

SITE ANALYSIS DATA SHEET

ENVIRONMENTAL AREA	SIZE OR USE
TOTAL PROJECT AREA	1.73 ACRES ±
LIMIT OF DISTURBANCE	1.11 ACRES ±
GREEN OPEN AREA (LAWN)	1.41 ACRES ±
IMPERVIOUS AREA	0.32 ACRES ±
PROPOSED SITE USES	RESIDENTIAL
WETLANDS	0 SQ FT ± (1)
WETLAND BUFFERS	0 SQ FT ±
FLOODPLAINS	0 SQ FT ±
FLOODPLAIN BUFFERS	0 SQ FT ±
EXISTING FOREST	0.40 ACRES ±
SLOPES GREATER THAN 15% (3)	0 SQ FT ±
HIGHLY ERODIBLE SOILS	0 ACRES ±

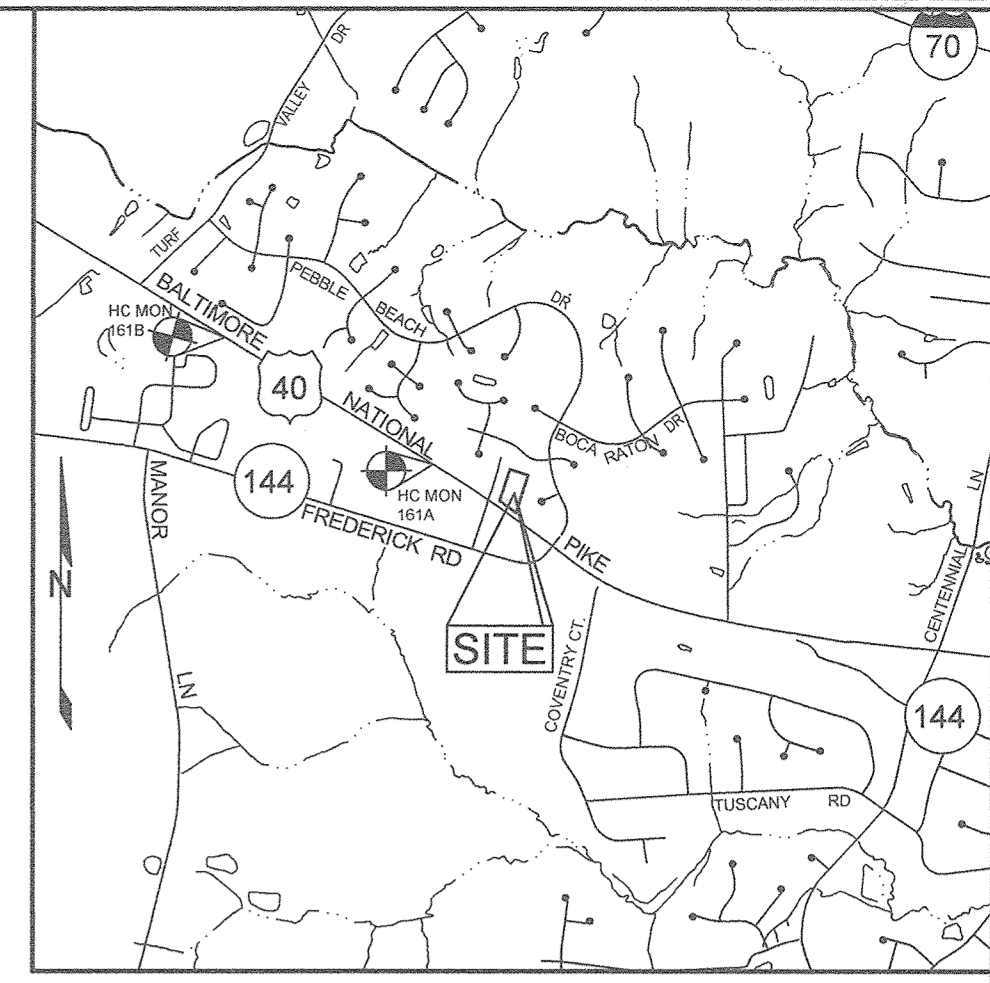
- NOTES:
- NONE WITHIN THE MAIN LOT AREA THE PIPESTEM MAY HAVE WETLAND AREAS AND HAS NOT BEEN EVALUATED SINCE IT IS OUTSIDE THE AREA OF DEVELOPMENT.
 - SOIL INFORMATION HAS BEEN TAKEN FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE, WEB SOIL SURVEY.
 - HIGHLY 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
161A	589,509.389	1,346,433.685	462.916	11' SOUTH OF RT 40 WEST BOUND LANES, 144' SOUTH EAST TO END OF GUARDRAIL ON SOUTH SIDE RT 40 EAST BOUND LANES
161B	590,475.286	1,344,753.990	469.829	66.4' SOUTH EAST OF LAST POST RT 40 WEST BOUND, 11' ± SOUTH OF ST 40 WEST BOUND LANES, 82' NORTH WEST OF CALL 511 SIGN

LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- DIRECTION OF FLOW
- EXISTING TREELINE
- PROPOSED TREELINE
- LIGHT POLES
- WALK OUT BASEMENT
- EXISTING TREE
- EXISTING TREE TO BE REMOVED
- EXISTING WOODEN FENCE
- EXISTING CHAIN LINK FENCE
- PROPOSED WATER HOUSE CONNECTION
- PROPOSED ROOFLEADERS
- BORING LOCATION



GENERAL NOTES

- SUBJECT PROPERTY ZONED R-20 PER 10/06/13 COMPREHENSIVE ZONING PLAN.
- TOTAL AREA OF PROPERTY = 1.73 AC ±
- PUBLIC WATER AND PUBLIC SEWER WILL BE USED WITHIN THIS SITE.
- THE BOUNDARY AND TOPOGRAPHY SHOWN HEREON ARE BASED ON A FIELD RUN BOUNDARY AND TOPOGRAPHIC SURVEY PERFORMED BY NJR & ASSOCIATES IN SEPTEMBER OF 2017.
- PROPERTY ADDRESSES: 10472, 10476, & 10480 BALTIMORE NATIONAL PIKE
- REFERENCES:
 - LOT 1: LIBER 8996, FOLIO 551
 - LOT 2: LIBER 18184, FOLIO 358
 - LOT 3: LIBER 8996, FOLIO 551
- THE LOTS SHOWN HEREON COMPLY WITH THE MINIMUM OWNERSHIP, WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT. PER A REPORT BY ECO-SCIENCE PROFESSIONALS, INC., DATED MARCH 14, 2019, THERE ARE NO:
 - a. WETLANDS
 - b. RARE, THREATENED, OR ENDANGERED SPECIES ON THIS SITE
 - c. OBSERVABLE HISTORIC ELEMENTS OR CEMETERIES
 - d. 100 YEAR FLOODPLAIN ON-SITE
 - e. STEEP SLOPES
- THERE ARE NO WETLANDS, STREAMS, OR THEIR ASSOCIATED BUFFERS, STEEP SLOPES 25% OR GREATER, OR FOREST LOCATED ON THIS SITE
- LIMIT OF DISTURBANCE: 48,493 SF ± OR 1.132 AC ±
- APPROVAL OF THIS ENVIRONMENTAL CONCEPT PLAN DOES NOT CONSTITUTE AN APPROVAL OF ANY SUBSEQUENT SUBDIVISION, FOREST CONSERVATION, OR SITE DEVELOPMENT PLAN. THE APPLICANT AND CONSULTANT SHOULD EXPECT ADDITIONAL AND MORE DETAILED COMMENTS THAT MAY ALTER THE SITE DESIGN, HOUSE LOCATION, DRIVEWAY LOCATION, GRADING, TREE CLEARING, AND/OR OTHER REQUIREMENTS AS THE DEVELOPMENT PLAN PROCESS THROUGH THE PLAN REVIEW PROCESS IN ACCORDANCE WITH THE SUBDIVISION AND ZONING REGULATIONS.
- THE CONTRACTOR SHALL NOTIFY MISS UTILITY AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- CONTRACTOR TO MAINTAIN POSITIVE SLOPE AWAY FROM THE FOUNDATIONS OF THE HOUSES.
- PREVIOUS DPZ FILE REFERENCE: F-07-078; PLAT 19759; CONTR. 24-4160-D.
- THE FOREST CONSERVATION REQUIREMENTS FOR THIS SITE WERE ADDRESSED AT THE TIME OF THE F-07-078 APPROVAL. NO ADDITIONAL COMPLIANCE IS REQUIRED.
- LANDSCAPING WILL BE PROVIDED AT THE SITE DEVELOPMENT PLAN STAGE OF THIS PROJECT.

ADDRESS CHART

LOT NO.	ADDRESS
1	10480 BALTIMORE NATIONAL PIKE
2	10476 BALTIMORE NATIONAL PIKE
3	10472 BALTIMORE NATIONAL PIKE

SHEET INDEX

SHEET NO.	DESCRIPTION
1	ENVIRONMENTAL CONCEPT PLAN
2	CONCEPTUAL SEDIMENT AND EROSION CONTROL PLAN
3	CONCEPTUAL STORMWATER MANAGEMENT PLAN NOTES & DETAILS

STORMWATER MANAGEMENT NOTES & DESIGN NARRATIVE

- BELOW IS A LIST TO DESCRIBE THE STORMWATER MANAGEMENT REQUIREMENTS AND ACHIEVEMENTS FOR THE SITE PER THE 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUMES I AND II, AS AMENDED BY THE STORMWATER MANAGEMENT ACT OF 2007.
- ENVIRONMENTALLY SENSITIVE AREAS HAVE BEEN AVOIDED. NO STREAMS OR WETLANDS EXIST ON-SITE.
 - TO THE GREATEST EXTENT PRACTICABLE THE NATURAL FLOW PATTERNS OF THE SITE HAVE BEEN MAINTAINED.
 - IMPERVIOUS AREAS HAVE BEEN REDUCED BY POSITIONING THE BUILDING AS CLOSE TO THE USE IN COMMON DRIVEWAY AS THE SETBACKS AND GRADES ALLOW.
 - A STABILIZED CONSTRUCTION ENTRANCE, SILT FENCES AND SUPER SILT FENCES ARE USED AS SEDIMENT AND EROSION CONTROL.
 - THE STORMWATER MANAGEMENT OBLIGATIONS FOR THESE PARCELS WILL BE MET BY THE USE OF DRYWELLS (M-5) & MICRO-BIORETENTION FACILITIES (M-6).
 - NO WAIVER PETITION OR DESIGN MANUAL WAIVER HAVE BEEN RECEIVED.

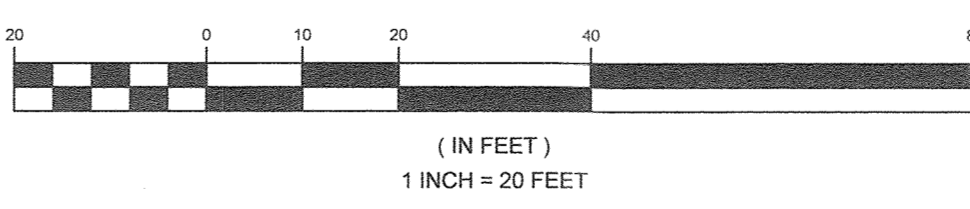
STORMWATER MANAGEMENT SUMMARY TABLE

LOT	Pe		ESDv		RECHARGE		SWM PRACTICE	
	REQUIRED	PROVIDED	REQUIRED	PROVIDED	REQUIRED	PROVIDED	MICRO BIO (M-6)	DRY WELL (M-5)
1	1.6"	1.6"	880 CF	891 CF	N/A	N/A	1	1
2	1.6"	1.6"	585 CF	797 CF	N/A	N/A	2	2
3	1.6"	1.6"	370 CF	388 CF	N/A	N/A	0	3
TOTALS	1.6"	1.6"	2,004 CF	2,076 CF	741 CF	741 CF	3	6

PLAN VIEW

SCALE: 1"=20'

GRAPHIC SCALE



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 10.31.19
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 10.23.19

OWNER
 LOTS 1 & 3: LEE, JONG HWI
 10470 BALTIMORE NATIONAL PIKE
 ELLICOTT CITY, MD 21042
 (410) 467-5271
 LOT 2: CARTIQUEYANE BARATHAPUNNIAM
 3121 NORMANDY WOODS DRIVE
 ELLICOTT CITY, MD 21042
 (410) 818-0485
DEVELOPER
 CARUSO HOMES
 2120 BALDWIN AVENUE
 SUITE 200
 CROFTON, MD 21114
 (301) 261-0277

ENVIRONMENTAL CONCEPT PLAN
TURF VALLEY GROVE
 LOTS 1, 2, AND 3
 10472, 10476, & 10480 BALTIMORE NATIONAL PIKE
 TAX MAP 16 GRID 24
 5TH ELECTION DISTRICT
 PARCEL 62
 HOWARD COUNTY, MARYLAND

SILL ENGINEERING GROUP, LLC
 21130 Dovedale Court, Suite 200
 Marriottsville, Maryland 21104
 Phone: 410.325.5076
 Fax: 410.696.2022
 Email: info@sillengineering.com
 Civil Engineering for Land Development

DESIGN BY: PS
 DRAWN BY: MPO
 CHECKED BY: PS
 SCALE: AS SHOWN
 DATE: SEPTEMBER 6, 2019
 PROJECT #: 19-016
 SHEET #: 1 of 3

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.

SITE ANALYSIS DATA SHEET

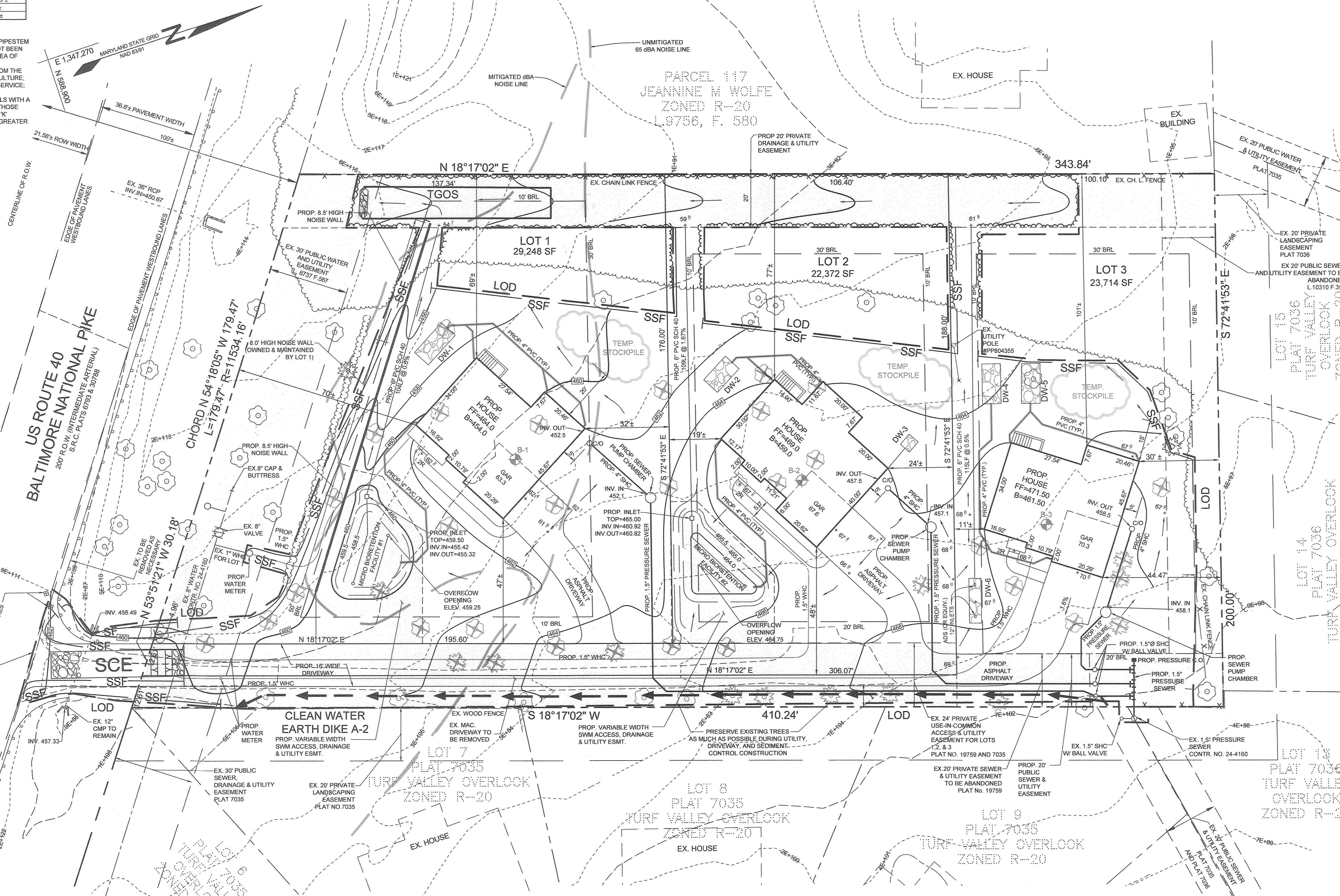
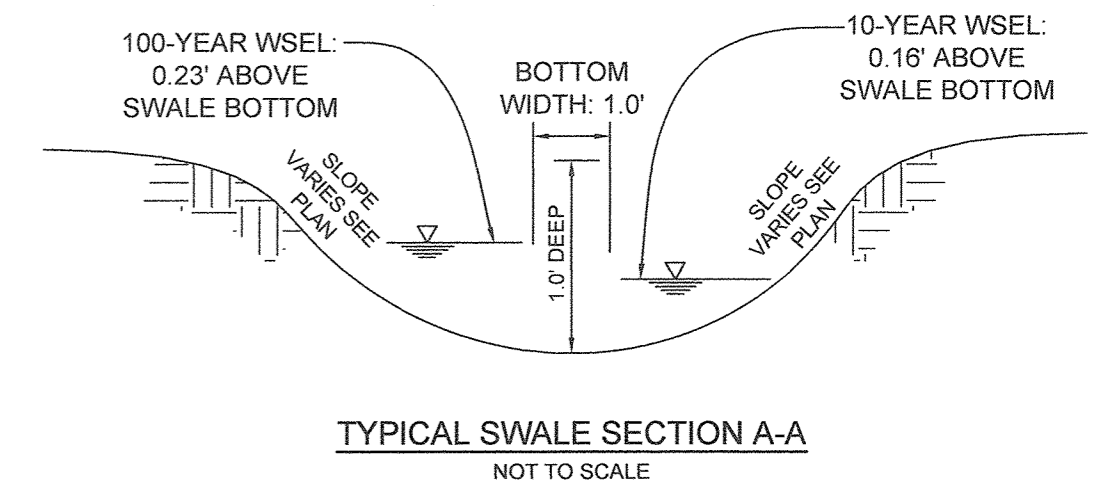
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LIMIT OF DISTURBANCE	1.11 ACRES ±
GREEN OPEN AREA (LAWN)	1.41 ACRES ±
IMPERVIOUS AREA	0.32 ACRES ±
PROPOSED SITE USES	RESIDENTIAL
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EXISTING FOREST	0.40 ACRES ±
SLOPES GREATER THAN 15% (3)	0 SQ FT ±
HIGHLY ERODIBLE SOILS	0 ACRES ±

SOILS LEGEND

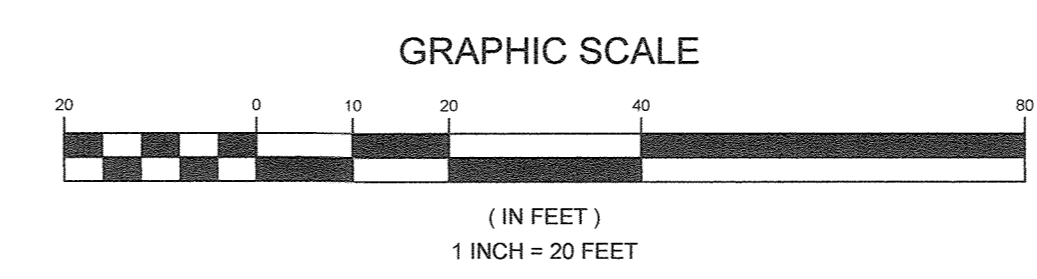
SYMBOL	NAME / DESCRIPTION	GROUP	'K' FACTOR
GIB	GLADSTONE-URBAN LAND COMPLEX, 0 TO 8 PERCENT SLOPES	A	0.32

NOTES:
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PLAN VIEW
SCALE 1:20'

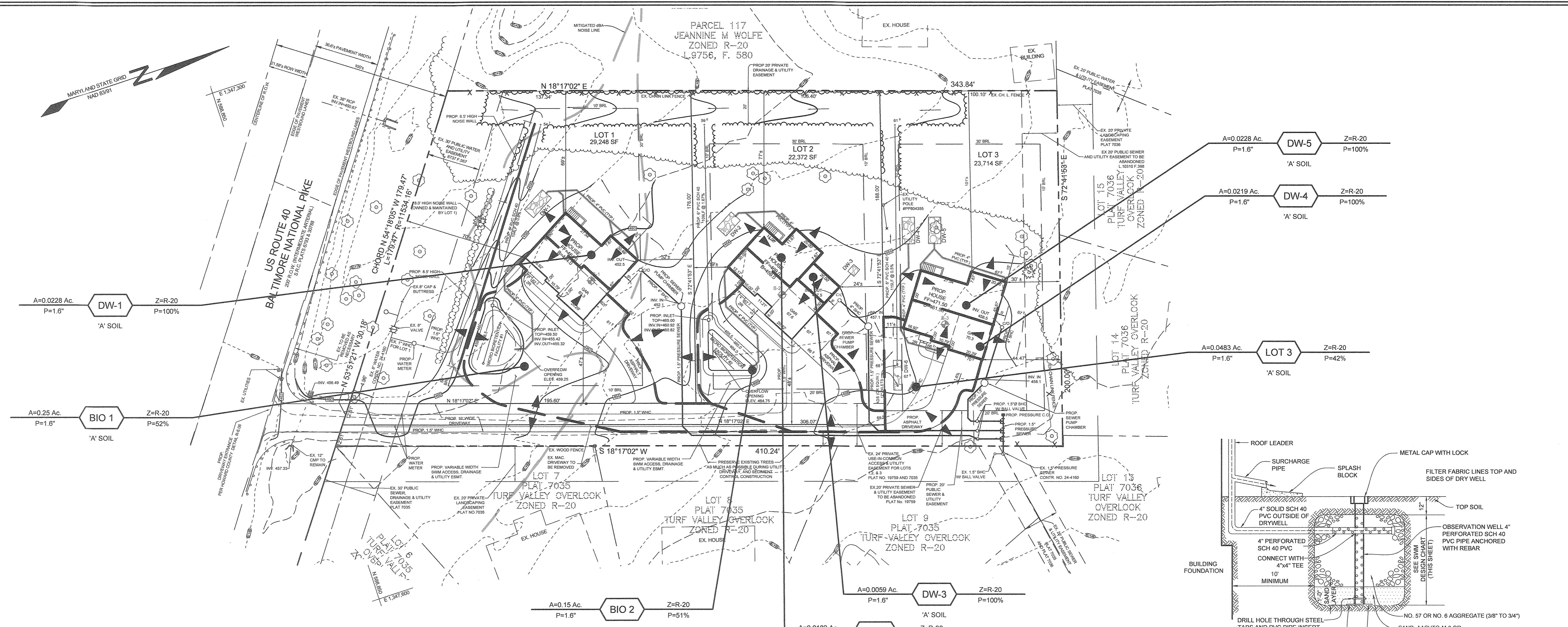


APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature]
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
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	SILL ENGINEERING GROUP, LLC 1130 Dovedale Court, Suite 200 Marriottsville, Maryland 21104 Phone: 443.325.5076 Fax: 410.696.2022 Email: info@sillengineering.com Civil Engineering for Land Development	DESIGN BY: PS DRAWN BY: MPO CHECKED BY: PS SCALE: AS SHOWN DATE: SEPTEMBER 6, 2019 PROJECT #: 19-016 SHEET #: 2 of 3
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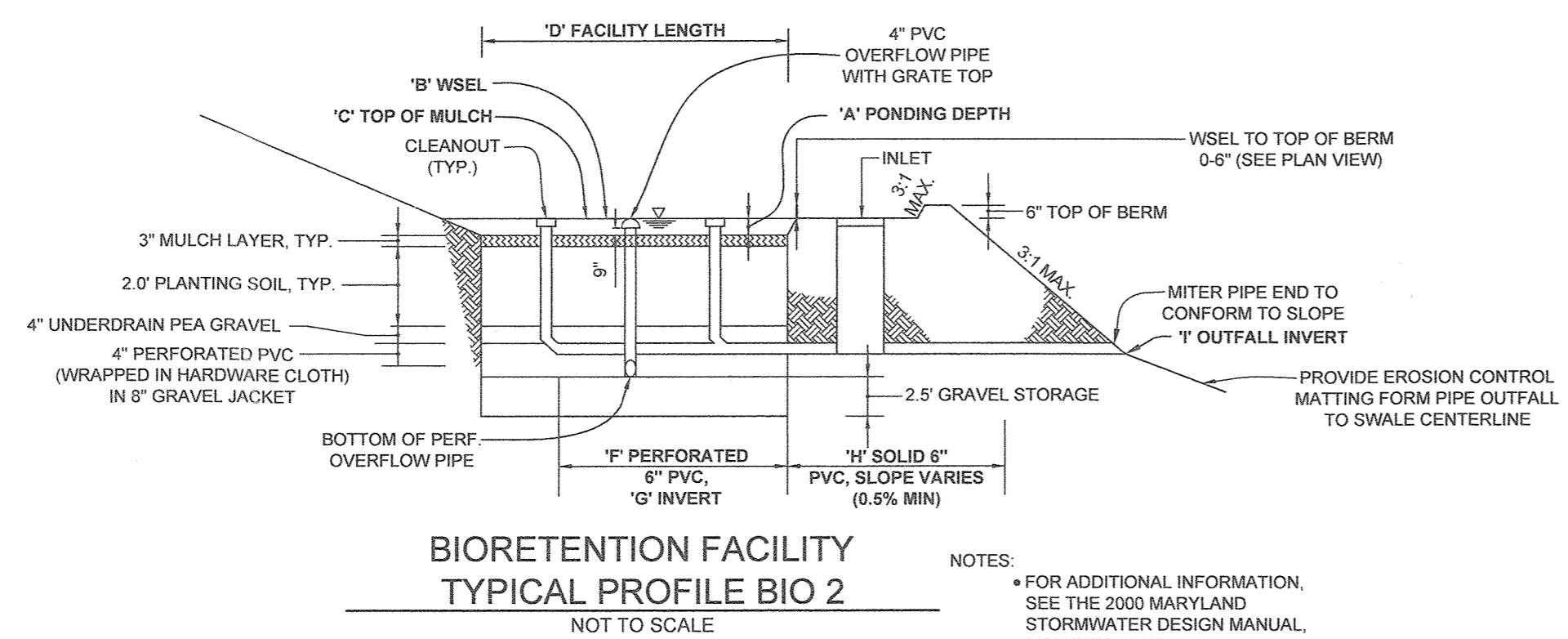


STORMWATER MANAGEMENT SUMMARY				
FACILITY	ESDv	TARGET P _e	REQUIRED P _e	
MICRO-BIORETENTION 1	761 CF	1.6"	1.6"	1.6"
MICRO-BIORETENTION 2	661 CF	1.6"	1.6"	1.6"
DRY WELL 1	173 CF	1.6"	1.6"	1.6"
DRY WELL 2	133 CF	1.6"	1.6"	1.6"
DRY WELL 3	48 CF	1.6"	1.6"	1.6"
DRY WELL 4	173 CF	1.6"	1.6"	1.6"
DRY WELL 5	173 CF	1.6"	1.6"	1.6"
DRY WELL 6	171 CF	1.6"	1.6"	1.6"
TOTAL	2,293 CF			

ESDv PROVIDED = 2,293 CF
 ESDv REQUIRED = 2,004 CF
 ESDv SURPLUS = +289 CF

M-6 BIORETENTION ELEVATIONS AND DIMENSIONS

DESCRIPTION	BIO 1	BIO 2
'A' PONDING DEPTH	1.0'	1.0'
'B' WSEL	459.5	465.0
'C' TOP OF MULCH	458.5	464.0
'D' FACILITY LENGTH	29.0'	32.0'
'E' FACILITY WIDTH	18.5'	17.5'
'F' PERF. UNDERDRAIN DIMENSION	27.0'	27.0'
'G' UNDERDRAIN INVERT	455.42	460.92
'H' SOLID UNDERDRAIN DIMENSION	104.0'	109.0'
'I' OUTFALL PIPE INVERT	454.7	459.0
'J' OVERFLOW PIPE INVERT	454.92	460.42
'K' BOTTOM ELEVATION OF FACILITY	452.42	457.92

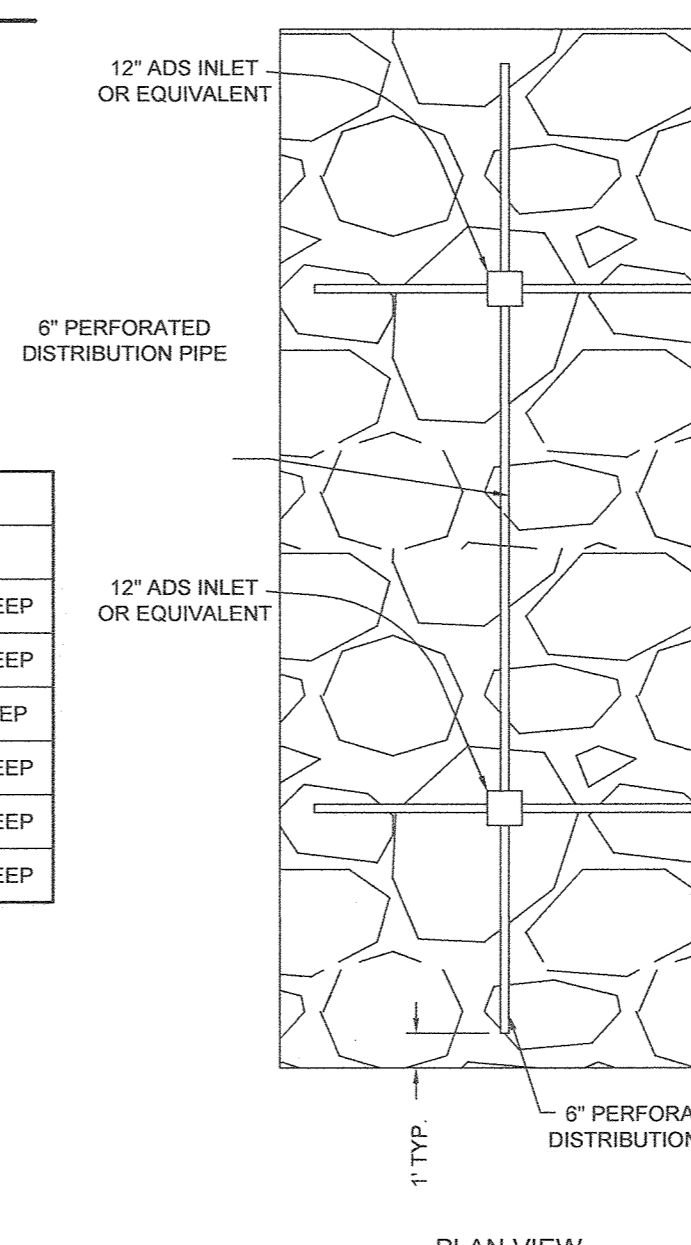


BIORETENTION FACILITY TYPICAL PROFILE BIO 2
NOT TO SCALE

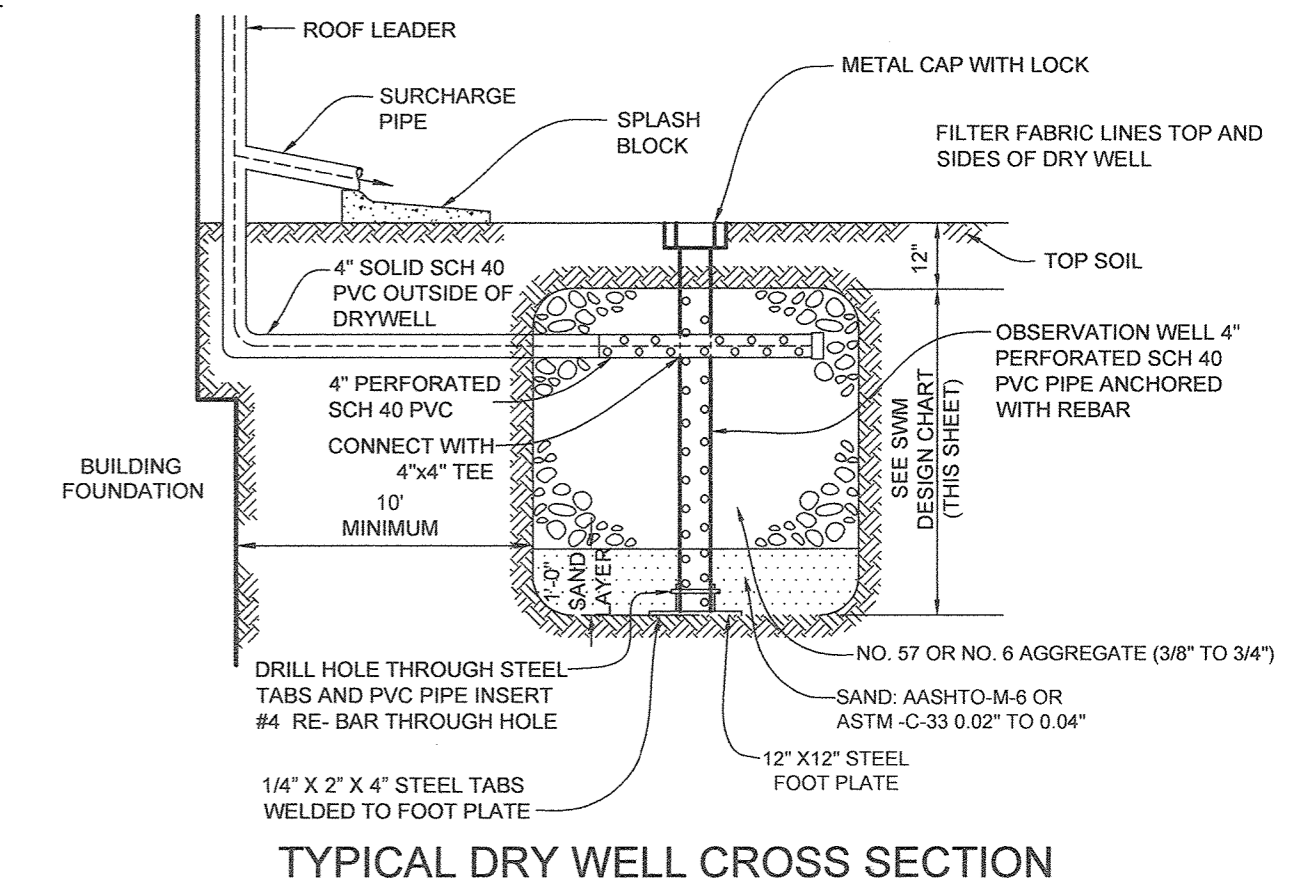
- NOTES:
- FOR ADDITIONAL INFORMATION, SEE THE 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUMES I AND II.
 - SEE CHART, THIS SHEET, FOR ELEVATIONS AND DISTANCES.

DRAINAGE AREA MAP
SCALE: 1"=30'

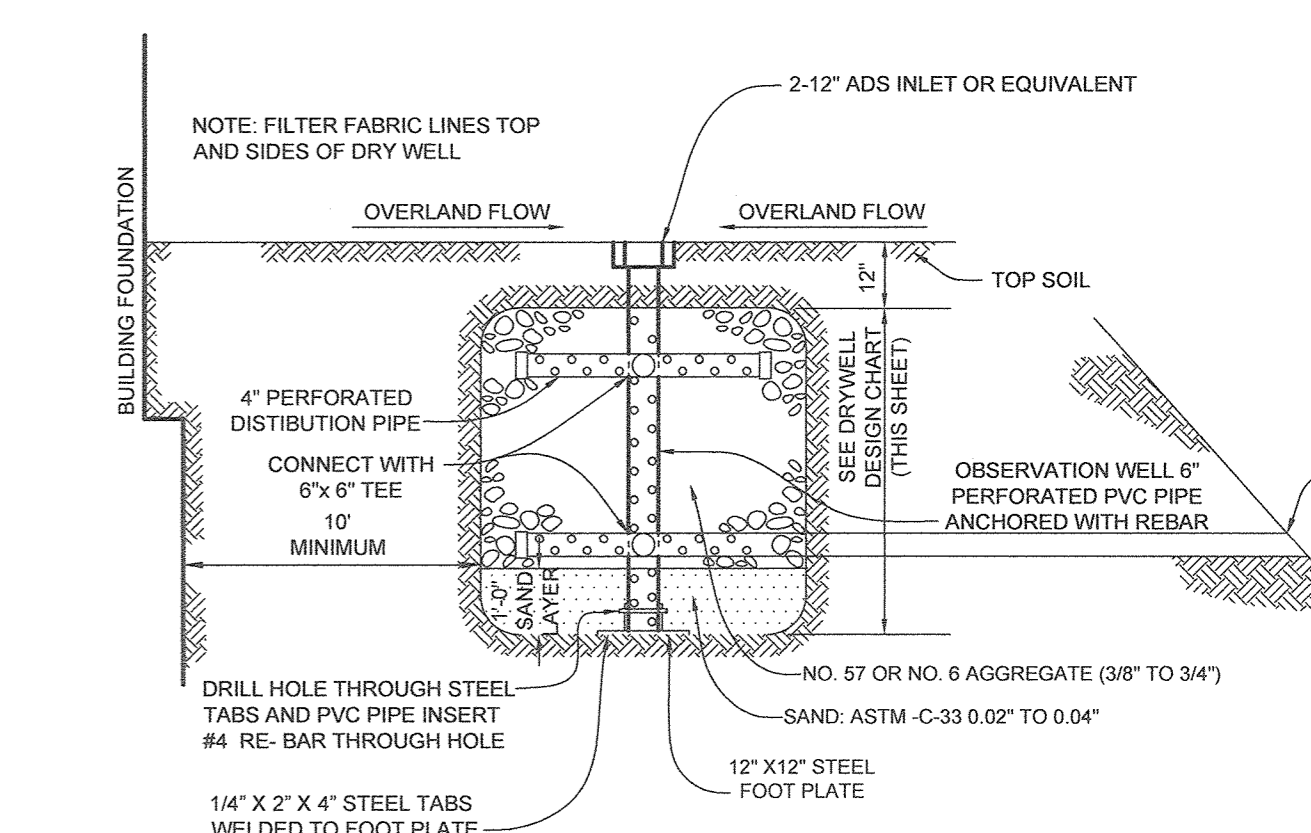
DRYWELL (M-5) DESIGN CHART					
LOT	DRYWELL #	VOLUME REQUIRED	VOLUME PROVIDED	SIZE WELLS	
1	DW 1	126 CF	130 CF	10.0' X 5.0' X 5.0' DEEP	
2	DW 2	100 CF	100 CF	10.0' X 5.0' X 5.0' DEEP	
2	DW 3	35 CF	36 CF	5.0' X 4.5' X 4.0' DEEP	
3	DW 4	122 CF	130 CF	10.0' X 6.0' X 5.0' DEEP	
3	DW 5	126 CF	130 CF	10.0' X 6.5' X 5.0' DEEP	
3	DW 6	122 CF	128 CF	16.0' X 5.0' X 4.0' DEEP	



PLAN VIEW



TYPICAL DRY WELL CROSS SECTION
NOT TO SCALE



DRYWELL 6 DETAIL
NOT TO SCALE

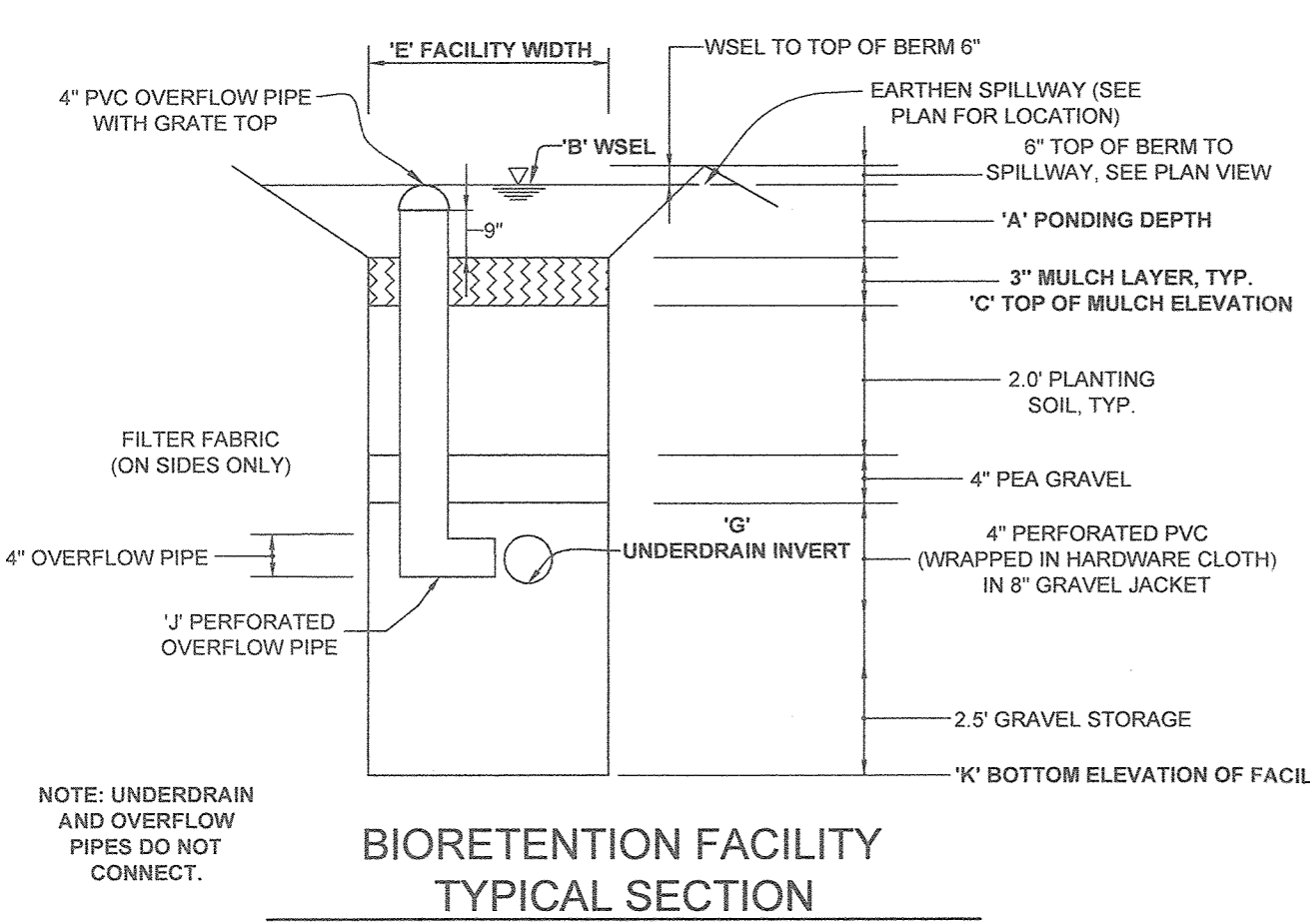
NOTE: FOR ADDITIONAL INFORMATION SEE HOWARD COUNTY STANDARD DETAIL D-9-01

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

- THE MONITORING WELLS AND STRUCTURES SHALL BE INSPECTED ON A QUARTERLY BASIS AND AFTER EVERY LARGE STORM EVENT.
- WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING WELLS SHALL BE RECORDED OVER A PERIOD OF SEVERAL DAYS TO INSURE TRENCH DRAINAGE.
- A LOG BOOK SHALL BE MAINTAINED TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
- WHEN THE FACILITY BECOMES CLOGGED SO THAT IT DOES NOT DRAIN DOWN WITHIN THE 72 HOURS 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 OWNED AND MAINTAINED MICRO-BIORETENTION FACILITIES (M-6)

- 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. 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 APPLIED.
- THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.



BIORETENTION FACILITY TYPICAL SECTION
NOT TO SCALE

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