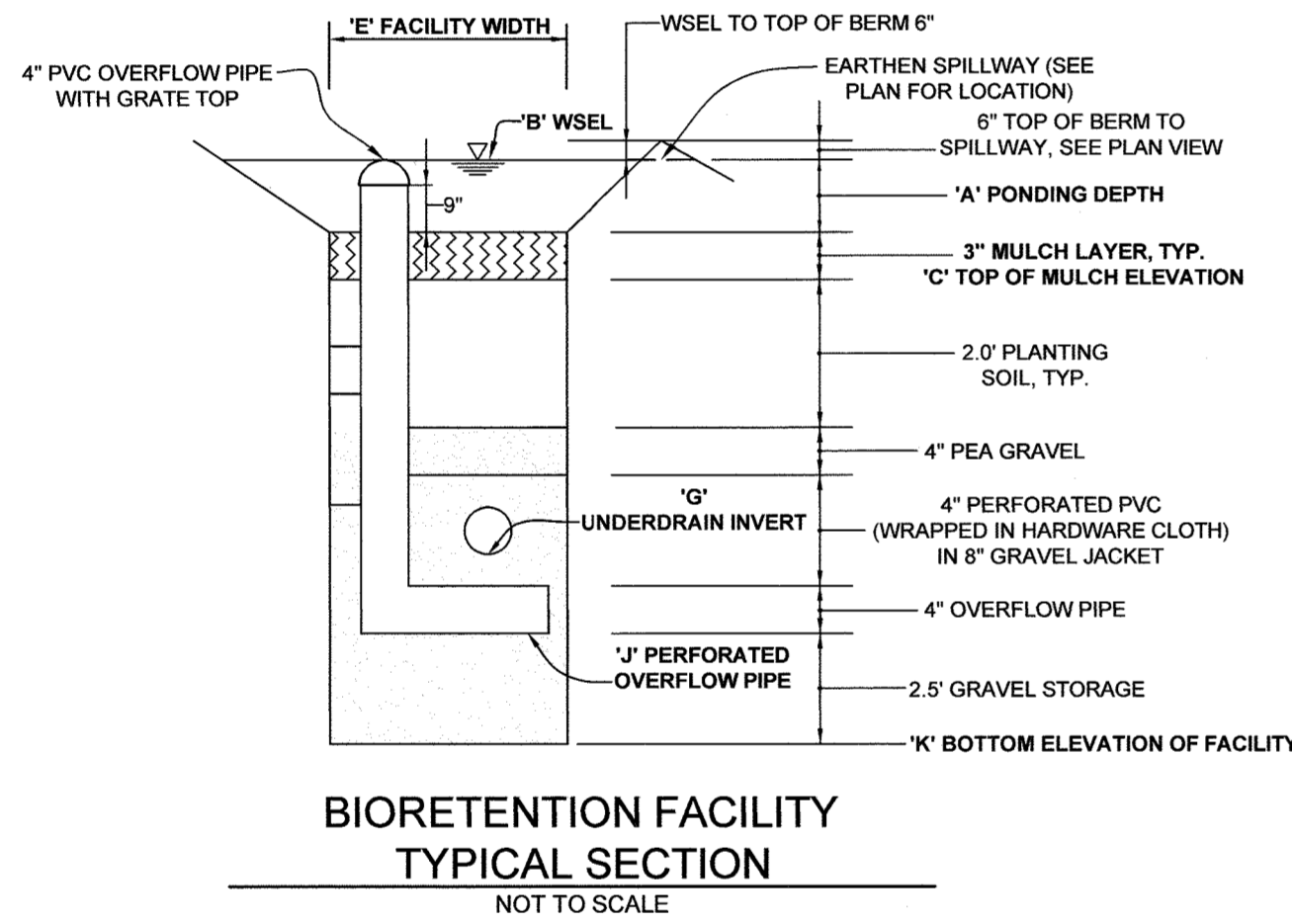
LANDSCAPING PLAN - M-6  
MICRO-BIORETENTION FACILITY 2  
SCALE: 1"=10'



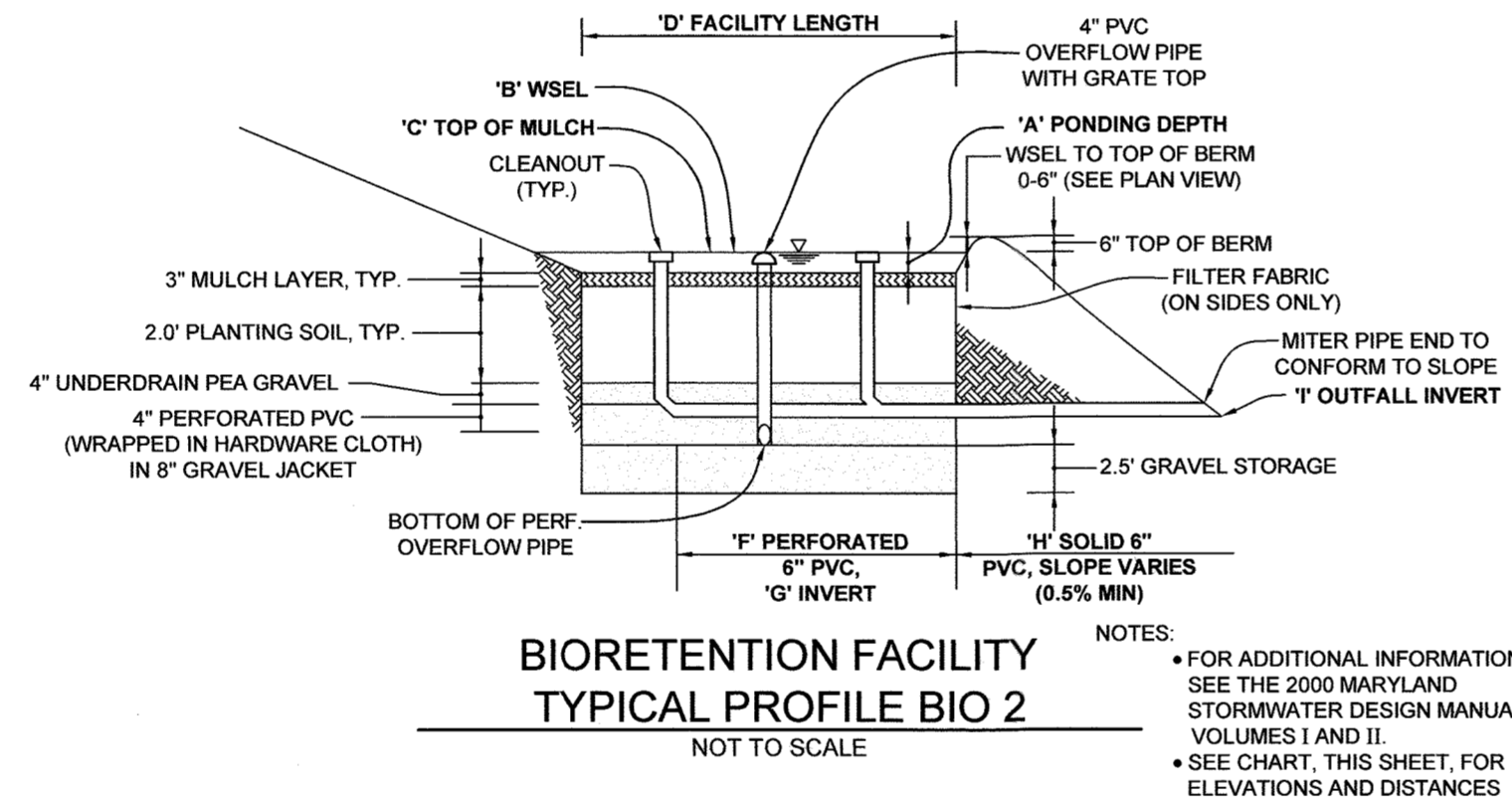
PLAN VIEW  
CROSS SECTION  
DRY WELL #1 DETAIL  
NOT TO SCALE



TYPICAL DRY WELL (#2 THRU #7)  
CROSS SECTION  
NOT TO SCALE



BIORETENTION FACILITY  
TYPICAL SECTION  
NOT TO SCALE



BIORETENTION FACILITY  
TYPICAL PROFILE BIO 2  
NOT TO SCALE

NOTES:  
• FOR ADDITIONAL INFORMATION, SEE THE 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUMES I AND II.  
• SEE CHART, THIS SHEET, FOR ELEVATIONS AND DISTANCES.

MATERIALS SPECIFICATIONS FOR MICRO-BIORETENTION FACILITIES			
MATERIAL	SPECIFICATION	SIZE	NOTES
PLANTINGS	SEE PLANT LIST THIS SHEET	N/A	PLANTINGS ARE SITE-SPECIFIC. SEE PLANT LIST THIS SHEET
PLANTING SOIL (2'-4" DEEP)	LOAMY SAND (60% - 65%) & COMPOST (35%-40%) OR SANDY LOAM (30%), COARSE SAND (30%) & COMPOST (40%)	N/A	USDA SOIL TYPES LOAMY SAND OR SANDY LOAM, CLAY CONTENT < 5%
ORGANIC CONTENT	MIN. 10% BY DRY WEIGHT (ASTM-D-2974)		AGED 6 MONTHS, MINIMUM; NO PINE OR WOOD CHIPS
MULCH	SHREDDED HARDWOOD		
PEA GRAVEL DIAPHRAGM AND CURTAIN DRAIN, IF REQUIRED	PEA GRAVEL: ASTM-D-448	PEA GRAVEL: NO. 8 OR NO. 9 (1/8" TO 3/8")	
GEOTEXTILE	ORNAMENTAL STONE: WASHED COBBLES	STONE: 2" TO 5"	PE TYPE 1 NONWOVEN
UNDERDRAIN GRAVEL	AASHTO M-43	NO. 57 OR NO. 6 AGGREGATE (3/8" TO 3/4")	
UNDERDRAIN PIPING	F 750, TYPE PS 28 OR AASHTO M-275	4" TO 6" RIGID SCHEDULE 40 PVC OR SDR35	SLOTTED OR PERFORATED PIPE, 3/8" PER @ 6" ON CENTER, 4 HOLES PER ROW; MINIMUM OF 3" OF GRAVEL OVER PIPES, NOT NECESSARY UNDERNEATH PIPES. PERFORATED PIPE SHALL BE WRAPPED WITH 1/4" GALVANIZED HARDWARE CLOTH.

M-6 MICRO-BIORETENTION PLANT LIST							
SHRUBS							
LEGEND	BOTANICAL NAME	COMMON NAME	SPACING	SIZE	REMARKS	QTY. BIO 1	QTY. BIO 2
+	ILEX VERTICILLATA	WINTERBERRY	AS SHOWN* (MIN. 4' O.C.)	24" - 36" HT.	1 MALE PLANT. PLACED IN CENTER AT EACH BIO	5	7

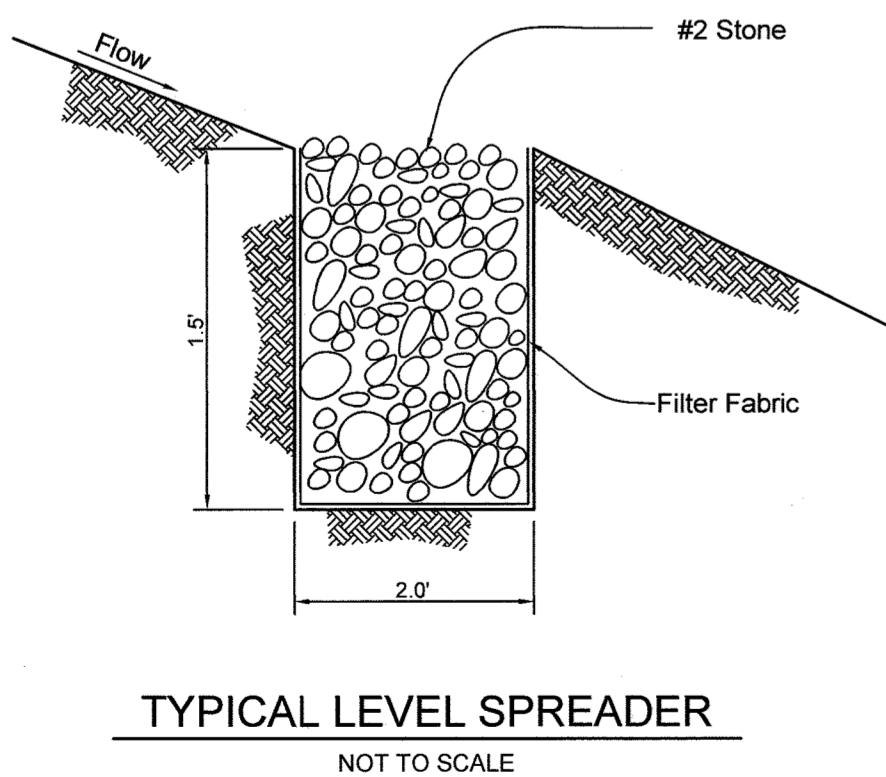
NOTE: PLANT MATERIAL MUST COVER 50% OF THE MULCH AREA AT MATURE GROWTH.

BIO 1 - BIORETENTION AREA = 50% = 57.50SF  
PROVIDED: 5 SHRUBS

BIO 2 - BIORETENTION AREA = 50% = 80 SF  
PROVIDED: 7 SHRUBS

M-6 BIORETENTION ELEVATIONS AND DIMENSIONS

DESCRIPTION	BIO 1	BIO 2
'A' PONDING DEPTH	1.0'	1.0'
'B' WSEL	516.0'	514.0'
'C' TOP OF MULCH	515.5'	517.5'
'D' FACILITY LENGTH	16.30'	8.60'
'E' FACILITY WIDTH	17.10'	11.30'
'F' PERF. UNDERDRAIN DIMENSION	13.0'	13.20'
'G' UNDERDRAIN INVERT	512.59'	514.59'
'H' SOLID UNDERDRAIN DIMENSION	42.35'	71.68'
'I' OUTFALL PIPE INVERT	512.0'	510.0'
'J' OVERFLOW PIPE INVERT	420.42'	419.42'
'K' BOTTOM ELEVATION OF FACILITY	426.92'	416.92'



TYPICAL LEVEL SPREADER  
NOT TO SCALE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
DATE: 4/22/2020  
CHIEF, DIVISION OF LAND DEVELOPMENT

OWNER/DEVELOPER  
METRO HOUSING PROJECT LLC  
4889 MONTGOMERY ROAD  
ELLICOTT CITY, MARYLAND 21043  
C/O JAMES JOO  
1-301-500-0606

CONCEPTUAL STORMWATER MANAGEMENT PLAN  
NOTES, AND DETAILS  
GARRIAN ACRES  
LOTS 5, 6 & 7 A RESUBDIVISION OF GARRIAN ACRES LOT 2  
4889 MONTGOMERY ROAD  
ZONED R-20  
PARCEL 0753  
TAX MAP 31 GRID 8  
2ND ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

16005 Frederick Road, 2nd Floor  
Woodbine, MD 21797  
Phone: 443.325.5076  
Fax: 410.696.2022  
Email: info@sillengineering.com  
Civil Engineering for Land Development

DESIGN BY: PS  
DRAWN BY: NM  
CHECKED BY: PS  
SCALE: AS SHOWN  
DATE: MARCH 25, 2020  
PROJECT #: 18-075  
SHEET #: 4 of 4

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. 32025, EXPIRATION DATE: JUNE 20, 2021.