	SHEET INDEX								
ſ	NO.	DESCRIPTION							
ſ	1	COVER SHEET							
.	2	SITE DEVELOPMENT PLAN							
	3	STORMWATER MANAGEMENT & DRAINAGE AREA MAP							

STORMWATER MANAGEMENT ESD NOTES & DETAILS GRADING AND SEDIMENT & EROSION CONTROL PLAN SEDIMENT & EROSION CONTROL NOTES AND DETAILS

ADDRESS CHART								
LOT NO.	ADDRESS							
1	9456 VOLLMERHAUSEN DRIVE							
2	9454 VOLLMERHAUSEN DRIVE							
3	9452 VOLLMERHAUSEN DRIVE							
4	9450 VOLLMERHAUSEN DRIVE							
5	9448 VOLLMERHAUSEN DRIVE							
6	9446 VOLLMERHAUSEN DRIVE							
7	9444 VOLLMERHAUSEN DRIVE							

Minimum Lot Size Chart								
Lot	Total Area (sf)	Flagstem Area (sf)	Min Lot Area (sf)					
3	8,193	646	7,547					
4	8,907	1,005	7,902					
5	7,543	1,003	6,540					
6	6,822	642	6,180					

9442 VOLLMERHAUSEN DRIVE

Note: Minimum lot size per zoning regulations (Section 110.0.D.2) is 6,000 sf.

SITE DATA TABULATION

- L) GENERAL SITE DATA
- a. PRESENT ZONING: R-SC
- b. LOCATION: TAX MAP 42 GRID 22 PARCEL 167
- c. APPLICABLE DPZ FILE REFERENCES: ECP-19-042, S-19-08, WP-19-081, P-20-004, 24-5125-D, F-20-061 PLAT Nos.25726 & 25727
- d. DEED REFERENCE: L.18641, F.320
- e. PROPOSED USE OF SITE: 8 SINGLE FAMILY DETACHED RESIDENCES f PROPOSED WATER AND SEWER: PUBLIC AND PUBLIC

1. PROPOSED WATER AND SEWER: PUBLIC AND PUBLIC	
2) AREA TABULATION	
a. TOTAL AREA OF SITE	1.32 AC±
b. AREA OF 100 YEAR FLOODPLAIN (APPROX.)	0.00 AC
c. AREA OF STEEP SLOPES (25% OR GREATER)	0.00 AC
d. NET AREA OF SITE	1.32 AC±
e. AREA OF THIS PLAN SUBMISSION	1.32 AC±
f. LIMIT OF DISTURBANCE (APPROX.)	1.16 AC±
g. AREA OF PROPOSED BUILDABLE LOTS	1.32 AC±
h. AREA OF OPEN SPACE LOTS	0.00 AC±
i. AREA OF PROPOSED PUBLIC ROAD	0.00 AC
j. AREA OF PROPOSED PUBLIC R/W DEDICATION	0.00 AC

APPROVED: HOWARD COUNTY DEPARTMENT OF	PLANNING	AND ZONING
Charl Edward		6·30·Z1
CHIEF, DEVELOPMENT ENGINEERING DIVISION	#	DATE
		7/2/21
CHIEF, DIVISION OF LAND DEVELOPMENT		DATE
Any Caman		1/6/21
DIRECTOR		DATE

GENERAL NOTES

- 1. THIS PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
- 2. SUBJECT PROPERTY ZONED R-SC PER THE 10-06-2013 COMPREHENSIVE ZONING PLAN
- 3. THE EXISTING TOPOGRAPHY ON-SITE IS TAKEN FROM FIELD SURVEY WITH 2 FOOT CONTOUR INTERVALS PREPARED BY BENCHMARK ENGINEERING, INC. DATE FEBRUARY, 2019. SURROUNDING TOPOGRAPHY IS TAKEN FROM HOWARD COUNTY GIS. THE EXISTING UTILITIES SHOWN ARE TAKEN FROM FIELD SURVEY, CONTRACT
- 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 "TRAV.1" & "TRAV.2" WERE USED FOR THIS PROJECT.
- 5. PROJECT BOUNDARY IS BASED ON A SURVEY BY BENCHMARK ENGINEERING, INC., DATED FEBRUARY, 2019.
- 6. 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.F.2 OF THE HOWARD COUNTY DESIGN MANUAL, VOLUME III.
- 7. THE FOREST STAND DELINEATION REPORT AND THE WETLANDS CERTIFICATION LETTER WERE PREPARED BY ECO-SCIENCE PROFESSIONALS, INC., DATED MARCH, 2019 AND APPROVED UNDER S-19-008.
- 8. TRAFFIC STUDY WAS PREPARED BY MARS GROUP FEBRUARY, 2019 AND APPROVED UNDER THE REVIEW OF S-19-008 ON 6/19/19.
- 9. THE GEOTECHNICAL REPORT FOR THIS PROJECT WAS PREPARED BY GEOTECHNICAL LABORATORIES, INC., DATED SEPTEMBER, 2019 AND APPROVED UNDER P-20-004.
- 10. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO CEMETERY LOCATIONS ON-SITE. 11. THERE ARE NO HISTORIC SITES/STRUCTURES LOCATED ON THIS SITE. THE PREVIOUSLY EXISTING STRUCTURES ON-SITE HAVE BEEN REMOVED UNDER DEMO PERMIT
- #B19002675. 12. THERE ARE NO WETLANDS, WETLANDS BUFFERS, STREAMS, STREAM BANK BUFFERS, 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, 2019 AND APPROVED UNDER S-19-008. 13. THE EXISTING WELL ON THE PROPERTY (TAG#HO-73-4082) WAS PROPERLY ABANDONED IN ACCORDANCE WITH THE HOWARD COUNTY BUREAU OF ENVIRONMENTAL HEALTH ON 7/5/2019.
- 14. THE REQUIRED PRE-SUBMISSION COMMUNITY MEETING WAS HELD ON FEBRUARY 28, 2019 AT 6:00PM IN THE HOWARD COUNTY PUBLIC LIBRARY EAST COLUMBIA
- 15. THIS SUBDIVISION IS SUBJECT TO SECTION 18.122B OF THE HOWARD COUNTY CODE. PUBLIC WATER AND/OR SEWER SERVICE HAS BEEN GRANTED UNDER THE
- TERMS AND PROVISIONS, THEREOF, EFFECTIVE 2/19/2021, ON WHICH DATE, DEVELOPERS AGREEMENT NUMBER F-20-061 WAS FILED AND ACCEPTED. 16. THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT. PUBLIC WATER AND SEWER MAIN WILL CONNECT UNDER EX. CONTRACT 24-5125-D. DRAINAGE IS LITTLE PATUXENT WRP.
- , 17. FREE FLOW SPEED STUDY WAS PREPARED BY MARS GROUP ON MARCH, 2019 AND THE SIGHT DISTANCE ANALYSIS WAS APPROVED UNDER S-19-008.
- 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. THE COLLECTION POINT FOR TRASH AND RECYCLING COLLECTION SERVICES FOR LOTS 3 THRU 6 SHALL BE THE EXISTING 5'x10' CONCRETE TRASH PAD (F-20-061) AT THE WESTERN EDGE OF THE ROADWAY ENTRANCE FOR THE
- 19. 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:
- 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.
-) 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) 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. ANY DAMAGE TO THE COUMTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE DEVELOPER'S EXPENSE.
- 22. THE FOREST CONSERVATION REQUIREMENTS FOR THIS SUBDIVISION WERE PREVIOUSLY ADDRESSED UNDER F-20-061 IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.1200 OF THE SUBDIVISION REGULATIONS AND FOREST CONSERVATION MANUAL. THE FOREST CONSERVATION OBLIGATION FOR THIS SUBDIVISION IS SATISFIED BY THE USE OF ON-SITE RETENTION OF 0.4 ACRES WITHIN A FOREST CONSERVATION EASEMENT, REFORESTATION OF 0.06 ACRES WITHIN A FOREST CONSERVATION EASEMENT AND A FEE-IN-LIEU PAYMENT OF \$7,623.00 FOR 0.14 ACRES OF REMAINING OBLIGATIONS.
- 23. 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 & OPEN SPACE WITH THOSE LOCATED OFF-SITE, AND BY INCORPORATING & PRESERVING THE FOREST CONSERVATION & SPECIMEN TREE PROTECTION ALONG THE NORTHWESTERN BOUNDARY LINE. LOTS, BUILDINGS, & SITE IMPROVEMENTS ARE CONFIGURED TO PROVIDE PRIVACY BY THE LOCATION OF THE FOREST CONSERVATION EASEMENT, NON-CREDITED FOREST RETENTION, OPEN SPACE, ORIENTATION OF THE HOUSES, PERIMETER LANDSCAPING, AND MITIGATION TREE PLANTING ALONG THE BOUNDARY.
- 24. 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. 25. LANDSCAPING FOR LOTS 1 THRU 8 IS PROVIDED WITH A CERTIFIED LANDSCAPE PLAN IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING IN THE AMOUNT OF \$14,820 FOR 37 SHADE TREES, 24 UNDERSTORY/ORNAMENTAL TREES, & 4 SHRUBS, WAS POSTED WITH F-20-061. PERIMETER LANDSCAPING REQUIRED UNDER THE SDP SHALL BE 9 TREES. SEE LANDSCAPE PLAN FOR
- 26. THIS PROJECT IS SUBJECT TO SECTION 13.402 OF THE COUNTY CODE FOR MODERATE INCOME HOUSING UNITS (MIHU), PER SECTION 13.402 OF THE COUNTY CODE FOR MODERATE INCOME HOUSING UNITS (MIHU), PER SECTION 13.402 OF THE COUNTY CODE FOR MODERATE INCOME HOUSING UNITS (MIHU). 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
- 29. PER SECTION 16.121(a)(2), THIS PROJECT IS SUBJECT TO 25% OPEN SPACE OR 21,998 SF. 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. OPEN SPACE LOT 9 SHALL BE ACCESSED THROUGH THE USE-IN-COMMON DRIVEWAY, PER SECTION 16.121(e)(2) OF THE SUBDIVISION REGULATIONS.
- . 30. 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 I, CHAPTER 5" TO THE MAXIMUM EXTENT PRACTICAL STORMWATER MANAGEMENT IS PROVIDED BY ONE (M-6) MICRO-BIORETENTION PRACTICES, NINE (M-5) DRY WELLS, AND FOUR (N-2) NON-ROOFTOP DISCONNECTION. ALL
- 31. ALTERNATIVE COMPLIANCE, WP-19-081, WAS APPROVED BY THE DIRECTOR ON MAY 30, 2019, TO SECTION 16.1205(a)(7), WHICH ALLOWS FOR REMOVAL OF 22 SPECIMEN TREES. THE ALTERNATIVE TO SPECIMEN TREE RETENTION WAS PLANTING OF LANDSCAPE TREES AT A 2:1 RATIO. THE ALTERNATIVE COMPLIANCE WAS APPROVED SUBJECT TO THE FOLLOWING CONDITION: - REMOVAL OF THE TWENTY-TWO (22) SPECIMEN TREES WILL REQUIRE REPLACEMENT MITIGATION AT A RATIO OF TWO (2) LARGE CALIPER NATIVE TREE SPECIES (AT LEAST THREE (3) INCHES DBH) FOR EACH SPECIMEN TREE REMOVED (44 TREES TOTAL). THE MITIGATION PLANTING CAN BE PROVIDED AS PART OF THE REQUIRED LANDSCAPING FOR THIS PROJECT. YOU MUST SUBMIT A REVISED LANDSCAPE PLAN WITH YOUR FINAL SUBDIVISION PLAN FOR THIS PROPERTY, THAT SHOWS HOW YOU PLAN TO ADDRESS THIS ALTERNATIVE FOREST CONSERVATION MITIGATION.
- 32. HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING HAS REVIEWED AND APPROVED THE USE OF UPPER AND UNDERSTORY TREES TO ADDRESS THE SPECIMEN
- + 33. DESIGN MANUAL WAIVER DMV2-20-006 WAS APPROVED BY LETTER DATED NOVEMBER 21, 2019, TO HOWARD COUNTY DESIGN MANUAL, VOL. II, SECTION 5.4.B.5 TO ALLOW FOR PERMANENT STRUCTURE TO BE WITHIN 10' OF A SHARED PUBLIC WATER, SEWER, & UTILITY EASEMENT. - IN REVIEW OF THE PROPOSED WAIVER, IT WAS NOTED THAT WHILE THE FULL 30' WATER & SEWER EASEMENT WILL BE PROVIDED FOR ACCESS TO THE UTILITIES, ACCESS WILL HAVE TO BE PERFORMED CAUTIOUSLY BECAUSE STRUCTURES WILL ONLY BE 7' FROM HEAVY CONSTRUCTION EQUIPMENT. HOWEVER, IN CONSIDERATION OF THE BUILDING CONSTRAINTS CITED, CONSIDERING THE THE UTILITIES ARE SMALL DIAMETER AND THE SEWER IS NOT EXCESSIVELY DEEP (APPROXIMATELY 13' MAXIMUM), AND THAT THE PROPOSED UTILITIES WILL BE NEW WITH A DESIGN LIFE OF 50 YEARS OR MORE, THIS WAIVER REQUEST IS APPROVED.
- , 34. THE PRIVATE USE-IN-COMMON MAINTENANCE ACCESS AGREEMENT FOR LOTS 3 THRU 6 & OPEN SPACE LOT 9 WAS RECORDED SIMULTANEOUSLY WITH THE
- 35. THE ARTICLES OF INCORPORATION FOR THE HOMEOWNERS ASSOCIATION HAVE BEEN ACCEPTED BY THE STATE DEPARTMENT OF ASSESSMENTS AND TAXATION, ID #D20721072 ON 2/24/2021. THE HOMEOWNER'S DECLARATION OF COVENANTS AND RESTRICTIONS ARE RECORDED WITH THE PLAT F-20-061.
- 36. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410)-313-1880 AT LEAST
- 37. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- 38. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS
- 39. THE FOREST CONSERVATION EASEMENT HAS BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION ACT. NO CLEARING, GRADING, OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT, HOWEVER FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.
- , 40. THE RESIDENTIAL DRIVEWAYS FOR LOTS 1, 2, 7, & 8, AND USE-IN-COMMON DRIVE CONNECTIONS ALONG VOLLMERHAUSEN DRIVE SHALL CONFORM TO HO.CO. STD.
- 41. IN ACCORDANCE WITH SECTION 128.0 OF THE HOWARD COUNTY ZONING REGULATIONS, BAY WINDOWS, CHIMNEYS OR EXTERIOR STAIRWAYS NOT MORE THAN 16 FEET

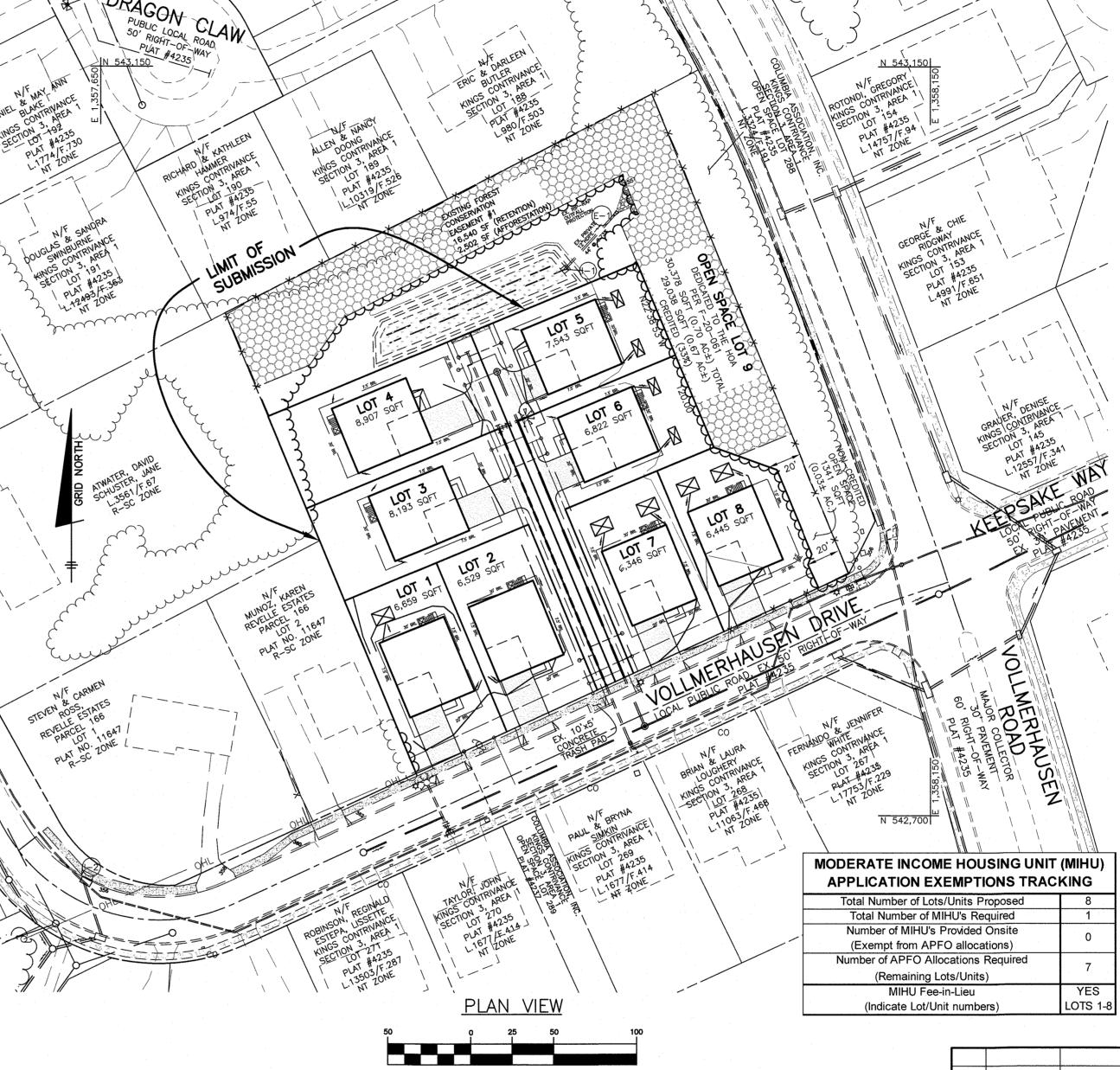
IN WIDTH MAY PROJECT NOT MORE THAN 4 FEET INTO ANY SETBACKS. PORCHES, OR DECKS, OPEN OR ENCLOSED MAY PROJECT NOT MORE THAN 10 FEET INTO

- 42. THIS SUBDIVISION IS NOT SUBJECT TO CB62-2019 (THE AMENDED FOREST CONSERVATION ACT) BECAUSE THE PRELIMINARY PLAN (P-20-004) WAS SIGNED PRIOR TO THE BILL'S ENACTMENT DATE OF FEB. 5, 2020.
- 43. SHC ELEVATIONS SHOWN ARE LOCATED AT THE PROPERTY LINE

RECORDATION OF THE SUBDIVISION PLAT F-20-061

SITE DEVELOPMENT PLANS HUNTINGTON POINT

LOTS 1 THRU 8 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND



(IN FEET)

1 inch = 50 ft.

SUBDIVISION NAME:

F.00320

22

42

Maintenance

N/A

N/A

N/A

N/A

N/A

N/A

N/A

Maintenance

Private

Private

Private

Private

Private

Private

Private

Private

Private

Ownership

H.O.A.

PRIVATE ESD STORMWATER MANAGEMENT INFORMATION

DW-3 DW-4

DW-5

DW-6

DW-7

DW-8

DW-9

MB-1

(N-2) Non-Rooftop Disconnection NRDC-1

(N-2) | Non-Rooftop Disconnection | NRDC-2 |

Drywell

Drywell

Drywell

(N-2) Non-Rooftop Disconnection | NRDC-3

(N-2) Non-Rooftop Disconnection | NRDC-4 |

Micro-Bioretention

H.O.A. ESD STORMWATER MANAGEMENT INFORMATION

(M-5)

(M-5)

Street Address

9456 Vollmerhausen Driv

9454 Vollmerhausen Drive

9448 Vollmerhausen Driv

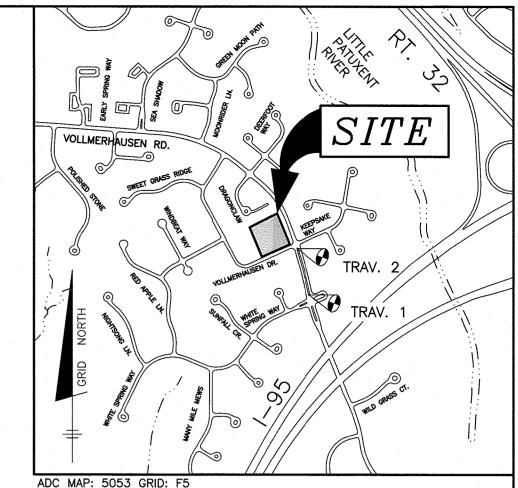
9446 Vollmerhausen Driv

9444 Vollmerhausen Drive

9442 Vollmerhausen Drive

N/A

OS 9



VICINITY MAP SCALE: 1" = 2000

BENCHMARKS NAD'83 <u>HORIZONTAL</u> TRAV. 1 REBAR AND CAP N542370.1616', E1358287.1054' ELEVATION: 361.128' TRAV. 2 REBAR AND CAP N542808.3770', E1358170.8510' ELEVATION: 356.641'

LEGEND

EXISTING CONTOURS SOILS TYPE (ENTIRE SITE) PROJECT BOUNDARY 358 PROPOSED CONTOURS . EXISTING TREELINE EXISTING SEWER EXISTING WATER EXISITNG MICRO-BIORETENTION

PROPOSED DRYWELL

PROPOSED NON-ROOFTOP DISCONNECTION AREA (N-2) SWM DRAINAGE AREA TO MBR-1

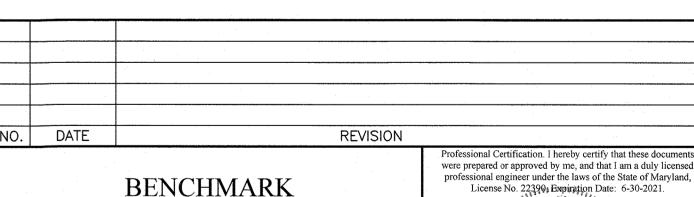
SWM DRAINAGE AREA TO DRYWELLS

FACILITY (M-6)



BORING LOCATION

CONSERVATION EASEMENT



• ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS ENGINEERING, INC (P) 410-465-6105 (F) 410-465-6644

8480 BALTIMORE NATIONAL PIKE▲ SUITE 315▲ ELLICOTT CITY, MARYLAND 21043 WWW.BEI-CIVILENGINEERING.COM

DATE:

SCALE:

HUNTINGTON POINT DEVELOPMENT PARTNERS, LLC 9693 GERWIG LANE LOTS 1 thru 8 COLUMBIA, MARYLAND 21046 9454 VOLLMERHAUSEN DR. COLUMBIA, MARYLAND 21046 TAX MAP: 42, GRID: 22, PARCEL: 167 ZONED: R-SC

MAY, 2021

AS SHOWN

CORNERSTONE HOMES, LLC PERMIT INFORMATION CHART 9693 GERWIG LANE COLUMBIA, MARYLAND 21046 410-792-2565 **HUNTINGTON POINT** 25726 & LOTS 1-8, OS LOT 9 25727 RELEVANT FILE NUMBERS: ECP-19-042, S-19-008, BLOCK No. ZONE: TAX MAP: ELECTION WP-19-081, DMV2-20-006, DISTRICT TRACT P-20-004, F-20-061 R-SC 6068.04

410-792-2565

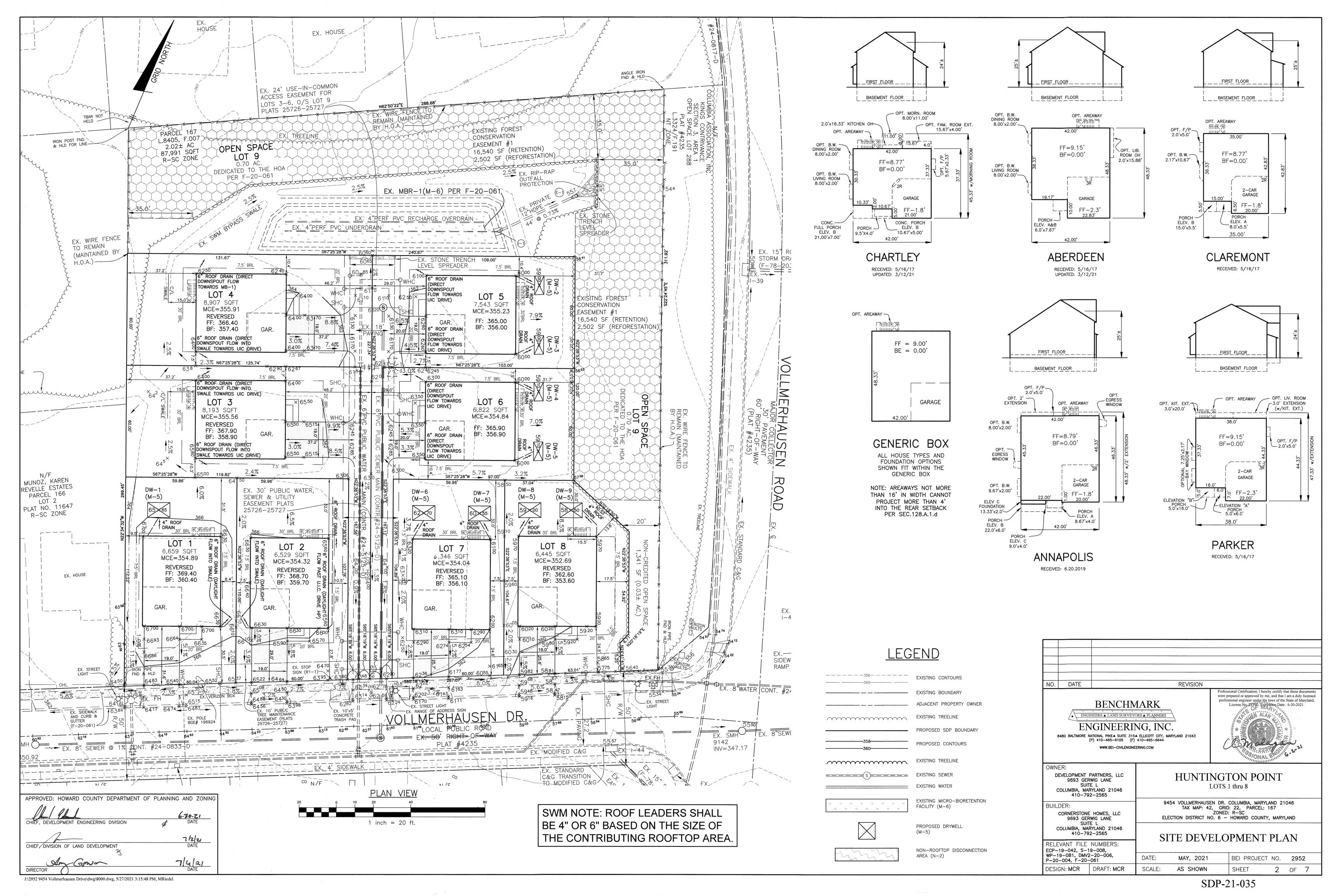
ESIGN: MCR DRAFT: MCR

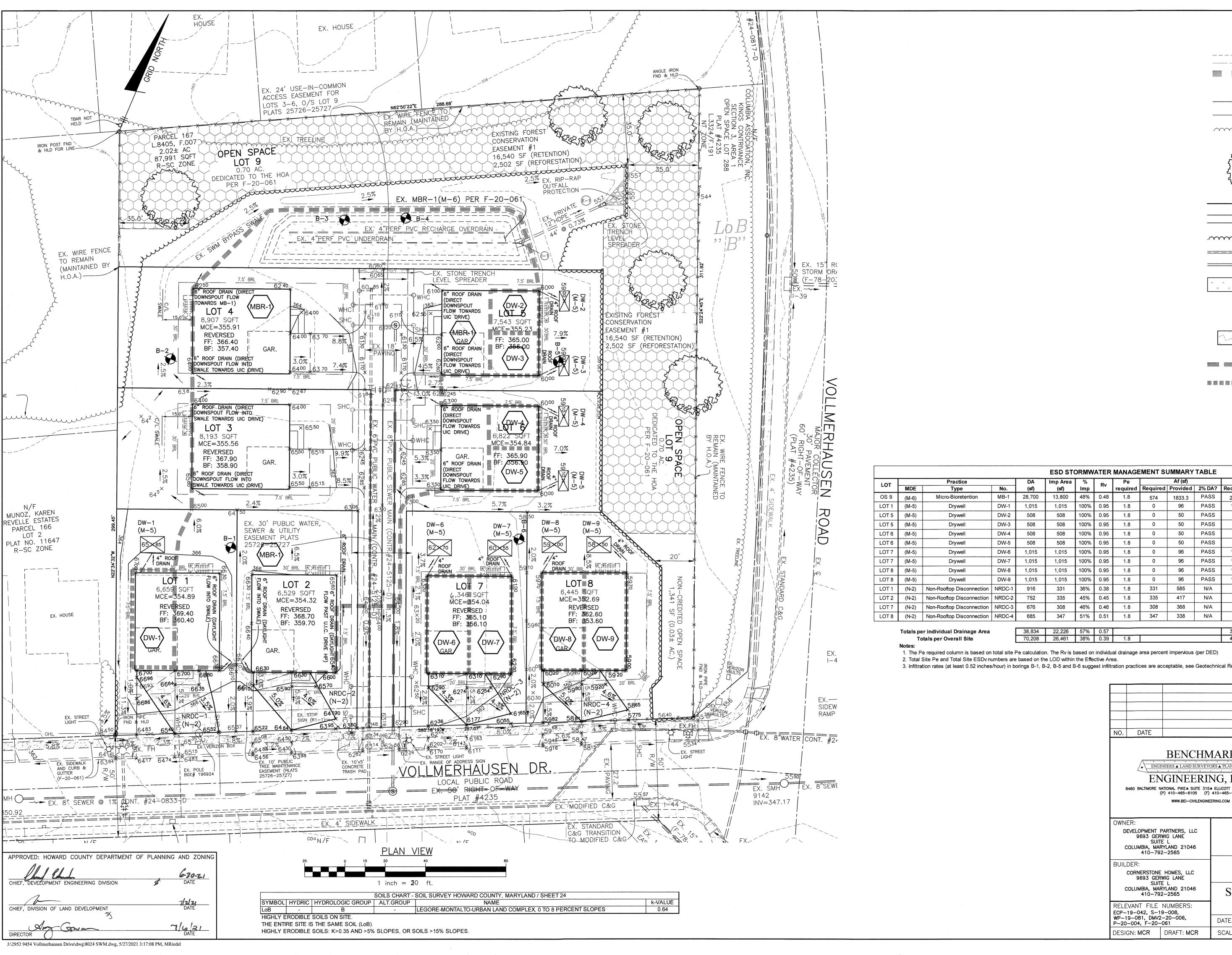
ELECTION DISTRICT NO. 6 - HOWARD COUNTY, MARYLAND **COVER SHEET**

> BEI PROJECT NO. 2952 SHEET

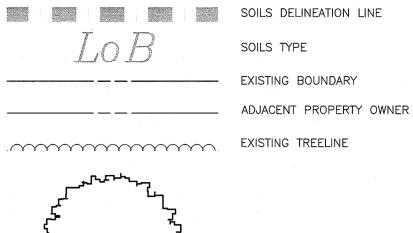
SDP-21-035

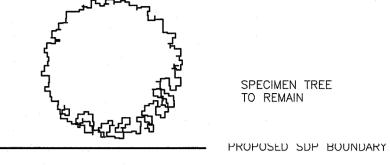
1 of 7











SPECIMEN TREE TO REMAIN

PROPOSED CONTOURS

EXISTING SEWER

> EXISTING WATER EXISTING MICRO-BIORETENTION

* * * * * *

PROPOSED DRYWELL

FACILITY (M-6)

NON-ROOFTOP DISCONNECTION AREA (N-2)

SWM DRAINAGE AREA TO MBR-1

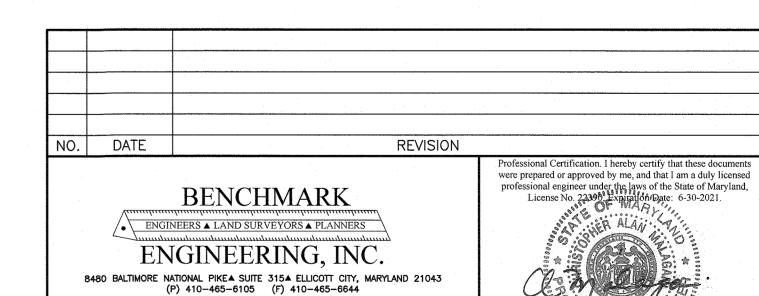
SWM DRAINAGE AREA TO DRYWELLS

DRAINAGE AREA DESIGNATION

BORING LOCATION

	ESD STORMWATER MANAGEMENT SUMMARY TABLE																
LOT	Practice			DA	Imp Area	mp Area % D.	Rv	Pe Pe	Af (sf)		ESD	v (cf)	Pe	R	Ev	Ownership	
LOI	MDE	Type	No.	(sf)	(sf)	lmp	IXV	required	Required	Provided	2% DA?	Required	Provided	Provided	Required	Provided	Ownership
OS 9	(M-6)	Micro-Bioretention	MB-1	28,700	13,800	48%	0.48	1.8	574	1833.3	PASS	2078	2,857	2.5	592	609	H.O.A.
LOT 1	(M-5)	Drywell	DW-1	1,015	1,015	100%	0.95	1.8	0	96	PASS	145	192	2.4			Private
LOT 5	(M-5)	Drywell	DW-2	508	508	100%	0.95	1.8	0	50	PASS	72	100	2.5			Private
LOT 5	(M-5)	Drywell	DW-3	508	508	100%	0.95	1.8	0	50	PASS	72	100	2.5			Private
LOT 6	(M-5)	Drywell	DW-4	508	508	100%	0.95	1.8	0	50	PASS	72	100	2.5			Private
LOT 6	(M-5)	Drywell	DW-5	508	508	100%	0.95	1.8	0	50	PASS	72	100	2.5			Private
LOT 7	(M-5)	Drywell	DW-6	1,015	1,015	100%	0.95	1.8	0	96	PASS	145	192	2.4			Private
LOT 7	(M-5)	Drywell	DW-7	1,015	1,015	100%	0.95	1.8	0	96	PASS	145	192	2.4			Private
LOT 8	(M-5)	Drywell	DW-8	1,015	1,015	100%	0.95	1.8	0	96	PASS	145	192	2.4			Private
LOT 8	(M-5)	Drywell	DW-9	1,015	1,015	100%	0.95	1.8	0	96	PASS	145	192	2.4			Private
LOT 1	(N-2)	Non-Rooftop Disconnection	NRDC-1	916	331	36%	0.38	1.8	331	585	N/A	29	18	1.0			Private
LOT 2	(N-2)	Non-Rooftop Disconnection	NRDC-2	752	335	45%	0.45	1.8	335	417	N/A	28	16	1.0			Private
LOT 7	(N-2)	Non-Rooftop Disconnection	NRDC-3	676	308	46%	0.46	1.8	308	368	N/A	26	14	1.0			Private
LOT 8	(N-2)	Non-Rooftop Disconnection	NRDC-4	685	347	51%	0.51	1.8	347	338	N/A	29	14	1.0			Private

3. Infiltration rates (at least 0.52 inches/hour) in borings B-1, B-2, B-5 and B-6 suggest infiltration practices are acceptable, see Geotechnical Report



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

SCALE:

AS SHOWN

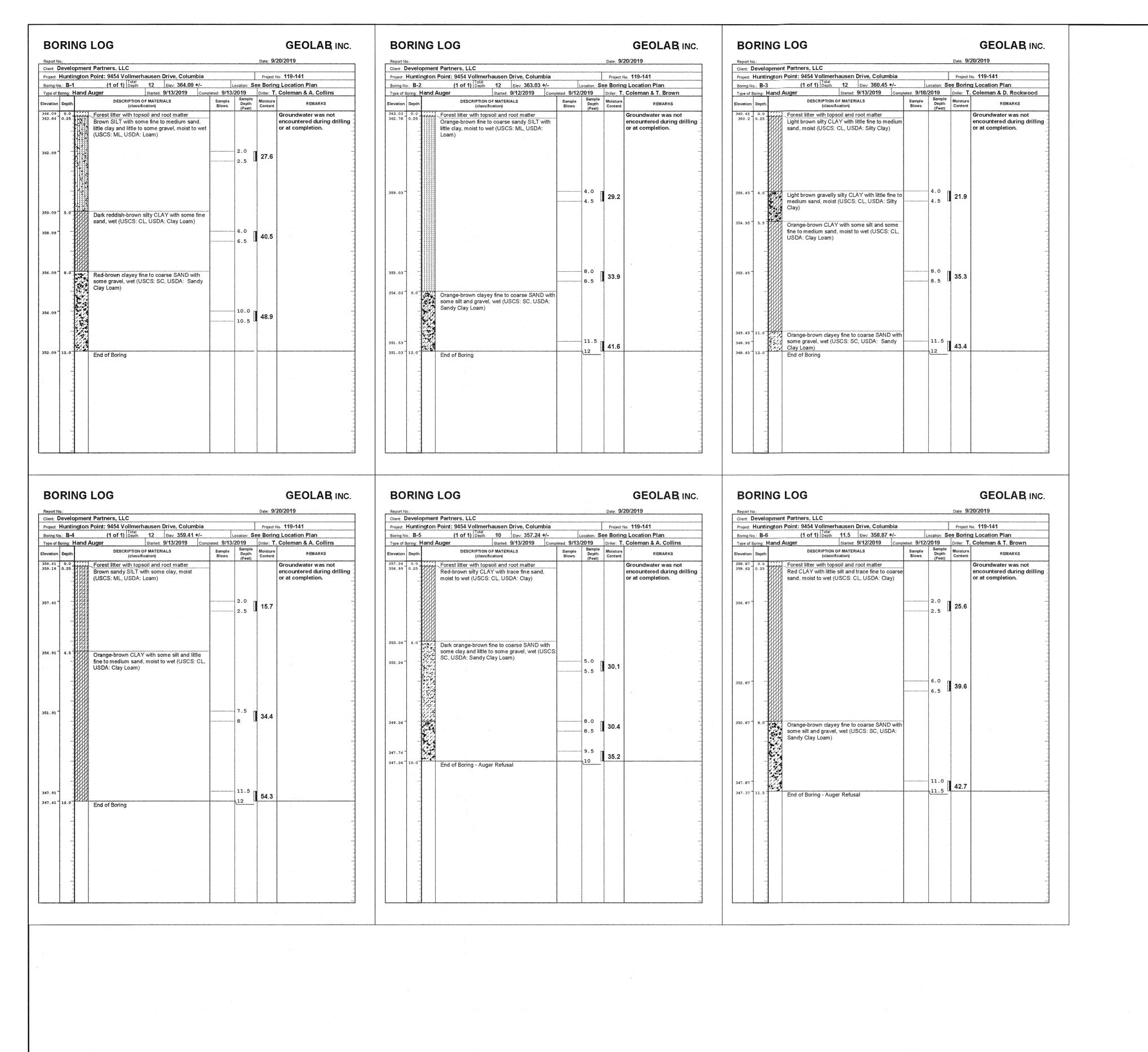
HUNTINGTON POINT LOTS 1 thru 8

9454 VOLLMERHAUSEN DR. COLUMBIA, MARYLAND 21046 TAX MAP: 42, GRID: 22, PARCEL: 167 ZONED: R-SC ELECTION DISTRICT NO. 6 — HOWARD COUNTY, MARYLAND

STORMWATER MANAGEMENT AND DRAINAGE AREA MAP DATE: MAY, 2021 BEI PROJECT NO. 2952

SHEET

3 of 7



Field Infiltration Results

The following table summarizes our infiltration test results:

Boring No.	Average Infiltration Rate (inches/hour)
B-1	1.14
B-2	1.81
B-5	1.57
B-6	0.52

The field infiltration results indicated that a minimum infiltration rate of 0.52 inches per hour was obtained at Test Boring Nos. B-1, B-2, B-5 and B-6.

It should be recognized that the rates obtained by field testing are different than the laboratory derived USDA infiltration rates. The difference may be due to variations in the overall subsurface profile not revealed by the test borings performed for this study. In our view however, the field results are more indicative of the actual conditions and should be

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.

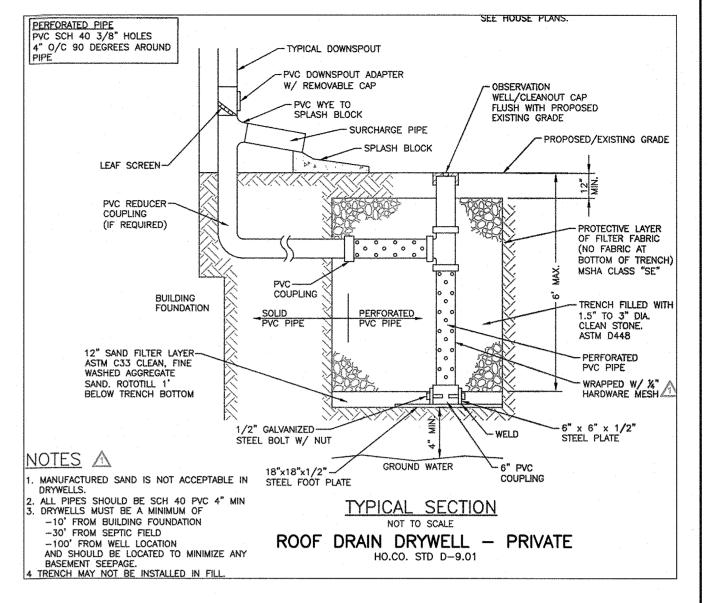
2. Water levels and sediment build up in the monitoring wells shall be recorded over a period of several days to insure trench drainage.

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 down within the 72 hour time period, corrective action shall be taken.

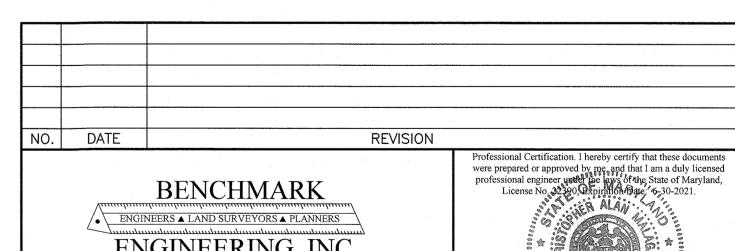
5. The maintenance log book shall be available to Howard County for inspection to insure compliance with operation and maintenance criteria.

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.

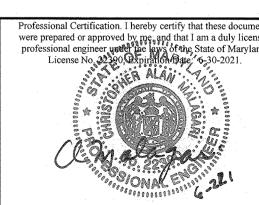


DRYWELL DIMENSION CHART											
Dry Well	Lot No.	Length (ft)	Width (ft)	Depth of	Grade	Top of	Bottom of	Bottom of	Comment		
Diy Well	LOUINO.	Length (1t)	widen (10)	Filter (Ft)	Elevation	Stone Elevation	Stone Elevation	Sand Elevation	Comment		
DW-1	LOT 1	12.00	8.00	5.00	365.65	364.65	360.65	359.65	(B-1)		
DW-2	LOT 5	10.00	5.00	5.00	359.00	357.00	353.00	352.00	(B-5)		
DW-3	LOT 5	10.00	5.00	5.00	359.00	357.00	353.00	352.00	(B-5)		
DW-4	LOT 6	10.00	5.00	5.00	359.10	357.10	353.10	352.10	(B-5)		
DW-5	LOT 6	10.00	5.00	5.00	359.10	357.10	353.10	352.10	(B-5)		
DW-6	LOT 7	12.00	8.00	5.00	362.70	360.70	356.70	355.70	(B-6)		
DW-7	LOT 7	12.00	8.00	5.00	360.55	358.55	354.55	353.55	(B-6)		
DW-8	LOT 8	12.00	8.00	5.00	359.00	357.00	353.00	352.00	(B-6)		
DW-9	LOT 8	12.00	8.00	5.00	358.50	356.50	352.50	351.50	(B-6)		

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DISCONNECTION OF ROOFTOP RUNOFF (N-1), DISCONNECTION OF NON-ROOFTOP RUNOFF (N-2) A. MAINTENANCE OF AREAS RECEIVING DISCONNECTED RUNOFF IS GENERALLY NO DIFFERENT THAN THAT REQUIRED FOR OTHER LAWN OR LANDSCAPED AREAS. THE OWNER SHALL ENSURE THE AREAS RECEIVING RUNOFF ARE PROTECTED FROM COMPACTION OR DEVELOPMENT OF IMPERVIOUS AREA. IN COMMERCIAL AREAS, FOOT TRAFFIC SHOULD BE DISCOURAGED AS WELL.



ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE▲ SUITE 315▲ ELLICOTT CITY, MARYLAND 21043 WWW.BEI-CIVILENGINEERING.COM



DEVELOPMENT PARTNERS, LLC 9693 GERWIG LANE SUITE L COLUMBIA, MARYLAND 21046 410-792-2565	HUNTINGTON POINT LOTS 1 thru 8			
DER: CORNERSTONE HOMES, LLC 9693 GERWIG LANE	9454 VOLLMERHAUSEN DR. COLUMBIA, MARYLAND 21046 TAX MAP: 42, GRID: 22, PARCEL: 167 ZONED: R—SC ELECTION DISTRICT NO. 6 — HOWARD COUNTY, MARYLAND			
SUITE L COLUMBIA, MARYLAND 21046 410-792-2565	STORMWATER MANAGEMEN			

ER MANAGEMENT ESD NOTES & DETAILS RELEVANT FILE NUMBERS: DATE: BEI PROJECT NO. 2952 MAY, 2021

AS SHOWN

ECP-19-042, S-19-008, WP-19-081, DMV2-20-006, P-20-004, F-20-061 DESIGN: MCR DRAFT: MCR SCALE:

DEVELOPMENT PARTNERS, LLC

OWNER:

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CHIEF, DEVELOPMENT ENGINEERING DIVISION

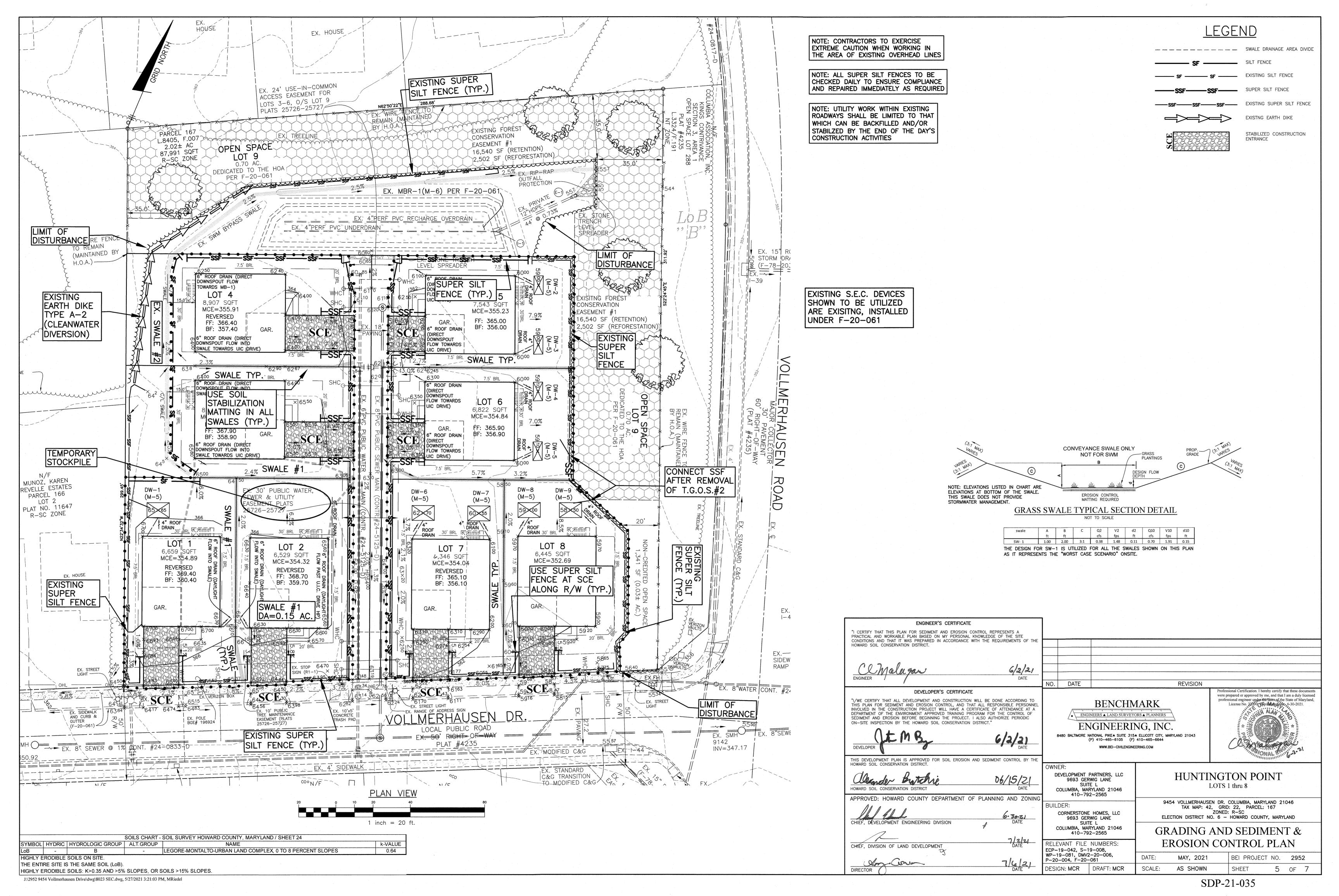
CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

6.30.21

SHEET

4 of 7



Conditions Where Practice Applies To the surface of all perimeter controls, slopes, and any disturbed area not under active grading. A. Seeding

Specifications

a. All seed must meet the requirements of the Maryland State Seed Law. All seed must be subject to re-testing by a recognized seed laboratory. All seed used must have been tested within the 6 months immediately preceding the date of sowing such material on any project. Refer to Table B.4 regarding the quality of seed. Seed tags must be available upon request to the inspector to verify type of seed and seeding rate. b. Mulch alone may be applied between the fall and spring seeding dates only if the ground is frozen. The appropriate seeding mixture must be applied when the ground thaws c. Inoculants: The inoculant for treating legume seed in the seed mixtures must be a pure

culture of nitrogen fixing bacteria prepared specifically for the species. Inoculants must not be used later than the date indicated on the container. Add fresh inoculants as directed on the package. Use four times the recommended rate when hydroseeding Note: It is very important to keep inoculant as cool as possible until used. Temperature above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less

d. Sod or seed must not be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phyto-toxic materials.

a. Dry Seeding: This includes use of conventional drop or broadcast spreaders. i. Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.1, Permanent Seeding Table B.3, or site-specific seeding summaries. ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seeded area with a weighted roller to provide good seed to soil contact.

b. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil i. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after

ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction c. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and

i. If fertilizer is being applied at the time of seeding, the application rates should not exceed the following: nitrogen, 100 pounds per acre total of soluble nitrogen; P2O5 (phosphorous), 200 pounds per acre; K2O (potassium), 200 pounds per acre.

ii. Lime: Use only ground agricultural limestone (up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.

iii. Mix seed and fertilizer on site and seed immediately and without interruption. iv. When hydroseeding do not incorporate seed into the soil.

B. Mulching Mulch Materials (in order of preference) a. Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably

bright in color. Straw is to be free of noxious weed seeds as specified in the Maryland Seed Law and not musty, moldy, caked, decayed, or excessively dusty Note: Use only sterile straw mulch in areas where one species of grass is desired b. Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into a uniform fibrous physical state. i. WCFM is to be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the

ii. WCFM, including dye, must contain no germination or growth inhibiting factors. iii. WCFM materials are to be manufactured and processed in such a

manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material must form a blotter-like ground cover, on application having moisture absorption and percolation properties and must cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings. iv. WCFM material must not contain elements or compounds a concentration levels that will be phyto-toxic. v. WCFM must conform to the following physical requirements: fiber length

of approximately 10 millimeters, diameter approximately 1 millimete

pH range of 4.0 to 8.5, ash content of 1.6 percent maximum and

water holding capacity of 90 percent minimum Application a. Apply mulch to all seeded areas immediately after seeding. b. When straw mulch is used, spread it over all seeded areas at the rate of 2 tons per acre to a uniform loose depth of 1 to 2 inches. Apply mulch to achieve a uniform distribution and depth so that the soil surface is not exposed. When using a mulch anchoring tool, increase the

c. Wood cellulose fiber used as mulch must be applied at a net dry weight of 1500 pounds per acre. Mix the wood cellulose fiber with water to attain a mixture with a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.

a. Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending i. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor

> mulch into the soil surface a minimum of 2 inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely If used on sloping land, this practice should follow the contour. ii. Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at a net dry weight of 750 pounds per acre. Mix the wood cellulose fiber with water at a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water. i Synthetic binders such as Acrylic DLR (Agro-Tack), DCA-70, Petroset, Terra Tax II Terra Tack AR or other approved equal may be used. Follow application rates as

> specified by the manufacturer. Application of liquid binders needs to be heavier at the edges where wind catches mulch, such as in valleys and on crests of banks. Use of asphalt binders is strictly prohibited. iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer recommendations. Netting is usually available in rolls 4 to 15 feet wide and 300 to

> > **B-4-8 STANDARDS AND SPECIFICATIONS**

STOCKPILE AREA A mound or pile of soil protected by appropriately designed erosion and sediment control measures To provide a designated location for the temporary storage of soil that controls the potential for erosion,

Conditions Where Practice Applies Stockpile areas are utilized when it is necessary to salvage and store soil for later use.

sedimentation, and changes to drainage patterns.

accordance with Section B-3 Land Grading.

1. The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan. 2. The footprint of the stockpile must be sized to accommodate the anticipated volume of material and based on a side slope ratio no steeper than 2:1. Benching must be provided in accordance with Section B-3 Land Grading.

3. Runoff from the stockpile area must drain to a suitable sediment control practice. Access the stockpile area from the upgrade side. 5. Clear water runoff into the stockpile area must be minimized by use of a diversion device such as an earth dike, temporary swale or diversion fence. Provisions must be made for discharging

concentrated flow in a non-erosive manner 6. Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment control practice must be used to intercept the discharge. 7. Stockpiles must be stabilized in accordance with the 3/7 day stabilization requirement as well as

Standard B-4-1 Incremental Stabilization and Standard B-4-4 Temporary Stabilization. 8. If the stockpile is located on an impervious surface, a liner should be provided below the stockpile to facilitate cleanup. Stockpiles containing contaminated material must be covered with impermeable sheeting. Maintenance

The stockpile area must continuously meet the requirements for Adequate Vegetative Establishment in

2.1 ratio. The stockpile area must be kept free of erosion. If the vertical height of a stockpile exceeds 20

feet for 2:1 slopes, 30 feet for 3:1 slopes, or 40 feet for 4:1 slopes, benching must be provided in

accordance with Section B-4 Vegetative Stabilization. Side slopes must be maintained at no steeper than a

Permanent Seeding Summary

	Hardiness Zone (from Fig Seed Misture (from Tabl		6b Tall Fescue/Kentucky 8			Fertilizer Rate (10-20-20)		Lime Rate
No.	Species	Application Rate (lb/ac.)	Seeding Dates	Seeding Depths	N	P2O5	K2O	
	Fescue, Tall	60	Mar 1 to May 15 Aug 1 to Oct 15	1/4 - 1/2 in	45 pounds			
9	Bluegrass, Kentucky 40		Mar 1 to May 15 Aug 1 to Oct 15	1/4 - 1/2 in	per acre (1.0 lb/	901b/ac (21b/	90 lb/ac 2 lb/	2 tons/ac (90lb/
				1/4 - 1/2 in	100 sf)	1000 sf)	1000 sf)	1000 sf)

Table B.1: Temporary Seeding for Site Stabilization

Di- v C	Seeding Rate 1/		Seeding Depth 2/	Recommended Seeding Dates by Plant Hardiness Zone 3/				
Plant Species	lb/ac	lb/ac lb/1000 ft2		5b and 6a	6b	7a and 7b		
Cool-Season Grasses						·		
Annual Ryegrass (Lolium perenne ssp. Multiflorum	40	1.0	0.5	Mar 15 to May 31; Aug 1 to Sep 30	Mar 1 to May 15; Aug 1 to Oct 31	Feb 15 to Apr 30; Aug 15 to Nov 30		
Barley (Hordeum vulgare)	96	2.2	1.0	Mar 15 to May 31; Aug 1 to Sep 30	Mar 1 to May 15; Aug 1 to Oct 31	Feb 15 to Apr 30; Aug 15 to Nov 30		
Oats (Avena sativa)	72	1.7	1.0	Mar 15 to May 31; Aug 1 to Sep 30	Mar 1 to May 15; Aug 1 to Oct 31	Feb 15 to Apr 30; Aug 15 to Nov 30		
Wheat (Triticum aestivum)	120	2.8	1.0	Mar 15 to May 31; Aug 1 to Sep 30	Mar 1 to May 15; Aug 1 to Oct 31	Feb 15 to Apr 30; Aug 15 to Nov 30		
Cereal Rye (Secale cereale)	112	2.8	1.0	Mar 15 to May 31; Aug 1 to Oct 31	Mar 1 to May 15; Aug 1 to Nov 15	Feb 15 to Apr 30; Aug 15 to Dec 15		
Warm-Season Grasses								
Foxtail Millet (Serataria italica)	30	0.7	0.5	Jun 1 to Jul 31	May 16 to Jul 31	May 1 to Aug 14		
Pearl Millet (Pennisetum glaucum	20	0.5	0.5	Jun 1 to Jul 31	May 16 to Jul 31	May 1 to Aug 14		

Seeding rates for the warm season grasses are in pounds of Pure Live Seed (PLS). Actual planting rates shall be adjusted to reflect percent seed germination and purity, as

eeding rates listed above are for temporary seedings, when planted alone. When planted as a nurse crop with permanent seed mixes, use 1/3 of the seeding rate listed above for barley, oats, and wheat. For smaller-seeded grasses (annual ryegrass, pearl millet, foxtail millet), do not exceed more than 5% (by weight) of the overall permanent seeding mix. Cereal rye generally should not be used as a nurse crop, unless planting will occur very late fall beyond the seeding dates for other temporary seeding Cereal rye has allelopathic properties that inhibit the germination and growth of other plants. If it must be used as a nurse crop, seed at 1/3 of the rate listed above

Oats are the recommended nurse crop for warm-season grasses.

For sandy soils, plant seeds at twice the depth listed above. d are averages for each Zone and may require adjustment to reflect local conditions, especially near the boundaries of the zone

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B-4-4 STANDARDS AND SPECIFICATIONS

TEMPORARY STABLIZATION To stabilize disturbed soils with vegetation for up to 6 months

Purpose To use fast growing vegetation that provides cover on disturbed soils Conditions Where Practice Applies Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time

permanent stabilization practices are required. <u>Criteria</u>

1. Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardiness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below along with application rates, seeding dates and seeding depths. If this Summary is not put on the plan and completed, then Table B.1 plus fertilizer and lime rates must be put on the plan.

2. For sites having soil tests performed, use and show the recommended rates by the testing agency Soil tests are not required for Temporary Seeding. 3. When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section B-4-3.A.1.b and maintain until the next seeding season.

B-4-5 STANDARDS AND SPECIFICATIONS

PERMANENT STABILIZATION

To stabilize disturbed soils with permanent vegetation. Purpose To use long-lived perennial grasses and legumes to establish permanent ground cover on disturbed soils. Conditions Where Practice Applies

Criteria

Exposed soils where ground cover is needed for 6 months or more.

 A. Seed Mixtures 1. General Use Zone (from Figure B.3) and based on the site condition or purpose found on Table B.2. Enter

a Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardiness selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.

b Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or

for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guild, Section 342 - Critical Area Planting. c For sites having disturbed areas over 5 acres, use and show the rates recommended by the soil testing agency. d For areas receiving low maintenance, apply urea form fertilizer (46-0-0) at 3 ½ pounds per 1000

square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary 2. Turfgrass Mixtures

a. Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance. b. Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary.

The summary is to be placed on the plan. i. Kentucky Bluegrass: Full sun Mixture: For use in areas that receive intensive management. Irrigation required in the areas of central Maryland and Eastern Shore, Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky Bluegrass Cultivars with each ranging from 10 to 35 percent of the total

ii. Kentucky Bluegrass/Perennial Rye: Full Sun Mixture: For use in full sun areas where rapid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass Cultivars/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky Bluegrass Cultivars with each ranging from 10 to 35 percent of the total mixture by weight.

iii. Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium management in full sun to medium shade. Recommended mixture includes; Certified Tall Fescue Cultivars 95 to 100 percent. Certified Kentucky Bluegrass Cultivars 0 to 5 percent. Seeding Rate: 5 to 8 pounds per 1000 square feet. One or more cultivars may be blended. iv. Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use in areas with shade in Bluegrass lawns. For establishment in high quality, intensively managed turf area. Mixture includes Certified Kentucky

1 1/2 to 3 pounds per 1000 square feet. Notes: Select turfgrass varieties from those listed in the most current University of Maryland Publication, Agronomy Memo #77, "Turfgrass Cultivar Recommendations for Maryland" Choose certified material. Certified material is the best guarantee of cultivar purity. The certification program of the Maryland Department of Agriculture, Turf and Seed Section, provides a reliable means of consumer protection and assures a pure genetic line.

Bluegrass Cultivars 30 to 40 percent and Certified Fine Fescue and 60 to 70 percent. Seeding Rate

c. Ideal Times of Seeding for Turf Grass Mixtures Western MD: March 15 to June 1, August 1 to October 1 (Hardiness Zones: 5b. 6a) Central MD:March 1 to May 15, August 15 to October 15 (Hardiness Zone: 6b) Southern MD, Eastern Shore: March 1 to May 15, August 15 to October 15 (Hardiness Zones: 7a, 7b)

d. Till areas to receive seed by disking or other approved methods to a depth of 2 to 4 inches, level and rake the areas to prepare a proper seedbed. Remove stones and debris over 1 ½ inches in diameter. The resulting seedbed must be in such condition that future mowing of grasses will pose e. If soil moisture is deficient, supply new seedings with adequate water for plant growth (1/2 to 1 inch every 3 to 4 days depending on soil texture) until they are firmly established. This is not especially

true when seedings are made late in the planting season, in abnormally dry or hot seasons, or on

adverse sites. B. Sod: to provide guick cover on disturbed areas (2:1 grade or flatter) General Specifications

a. Class of turfgrass must be Maryland State Certified. Sod labels must be made available to the job foreman and inspector. b. Sod must be machine cut at a uniform soil thickness of ¾ inch, plus or minus ¼ inch, at the time of cutting. Measurement for thickness must exclude top growth and thatch. Broken pads and tom or uneven ends will not be acceptable.

c. Standard size sections of sod must be strong enough to support their own weight and retain their size and shape when suspended vertically with a firm grasp on the upper 10 percent of the section. d. Sod must not be harvested or transplanted when moisture content (excessively dry or wet) may

within this period must be approved by an agronomist or soil scientist prior to its installation. 2 Sod Installation a. During periods of subsoil immediately prior to laying the soc b. Lay the first row of sod in a straight line with subsequent rows placed parallel to it and tightly

e. Sod must be harvested, delivered, and installed within a period of 36 hours. Sod not transplanted

wedged against each other. Stagger lateral joints to promote more uniform growth and strength Ensure that sod is not stretched or overlapped and that all joints are butted tight in order to prevent voids which would cause air drying of the roots. c. Wherever possible, lay sod with the long edges parallel to the contour and with staggering joints. Roll and tamp, peg or otherwise secure the sod to prevent slippage on slopes. Ensure solid contact exists between sod roots and the underlying soil surface.

d. Water the sod immediately following rolling and tamping until the underside of the new sod pad and soil surface below the sod are thoroughly wet. Complete the operations of laying, tamping and irrigating for any piece of sod within eight hours.

a. In the absence of adequate rainfall, water daily during the first week or as often and sufficiently as necessary to maintain moist soil to a depth of 4 inches. Water sod during the heat of the day to

b. After the first week, sod watering is required as necessary to maintain adequate moisture content. c. Do not mow until the sod is firmly rooted. No more than 1/3 of the grass leaf must be removed by the initial cutting or subsequent cuttings. Maintain a grass height of at least 3 inches unless

H-5 STANDARDS AND SPECIFICATIONS DUST CONTROL

<u>Definition</u>

Controlling the suspension of dust particles from construction activities.

To prevent blowing and movement of dust from exposed soil surfaces to reduce on and off-site damage including health and traffic hazards. Conditions Where Practice Applies

Areas subject to dust blowing and movement where on and off-site damage is likely without treatment

<u>Specifications</u>

<u>Mulches:</u> See Section B-4-2 Soil Preparation, Topsoiling, and Soil Amendments, Section B-4-3 Geeding and Mulching, and Section B-4-4 Temporary Stabilization. Mulch must be anchored to prevent blowing. Vegetative Cover: See Section B-4-4 Temporary Stabilization.

Tillage: Till to roughen surface and bring clods to the surface. Begin plowing on windward side of site. Chisel-type plows spaced about 12 inches apart, spring-toothed harrows, and similar plows are examples of equipment that may produce the desired effect. Irrigation: Sprinkle site with water until the surface is moist. Repeat as needed. The site mus

ot be irrigated to the point that runoff occurs. Barriers: Solid board fences, silt fences, snow fences, burlap fences, straw bales, and similar

aterial can be used to control air currents and soil blowing. Chemical Treatment: Use of chemical treatment requires approval by the appropriate plan

Using vegetation as cover to protect exposed soil from erosion To promote the establishment of vegetation on exposed soil.

B-4 STANDARDS AND SPECIFICATIONS

VEGETATIVE STABILIZATION

Conditions Where Practice Applie On all disturbed areas not stabilized by other methods. This specification is divided into sections on stabilization; soil preparation, soil amendments and topsoiling; seeding and mulching; temporary stabilization:

and permanent stabilization Effects on Water Quality and Quantity Stabilization practices are used to promote the establishment of vegetation on exposed soil. When soil is

stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, reducing sediment loads and runoff to downstream areas. Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and

runoff, infiltration, evaporation, transpiration, percolation, and groundwater recharge. Over time, vegetation increase organic matter content and improve the water holding capacity of the soil and subsequent plan Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances

within the root zone. Sediment control practices must remain in place during grading, seedbed preparation, seeding, mulching, and vegetative establishment.

Adequate Vegetative Establishment Inspect seeded areas for vegetative establishment and make necessary repairs, replacements, and reseedings within the

planting season. 1. Adequate vegetative stabilization requires 95 percent groundcover. 2. If an area has less than 40 percent groundcover, restabilize following the original recommendations for lime, fertilizer, seedbed preparation, and seeding. 3. If an area has between 40 and 94 percent groundcover, over-seed and fertilize using half of the rates

4. Maintenance fertilizer rates for permanent seeding are shown in Table B.6. B-4-1 STANDARDS AND SPECIFICATIONS

INCREMENTAL STABILIZATION Establishment of vegetative cover on cut and fill slopes. To provide timely vegetative cover on cut and fill slopes as work progresses. Conditions Where Practice Applies Any cut or fill slope greater than 15 feet in height. This practice also applies to stockpiles.

2 Construction sequence example (Refer to Figure B.1):

originally specified

A. Incremental Stabilization - Cut Slopes 1. Excavate and stabilize cut slopes in increments not to exceed 15 feet in height. Prepare seedbed and apply seed and mulch on all cut slopes as the work progresses.

a. Construct and stabilize all temporary swales or dikes that will be used to convey runoff around the excavation. b. Perform Phase 1 excavation, prepare seedbed, and stabilize. c. Perform Phase 2 excavation, prepare seedbed, and stabilize. Overseed Phase 1 areas as

d. Perform final phase excavation, prepare seedbed, and stabilize. Overseed previously seeded areas as necessary. Note: Once excavation has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

B. Incremental Stabilization - Fill Slopes 1. Construct and stabilize fill slopes in increments not to exceed 15 feet in height. Prepare seedbed and apply seed and mulch on all slopes as the work progresses. 2. Stabilize slopes immediately when the vertical height of a lift reaches 15 feet, or when the grading

operation ceases as prescribed in the plans. 3. At the end of each day, install temporary water conveyance practice(s), as necessary, to intercept surface runoff and convey it down the slope in a non-erosive manner. 4. Construction sequence example (Refer to Figure B.2): a. Construct and stabilize all temporary swales or dikes that will be used to divert runoff around

the fill. Construct silt fence on low side of fill unless other methods shown on the plans address this area. b. At the end of each day, install temporary water conveyance practice(s), as necessary, to intercept surface runoff and convey it down the slope in a non-erosive manner. c. Place Phase 1 fill, prepare seedbed, and stabilize.

e. Place final phase fill, prepare seedbed, and stabilize. Overseed previously seeded areas as Note: Once the placement of fill has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

B-4-2 STANDARDS AND SPECIFICATIONS SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS The process of preparing the soils to sustain adequate vegetative stabilization

To provide a suitable soil medium for vegetative growth Conditions Where Practice Applies Where vegetative stabilization is to be established

d. Place Phase 2 fill, prepare seedbed, and stabilize.

 A. Soil Preparation Temporary Stabilization a. Seedbed preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened, it must not be rolled or dragged smooth but left in the roughened condition. Slopes 3:1 or flatter are to be tracked with ridges running parallel to the contour of the slope.

Criteria

 Apply fertilizer and lime as prescribed on the plans. Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other

Permanent Stabilization a. A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are: i. Soil pH between 6.0 and 7.0. ii. Soluble salts less than 500 parts per million (ppm). iii. Soil contains less than 40 percent clay but enough fine grained material (greater than

30 percent silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception: if lovegrass will be planted, then a sandy soil (less than 30 percent silt nlus clay) would be acceptable iv. Soil contains 1.5 percent minimum organic matter by weight. v. Soil contains sufficient pore space to permit adequate root penetration. Application of amendments or topsoil is required if on-site soils do not meet the above

c. Graded areas must be maintained in a true and even grade as specified on the approved plan, then scarified or otherwise loosened to a depth of 3 to 5 inches. d. Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test.

e. Mix soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Rake lawn areas to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface where site conditions will not permit normal seedbed preparation. Track slopes 3:1 or flatter with tracked equipment leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. Leave the top 1 to 3 inches of soil loose and friable. Seedbed loosening may be unnecessary on newly disturbed areas.

Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is to provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil

Topsoil salvaged from an existing site may be used provided it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by

Topsoiling is limited to areas having 2:1 or flatter slopes where: The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth. b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients. The original soil to be vegetated contains material toxic to plant growth

The soil is so acidic that treatment with limestone is not feasible. Areas having slopes steeper than 2:1 require special consideration and design. Topsoil Specifications: Soil to be used as topsoil must meet the following criteria: Topsoil must be a loam, sandy loam, clay loam, silt loam, sandy clay loam, or loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Topsoil must not be a mixture of contrasting textured subsoils and must contain less than 5 percent by volume of cinders,

stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1½ inches in diameter. b. Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nut sedge, poison ivy, thistle, or others as specified. Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of

natural topsoil. Topsoil Application Erosion and sediment control practices must be maintained when applying topsoil. Uniformly distribute topsoil in a 5 to 8 inch layer and lightly compact to a minimum thickness of 4 inches. Spreading is to be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations must be

corrected in order to prevent the formation of depressions or water pockets. c. Topsoil must not be placed if the topsoil or subsoil is in a frozen or muddy condition when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation. C. Soil Amendments (Fertilizer and Lime Specifications) Soil tests must be performed to determine the exact ratios and application rates for both lime

and fertilizer on sites having disturbed areas of 5 acres or more. Soil analysis may be performed by a recognized private or commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses. 2. Fertilizers must be uniform in composition, free flowing and suitable for accurate application by appropriate equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers must all be delivered to the site fully labeled according to the applicable laws and must bear the name, trade name or trademark and

Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydroseeding) which contains at least 50 percent total oxides (calcium oxide plus magnesium oxide). Limestone must be ground to such fineness that at least 50 percent will pass through a #100 mesh sieve and 98 to 100 percent will pass through a #20 mesh sieve. Lime and fertilizer are to be evenly distributed and incorporated into the top 3 to 5 inches of

Where the subsoil is either highly acidic or composed of heavy clays, spread ground limestone at the rate of 4 to 8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of

HOWARD SOIL CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL NOTES

1. 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 be given at the following stages

a. Prior to the start of earth disturbance, b. Upon completion of the installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. c. Prior to the start of another phase of construction or opening of another grading d. Prior to the removal or modification of sediment control practices.

2. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the <u>2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL</u>, and revisions thereto.

3. Following initial soil disturbance or re-disturbance, permanent or temporary stabilization is required within three (3) calendar days as to the surface of all perimeter controls, dikes, 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.

4. 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 matting (Sec. B-4-6).

5. All sediment control structures are to remain in place, and are to be maintained i operative condition until permission for their removal has been obtained from the CID

1.32 Acres Total Area of Site: _____1.16___ Acres Area Disturbed: _____0.40___ Acres Area to be vegetatively stabilized: ___390__ Cu Yds ____ Cu Yds Off-site waste/borrow area location:

* IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO IDENTIFY THE SPOIL/BORROW SITE ID NOTIFY AND GAIN APPROVAL FROM THE SEDIMENT CONTROL INSPECTOR OF SITE AND ITS GRADING PERMIT NUMBER AT THE TIME OF CONSTRUCTION. (EARTHWORK QUANTITIES ARE APPROXIMATE AND ARE FOR SEDIMENT & FROSION ONTROL PURPOSES ONLY, CONTRACTOR SHALL COMPUTE THEIR OWN EARTHWORK QUANTITIES TO THEIR SATISFACTION)

7. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance

8. 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 type (routine, pre-storm event, during rain event) Name and title of inspector

• Maintenance and/or corrective action performed

 Weather information (current conditions as well as time and an=mount of last recorded • Brief description of project's status (e.g. percent complete) and/or current activities • Evidence of sediment discharges • Identification of plan deficiencie

• 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

• Other inspection items as required by the General Permit for Stormwater Associated with Construction Activities (NPDES, MDE). 9. 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

10. 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.

11. 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.

treated in a sediment basin or other approved washout structure. 13. Topsoil shall be stockpiled and preserved on-site for redistribution onto final grade 14. 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 15. Stream channels must not be disturbed during the following restricted time periods

• Use I and IP March 1 - June 15 • Use III and IIIP October 1 - April 30 • Use IV March 1 - May 3

16. A copy of this plan, the <u>2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL</u>, and associated permits shall be on-site and available

SEQUENCE OF CONSTRUCTION

NOTIFY SEDIMENT CONTROL DIVISION 48 HOURS PRIOR TO START OF WORK

1. Obtain building permit. (day 1)

2. Hold on-site preconstruction meeting. (day 2)

3. Install site perimeter controls; including SSF along the existing UIC Drive, SSF along Lot 4 & Lot 5 perimeter of Open Space Lot 9, SF along upstream side of existing bypass swale. (day 3)

4. Install individual lot perimeter controls; including tying SSF into existing SSF along Vollmerhausen Drive for Lots 1, 2, 7, & 8. Install individual Lot SCE as required. (day 4)

5. Excavate for foundation, rough grade and stabilize in accordance with the temporary seedbed notes. (day 5-10)

6. Construct house, install water and sewer house connections from easement/right-of-way up to house, backfill and construct driveway. (day 11-90)

7. Construct on-lot ESD SWM Drywells. Connect roof leader underdrains to the Drywells (day 91-95)

8. Final grade lot and upon approval from the Howard County

Sediment Control Inspector, remove all sediment control

notes. Install MB #1 plantings. (day 96-100)

devices stabilize in accordance with the PERMANENT seedbed

NO. DEVELOPER'S CERTIFICATE I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNE INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT." THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE 06/15/2 APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING 6.30.21 , DEVELOPMENT ENGINEERING DIVISION

ENGINEER'S CERTIFICATE

CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF TH

I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A

HOWARD SOIL CONSERVATION DISTRICT

PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE

a - DIKE HEIGHT 18 IN MIN. 30 IN MIN. A A A A A A A A b - DIKE WIDTH 24 IN MIN. 36 IN MIN. c - FLOW WIDTH 4 FT MIN. 6 FT MIN. d - FLOW DEPTH 12 IN MIN. 24 IN MIN. PLAN VIEW FLOW CHANNEL STABILIZATION SEED WITH STRAW MULCH AND TACK. (NOT ALLOWED FOR CLEAR PLAN VIEW A-2/B-2 SEED WITH SOIL STABILIZATION MATTING OR LINE WITH SOD. 4 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE PRESSED INTO SOIL A MINIMUM OF 7 INCHES AND FLUSH WITH GROUND. CONSTRUCTION SPECIFICATIONS REMOVE AND DISPOSE OF ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SO AS NOT TO INTERFERE WITH PROPER FUNCTION OF EARTHDIKE. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*30 FEE FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS. EXCAVATE OR SHAPE EARTH DIKE TO LINE, GRADE, AND CROSS SECTION AS SPECIFIED. BANK PROJECTIONS OR OTHER IRREGULARITIES ARE NOT ALLOWED. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTAB BERM WITH 5: I SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE NOT LOCATED AT A HIGH SPOT. COMPACT FILL. CONSTRUCT FLOW CHANNEL ON AN UNINTERRUPTED, CONTINUOUS GRADE, ADJUSTING THE LOCATION DUE TO FIELD CONDITIONS AS NECESSARY TO MAINTAIN POSITIVE DRAINAGE. PROVIDE OUTLET PROTECTION AS REQUIRED ON APPROVED PLAN. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIA STABILIZE EARTH DIKE WITHIN THREE DAYS OF INSTALLATION. STABILIZE FLOW CHANNEL FOR CLEAR WATER DIVERSION WITHIN 24 HOURS OF INSTALLATION. UPON REMOVAL OF EARTH DIKE, GRADE AREA FLUSH WITH EXISTING GROUND. WITHIN 24 HOURS OF REMOVAL STABILIZE DISTURBED AREA WITH TOPSOIL, SEED, AND MULCH, OR AS SPECIFIED ON APPROVED PLAN. MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTRO 2011 2011 SILT FENCE SILT FENCE DETAIL E-1 DETAIL E-1 -----SF-----CENTER TO CENTER 36 IN MIN. FENCE POST LENGTH DRIVEN MIN. 16 IN INTO GROUND CONSTRUCTION SPECIFICATIONS USE WOOD POSTS 1 $\frac{\pi}{4}$ X 1 $\frac{\pi}{4}$ \pm $\frac{\pi}{6}$ inch (Minimum) square cut of sound quality hardwood. As an alternative to wooden post use standard "t" or "u" sectic steel posts weighing not less than 1 pound per linear foot. USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEFT APART "16 IN MIN. HEIGHT OF WOVEN SLIT FILM GEOTEXTILE ELEVATION EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AT COMPACT THE SOIL ON BOTH SIDES OF FABRIC. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST ACCORDANCE WITH THIS DETAIL. __UNDISTURBE EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOF AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE. CROSS SECTION JOINING TWO ADJACENT SILT FENCE SECTIONS (TOP VIEW) MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL FROSION AND SEDIMENT CONTROL U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE 2011 PERMANENT SOIL STABILIZATION
MATTING CHANNEL APPLICATION DETAIL B-4-6-C SUPER SILT FENCE DETAIL E-3 10 FT MAX. ISOMETRIC VIEW CONSTRUCTION SPECIFICATIONS: USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS. CHAIN LINK FENCING-WOVEN SLIT FILM GEOTEXTILE-FLOW ___ EMBED GEOTEXTILE AND -CHAIN LINK FENCE 8 IN MIN, INTO GROUND SECURE MATTING USING STEEL STAPLES OR WOOD STAKES. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE TO 170 1/2 INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST AVERAGE MINIMUM 8 INCH MAI LEG, A MINIMUM 1 INCH SECONDARY LEG, AND MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 NICHES IN LEGITI, 1/3 INCH IN CROSS SECTION, AND WEDGE SHAPE AT THE BOTTOM. CROSS SECTION CONSTRUCTION SPECIFICATIONS INSTALL 2% INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTER LINE. WOR FROM CENTER OF CHANNEL CUTWARD WHEN PLACING ROLLS. LAY MATTING SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING. FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2% INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS. OVERLAP OR ABUT EDGES OF MATTING ROLLS PER MANUFACTURER RECOMMENDATIONS, OVERLAP ROLL ENDS BY (INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE NEXT DOWNSTREAM MAT. MBHE MOP OF SLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS. EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE. STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.

EARTH DIKE

DIKE TYPE

CROSS SECTION

DETAIL C-1

CONTINUOUS GRADE 0.5% MIN. TO 10% MAX. SLOPE

2:1 SLOPE OR FLATTER-

DATE **REVISION** BENCHMARK ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKEA SUITE 315A ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644 WWW.BEI-CIVILENGINEERING.COM

P-20-004, F-20-061

DRAFT: MCR

DESIGN: MCR

PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTRO

rofessional Certification. I hereby certify that these document 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. 22330, Contration Page 6-30-2021. ER ALANI.

HUNTINGTON POINT DEVELOPMENT PARTNERS, LLC 9693 GERWIG LANE LOTS 1 thru 8 COLUMBIA, MARYLAND 21046 410-792-2565 9454 VOLLMERHAUSEN DR. COLUMBIA, MARYLAND 21046

BUILDER: ZONED: R-SC CORNERSTONE HOMES, LLC 9693 GERWIG LANE SUITE L COLUMBIA, MARYLAND 21046 410-792-2565 RELEVANT FILE NUMBERS: ECP-19-042, S-19-008, WP-19-081, DMV2-20-006,

SDP-21-035

SHEET

6 of 7

BEI PROJECT NO. 2952 MAY, 2021

IF SPECIFIED BY THE DESIGNER OR MANUFACTURER AND DEPENDING ON THE TYPE OF MAT BEING INSTALLED, ONCE THE MATTING IS KEYED AND STAPLED IN PLACE, FILL THE MAT VOIDS WITH TOP SOIL OR GRANULAR MATERIAL AND LIGHT COMPACT OR ROLL TO MAXIMEZ SOIL/MAT CONTACT WITHOUT CRUSHING MATERIAL AND LIGHT ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE

NONWOVEN GEOTEXTILE ---

MIN. 6 IN OF 2 TO 3 IN AGGREGATE OVER LENGTH AND WIDTH OF ENTRANCE

PROFILE

- EXISTING PAVEMENT

-PIPE (SEE NOTE 6)

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

U.S. DEPARTMENT OF ENVIRONMEN
WATER MANAGEMENT ADMINISTRATION

TAX MAP: 42, GRID: 22, PARCEL: 167 ELECTION DISTRICT NO. 6 - HOWARD COUNTY, MARYLAND

SEDIMENT & EROSION CONTROL NOTES AND DETAILS DATE:

SCALE: AS SHOWN

