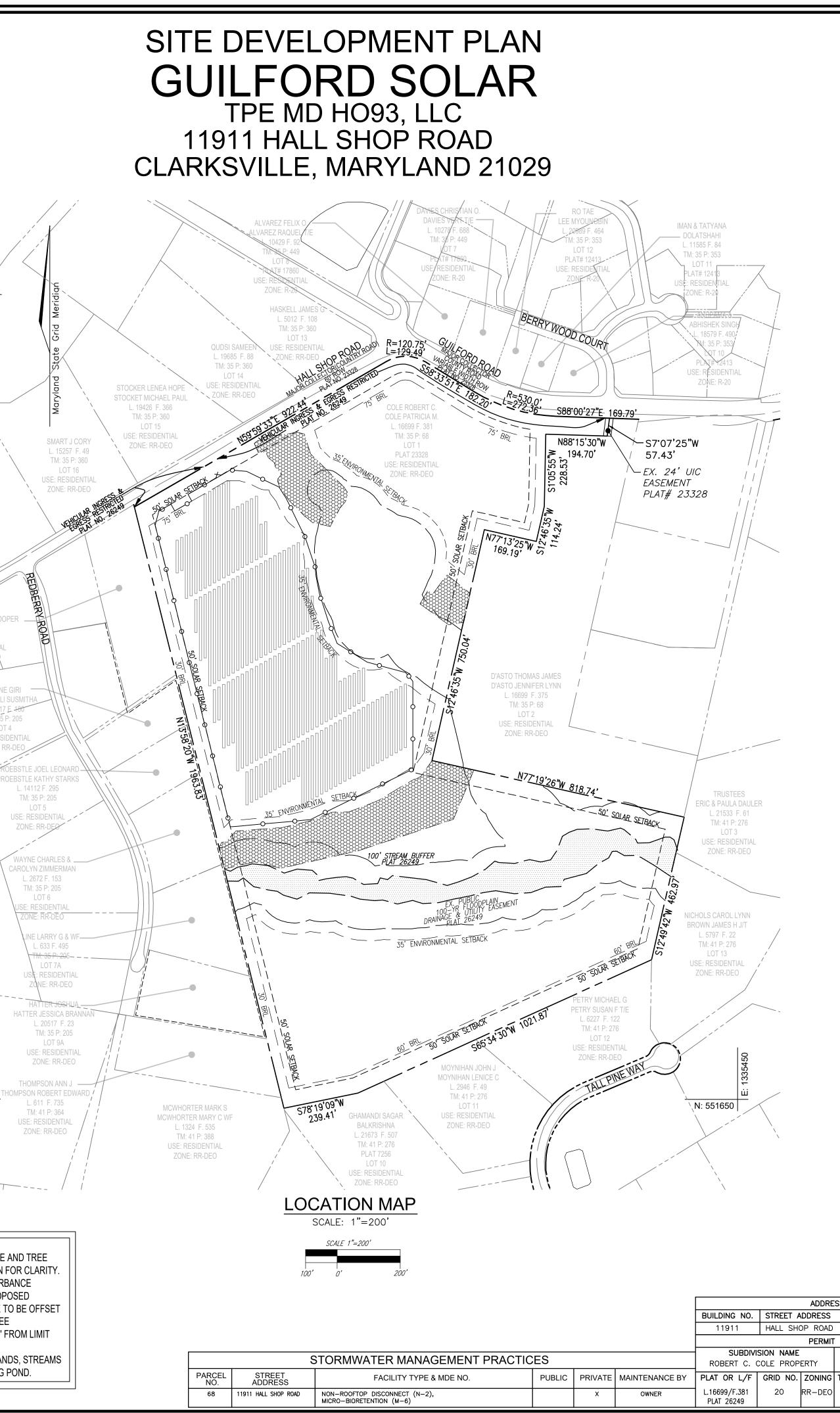
GENERAL NO	DTES			
SPECIFICATIONS.	ALL WORK AND MATERIALS SHALL COMPL	Y WITH O.S.H.A. STANDARDS.	ONS OF HOWARD COUNTY STANDARDS AND	
 THE CONTRACTOR AT&T 	R SHALL NOTIFY "MISS UTILITY" AT 1-800 R IS TO NOTIFY THE FOLLOWING UTILITIES	OR AGENCIES AT LEAST FIVE DAYS 1 1-800-252-1133		
BGE (E BUREAL	ONSTRUCTION SERVICES) MERGENCY) I OF UTILITIES	410-637-8713 410-685-0123 410-313-4900		
MISS U STATE I	HIGHWAY ADMINISTRATION	410-795-1390 1-800-257-7777 410-531-5533		
VERIZON 4. PROJECT BACKGF LOCATION : C		1-800-743-0033 D, PARCEL 68		
SECTION/AREA	ROBERT C. COLE PROPERTY – LOT 1 (. : N/A CES : L.16699/F.381, F–14–024, BA–2	,	249	
 5. THE CONTRACTOR (410) 313–1880 	R SHALL NOTIFY THE DEPARTMENT OF PU AT LEAST FIVE (5) WORKING DAYS PRIC	BLIC WORKS/BUREAU OF ENGINEERIN R TO START OF WORK.	G/CONSTRUCTION INSPECTION DIVISION AT	
7. THE SUBJECT PF SUBDIVISION AND	PUBLIC RIGHT-OF-WAY, PAVING, OR EXI ROPERTY IS ZONED "RR-DEO" IN ACCORE LAND DEVELOPMENT REGULATIONS EFFE	ANCE WITH THE 10/6/13 ZONING RECTIVE 10/2/03 PER COUNCIL BILL 7	EGULATIONS, AND IS SUBJECT TO THE 5–2003.	
FEBRUARY, 2021 9. THE EXISTING TO		I A TOPOGRAPHIC SURVEY PREPARED	BY VOGEL ENGINEERING+TIMMONS GROUP,	
10. THE COORDINATE STATE PLANE CO	······································	E HOWARD COUNTY GEODETIC CONTRO IUMENT NOS. 35GG AND 35GF WERE		· /
PRACTICES IN AC	CORDANCE WITH ENVIRONMENTAL SITE DE	SIGN CRITERIA. NON-STRUCTURAL PR		/NED AND N: 554200
12. EXISTING UTILITIE ARE SHOWN FOR		ACTOR SHALL LOCATE EXISTING UTILI	NGS. APPROXIMATE LOCATION OF EXISTING UT TIES WELL IN ADVANCE OF CONSTRUCTION AC N UNINTERRUPTED SERVICE	
13. ANY DAMAGE TO 14. EXISTING STRUCT	THE COUNTY'S RIGHTS-OF-WAY, PAVING	OR EXISTING UTILITIES SHALL BE CO NO NEW BUILDINGS, EXTENSIONS OR	ADDITIONS TO THE CONTRACTOR'S EXPENSE.	TIVITIES 0262 TO BE E
15. DRIVEWAYS SHAL VEHICLES PER T		A USE AND OCCUPANCY PERMIT TO I	ENSURE SAFE ACCESS FOR FIRE AND EMERGE	ЕМСҮ ЦІ́
B) S C) G	URFACE – 6" OF COMPACTED CRUSHER EOMETRY – MAXIMUM 15% GRADE, MAXIN	RUN BASE W/TAR AND CHIP COATING IUM 10% GRADE CHANGE, AND MINIM	UM 45 FOOT TURNING RADIUS	
E) D	DRIVEWAY SURFACE	Y PASSING 100 YEAR FLOOD EVENTS	WITH NO MORE THAN 1 FOOT DEPTH OVER	
16. ALL DRIVEŴAY EI 17. HALL SHOP ROAI		Y STANDARD DETAIL NO. R-6.06.	PERMITTED ONLY FOR THE PROPOSED COMM	IERCIAL
STREAM(S) OR T	MOVAL OF VEGETATIVE COVER OR TREES, HEIR REQUIRED BUFFERS, FOREST CONSE	RVATION EASEMENT AREAS, 100 YEAR		
20. WATER FOR THIS 21. SEWER FOR THIS	IS NOT WITHIN THE METROPOLITAN DISTR PROJECT IS PRIVATE PROJECT IS PRIVATE. THE HEALTH DEPA	RTMENT HAS NOT APPROVED THIS PF		`\
CEMETERY SITE 1 23. WETLANDS, STRE	MAP. AMS, FOREST AND THEIR BUFFERS SHOW	N ON-SITE WERE ONLY DELINEATED N	LOCATED ON THIS PROPERTY OR THE COUN	BASED ON
AND THEIR BUFF 24. THIS PLAN COMF	ERS ARE OUTSIDE OF THE LIMIT OF DIST PLIES WITH THE REQUIREMENTS OF SECTION	URBANCE AND PROJECT AREA AND SI ON 16.1200 OF THE HOWARD COUNT	CODE FOR FOREST CONSERVATION AND THE	FOREST
BY THE ON-SITE	RETENTION OF 3.82 ACRES OF EXISTING	FOREST ON LOT 1 OUTSIDE OF THE	CRES OF AFFORESTATION, WHICH SHALL BE S PROJECT AREA.	
1) THE	RETENTION OF 3.82 ACRES (3.82 / 2 =		PLAT NO. 26249.	
	IS NOT REQUIRED.	IEERING + TIMMONS GROUP, INC. DA	TED DECEMBER 20, 2021 FOR SUBSURFACE	EXPLORATION
28. THE PRE-SUBMI 29. THE ENVIRONMEN	SSION COMMUNITY MEETING WAS HELD FO ITAL CONCEPT PLAN (ECP-22-019) WAS	APPROVED PER LETTER DATED NOVE	0 VIA THE ZOOM VIDEO CONFERENCING PLAT MBER 23, 2021. INTY CODE AND THE LANDSCAPE MANUAL.	FORM.
A FINANCIAL SUF —PERIMETER PI	RETY IN THE AMOUNT OF \$24,750 SHALL	BE POSTED AS PART OF THE DEVEL R THE REQUIRED 18 SHADE TREES, A		REEN TREES. STEPHANIE ANNE COOPE
32. A 100-YR FLOO 33. STEEP SLOPES A	DPLAIN IS LOCATED ON-SITE BUT NOT W RE NOT LOCATED ON-SITE OR WITHIN TH S SUBJECT TO ZONING AND LAND USE B	ITHIN THE PROJECT AREA. IE PROJECT AREA.		TM: 35 P: 152 USE: RESIDENTIAL
LAND USE BOAR	O OF APPEALS GRANTED THE PETITION O PETITION IS GRANTED PROVIDED THAT T	F TPE MD H093, LLC PROVIDED THAT	THE PETITIONER MEET CERTAIN	ZONE: RR-DEQ
AND AS SHO			ICE WITH AND SHALL ONLY TO THE PETITION ARCH 2020, AND NOT TO ANY OTHER ACTIVIT	
B. PETITIONER C. THE SITE DE	SHALL COMPLY WITH ALL CONDITIONAL US EVELOPMENT PLAN, OR ITS EQUIVALENT, S SHALL COMPLY WITH ALL FEDERAL, STATE	HALL INCLUDE A NOTE CONTAINING A		L. 20117 E TM: 35 P: 2
F. ANY COMME DATE THAT	RCIAL SOLAR FACILITY THAT IS NO LONGE THE USE CEASES.	R USED SHALL BE REMOVED BY THE	APPLICABLE LOCAL, STATE, AND FEDERAL LA PROPERTY OWNER FROM THE SITE WITHIN O	NE YEAR OF THE USE: RESIDE
REQUIRED IN OWNERSHIP	I THE LANDSCAPING PLAN. THE RESPONS INTEREST IN THE COMMERCIAL SOLAR FA	IBILITY FOR COMPLIANCE WITH THIS P CILITY.	S, INCLUDING THE CARE OR REPLACEMENT O ROVISION SHALL BE WITH ALL PARTIES HAVIN	G A LEASE OR
MAP OF THE THE SOLAR	SOLAR FACILITY NOTING THE RESCUE S COLLECTORS AND THE PANEL DISCONNED	ERVICES. THE REGISTRATION SHALL IN T.	AND RESCUE SERVICES. THE REGISTRATION CLUDE A MAP OF THE SOLAR FACILITY NOTIN	G THE LOCATION OF PROEI
J. ALL REQUIRI	ED LANDSCAPING SHALL BE PROVIDED WI	THIN 6 MONTHS OF INSTALLATION OF	E WITH SECTION 16.1026 OF THE HOWARD (THE SOLAR PANELS.	
36. ALL GATES SHAL VEHICLE TRAVEL.		FROM AN INTERSECTION AND SHALL	OPEN IN THE DIRECTION OF EMERGENCY	
38. AN ELECTRICAL I 39. PANEL LISTINGS	AND FLAME SPREAD RATINGS SHALL BE	INFORMATION FOR SITE REPRESENTAT LISTED AT THE ENTRANCE.	IVES SHALL BE LOCATED AT THE ENTRANCE.	
41. UPON DECOMMIS RESTORE ACCORI	SHALL PROVIDE TRAININGS TO THE FIRE SIONING OF THE SOLAR FACILITY THE PE DINGLY (AT THE REQUEST OF THE PROPE	TTIONER/OPERATOR WILL REMOVE STOR RTY OWNER).	DRMWATER MANAGEMENT PRACTICES AND	C/
DEPARTMENT VEH	IICLES.		DTH AND CAPABLE OF SUPPORTING FIRE	
44. TRAFFIC CONTRO	-		ST EDITION OF THE MANUAL OF UNIFORM PRIOR TO THE PLACEMENT OF ANY ASPHAL	т.
STEEL, PERFORA		SERTED INTO A 2-1/2" GALVANIZED	AY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE POST.	
46. THIS PROJÉCT IS TYPES-COUNTRY	SUBJECT TO A DESIGN MANUAL WAIVER	APPROVED ON JUNE 3, 2022 OF DE OF CONSTRUCTION OF THE ROAD SEC	SIGN MANUAL, VOLUME III, SECTION 1.3 C ST CTION REQUIRED WAS REQUESTED AND APPRO	
47. THIS PROJECT IS SIGHT REQUIREM	SUBJECT TO A DESIGN MANUAL WAIVER	APPROVED ON JUNE 3, 2022 OF VC CLASSIFICATIONS GREATER THAN A MIN	LUME III, SECTION 2.4.10 WHICH REQUIRES II	
DEADLINE TO SU			LAND DEVELOPMENT REGULATIONS TO EXTEN APPROVAL OF THIS ALTERNATIVE COMPLIANC	
(ON OR BEF	ORE MARCH 19, 2023).		2 WITHIN 60 DAYS OF THE DATE OF THIS LE E SECTION, DATE APPROVED AND CONDITIONS	
				551650
				СТТО У 22
				E: 1332950
SITE ANALYSIS: TOTAL PARCEL AREA				
	R—DEO SOLAR FACILITY, COMMERCIAL DVERAGE (IMPERVIOUS AREA): 0.08 AC. C	R (0.59% OF LOD)		
*AREA OF STREAM A *AREA OF EXISTING	AND BUFFERS: 107,482 SF OR 2.47 AC. ND BUFFERS : 582,920 SF OR 13.38 A0 FOREST: 1,129,390 SF OR 25.93 AC.			
*AREA OF STEEP SL *AREA OF ERODIBLE	SLOPES (15%-24.99%): 199,216 SF OF OPES (25% OR GREATER): 0.00 SF OR (SOILS: 1,787,450 SF OR 41.03 AC.	4.57 AC. 0.00 AC.		
CONDITIONAL USE AF		+ 0.03 AC. NEW ACCESS ROAD)		
CUT: 1,108 CY FILI NOTE:				
TNU ENVIRUNMENTAL	FEATURES ARE LOCATED WITHIN THE LIN		~	1. LIMIT OF DISTURBANCE, SUPER SILT FENCE AI PROTECTION FENCE ARE OFFSET ON PLAN FC
APPROVED: HOWA	RD COUNTY DEPARTMENT OF PL	ANNING AND ZONING		2. CONTRACTOR TO INSTALL LIMIT OF DISTURBA OFFSET 0-4' FROM SOLAR FENCE AND PROPOS
	Docusigned by: (HAD Edmondson	4/13/2023		DRIVEWAY PAVEMENT. SUPER SILT FENCE TO 1-2' FROM THE LIMIT OF DISTURBANCE. TREE
CHIEF, DEVELO	PMENT DENGINEERING DIVISION	DATE 4/14/2023		PROTECTION FENCE TO BE OFFSET 0.0-0.5' FR OF DISTURBANCE.
CHIEF, DIVISION		DATE		3. CONTRACTOR SHALL NOT DISTURB WETLAND
		4/17/2023		THEIR BUFFERS, FOREST OR THE EXISTING PO
DIRECTOR		DATE	1	





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 	• - •		-
 			 _
 			 _
 			_
			_

 BUILDING RESTRICTION LINE

 BUILDING RESTRICTION LINE

 EXISTING PAVEMENT

 PROPOSED FENCE

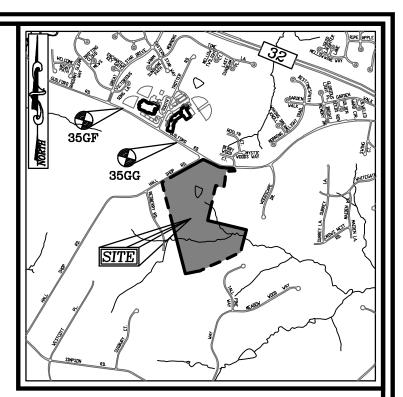
 STREAM BUFFER

 PROPOSED FENCE

 PLAT NO. 26249

PARCEL BOUNDARY RIGHT-OF-WAY

ADJACENT BOUNDARY 50' SOLAR SETBACK

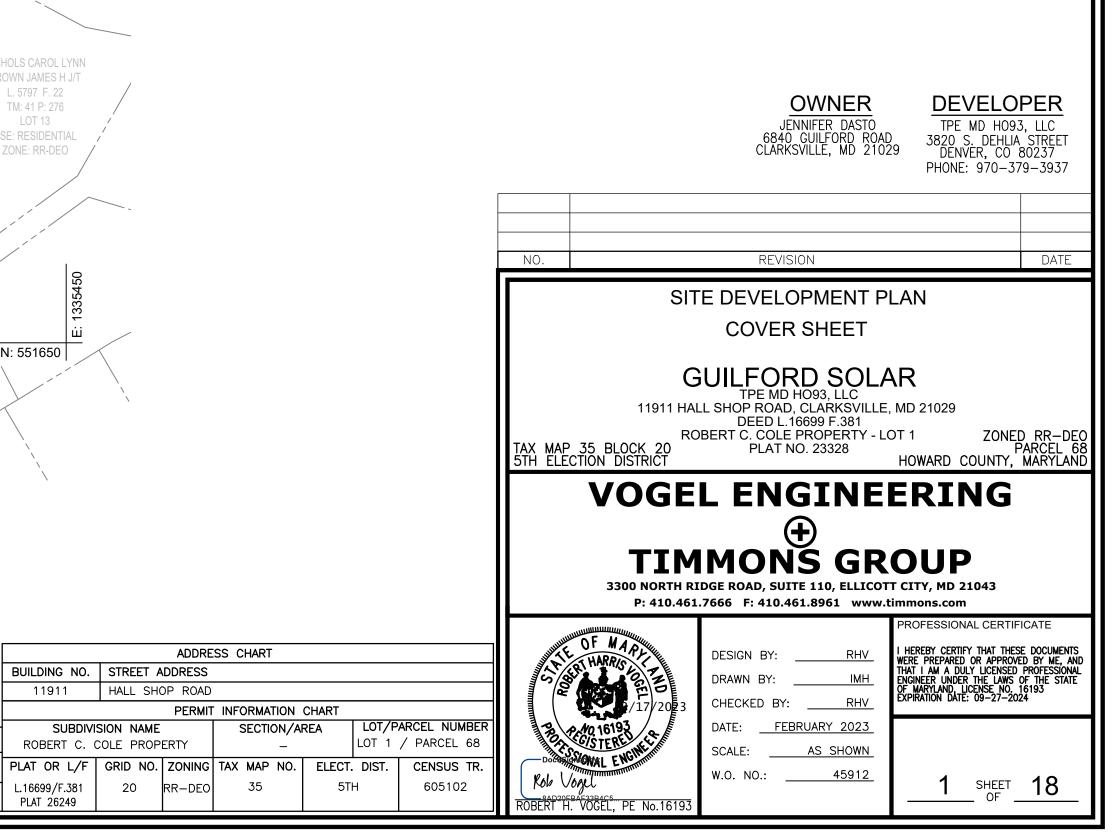


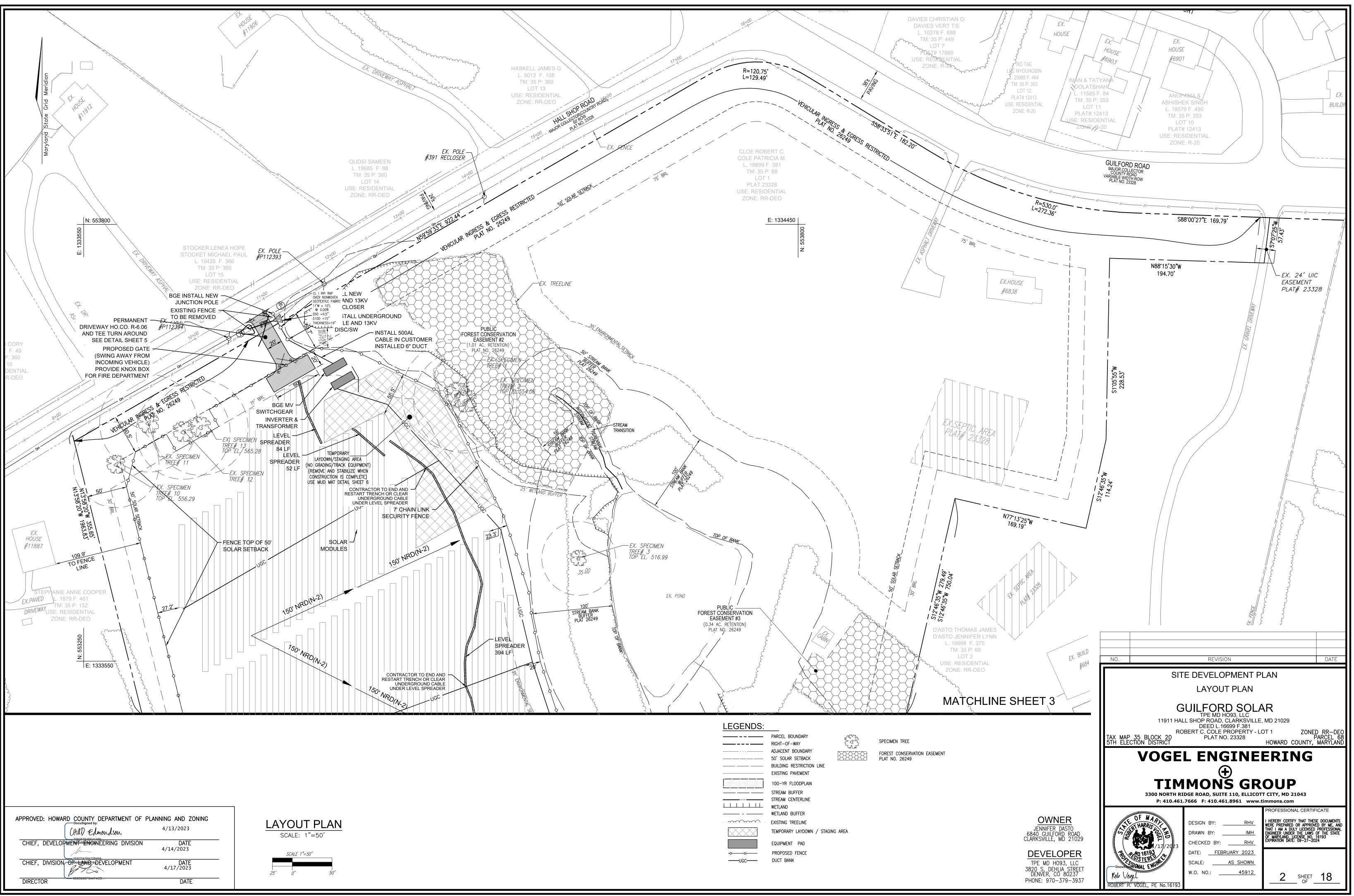
VICINITY MAP SCALE: 1"=2000' ADC MAP: 5052 PAGE: 27 GRID: C1

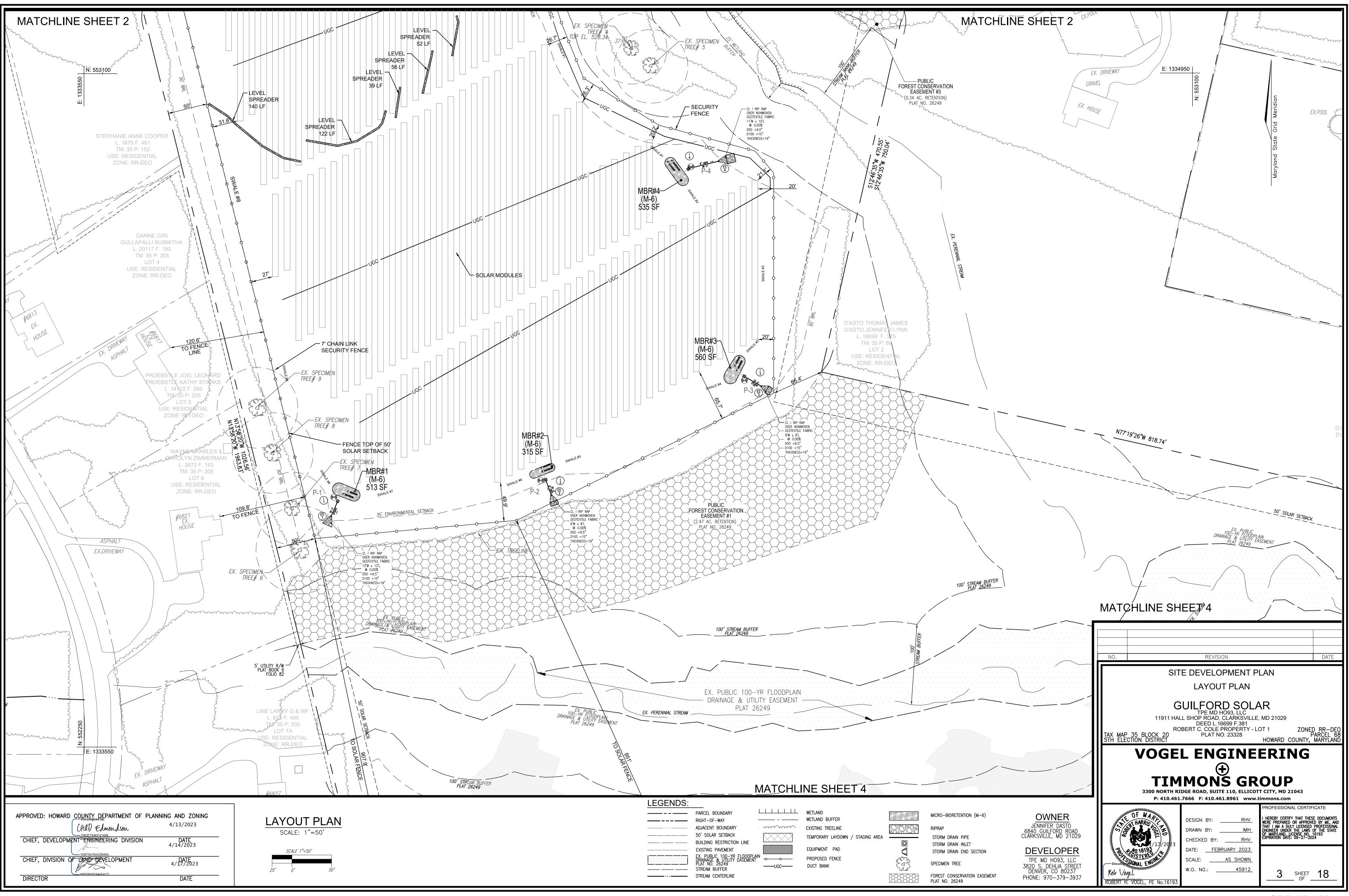
BENCHMARKS

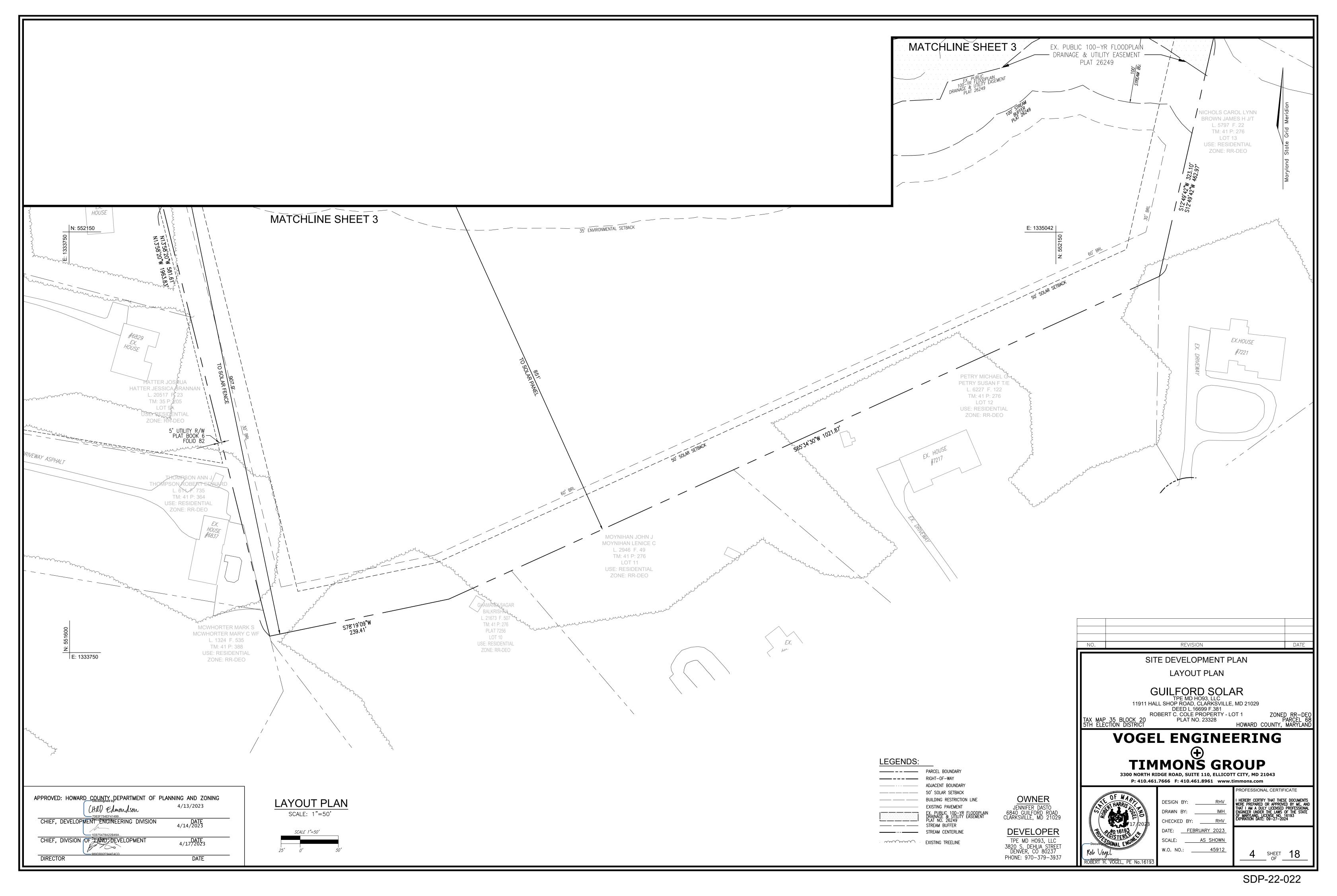
HOWARD COUNTY	BENCHMARK 35GG		
N 554,358.86	E 1,333,834.18	ELEV.:	477.9
HOWARD COUNTY	MONUMENT		
HOWARD COUNTY	BENCHMARK 35GF		
N 555,080.17	E 1,332,716.63	ELEV.:	466.9
HOWARD COUNTY	MONUMENT		

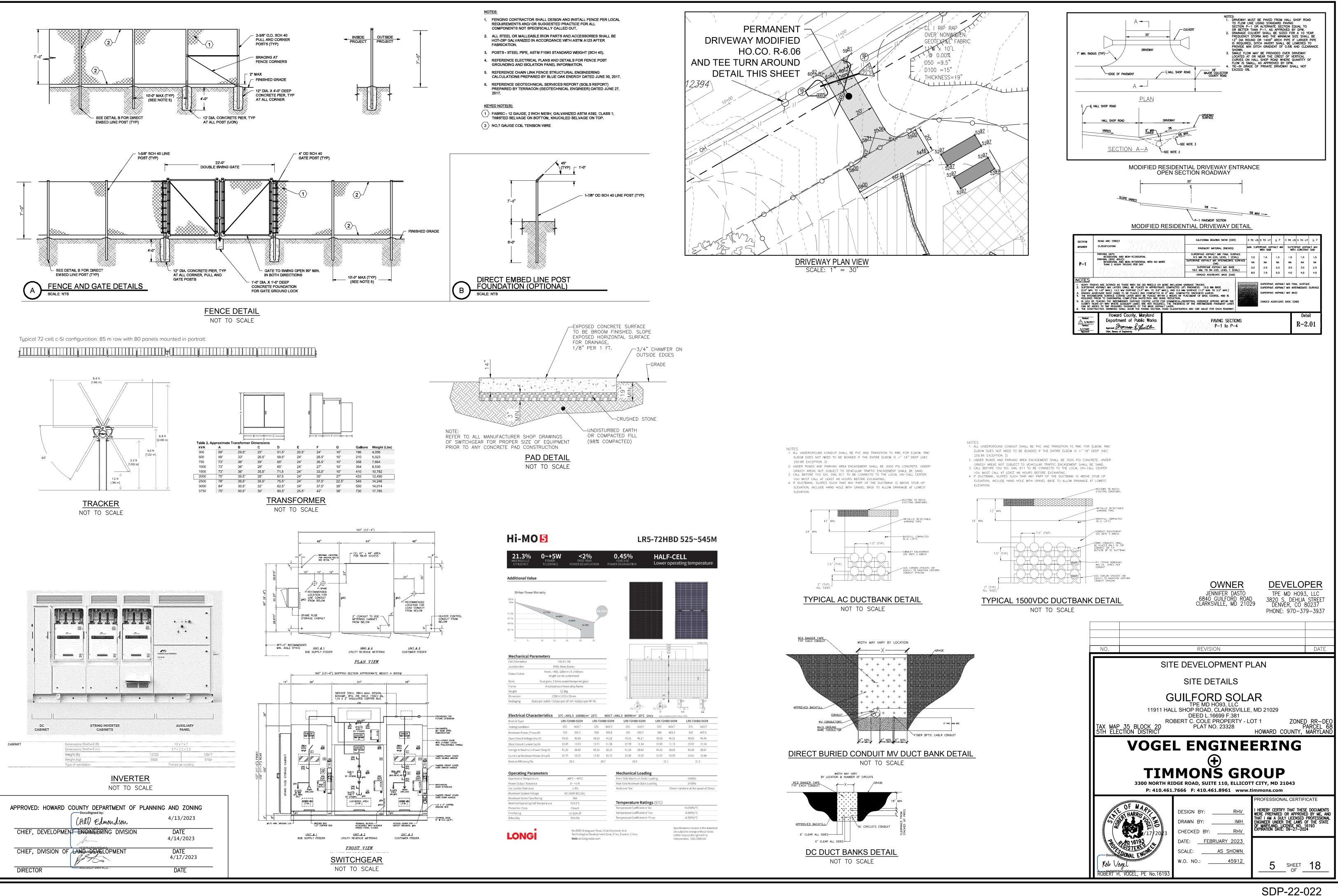
SHEET INDEX	
DESCRIPTION	SHEET NO.
COVER SHEET	1 OF 18
LAYOUT PLAN	2-4 OF 18
SITE DETAILS	5 OF 18
SOILS MAP, GRADING, EROSION AND SEDIMENT CONTROL PLAN	6-7 OF 18
GRADING, EROSION AND SEDIMENT CONTROL NOTES AND DETAILS	8 OF 18
STORMWATER MANAGEMENT DRAINAGE AREA MAP	9-10 OF 18
STORMWATER MANAGEMENT NOTES AND DETAILS	11 OF 18
STORM DRAIN DRAINAGE AREA MAP	12-13 OF 18
STORM DRAIN PROFILES & DETAILS	14 OF 18
FOREST CONSERVATION PLAN	15-16 OF 18
LANDSCAPE PLAN	17 OF 18
FOREST CONSERVATION & LANDSCAPE NOTES AND DETAILS	18 OF 18

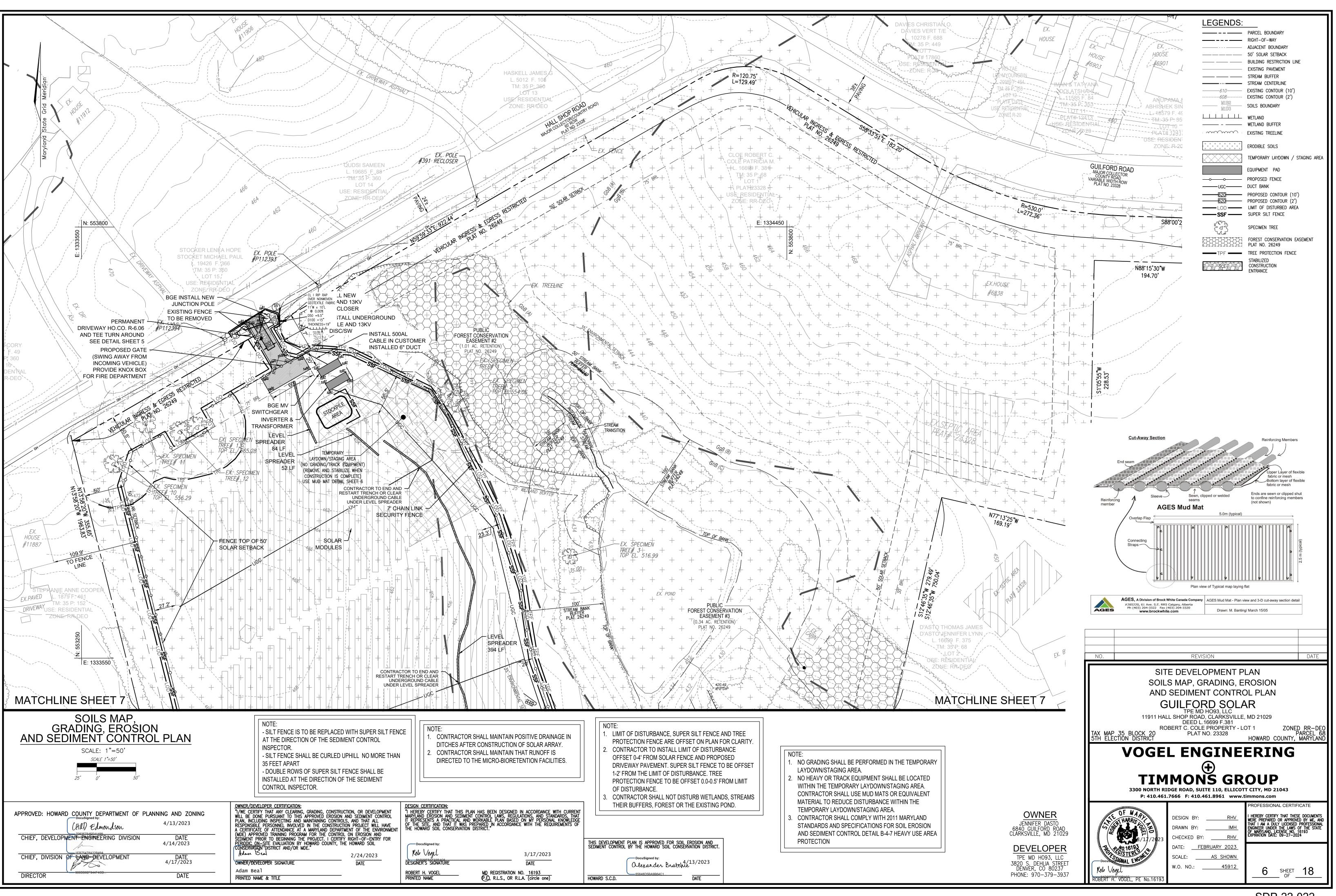




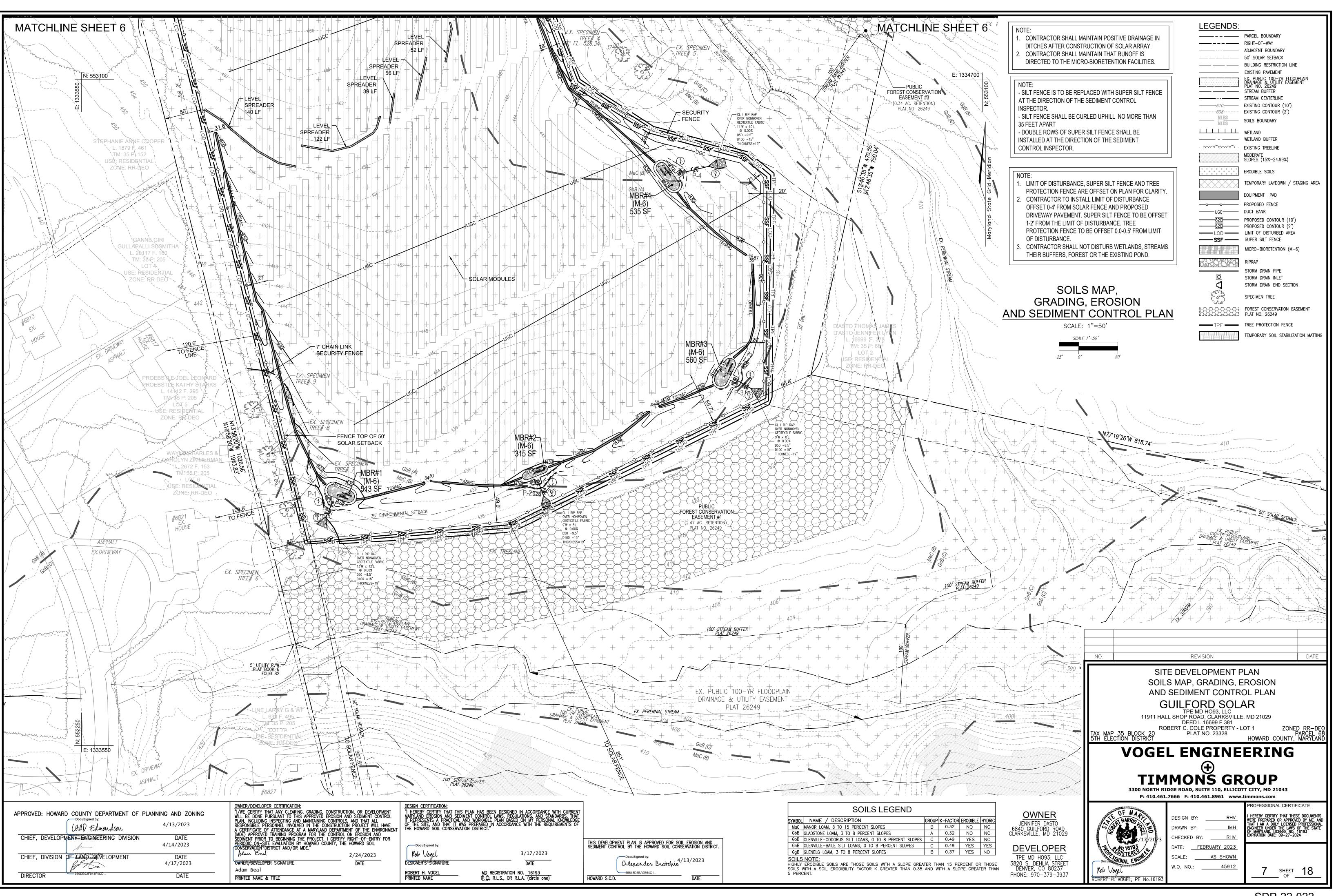


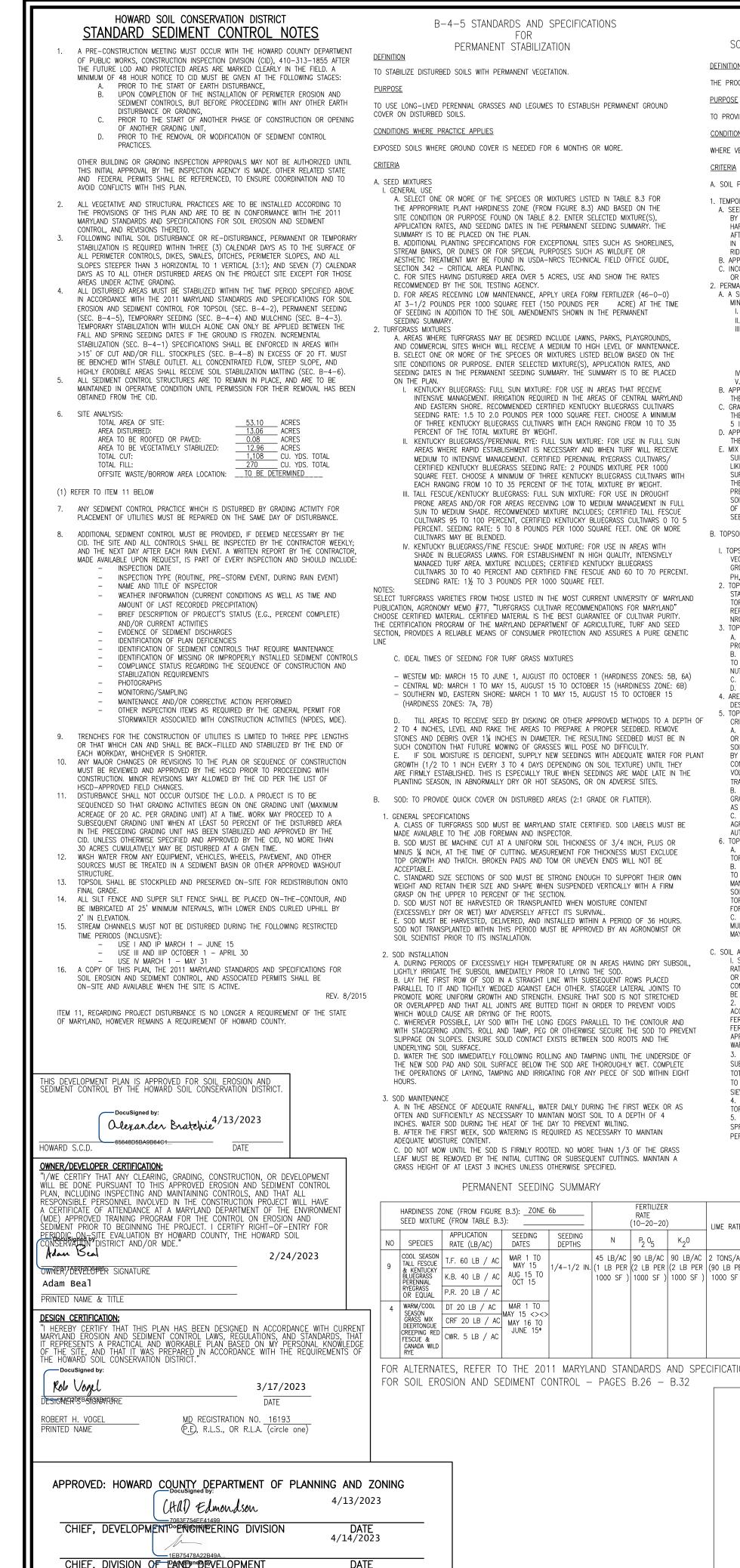






IS DEVE	LOPMENT	PLAN IS	APPROVED	FOR SOI	L EROSION	AND
DIMENT	CONTROL	BY THE	HOWARD S	OIL CONS	ERVATION	DISTRICT





R-4-2 STANDARDS AND SPECIFICATIONS

SOIL PREPARATION, TOPSOILING AND SOIL AMENDMENTS

DEFINITION THE PROCESS OF PREPARING THE SOILS TO SUSTAIN ADEQUATE VEGETATIVE STABILIZATION.

PURPOSE TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.

CONDITIONS WHERE PRACTICE APPLIES WHERE VEGETATIVE STABILIZATION IS TO BE ESTABLISHED.

A. SOIL PREPARATION

1. TEMPORARY STABILIZATION

RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE B. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS. OR OTHER SUITABLE MEANS.

- 2. PERMANENT STABILIZATION A A SOIL TEST IS REQUIRED FOR ANY FARTH DISTURBANCE OF 5 ACRES OR MORE THE I. SOIL PH BETWEEN 6.0 AND 7.0. II. SOLUBLE SALTS LESS THAN 500 PARTS PER MILLION (PPM).
- BE ACCEPTABLE. IV. SOIL CONTAINS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT.
- THE ABOVE CONDITIONS
- 5 INCHES. THE RESULTS OF A SOIL TEST.
- HE SURFACE WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDBED OF THE SLOPE. LEAVE THE TOP 1 TO 3 INCHES OF SOIL LOOSE AND FRIABLE. SEEDBED LOOSENING MAY BE LINNECESSARY ON NEWLY DISTURBED AREAS

B. TOPSOILING

- PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION. 2. TOPSOIL SALVAGED FROM AN EXISTING SITE MAY BE USED PROVIDED IT MEETS THE TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE
- 3. TOPSOILING IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE: PRODUCE VEGETATIVE GROWTH B. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FLIRNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT
- NUTRIENTS
- SOIL SCIENTIST AND APPROVED
- TRASH, OR OTHER MATERIALS LARGER THAN 1½ INCHES IN DIAMETER. 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. 6. TOPSOIL APPLICATION TOPSOL
- FORMATION OF DEPRESSIONS OR WATER POCKETS. MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.

NOTE:

C. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS) I. 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 RE USED FOR CHEMICAL ANALYSES FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR CCURATE 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 WARRANTY OF THE PRODUCER 3. LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE TITITED EXCEPT WHEN HYDROSEEDING) WHICH CONTAINS AT LEAST 50 PERCENT OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE MUST BE GROUND JCH FINENESS THAT AT LEAST 50 PERCENT WILL PASS THROUGH A #100 MESH AND 98 TO 100 PERCENT WILL PASS THROUGH A #20 MESH SIEVE. AND FERTILIZER ARE TO BE EVENLY DISTRIBUTED AND INCORPORATED INTO THE TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. ERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE AT THE RATE OF 4 TO 8 TONS/ACRE (200-400 POUNDS

,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL

THE NEW SOD PAD AND SOIL SURFACE BELOW THE SOD ARE THOROUGHLY WET. COMPLETE	20B211
THE OPERATIONS OF LAYING, TAMPING AND IRRIGATING FOR ANY PIECE OF SOD WITHIN EIGHT	TOTAL
HOURS.	TO SUC
	SIEVE A
3. SOD MAINTENANCE	4. LIME
A. IN THE ABSENCE OF ADEQUATE RAINFALL, WATER DAILY DURING THE FIRST WEEK OR AS	TOP 3
OFTEN AND SUFFICIENTLY AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF 4	5. WHE
INCHES. WATER SOD DURING THE HEAT OF THE DAY TO PREVENT WILTING.	SPREAD
B. AFTER THE FIRST WEEK, SOD WATERING IS REQUIRED AS NECESSARY TO MAINTAIN	PER 1.
ADEQUATE MOISTURE CONTENT.	FER I,
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 OTHERWISE SPECIFIED.	
PERMANENT SEEDING SUMMARY	
PERMANENT SEEDING SUMMART	

APPROVED: HOWARD COUNTY DEPARTMENT OF	PLANNING AND ZONING
CHAD Edmondson	4/13/2023
CHIEF, DEVELOPMENT ^{Do} ENCINEERING DIVISION	DATE 4/14/2023
CHIEF, DIVISION OF PANDING EVELOPMENT	DATE 4/17/2023
DIRECTOR	DATE

	E (FROM TABLE B.3		LIME RATE				
CIES	APPLICATION RATE (LB/AC)	AC SEEDING DATES SEE DEF / AC MAR 1 TO MAY 15 AUG 15 TO OCT 15 1/4- / AC MAR 1 TO MAY 15 <><> MAY 16 TO UNE 15* 1/4-	SEEDING DEPTHS	N	P2 05	к ₂ 0	
SEASON FESCUE NTUCKY RASS INIAL ASS QUAL	T.F. 60 LB / AC K.B. 40 LB / AC	MAY 15 AUG 15 TO	1/4-1/2 IN.		(2 LB PER	90 LB/AC (2 LB PER 1000 SF)	2 TONS/AC (90 LB PER 1000 SF)
ass QUAL	P.R. 20 LB / AC						
/COOL	DT 20 LB / AC						
on S Mix 'Ongue	CRF 20 LB / AC	MAY 16 TO					
	CWR. 5 LB / AC	JUNE 15*					
							CIFICATION
							DE

- TO STABILIZE DISTURBED SOILS WITH VEGETATION FOR UP TO 6 MONTHS. <u>PURPOSE</u> TO USE FAST GROWING VEGETATION THAT PROVIDES COVER ON DISTURBED SOILS.
 - ON THE PLAN. RATES BY THE TESTING AGENCY. SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY MAINTAIN UNTIL THE NEXT SEEDING SEASON.

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

C. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING

MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:

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 À MODERATE AMOUNT OF MOISTURE. AN EXCÉPTION: IF LOVEGRASS WILL BE PLANTED, THEN A SANDY SOIL (LESS THAN 30 PERCENT SILT PLUS CLAY) WOULD

V. SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION. B. APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET 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 D APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY 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 PREPARATION. TRACK SLOPES 3:1 OR FLATTER WITH TRACKED EQUIPMENT LEAVING THE SOIL IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR

L 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 CONCEM HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW TANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-A. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO

THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE. 4. AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND 5. TOPSOIL SPECIFICATIONS: SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING A. 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

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, 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

A. EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING B. UNIFORMLY DISTRIBUTE TOPSOIL IN A 5 TO 8 INCH LAYER AND LIGHTLY COMPAC O 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 THEAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS MUST BE CORRECTED IN ORDER TO PREVENT THE 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

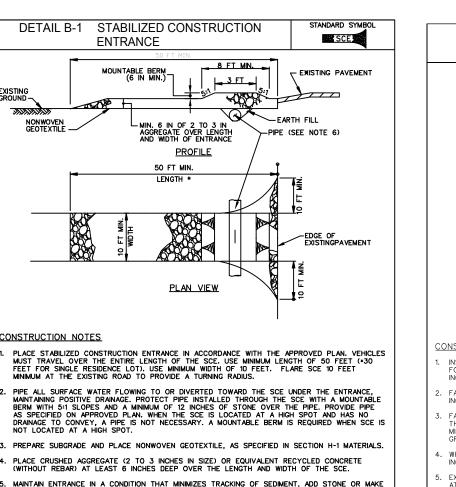
EITHER PERMANENT OR TEMPORARY STABILIZATION IS TO BE APPLIED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR REGARDLESS OF DAYS/DATES IN THE STANDARD SEDIMENT CONTROL NOTES AND/OR SEEDING SPECIFICATIONS.

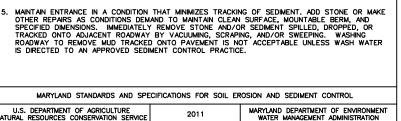
B-4-4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

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.

1. SELECT ONE OR MORE OF THE SPECIES OR SEED MIXTURES LISTED IN TABLE 8.1 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 8.1 PLUS FERTILIZER AND LIME RATES MUST BE PUT 2. FOR SITES HAVING SOIL TESTS PERFORMED, USE AND SHOW THE RECOMMENDED

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







SEEDING AND MULCHING THE APPLICATION OF SEED AND MULCH TO ESTABLISH VEGETATIVE COVER.

TO PROTECT DISTURBED SOILS FROM EROSION DURING AND AT THE END OF CONSTRUCTION.

<u>CONDITIONS WHERE PRACTICE APPLIES</u> TO THE SURFACE OF ALL PERIMETER CONTROLS, SLOPES, AND ANY DISTURBED AREA NOT UNDER ACTIVE GRADING.

1.SPECIFICATION

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

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. TEMPERATURES ABOVE 75 TO 80 DEGREES FAHRENHEIT CAN WEAKEN BACTERIA AND MAKE HE INOCULANT LESS EFFECTI 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.

2. APPLICATION 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 8.1, PERMANENT SEEDING TABLE 8.3, 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 GOO

SEED TO SOIL CONTACT. B. DRILL OR CULTIPACKER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL. CULTIPACKING SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVI AT LEAST 1/4 INCH OF SOIL COVERING. SEEDBED MUST BE FIRM AFTER PLANTING. 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; P205 (PHOSPHOROUS), 200 POUNDS PER ACRE; K20 (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. MULCHIN I. MULCH MATERIALS (IN ORDER OF PREFERENCE) A. STRAW CONSISTING OF THOROUGHLY THRESHED WHEAT, LYE, 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, NOT 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.

. WCFM IS TO BE DYED GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WILL PROVIDE AN PRIATE COLOR TO FACILITATE VISUAL INSPECTION OF THE UNIFORMLY SPREAD SLURRY. II. WCFM, INCLUDING DYE, MUST CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS. III. WCEM 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 BLEN 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 AT CONCENTRATION LEVELS THAT WILL B

V. WCFM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH OF APPROXIMATELY 10 MILLIMETERS, DIAMETER APPROXIMATELY 1 MILLIMETER, PH RANGE OF 4.0 TO 8.5, ASH CONTENT OF 1.6 PERCENT MAXIMUM AND WATER HOLDING CAPACITY OF 90 PERCENT MINIMUM.

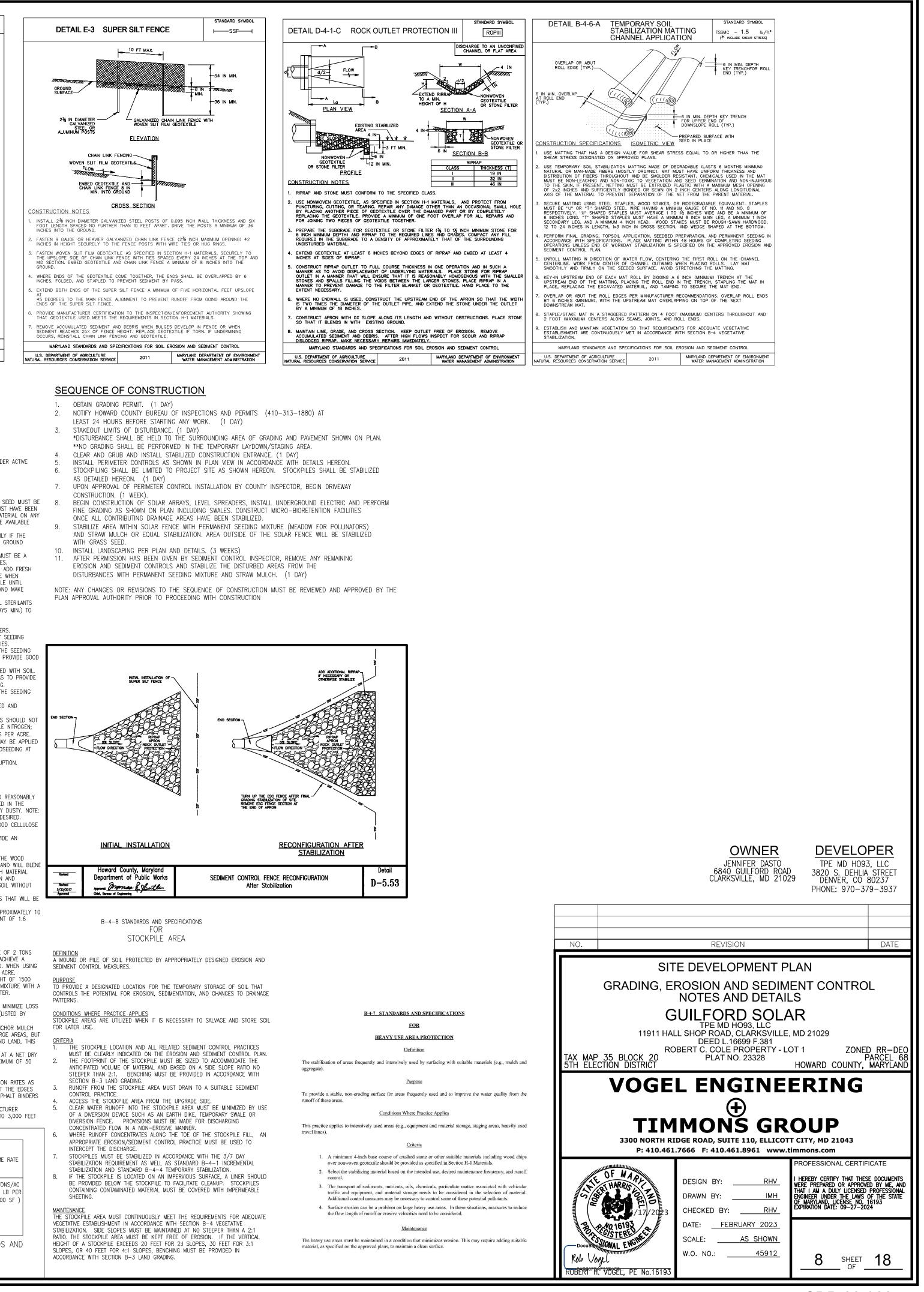
A. APPLY MULCH TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING.

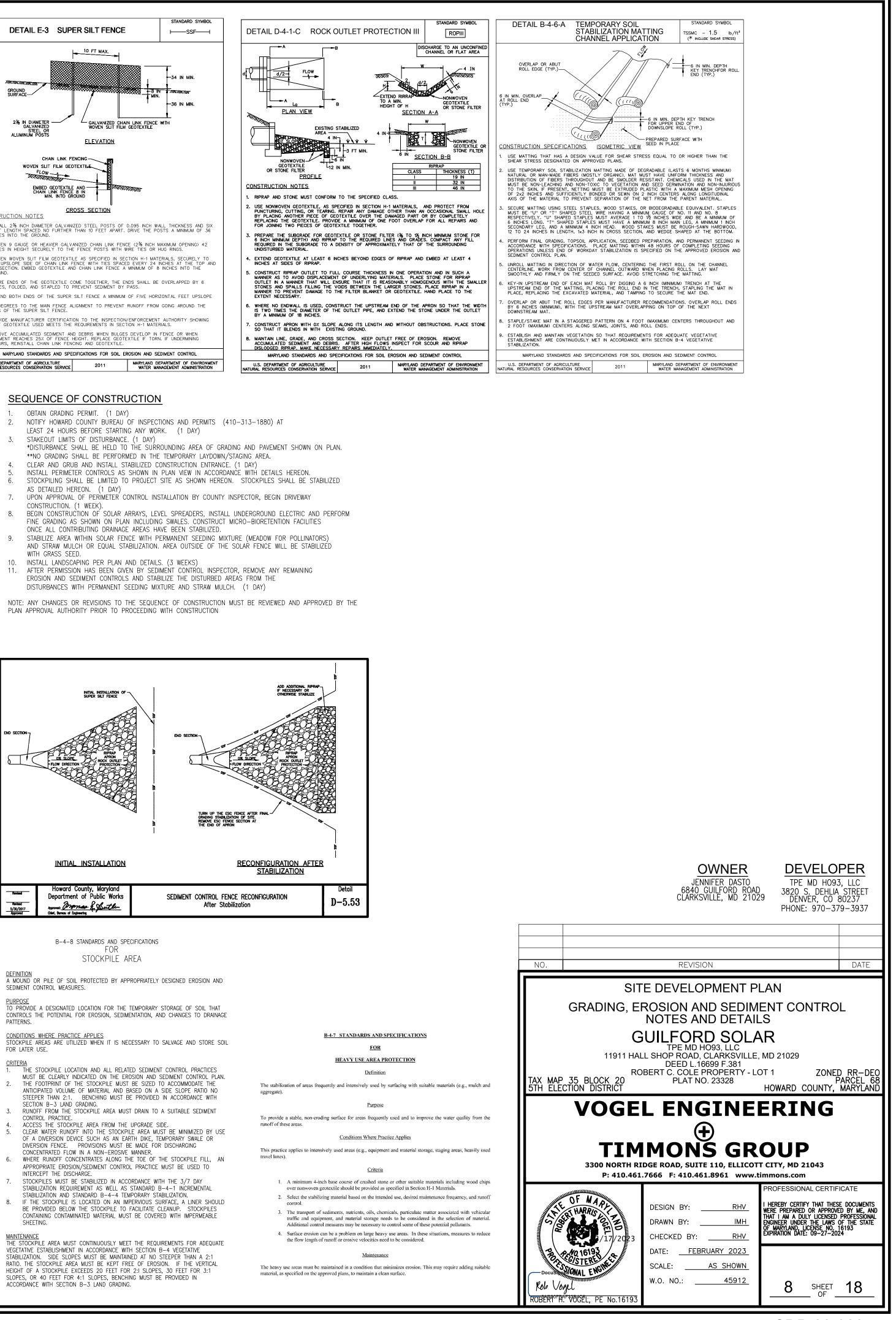
B. WHEN STRAW MULCH IS USED, SPREAD IT OVER ALL SEEDED AREAS AT THE RATE OF 2 TONS PER ACRE TO A UNIFORM LOOSE DEPTH OF 1 TO 2 INCHES. APPLY MULCH TO ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT EXPOSED. WHEN USING A MULCH ANCHORING TOOL, INCREASE THE APPLICATION RATE TO 2.5 TONS PER ACRE. C. WOOD CELLULOSE FIBER USED AS MULCH MUST BE APPLIED AT A NET DRY WEIGHT OF 150 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. ANCHORING A. PERFORM MULCH ANCHORING IMMEDIATELY FOLLOWING APPLICATION OF MULCH TO MINIMIZE LOSS

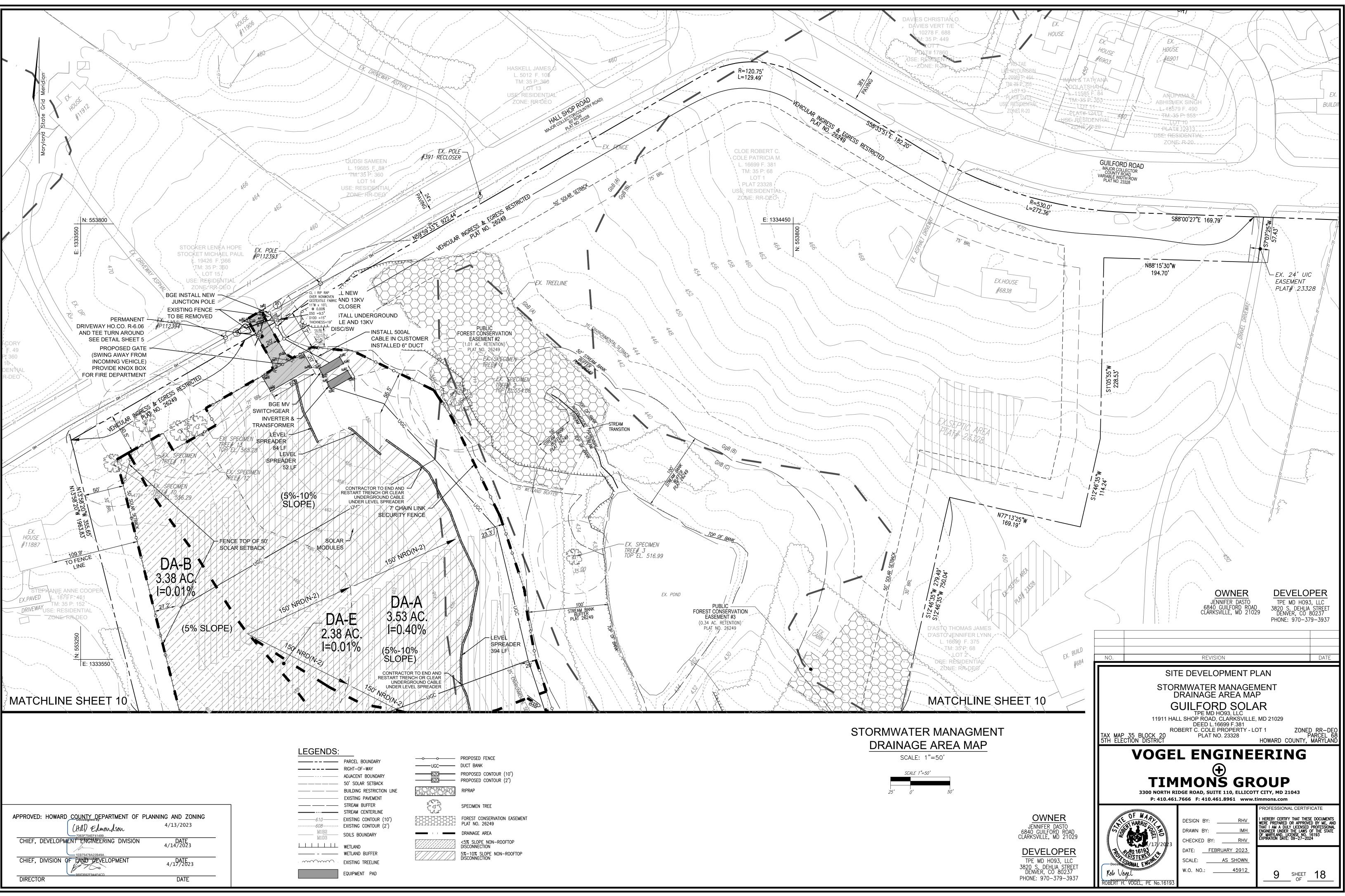
BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY PREFERENCE), DEPENDING UPON THE SIZE OF THE AREA AND EROSION HAZARD: A MULCH ANCHORING TOOL IS A TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH NTO THE SOIL SURFACE A MINIMUM OF 2 INCHES. THIS PRACTICE IS MOST EFFECTIVE 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.

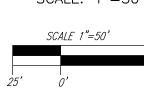
III. SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRO-TACK), DCA-70, PETROSET TERRA TAX II, TERRA TACK AR OR OTHER APPROVED EQUAL MAY BE USED. FOLLOW APPLICATION RATES AS SPECIFIED BY THE MANUFACTURER, APPLICATION OF LIQUID BINDERS NEEDS TO BE HEAVIER AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS 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 3,000 FEET

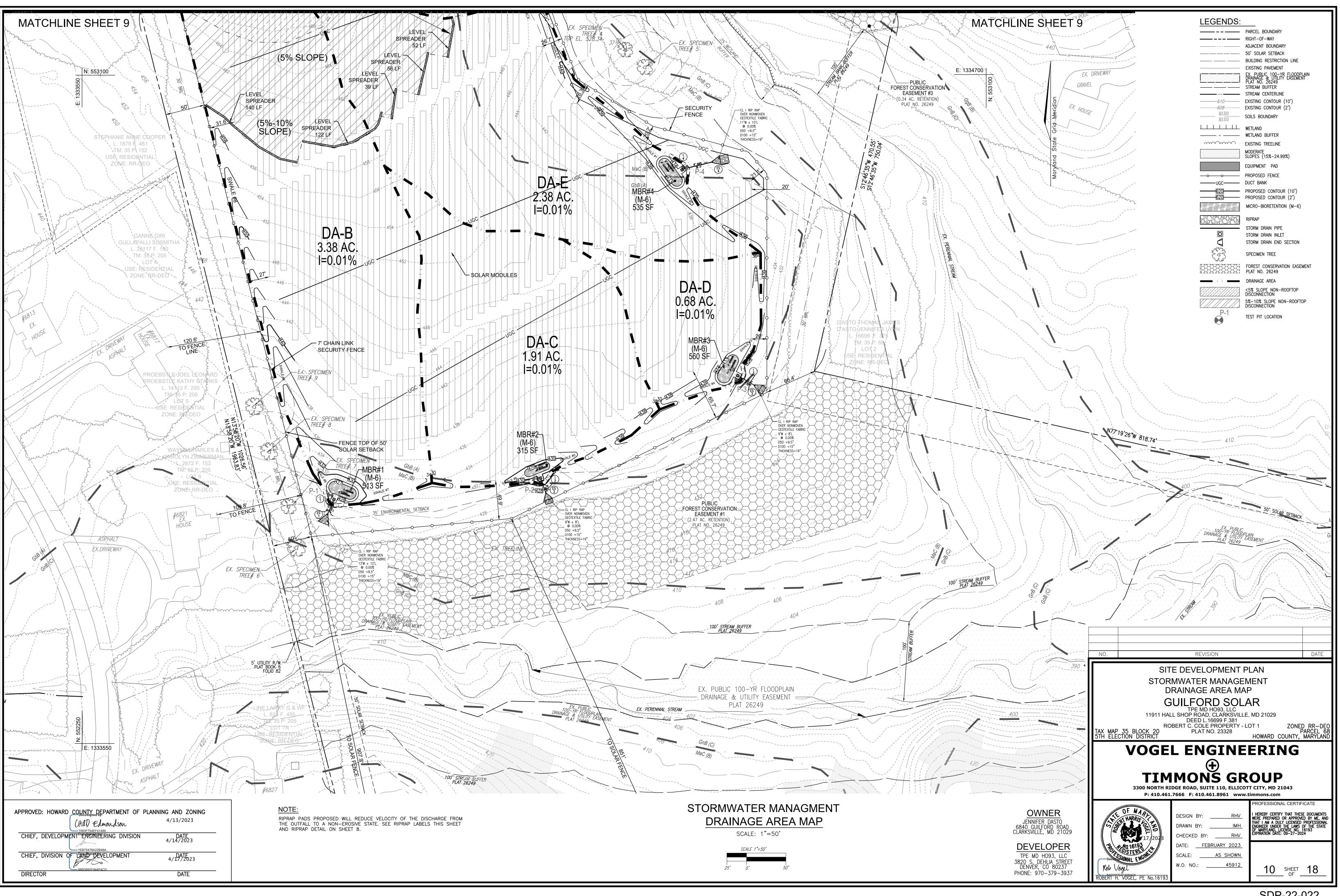
	HARDINESS Z SEED MIXTUR	FERTILIZER	LIME RATE				
NO	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS	(10-20-20)		
1	COOL SEASON ANNUAL RYEGRASS OR EQUAL	40 LB / AC AUG 1 TC OCT 15		1/2 IN.	436 LB/AC (10 LB PER 1000 SF)	2 TONS/AC (90 LB PEF 1000 SF)	
2	WARM SEASON FOXTAIL MILLET OR EQUAL	30 LB / AC	MAY 16 TO JUL 31	1/2 IN.			











DISCONNECTION OF NON-ROOFTOP RUNOFF N-2.

CONSTRUCTION CRITERIA:

THE FOLLOWING ITEMS SHOULD BE ADDRESSED DURING THE CONSTRUCTION OF PROJECTS WITH PLANNED NON-ROOFTOP DISCONNECTIONS:

-EROSION AND SEDIMENT CONTROL: EROSION AND SEDIMENT CONTROL PRACTICES (E.G., SEDIMENT TRAPS) SHALL NOT BE LOCATED IN VEGETATED AREAS RECEIVING DISCONNECTED RUNOFF -SITE DISTURBANCE: CONSTRUCTION VEHICLES AND EQUIPMENT SHOULD AVOID AREAS RECEIVING

DISCONNECTED RUNOFF TO MINIMIZE DISTURBANCE AND COMPACTION. SHOULD AREAS RECEIVING DISCONNECTED RUNOFF BECOME COMPACTED, SCARIFYING THE SURFACE OR ROTOTILLING THE SOIL TO A DEPTH OF FOUR TO SIX INCHES SHALL BE PERFORMED TO ENSURE PERMEABILITY. ADDITIONALLY, AMENDMENTS MAY BE NEEDED FOR TIGHT, CLAYEY SOILS.

INSPECTION:

A FINAL INSPECTION SHALL BE CONDUCTED BEFORE USE AND OCCUPANCY APPROVAL TO ENSURE THAT SIZING FOR TREATMENT AREAS HAVE BEEN MET AND PERMANENT STABILIZATION HAS BEEN ESTABLISHED.

MAINTENANCE CRITERIA:

MAINTENANCE OF AREAS RECEIVING DISCONNECTED RUNOFF IS GENERALLY NO DIFFERENT THAN THAT REQUIRED FOR OTHER LAWN OR LANDSCAPED AREAS. THE AREAS RECEIVING RUNOFF SHOULD BE PROTECTED FROM FUTURE COMPACTION (E.G., BY PLANTING TREES OR SHRUBS ALONG THE PERIMETER). IN COMMERCIAL AREAS, FOOT TRAFFIC SHOULD BE DISCOURAGED AS WELL.

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

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 FUTURE COMPACTION OR DEVELOPMENT OF IMPERVIOUS AREA. IN COMMERCIAL AREAS, FOOT TRAFFIC SHOULD BE DISCOURAGED AS WELL. SPECIFICATIONS FOR MICRO-BIORETENTION. RAIN GARDEN, 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

2. FILTERING MEDIA OK PEJANTING SOIL THE SOIL SHALL BE A UNFORM 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-BIORETENTION PRACTICE THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE PLANTING SOIL SHALL BE FREE OF BERMUDA GRASS, QUACKRASS, JOHNSON GRASS, OR OTHER NOXIOUS WEEDS AS SPECIFIED UNDER COMAR 15.08.01.05. THE PLANTING SOIL SHALL BE TESTED AND SHALL MEET THE FOLLOWING CRITERIA:

* SOIL COMPONENT - LOAMY SAND OR SANDY LOAM (USDA SOIL TEXTURAL CLASSIFICATION). * ORGANIC CONTEN - MINIMUM 10% BY DRY WEIGHT (ASTM D 2974). IN GENERAL, THIS CAN BE MET WITH A MIXTURE OF LOAMY SAND (60%-65%) AND COMPOST (35% TO 40%) OR SANDY LOAM (30%), COARSE SAND (30%), AND COMPOST (40%). * CLAY CONTENT - MEDIA SHALL HAVE A CLAY CONTENT OF LESS THAN 5%. CLAY CUNIENT - 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 IN TO 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 TEXTURAL 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 HOES TO REMOVE ORIGINAL SOIL. IF PRACTICES ARE EXCAVATED USING LOADER, THE CONTRACTOR SHOULD USE WIDE TRACK OR MARSH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TURF TYPE TIRES. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS, OR HIGH-PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION RESULTING IN REDUCED INFILTRATION RATES AND IS NOT ACCEPTABLE. COMPACTION WILL SIGNIFICANTLY CONTRIBUTE TO

COMPACTION CAN BE ALLEVIATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS 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. ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT.

ROTOTILL 2 TO 3 INCHES OF SAND INTO THE BASE OF THE BIORETENION 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. BACKFILI THE REMAINDER OF THE TOPSOLE 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. GRADE BIORETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MARSH TRACKS.

4. PLANT MATERIAL RECOMMENDED PLANT MATERIAL FOR MICRO-BIORETENTION PRACTICES CAN BE FOUND IN APPENDIX A, SECTION A.2.3.

5. PLANT INSTALLATION COMPOST IS A RETTER 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. PINE MULCH AND WOOD CHIPS WILL FLOAT AND MOVE TO THE PERIMETER OF THE BIORETENTION AREA DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDDED MULCH MUST BE WELL AGED (6 TO 12

MONTHS) FOR ACCEPTANCE. 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. SET AND MAINTAIN THE PLANT STRAIGHT DURING THE ENTIRE

PLANTING PROCESS. THOROUGHLY WATER GROUND BED COVER AFTER INSTALLATION. 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. 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 DEFEATS, OR AT A MINIMUM, IMPEDES THIS GOAL. ONLY ADD FERTILIZER IF WOOD CHIPS OR MULCH ARE USED TO AMEND THE SOIL. ROTOTILL UREA FERTILIZER AT A RATE OF 2 POUNDS PER 1000 SQUARE FEET

6. UNDERDRAINS

- INDERDRAINS SHOULD MEET THE FOLLOWING CRITERIA: * PIPE - SHOULD BE 4" TO 6" DIAMETER, SLOTTED OR PERFORATED RIGID PLASTIC PIPE (ASTMF 758, TYPE PS 28. OR AASHTO-M-278) IN A GRAVEL LAYER. THE PREFERRED MATERIAL IS SLOTTED, 4" RIGID PIPE (E.G., PVC OF HDPE).
- * PERFORATIONS IF PERFORATED PIPE IS USED, PERFORATIONS SHOULD BE 3/8" 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 1,0000 SQUARE FEET) TO PROVIDE A CLEAN-OUT PORT AND MONITOR PERFORMANCE OF THE FILTER.
- * A 4" LAYER OF PEA GRAVEL (1/8" TO 3/8" STONE) SHALL BE LOCATED BETWEEN THE FILTER MEDIA AND UNDERDRAIN TO PREVENT MIGRATION OF FINES IN TO THE UNDERDRAIN. THIS LAYER MAY BE CONSIDERED PART OF THE FILTER BED WHEN

BED THICKNESS EXCEEDS 24". THIS 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). 8. EARTH FILL

MATERIAL - THE FILL MATERIAL SHALL BE TAKEN FROM APPROVED DESIGNATED BORROW AREAS. IT SHALL BE FREE OF ROOTS, STUMPS, WOOD, RUBBISH, STONES GREATER THAN 6°, FROZEN OR OTHER OBJECTIONABLE MATERIALS. FILL MATERIAL FOR THE CENTER OF THE EMBANKMENT SHALL CONFORM TO UNIFIED SOIL CLASSIFICATION GC, SC, CH, OR CL AND MUST HAVE AT LEAST 30% PASSING THE ##200 SIEVE. CONSIDERATION MAY BE GIVEN TO THE USE OF OTHER MATERIALS IN THE EMBANKMENT IF DESIGNED BY A GEOTECHNICAL ENGINEER. SUCH SPECIAL DESIGNS MUST HAVE CONSTRUCTION SUPERVISED BY A GEOTECHNICAL ENGINEER. MATERIALS USED IN THE OUTER SHELL OF THE EMBANKMENT MUST HAVE THE CAPABILITY TO SUPPORT VEGETATION OF THE QUALITY REQUIRED TO PREVENT EROSION OF THE EMBANKMENT.

PLACEMENT - AREAS ON WHICH FILL IS TO BE PLACED SHALL BE SCARIFIED PRIOR TO PLACEMENT OF FILL MATERIALS SHALL BE PLACED IN MAXIMUM 8 INCH THICK (BEFORE COMPACTION) LAYERS WHICH ARE TO BE CONTINUOUS OVER THE ENTIRE LENGTH OF THE FILL. THE MOST PERMEABLE BORROW MATERIAL SHALL BE PLACED IN THE DOWNSTREAM PORTIONS OF THE EMBANKMENT. THE PRINCIPAL SPILLWAY MUST BE INSTALLED CONCURRENTLY WITH FILL PLACEMENT AND NOT EXCAVATED

COMPACTION - THE MOVEMENT OF THE HAULING AND SPREADING EQUIPMENT OVER THE FILL SHALL BE CONTROLLED SO THAT THE ENTIRE SURFACE OF EACH LIFT SHALL BE TRAVERSED BY NOT LESS THAN ONE TREAD TRACK OF HEAVY EQUIPMENT OR COMPACTION SHALL BE ACHIEVED BY A MINIMUM OF FOUR COMPLETE PASSES OF A SHEEPSFOOT, RUBBER TIRED OR VIBRATORY ROLLER. FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SUCH THAT THE REQUIRED DEGREE OF COMPACTION WILL BE OBTAINED WITH THE COMPACTION FUEL OF COMPLETE PASSES OF A SHEEPSFOOT, RUBBER TIRED OR VIBRATORY ROLLER. FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SUCH THAT THE REQUIRED DEGREE OF COMPACTION WILL BE OBTAINED WITH THE EQUIPMENT USED. THE FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SO THAT IF FORMED INTO A BALL IT WILL NOT CRUMBLE, YET NOT BE SO WET THAT WATER CAN BE SQUEEZED OUT. WHEN REQUIRED BY THE REVIEWING AGENCY THE MINIMUM REQUIRED DENSITY SHALL NOT BE LESS THAN 95% OF MAXIMUM DRY DENSITY WITH A MOISTURE CONTENT WITHIN ±2% OF THE OPTIMUM. EACH LAYER OF FILL SHALL BE COMPACTED AS NECESSARY TO OBTAIN THAT DENSITY, AND IS TO BE CERTIFIED BY THE ENGINEER AT THE TIME OF CONSTRUCTION ALL. COMPACTION IS TO BE DETERMINED BY AASHTO METHOD T-99 (STANDARD PROCTOR).

8. MISCELLANEOUS THESE PRACTICES MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.

INTO THE EMBANKMENT.

- PERATION AND MAINTENANCE SCHEDULE FOR
- MICRO-BIORETENTION (M-6), AND BIORETENTION (F-6)
- THE OPERATOR SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUME II, TABLE A.4.1 AND 2.
- THE OPERATOR SHALL PERFORM A PLANT INSPECTION IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OPERATOR SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL, TREAT DISEASED TREES AND SHRUBS, AND REPLACE ALL DEFICIENT STAKES AND WIRES.
- THE OPERATOR SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS. THE PREVIOUS MULCH LAYER SHALL BE REMOVED BEFORE THE NEW LAYER IS APPLIED.
- THE OPERATOR SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

APPROVED: HOWARD COUNTY DEPARTMENT OF	PLANNING AND ZONING
CHAD Edmondson	4/13/2023
CHIEF, DEVELOPMENTO ENGINE ERING DIVISION	DATE 4/14/2023
CHIEF, DIVISION OF PAND PEVELOPMENT	DATE 4/17/2023
DIRECTOR	DATE

Appendix B.4. Construction	n Specifications for Environmental	Site Design Practices							Gu	lford So	olar - SD	P - ESD		IPUTA	TIONS					
	·	• 				SITE AREA:		13.07	AC											
able R.4.1 Materials S	pecifications for Micro-Bioret	tention, Rain Gardens	& Landscane Infiltration_			TARGET Pe:		1.00	IN											
faterial	Specification	Size	Notes			SITE IMPER		0.59	PERCENT											
Plantings	see Appendix A, Table A.4	n/a	plantings are site-specific			SITE RV:	1005.	0.0553	TERCERT											
Planting soil	loamy sand (60 - 65%) &	n/a	USDA soil types loamy sand or sandy loam; clay content < 5%			SITE ESDV:	(Required)	2617	c.f.											
2' to 4' deep]	compost (35 - 40%)					SITE Rev:	(Required)	939	c.f.											
	or			Rv=0.05+0.00	OVI	SITE NEV.	(Required)	333	C.I.											
	sandy loam (30%), coarse sand (30%) &			Pe min=1.0" n			(1.0x0.95xA)/	12												
	compost (40%)			Pe max= 1yr r			(2.6x0.95xA)/													
rganic content	Min. 10% by dry weight (ASTM D 2974)			DRAINAGE #	% IMPERV	Rv	DA	DA	1.0"	MAXIMUM	VOLUME	Rev	IMPERV	IMPERV	GREEN	REMARKS				
Mulch	shredded hardwood	1	aged 6 months, minimum; no pine or wood chips				(SF)	(AC)	VOLUME	VOLUME	PROVIDED	PROVIDED	(SF)	(AC)	AREA	ĊF	SF		Depth	Porosi
Pea gravel diaphragm	pea gravel: ASTM-D-448	NO. 8 OR NO. 9														dates				
		(1/8" TO 3/8")			0.40	0.0536	153929	3.53	687	1786	687		609	0.01	3.52	NON STRU	CTURAL P	PRACTICE - NON-ROOFTOP DISCONN	EĊT	
Constain Annia				Α				and the cost of	1.000100	Secold States								1 75' DISCONNECT		
Curtain drain	ornamental stone: washed cobbles	stone: 2" to 5"														687	ESDV			
eotextile		n/a	PE Type 1 nonwoven																	
Bravel (underdrains and	AASHTO M-43	NO. 57 OR NO. 6																		
filtration berms)		AGGREGATE			0.01	0.0501	147349	3.38	615	1598	948		9	0.00	3.38	NON STRU		PRACTICE - NON-ROOFTOP DISCONN	FĊT	
		(3/8" to 3/4")		В														1 75' DISCONNECT		
Underdrain piping	F 758, Type PS 28 or AASHTO M-278		Slotted or perforated pipe; 3/8" perf. @ 6" on center, 4 holes per		0.01	0.0501	63284	1.45	264	686	264		1	0.00	1.45	264	100			
	M-278	PVC or SDR35	row; minimum of 3" of gravel over pipes; not necessary underneath pipes. Perforated pipe shall be wrapped with ¼-inch		0.01	0.0501	05204	1.45	204	000	204		-	0.00	1.45	204	LJUV			
			galvanized hardware cloth														ALCROSCA	LE MICRO-BIORETENTION (M-6)		
oured in place concrete (if	MSHA Mix No. 3; f°c = 3500	n/a	on-site testing of poured-in-place concrete required:		0.01	0.0501	84065	1.93	351	912	684	257	5	0.00	1.93	684		Surface Area of M-2 @ 1.0 ponding (75%		
equired)	psi @ 28 days, normal weight,		28 day strength and slump test; all concrete design (cast-in-place		0.01	0.0301	84005	1.55	331	512	004	23/	5	0.00	1.55	257		Surrace Area of M-2 @ 1.0 ponding (75% Stone Below MBR (Includes Rev)		x 0.4
	air-entrained; reinforcing to meet ASTM-615-60		or pre-cast) not using previously approved State or local standards requires design drawings sealed and approved by a													237	515	Stone Below MBR (Includes Rev)	1.25	x 0.4
			professional structural engineer licensed in the State of Maryland																	
			- design to include meeting ACI Code 350.R/89; vertical loading		0.01	0.0501	83213	1.91	347	903	420	158	7	0.00	1.91		ALCROSCA	LE MICRO-BIORETENTION (M-6)		
			[H-10 or H-20]; allowable horizontal loading (based on soil	с	0.01	0.0301	03213	1.51	347	505	420	130		0.00	1.51	420		Surface Area of M-2 @ 1.0 ponding (75%	ah aya)	
Sand	AASHTO-M-6 or ASTM-C-33	0.00" to 0.04"	pressures); and analysis of potential cracking Sand substitutions such as Diabase and Graystone (AASHTO)	-												158		Stone Below MBR (Includes Rev)		x 0.4
	Additioned of Additio-0-55	0.02 10 0.04	#10 are not acceptable. No calcium carbonated or dolomitic sand													150	313	Stone Below MBR (Includes Rev)	1.23	A 0.4
			substitutions are acceptable. No "rock dust" can be used for sand.																	
					0.01	0.0501	29705	0.68	124	322	322	280	2	0.00	0.68	MRR#3 - N	ALCROSCA	LE MICRO-BIORETENTION (M-6)		
		-		D	0.01	0.0501	25705	0.00	167	JLL	366	200	2	0.00	0.00	747		Surface Area of M-2 @ 1.0 ponding (75%	above)	_
																280		Stone Below MBR (Includes Rev)		x 0.4
							1									200	500	Stone below Mon (Herubes Nev)		
"MICRO-BIOF	RETENTION/BIORE	ETENTION" PL	ANTING SCHEDULE NOTES:			-	1				1									
					0.01	0.0501	103653	2.38	433	1125	804		9	0.00	2.38	NON STRU		PRACTICE - NON-ROOFTOP DISCONN	FĊT	
1. ALL PLANI	MATERIALS SHALL BE	FULL AND HEAVY	7, BE WELL FORMED AND SYMMETRICAL,	E	0101	0.0501	100000	2.50					2	0.00	2100	0.000.000.000.000		1 75' DISCONNECT		
			TIONS AND BE INSTALLED IN	-	0.01	0.0501	21608	0.50	90	234	90		2	0.00	0.50	90	-			
ACCORDANC	CE WITH HOWARD COUL	NIT PLANTING SPE	EURICATIONS.		5.01	5.0501	21000	0.00		2.04			L	0.00	0.00	20				
Z. CONTRACIO	DR SHALL VERIFY LOCA	HUN OF ALL UND	DERGROUND UTILITIES PRIOR TO DIGGING.														ALCROSCA	LE MICRO-BIORETENTION (M-6)		_
			D VARY TO MEET FINAL FIELD		0.01	0.0501	82045	1.88	342	890	713	268	7	0.00	1.88	713				
			THE BOTTOM OF DRAINAGE SWALES.		0.01	0.0501	82045	1.00	542	050	/15	200	(0.00	1.00			Surface Area of M-2 @ 1.0 ponding (75%		
			OR TO BIDDING. IF PLAN DIFFERS													268	232	Stone Below MBR (Includes Rev)	1.25	x 0.4
	DSCAPE SCHEDULE, TH														44.0-					
5. MICROBIORI	ETENTION AREAS ARE 1	TO BE PLANTED B	BASED ON A MINIMUM DENSITY OF	TOTAL	0.12	0.0511	517849	11.89	2205	5734	3181	962	636	0.01	11.87					

- 1000 STEMS PER PLANTED ACRE (.0227 STEMS PER SQUARE FOOT). ABOVE PLANTING RATIOS ARE TO BE APPLIED TO THE AREAS PROVIDED IN THE ESDY SUMMARY. 6. FILTER AREA SHALL BE 50% COVERED BY PLANTINGS AT FULL GROWTH

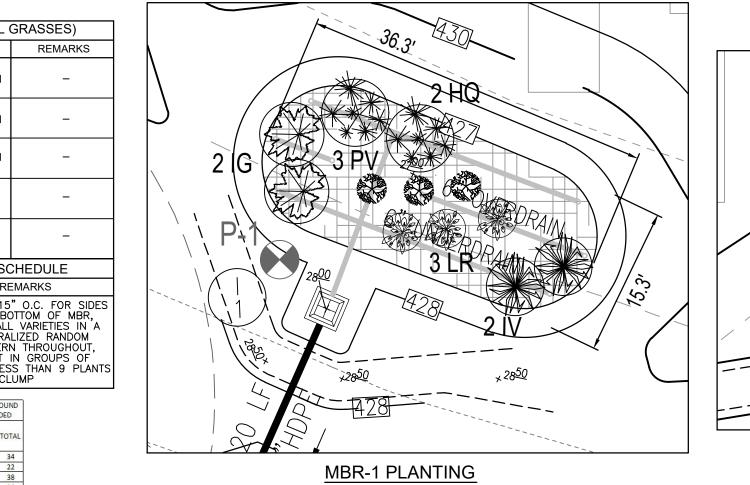
BIORE	TEN	TION		NTING	SCH	EDUL	E (SH	IRUB	/ORI	NIME	ENTA	L GI	RASSES)
LEGEND/K	EYQ	QTΥ	BOT	ANICAL I	NAME/	COMN	10N N	AME		S	IZE		REMAR
۲.	G	7		ILEX GLABRA 'SHAMROCK' INKBERRY HOLLEY			1 G	ALLO	N	-			
	v	7		ITEA VIRGINICA 'HENRY'S GARNETT' VIRGINIA SWEETSPIRE				1 G	ALLO	N	_		
Interest of the second secon	IQ	10		ANGEA (EAF HYE			A			1 G	ALLO	N	_
L	.R	11		OTHEO ERBUSH	RACEN	IOSA				1	GAL.		_
R F	٧V	11		PANICUM VIRGATUM SWITCHGRASS				1	GAL.		_		
BIOF	RETE	NTI	ON PE	RENNI	ALS/	GROI	JNDC	COVE	R PL	.ANT	ING	SCH	IEDULE
LEGEND	Q	QTΥ	BOT	ANICAL	NAME	/COMI	MON N	IAME	SIZ	ΖE		REM	IARKS
		65		TISIA AUS E INDIG		IS			4"	РОТ	AND MIX NATU	BOT ALL IRALI	O.C. FOR S TOM OF ME VARIETIES I ZED RANDO
		65		RUS GRA DEN VAR				FLAG	1 (QT.	PLAN NO I	IT IN	THROUGHO GROUPS (THAN 9 P MP
MICRO-BIOR	ETENTION	N PLANT	ING REQUI	REMENTS		PLANT	INGS PRO	MDED			NIALS/GI		
MBR # L	F A	REA	STEMS REQUIRED (0.0227)	STEMS PROVIDED	IG	IV	HQ	LR	PV	BA	AG	TOTAL]

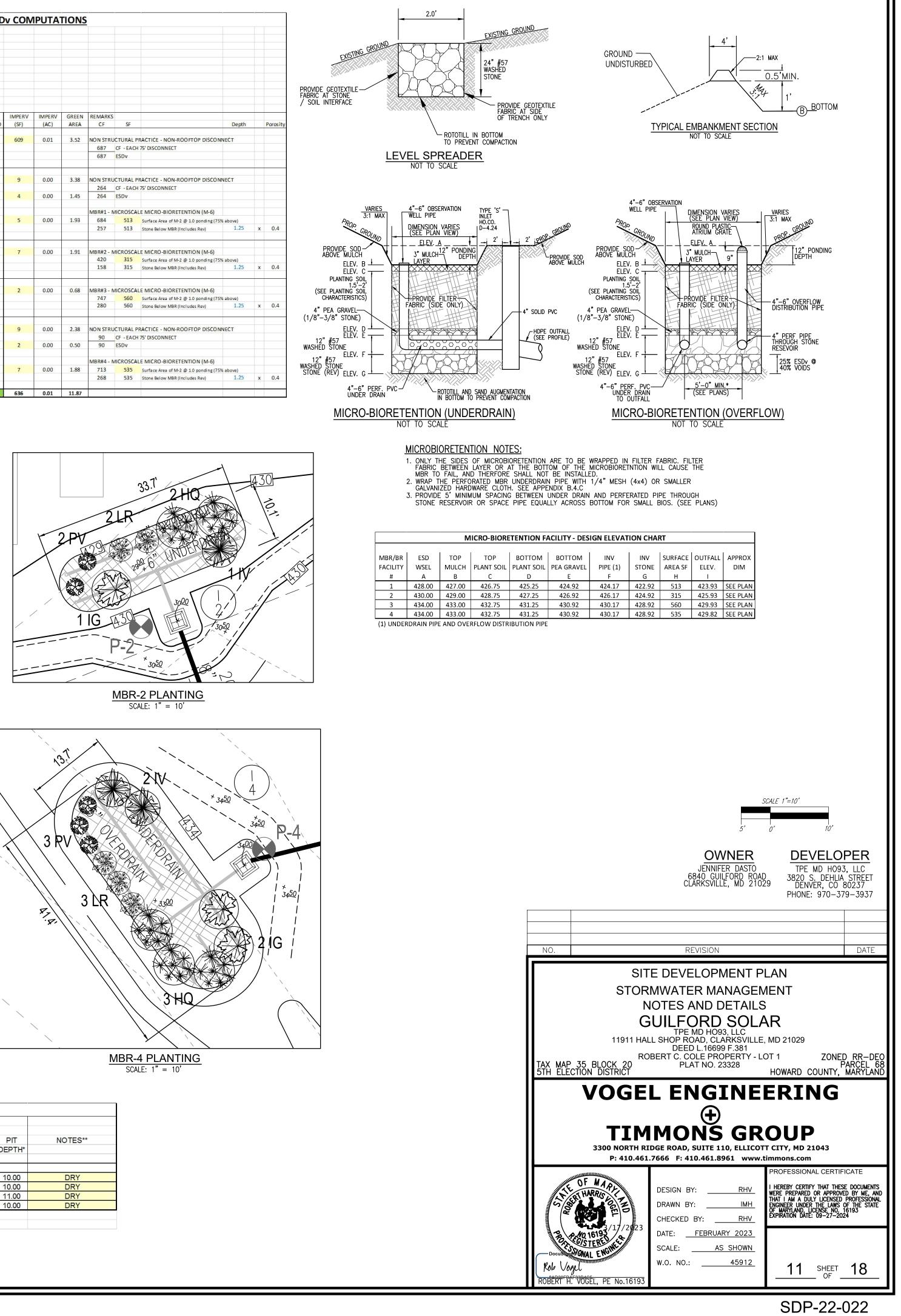
Appendix A. Landscaping Guidance for Stormwater BMPs Specific Landscaping Criteria

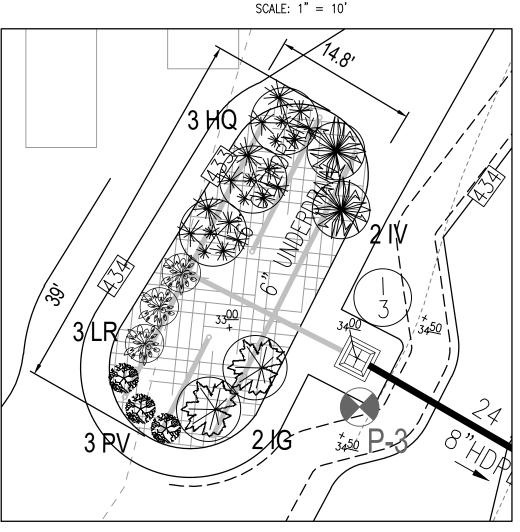
Table A.4 Commonly Used	Species for Bioretention Areas	······································
Trees	Shrubs	Herbaceous Species
Arer rubrum	Aesculus pariviflora	Andropogon virginicus
Re Maple	Bottlebrush Buckeye	Broomsedge
Betu a nigra	Cephalanthus occidentalis	Eupatorium perpurea
River Birch	Buttonbush	Joe Pye Weed
Juniperus virginiana	Hamemelis virginiana	Scirpus pungens
Eastern Led Cedar	Witch Hazel	Three Square Bulrush
Chionanth is virgin cus	Vaccinium corymbosum	Iris versicolor
Fringe-tree	Highbush Blueberry	Blue Flag
Nyssa sylvativa	Ilex giabra	Lobelia cardinalis
Black Gum	Inkberry	Cardinal Flower
Diospyros virginiana	Ilex verticillata	Panicum virgatum
Persimmon	Winterberry	Switchgrass
Platanus accidenta is	Viburnum dentatum	Dichanthelium scoparium
Sycamor	Arrowwood	Broom Panic Grass
Quercu palustris	Lindera benzoin	Rudbeckia laciniata
Pin Ok	Spicebush	Tall Coneflower
Que cus phellos	Myrica pennsylvanica	Scirpus cyperinus
Willow Oak	Bayberry	Woolgrass
S lix nigra		Vernonia noveboracensis
lack willow		New York Ironweed

Note 1: For more options on plant selection for bioretention, consult Bioretention Manual (ETAB, 1993) or the Design of Stormwater Filtering Systems (Claytor and Schueler, 1997).

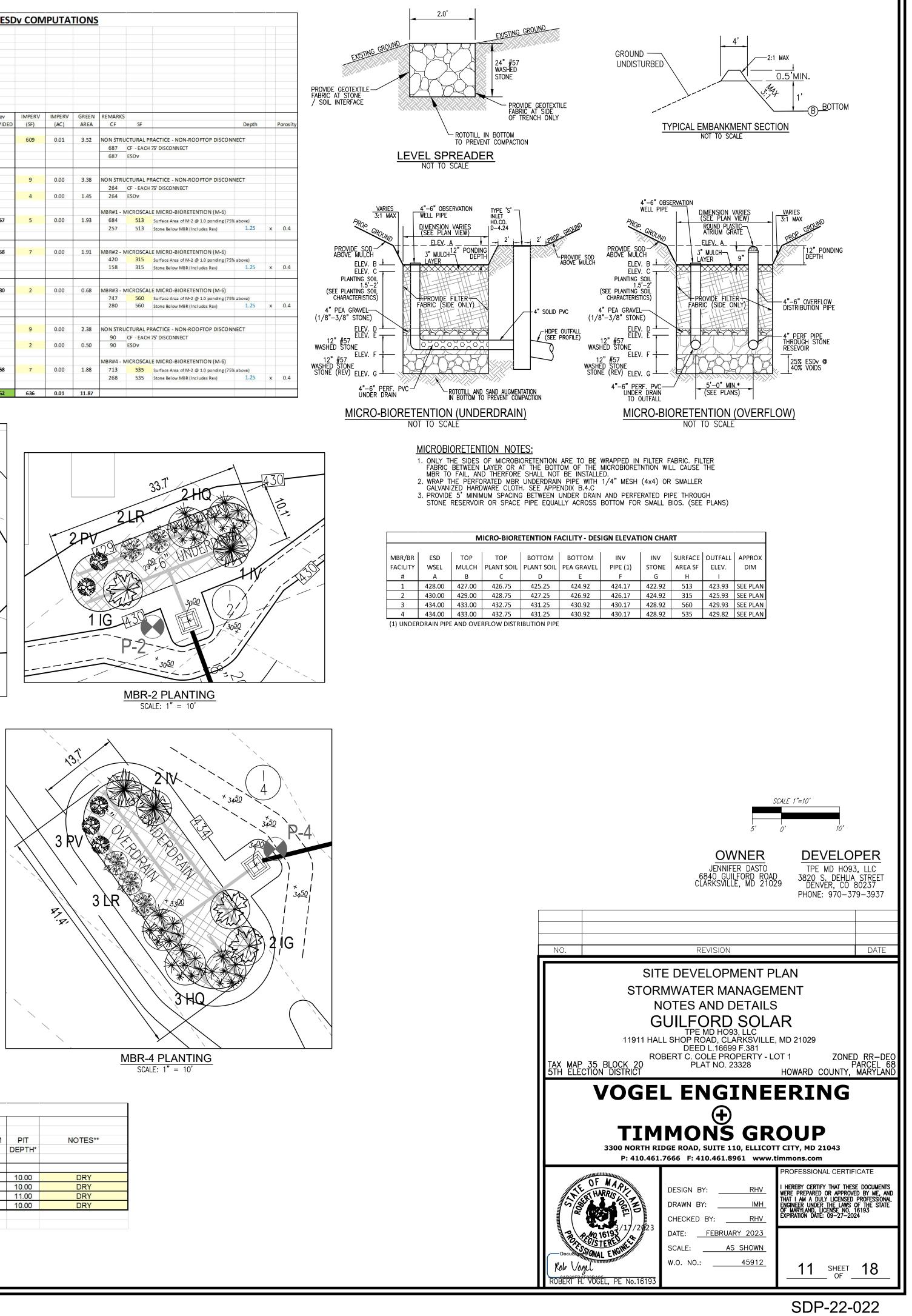
- 1. TABLE A.4 IS TAKEN FROM THE "2000 MARYLAND STORMWATER DESIGN MANUAL VOLUME II – APPENDIX A. 2. CONTRACTOR SHALL BE FAMILIAR WITH APPENDIX B.4.C. CONSTRUCTION SPECIFICATIONS AND TABLE B.4.1 MATERIAL SPECFICAITIONS. IN ADDITION THE "2000 MARYLAND STORMWATER DESIGN MANUAL – VOLUME II – APPENDIX A
- OFFERS ADDITIONAL HELPFUL INFORMATION. 3. NO TREES SHALL BE PLANTED WITHIN A MICRO-BIORETENTION FACILITY. USE ONLY SHRUB OR HERBACEOUS SPECIES.
- 4. ABOVE TABLE A.4. IS FOR INFORMATIONAL PURPOSES ONLY. LANDSCAPE CONTRACTOR SHALL INSTALL PLANTINGS SPECIFIED OR USE APPRO SPECIES WHICH ARE TOLERANT TO FLUCTUATING WATER LEVELS.
- 5. PLANTINGS SHOWN HEREON ARE THE RESPONSIBILITY OF THE DEV INSTALL DURING THE CONSTRUCTION OF THIS FINAL PLAN.





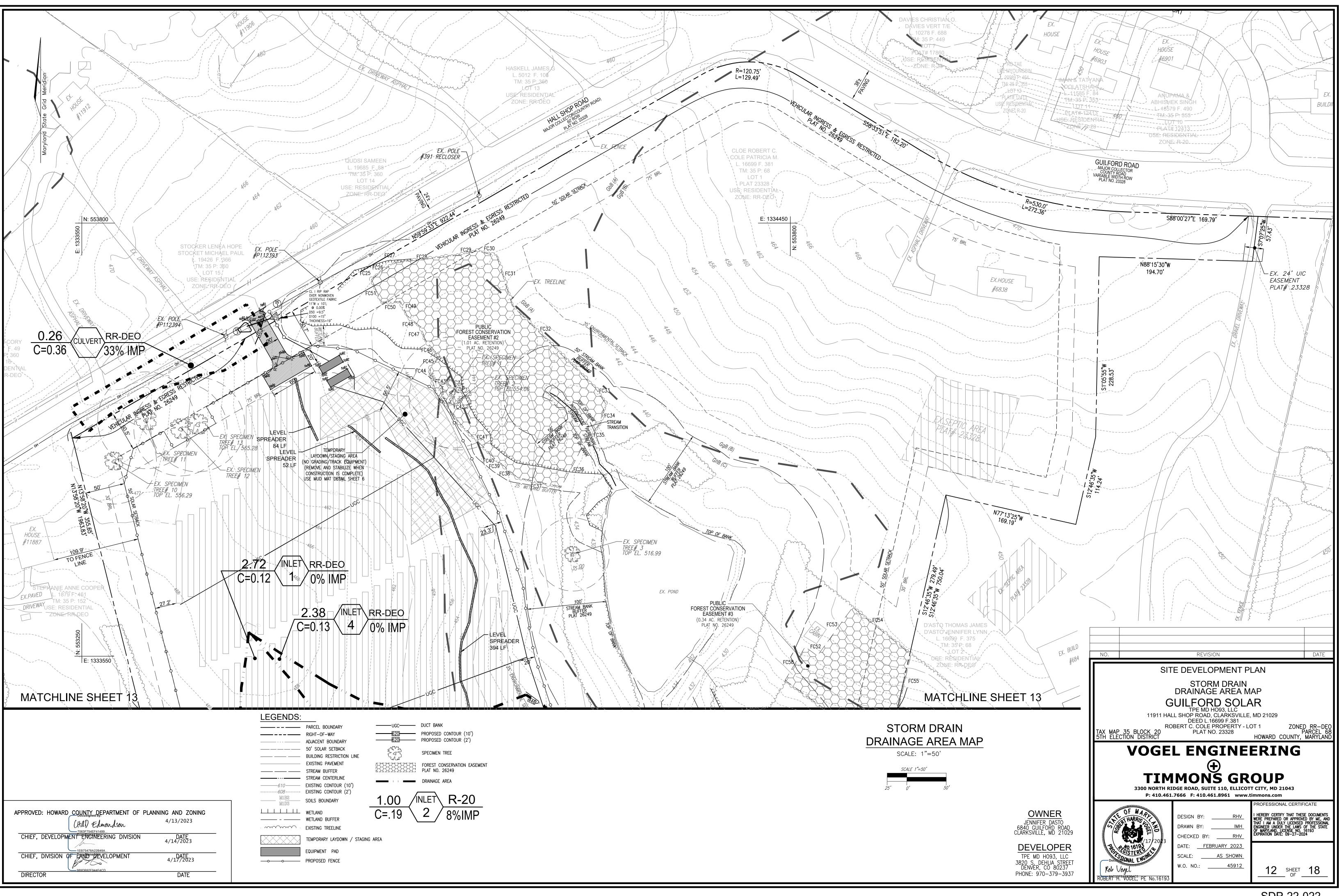


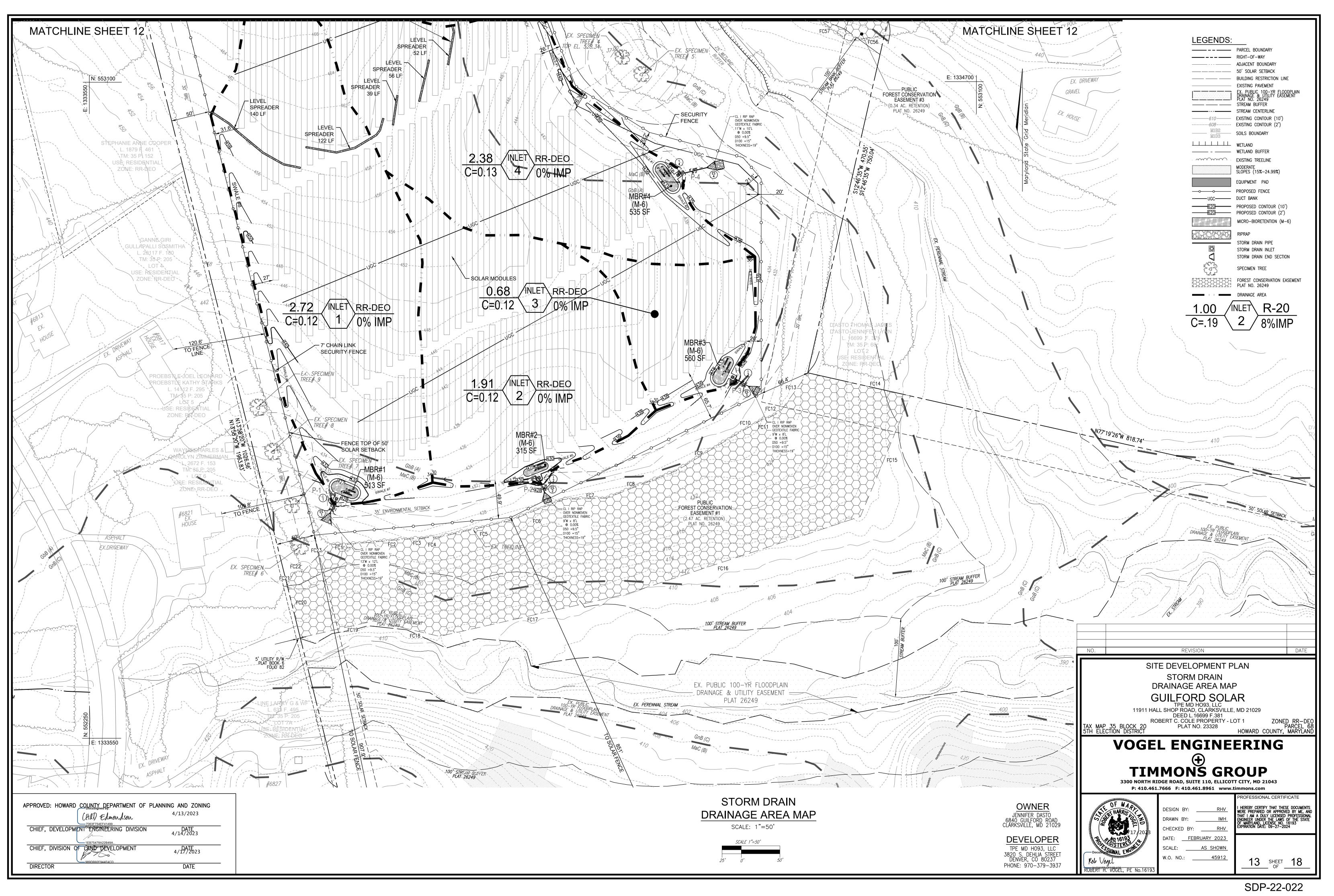
MBR-3 PLANTING SCALE: 1'' = 10'

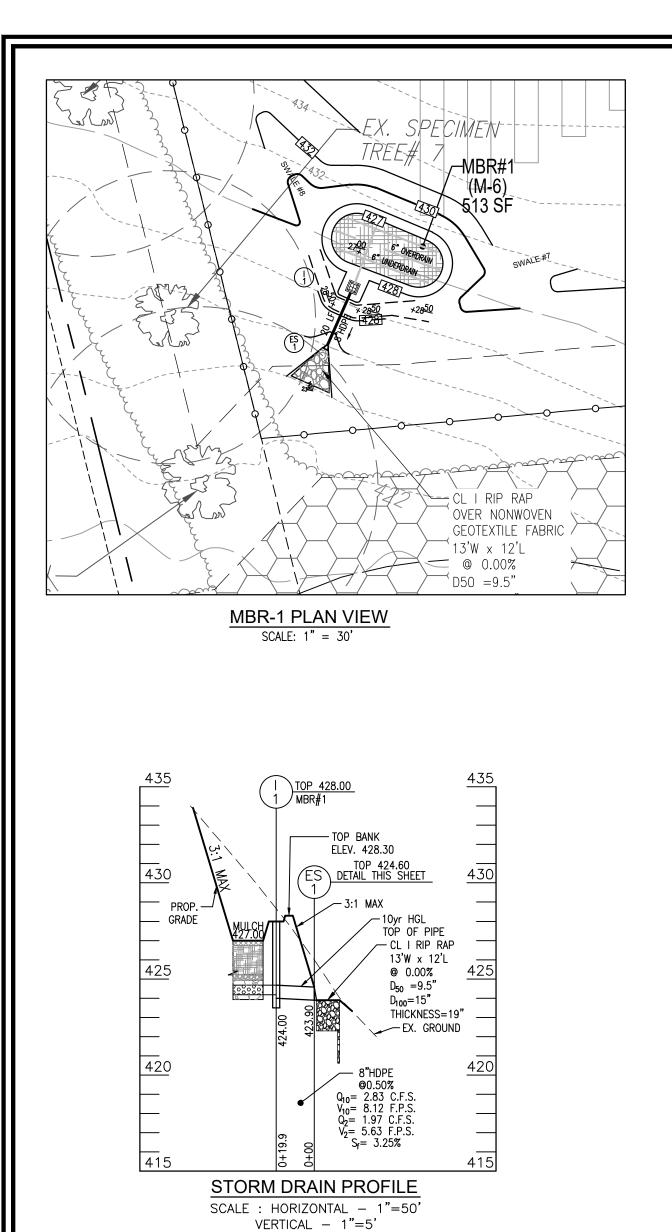


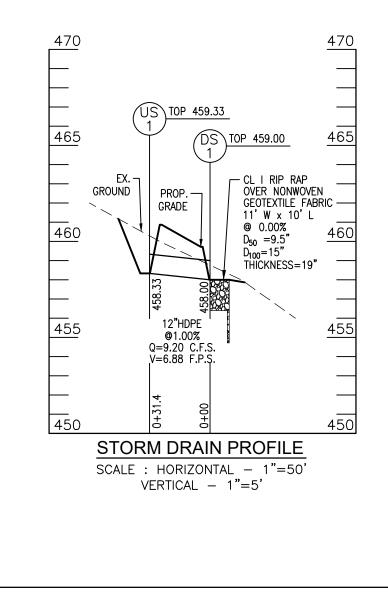
OVED	EQUAL	
VELOP	ER TO	

			TEST	PIT DATA		1	
BORING #	APPROX.	APPROX.	INVERT				
	EXIST	PROP	FACILITY /	DEPTH TO	BOTTOM	PIT	NOTES**
	GROUND	GROUND	PRACTICE	GROUNDWATER	PIT	DEPTH*	
	ELEV	ELEV					
TEST PITS							
P-1	429.00	427.00	422.00	-	419.00	10.00	DRY
P-2	428.78	429.00	424.00	-	418.78	10.00	DRY
P-3	434.00	433.00	428.00	-	423.00	11.00	DRY
P-4	434.82	433.00	428.00	-	424.82	10.00	DRY
* REQUIRE	D DEPTH OR UNTI	L REFUSAL					
** PLEASE	NOTE DEPTH OF	GROUNDWATER.	IF ENCOUN	TERED			

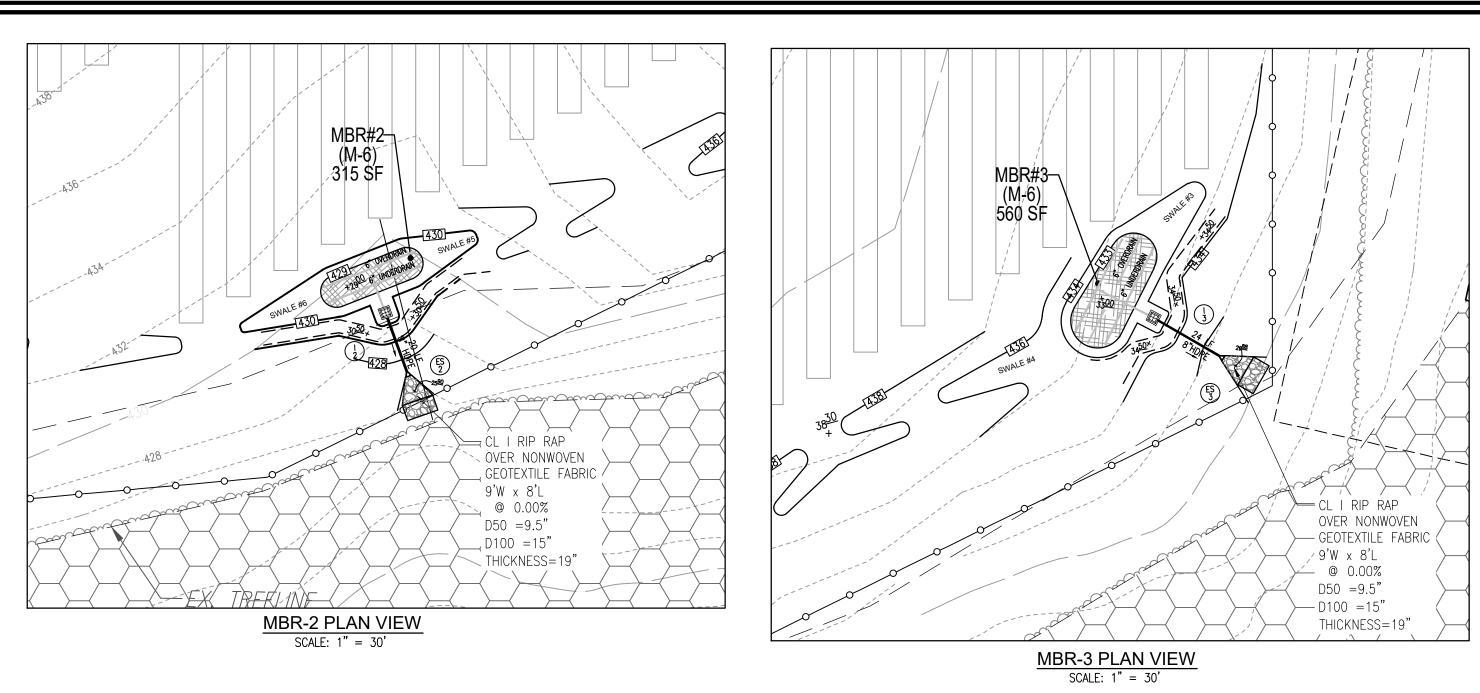


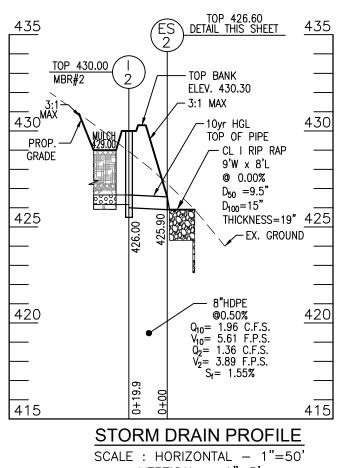




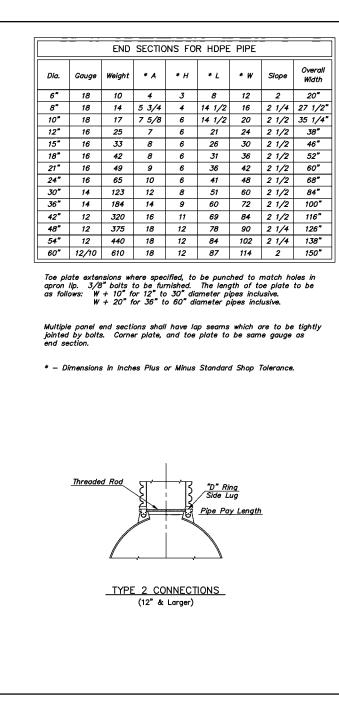


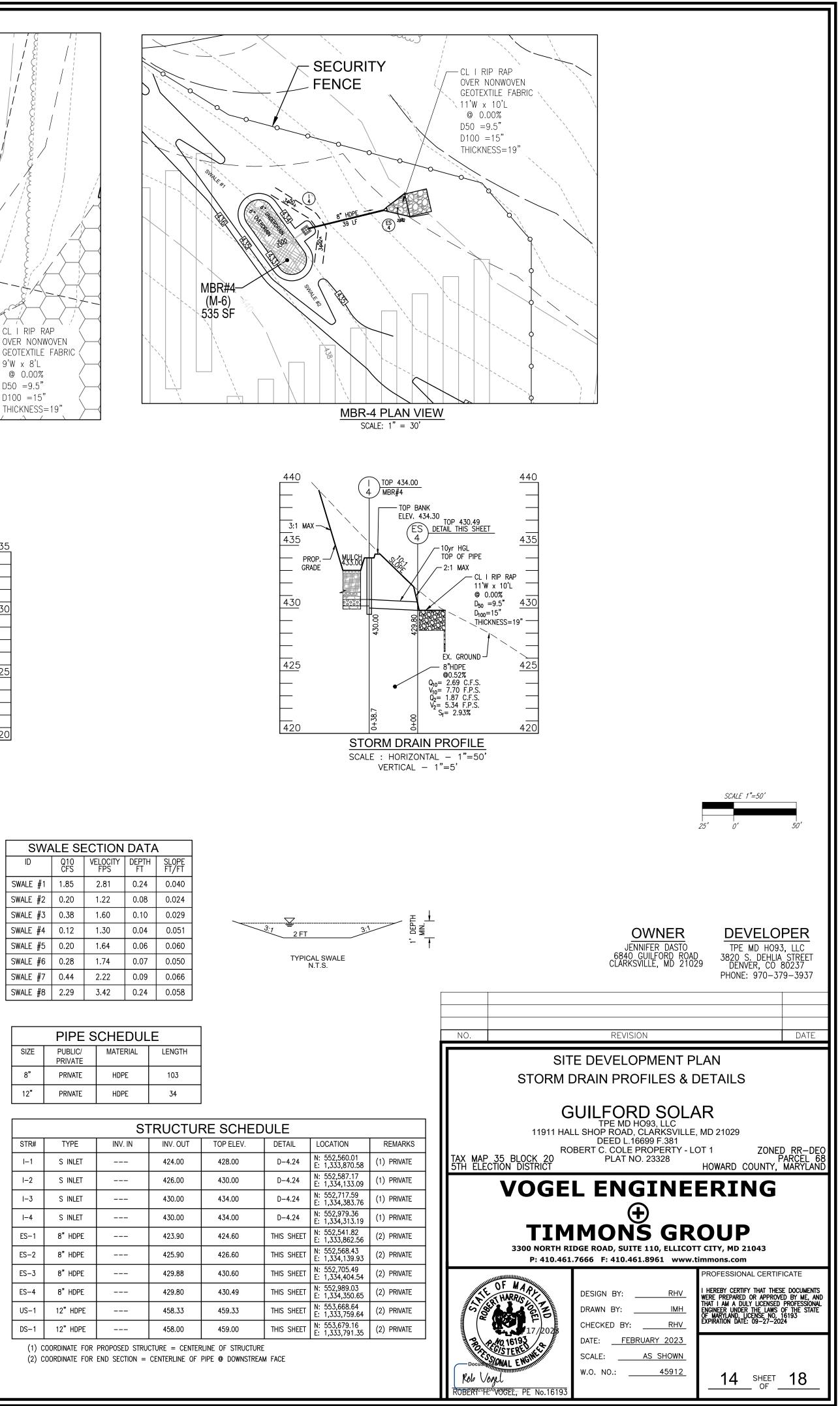
APPROVED: HOWARD COUNTY DEPARTMENT OF (HD) Edmondson	PLANNING AND ZONING 4/13/2023
CHIEF, DEVELOPMENTPOEINGENEERING DIVISION	DATE 4/14/2023
CHIEF, DIVISION OF PAND PEVELOPMENT	DATE 4/17/2023
DIRECTOR	DATE

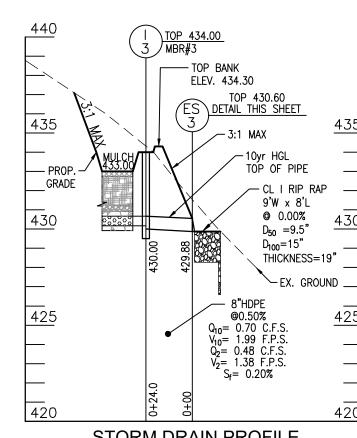




VERTICAL – 1"=5'





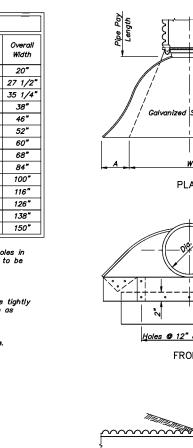


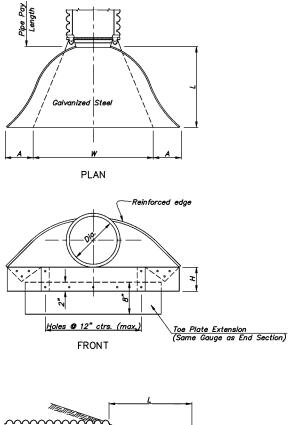
STORM DRAIN PROFILE SCALE : HORIZONTAL - 1"=50" VERTICAL - 1"=5'

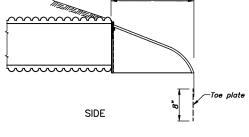
ID	Q10 ČFS	VELOCITY FPS	DEPTH FT	SLOPE FT/FT
SWALE #1	1.85	2.81	0.24	0.040
SWALE #2	0.20	1.22	0.08	0.024
SWALE #3	0.38	1.60	0.10	0.029
SWALE #4	0.12	1.30	0.04	0.051
SWALE #5	0.20	1.64	0.06	0.060
SWALE #6	0.28	1.74	0.07	0.050
SWALE #7	0.44	2.22	0.09	0.066
SWALE #8	2.29	3.42	0.24	0.058

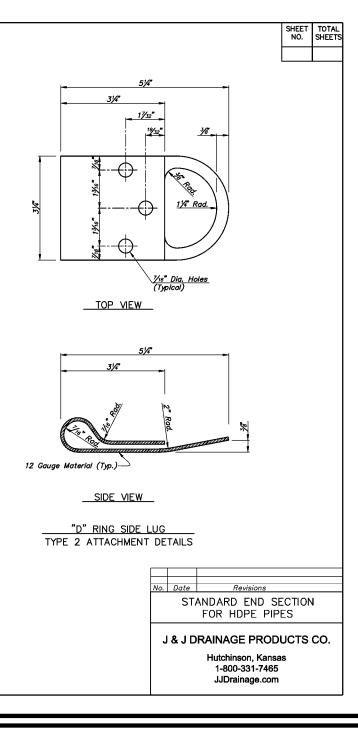
	PIPE S	CHEDUL	.E
SIZE	PUBLIC/ PRIVATE	MATERIAL	LENGTH
8"	PRIVATE	HDPE	103
12"	PRIVATE	HDPE	34

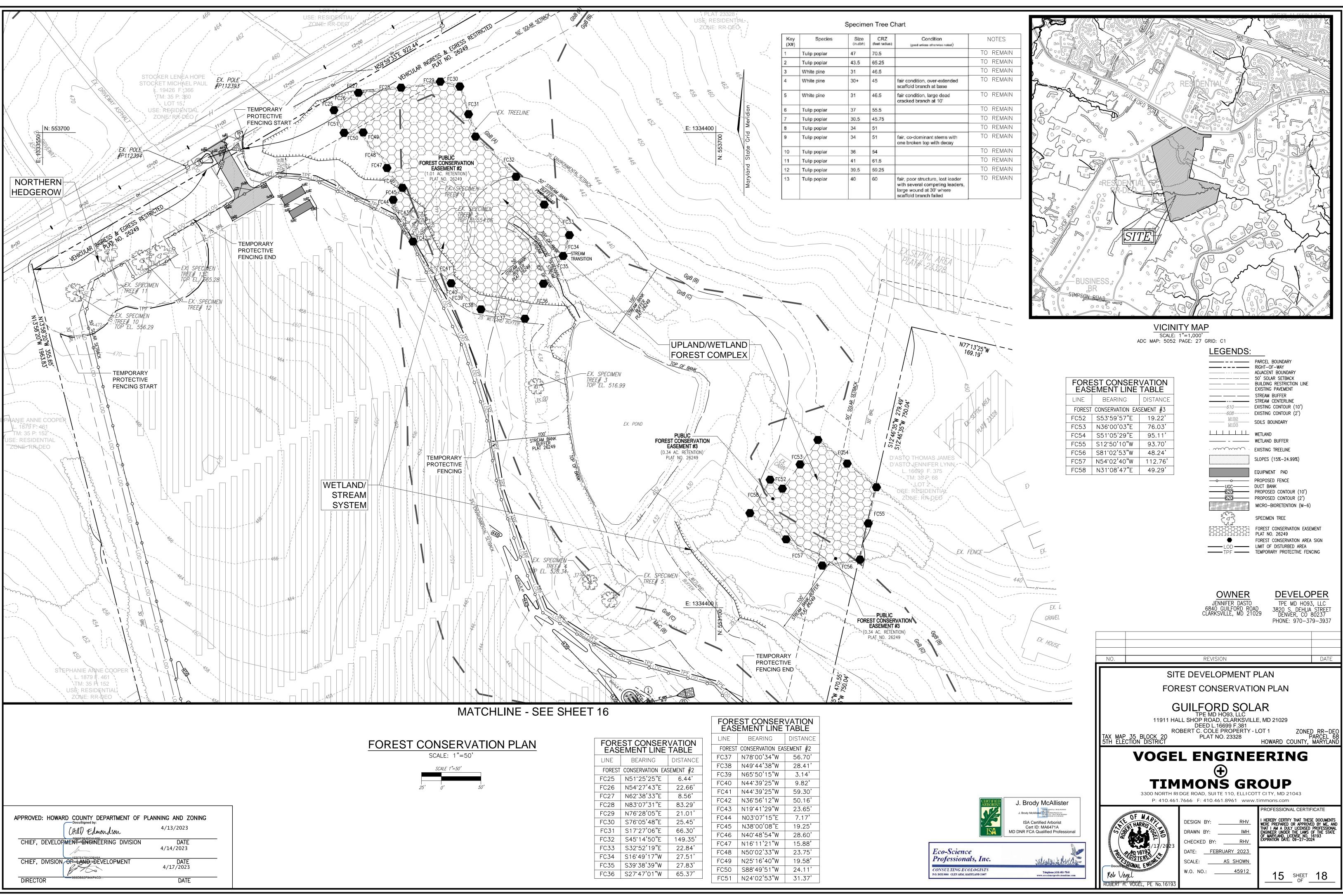
		ST	FRUCTU	RE
STR#	TYPE	INV. IN	INV. OUT	
I-1	S INLET		424.00	
I-2	S INLET		426.00	
-3	S INLET		430.00	
-4	S INLET		430.00	
ES-1	8" HDPE		423.90	
ES-2	8" HDPE		425.90	
ES-3	8"HDPE		429.88	
ES-4	8" HDPE		429.80	
US-1	12"HDPE		458.33	
DS-1	12"HDPE		458.00	
(1) COORDINATE FOR PROPOSED STRUCTURE = CENTERLIN(2) COORDINATE FOR END SECTION = CENTERLINE OF PIP				





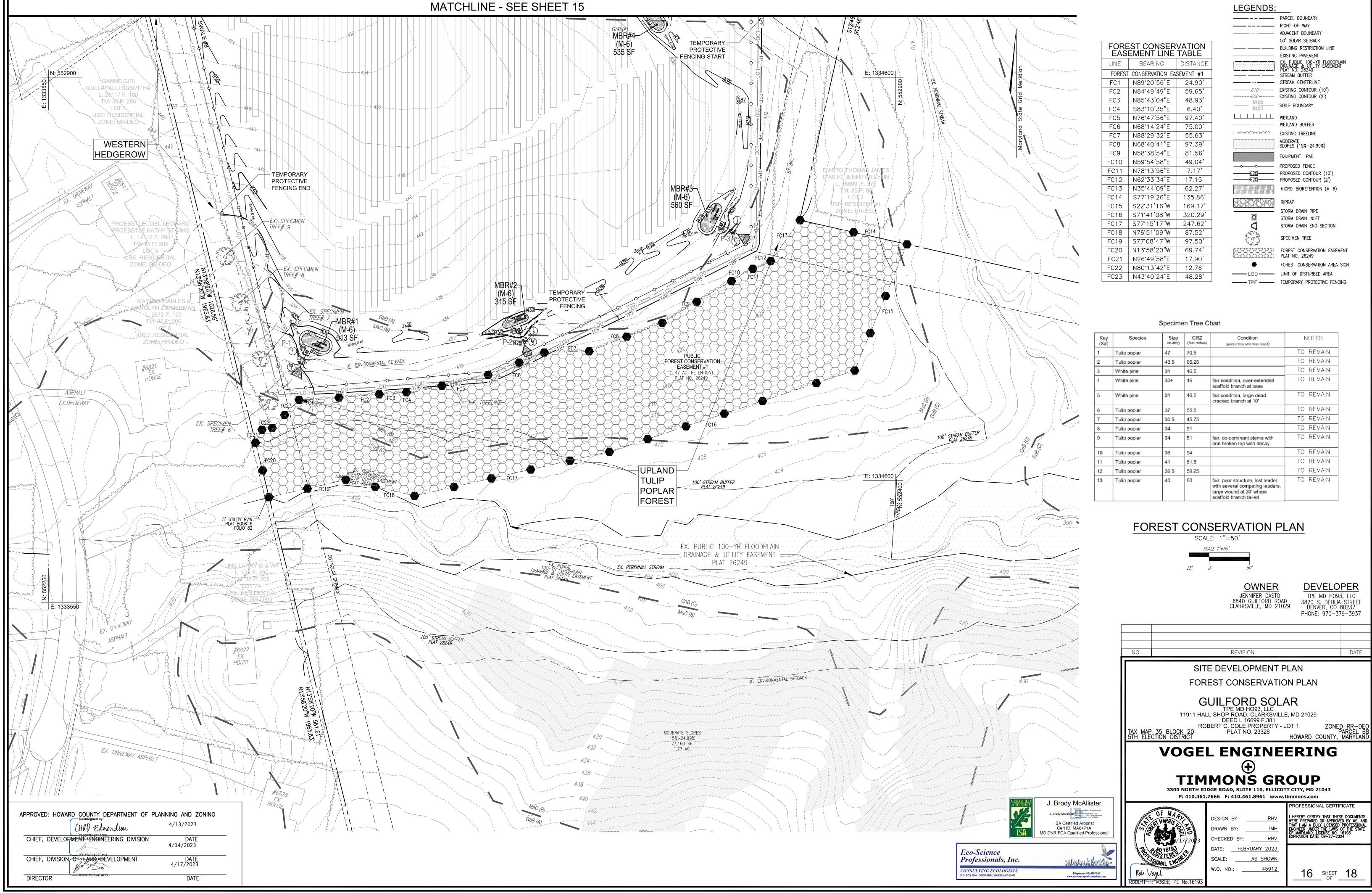






	EST CONSER	
LINE	BEARING	DISTANCE
FOREST	CONSERVATION EA	SEMENT #2
FC25	N51°25'25"E	6.44'
FC26	N54 [•] 27'43"E	22.66'
FC27	N62'38'33"E	8.56'
FC28	N83.07,31,E	83.29'
FC29	N76'28'05"E	21.01'
FC30	S76'05'48"E	25.45'
FC31	S17°27'06"E	66.30'
FC32	S45'14'50"E	149.35'
FC33	S32 [•] 52'19"E	22.84'
FC34	S16'49'17"W	27.51'
FC35	S39'38'39"W	27.83'
FC36	S27'47'01"W	65.37 '

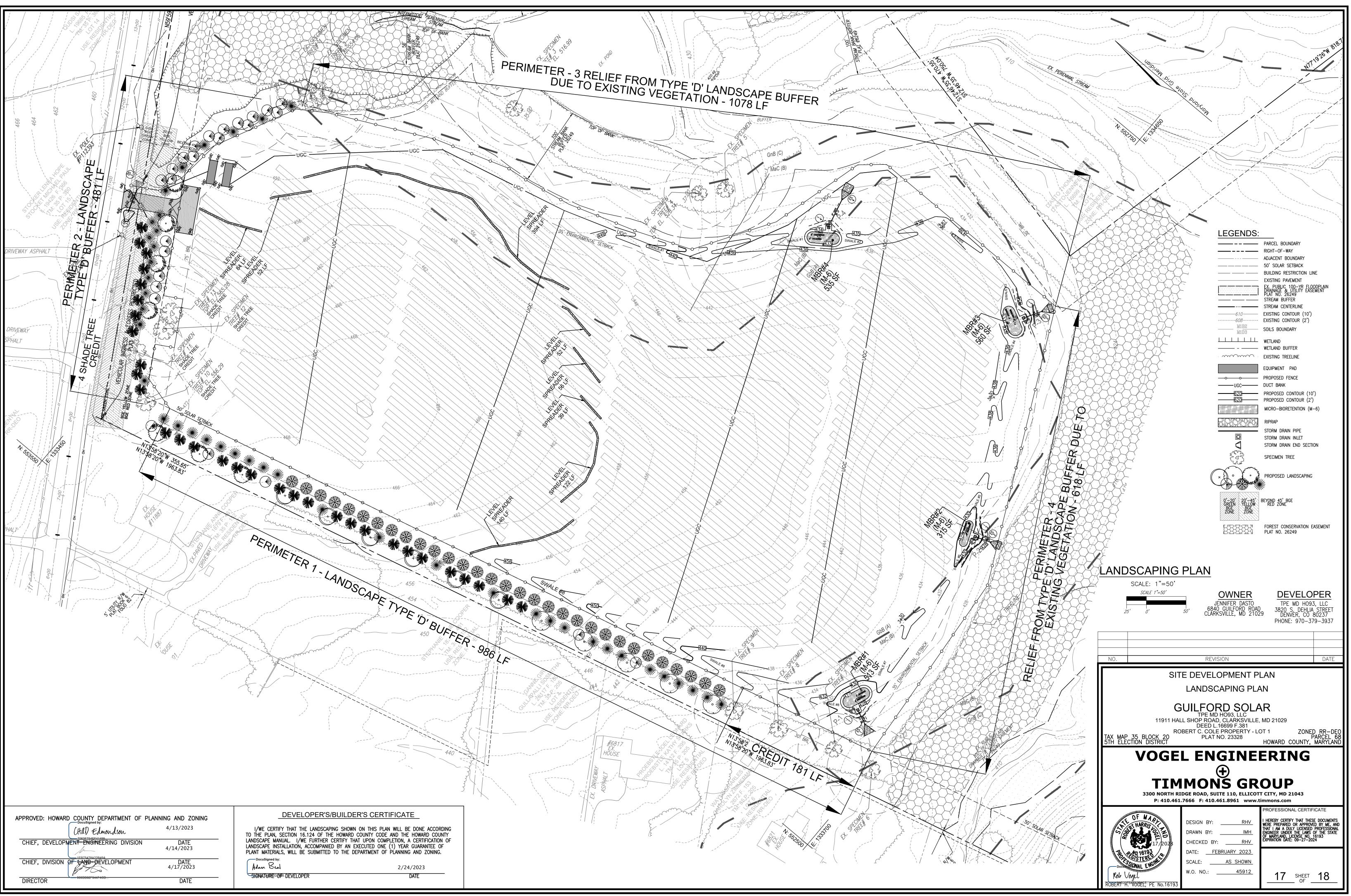
FORE EAS	ST CONSER	VATION TABLE
LINE	BEARING	DISTANCE
FOREST	CONSERVATION EAS	SEMENT #2
FC37	N78'00'34"W	56.70'
FC38	N49 · 44'38"W	28.41'
FC39	N65.20,12,M	3.14'
FC40	N44'39'25"W	9.82'
FC41	N44'39'25"W	59.30'
FC42	N36'56'12"W	50.16'
FC43	N19'41'29"W	23.65'
FC44	N03°07'15"E	7.17'
FC45	N38°00'08"E	19.25 '
FC46	N40'48'54"W	28.60'
FC47	N16.11,21.W	15.88'
FC48	N50'02'33"W	23.75'
FC49	N25'16'40"W	19.58'
FC50	S88'49'51"W	24.11'
FC51	N24'02'53"W	31.37'



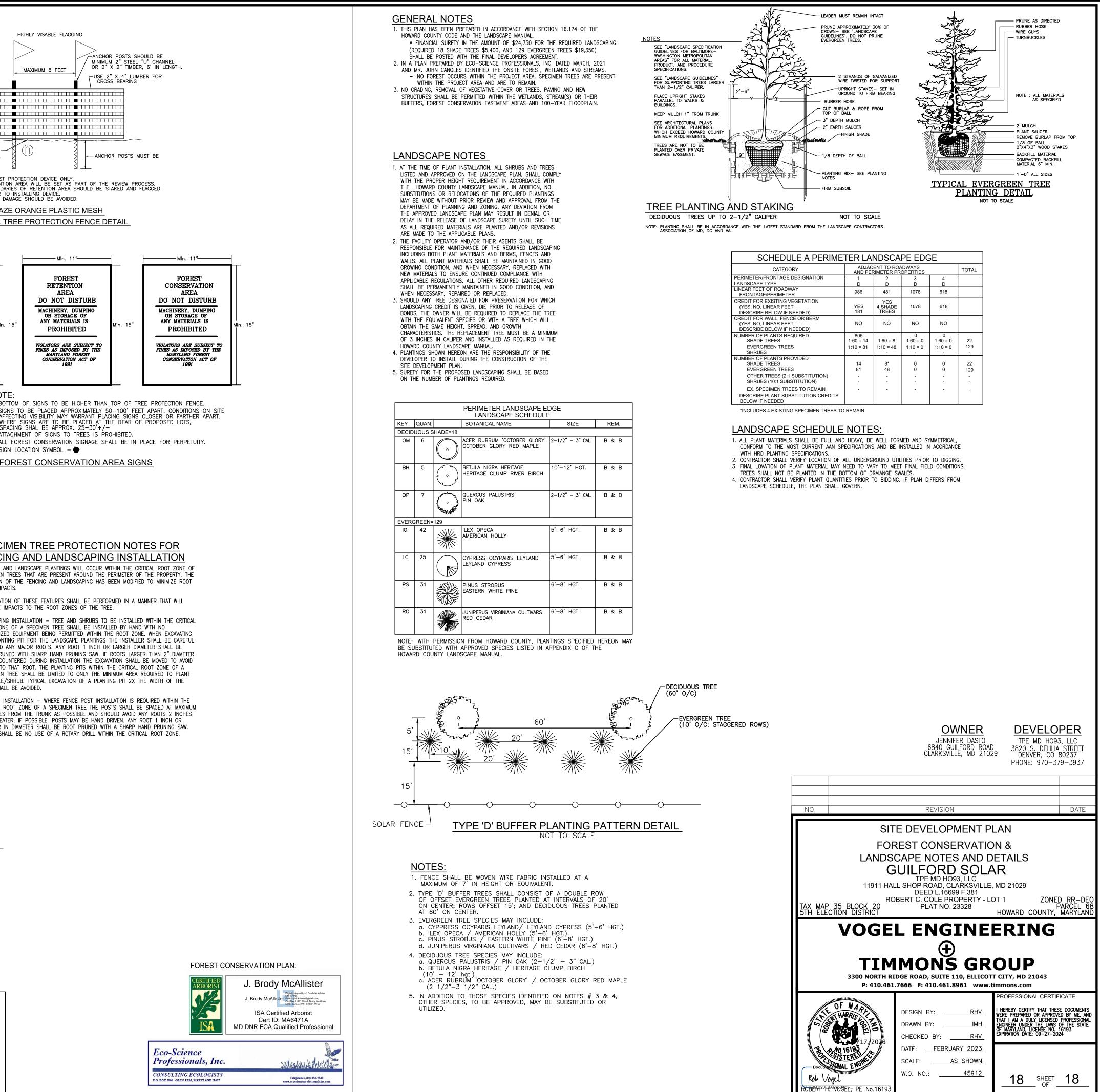
FORE EAS	EST CONSER EMENT LINE	VATION TABLE
LINE	BEARING	DISTANCE
FOREST	CONSERVATION EA	SEMENT #1
FC1	N89°20'56"E	24.90'
FC2	N84°49'49"E	59.65'
FC3	N85°43'04"E	48.93'
FC4	S83°10'35"E	6.40'
FC5	N76°47'56"E	97.40 '
FC6	N68°14'24"E	75.00 '
FC7	N88°29'32"E	55.63 '
FC8	N68°40'41"E	97.39 '
FC9	N58°38'54"E	81.56 '
FC10	N59°54'58"E	49.04'
FC11	N78°13'56"E	7.17'
FC12	N62°33'34"E	17.15'
FC13	N35°44'09"E	62.27 '
FC14	S77°19'26"E	135.86'
FC15	S22°31'16"W	169.17'
FC16	S71°41'08"W	320.29'
FC17	S77°15'17"W	247.62'
FC18	N76°51'09"W	87.52 '
FC19	S77°08'47"W	97.50 '
FC20	N13°58'20"W	69.74 '
FC21	N26°49'58"E	17.90'
FC22	N80°13'42"E	12.76'
FC23	N43°40'24"E	48.28'

LEGENDS:
610 608 M1B2
<u>620</u>
<u>82882868</u>

Key (X#)	Species	Size (in.dbh)	CRZ (feet radius)	Condition (good unless otherwise noted)	NOTES
1	Tulip poplar	47	70.5		TO REMAIN
2	Tulip poplar	43.5	65.25		TO REMAIN
3	White pine	31	46.5		TO REMAIN
4	White pine	30+	45	fair condition, over-extended scaffold branch at base	to remain
5	White pine	31	46.5	fair condition, large dead cracked branch at 10'	TO REMAIN
6	Tulip poplar	37	55.5		TO REMAIN
7	Tulip poplar	30.5	45.75		TO REMAIN
8	Tulip poplar	34	51		TO REMAIN
9	Tulip poplar	34	51	fair, co-dominant stems with one broken top with decay	to remain
10	Tulip poplar	36	54		TO REMAIN
11	Tulip poplar	41	61.5		TO REMAIN
12	Tulip poplar	39.5	59.25		TO REMAIN
13	Tulip poplar	40	60	fair, poor structure, lost leader with several competing leaders, large wound at 30' where scaffold branch failed	TO REMAIN



	-		RAL NOT	ES				
WATERSHED N WATERSHED N	UMBER: 02		NT RIVER					
A. GROSS SIT NET SITE / B. *AREA OF	AREA:					R CONDITIO	IAL USE PLAN) IAL USE PLAN)	
C. *AREA OF		ND BUFFEF	RS (ON PRO	PERTY):	2.47 AC. 12.99 AC.	.1VI		
D. *AREA OF E. *EXISTING	> 25% STEE			·	0.00 AC. 25.93 AC.			
F. ZONED: G. EXISTING L H. PROPOSED					RR-DEO AGRICULTURE SOLAR PANEL			
NOTE:		IRES ARE	LOCATED WI		MIT OF DISTURI			
1. NO RARI	, THREATENE	D OR END	ANGERED SE	PECIES WERE	OBSERVED O	R HAVE BEE	N REPORTED TO OCCUR ON THE PROJECT AREA.	
WETLAND	S, STREAMS	OR BUFFE	R OCCUR W		ROPOSED PRO		OF THE MIDDLE PATUXENT RIVER (02–13–11). NO	USE 8' WIRE "U" TO
4. STEEP S 5. NO HIST	LOPES ARE I ORIC ELEMEN	NOT PRESE TS OF CE	ENT WITHIN T METERIES AR	THE PROJECT RE KNOWN TO	F AREA. D OCCUR ON ^T			SECURE FENCE BOTTOM.
							WITHIN THE PROJECT AREA AND ARE TO REMAIN. S EXIST ONSITE.	<u>NOTES:</u> 1. FOREST F 2. RETENTIO
FORES	CONSE	RVATIO	ON WOR	KSHEET	BASED C	ON COUN	ICIL BILL CB62-2019	3. BOUNDAR PRIOR TO 4. ROOT DAI
	FOREST	CONSERVA	TION WORKS	SHEET FOR G	UILFORD SOI	LAR		<u>BLAZI</u> TYPICAL TE
Net Tract Are A. Total (G	a oss) Tract Are	a				A = 🔢	2.80	
C. Other De	hin 100-year Fielductions (Iden	-) C =	0.00	
D. Net Trac Land Use Cat	egory					D = <u>1</u>	2.80	Min. 11"
Insert the num Resid		ie appropria Resio		nit to only one Retail/Ind	entry) I./ Mixed Use/			SPECIMEN TREE
Rural I	D Rural MI	D Suburb 0		r Office 1	PUD 0			DO NOT REMOVE
	ition Threshold		(Net Trac				1.90	MACHINERY, DUMPING OR STORAGE OF
F. Reforest Existing Fore	ation Threshold st Cover	2	(Net Trac	X Area X	15%) F=	1.90	ANY MATERIALS IS PROHIBITED
H. Area of I	Forest Cover w orest above A	forestation	Threshold			H =	0.00	VIOLATORS ARE SUBJECT TO FINES AS IMPOSED BY THE
I. Area of I Break Even P	⁻ orest above R oint	eforestation	Ihreshold			I #	0.00	MARYLAND FOREST CONSERVATION ACT OF 1991
	ren Point learing Permitt	ed without N	liligation				<u>).00</u>	
Proposed For L. Total Are	est Clearing a of Forest to i	be Cleared					0.00	NOTE
M. Total Arc Planting Requ	a of Forest to i irements Insi		ed			M =().00	1. BOT 2. SIGN AFFI
P Reforest	ation for Cleari alion for Cleari	ng below the	e Reforestation	n Threshold			0.00	WHE SPA 3. ATTA
R. Total Re	r Retention abo forestation Rec	luired	restation Thre	shold		R =	0.00 0.00	4. ALL 5. SIGN
T Total Re	orestation Req	Afforestatio		ıt		1≖	1.90 1.90	FO
	otal Obligation Required Onsi						<u>1.40</u>	
Planting Requ	i rements Out nting within De			t		W= 200	0.00	
X. Total Aff	orestation Req ng Planting witi	uired				X=	1.90 0.00	
Z. Reforest	ation for Cleari alion for Cleari	ng above the	e Reforestation	n Threshold			0.00	
CC. Total Re	r Retention abo forestation Rec	uired				CC=	0.00	SPECIN
	3.2.5, COMM				OPERTY, OF THE		.90	FENCIN FENCING AN
AREA UNDERG	OING THE LAN	D USE CHA	NGE.		T AREA IS DEFIN			SPECIMEN T LOCATION OI
	ISFIED BY ON				90 ACRES OF A T ON LOT 1 OU			ZONE IMPAC
					FULFILLED BY:			MINIMIZE IMF
1) THE RET EXISTING	ENTION OF 3.8 FOREST ON L	32 ACRES (.OT 1 OUTS	3.82 / 2 (0 IDE OF PROJ	ECT AREA. PL	JECT AREA) = 1 AT NO. 26249.	1.91 ACRES (REDIT) OF	LANDCAPING ROOT ZONE MECHANIZED
								THE PLANTIN TO AVOID AI
				EMENT TAB				ROOT PRUNI ARE ENCOUI IMPACT TO
EASEN		RETENTI	ON I-CREDITED	REFORESTA	TION TOTAL			SPECIMEN T THE TREE/S
FCE#			0 AC 0 AC	0 AC 0 AC	2.47 A			BALL SHALL FENCING INS
FCE	3 0.34	- AC	0 AC	0 AC	0.34 A	_		CRITICAL RO DISTANCES F
	L 3.82	AC	0 AC	0 AC	3.82 A			AND GREATE GREATER IN THERE SHAL
					CONSER			
1. PRECONSTR	UCTION MEE	TING /SITE	WALK WITH	CONTRACTO	RS AND OTHER	2		
TO POINT	OUT PARTICU	LAR TREES	TO BE SAV	ÆD.	TO BE UTILIZE			
3. INSTALL TR	EE PROTECTI	ON FENCIN	IG: FENCING	TO BE INS	SPECTED BY TH	HE PROJECT		
WORKS-CC	NSTRUCTION	INSPECTIO	N DIVISION.		AS PER APPRO			
CONTROL F WORKS-CC	PLAN - TO E NSTRUCTION	BE INSPECT	TED BY HOW N DIVISION.	ARD COUNTY	DEPARTMENT	OF PUBLIC	CONSTRUCTION PERIOD PF	ROTECTION AND
GRADING A	ND UTILITY C	ONSTRUCT	ON HAS O	CCURED AND	ED AFTER ALL WITH APPROV DNSTRUCTION I	AL FROM	MANAGEMENT NOTES FOR	
DIVISION.							PRE-CONSTRUCTION PHASE 1. FOR RETENTION AREAS, INSTALL BLAZE O BEFORE CONSTRUCTION BEGINS.	RANGE FENCE AND RETENTION SIGNS
FOREST	RETENT	ION AR	EAS ANI	D NOTES	<u> </u>		 FENCING SHALL BE MAINTAINED IN GOOD OR RESTORED AS THE SITUATION WARRAN A QUALIFIED TREE CARE EXPERT SHALL E 	ITS.
1. THERE ARE 2. NO RARE,						THIS SITE.	REQUIRED ALONG THE LIMIT OF DISTURBA REQUIRED. WATER ANY ROOT-PRUNED TR AND MONITOR FOR SIGNS OF STRESS DU	NCE. ROOT PRUNE TREES AS EES IMMEDIATELY AFTER ROOT-PRUNING
	LLY RETAINE	D IN FORE	ST CONSERV	ATION EASEN	IENTS.		CONSTRUCTION PHASE 1. NO DISTURBANCE OR DUMPING IS ALLOWE	
WILL NOT A SEDIMENT (DVERSELY AND ONTROL MEA	FECT THE	SOILS WITH	IN THE FORE	I/INSTALLATION EST RETENTION NTED FLOW RUI	AREA.	 NO EQUIPMENT SHALL BE OPERATED INSI INCLUDING TREE CANOPIES. IN_THE EVENT OF DROUGHT, THE PROTECT 	DE THE TREE RETENTION AREA
STORMWATE CONSTRUCT AREAS.	R MANAGEME ION SITE, AN	NT FACILIT D/OR RED	IES, RETAIN NRECT CLEAN	SEDIMENT W N WATER AWA	ITHIN THE AY FROM CONS	STRUCTION	3. IN THE EVENT OF DROUGHT, THE PROTEC SIGNS OF STRESS AND WATERED AS NEED POST-CONSTRUCTION PHASE	
5. THE FORES REQUIREME	NTS OF SECT	'ION 16.12	OO OF THE	HOWARD CO	SHED TO FULF UNTY CODE. REST CONSERV	NO CLEARIN	 AT THE DIRECTION OF A QUALIFIED TREE TREES SHALL BE REPAIRED BY THE CONT FENCE REMOVAL AND STABILIZATION SHAL EROSION CONTROL PLAN. 	
EASEMENT,	HOWEVER, F CONSERVATI	OREST MAI	NAGEMENT P	RACTICES AS	DEFINED IN 1	THE DEED	EROSION CONTROL PLAN. 3. DO NOT REMOVE SIGNS.	·_····
							1]
APPROVED: H		UNTY DEF	PARTMENT (OF PLANNIN	IG AND ZONII	NG		S CERTIFICATE
		tad Edm			4/13/2023		I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON TO THE PLAN, SECTION 16.124 OF THE HOWARD COU	
CHIEF, DE	ELOPMENT	•ENONE EALOG	RING DIVISIO	NC	DATE 4/14/2023		LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT ULANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECU	IPON COMPLETION, A CERTIFICATION OF JTED ONE (1) YEAR GUARANTEE OF
CHIEF, DIV	ISION OF 19	EB75478A22B494 AND9n DEVE			DATE		PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPAR	IMENI OF PLANNING AND ZONING.
DIRECTOR		SODBODEDAAEAO	>		4/17/2023		Adan Seal SIGNATURE 20F°DEVELOPER	2/24/2023 DATE
					DATE			=



CATEGORY ADJACENT TO ROADWAYS AND PERIMETER PROPERTIES					
PERIMETER/FRONTAGE DESIGNATION	1	2	3	4	
LANDSCAPE TYPE	D	D	D	D	
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	986	481	1078	618	
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET DESCRIBE BELOW IF NEEDED)	YES 181	YES 4 SHADE TREES	1078	618	
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET DESCRIBE BELOW IF NEEDED)	NO	NO	NO	NO	
NUMBER OF PLANTS REQUIRED	805		0	0	
SHADE TREES	1:60 = 14	1:60 = 8	1:60 = 0	1:60 = 0	22
EVERGREEN TREES	1:10 = 81	1:10 = 48	1:10 = 0	1:10 = 0	129
SHRUBS	-	-	-	-	-
NUMBER OF PLANTS PROVIDED					
SHADE TREES	14	8*	0	0	22
EVERGREEN TREES	81	48	0	0	129
OTHER TREES (2:1 SUBSTITUTION)	-	-	-	-	-
SHRUBS (10:1 SUBSTITUTION)	-	-	-	-	-
EX. SPECIMEN TREES TO REMAIN	-	-	-	-	- 1
DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED					