

GENERAL NOTES

- 1. THIS PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
2. SUBJECT PROPERTY ZONED R-20 PER THE 10-06-2013 COMPREHENSIVE ZONING PLAN.
3. THE EXISTING TOPOGRAPHY ON-SITE SHOWN HEREON IS TAKEN FROM FIELD-RUN TOPOGRAPHIC SURVEYS AT 2' INTERVALS PREPARED BY BENCHMARK ENGINEERING, INC. ON OR ABOUT JULY, 2021; SUPPLEMENTED WITH HOWARD COUNTY DIGITAL GIS INFORMATION. THE EXISTING UTILITIES SHOWN ARE TAKEN FROM FIELD SURVEY, CONTRACT DRAWINGS, AND COUNTY GIS INFORMATION.
4. 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 GIS OBSERVATION. MONUMENTS '17EA' & '17EB' WERE USED FOR THIS PROJECT.
5. PROJECT BOUNDARY IS BASED ON A BOUNDARY SURVEY PERFORMED BY BENCHMARK ENGINEERING, INC. DATED AUGUST, 2021.
6. THE NOISE STUDY FOR THIS PROJECT WAS PREPARED BY THE MARS GROUP, INC. DATED SEPTEMBER, 2021. THE 65DBA NOISE CONTOUR LINE DOES NOT IMPACT THE SITE.
7. THE 65DBA NOISE CONTOUR LINE DRAWN ON THIS DEVELOPMENT PLAN IS ADVISORY AS REQUIRED BY THE HOWARD COUNTY DESIGN MANUAL, CHAPTER 5, REVISED FEBRUARY 1992, AND CANNOT BE CONSIDERED TO EXACTLY LOCATE THE 65DBA NOISE EXPOSURE. THE 65DBA NOISE LINE WAS ESTABLISHED BY HOWARD COUNTY TO ALERT DEVELOPERS, BUILDERS AND FUTURE RESIDENTS THAT AREAS BEYOND THIS THRESHOLD MAY EXCEED GENERALLY ACCEPTED NOISE LEVELS ESTABLISHED BY THE U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT.
8. THE FOREST STAND DELINEATION REPORT AND THE WETLANDS CERTIFICATION LETTER WERE PREPARED BY ECO-SCIENCE PROFESSIONALS, INC., DATED FEBRUARY, 2021 AND APPROVED UNDER THIS PLAN.
9. TRAFFIC STUDY WAS PREPARED BY MARS GROUP, DATED OCTOBER, 2021, AND APPROVED UNDER THE REVIEW OF THIS PLAN.
10. THE GEOTECHNICAL REPORT FOR THIS PROJECT WAS PREPARED BY ECS MID-ATLANTIC, LLC, DATED APRIL 13, 2022.
11. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO CEMETERY LOCATIONS ON-SITE.
12. THE EXISTING HOUSE ON THE PROPERTY IS A HISTORIC STRUCTURE THAT DATES TO CIRCA 1867, WITH RECENT RENOVATIONS IN 2020. AN APPLICATION FOR ADVISORY COMMENTS WAS HEARD BY THE HISTORIC PRESERVATION COMMISSION ON MARCH 3, 2022 IN CASE HPC-22-07. THE COMMISSION RECOMMENDED PRESERVING THE HISTORIC HOUSE. THE APPLICANT FOR MAKING THE FOCAL POINT OF THE PROJECT, AND RECOMMENDED MOVING THE EXISTING STONE GATE PISTS FROM THE OLD FREDERICK ROAD ENTRANCE TO THE NEW CIRCULAR DRIVEWAY ENTRANCE FOR THE HISTORIC HOUSE. THERE ARE EXISTING ANCILLARY STRUCTURES LOCATED WITHIN THE ANTICIPATED LIMIT OF DISTURBANCE FOR THIS PROJECT TO BE REMOVED AS SHOWN ON THESE PLANS. THIS WILL BE DONE PRIOR TO FINAL PLAT APPROVAL.
13. THERE ARE NO WETLANDS, WETLANDS BUFFERS, STREAMS, 100-YR FLOODPLAIN, OR STEEP SLOPES 25% AND GREATER THAT ARE MORE THAN 20,000 SF OF CONTIGUOUS AREA LOCATED ON THIS SITE PER THE WETLAND CERTIFICATION & FOREST STAND DELINEATION REPORT PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. DATED MARCH, 2021 AND APPROVED UNDER THIS PLAN.
14. THERE APPEARS TO BE AN EXISTING HAND DUG WELL W/NO TAG ON THE PROPERTY THAT IS NOT IN USE. THIS WELL IS PROBABLY ABANDONED IN ACCORDANCE WITH THE HOWARD COUNTY BUREAU OF ENVIRONMENTAL HEALTH. THIS WILL BE DONE PRIOR TO FINAL PLAT APPROVAL. THE EXISTING HOUSE CURRENTLY HAS PUBLIC WATER & SEWER SERVICE VIA HOUSE CONNECTIONS.
15. THE REQUIRED PRE-SUBMISSION COMMUNITY MEETING WAS HELD VIRTUALLY ON NOVEMBER 30, 2021, HOSTED BY BENCHMARK ENGINEERING, INC.
16. THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT. PUBLIC WATER & SEWER MAIN WILL CONNECT TO EX. CONTRACTS #738-S-B & #71-W. DRAINAGE IS PATAPSCO.
17. FREE FLOW SPEED STUDY WAS PREPARED BY MARS GROUP, DATED OCTOBER, 2021 AND THE SIGHT DISTANCE ANALYSIS WAS APPROVED UNDER THIS PLAN.
18. 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.
19. DRAINWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
A) WIDTH - 12" (16" SERVING MORE THAN ONE RESIDENCE).
B) SURFACE - 6" OF COMPACT CRUSHER RUN BASE WITH 1-1/2" MIN. TAR & CHIP COATING.
C) GEOMETRY - MAX. 15% GRADE, MAX. 10% GRADE CHANGE & MIN. 45' TURNING RADIUS.
D) STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOAD)
E) DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOODPLAIN WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY.
F) STRUCTURE CLEARANCES - MINIMUM 12 FEET.
G) MAINTENANCE - SUFFICIENT TO ENSURE ALL WEATHER USE.
20. 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.
21. THE TRAFFIC CONTROL DEVICE LOCATIONS SHOWN ON THE BASE PLANS ARE APPROXIMATE AND MUST BE FIELD APPROVED BY HOWARD COUNTY TRAFFIC DIVISION (410-313-2430) PRIOR TO THE INSTALLATION OF ANY OF THE TRAFFIC CONTROL DEVICES.
22. ALL TRAFFIC CONTROL DEVICES, AND THEIR LOCATIONS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE 'MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES' (MUMUTD).
23. ALL SIGN POSTS 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 (1 1/4 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (1 1/2 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.
24. THE FOREST CONSERVATION REQUIREMENTS FOR THIS SUBDIVISION SHALL BE ADDRESSED PRIOR TO RECORDECTION OF THE FINAL SUBDIVISION PLAT AND SHALL BE PROVIDED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.1200 OF THE SUBDIVISION REGULATIONS AND FOREST CONSERVATION MANUAL. THE FOREST CONSERVATION OBLIGATION FOR THIS SUBDIVISION SHALL BE SATISFIED BY OFF-SITE PLANTING OR PURCHASE OF BANK-CREDIT; THIS SHALL BE DETERMINED AT A LATER PLAN STAGE.
25. THIS DEVELOPMENT IS DESIGNED TO BE IN ACCORDANCE WITH SECTION 16.1217 - RESIDENTIAL INFILL DEVELOPMENT - OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. THIS PROJECT IS COMPATIBLE WITH THE ADJACENT RESIDENTIAL DEVELOPMENT BY CONSISTING OF THE SAME UNIT TYPES (SF). THIS PROJECT IS INTEGRATED WITH THE SURROUNDING RESIDENTIAL DEVELOPMENT BY INTERCONNECTING SIDEWALKS & OPEN SPACE WITH THOSE LOCATED OFF-SITE, BY INCORPORATING & PRESERVING SPECIMEN TREES WITHIN THE PROPERTY, THE ORIENTATION OF THE PROPOSED HOUSES AROUND THE EXISTING HISTORIC HOUSE TO REMAIN, AND PERIMETER LANDSCAPING.
26. THIS PROJECT IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS PER 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.
27. THE PERIMETER LANDSCAPING REQUIREMENTS SHALL BE ADDRESSED PRIOR TO RECORDECTION OF THE FINAL SUBDIVISION PLAT AND SHALL BE PROVIDED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.1214 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
28. THE LANDSCAPING SHOWN ON THIS PLAN IS PICTORIAL FOR REQUIREMENT PURPOSES ONLY. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING IN THE AMOUNT OF \$10,350 FOR 31 SHADE TREES AND 7 EVERGREENS. SHALL BE POSTED IN ACCORDANCE WITH THE APPROVED FINAL LANDSCAPE PLAN. UNDER THIS SUBSEQUENT FINAL PLAN OR SITE DEVELOPMENT PLAN, SURETY FOR STREET TREES SHALL BE POSTED WITH THE DEVELOPER'S AGREEMENT.
29. THIS PROJECT IS SUBJECT TO SECTION 13.402 OF THE COUNTY CODE FOR MODERATE INCOME HOUSING UNITS (MIHU). PER SECTION 13.402(a), THIS REQUIREMENT SHALL BE MET BY A FEE-IN-LIEU PAYMENT IN AN AMOUNT TO BE DETERMINED BY THE COUNTY. THE FEE-IN-LIEU SHALL BE PAID FOR ALL LOTS/RESIDENTIAL UNITS WITHIN THIS SUBDIVISION AT TIME OF BUILDING PERMIT ISSUANCE.
30. PER SECTION 16.121(a.2) OF THE SUBDIVISION REGULATIONS, THIS PROJECT IS SUBJECT TO 6% OPEN SPACE (10,428 SF). A FEE-IN-LIEU PAYMENT IN THE AMOUNT OF \$9,000.00 HAS BEEN APPROVED BY DEPARTMENT OF RECREATION & PARKS BY LETTER DATED MAY 17, 2022.
31. 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 SEVEN (4+5) MICRO-BIORETENTION PRACTICES, TWENTY-ONE (14+3) DRY WELLS, AND ONE (N-2) NON-ROOFTOP DISCONNECT PROVIDED OFF-SITE. THE FACILITIES ON-SITE ARE PRIVATELY OWNED & MAINTAINED. THE ESD-BMP PRACTICE WITHIN THE PUBLIC R/W SHALL BE PUBLICLY OWNED & MAINTAINED. THE STORMWATER MANAGEMENT SYSTEM SHOWN ON THESE PLANS IS AN APPROXIMATION OF SIZE, SHAPE, AND LOCATION. IT IS UNDERSTOOD THAT THIS SYSTEM HAS NOT BEEN FINALIZED AND THE ACTUAL DESIGN MAY CHANGE, ALTERING THE NUMBER OF UNITS ALLOCATED FOR THIS PROJECT.
32. STANDARD CURB & GUTTER, 10' PATHWAY, AND APPLICABLE ROADWAY IMPROVEMENTS SHALL BE INSTALLED ALONG OLD FREDERICK ROAD, APPROXIMATELY 970' WEST TO THE INTERSECTION OF EXISTING MCKENZIE ROAD AND APPROXIMATELY 95' EAST TO THE EXISTING ENTRANCE AT THE MT. HEBRON HIGH SCHOOL PARKING AREA, FROM THE SUBJECT SITE ENTRANCE.
33. ALTERNATIVE COMPLIANCE WP-22-1271, WAS APPROVED BY A FINAL DECISION ACTION REPORT ON DECEMBER 15, 2022, TO SECTION 16.1205(a)(3), WHICH ALLOWS FOR REMOVAL OF 2 SPECIMEN TREES. THE APPROVAL OF THE ALTERNATIVE COMPLIANCE IS SUBJECT TO THE FOLLOWING CONDITIONS:
1) THE REMOVAL OF SPECIMEN TREES 3 & 4 IS HEREBY PERMITTED, AS SHOWN ON THE ALTERNATIVE COMPLIANCE EXHIBIT. THE REMOVAL OF ANY OTHER SPECIMEN TREE ON THE SUBJECT PROPERTY IS NOT PERMITTED UNDER THIS REQUEST. DISTURBANCE TO THE CRITICAL ROOT ZONE OF THE REMAINING SPECIMEN TREES SHALL BE LIMITED TO A MAXIMUM OF 30% OF THE CRITICAL ROOT ZONE. THE CRITICAL ROOT ZONE OF THE REMAINING SPECIMEN TREES WHICH ARE PROPOSED TO REMAIN, DETAILS OF THE TREE PROTECTION DEVICES SHALL BE PROVIDED ON THE FINAL CONSTRUCTION PLANS OR SUPPLEMENTAL PLAN, AND ON THE SITE DEVELOPMENT PLAN.
2) THE APPLICANT SHALL MITIGATE THE REMOVAL OF THE TWO(2) SPECIMEN TREES BY PLANTING A MINIMUM OF FOUR(4) NATIVE TREES ON-SITE WITH A PLANTING SIZE OF AT LEAST THREE (3) INCHES DIAMETER AT BREAST HEIGHT(DBH). PLANTING DETAILS SHALL BE PROVIDED WITH THE FINAL ROAD CONSTRUCTION PLANS. THE FOUR(4) SHADE TREES WILL BE BONDED WITH THE DEVELOPER AGREEMENT FOR THE SUBDIVISION'S REQUIRED LANDSCAPING. THE TREES SHALL BE MONITORED FOR AT LEAST 3 GROWING SEASONS AND REPLACED IN-KIND IF THE PLANTINGS DO NOT SURVIVE.
34. A DESIGN MANUAL WAIVER WAS APPROVED BY LETTER DATED NOVEMBER 16, 2022, FROM THE HOWARD COUNTY DEVELOPMENT ENGINEERING DIVISION; TO DESIGN MANUAL, VOL. III, SECTION 2.5.B (TABLE 2-23) TO ALLOW FOR 7 LOTS ON A 16' USE-IN-COMMON ACCESS DRIVE.
35. THE GEOTECHNICAL REPORT INDICATES THAT SOME OF THE PROPOSED ESD FACILITIES MAY NOT MEET A 4 FOOT MINIMUM SEPARATION BETWEEN THEIR RESPECTIVE BOTTOMS AND ROCK. AT THE TIME OF FINAL PLAN DESIGN, FURTHER INFORMATION AND/OR MODIFICATIONS MAY BE NEEDED TO MEET THE REQUIRED DISTANCE.

Table with 2 columns: Item, Value. Includes SITE DATA TABULATION (GENERAL SITE DATA, AREA TABULATION, DENSITY TABULATION, UNIT/LOT TABULATION) and SITE DATA TABULATION (AREA OF SITE, AREA OF 100 YEAR FLOODPLAIN, etc.).

Table with 2 columns: Item, Value. Includes SUMMARY OF FINDINGS FOR TRAFFIC ANALYSIS (Report compiled on, Plan Number, etc.) and MITIGATION REQUIREMENT (Mitigation measures are not required for this study).

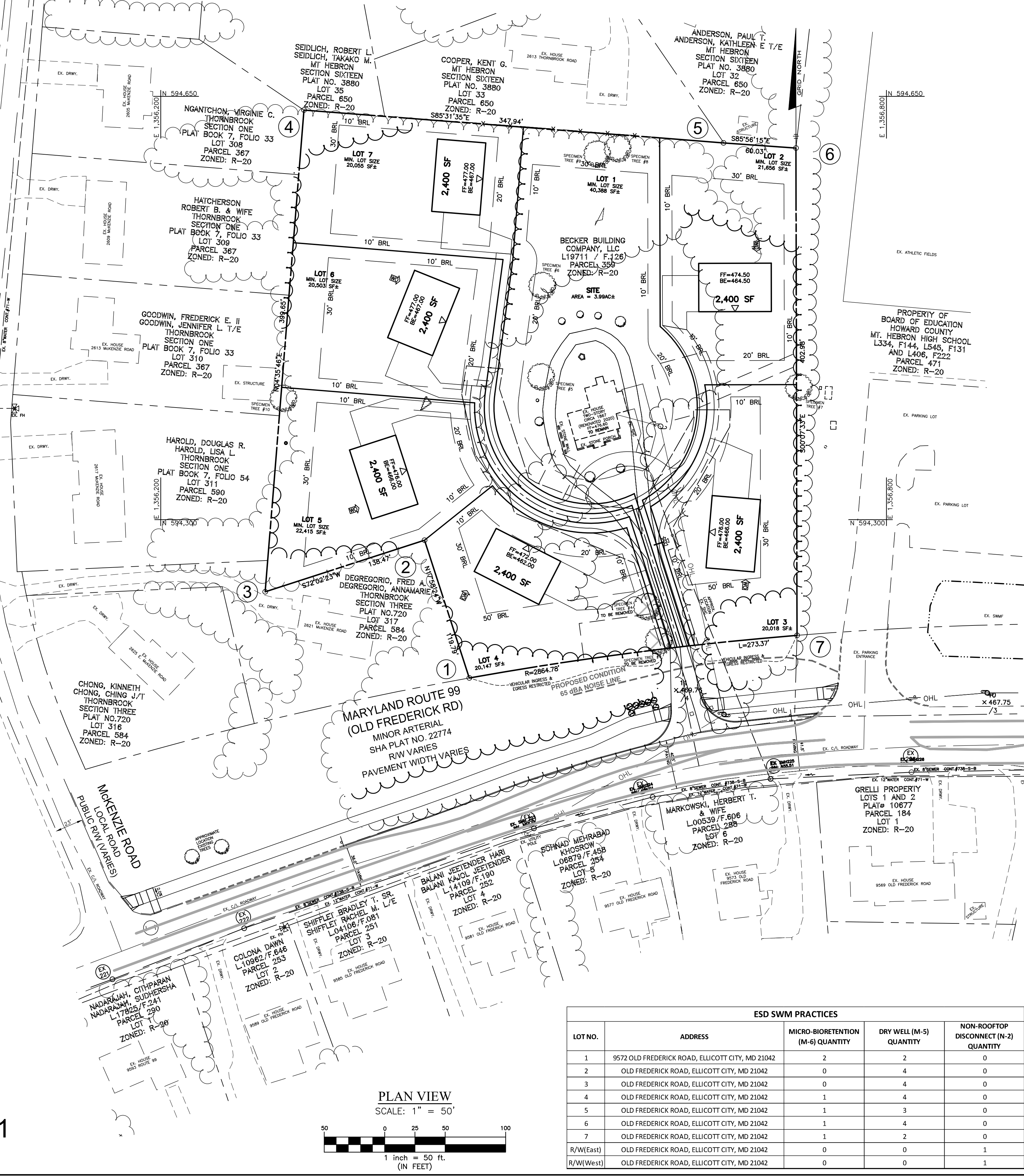
NOTE: UTILITY WORK WITHIN EXISTING ROADWAYS SHALL BE LIMITED TO THAT WHICH CAN BE BACKFILLED AND/OR STABILIZED BY THE END OF THE DAY'S CONSTRUCTION ACTIVITIES

NOTE: CONTRACTORS TO EXERCISE EXTREME CAUTION WHEN WORKING IN THE AREA OF EXISTING OVERHEAD LINES

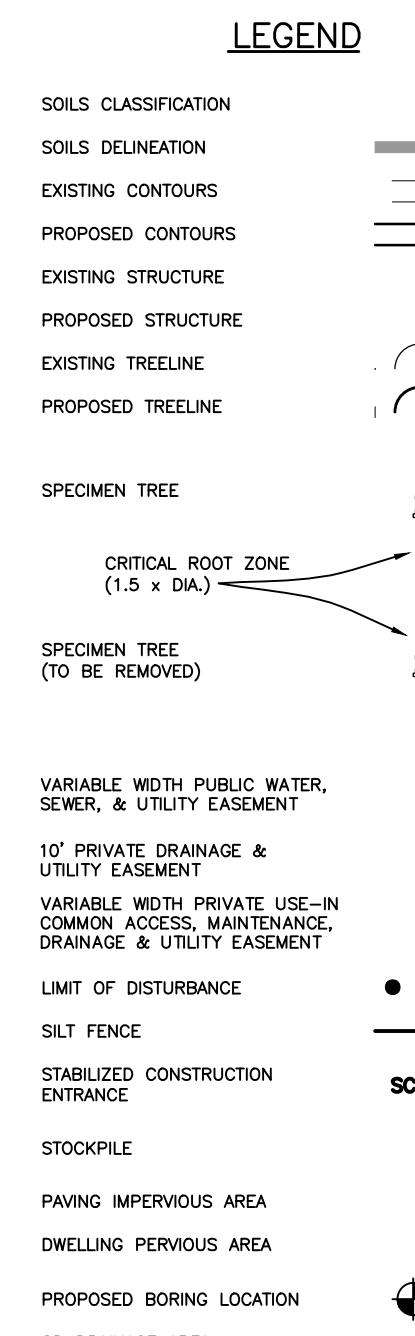
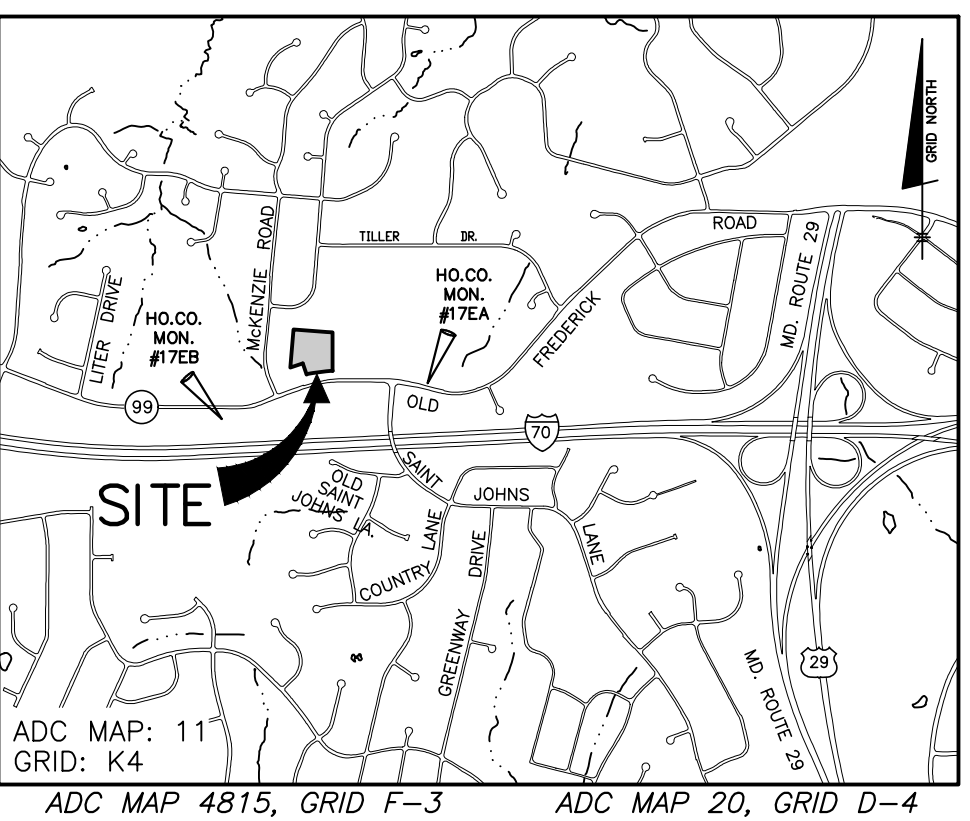
TENTATIVELY APPROVED DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY 2/16/2023

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT 2/16/2023

PRELIMINARY EQUIVALENT SKETCH PLAN HEBRON WOODS LOTS 1 THRU 7 2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND



BENCH MARKS - NAD '83 HO. CO. #17EA ELEV. 479.48 STAMPED BRASS DISK SET ON TOP OF CONC. (3" DEEP) COLUMN LOCATED IN THE ISLAND IN FRONT OF MOUNT HEBRON HIGH SCHOOL, 33.7' SOUTH OF THE FLAG POLE AND 21.3' NORTH OF THE CURB AND 49.7' WEST OF A 15" WHITE PINE.



BOUNDARY COORDINATES table with columns: Point #, Northing, Easting. Lists 7 points with their respective coordinates.

Minimum Lot Size Chart table with columns: Lot, Total Area (sf), Flagman Area (sf), Min Lot Area (sf). Lists 7 lots with their respective areas.

SHEET INDEX table with columns: NO., DESCRIPTION. Lists 12 sheets including COVER SHEET, EXISTING CONDITIONS PLAN, GEOMETRY PLAN, etc.

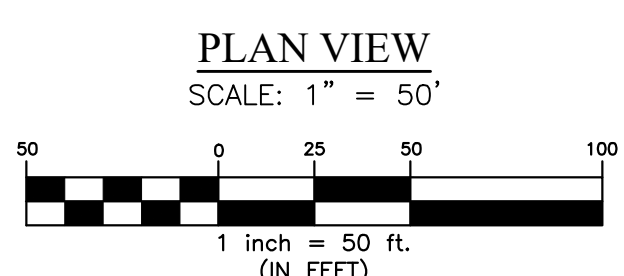
MODERATE INCOME HOUSING UNIT (MIHU) APPLICATION EXEMPTIONS TRACKING table with columns: Item, Value. Shows total number of lots/units proposed (7) and required (1).

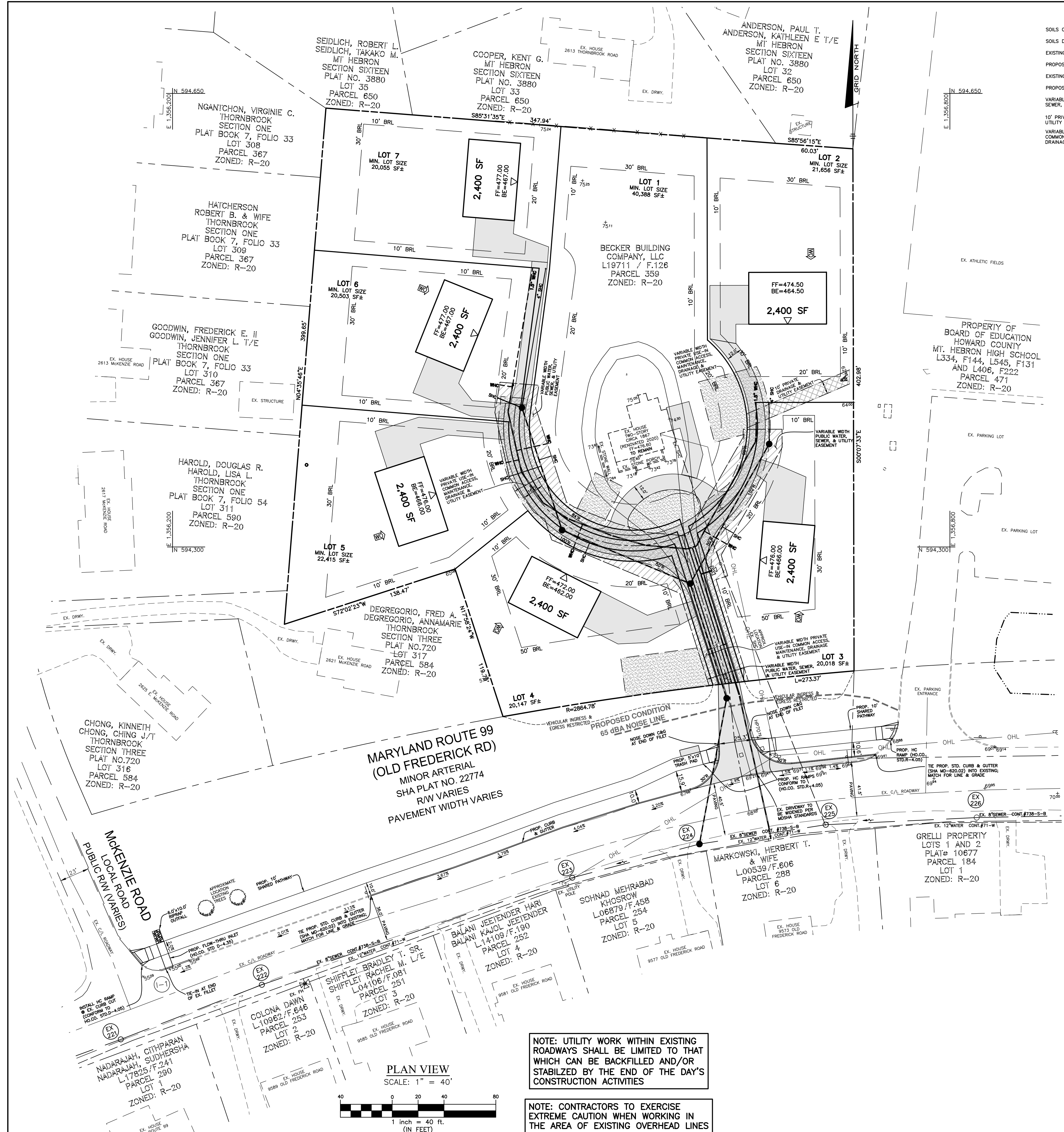
Table with 3 columns: NO., DATE, REVISION. Shows a list of revisions.

BENCHMARK ENGINEERS & LAND SURVEYORS & PLANNERS ENGINEERING, INC. 3300 NORTH RIDGE ROAD & SUITE 140 ELLICOTT CITY, MARYLAND 21043

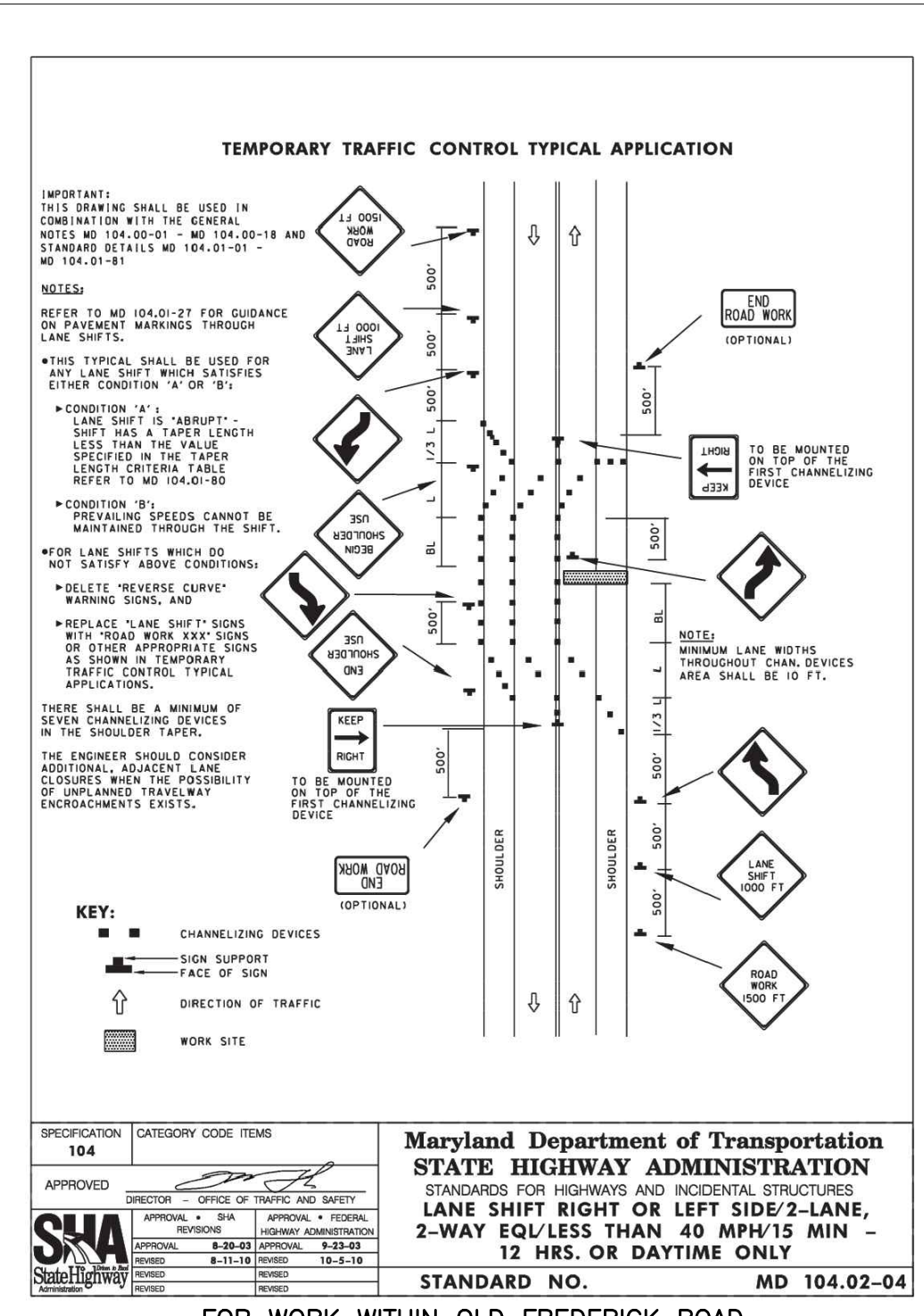
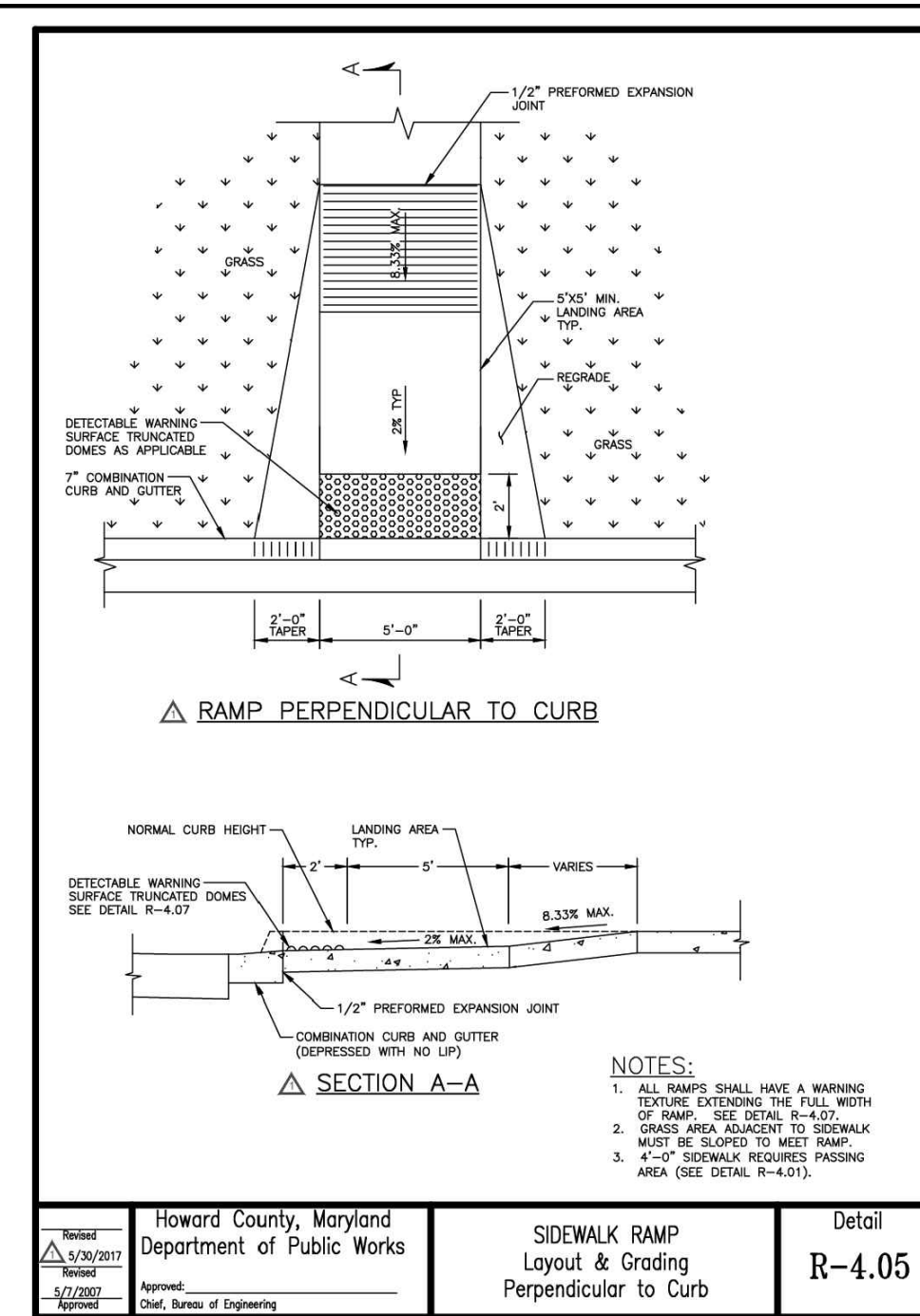
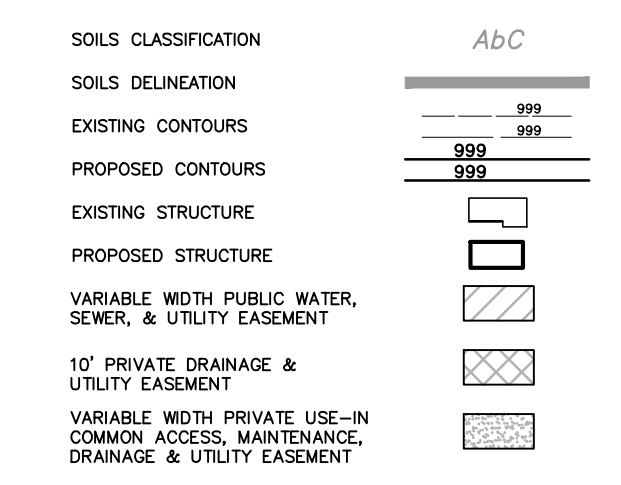
OWNER/DEVELOPER: BECKER BUILDING COMPANY, LLC 2077 SOMERVILLE ROAD SUITE 206 ANNAPOLIS, MD 21401. HEBRON WOODS 9572 OLD FREDERICK ROAD SUBDIVISION. TAX MAP: 17 - GRID: 15 - PARCEL: 359 ZONED: R-20. PRELIMINARY EQUIVALENT SKETCH PLAN COVER SHEET. DATE: JANUARY, 2023. BEI PROJECT NO. 3013. SCALE: AS SHOWN. SHEET 1 OF 12.

ESD SWM PRACTICES table with columns: LOT NO., ADDRESS, MICRO-BIORETENTION (M-6) QUANTITY, DRY WELL (M-5) QUANTITY, NON-ROOFTOP DISCONNECT (N-2) QUANTITY. Lists 7 lots with their respective quantities.



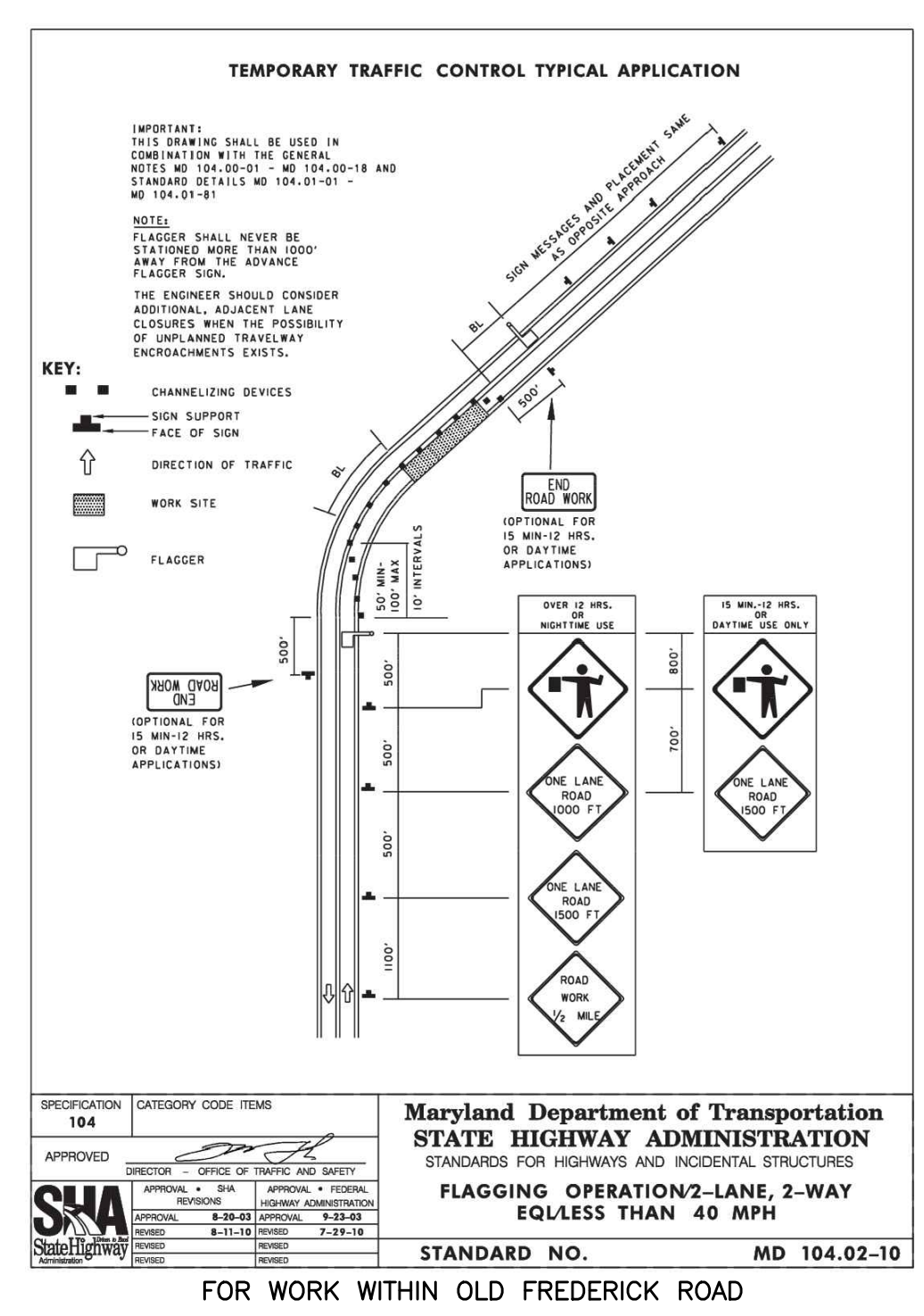
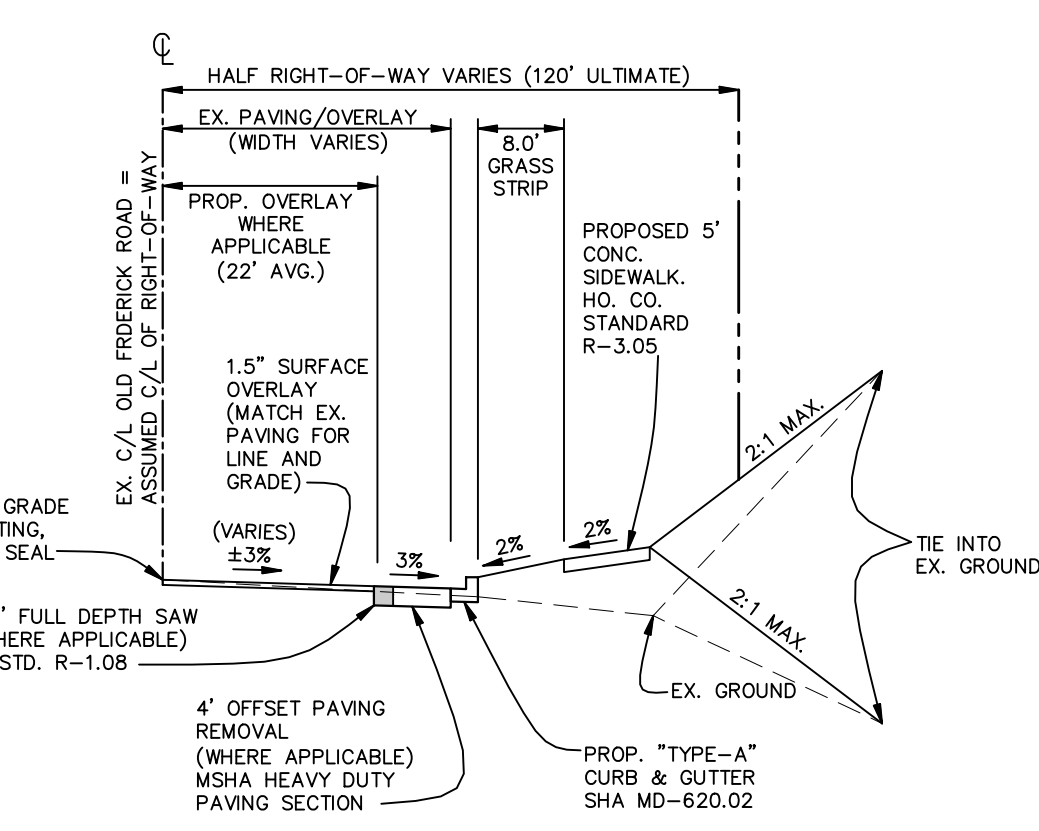


LEGEND



NOTES:
CONTRACTOR SHALL ADJUST ALL EXISTING MANHOLE RIM ELEVATIONS TO MATCH PROPOSED PAVING/GRADE.

THIS IS NOT THE ACCESS PERMIT PLAN. AN ACCESS PERMIT PLAN WILL BE PREPARED AND SUBMITTED WITH THE ACCESS PERMIT APPLICATION PRIOR TO BEGINNING CONSTRUCTION.



TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY
2/16/2023
[Signature]
PLANNING DIRECTOR

SOILS CHART - SOIL SURVEY HOWARD COUNTY, MARYLAND					
SYMBOL	HYDRIC	HYDROLOGIC GROUP	ALTERNATE GROUP	NAME	K-VALUE
G3c		B		GLENELG LOAM, 8 TO 15 PERCENT SLOPES	0.20
G3b		B	D	GLENELG URBAN LAND COMPLEX, 0 TO 8 PERCENT SLOPES	0.20

NO.	DATE	REVISION

BENCHMARK ENGINEERING, INC.
ENGINEERS & LAND SURVEYORS & PLANNERS
3300 NORTH RIDGE ROAD & SUITE 140 • ELICOTT CITY, MARYLAND 21043
(P) 410-465-6105 (F) 410-465-6644
WWW.BEI-CVLENGINEERING.COM

HEBRON WOODS
9572 OLD FREDERICK ROAD
SUBDIVISION

TAX MAP: 17 - GRID: 15 - PARCEL: 359
ZONED: R-20
ELECTION DISTRICT NO. 2 - HOWARD COUNTY, MARYLAND

PRELIMINARY EQUIVALENT SKETCH PLAN

GEOMETRY PLAN

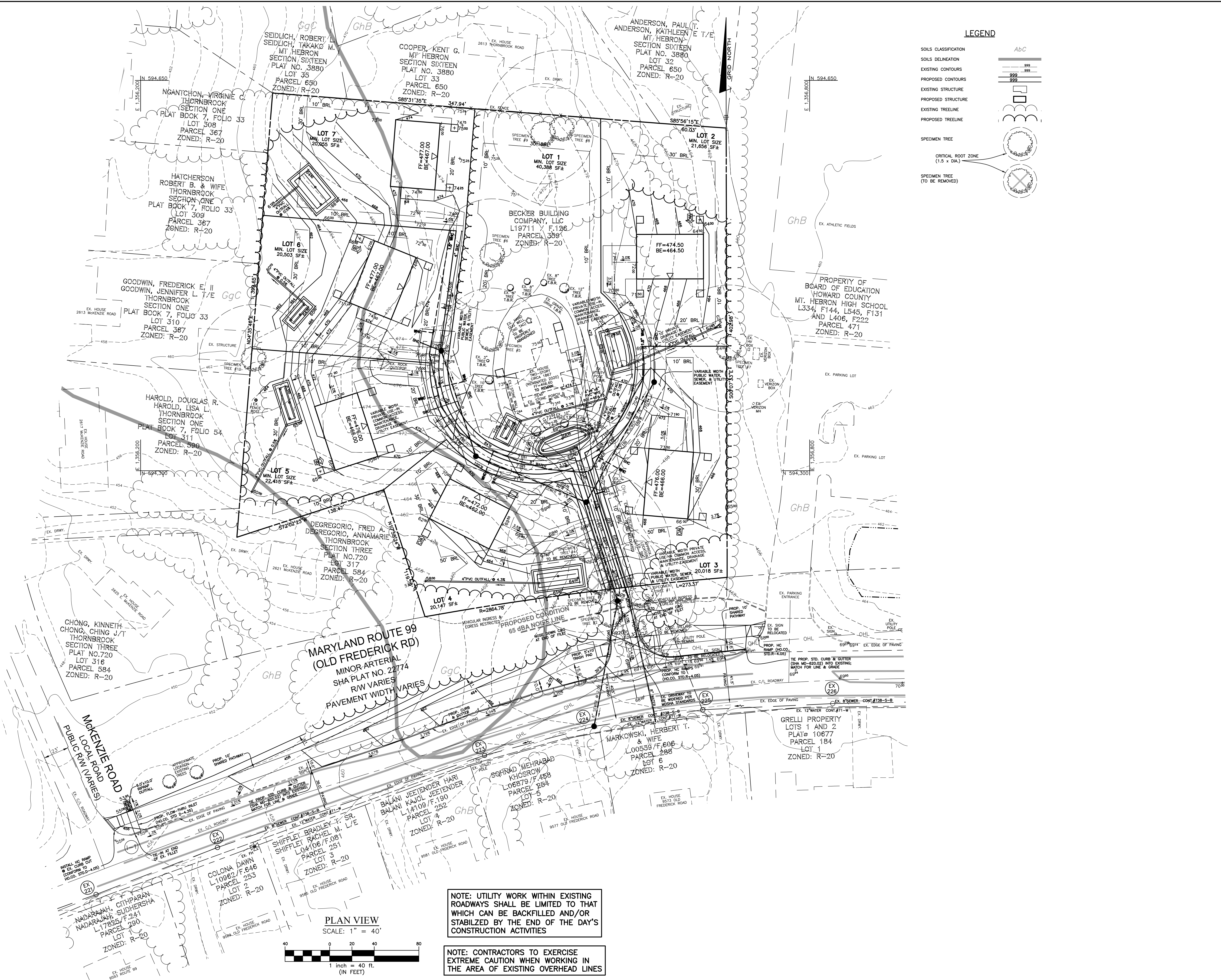
OWNER/DEVELOPER: BECKER BUILDING COMPANY, LLC
2077 SOMERVILLE ROAD
SUITE 206
ANNAPOLIS, MD 21401

TAX MAP: 17 - GRID: 15 - PARCEL: 359
ZONED: R-20
ELECTION DISTRICT NO. 2 - HOWARD COUNTY, MARYLAND

PRELIMINARY EQUIVALENT SKETCH PLAN

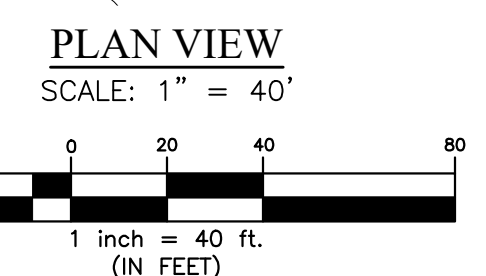
DATE: JANUARY, 2023
SCALE: AS SHOWN
DESIGN: MCR
DRAFT: MCR

BEI PROJECT NO. 3013
SHEET 3 OF 12



NOTE: UTILITY WORK WITHIN EXISTING ROADWAYS SHALL BE LIMITED TO THAT WHICH CAN BE BACKFILLED AND/OR STABILIZED BY THE END OF THE DAY'S CONSTRUCTION ACTIVITIES

NOTE: CONTRACTORS TO EXERCISE EXTREME CAUTION WHEN WORKING IN THE AREA OF EXISTING OVERHEAD LINES



TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY
2/16/2023
PLANNING DIRECTOR: [Signature]

SOILS CHART - SOIL SURVEY HOWARD COUNTY, MARYLAND					
SYMBOL	HYDRIC GROUP	HYDROLOGIC GROUP	ALTERNATE GROUP	NAME	K-VALUE
GgC		B		GLENELG LOAM, 8 TO 15 PERCENT SLOPES	0.20
GhB		B	D	GLENELG URBAN LAND COMPLEX, 0 TO 8 PERCENT SLOPES	0.20

NO.		DATE		REVISION	
<p align="center">BENCHMARK ENGINEERS & LAND SURVEYORS & PLANNERS ENGINEERING, INC. 3300 NORTH RIDGE ROAD & SUITE 140 • ELICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644 WWW.BE-CIVILENGINEERING.COM</p>					
<p align="right">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. 22390, Expiration Date: 6-30-2023.</p>					
OWNER/DEVELOPER:			HEBRON WOODS 9572 OLD FREDERICK ROAD SUBDIVISION		
BECKER BUILDING COMPANY, LLC 2077 SOMERVILLE ROAD SUITE 206 ANNAPOLIS, MD 21401			TAX MAP: 17 - GRID: 15 - PARCEL: 359 ZONED: R-20 ELECTION DISTRICT NO. 2 - HOWARD COUNTY, MARYLAND PRELIMINARY EQUIVALENT SKETCH PLAN		
GRADING PLAN					
DATE:		JANUARY, 2023		BEI PROJECT NO. 3013	
DESIGN:	MCR	DRAFT:	MCR	SCALE:	AS SHOWN
				SHEET	4 OF 12



LEGEND

- SOILS CLASSIFICATION AbC
- SOILS DELINEATION ---
- EXISTING CONTOURS ---
- PROPOSED CONTOURS ---
- EXISTING STRUCTURE [Symbol]
- PROPOSED STRUCTURE [Symbol]
- EXISTING TREELINE [Symbol]
- PROPOSED TREELINE [Symbol]
- SPECIMEN TREE [Symbol]
- CRITICAL ROOT ZONE (1.5 x DIA) [Symbol]
- SPECIMEN TREE (TO BE REMOVED) [Symbol]
- PROPOSED BORING LOCATION B-99
- ESD-SWM DRAINAGE AREA [Symbol]
- PAVING IMPERVIOUS AREA [Symbol]
- DWELLING IMPERVIOUS AREA [Symbol]

MARYLAND ROUTE 99 (OLD FREDERICK RD)
MINOR ARTERIAL
SHA PLAT NO. 22774
R/W VARIES
PAVEMENT WIDTH VARIES

NOTE: UTILITY WORK WITHIN EXISTING ROADWAYS SHALL BE LIMITED TO THAT WHICH CAN BE BACKFILLED AND/OR STABILIZED BY THE END OF THE DAY'S CONSTRUCTION ACTIVITIES

NOTE: CONTRACTORS TO EXERCISE EXTREME CAUTION WHEN WORKING IN THE AREA OF EXISTING OVERHEAD LINES

ESD STORMWATER MANAGEMENT SUMMARY TABLE

DRAINAGE AREA	MDE Type	Practice	BMP No. Used	DA (sf)	Imp Area (sf)	% Imp	Rv	Pe Required	Pe Provided	2% DA? (sf)	ESDv (cf)		Pe Provided		Ownership			
											Required	Provided	Required	Provided				
(M-6)	Micro-Bioretenment	MB-1	1	11,485	4,988	43%	0.44	1.8	229.7	430.3	PASS	760	887	2.1	190	287	Private	
(M-6)	Micro-Bioretenment	MB-2	1	6,550	3,900	60%	0.59	1.8	131.0	377.5	PASS	576	714	2.2	144	239	Private	
(M-6)	Micro-Bioretenment	MB-5	1	4,510	2,486	55%	0.55	1.8	90.2	180.0	PASS	369	426	2.1	92	120	Private	
(M-6)	Micro-Bioretenment	MB-6	1	5,083	1,470	29%	0.31	1.8	101.7	102.0	PASS	210	262	2.0	53	68	Private	
(M-6)	Micro-Bioretenment	MB-7	1	22,807	5,060	22%	0.25	1.2	456.1	512.0	PASS	569	844	1.8	142	170	Private	
(M-6)	Micro-Bioretenment	MB-4	1	12,325	4,914	40%	0.41	1.8	246.5	439.8	PASS	756	898	2.1	189	294	Private	
(M-6)	Micro-Bioretenment	MB-3	1	5,237	1,360	26%	0.28	1.6	104.7	111.0	PASS	198	253	2.0	50	51	Private	
LOT 1	(M-5)	Drywell	DW-2	2	1,476	1,476	100%	0.95	1.6	0	49	N/A	187	196	1.7			Private
LOT 2	(M-5)	Drywell	DW-1	4	2,400	2,400	100%	0.95	1.6	0	39	N/A	304	313	1.6			Private
LOT 3	(M-5)	Drywell	DW-1	4	2,400	2,400	100%	0.95	1.6	0	39	N/A	304	313	1.6			Private
LOT 4	(M-5)	Drywell	DW-1	4	2,400	2,400	100%	0.95	1.6	0	39	N/A	304	313	1.6			Private
LOT 5	(M-5)	Drywell	DW-1	3	1,800	1,800	100%	0.95	1.6	0	39	N/A	228	234	1.6			Private
LOT 6	(M-5)	Drywell	DW-1	4	2,400	2,400	100%	0.95	1.6	0	39	N/A	304	313	1.6			Private
LOT 7	(M-5)	Drywell	DW-1	2	1,200	1,200	100%	0.95	1.6	0	39	N/A	152	156	1.6			Private
OFFSITE	(N-2)	Non-Rooftop Disconnection	NRDC-1	1	9,604	4,770	50%	0.50	1.6	0	4834	N/A	398	200	0.5			Public
OFFSITE	(N-2)	Non-Rooftop Disconnection	NRDC-2	1	2,100	1,085	52%	0.52	1.6	0	1015	N/A	90	44	0.5			Public
Totals per individual Drainage Areas				32	93,777	44,109	47%	0.30				5709	8346	1.6	1050	1229		
Totals per Overall Site					161,250	44,896	28%	0.30	1.6			6463	8346		1229			

Notes:
1. The Pe required column is based on total site Pe calculation. The Rv is based on individual drainage area percent impervious (per DED).
2. Total Site Pe and Total Site ESDv numbers are based on the LOD within the Effective Area.

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY
2/16/2023
PLANNING DIRECTOR: [Signature]

SOILS CHART - SOIL SURVEY HOWARD COUNTY, MARYLAND					
SYMBOL	HYDRIC	HYDROLOGIC GROUP	ALTERNATE GROUP	NAME	K-VALUE
GgC		B		GLENELG LOAM, 8 TO 15 PERCENT SLOPES	0.20
GhB		D		GLENELG URBAN LAND COMPLEX, 0 TO 8 PERCENT SLOPES	0.20

NO. DATE REVISION		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. 22390, Expiration Date: 6-30-2023.	
 BENCHMARK ENGINEERING, INC. 3300 NORTH RIDGE ROAD & SUITE 140 • ELICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644 WWW.BE-CIVILENGINEERING.COM			
OWNER/DEVELOPER:		HEBRON WOODS 9572 OLD FREDERICK ROAD SUBDIVISION	
BECKER BUILDING COMPANY, LLC 2077 SOMERVILLE ROAD SUITE 206 ANNAPOLIS, MD 21401		TAX MAP: 17 - GRID: 15 - PARCEL: 359 ZONED: R-20 ELECTION DISTRICT NO. 2 - HOWARD COUNTY, MARYLAND	
PRELIMINARY EQUIVALENT SKETCH PLAN			
SWM DRAINAGE AREA MAP			
DATE:	JANUARY, 2023	BEI PROJECT NO.	3013
DESIGN:	MCR	DRAFT:	MCR
SCALE:	AS SHOWN	SHEET	5 OF 12

CONSTRUCTION SPECIFICATIONS

B.4.C Specifications for Micro-Bioretentation, 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.

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-bioretentation practice that may be harmful to plant growth...

The planting soil shall be tested and shall meet the following criteria:

- Soil Component - Loamy Sand or Sandy Loam (USDA Soil Textural Classification)
Organic Content - Minimum 10% by dry weight (ASTM D 2974). In general, this can be met with a mixture of loamy and (60%-65%) and compost (35% to 40%) or sandy loam (30%), and compost (40%).
Clay Content - Media shall have a clay content of less than 5%.
pH Range - Should be between 5.5 - 7.0. Amendments (e.g., lime, iron sulfate plus sulfur) may be mixed into the soil to increase or decrease pH.

There shall be at least one soil test per project. Each test shall consist of both the standard soil test for pH, and additional tests of organic matter, and soluble salts. A textual analysis is required from the site stockpiled topsoil. If topsoil is imported, then a texture analysis shall be performed for each location where the topsoil was excavated.

3. Compaction:

It is very important to minimize compaction of both the base of bioretention practices and the required backfill. When possible, use excavation hoses to remove original soil. If practices are excavated using a loader, the contractor should use wide track or marsh track equipment...

Compaction can be alleviated at the base of the bioretention facility by using a primary tilling operation such as a chisel plow, ripper, or subsoiler. These tilling operations are to refracture the soil profile through the 12 inch compaction zone. Substitute methods must be approved by the engineer.

Rototill 2 to 3 inches of sand into the base of the bioretention facility before backfilling the optional sand layer. Pump any ponded water before preparing (rototilling) base.

When backfilling the topsoil over the sand layer, first place 3 to 4 inches of topsoil over the sand, then rototill the sand/topsoil to create a gradation zone. Backfill the remainder of the topsoil to final grade.

When backfilling the bioretention facility, place soil in lifts 12" to 18". Do not use heavy equipment within the bioretention basin. Heavy equipment can be used around the perimeter of the basin to supply soils and sand.

4. Plant Material:

Recommended plant material for micro-bioretentation 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 chipped hardwood mulch is the only accepted mulch.

Rootstock of the plant material shall be kept moist during transport and on-site storage. The plant root ball should be planted so 1/8th of the ball is above final grade surface. The diameter of the planting pit shall be at least six inches larger than the diameter of the planting ball.

Trees shall be braced using 2" by 2" stakes only as necessary and for the first growing season only. Stakes are to be equally spaced on the outside of the tree ball.

Grasses and legume seed should be drilled into the soil to a depth of at least one inch. Grass and legume plugs shall be planted following the non-grass ground cover planting specifications.

The topsoil specifications provide enough organic material to adequately supply nutrients from natural cycling. The primary function of the bioretention structure is to improve water quality. Adding fertilizers, defecats, or at a minimum, impedes this goal. Only add fertilizer if wood chips or mulch are used to amend the soil.

6. Underdrains:

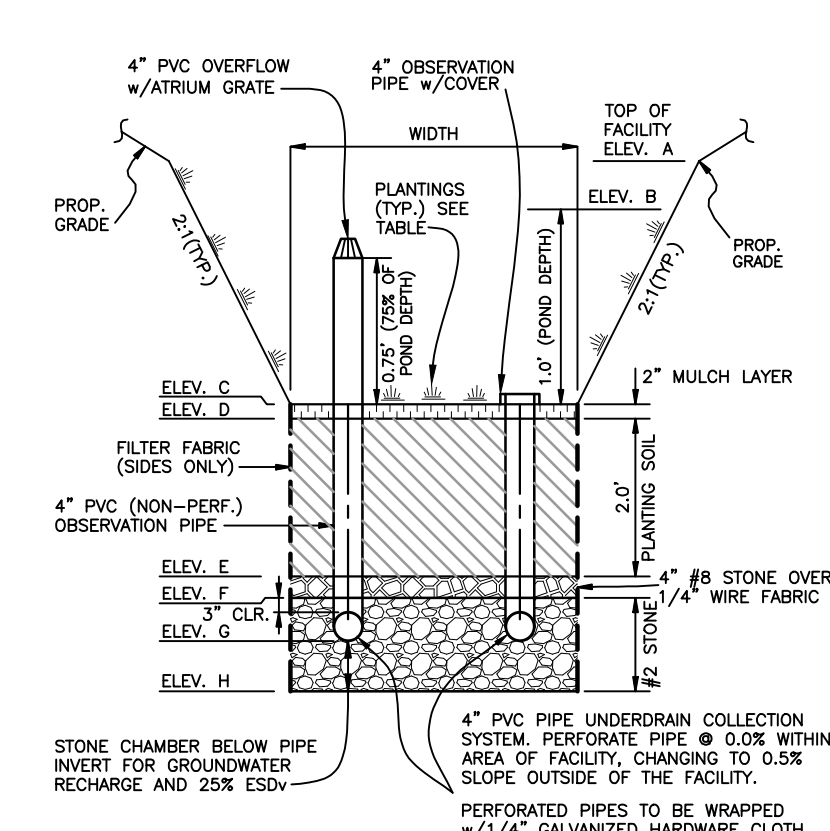
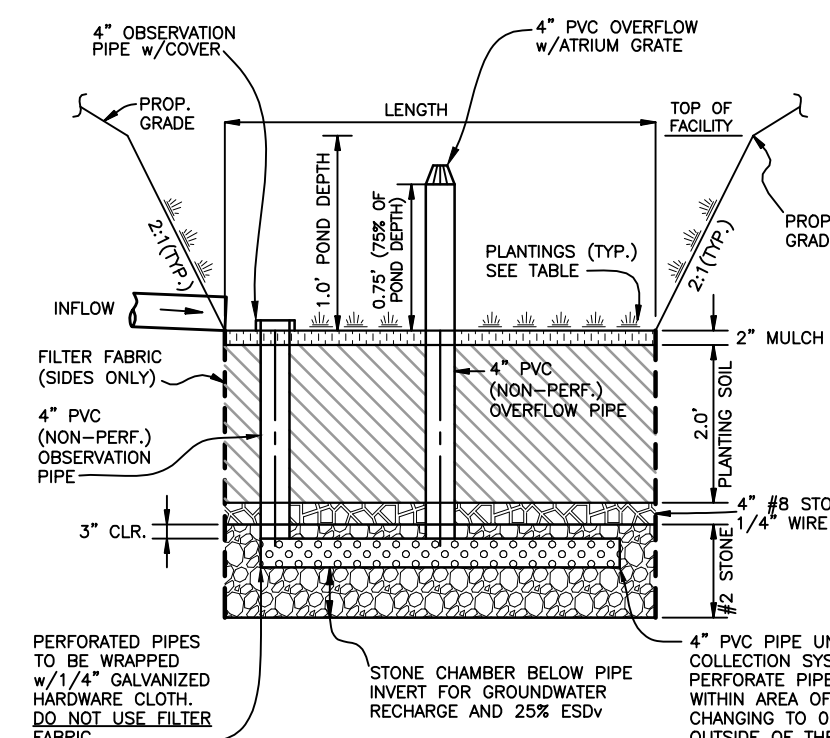
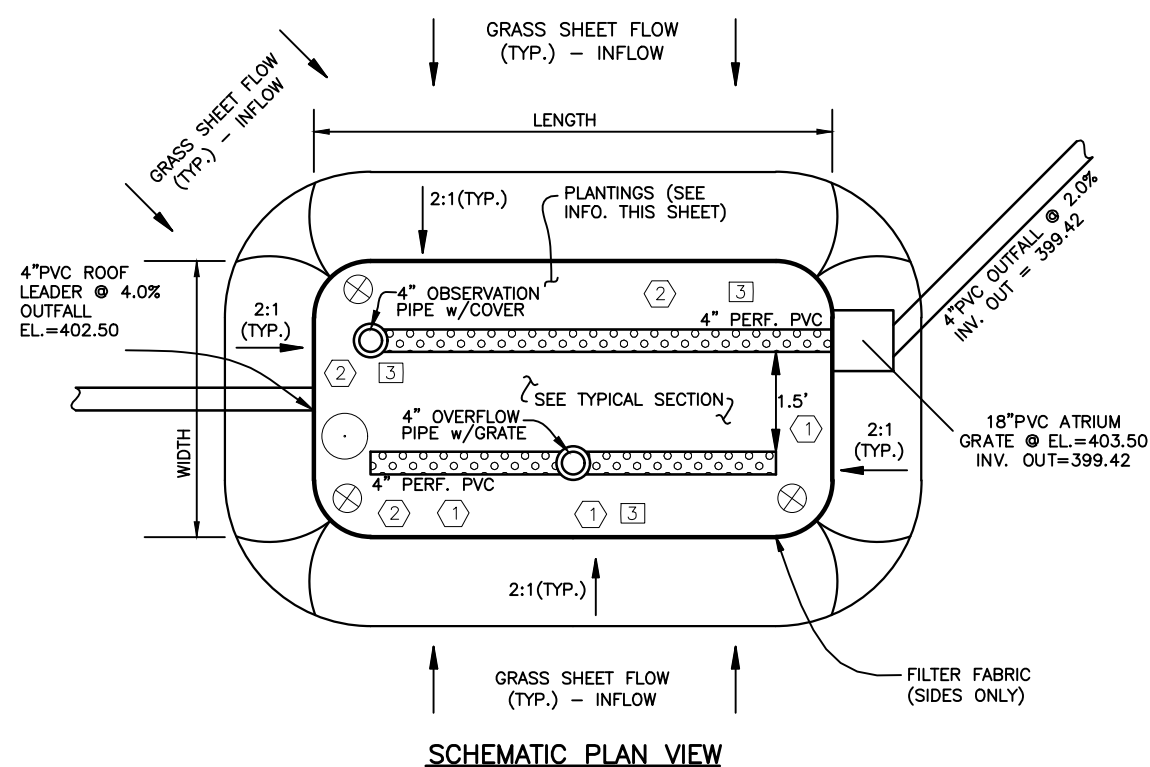
Underdrains should meet the following criteria:

- Pipe- Should be 4" to 6" diameter, slotted or perforated rigid plastic pipe (ASTM F 758, Type PS 28, or AASHTO-M-278) in a gravel layer. The preferred material is slotted, 4" rigid pipe (e.g., PVC or HDPE).
Perforations - If perforated pipe is used, perforations should be 3/4" diameter located 6" on center with a minimum of four holes per row. Pipe shall be wrapped with a 1/4" (No. 4 or 4x4) galvanized hardware cloth.
Gravel - The gravel layer (No. 57 stone preferred) shall be at least 3" thick above and below the underdrain.
The main collector pipe shall be at a minimum 0.5% slope.
A rigid, non-perforated observation well must be provided (one per every 1,000 square feet) to provide a clean-out port and monitor performance of the filter.
A 4" layer of pea gravel (3/4" to 3/8" stone) shall be located between the filter media and underdrain to prevent migration of fines into the underdrain. This layer may be considered part of the filter bed when bed thickness exceeds 24".

The main collector pipe for underdrain systems shall be constructed at a minimum slope of 0.5%. Observation wells and/or clean-out pipes must be provided (one minimum per every 1000 square feet of surface area).

7. Miscellaneous:

These practices may not be constructed until all contributing drainage area has been stabilized



MICRO-BIORETENTION DETAILS NOT TO SCALE

(M-6) Micro Bio-Retention Landscaping Chart table with columns for Plant Name, Common Name, Surface Area, Type, Size, and quantities for MB-1 through MB-7 and a total.

MICRO-BIORETENTION (M-6) LANDSCAPE DATA

HYDROLOGIC ZONE 3 - REGULARLY INUNDATED SHORELINE FRINGE (HIGH MARSH)
HYDROLOGIC CONDITION 0' TO 1'-0" DEEP HARDINESS - TEMPERATE ZONE 6b (-5' to 0') SEE SHEET FOR SEQUENCE OF CONSTRUCTION

NOTE: REFER TO MDE 2000 MD STORMWATER DESIGN MANUAL VOLUMES 1 & 2 FOR LANDSCAPE CONTRACTOR RESPONSIBILITIES, PRACTICES AND MAINTENANCE DUTIES

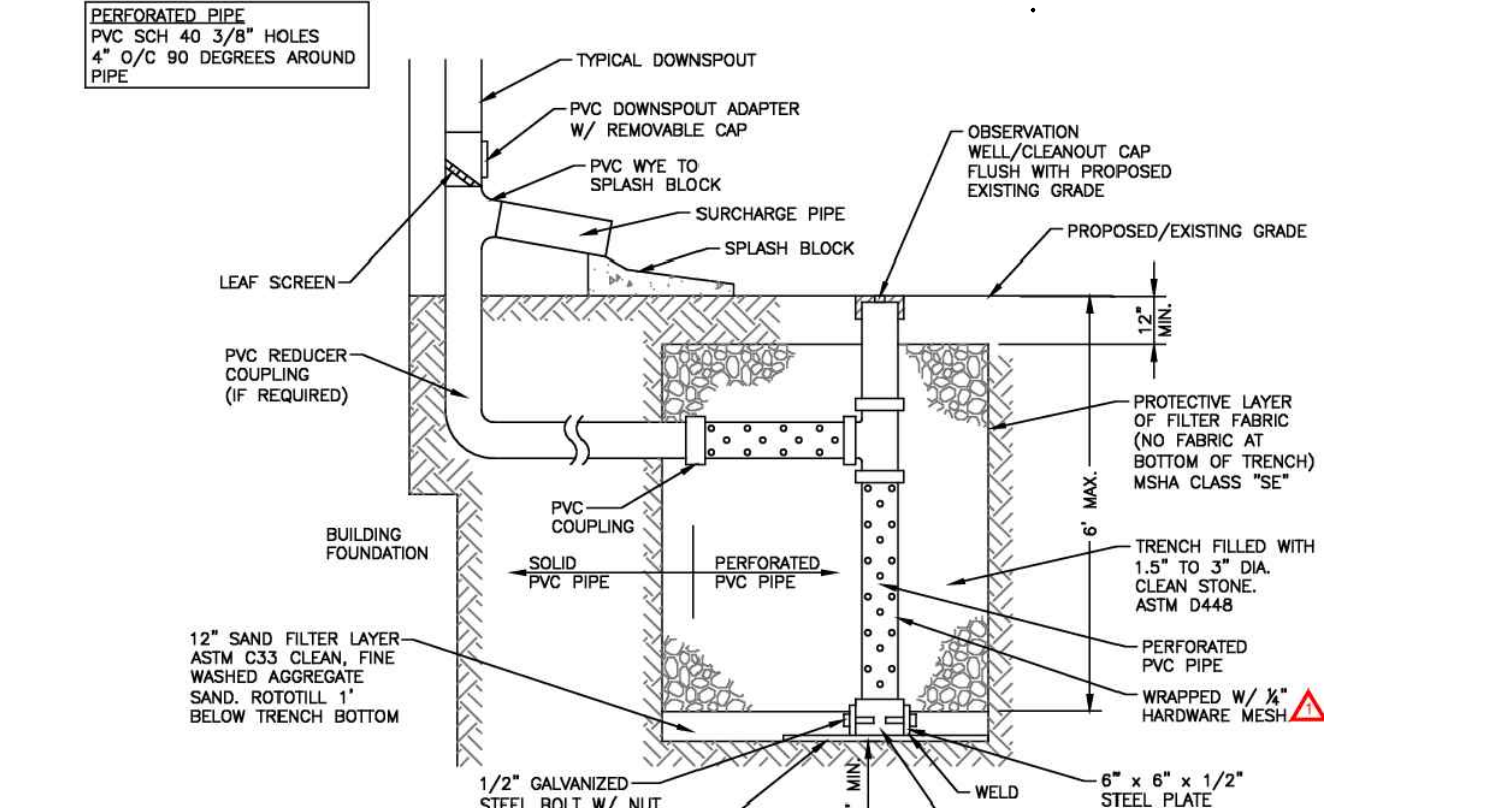
MICROBIORETENTION PLANTING DATA

- 1. PLANTINGS WITHIN THE PONDING AREA OF THE FACILITY ARE TO BE OF A MEDIUM TO HIGH WATER TOLERANCE.
2. PLANTINGS ALONG THE PERIMETER (BERM) AREA OF THE FACILITY ARE TO BE OF A LOW TO MEDIUM WATER TOLERANCE.
3. AVOID PLANTINGS WITH EXCESSIVE ROOT MASS IN POND AREA OF THE MICRO-BIORETENTION NEAR O.S. PIPE AND UNDERDRAIN.

DRYWELL DIMENSION CHART table with columns for Dry Well, Lot No., Length (ft), Width (ft), Depth of Filter (ft), Grade Elevation, Stone Elevation, Top of Stone Elevation, Bottom of Stone Elevation, Bottom of Sand Elevation, and Comment.

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

- 1. The monitoring wells and structures shall be inspected on a quarterly basis and after every large storm event.
2. Water levels and sediment build up in the monitoring wells shall be recorded over a period of several days to insure trench drainage.
3. A log book shall be maintained to determine the rate at which the facility drains.
4. When the facility becomes clogged so that it does not drain within the 72 hour time period, corrective action shall be taken.
5. The maintenance log book shall be available to Howard County for inspection to insure compliance with operation and maintenance criteria.
6. 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.



- NOTES: 1. MANUFACTURED SAND IS NOT ACCEPTABLE IN DRYWELLS.
2. ALL PIPES SHOULD BE SCH 40 PVC 4" MIN.
3. DRYWELLS MUST BE A MINIMUM OF 1'-10" FROM BUILDING FOUNDATION.
4. TRENCH MAY NOT BE INSTALLED IN FILL.

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

MATERIALS & SPECIFICATIONS FOR MICRO-BIORETENTION table with columns for Material, Specification, Size, and Notes.

Table with columns MB-1, MB-2, MB-5 and rows for Elevation A through H.

Table with columns MB-4, MB-5, MB-6 and rows for Elevation A through H.

Table with column MB-7 and rows for Elevation A through H.

UNDERDRAIN, OVERFLOW AND OUTFALL NOTES

- 1. THE LAST CLEAN-OUT LOCATION WITHIN EACH MICRO-BIORETENTION FACILITY SHALL BE FITTED WITH A NON-CLOGGING SURFACE DRAIN.
2. THE PVC WITHIN THE FACILITY SHALL BE PERFORATED.
3. THE UNDER-DRAIN AND PIPE TO OUTFALL SHALL BE INSTALLED TO A MINIMUM DEPTH OF 2' BELOW FINISHED GRADE AND SHALL MAINTAIN A MINIMUM 1% SLOPE AND MAINTAIN A MINIMUM OF 1' OF SEPARATION AT ALL CROSSINGS.

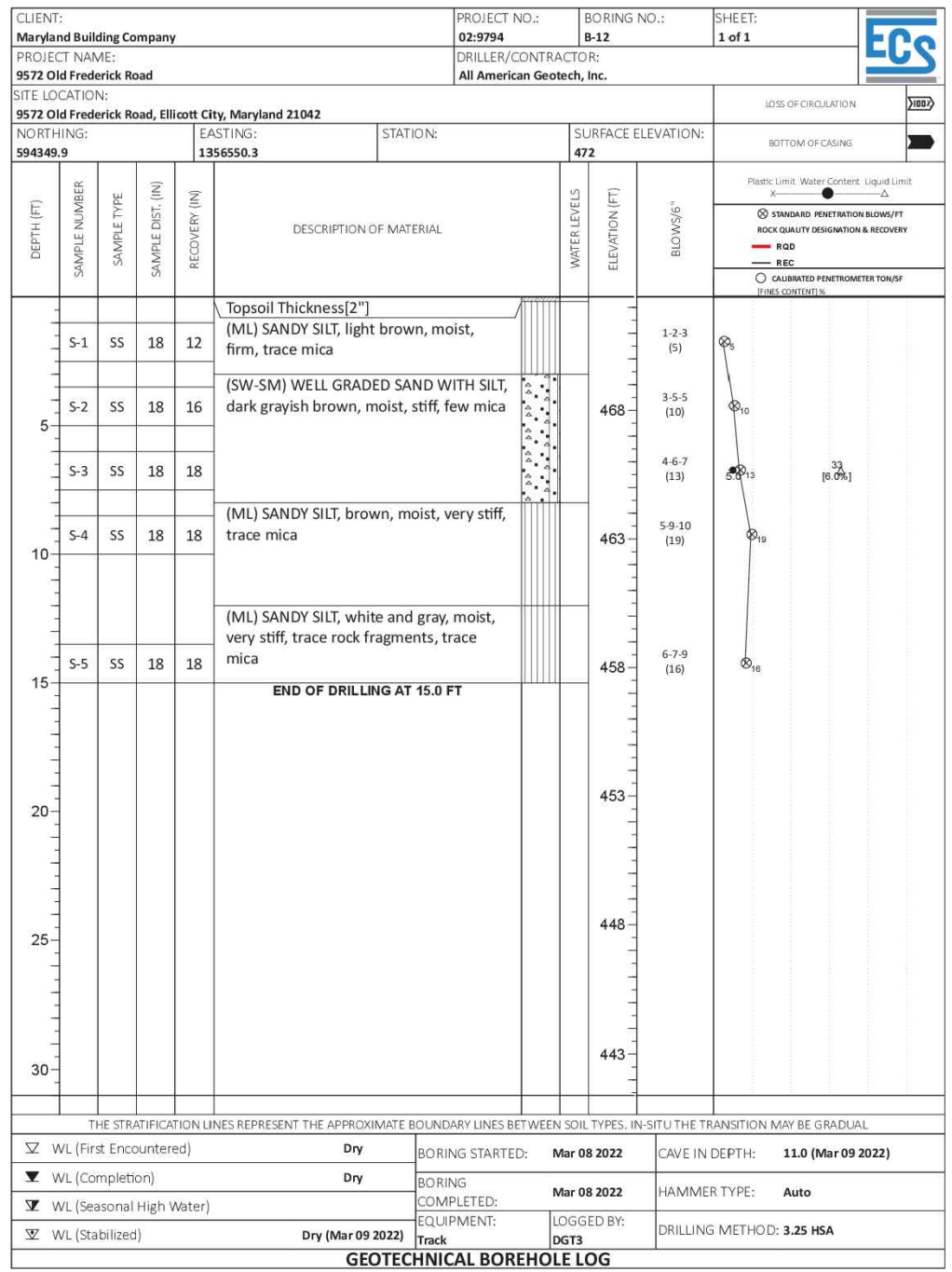
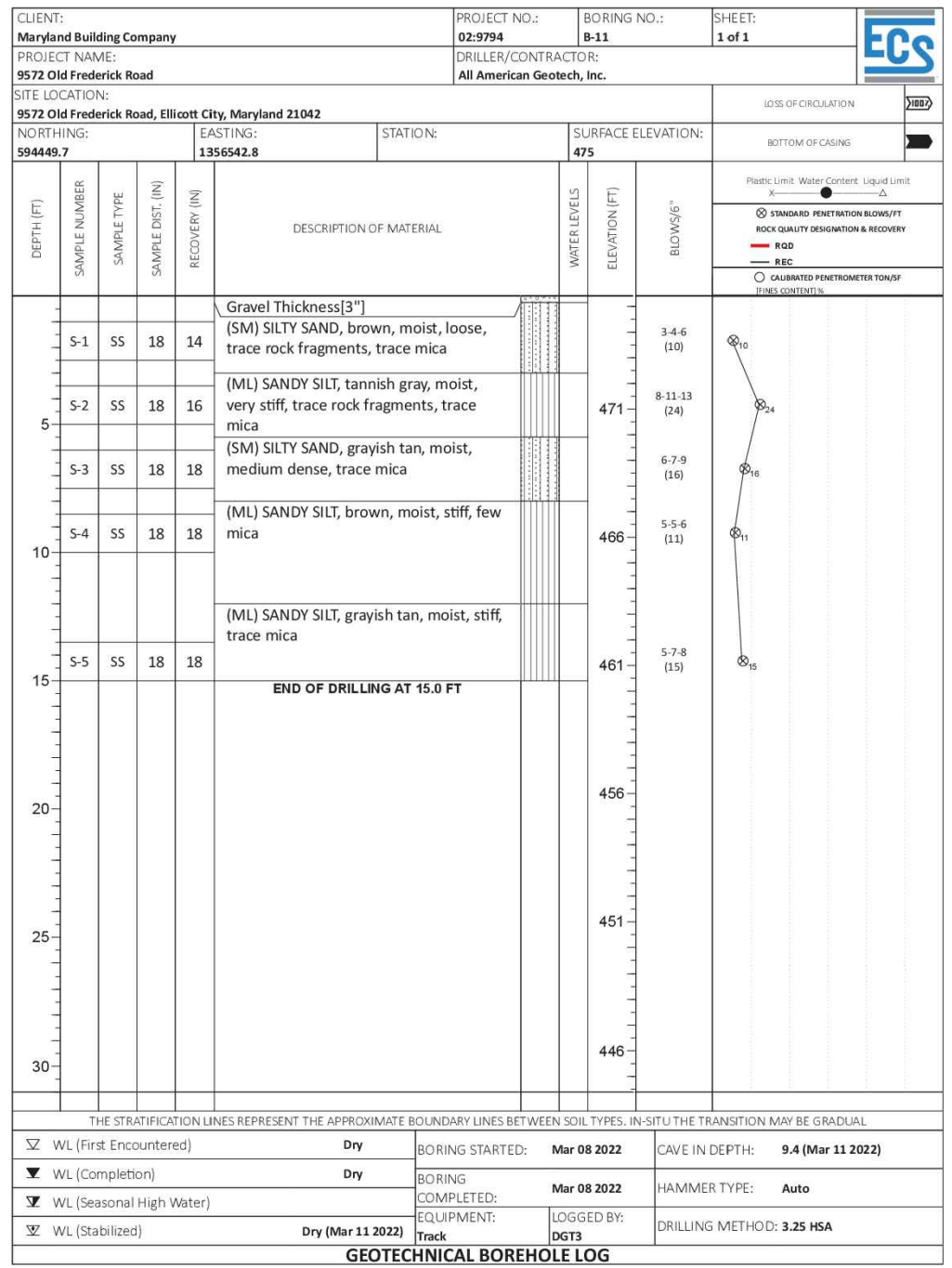
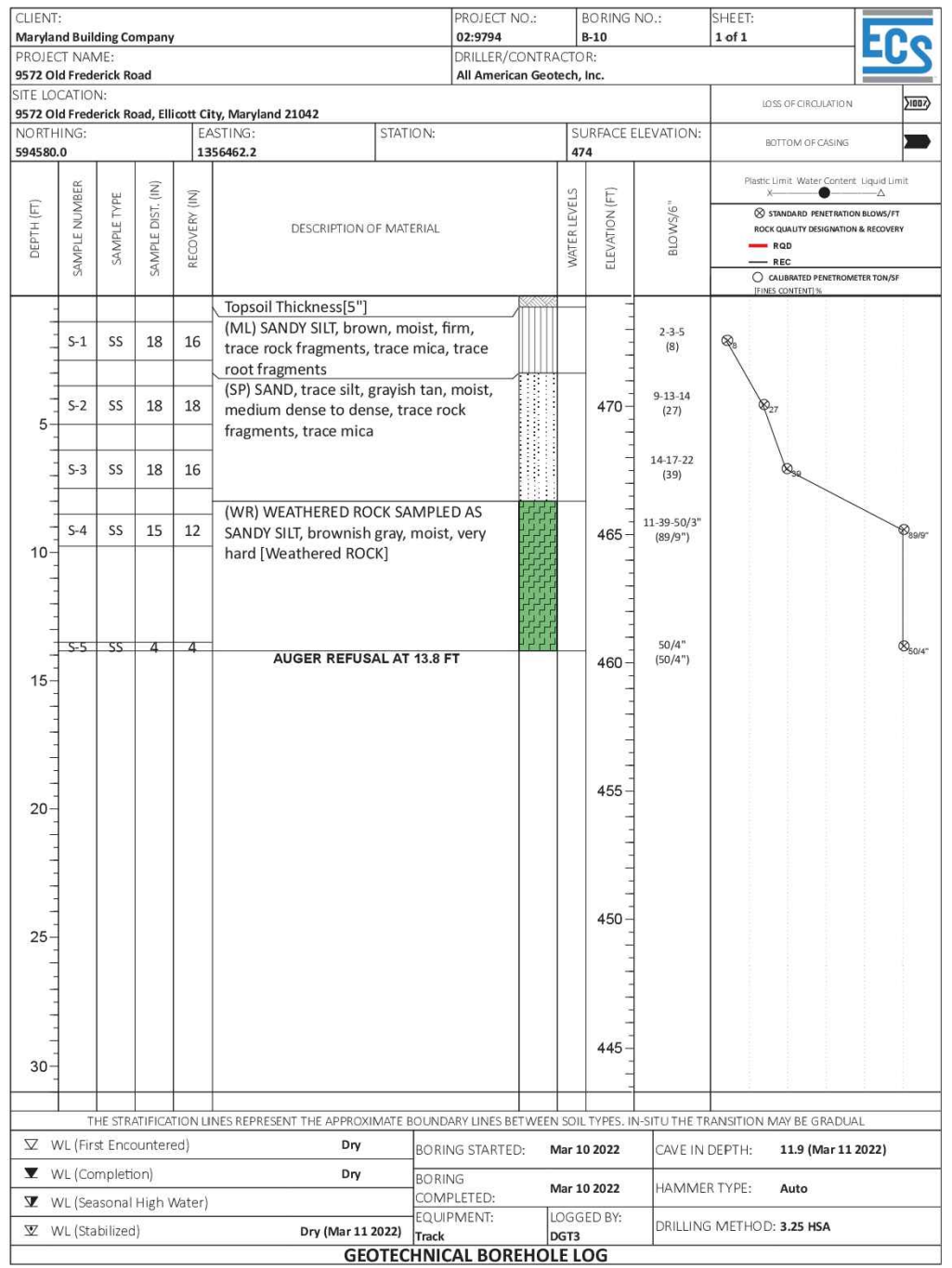
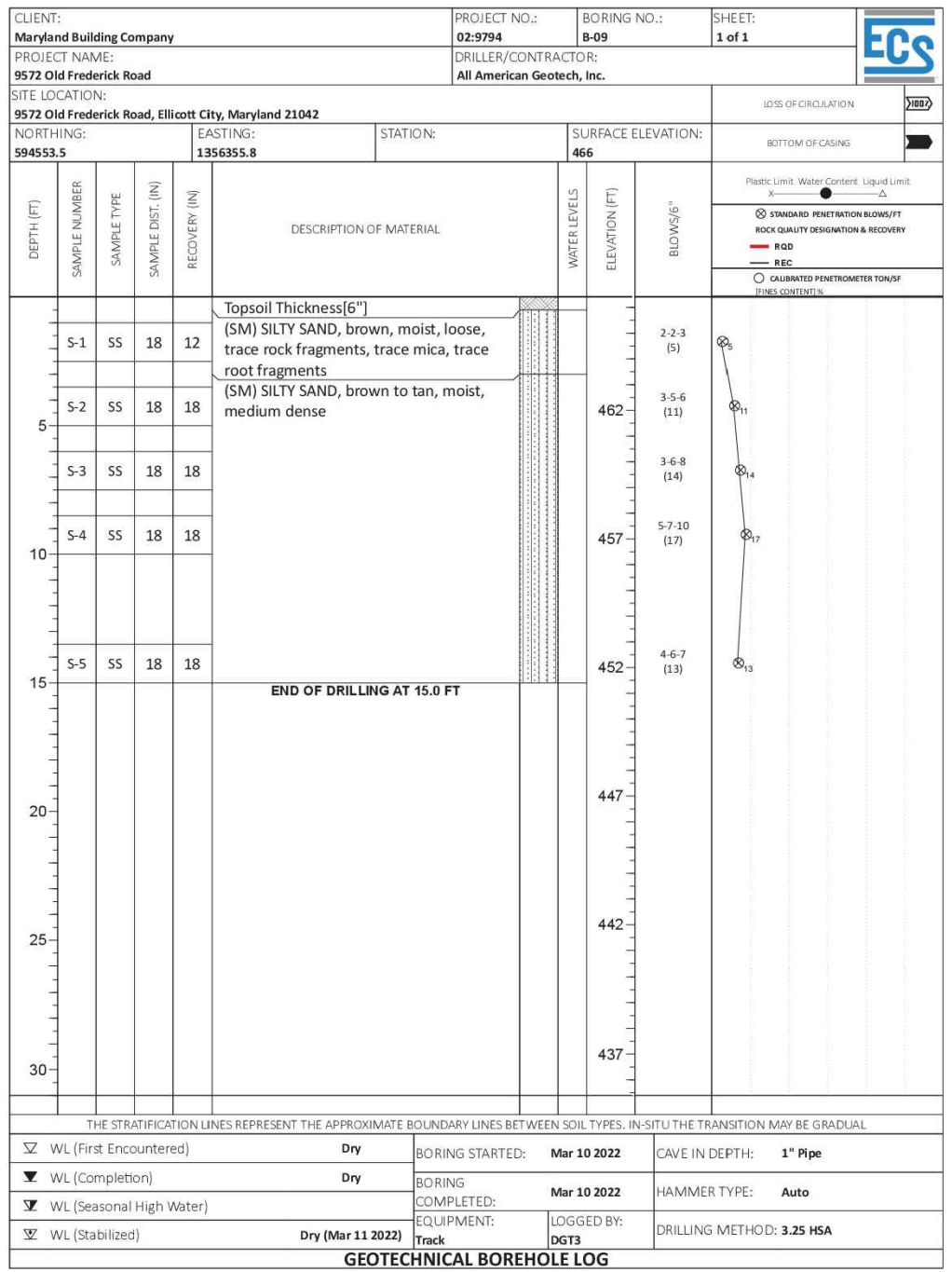
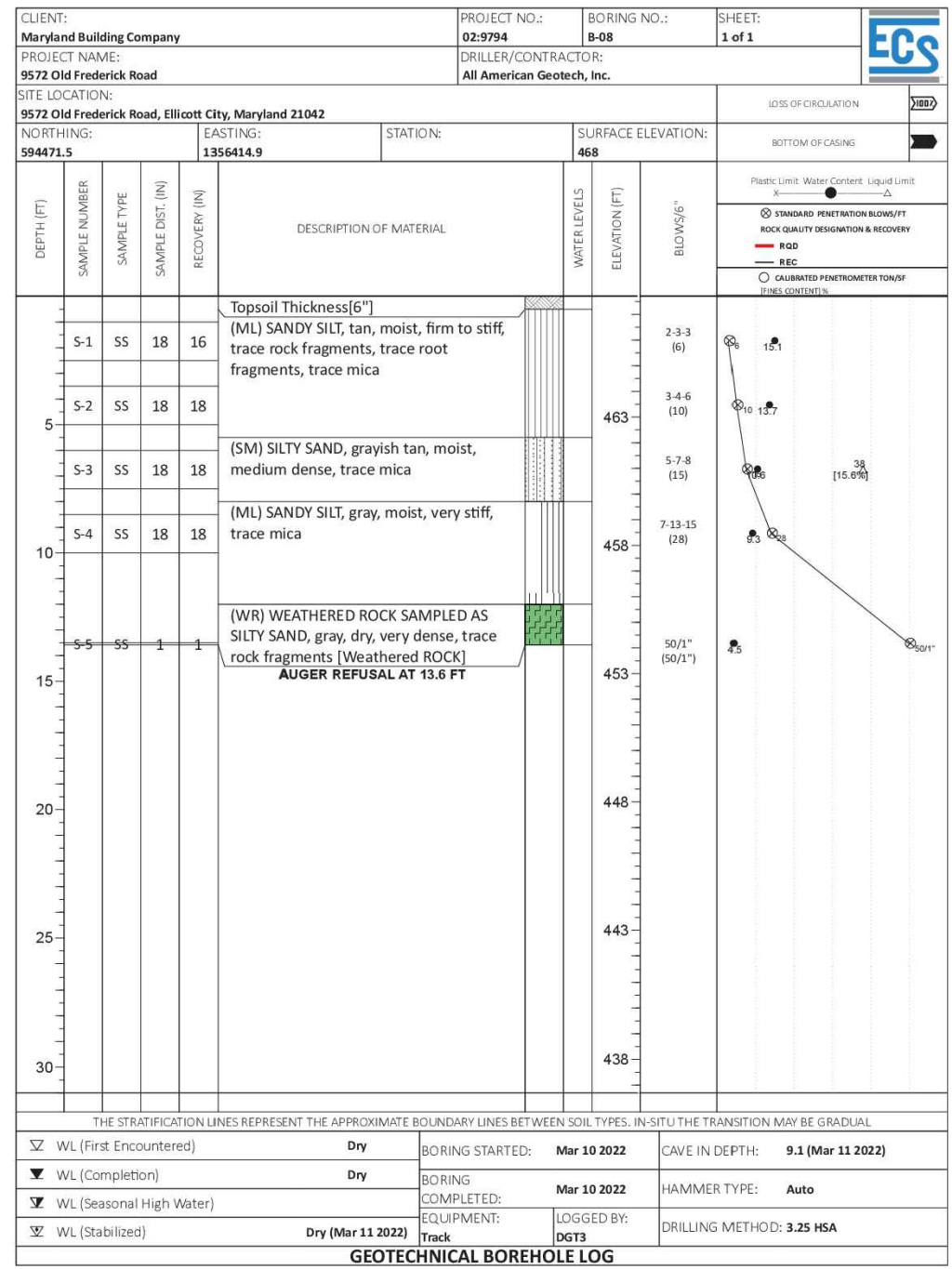
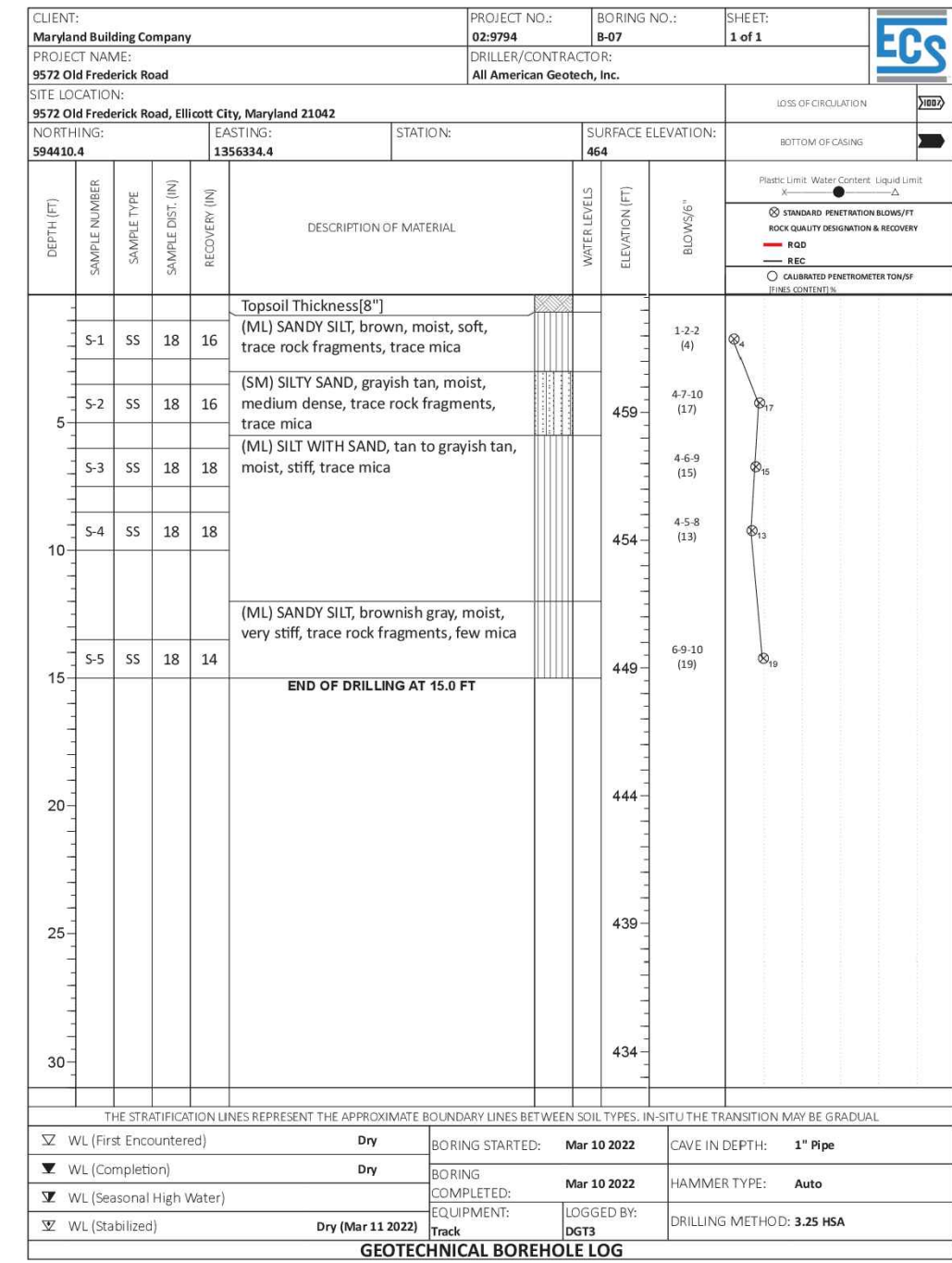
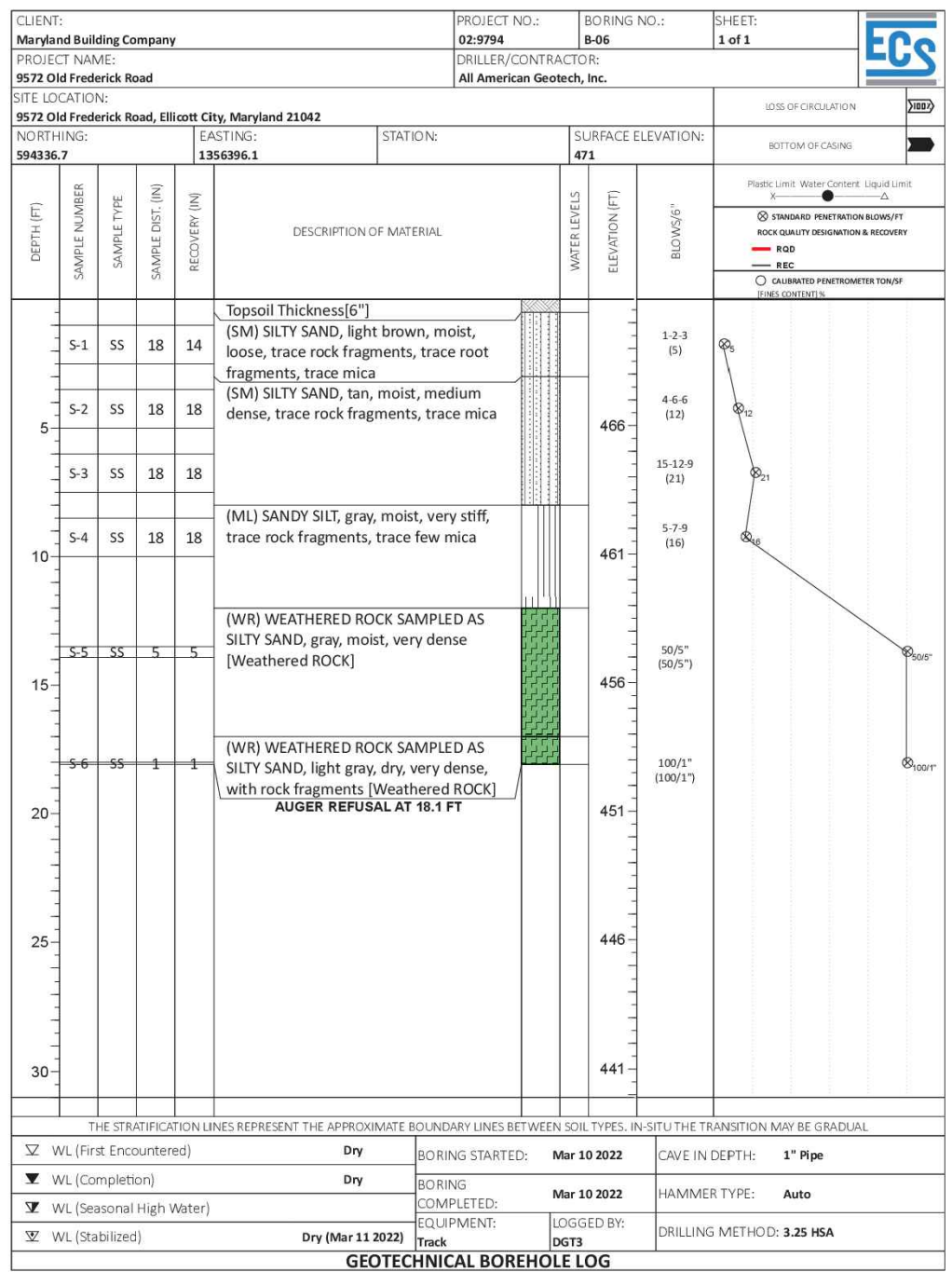
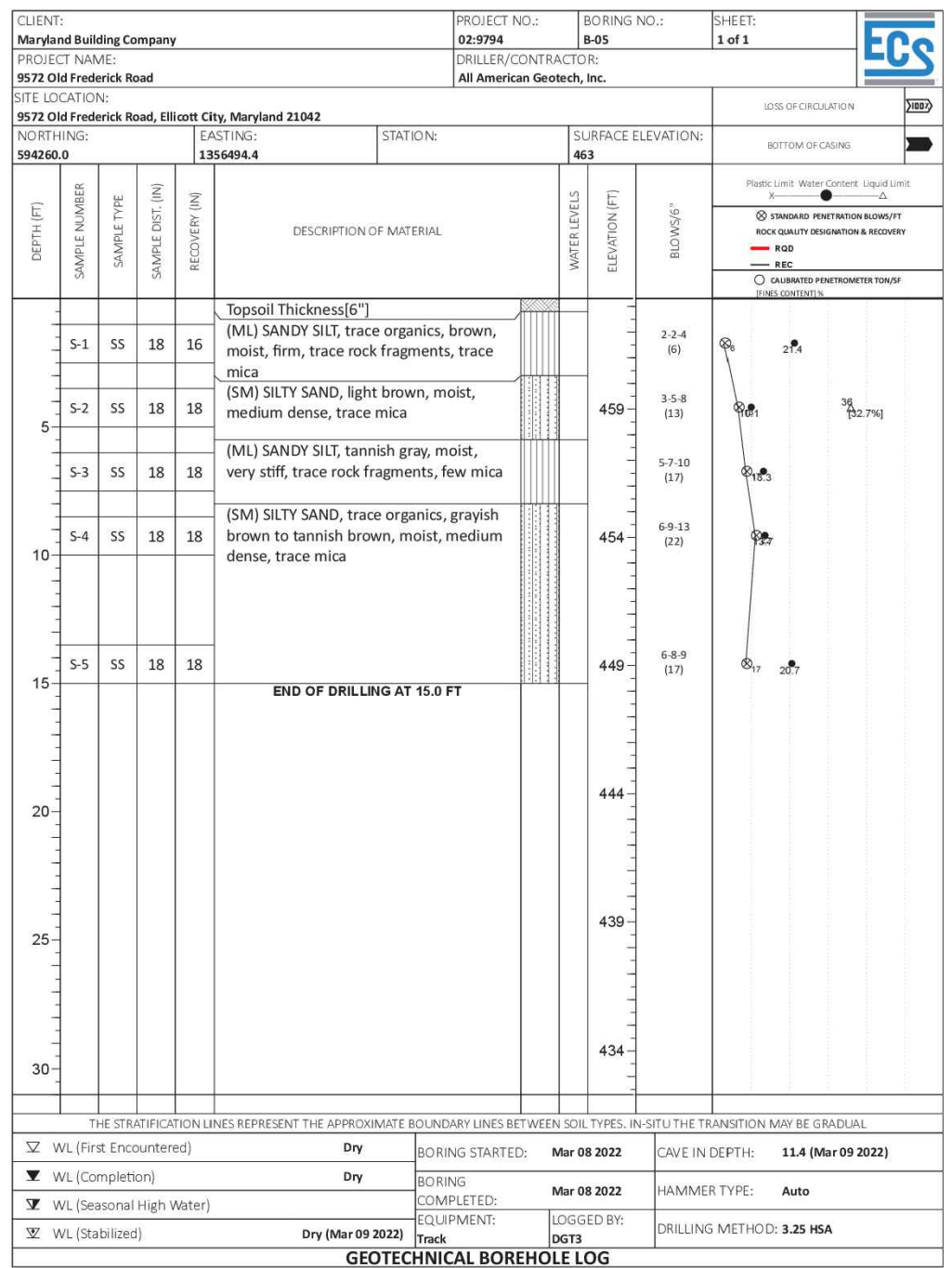
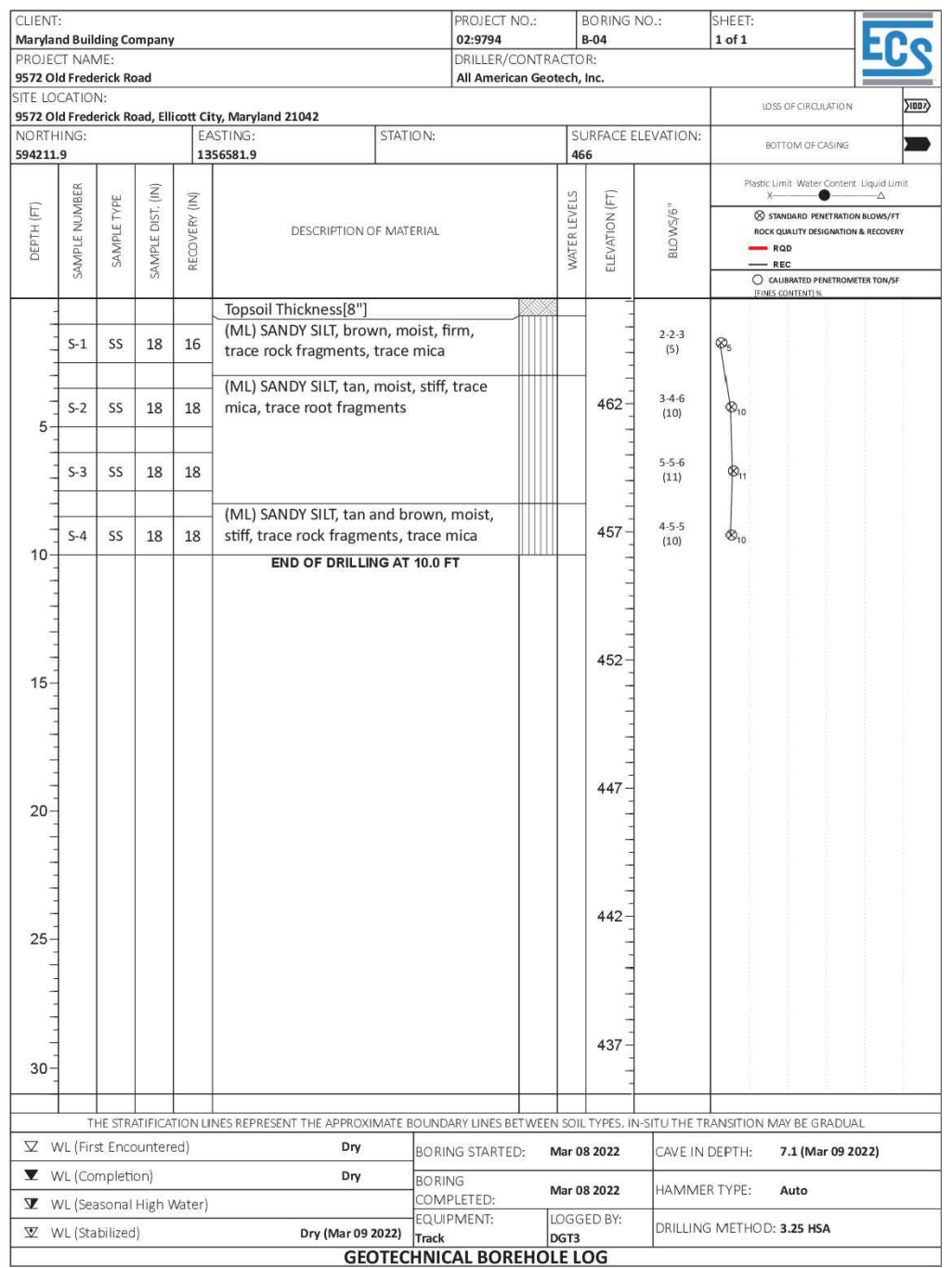
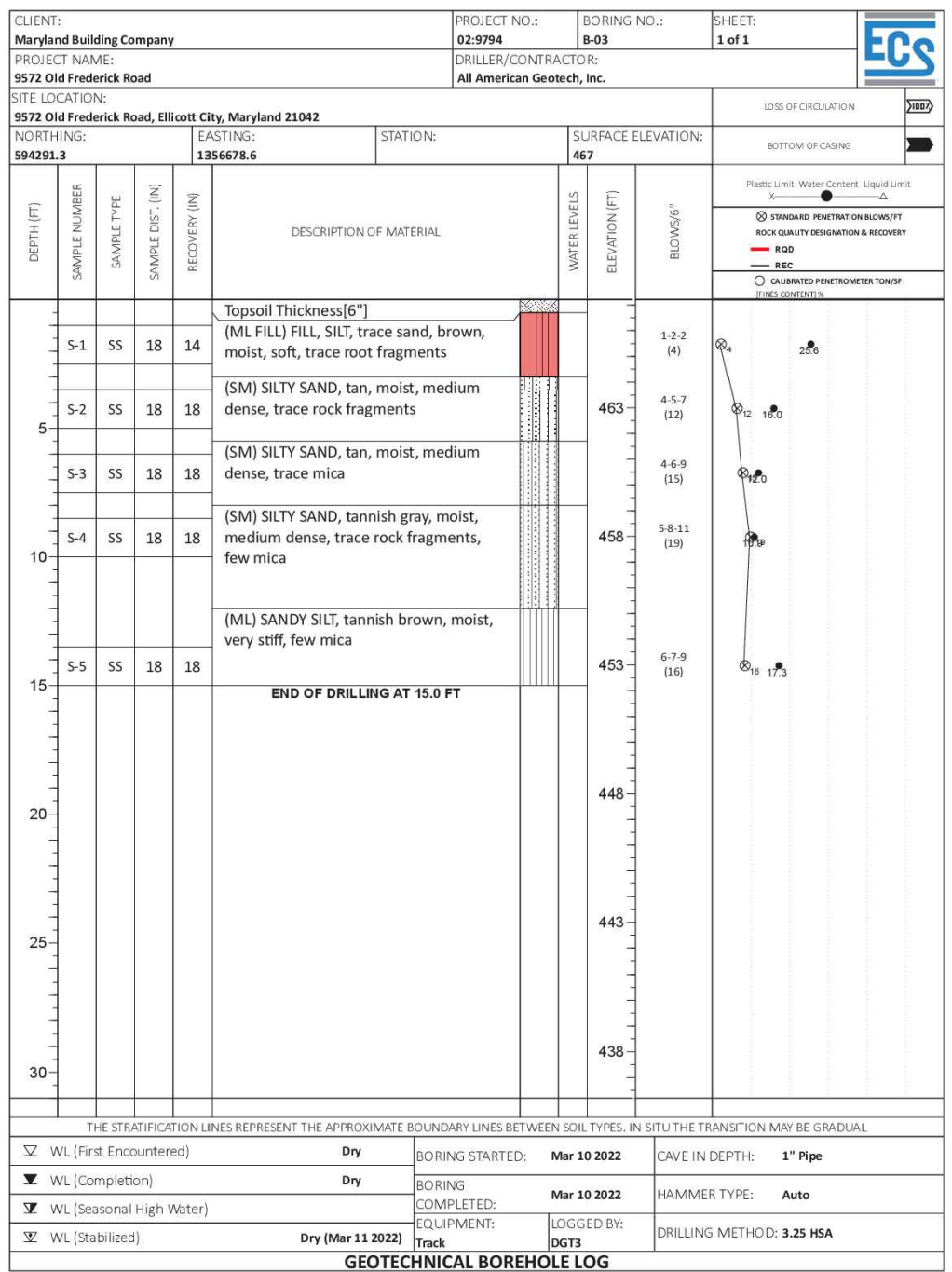
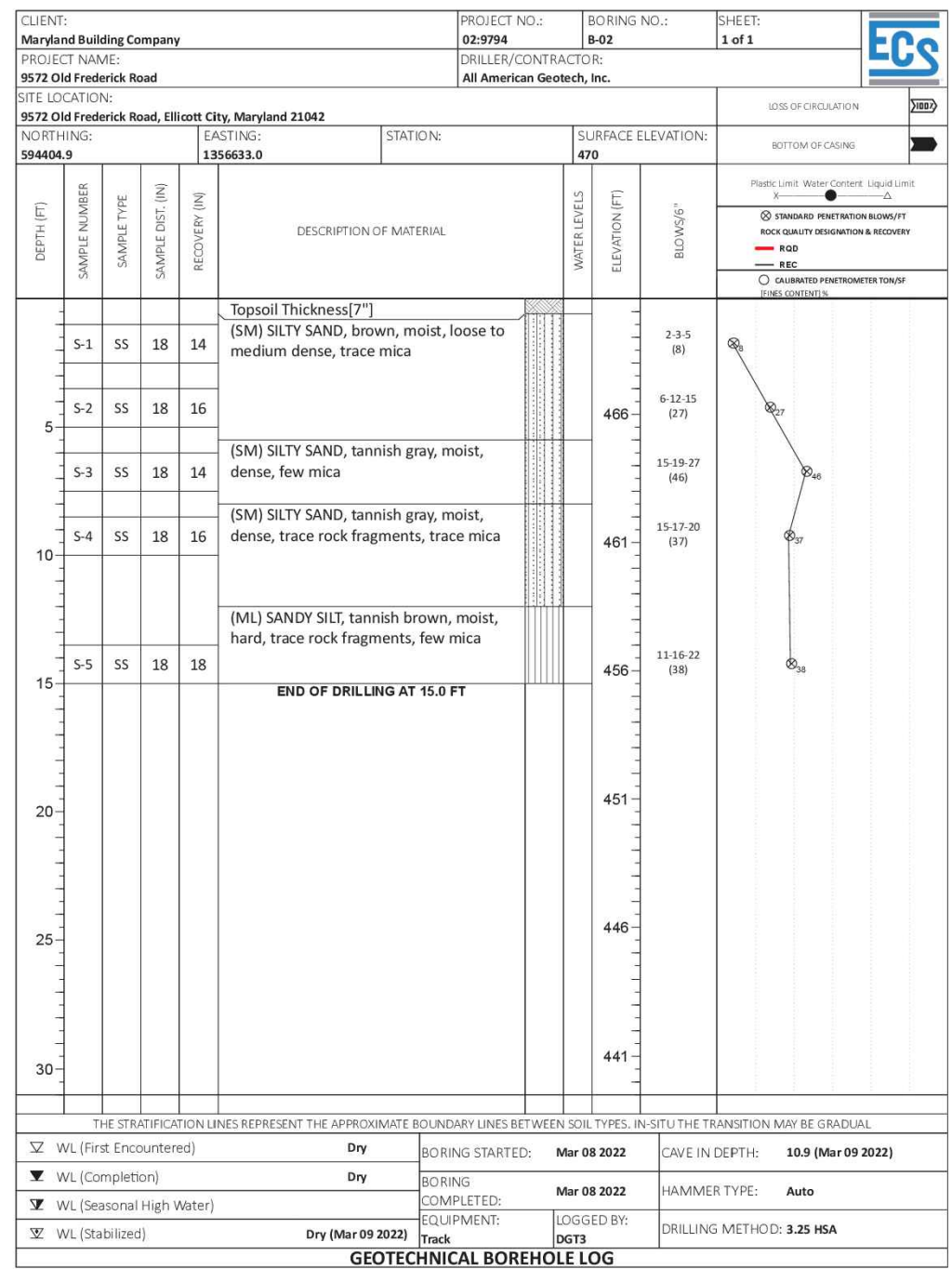
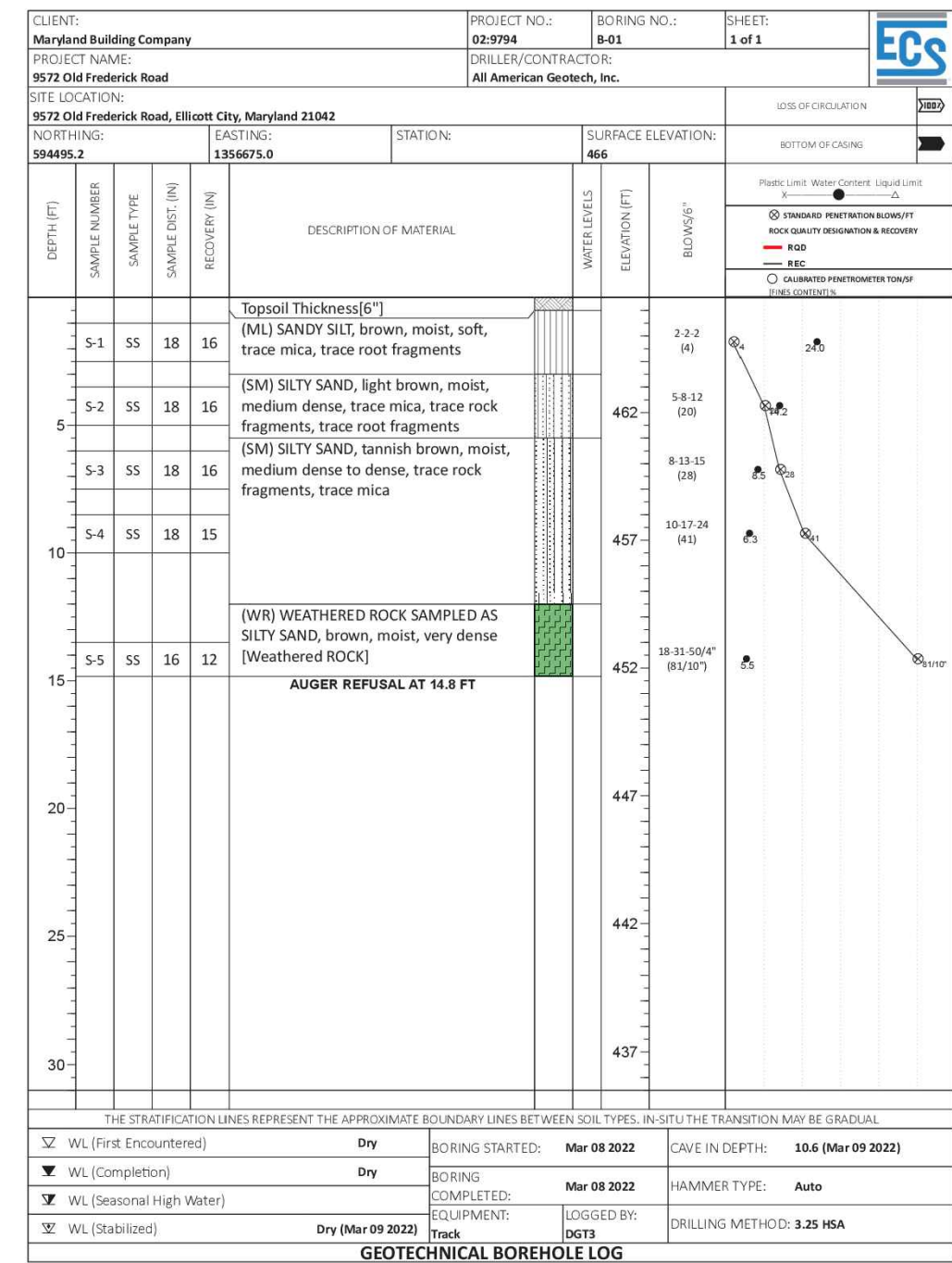
OPERATION AND MAINTENANCE SCHEDULE FOR MICRO-BIORETENTION (M-6)

- 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.
B. 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 AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT.
C. THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS.
D. THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

TENTATIVELY APPROVED DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY 2/16/2023

Table with columns NO., DATE, and REVISION.

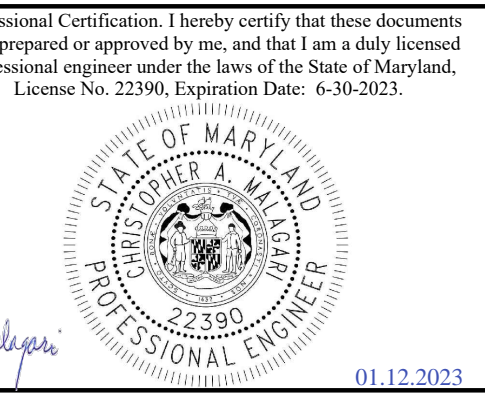
Professional seal for BENCHMARK ENGINEERING, INC. and project information for HEBRON WOODS SUBDIVISION, including owner/developer, tax map, and design/draft details.



Dry Well (Typ.)	Lot No.	Length (ft)	Width (ft)	Depth of Filter (ft)	Lowest Prop. Grade	Top of Stone Elevation	Bottom of Stone Elevation	Bottom of Sand Elevation	Boring	Weather d Rock Elevation	Refusal Elevation	Distance above refusal
DW-1	2	6.25	6.25	5.00	464.00	463.00	458.00	457.00	B-1	454.50	452.00	5.00
DW-1	5	6.25	6.25	5.00	465.00	464.00	459.00	458.00	B-6	458.00	452.00	6.00
DW-1	6	6.25	6.25	5.00	465.50	464.50	459.50	458.50	B-8	456.00	454.00	4.50
DW-1	7	6.25	6.25	5.00	474.25	473.25	468.25	467.25	B-10	466.50	460.50	6.75

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY
2/16/2023
PLANNING DIRECTOR: *Angy Green*
DATE: _____

NO.		DATE		REVISION	
<p align="center">BENCHMARK ENGINEERS • LAND SURVEYORS • PLANNERS ENGINEERING, INC. 3300 NORTH RIDGE ROAD • SUITE 140 • ELICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644 WWW.BE-CIVILENGINEERING.COM</p>					
OWNER/DEVELOPER:			HEBRON WOODS 9572 OLD FREDERICK ROAD SUBDIVISION		
BECKER BUILDING COMPANY, LLC 2077 SOMERVILLE ROAD SUITE 206 ANNAPOLIS, MD 21401			TAX MAP: 17 - GRID: 15 - PARCEL: 359 ZONED: R-20 ELECTION DISTRICT NO. 2 - HOWARD COUNTY, MARYLAND PRELIMINARY EQUIVALENT SKETCH PLAN		
BORING LOGS					
DATE: JANUARY, 2023		BEI PROJECT NO. 3013		SHEET 7 OF 12	
DESIGN: MCR	DRAFT: MCR	SCALE: N.T.S.	SHEET 7 OF 12		



01.12.2023



LEGEND

SOILS CLASSIFICATION: *AbC*

SOILS DELINEATION: *999*

EXISTING CONTOURS: *999*

PROPOSED CONTOURS: *999*

EXISTING STRUCTURE: [Symbol]

PROPOSED STRUCTURE: [Symbol]

EXISTING TREELINE: [Symbol]

PROPOSED TREELINE: [Symbol]

SPECIMEN TREE: [Symbol]

CRITICAL ROOT ZONE (1.5 x DIA.): [Symbol]

SPECIMEN TREE (TO BE REMOVED): [Symbol]

VARIABLE WIDTH PUBLIC WATER, SEWER, & UTILITY EASEMENT: [Symbol]

10' PRIVATE DRAINAGE & UTILITY EASEMENT: [Symbol]

VARIABLE WIDTH PRIVATE USE-IN-COMMON ACCESS, MAINTENANCE, DRAINAGE & UTILITY EASEMENT: [Symbol]

SD DRAINAGE AREA: [Symbol]

DETAIL D-4.35

INLET Flow Through

NOTES:

- CONCRETE SHALL BE MAX #4 @ 12" O.C.
- REINFORCEMENT STEEL SHALL BE #4 @ 12" O.C.
- ASAP AFTER SHIELDING SHALL BE CALIBRATED AFTER BEING CALIBRATED WITH ASH #123. EROSION PROTECTION TO BE PAID FOR SEPARATELY.

AREA AND "C" FACTOR TABULATION

PHASE	INLET #	ZONING (Z)	SUBAREA (B)	AREA (Ac) (A)	"C" FACTOR <25 YEAR	"C" FACTOR >25 YEAR	% IMPERVIOUS
	I-1	R-SC		0.35	0.86	0.89	99.5

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY
2/16/2023
PLANNING DIRECTOR: Amy Groman

SOILS CHART - SOIL SURVEY HOWARD COUNTY, MARYLAND

SYMBOL	HYDRIC GROUP	HYDROLOGIC GROUP	ALTERNATE GROUP	NAME	K-VALUE
GgC		B	D	GLENELG LOAM, 8 TO 15 PERCENT SLOPES	0.20
GhB		B	D	GLENELG URBAN LAND COMPLEX, 0 TO 8 PERCENT SLOPES	0.20

NOTE: UTILITY WORK WITHIN EXISTING ROADWAYS SHALL BE LIMITED TO THAT WHICH CAN BE BACKFILLED AND/OR STABILIZED BY THE END OF THE DAY'S CONSTRUCTION ACTIVITIES

NOTE: CONTRACTORS TO EXERCISE EXTREME CAUTION WHEN WORKING IN THE AREA OF EXISTING OVERHEAD LINES

NO.	DATE	REVISION

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

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. 22390. Expiration Date: 6-30-2023.

01.12.2023

OWNER/DEVELOPER: BECKER BUILDING COMPANY, LLC 2077 SOMERVILLE ROAD SUITE 206 ANNAPOLIS, MD 21401	<p>HEBRON WOODS 9572 OLD FREDERICK ROAD SUBDIVISION</p> <p>TAX MAP: 17 - GRID: 15 - PARCEL: 359 ZONED: R-20 ELECTION DISTRICT NO. 2 - HOWARD COUNTY, MARYLAND</p> <p>PRELIMINARY EQUIVALENT SKETCH PLAN STORM DRAINAGE AREA MAP & DETAILS</p> <p>DATE: JANUARY, 2023 BEI PROJECT NO. 3013</p> <p>DESIGN: MCR DRAFT: MCR SCALE: AS SHOWN SHEET 8 OF 12</p>
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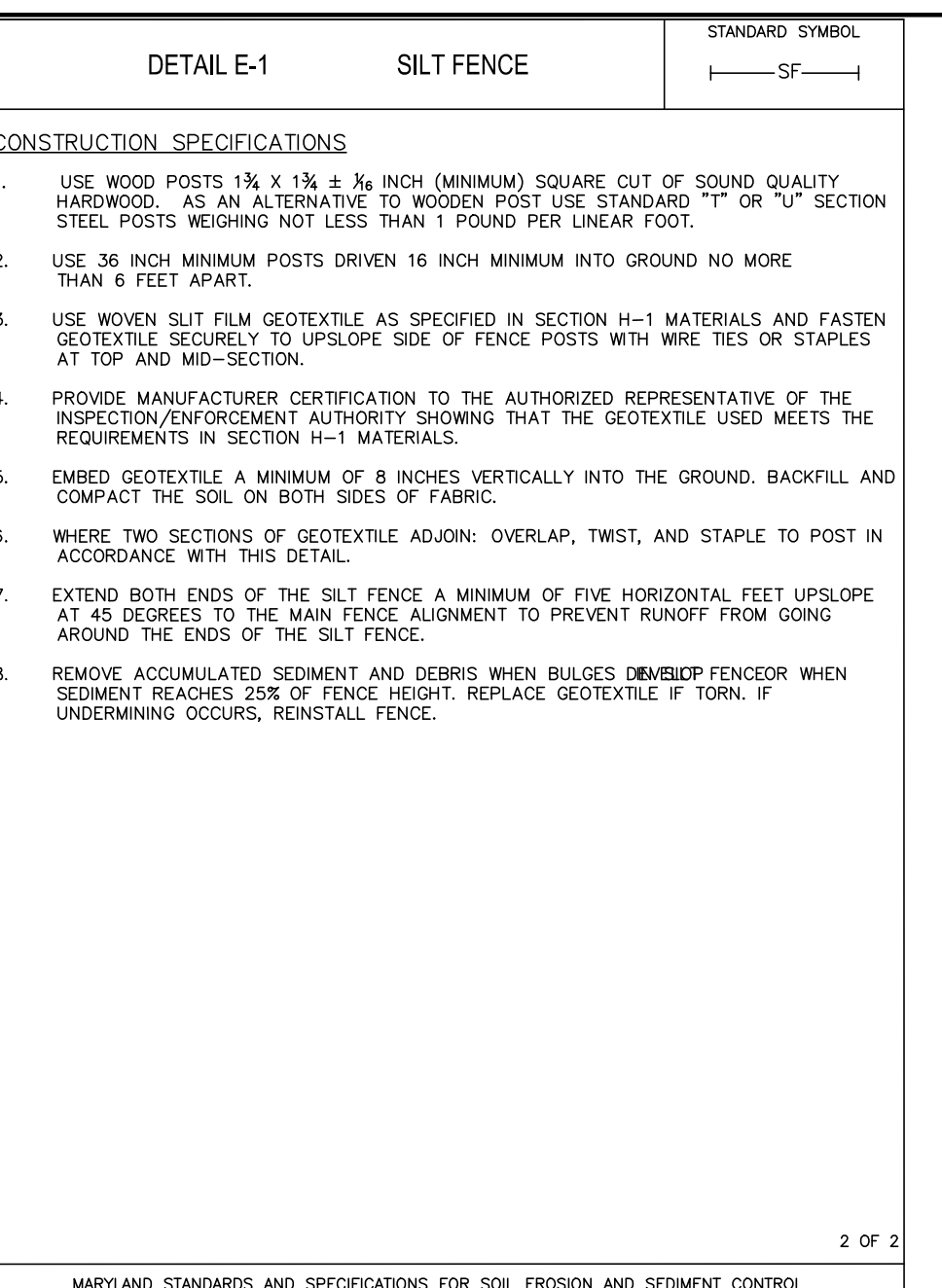
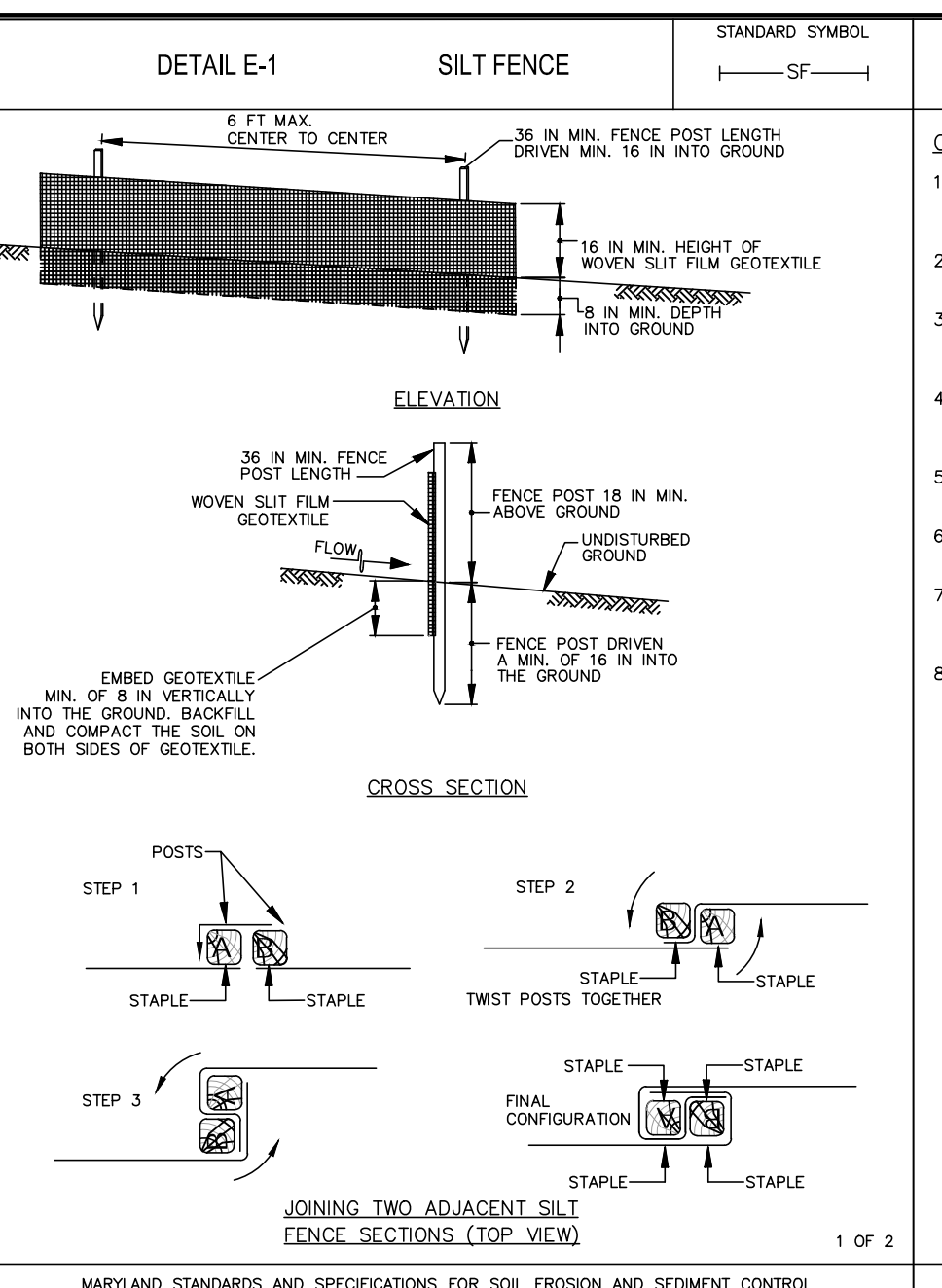
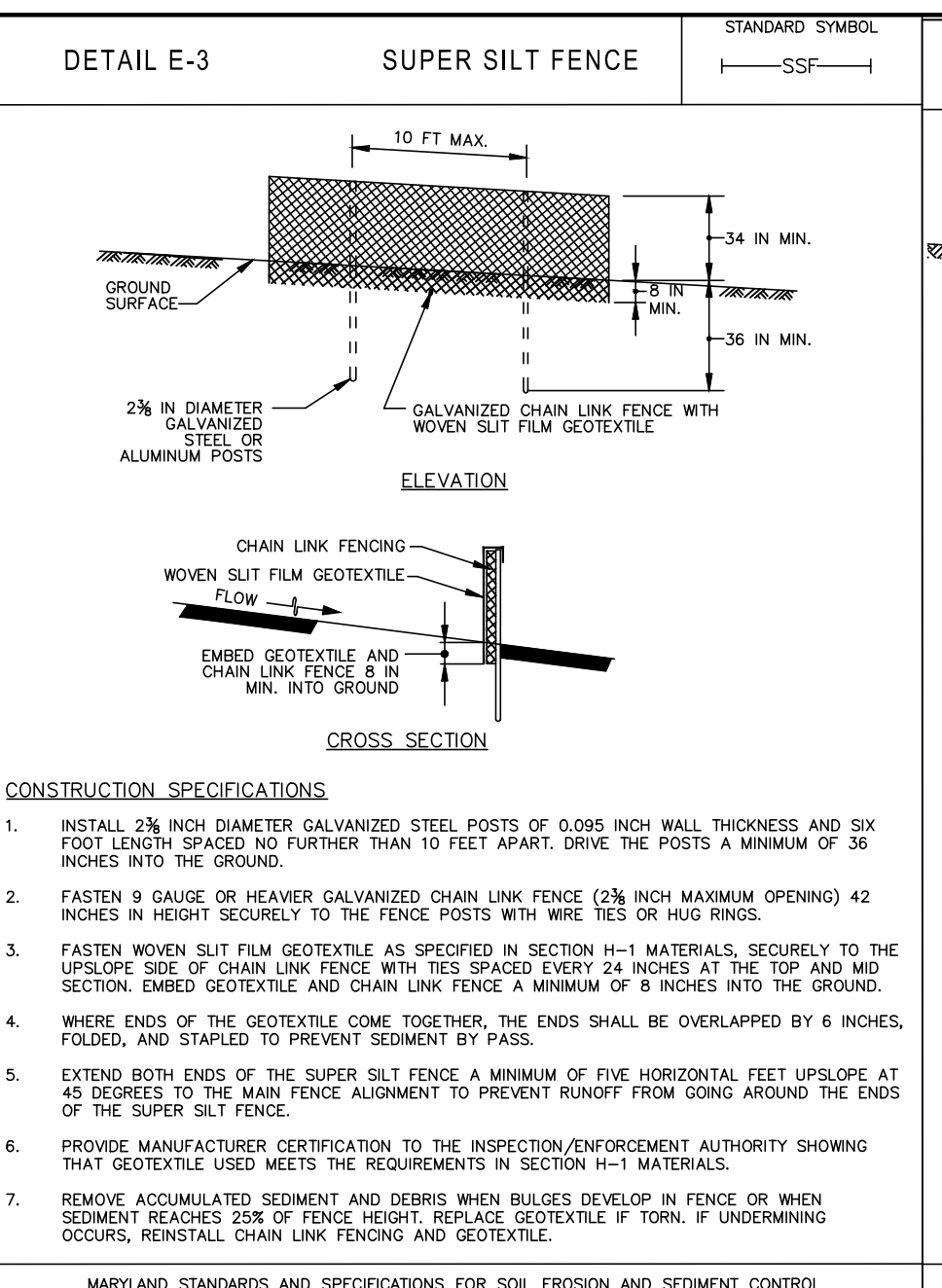
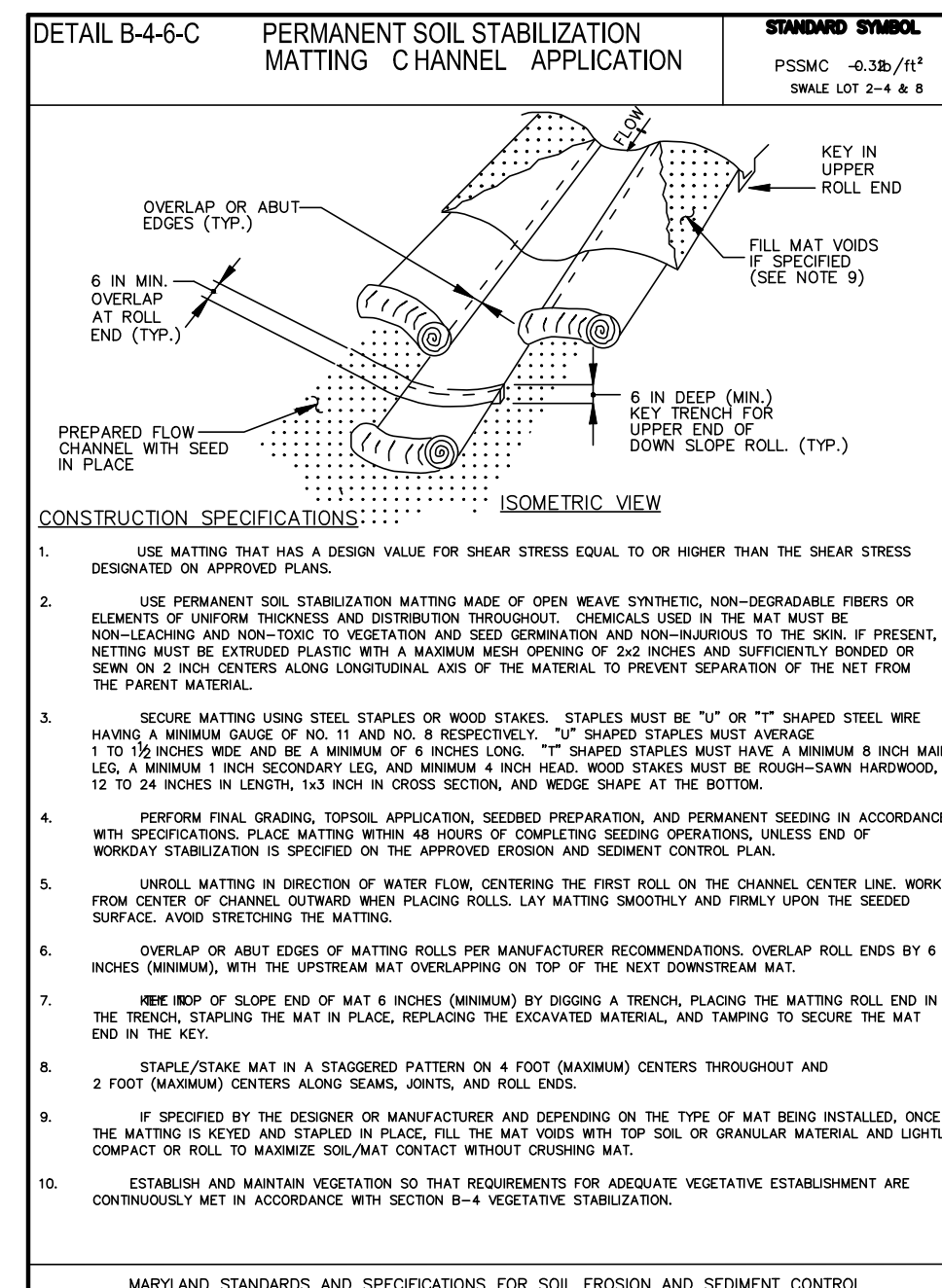


TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY
2/16/2023
PLANNING DIRECTOR: [Signature]

SYMBOL	HYDRIC	HYDROLOGIC GROUP	ALTERNATE GROUP	NAME	K-VALUE
GgC		B	D	GLENELG LOAM, 8 TO 15 PERCENT SLOPES	0.20
GhB		B	D	GLENELG URBAN LAND COMPLEX, 0 TO 8 PERCENT SLOPES	0.20

THIS PLAN IS FOR SEDIMENT & EROSION CONTROL ONLY

NO. DATE REVISION	
<p>BENCHMARK ENGINEERING, INC. 3300 NORTH RIDGE ROAD & SUITE 140 • ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644 WWW.BE-CIVILENGINEERING.COM</p>	
OWNER/DEVELOPER:	<p>HEBRON WOODS 9572 OLD FREDERICK ROAD SUBDIVISION</p>
<p>BECKER BUILDING COMPANY, LLC 2077 SOMERVILLE ROAD SUITE 206 ANNAPOLIS, MD 21401</p>	<p>TAX MAP: 17 - GRID: 15 - PARCEL: 359 ZONED: R-20 ELECTION DISTRICT NO. 2 - HOWARD COUNTY, MARYLAND</p>
PRELIMINARY EQUIVALENT SKETCH PLAN	
SEDIMENT & EROSION CONTROL PLAN	
DATE: JANUARY, 2023	BEI PROJECT NO. 3013
DESIGN: MCR	DRAFT: MCR
SCALE: AS SHOWN	SHEET 9 OF 12



HOWARD SOIL CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL NOTES

- A pre-construction meeting must occur with the Howard County Department of Public Works, Construction Inspection Division (CID), 410-3133-1855 after the future LOD and protected areas are marked clearly in the field. A minimum of 48 hours notice to CID must be given at the following stages:
 - Prior to the start of earth disturbance.
 - Upon completion of the installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading.
 - Prior to the start of another phase of construction or opening of another grading unit.
 - Prior to the removal or modification of sediment control practices.
- All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and revisions thereto.
- Following initial soil disturbance or re-disturbance, permanent or temporary stabilization is required within three (3) calendar days to the surface of all perimeter controls, ditches, swales, ditches, perimeter slopes, and all slopes steeper than 3 horizontal to 1 vertical (3:1); and seven (7) calendar days as to all other disturbed areas on the project site except for those areas under active grading.
- All disturbed areas must be stabilized within the time period specified above in accordance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, for topsoil (Sec. B-4-2), permanent seeding (Sec. B-4-5), temporary seeding (Sec. B-4-4) and mulching (Sec. B-4-3). Temporary stabilization with mulch alone can only be applied between the fall and spring seeding dates if the ground is frozen. Incremental stabilization (Sec. B-4-1) specifications shall be enforced in areas with >15' of cut and/or fill. Stockpiles (Sec. B-4-8) in excess of 20 feet must be benched with stable outlet. All concentrated flow, steep slope, and highly erodible areas shall receive soil stabilization (Sec. B-4-6).
- All sediment control structures are to remain in place, and are to be maintained in operative condition until permission for their removal has been obtained from the CID.
- Site Analysis:

Total Area of Site:	3.99 Acres
Area Disturbed:	3.70 Acres
Area to be roofed or paved:	1.03 Acres
Area to be vegetatively stabilized:	2.67 Acres
Total cut:	— Cu Yds
Total fill:	— Cu Yds

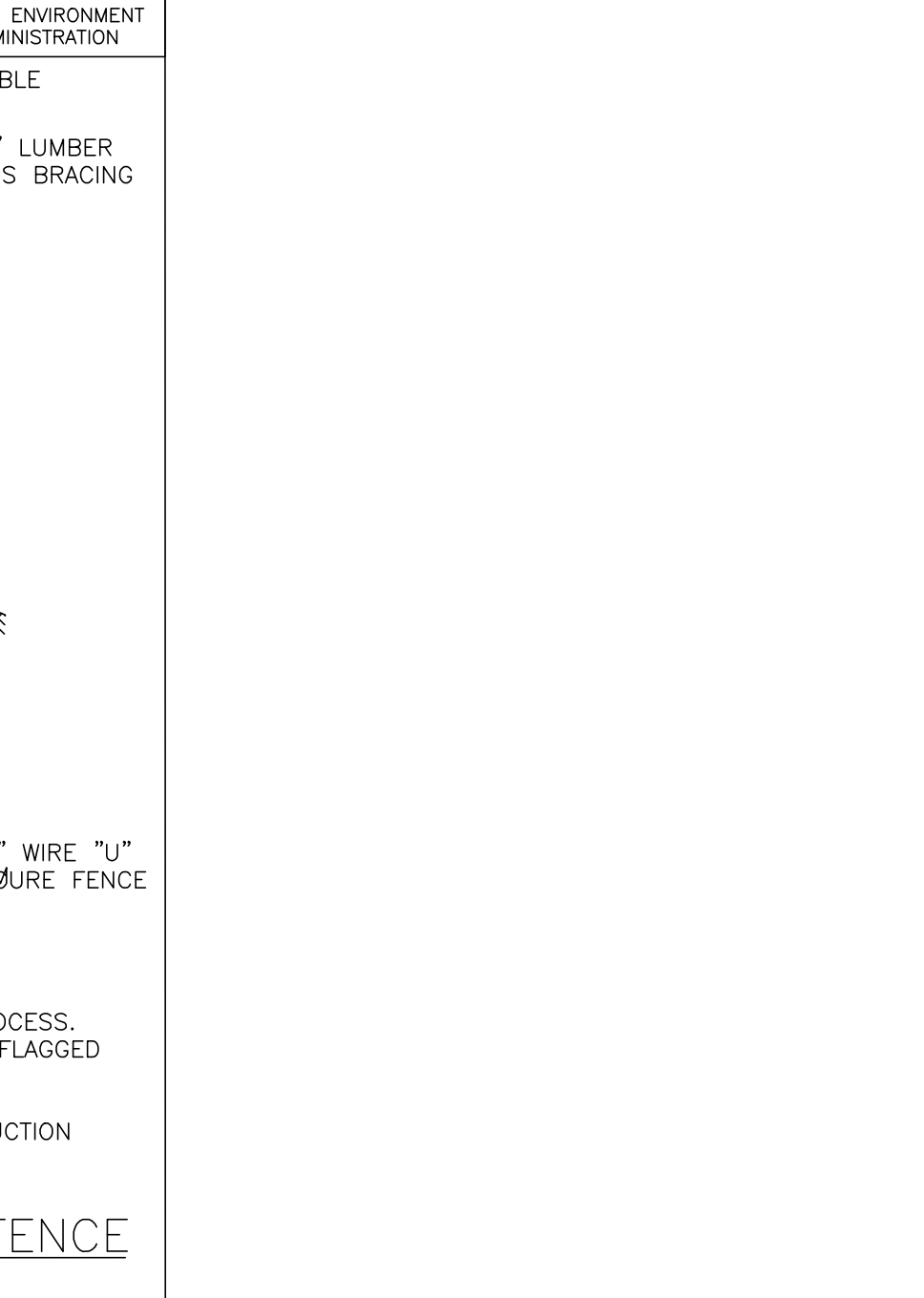
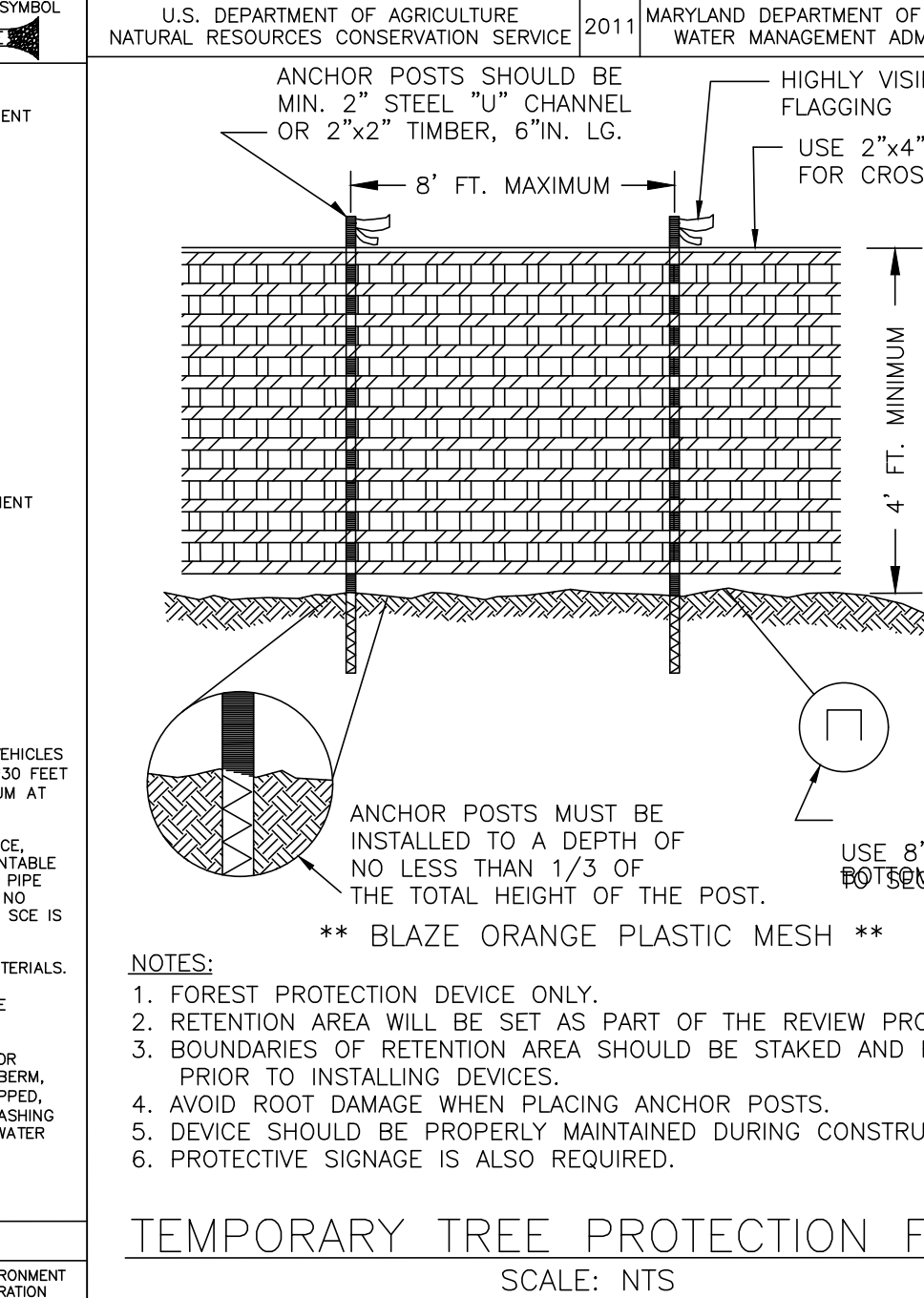
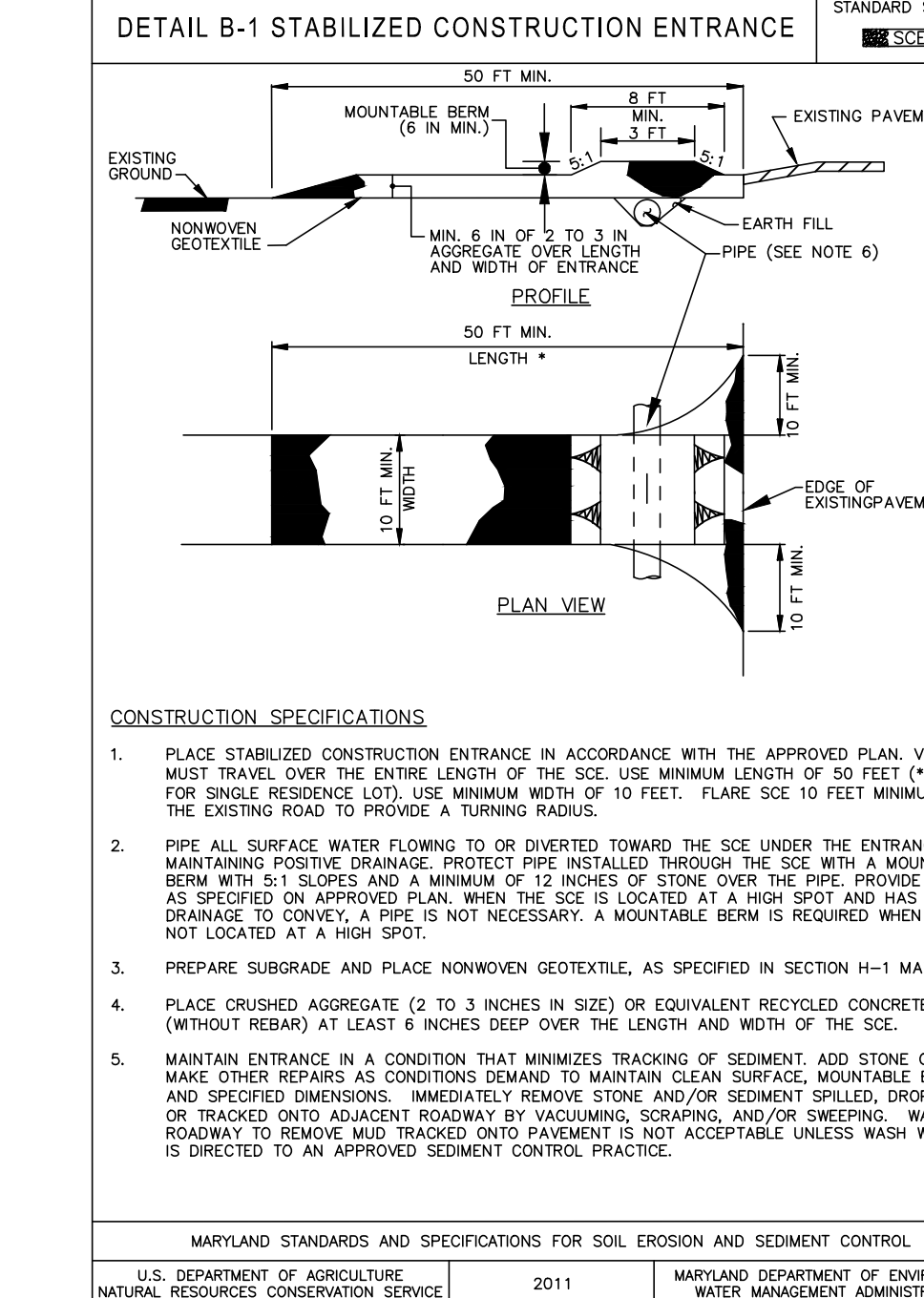
 Off-site waste/borrow area location: N/A
- Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- Additional sediment control must be provided, if deemed necessary by the CID. The site and all controls shall be inspected by the contractor weekly and the next day after each rain event. A written report by the contractor, made available upon request, is part of every inspection and should include:
 - Inspection date
 - Inspection type (routine, pre-storm event, during rain event)
 - Name and title of inspector
 - Weather information (current conditions as well as time and amount of last recorded precipitation)
 - Brief description of project's status (e.g. percent complete) and/or current activities
 - Evidence of sediment discharges
 - Identification of plan deficiencies
 - Identification of sediment controls that require maintenance
 - Identification of missing or improperly installed sediment controls
 - Compliance status regarding the sequence of construction and stabilization requirements
 - Photographs
 - Monitoring/sampling
 - Maintenance and/or corrective action performed
 - Other inspection items as required by the General Permit for Stormwater Associated with Construction Activities (GPSCS, MDC).
- Trenches for the construction of utilities is limited to three pipe lengths or that which can and shall be back filled and stabilized by the end of each work day, whichever is shorter.
- Any major changes or revisions to the plan or sequence of construction must be reviewed and approved by the HSCD prior to proceeding with construction. Minor revisions may be allowed by the CID per the list of HSCD-approved field changes.
- Disturbance shall not occur outside the L.O.D. A project is to be sequenced so that grading activities begin on one grading unit (maximum acreage of 20 ac. per grading unit) at a time. Work may proceed to a subsequent grading unit when at least 50 percent of the disturbed area in the preceding grading unit has been stabilized and approved by the CID. Unless otherwise specified and approved by the HSCD, no more than 30 acres cumulatively may be disturbed at a given time.
- Wash water from any equipment, vehicles, wheels, pavement, and other sources must be treated in a sediment basin or other approved washout structure.
- Topsoil shall be stockpiled and preserved on-site for redistribution onto final grade.
- All silt fence and super silt fence shall be placed on-the-contour, and be imbricated at 25' minimum intervals, with lower ends curled uphill by 2' in elevation.
- Stream channels must not be disturbed during the following restricted time periods (inclusive):
 - Use I and IP March 1 - June 15
 - Use III and IIP October 1 - April 30
 - Use IV March 1 - May 31
- A copy of this plan, the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and associated permits shall be on-site and available when the site is active.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
U.S. DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE, 2011

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U.S. DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE, 2011

NOTE: UTILITY WORK WITHIN EXISTING ROADWAYS SHALL BE LIMITED TO THAT WHICH CAN BE BACKFILLED AND/OR STABILIZED BY THE END OF THE DAY'S CONSTRUCTION ACTIVITIES

NOTE: CONTRACTORS TO EXERCISE EXTREME CAUTION WHEN WORKING IN THE AREA OF EXISTING OVERHEAD LINES

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY
2/16/2023
PLANNING DIRECTOR: Amy Groman

THIS PLAN IS FOR SEDIMENT & EROSION CONTROL ONLY

NO.		DATE		REVISION	
<p>BENCHMARK ENGINEERING, INC. ENGINEERS • LAND SURVEYORS • PLANNERS 3300 NORTH RIDGE ROAD • SUITE 140 • ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6106 (F) 410-465-6644 WWW.BE-CIVILENGINEERING.COM</p>					
<p>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. 22390, Expiration Date: 6-30-2023.</p>					
<p>OWNER/DEVELOPER: HEBRON WOODS 9572 OLD FREDERICK ROAD SUBDIVISION</p>					
<p>TAX MAP: 17 - GRID: 15 - PARCEL: 359 ZONED: R-20 ELECTION DISTRICT NO. 2 - HOWARD COUNTY, MARYLAND</p>					
<p>PRELIMINARY EQUIVALENT SKETCH PLAN SEDIMENT & EROSION CONTROL PLAN</p>					
DATE: JANUARY, 2023		BEI PROJECT NO. 3013			
DESIGN: MCR	DRAFT: MCR	SCALE: AS SHOWN	SHEET 10 OF 12		



SCHEDULE A PERIMETER LANDSCAPE EDGE					
CATEGORY	ADJACENT TO ROADWAY	ADJACENT TO PERIMETER PROPERTIES		ADJACENT TO ROADWAY	
		YES	NO	YES	NO
PERIMETER NO.		①	②	③	④
LANDSCAPE TYPE	SHADE TREES	1:50	1:60	1:60	1:60
	EVERGREEN TREES	1:40	---	---	---
LINEAR FEET OF PERIMETER (FRONTAGE/ROADWAY)		273.7	657.9	408.0	403.0
CREDIT FOR EXISTING VEGETATION: NO OR YES (w/LINEAR FEET) (DESCRIBE BELOW IF NEEDED)		NO	NO	NO	NO
		---	---	---	---
CREDIT FOR WALL, FENCE OR BERM: NO OR YES (w/LINEAR FEET) (DESCRIBE BELOW IF NEEDED)		NO	NO	NO	NO
		---	---	---	---
NUMBER OF PLANTS REQUIRED:	SHADE TREES	6	11	7	7
	EVERGREEN TREES	7	0	0	0
	OTHER TREES (2:1 SUBSTITUTE)	0	0	0	0
	SHRUBS (10:1 SUBSTITUTE)	0	0	0	0
	CREDIT'S BELOW IF NEEDED	---	---	---	---
NUMBER OF PLANTS PROVIDED:	SHADE TREES	6	11	7	7
	EVERGREEN TREES	7	0	0	0
	OTHER TREES (2:1 SUBSTITUTE)	0	0	0	0
	SHRUBS (10:1 SUBSTITUTE)	0	0	0	0
	CREDIT'S BELOW IF NEEDED	---	---	---	---
TOTALS					

* A CONDITION OF THE APPROVAL OF WP-22-127 REQUIRES REPLACEMENT MITIGATION FOR THE REMOVAL OF 2 SPECIMEN TREES WITH 4 TREES OF NATIVE SPECIES ON-SITE (2:1 RATIO)

LANDSCAPING NOTES

1. THE PERIMETER LANDSCAPING REQUIREMENTS SHALL BE ADDRESSED PRIOR TO RECORDATION OF THE FINAL SUBDIVISION PLAN AND SHALL BE PROVIDED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
2. LANDSCAPING SHOWN ON THIS PLAN IS PICTORIAL FOR REQUIREMENT PURPOSES ONLY. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING IN THE AMOUNT OF \$10,350 FOR 31 SHADE TREES AND 7 EVERGREENS, SHALL BE POSTED IN ACCORDANCE WITH THE APPROVED FINAL LANDSCAPE PLAN, UNDER THE SUBSEQUENT FINAL PLAN OR SITE DEVELOPMENT PLAN. SURETY FOR STREET TREES SHALL BE POSTED WITH THE DEVELOPER'S AGREEMENT.
3. THE OWNER, TENANT AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION AND WHEN NECESSARY, REPAIRED OR REPLACED.
4. AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS HERETHWITH LISTED AND APPROVED FOR THIS SITE, SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATION OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THIS APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO APPLICABLE PLANS AND CERTIFICATES.

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY
PLANNING DIRECTOR: Amy Gowan
DATE: 2/16/2023

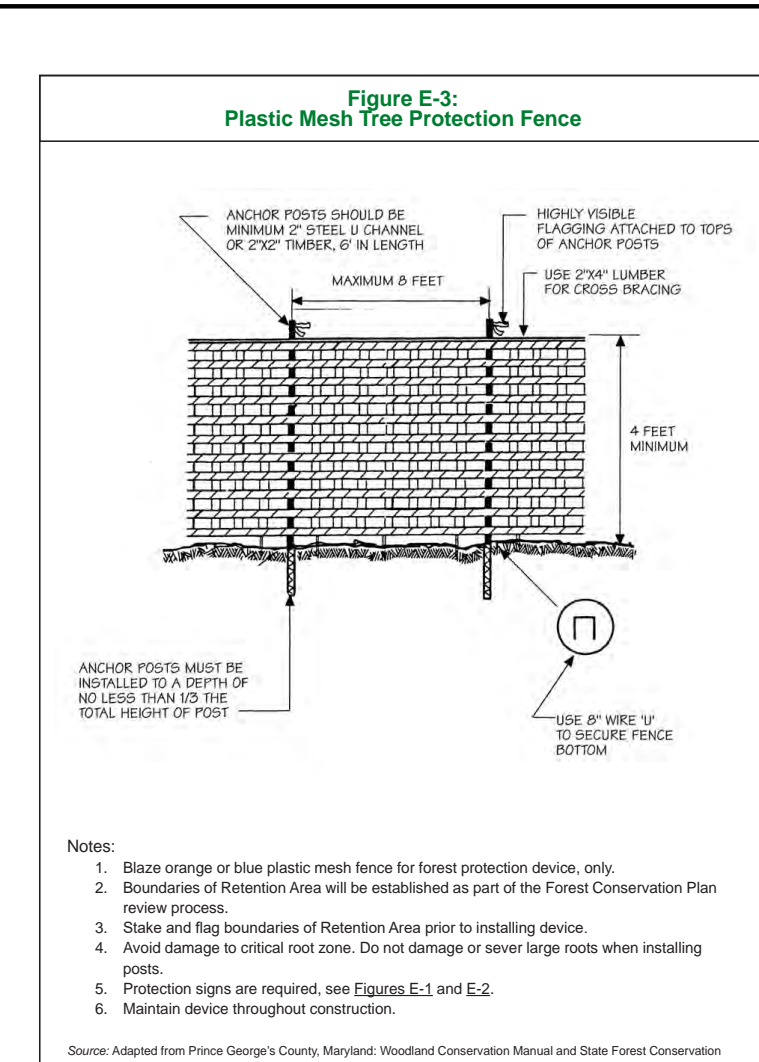
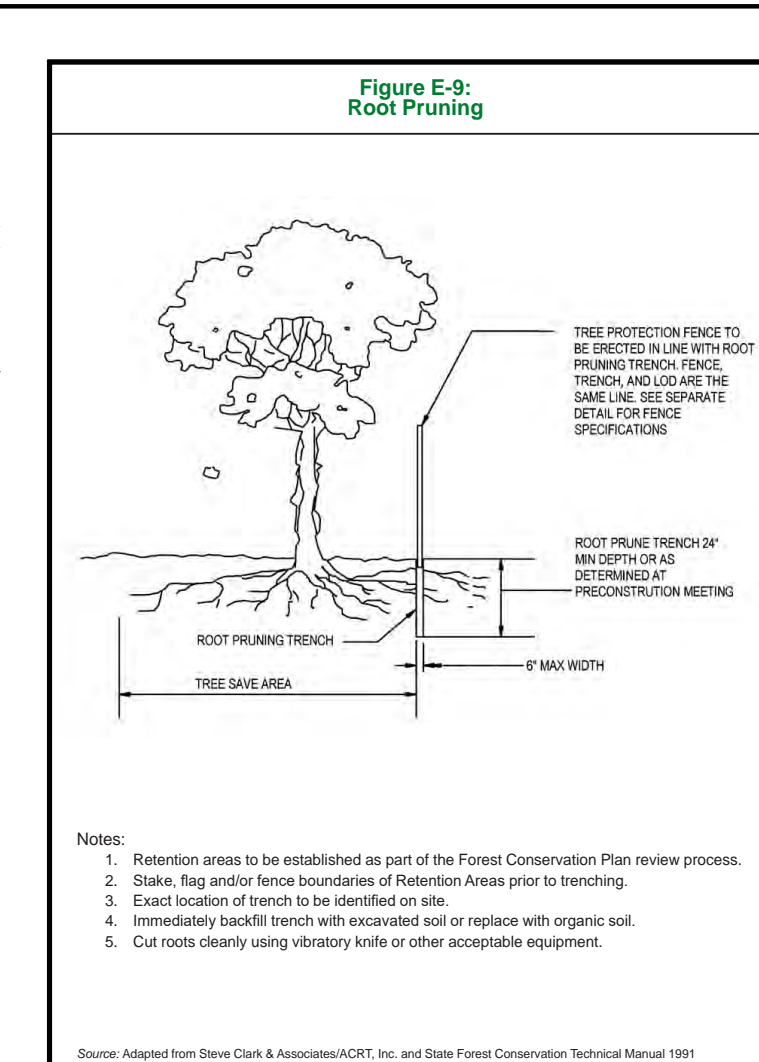
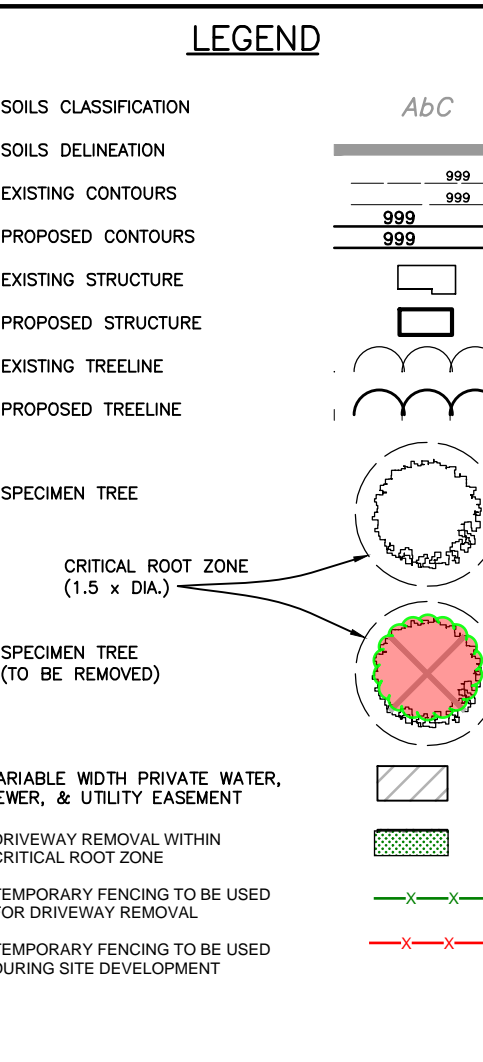
NO.	DATE	REVISION

BENCHMARK
ENGINEERS & LAND SURVEYORS & PLANNERS
ENGINEERING, INC.
3300 NORTH RIDGE ROAD & SUITE 140 • ELICOTT CITY, MARYLAND 21043
(P) 410-465-8105 (F) 410-465-6644
WWW.BEI-CVLENGINEERING.COM

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. 22390, Expiration Date: 6-30-2023.

01.12.2023

OWNER/DEVELOPER: BECKER BUILDING COMPANY, LLC 2077 SOMERVILLE ROAD SUITE 206 ANNAPOLIS, MD 21401	<p>HEBRON WOODS 9572 OLD FREDERICK ROAD SUBDIVISION</p> <p>TAX MAP: 17 - GRID: 15 - PARCEL: 359 ZONED: R-20 ELECTION DISTRICT NO. 2 - HOWARD COUNTY, MARYLAND</p> <p>PRELIMINARY EQUIVALENT SKETCH PLAN</p> <p>LANDSCAPING PLAN</p> <p>DATE: JANUARY, 2023 SCALE: AS SHOWN</p> <p>BEI PROJECT NO. 3013 SHEET 11 OF 12</p>
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SPECIMEN TREE IMPACT CALCULATION CHART

Key (X#)	Species	Size (in dbh)	CRZ (feet radius)	Comments	CRZ Area (SF)	CRZ Impact (SF)	Percent Impact	To Be Retained (Y/N)	Mitigation Requirement (# replacement 3" trees)
1	Tulip poplar			OFFSITE IN ROAD ROW					
2	Red maple			OFFSITE IN ROAD ROW					
3	Red maple	38.5	57.75	Fair, large diameter dead wood on one of three main trunks, trimmed, grinding root.	10472	9935	95	N	2
4	Red maple	49.5	74.25	Fair, large diameter dead wood, historic pruning.	17311	16963	98	N	2
5	Black walnut	32.5	48.75	Good condition - some pruning needed.	7462	1390	19	Y	0
6	Silver maple	33.5	50.25	Fair, Large diameter deadwood and historic pruning.	7929	1426	18	Y	0
7	Silver maple	38	57	Fair, canopy 15% dead wood, large diameter dead wood, cavity where major branch failed.	10202	1800	18	Y	0
8	Tulip poplar	48	72	Fair-Good, splits into 3 stems above bh.	16278	0	0	Y	0
9	Silver maple	31.5	47.25	Fair, multi-stemmed, limited crown.	7010	0	0	Y	0
10	Silver maple	33	48.75	Fair, one of four mainstems decay.	7462	2088	28	Y	0
Mitigation Requirement									4

FOREST CONSERVATION WORKSHEET FOR 9572 OLD FREDERICK ROAD

Net Tract Area		A =	4.0
A.	Total (Gross) Tract Area	B =	
B.	Area within 100-year Floodplain	C =	
C.	Other Deductions (Identify)	D =	4.0
Land Use Category		Insert the number "1" under the appropriate land use (limit to only one entry)	
	Resid. Rural LD	Resid. Rural MD	Suburban PUD
	Inst./Office	Retail/Office	Mixed Use/PUD
	0	0	0
E.	Reforestation Threshold (Net Tract Area x 15%)	E =	0.6
F.	Reforestation Threshold (Net Tract Area x 20%)	F =	0.8
Existing Forest Cover			
G.	Existing Forest Cover within the Net Tract Area	G =	3.1
H.	Area of Forest above Reforestation Threshold	H =	2.5
I.	Area of Forest above Reforestation Threshold	I =	2.3
Break Even Point			
J.	Break Even Point	J =	1.5
K.	Forest Clearing Permitted without Mitigation	K =	1.5
Proposed Forest Clearing			
L.	Total Area of Forest to be Cleared	L =	3.1
M.	Total Area of Forest to be Retained	M =	0.0
Planting Requirements Inside Watershed			
N.	Reforestation for Clearing above the Reforestation Threshold	N =	1.2
P.	Reforestation for Clearing below the Reforestation Threshold	P =	1.6
Q.	Credit for Retention above the Reforestation Threshold	Q =	0.0
R.	Total Reforestation Required	R =	2.8
S.	Total Afforestation Required	S =	0.0
T.	Total Reforestation and Afforestation Requirement	T =	2.8
U.	75% of Total Obligation (Reforestation + Planting)	U =	2.1
V.	Planting Required Outside to meet 75% Obligation	V =	2.1
Planting Requirements Outside Watershed			
W.	Total Planting within Watershed Site Watershed	W =	0.0
X.	Total Afforestation Required	X =	0.0
Y.	Remaining Planting within Watershed for Reforestation Credit	Y =	0.0
Z.	Reforestation for Clearing above the Reforestation Threshold	Z =	2.4
AA.	Reforestation for Clearing below the Reforestation Threshold	AA =	2.4
BB.	Credit for Retention above the Reforestation Threshold	BB =	0.0
CC.	Total Reforestation Required	CC =	4.8
DD.	Total Afforestation and Reforestation Requirement	DD =	4.8

FCFP Notes

- The proposed site development will require forest clearing that will generate a reforestation obligation. If the reforestation can be provided through offsite planting or purchase of bank credit within the same 12 digit watershed as the subject property (021309061019) the reforestation obligation will be 2.8 acres. If the reforestation cannot be provided within the same 12 digit watershed the reforestation obligation or is met by fee-in-lieu the obligation to be addressed will be 4.8 acres. This obligation shall be addressed prior to the recordation of the final subdivision plat and shall be provided in accordance with the provisions of Section 16.1200 of the Subdivision Regulations and the Forest Conservation Manual.
- The removal of any native specimen trees will require approval through the County's Alternative Compliance process. Any specimen tree removed will generate a mitigation obligation of two 3" caliber trees per tree removed. As proposed the project will require installation of 4 trees as specimen tree mitigation.
- Temporary fencing shall be installed around the critical root zone of all specimen trees to be retained.
- Root pruning shall be performed along the limits of disturbance within the critical root zone of specimen trees to be retained.
- Removal of the existing driveway from within the critical root zone of Specimen Tree 5 shall be performed in accordance with the following specifications:
 - Temporary protective fencing shall be installed along the edge of the driveway to be removed.
 - The existing gravel, paving shall be removed. Grading and disturbance shall be limited such that disturbance of the native soils is limited. A track driven skid steer may be used for this purpose to minimize soil compaction.
 - Following removal of the existing paving/gravel material the soil surface shall be hand raked to loosen soil. Raking should not disturb any root 1" diameter or greater. Top soil may be added to the area to a depth no greater than 2". Open soils shall be seeded with standard lawn grass mix with annual rye.
- FCA notes, details and retention specifications will be provided on the Final FCP, pending the outcome of the Alternative Compliance request.

NOTE: UTILITY WORK WITHIN EXISTING ROADWAYS SHALL BE LIMITED TO THAT WHICH CAN BE BACKFILLED AND/OR STABILIZED BY THE END OF THE DAY'S CONSTRUCTION ACTIVITIES

NOTE: CONTRACTORS TO EXERCISE EXTREME CAUTION WHEN WORKING IN THE AREA OF EXISTING OVERHEAD LINES

TENTATIVELY APPROVED
DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY
2/16/2023
PLANNING DIRECTOR: _____ DATE: _____

Eco-Science Professionals, Inc.
CONSULTING ECOLOGISTS
1700 W. BELT RD., SUITE 100, WASHINGTON, DC 20007
Tel: (202) 462-1000
www.ecosciencemgmt.com

J. Brody McAllister
ISA Certified Arborist
Cert ID: MAB0714
MD DNR FCA Qualified Professional

NO. DATE REVISION	
BENCHMARK ENGINEERS & LAND SURVEYORS & PLANNERS ENGINEERING, INC. 3300 NORTH RIDGE ROAD & SUITE 140 • ELICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644 WWW.BE-CIVILENGINEERING.COM	
OWNER/DEVELOPER: BECKER BUILDING COMPANY, LLC 2077 SOMERVILLE ROAD SUITE 206 ANNAPOLIS, MD 21401	HEBRON WOODS 9572 OLD FREDERICK ROAD SUBDIVISION TAX MAP: 17 - GRID: 15 - PARCEL: 359 ZONED: R-20 ELECTION DISTRICT NO. 2 - HOWARD COUNTY, MARYLAND PRELIMINARY EQUIVALENT SKETCH PLAN FOREST CONSERVATION PLAN DATE: JANUARY, 2023 BEI PROJECT NO. 3013 SCALE: AS SHOWN SHEET 12 OF 12