

HUNTINGTON POINT II - FINAL ROAD PLAN

LOTS 1-3, OPEN SPACE LOT 4 6th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

GENERAL NOTES

- SUBJECT PROPERTY IS ZONED R-5C PER THE OCTOBER 6, 2013 COMPREHENSIVE ZONING PLAN.
- THIS PROJECT IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.
- THE PROJECT BOUNDARY AND ON-SITE TOPOGRAPHY ARE BASED ON FIELD RUN SURVEY BY BENCHMARK ENGINEERING, INC. DECEMBER, 2022, WITH 2-FOOT CONTOUR INTERVAL. THE OFF-SITE TOPOGRAPHY IS BASED ON HOWARD COUNTY GIS CONTOURS.
- EXISTING UTILITIES ARE BASED ON DESIGN PLANS AND AS-BUILTS.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM AS ESTABLISHED FROM GPS OBSERVATION. MONUMENTS "TRAV.1" & "TRAV.2" WERE USED FOR THIS PROJECT.
- A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT AS IT DOES NOT MEET ANY OF THE REQUIREMENTS FOR A NOISE STUDY AS DEFINED IN SECTION 5.2.6.2 OF THE HOWARD COUNTY DESIGN MANUAL, VOLUME 1.
- PER CB 1-2018 THE REQUIREMENT FOR A TRAFFIC IMPACT STUDY BEGINS AT 5 PEAK HOUR TRIPS. AN AFFIDAVIT VERIFYING THIS PROJECT GENERATES LESS THAN 5 PEAK HOUR TRIPS DATED APRIL 15, 2023, AND A SPEED STUDY AND A MULTIMODAL ANALYSIS DATED 12-11-22 WERE PREPARED BY MARS GROUP.
- THE GEOTECHNICAL REPORT FOR THIS PROJECT WAS PREPARED BY GEOLAB GEOTECHNICAL LABORATORIES, INC. DATED FEBRUARY 17, 2023.
- THE ENVIRONMENTAL FINDINGS LETTER WAS PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. NOVEMBER 2022.
- THERE ARE NO WETLANDS, STREAMS, THEIR BUFFERS, 100-YEAR FLOODPLAIN OR 25% OR GREATER STEEP SLOPES LOCATED ON THIS PROJECT SITE.
- THIS SITE IS WITHIN THE METROPOLITAN DISTRICT. PUBLIC WATER WILL CONNECT TO EX. CONTRACT 24-0833-D. PUBLIC SEWER WILL CONNECT TO EXISTING CONTRACT 34-1410-D. DRAINAGE IS LITTLE PATENT WSP.
- PREVIOUS DPZ FILE FOR THIS SITE IS: ECP-23-024
- TO THE BEST OF OUR KNOWLEDGE AND INFORMATION THERE ARE NO HISTORIC STRUCTURES OR CEMETERIES LOCATED ON THIS SITE.
- THE PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
- THIS PROJECT IS EXEMPT FROM THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE AND FOREST PRESERVATION ACT BECAUSE IT IS LESS THAN 40,000 SF PER SECTION 16.1202.(b)(1)(i).
- THE COMMUNITY MEETING WAS HELD ON FEBRUARY 23, 2023 AT THE SAVAGE BRANCH OF THE HOWARD COUNTY PUBLIC LIBRARY.
- FOR FLAG OR PIPESTEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE ARE PROVIDED TO THE JUNCTION OF THE FLAG OR PIPESTEM AND THE ROAD RIGHT-OF-WAY ONLY AND NOT ONTO THE FLAG OR PIPESTEM LOT DRIVEWAY. DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO INSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
 - WIDTH - 12' (16' SERVING MORE THAN ONE RESIDENCE).
 - SURFACE - 6" OF COMPACT CRUSHER RUN BASE WITH 1-1/2" MIN. TAR & CHIP COATING.
 - GEOMETRY - MAX. 15% GRADE, MAX. 10% GRADE CHANGE & MIN. 45' TURNING RADIUS.
 - STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (425 LOAD).
 - DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOODPLAIN WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY.
 - MAINTENANCE - SUFFICIENT TO ENSURE ALL WEATHER USE.
- A PRIVATE RANGE OF ADDRESS SIGN ASSEMBLY SHALL BE FABRICATED AND INSTALLED BY HOWARD COUNTY BUREAU OF HIGHWAYS AT THE DEVELOPERS/OWNERS EXPENSE. CONTACT HOWARD COUNTY TRAFFIC DIVISION AT 410-313-2430 FOR DETAILS AND COST ESTIMATES.
- TRAFFIC CONTROL DEVICES:
 - ALL TRAFFIC CONTROL DEVICES AND THEIR LOCATIONS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD).
 - ALL SIGN POST USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED ("QUICK PUNCH"), SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE)-3" LONG. THE ANCHOR SHALL NOT EXTEND MORE THAN TWO "QUICK PUNCH" HOLES ABOVE GROUND LEVEL. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
- THIS DEVELOPMENT IS DESIGNED TO BE IN ACCORDANCE WITH SECTION 16.127 - RESIDENTIAL INFILL DEVELOPMENT - OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. THIS PROJECT IS COMPATIBLE WITH THE ADJACENT RESIDENTIAL NEIGHBORHOOD BY CONSISTING OF THE SAME UNIT TYPES (SFD). THIS PROJECT IS INTEGRATED WITH THE SURROUNDING RESIDENTIAL DEVELOPMENT BY INTERCONNECTING SIDEWALKS, LOTS, BUILDINGS, & SITE IMPROVEMENTS ARE CONFIGURED TO PROVIDE PRIVACY BY THE LOCATION OF THE NON-CREDITED OPEN SPACE, ORIENTATION OF THE HOUSES AND PERIMETER LANDSCAPING.
- THIS PROJECT IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, REFINED COUNCIL BILL 45-2003 AND THE ZONING REGULATIONS, AS AMENDED BY COUNCIL BILL 75-2003. DEVELOPMENT OR CONSTRUCTION ON THESE LOTS MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE SITE DEVELOPMENT PLAN, WAIVER PETITION APPLICATION, OR BUILDING/GRADING PERMIT.
- LANDSCAPING FOR LOTS 2 THRU 4 IS PROVIDED IN ACCORDANCE WITH A CERTIFIED LANDSCAPE PLAN INCLUDED WITH THIS PLAN IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. SURETY IN THE AMOUNT OF \$4,320 FOR 12 SHRUBS AND 4 SHRUBS IS REQUIRED TO BE POSTED WITH THE DEVELOPER'S AGREEMENT. STREET TREES WILL BE INCLUDED IN THE DED COST ESTIMATE.
- THIS PROJECT IS SUBJECT TO SECTION 13.402 OF THE COUNTY CODE FOR MODERATE INCOME HOUSING UNITS (MIHU). PER SECTION 13.402(c), THIS REQUIREMENT SHALL BE MET BY A FEE-IN-LIEU PAYMENT THAT IS TO BE CALCULATED AND PAID TO THE DEPARTMENT OF INSPECTIONS LICENSES AND PERMITS AT THE TIME OF BUILDING PERMIT ISSUANCE.
- PER SECTION 16.121(g)(2), THIS PROJECT IS SUBJECT TO 25% OPEN SPACE OR 8,930 SF. OPEN SPACE LOT 4 IS NOT CREDITABLE. OPEN SPACE REQUIREMENTS WILL BE ADDRESSED VIA FEE-IN-LIEU. OPEN SPACE LOT 4 SHALL BE ACCESSED THROUGH THE USE-IN-COMMON DRIVEWAY, PER SECTION 16.121(a)(2) OF THE SUBDIVISION REGULATIONS.
- THERE IS NO RECREATIONAL OPEN SPACE REQUIREMENT FOR THIS PROJECT, SINCE THERE ARE LESS THAN 10 LOTS PER SECTION 16.121(a)(4)(i) OF THE SUBDIVISION REGULATIONS.
- STORMWATER MANAGEMENT ENVIRONMENTAL SITE DESIGN (ESD) HAS BEEN PROVIDED IN ACCORDANCE WITH THE "MARYLAND DEPARTMENT OF THE ENVIRONMENT STORMWATER MANAGEMENT ACT OF 2007" AND THE "HOWARD COUNTY DESIGN MANUAL VOLUME 1, CHAPTER 5" TO THE MAXIMUM EXTENT PRACTICAL. STORMWATER MANAGEMENT IS PROVIDED BY ONE (M-6) MICRO-BIORETENTION PRACTICE. THE FACILITY IS PRIVATELY OWNED AND PRIVATELY MAINTAINED.
- MODIFIED CURB & GUTTER AND ROADWAY IMPROVEMENTS SHALL BE INSTALLED ALONG VOLLMERHAUSEN DRIVE NORTH AND SOUTH FROM THE SUBJECT SITE. THE DEVELOPMENT'S SIDEWALK IMPROVEMENTS SHALL EXTEND FROM THE BOUNDARY APPROXIMATELY 10' TO THE NORTH AT THE INTERSECTION OF LUMBERJACK WAY, AND APPROXIMATELY 78' TO THE SOUTH TO CONNECT WITH EXISTING SIDEWALK IN FRONT OF REVELLE ESTATES, LOT 1.
- THE PRIVATE USE-IN-COMMON MAINTENANCE ACCESS AGREEMENT FOR LOTS 2 THRU 3 & OPEN SPACE LOT 4 SHALL BE RECORDED SIMULTANEOUSLY WITH THE RECORDEMENT OF THE SUBDIVISION PLAT.
- THE ARTICLES OF INCORPORATION FOR THE HOMEOWNERS ASSOCIATION HAVE BEEN ACCEPTED BY THE STATE DEPARTMENT OF ASSESSMENTS AND TAXATION, FEB 22, 2023; ID #023687452. THE HOMEOWNER'S DECLARATION OF COVENANTS AND RESTRICTIONS WILL BE RECORDED WITH THE PLAT.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS, BUREAU OF ENGINEERING, CONSTRUCTION INSPECTION DIVISION AT (410)-313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- THE RESIDENTIAL DRIVEWAY FOR LOTS 2-3 AND USE-IN-COMMON DRIVE CONNECTIONS ALONG VOLLMERHAUSEN DRIVE SHALL CONFORM TO HO.CO. STD. R-6.03. SIDEWALK RAMPS WILL NOT BE REQUIRED AS THE MODIFIED CURB WILL NOT REQUIRE THE SIDEWALK GRADES TO BE DEPRESSED AT THE DRIVEWAY APRONS.

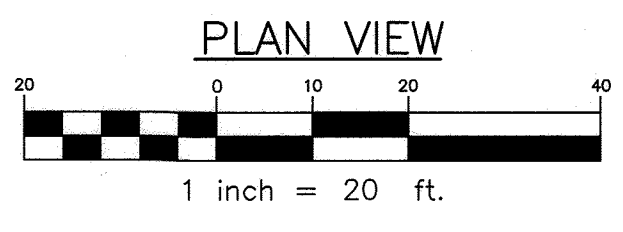
- RESERVATION OF PUBLIC UTILITY EASEMENTS: DEVELOPER RESERVES UNTO ITSELF, ITS SUCCESSORS AND ASSIGNS, ALL EASEMENTS SHOWN ON THIS PLAN FOR WATER, SEWER, STORM DRAINAGE, OTHER PUBLIC UTILITIES LOCATED IN, ON, OVER AND THROUGH LOTS/PARCELS, ANY CONVEYANCES OF THE AFORESAID LOT/PARCELS SHALL BE SUBJECT TO THE EASEMENTS HEREIN RESERVED, WHETHER OR NOT EXPRESSLY STATED IN THE DEED(S) CONVEYING SAID LOT(S) PARCELS. DEVELOPER SHALL EXECUTE AND DELIVER DEEDS FOR THE EASEMENTS HEREIN RESERVED TO HOWARD COUNTY, UPON COMPLETION OF THE PUBLIC UTILITIES AND THEIR ACCEPTANCE BY HOWARD COUNTY, AND THE RELEASE OF DEVELOPER'S SURETY POSTED WITH SAID AGREEMENT, THE COUNTY SHALL ACCEPT THE EASEMENT AND RECORD THE DEED(S) OF EASEMENT IN THE LAND RECORDS OF HOWARD COUNTY.
- THERE IS AN EXISTING DWELLING LOCATED ON LOT 1, TO REMAIN. NO NEW BUILDINGS, EXTENSIONS OR ADDITIONS TO THE EXISTING DWELLING ARE TO BE CONSTRUCTED AT A DISTANCE LESS THAN THE ZONING REGULATION REQUIREMENTS.
- PUBLIC WATER AND SEWERAGE ALLOCATIONS WILL BE GRANTED AT TIME OF ISSUANCE OF BUILDING PERMITS IF CAPACITY IS AVAILABLE AT THAT TIME. WATER AND SEWER SERVICE TO THESE LOTS WILL BE GRANTED UNDER THE PROVISIONS OF SECTION 18.122.B OF THE HOWARD COUNTY CODE.
- INLET 1-1 IS PRIVATELY OWNED AND MAINTAINED BY THE HOMEOWNER'S ASSOCIATION. THE ROP PIPE IS PUBLICLY OWNED AND MAINTAINED. AN ACCESS EASEMENT IS PROVIDED OVER THE INLET IN THE EVENT THAT HOWARD COUNTY NEEDS TO ACCESS THE PIPE FOR MAINTENANCE.

R/W FT. NO.	DESCRIPTION	ELEVATION
101	REBAR & CAP	365.07
104	REBAR & CAP	362.29
106	REBAR & CAP	364.88

- AS-BUILT NOTES:**
- HORIZONTAL AND VERTICAL DATUM FOR THIS AS-BUILT IS BASED ON THE MARYLAND STATE REFERENCE SYSTEM NAD 83 AS ESTABLISHED BY GPS OBSERVATIONS. THE BENCHMARKS USED ARE TRAV 1 AND 2 SHOWN ON THESE PLANS.
 - THE INSTRUMENTS USED IN PERFORMING THE AS-BUILTS WERE A TOTAL STATION AND PRISM AND RILZ GPS.
 - THIS AS-BUILT WAS PERFORMED BY BENCHMARK ENGINEERING, INC.



NOTE: SEE SHEET 2 FOR ROAD FRONTAGE IMPROVEMENTS



SYMBOL	DESCRIPTION
---	EXISTING CONTOURS
LoB	SOILS TYPE - ENTIRE SITE
---	EXISTING BOUNDARY
---	ADJACENT PROPERTY OWNER
---	EXISTING TREELINE
---	PROPOSED TREELINE
---	EXISTING WATER
---	EXISTING SEWER
---	EXISTING STRUCTURES
---	USE IN COMMON DRIVEWAY EASEMENT
---	PRIVATE STORMWATER MANAGEMENT EASEMENT
---	EXISTING OFFSITE FOREST CONSERVATION EASEMENT
---	PROPOSED PUBLIC EASEMENTS (AS NOTED)

NO.	DATE	REVISION

BENCHMARK ENGINEERING, INC.
3300 NORTH RIDGE ROAD SUITE 140 & ELICOTT CITY, MARYLAND 21043
(P) 410-465-8105 (F) 410-465-6644
WWW.BE-CIVILENGINEERING.COM

STATE OF MARYLAND PROFESSIONAL ENGINEER
DONALD MASON
28376
05.31.2023

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 Chief, Bureau of Highways
 Date: 6/23/2023

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division
 Date: 6/23/2023

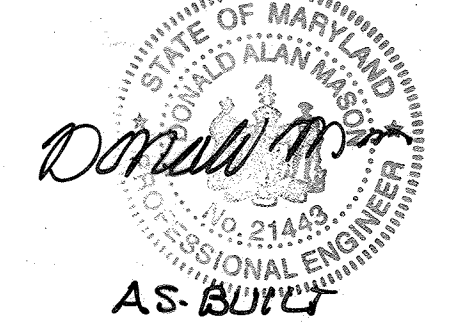
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 Chief, Division of Land Development
 Date: 6/23/2023

DIRECTOR
 Date: 6/23/2023

M&P SYMBOL	SOIL	SOIL TYPE	Kc FACTOR
LoB*	C	LEOORE-MONTALTO-URBAN LAND COMPLEX, 0 TO 8 PERCENT SLOPES	0.64

THERE ARE NO HYDRIC SOILS ON-SITE. TAKEN FROM NRCS WEBSITE, NOVEMBER 2022.
 *HIGHLY ERODIBLE SOILS: K>0.5 AND >5%, OR SOILS >15% SLOPES.
 THE ENTIRE SITE IS THE SAME SOIL (LoB). BASED ON BORING RESULTS ON THE ADJACENT SITE THERE ARE PERMEABLE SOILS IN THE AREA, AND A SOIL INVESTIGATION WILL BE COMPLETED BEFORE THE FINAL DESIGN, TO CONFIRM DRYWELL FEASIBILITY.

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. 21443, Expiration Date 12-21-24
 Donald Mason, P.E.



AS-BUILT CERTIFICATION
 I hereby certify, by my seal, that to the best of my knowledge and belief the facilities shown on this "AS-BUILT" Plan meet the Approved Plans and Specifications.
 Date: 3-12-24
 Donald Mason, P.E.

Stormwater Management Practices Chart						
Lot/Parcel Number	Facility Name & Number	MDE Practice	Public	Private	HOA Maintains	Misc.
OS4	MB1	M-6	X	YES		

OWNER:
 JOHN CONNORS
 9693 GERWIG LANE
 COLUMBIA, MARYLAND 21046
 410-792-2565

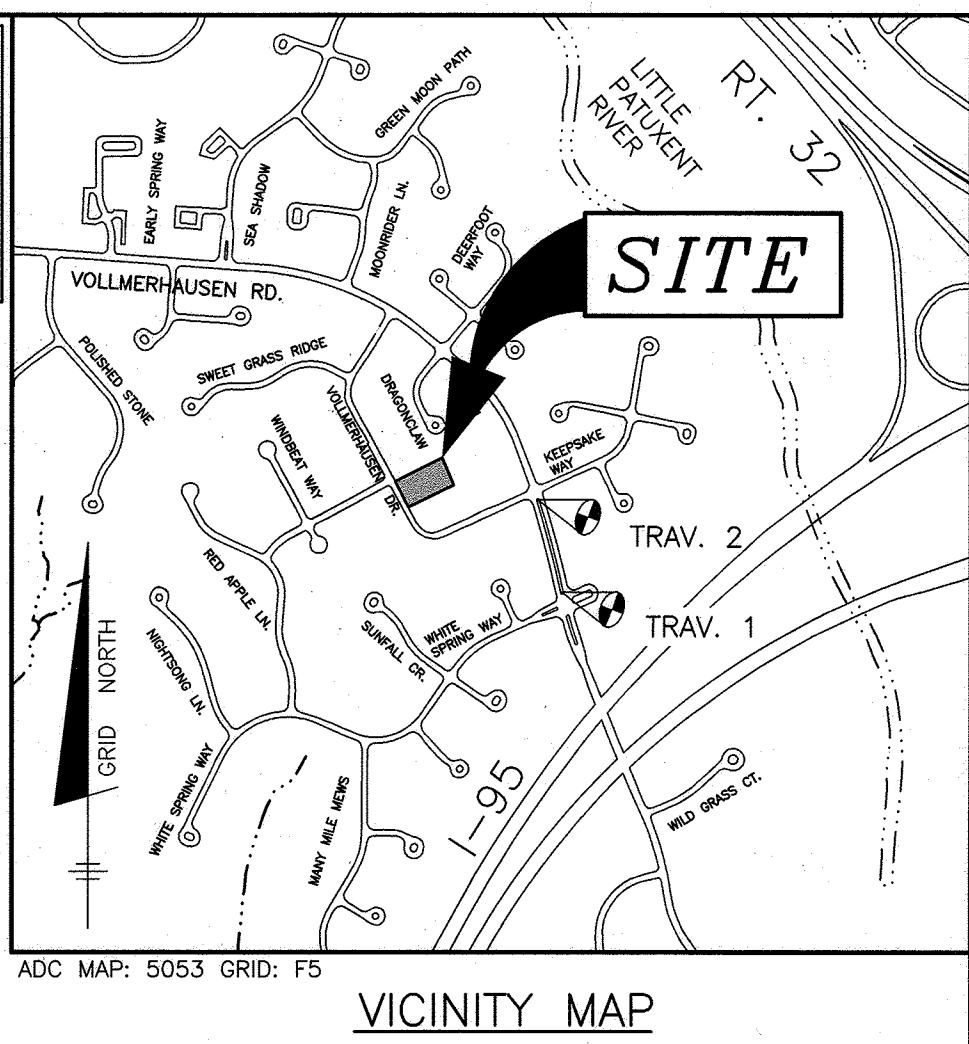
DEVELOPER:
 CORNERSTONE HOMES, LLC
 9693 GERWIG LANE
 SUITE L
 COLUMBIA, MARYLAND 21046
 410-792-2565

HUNTINGTON POINT II
 LOTS 1-3 AND OPEN SPACE LOT 4

9470 VOLLMERHAUSEN DR. COLUMBIA, MARYLAND 21046
 TAX MAP: 42 - GRID 22 - PARCEL: 351
 ELECTION DISTRICT NO. 6 - HOWARD COUNTY, MARYLAND

FINAL ROAD PLANS
EXISTING CONDITIONS
AND PROPOSED LOTS

DATE: MAY 2023
 SCALE: AS SHOWN
 SHEET 1 OF 4



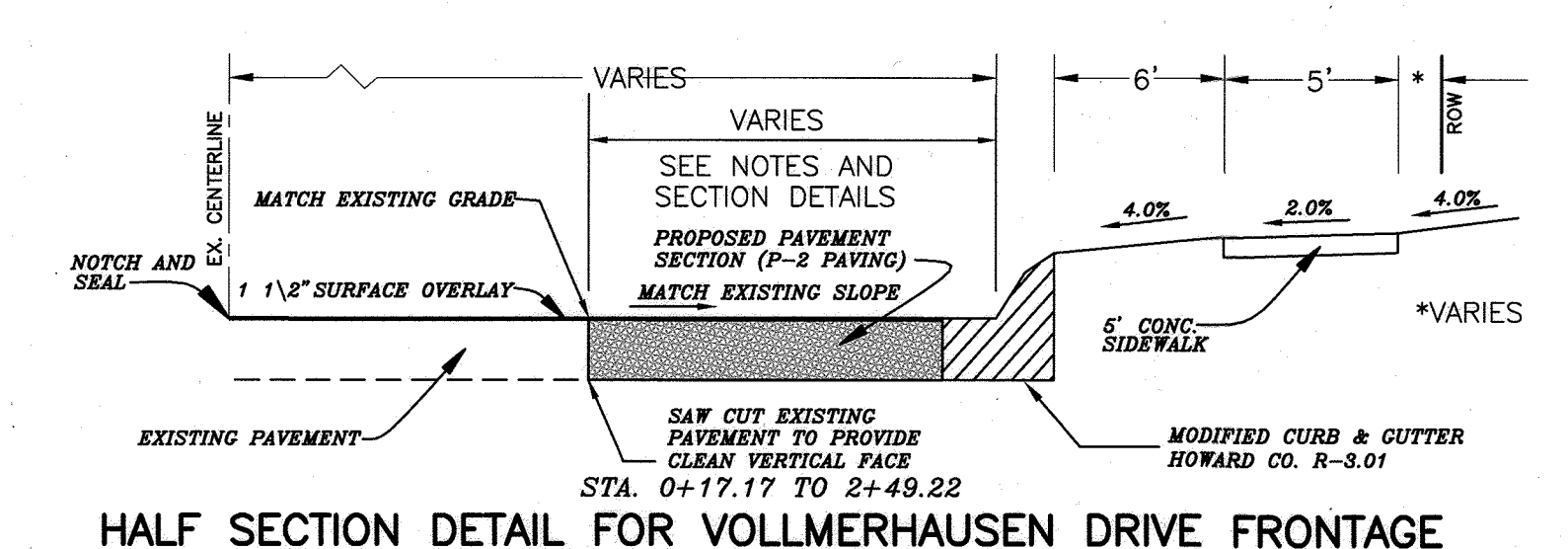
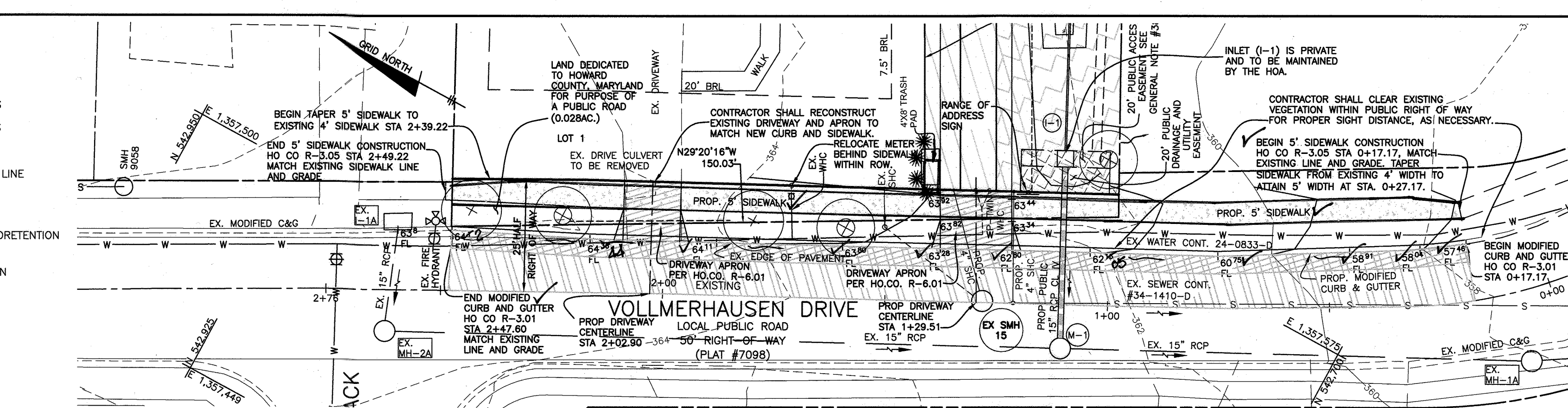
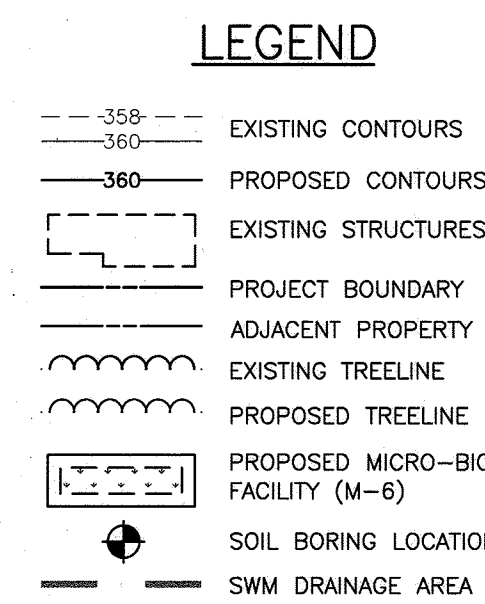
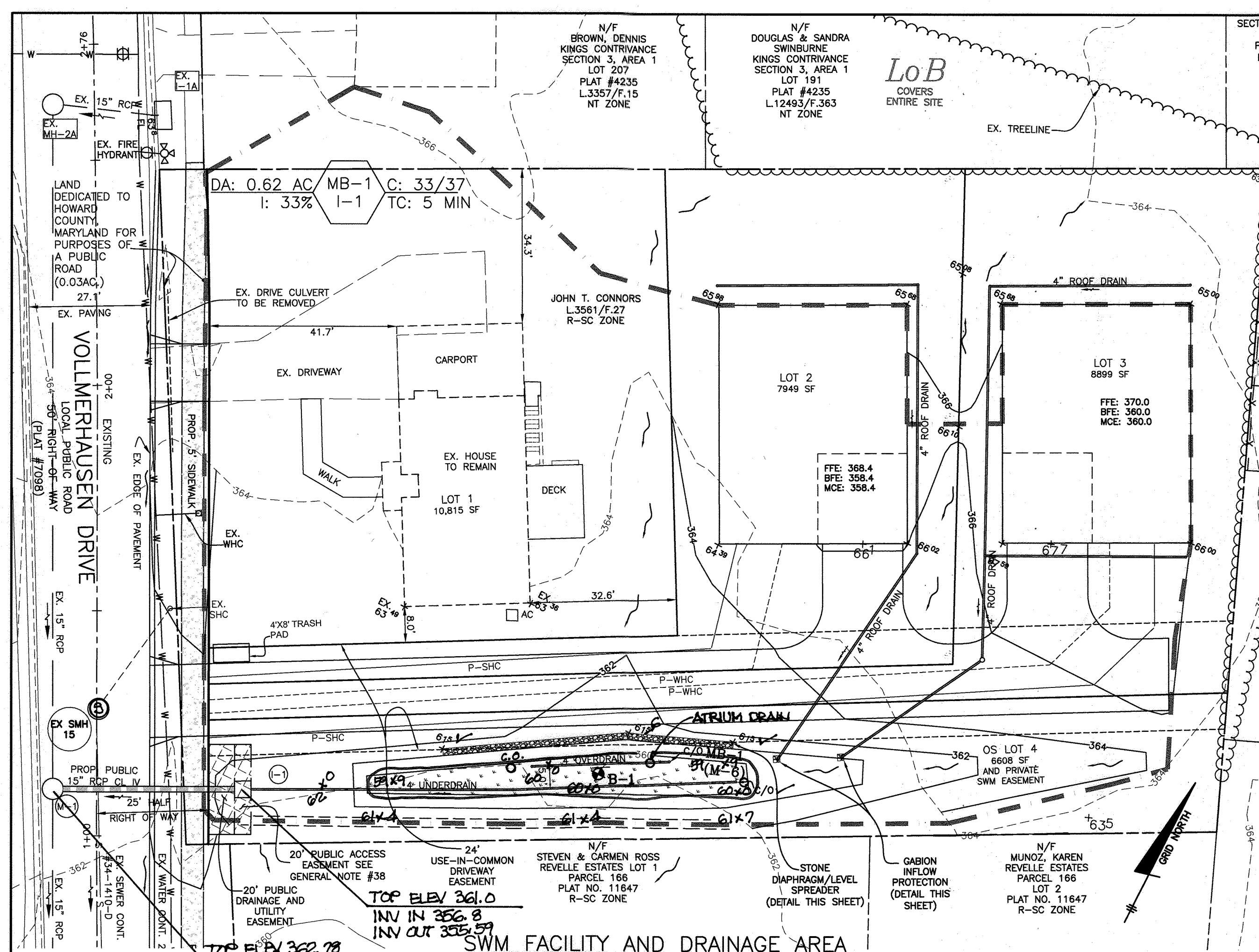
SHEET INDEX	
NO.	DESCRIPTION
1	EXISTING CONDITIONS AND PROPOSED LOTS
2	FRONTAGE IMPROVEMENTS AND SWM PLAN
3	LANDSCAPE PLAN
4	SEDIMENT CONTROL PLAN, NOTES AND DETAILS

SITE DATA TABULATION	
1. GENERAL SITE DATA	
a.) PRESENT ZONING:	R-5C
b.) LOCATION, TAX MAP:	42, GRID 22, PARCEL 351
c.) APPLICABLE DPZ FILE REFERENCES:	ECP-23-024
d.) PROPOSED USE OF SITE:	SINGLE FAMILY DETACHED RESIDENTIAL
e.) PROPOSED WATER AND SEWER SYSTEMS:	PUBLIC

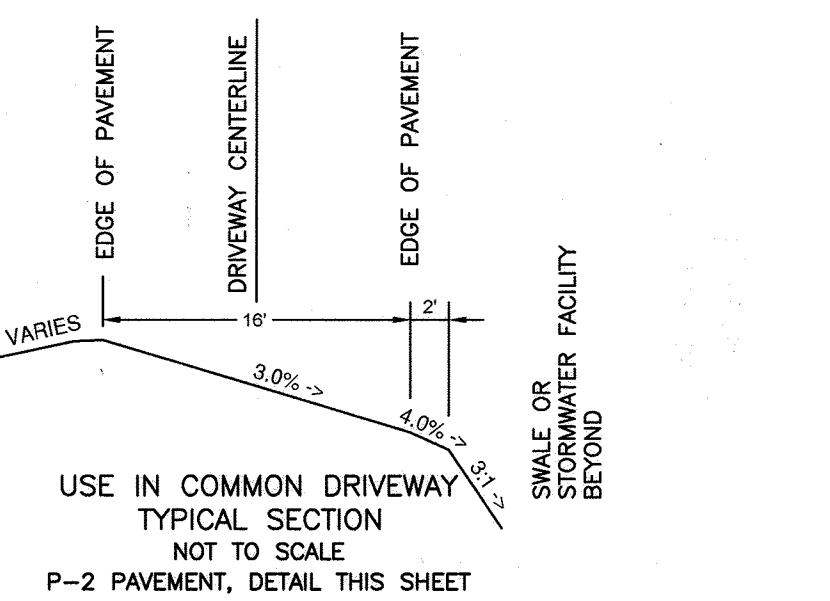
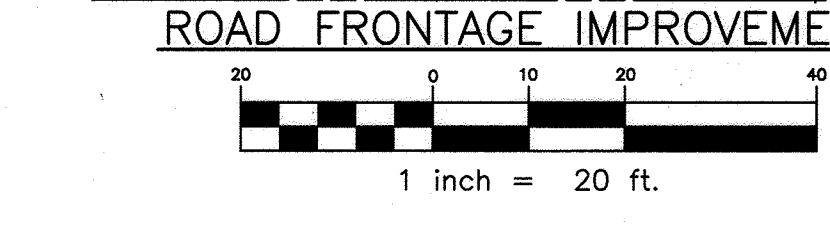
2. AREA TABULATION		TOTAL
a.) TOTAL AREA OF SITE:	0.82± AC.	
b.) APPROXIMATE AREA OF 100 YEAR FLOODPLAIN:	0.00± AC.	
c.) APPROX. AREA OF STEEP SLOPES (25% OR MORE):	0.00± AC.	
d.) NET AREA OF SITE:	0.82± AC.	
e.) AREA OF THIS PLAN SUBMISSION:	0.82± AC.	
f.) AREA OF PROPOSED BUILDABLE LOTS:	0.64± AC.	
g.) AREA OF PROPOSED PUBLIC ROAD RIGHT-OF-WAY:	0.03± AC.	
h.) APPROXIMATE AREA OF LIMIT OF DISTURBANCE:	0.63± AC.	
i.) AREA OF PROPOSED OPEN SPACE LOTS:	0.15± AC.	
j.) AREA OF PROPOSED NON-CREDIT OPEN SPACE:	0.15± AC.	

3. UNIT/LOT TABULATION	
a.) TOTAL NUMBER OF RESIDENTIAL UNITS/LOTS PROPOSED ON THIS SUBMISSION:	3
b.) TOTAL NUMBER OF OPEN SPACE LOTS PROPOSED:	1
c.) TOTAL NUMBER OF NON-BUILDABLE PARCELS PROPOSED:	0

MODERATE INCOME HOUSING UNIT (MIHU) APPLICATION EXEMPTIONS TRACKING	
Total Number of Lots/Units Proposed	3
Total Number of MIHUs Required	1
Number of MIHUs Provided Onsite (Exempt from APFO allocations)	0
Number of APFO Allocations Required (Remaining Lots/Units)	2
MIHU Fee-in-Lieu (Indicate Lot/Unit numbers)	YES
	2-3



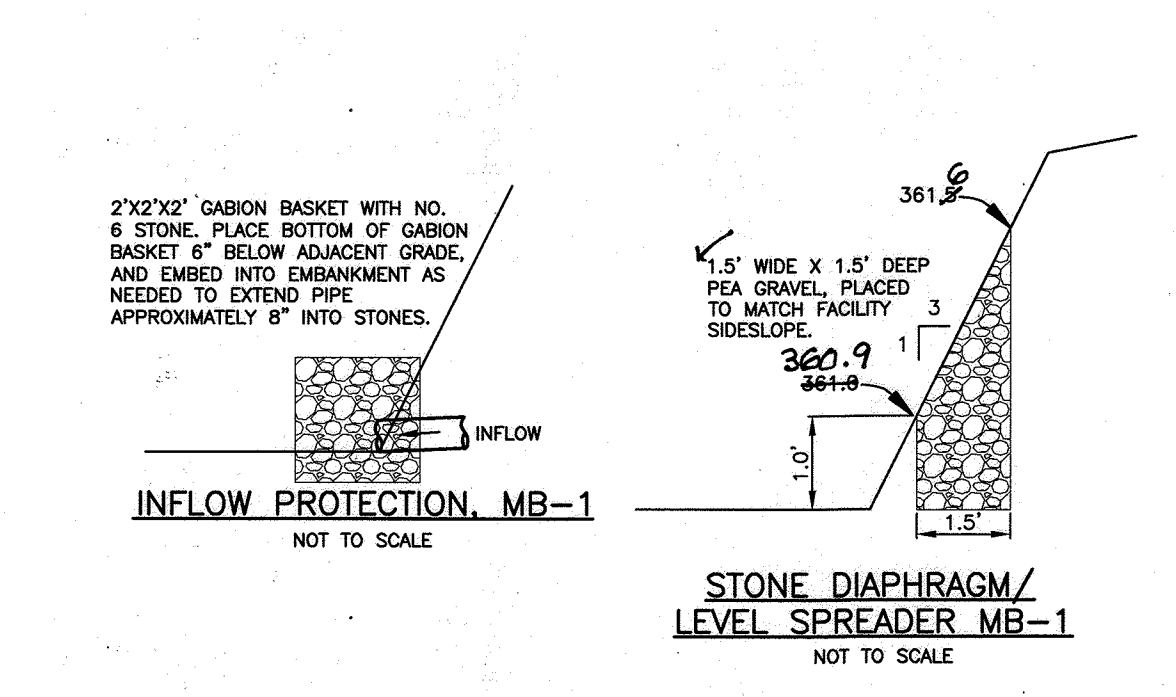
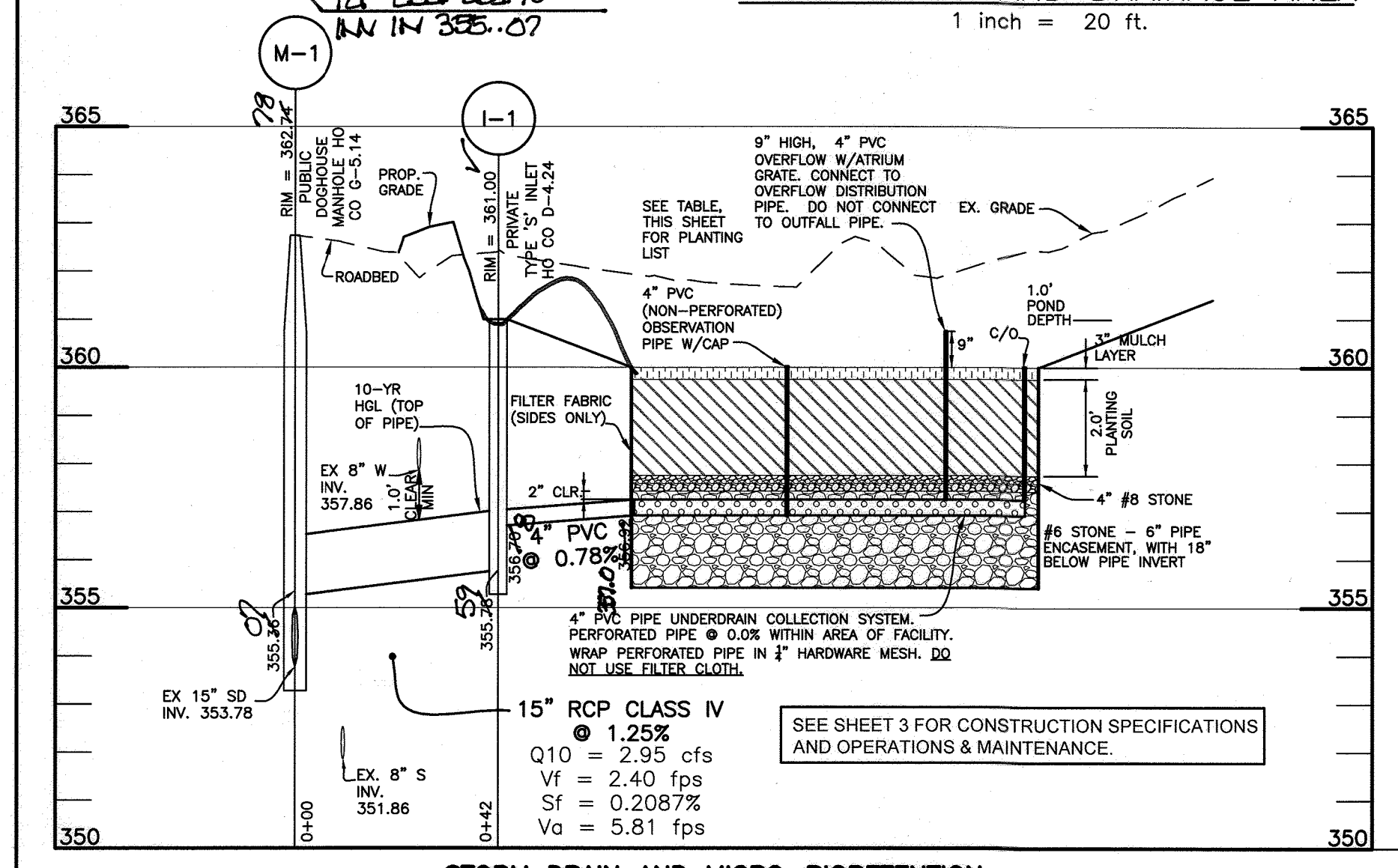
NOTES:
 1. THE MODIFIED CURB AND GUTTER SHALL BE PLACED WITH FLOWLINE LOCATION MATCHING THE EXISTING EDGE OF PAVEMENT. CONTRACTOR SHALL REMOVE A MINIMUM OF 1" FULL DEPTH AND 4" WIDTH OF THE EXISTING ROADWAY AND PROVIDE A MINIMUM OF 4" PAVEMENT FROM FACE OF GUTTER PAN.
 2. THE EXISTING PAVEMENT TO BE RESURFACED SHALL BE MILLED AT DEPTH OF 1/2" (MINIMUM).
 3. THE RESURFACING COURSE TO BE EQUAL TO THE SURFACE COURSE OF THE TYPICAL PAVEMENT SECTION.
 4. MATCH SLOPE OF GUTTER PAN TO EXISTING STREET CROSS SLOPE AS REQUIRED.
 5. THIS WORK SHALL BE DONE IN GENERAL COMPLIANCE WITH HOWARD COUNTY SPECIFICATION R-1.14.



NOTES:
 1. STREET TREE SPECIES ARE SHOWN ON THE LANDSCAPE PLAN, SHEET 3.
 2. TRENCH REPAIRS TO BE ACCOMPLISHED IN ACCORDANCE WITH HO CO STANDARD G-4.01.

SECTION NUMBER	CALIFORNIA BEARING RATIO (CBR)	PAVEMENT MATERIAL (INCHES)					
		3 TO <5	5 TO <7	>7	3 TO <5	5 TO <7	>7
P-2	SUPERPAVE ASPHALT MIX FINAL SURFACE 9.5 MM PG 64-22S, LEVEL 1 (ESAL)	1.5	1.5	1.5	1.5	1.5	1.5
		1.5	1.5	1.5	1.5	1.5	1.5
		2.0	2.0	2.0	3.5	2.0	2.0
		19.0 MM PG 64-22S, LEVEL 1 (ESAL)	8.0	4.0	3.0	4.0	4.0

HOWARD COUNTY DETAIL R-2.01
 TYPICAL PAVING SECTION DETAIL
 NOT TO SCALE



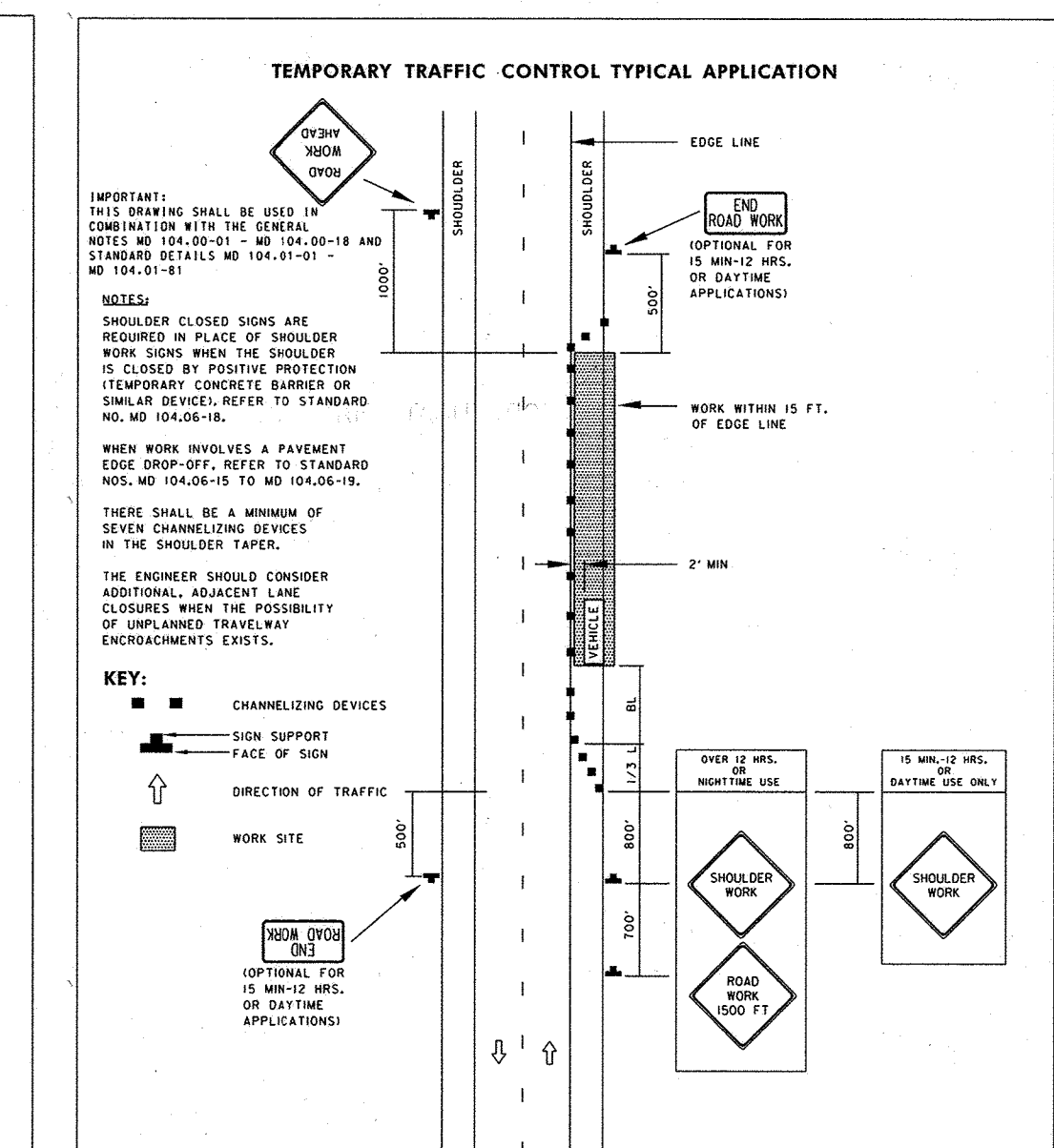
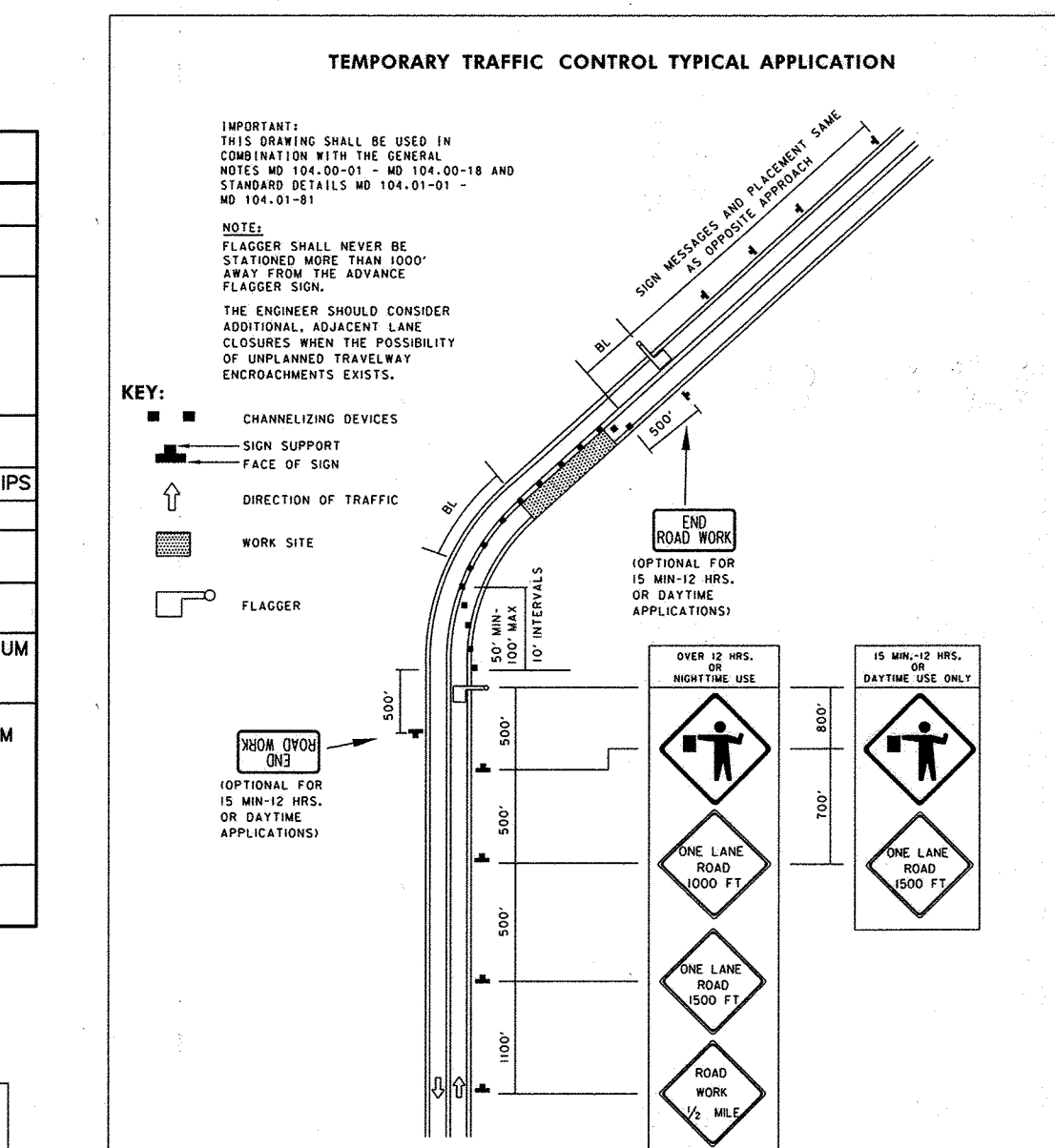
STORMWATER MANAGEMENT SUMMARY TABLE

FACILITY	Drainage Area	Impervious	I (%)	Rv	ESDv (cf)	75% ESDv Ponding (cf)	Volume Stored	Volume treated (V/0.75)	Pe Treated
MB-1	27244	8896	33%	0.344	1403.9	1053.0	1094cf	1459cf	1.87
TOTAL:						1094 cf	1459 cf		

Rev Storage: 351 c.f. satisfied by 17.6 inches of stone below underdrain Use 18"

MATERIALS & SPECIFICATIONS FOR MICRO-BIORETENTION

MATERIAL	SPECIFICATION	SIZE	NOTES:
PLANTINGS	SEE APPENDIX A, TABLE A.4	N/A	PLANTINGS ARE SITE SPECIFIC
PLANTING SOIL (2.0 TO 4.0' 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	N/A	
MULCH	SHREDDED HARDWOOD	N/A	AGED 6 MONTHS, MINIMUM, NO PINE OR WOOD CHIPS
GEOTEXTILE (CLASS 'C')	1/4" WIRE MESH	N/A	PE TYPE 1 NONWOVEN
UNDERDRAIN GRAVEL	AASHTO M-43	NO. 57 OR NO. 6	3/8" PERFORATED PIPES
UNDERDRAIN PIPING	F758, TYPE PS28 OR AASHTO M-278	4" TO 6" RIGID SCH.40 PVC, SDR35 OR HDPE	3/8" PERFORATED PIPES, MINIMUM OF 2" OF GRAVEL OVER PIPES, NOT NECESSARY UNDERNEATH PIPES
IMPERVIOUS LINER	ASTM-D-4833 (THICKNESS) ASTM-D-412 (TENSILE STRENGTH 1,100 LB., ELONGATION 200%) ASTM-D-624 (TEAR RESISTANCE - 150 LB./IN) ASTM-D-471 (WATER ADSORPTION: +8 TO -2% MASS)	30 MIL THICK	LINER TO BE ULTRAVIOLET RESISTANT, A GEOTEXTILE FABRIC SHOULD BE USED TO PROTECT THE LINER FROM PUNCTURE.
GEOTEXTILE (BELOW IMPERV. LINER)	ASTM-D-4833 (PUNCTURE STRENGTH 125LB) ASTM-D-4832 (TENSILE STRENGTH 300 LB.)		



STORM DRAIN STRUCTURE SCHEDULE

NO	LOCATION	INV. IN	INV. OUT	TOP ELEV.	HO. CO. STD.	OWNER
I-1	N 542,774.8308 E 1,357,584.1284	356.708	355.78	361.00	D-4.24	PRIVATE
M-1	N 542,755.6264 E 1,357,546.2604	355.207	EX. 353.78	362.2478	G-5.14	PUBLIC

1) STRUCTURE LOCATION FOR GRATE INLET IS AT THE CENTER OF GRATE.
 2) STRUCTURE LOCATION FOR MANHOLE IS RIM, AT CENTER OF MANHOLE STRUCTURE.

PIPE SCHEDULE

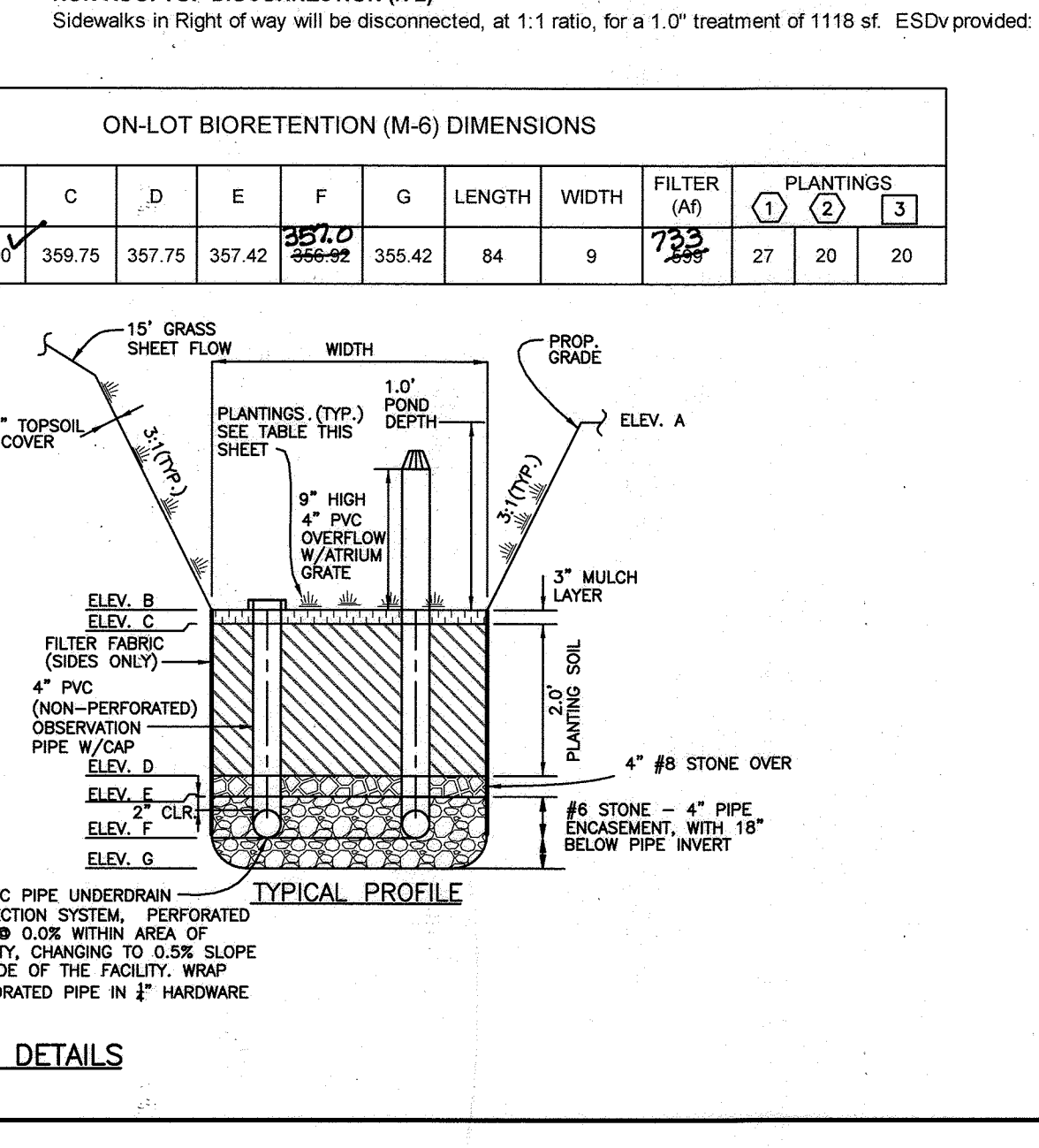
SIZE	LENGTH	TYPE & CLASS	OWNER
4"	113 LF	PVC-PERFORATED	PRIVATE
4"	36 LF	PVC	PRIVATE
15"	42 LF	RCP CLASS IV	PUBLIC

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 CHIEF, BUREAU OF HIGHWAYS
 DATE: 6/23/2023

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 6/23/2023

CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 6/23/2023

DIRECTOR
 DATE:



BORING LOG

Client: Development Partners, LLC
 Project: Huntington Point II: 8470 Vollermerhausen Drive, Columbia, MD
 Date: 2/17/2023

Elevation (feet)	DESCRIPTION OF MATERIALS (Identification)	Sample Depth (feet)	Moisture Content	REMARKS
361.78	Forest litter with topsoil and root (organic) matter.			Groundwater was not encountered during drilling or at completion
359.7	Red-brown to orange-brown sandy CLAY with trace gravel, moist (USCS: CL, USDA: Sandy Clay)			
357.7	Red-brown clayey fine to coarse SAND with little gravel, moist (USCS: SC, USDA: Clay Loam)			
357.5	Red-brown fine to coarse SAND with little gravel, little clay and little silt, moist to wet (USCS: SC, USDA: Sandy Clay Loam)			
355.0	End of Boring			

AS-BUILT CERTIFICATION
 I hereby certify, by my seal, that to the best of my knowledge and belief the facilities shown on this 'AS-BUILT' Plan meet the Approved Plans and Specifications

Donald Mason, P.E.
 Date: 3-11-24

Maryland Department of Transportation
 STATE HIGHWAY ADMINISTRATION
 STANDARD FOR HIGHWAYS AND INCIDENTAL STRUCTURES
 FLAGGING OPERATION-2-LANE, 2-WAY
 EQL/LESS THAN 40 MPH
 STANDARD NO. MD 104.02-10

Maryland Department of Transportation
 STATE HIGHWAY ADMINISTRATION
 STANDARD FOR HIGHWAYS AND INCIDENTAL STRUCTURES
 SHOULDER WORK-2-LANE, 2-WAY
 EQL/LESS THAN 40 MPH
 STANDARD NO. MD 104.02-02

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. 21443, Expiration Date: 12-21-24

AS-BUILT CERTIFICATION
 I hereby certify, by my seal, that to the best of my knowledge and belief the facilities shown on this 'AS-BUILT' Plan meet the Approved Plans and Specifications

Donald Mason, P.E.
 Date: 3-11-24

BENCHMARK ENGINEERING, INC.
 3300 NORTH RIDGE ROAD SUITE 140 & ELLICOTT CITY, MARYLAND 21043
 (P) 410-465-8105 (F) 410-465-8644
 WWW.BE-CIVILENGINEERING.COM

HUNTINGTON POINT II
 LOTS 1 - 3 AND OPEN SPACE LOT 4

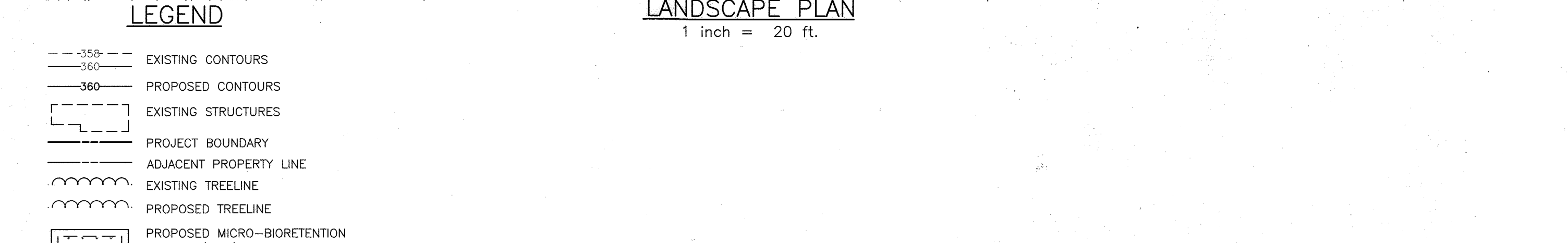
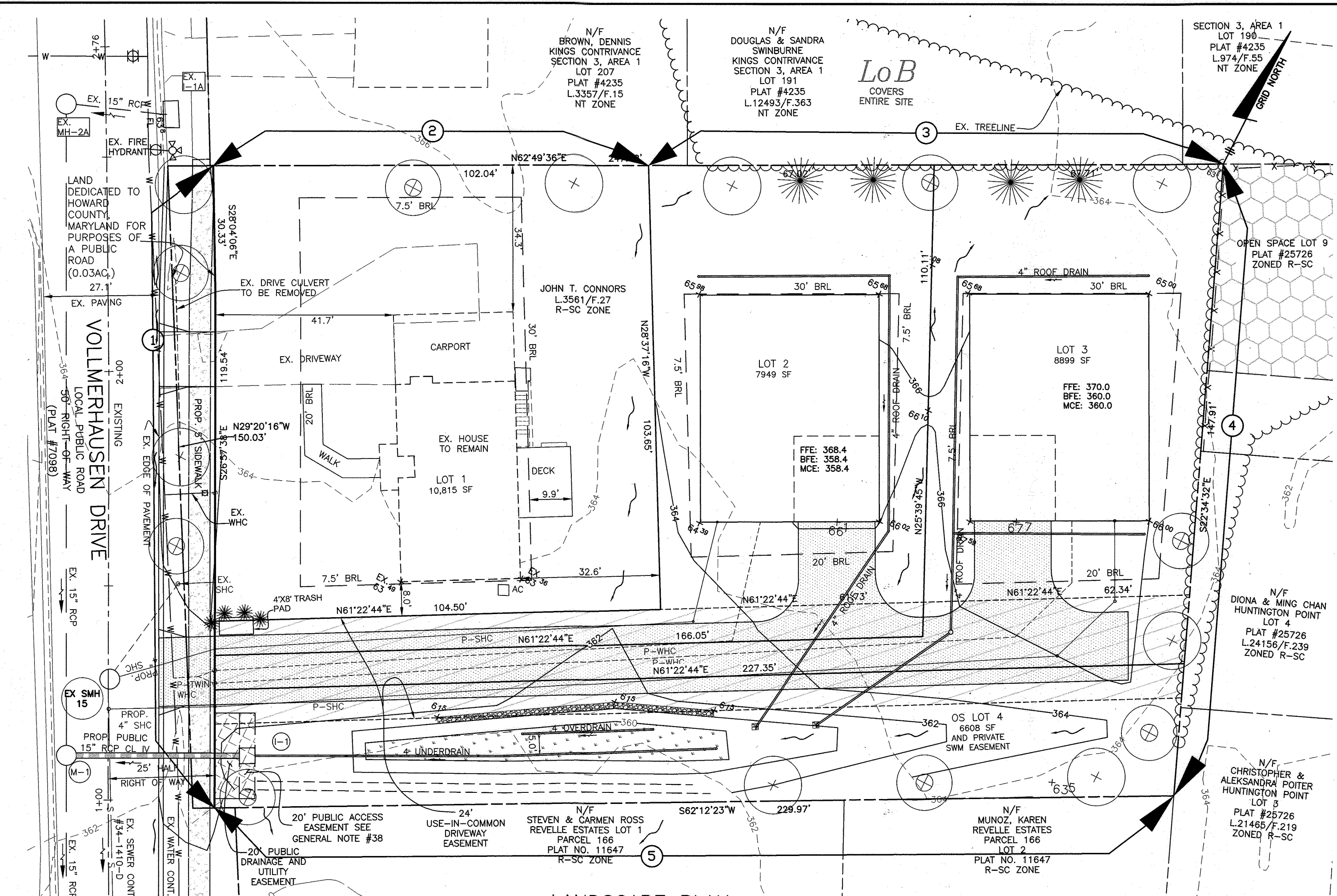
9470 VOLLERMERHAUSEN DR. COLUMBIA, MARYLAND 21046
 TALL MAP: 42 - GRID: 22 - PARCEL: 351
 CONED: R-SC
 ELECTION DISTRICT NO. 6 - HOWARD COUNTY, MARYLAND

FINAL ROAD PLANS
 FRONTAGE IMPROVEMENTS AND
 STORMWATER MANAGEMENT PLAN

OWNER: JOHN CONNORS
 9693 GERWIG LANE SUITE L COLUMBIA, MARYLAND 21046 410-792-2565

DEVELOPER: CORNERSTONE HOMES, LLC
 9693 GERWIG LANE SUITE L COLUMBIA, MARYLAND 21046 410-792-2565

DESIGN: AAM CHECK: CAM DATE: MAY 2023 SHEET: 2 OF 4



LANDSCAPING NOTES
1) PERIMETER LANDSCAPING SHALL BE PROVIDED BY THE DEVELOPER AS SHOWN ON THESE PLANS.
2) TREES MUST BE A MINIMUM OF FOUR (4) FEET FROM PAVEMENT AND MUST BE A MINIMUM OF FIVE (5) FEET FROM ANY STORM DRAIN, IF APPLICABLE.

DEVELOPER'S/BUILDER'S CERTIFICATE
I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE LANDSCAPE MANUAL.

LANDSCAPE AND STREET TREE PLANTING LIST
SYMBOL QUANTITY NAME REMARKS
(+) 8 PLANTANUS ACERIFOLIA 'BLOODGOOD' (Bloodgood London Plane) 2 1/2" MIN. CAL. FULL HEAD

SCHEDULE A PERIMETER LANDSCAPE EDGE
CATEGORY ADJACENT TO: FRONT ROW PERIMETER PROPERTY PROPERTY PROPERTY PROPERTY TRASH PAD TOTAL
LANDSCAPE TYPE (1) NONE (2) A (3) B (4) A (5) A D

- OPERATION AND MAINTENANCE SCHEDULE FOR MICRO-BIORETENTION (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.

SWM CONSTRUCTION SPECIFICATIONS

B.4.C Specifications for Micro-Bioretenion, Rain Gardens, Landscape Infiltration & Infiltration Berms
1. Material Specifications:
The allowable materials to be used in these practices are detailed in Table B.4.1.

MATERIALS & SPECIFICATIONS FOR MICRO-BIORETENTION
MATERIAL SPECIFICATION SIZE NOTES:
PLANTINGS SEE APPENDIX A, TABLE A.4 N/A PLANTINGS ARE SITE SPECIFIC

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE: 6/23/2023

2. Filtering Media or Planting Soil:
The soil shall be a uniform mix, free of stones, stumps, roots or other similar objects larger than two inches. No other materials or substances shall be mixed or dumped within the micro-bioretenion practice that may be harmful to plant growth, or prove a hindrance to the planting or maintenance operations. The planting soil shall be free of Bermuda grass, Quackgrass, Johnson grass, or other noxious weeds as specified under COMAR 15.08.01.05. The planting soil shall be tested and shall meet the following criteria:

- 4. Plant Material:
Recommended plant material for micro-bioretenion practices can be found in Appendix A, Section A.2.3.
5. Plant Installation:
Compost is a better organic material source, is less likely to float, and should be placed in the invert and other low areas. Mulch should be placed in surrounding to a uniform thickness of 2" to 3". Shredded or clipped hardwood mulch is the only accepted mulch. Fine mulch and wood chips will float and move to the perimeter of the bioretention area during a storm event and are not acceptable. Shredded mulch must be well aged (6 to 12 months) for acceptance.
6. Underdrains:
Underdrains should meet the following criteria:
- Pipe - Should be 4" to 6" diameter, slotted or perforated rigid plastic pipe (ASTM F758, Type PS 28, or AASHTO-M-278) in a gravel layer. The preferred material is slotted, 4" rigid pipe (e.g., PVC or HDPE).

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. 21443, Expiration Date: 12-21-24

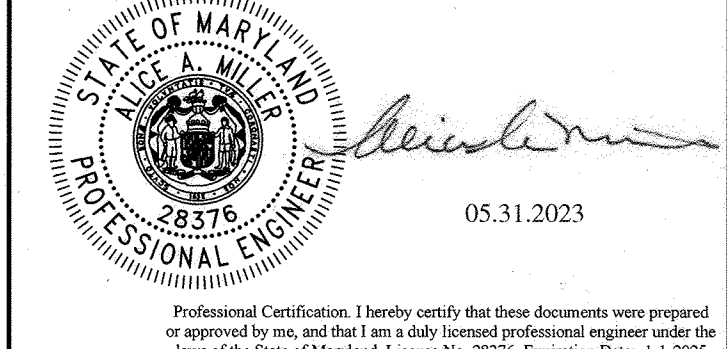


"NO AS-BUILT INFORMATION IS PROVIDED ON THIS SHEET"
AS-BUILT 3-12-24

SOILS LEGEND
MAP SYMBOL SOIL GROUP SOIL TYPE %c FACTOR
LoB* C LEGORE-MONTALTO-URBAN LAND COMPLEX, 0 TO 8 PERCENT SLOPES 0.64

NO. DATE REVISION

BENCHMARK ENGINEERING, INC.
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ELECTION DISTRICT NO. 6 - HOWARD COUNTY, MARYLAND

FINAL ROAD PLANS LANDSCAPE PLAN
DATE: MAY 2023 BEI PROJECT NO. 3140
DESIGN: AAM CHECK: CAM SCALE: AS SHOWN SHEET 3 OF 4

