

CONSERVATION DISTRIC A PRE-CONSTRUCTION MEETING MUST OCCUR WITH THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION (CID), 410-313-1855 AFTER THE FUTURE LOD AND PROTECTED AREAS ARE MARKED CLEARLY IN THE FIELD. A MINIMUM OF 48 HOUR NOTICE TO CID MUST BE GIVEN AT THE FOLLOWING STAGES: TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION. UPON COMPLETION OF THE INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. PRIOR TO THE START OF ANOTHER PHASE OF CONSTRUCTION OR OPENING COVER ON DISTURBED SOILS. PRIOR TO THE REMOVAL OR MODIFICATION OF SEDIMENT CONTROL CONDITIONS WHERE PRACTICE APPLIES EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR 6 MONTHS OR MORE. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE. OTHER RELATED STATE AND FEDERAL PERMITS SHALL BE REFERENCED, TO ENSURE COORDINATION AND TO AVOID CONFLICTS WITH THIS PLAN. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO A. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE 8.3 FOR THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 2011 THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE 8.3) AND BASED ON THE MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT SITE CONDITION OR PURPOSE FOUND ON TABLE 8.2. ENTER SELECTED MIXTURE(S), CONTROL. AND REVISIONS THERETO. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN STABILIZATION IS REQUIRED WITHIN THREE (3) CALENDAR DAYS AS TO THE SURFACE OF B. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES, ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL STREAM BANKS, OR DUNES OR FOR SPECIAL PURPOSES SUCH AS WILDLIFE OR SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1): AND SEVEN (7) CALENDAR AESTHETIC TREATMENT MAY BE FOUND IN USDA-NRCS TECHNICAL FIELD OFFICE GUIDE, DAYS AS TO ALL OTHER DISTURBED AREAS ON THE PROJECT SITE EXCEPT FOR THOSE SECTION 342 - CRITICAL AREA PLANTING. C. FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW THE RATES ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE RECOMMENDED BY THE SOIL TESTING AGENCY. IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL D. FOR AREAS RECEIVING LOW MAINTENANCE, APPLY URFA FORM FERTILIZER (46-0-0) EROSION AND SEDIMENT CONTROL FOR TOPSOIL (SEC. B-4-2), PERMANENT SEEDING AT 3-1/2 POUNDS PER 1000 SQUARE FEET (150 POUNDS PER ACRE) AT THE TIME (SEC. B-4-5), TEMPORARY SEEDING (SEC. B-4-4) AND MULCHING (SEC. B-4-3). OF SEEDING IN ADDITION TO THE SOIL AMENDMENTS SHOWN IN THE PERMANENT TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE APPLIED BETWEEN THE SEEDING SUMMARY. FALL AND SPRING SEEDING DATES IF THE GROUND IS FROZEN. INCREMENTAL STABILIZATION (SEC. B-4-1) SPECIFICATIONS SHALL BE ENFORCED IN AREAS WITH A. AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS. PARKS, PLAYGROUNDS. >15' OF CUT AND/OR FILL. STOCKPILES (SEC. B-4-8) IN EXCESS OF 20 FT. MUST AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCI BE BENCHED WITH STABLE OUTLIFT ALL CONCENTRATED FLOW STEEP SLOPE AND B SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW BASED ON THE HIGHLY ERODIBLE AREAS SHALL RECEIVE SOIL STABILIZATION MATTING (SEC. B-4-6). SITE CONDITIONS OR PURPOSE ENTER SELECTED MIXTURE(S) APPLICATION RATES AND ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE. AND ARE TO BE SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN SITE ANALYSIS TOTAL AREA OF SITE: ACRES ACRES AREA DISTURBED AREA TO BE ROOFED OR PAVED: AREA TO BE VEGETATIVELY STABILIZED: ACRES TOTAL CUT: 10,120 CU. YDS. TOTAL 10,680 CU. YDS. TOTAL TOTAL FILL OFFSITE WASTE/BORROW AREA LOCATION: ONSI (1) REFER TO ITEM 11 BELOW ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED. IF DEEMED NECESSARY BY THE . THE SITE AND ALL CONTROLS SHALL BE INSPECTED BY THE CONTRACTOR WEEKL AND THE NEXT DAY AFTER EACH RAIN EVENT. A WRITTEN REPORT BY THE CONTRACTOR MADE AVAILABLE UPON REQUEST, IS PART OF EVERY INSPECTION AND SHOULD INCLUDE: INSPECTION DATE INSPECTION TYPE (ROUTINE, PRE-STORM EVENT, DURING RAIN EVENT) NAME AND TITLE OF INSPECTOR WEATHER INFORMATION (CURRENT CONDITIONS AS WELL AS TIME AND AMOUNT OF LAST RECORDED PRECIPITATION) SELECT TURFGRASS VARIETIES FROM THOSE LISTED IN THE MOST CURRENT UNIVERSITY OF MARYLAND BRIEF DESCRIPTION OF PROJECT'S STATUS (E.G., PERCENT COMPLETE) PUBLICATION, AGRONOMY MEMO #77, "TURFGRASS CULTIVAR RECOMMENDATIONS FOR MARYLAND" AND/OR CURRENT ACTIVITIES CHOOSE CERTIFIED MATERIAL. CERTIFIED MATERIAL IS THE BEST GUARANTEE OF CULTIVAR PURITY. EVIDENCE OF SEDIMENT DISCHARGE THE CERTIFICATION PROGRAM OF THE MARYLAND DEPARTMENT OF AGRICULTURE, TURF AND SEED IDENTIFICATION OF PLAN DEFICIENCIES SECTION, PROVIDES A RELIABLE MEANS OF CONSUMER PROTECTION AND ASSURES A PURE GENETIC IDENTIFICATION OF SEDIMENT CONTROLS THAT REQUIRE MAINTENANCE IDENTIFICATION OF MISSING OR IMPROPERLY INSTALLED SEDIMENT CONTROLS COMPLIANCE STATUS REGARDING THE SEQUENCE OF CONSTRUCTION AND C. IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURES STABILIZATION REQUIREMENTS PHOTOGRAPHS MONITORING/SAMPLING MAINTENANCE AND/OR CORRECTIVE ACTION PERFORMED OTHER INSPECTION ITEMS AS REQUIRED BY THE GENERAL PERMIT FOR STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES (NPDES, MDE). TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS 2 TO 4 INCHES, LEVEL AND RAKE THE AREAS TO PREPARE A PROPER SEEDBED. REMOVE OR THAT WHICH CAN AND SHALL BE BACK-FILLED AND STABILIZED BY THE END OF STONES AND DEBRIS OVER 11/4 INCHES IN DIAMETER. THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASSES WILL POSE NO DIFFICULTY. ANY MAJOR CHANGES OR REVISIONS TO THE PLAN OR SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE HSCD PRIOR TO PROCEEDING WITH GROWTH (1/2 TO 1 INCH EVERY 3 TO 4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY CONSTRUCTION. MINOR REVISIONS MAY ALLOWED BY THE CID PER THE LIST OF HSCD-APPROVED FIELD CHANGES. PLANTING SEASON, IN ABNORMALLY DRY OR HOT SEASONS, OR ON ADVERSE SITES. 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 B. SOD: TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER). ACREAGE OF 20 AC. PER GRADING UNIT) AT A TIME. WORK MAY PROCEED TO A SUBSEQUENT GRADING UNIT WHEN AT LÉAST 50 PERCENT OF THE DISTURBED AREA IN THE PRECEDING GRADING UNIT HAS BEEN STABILIZED AND APPROVED BY THE A. CLASS OF TURFGRASS SOD MUST BE MARYLAND STATE CERTIFIED. SOD LABELS MUST BE CID. UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE CID. NO MORE THAN MADE AVAILABLE TO THE JOB FOREMAN AND INSPECTOR. 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME. B. SOD MUST BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4 INCH. PLUS OF WASH WATER FROM ANY EQUIPMENT, VEHICLES, WHEELS, PAVEMENT, AND OTHER MINUS 1/4 INCH, AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS MUST EXCLUDE SOURCES MUST BE TREATED IN A SEDIMENT BASIN OR OTHER APPROVED WASHOUT TOP GROWTH AND THATCH. BROKEN PADS AND TOM OR UNEVEN ENDS WILL NOT BE TOPSOIL SHALL BE STOCKPILED AND PRESERVED ON-SITE FOR REDISTRIBUTION ONTO C. STANDARD SIZE SECTIONS OF SOD MUST BE STRONG ENOUGH TO SUPPORT THEIR OWN FINAL GRADE. WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED VERTICALLY WITH A FIRM 4. ALL SILT FENCE AND SUPER SILT FENCE SHALL BE PLACED ON-THE-CONTOUR, AND GRASP ON THE UPPER 10 PERCENT OF THE SECTION BE IMBRICATED AT 25' MINIMUM INTERVALS. WITH LOWER ENDS CURLED UPHILL BY D. SOD MUST NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT 2' IN FLEVATION. 5. STREAM CHANNELS MUST NOT BE DISTURBED DURING THE FOLLOWING RESTRICTED TIME PERIODS (INCLUSIVE): SOD NOT TRANSPLANTED WITHIN THIS PERIOD MUST BE APPROVED BY AN AGRONOMIST OR USE I AND IP MARCH 1 - JUNE 15 SOIL SCIENTIST PRIOR TO ITS INSTALLATION USE III AND IIIP OCTOBER 1 - APRIL 30 USE IV MARCH 1 - MAY 31 6. A COPY OF THIS PLAN, THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR A. DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSOIL, SOIL EROSION AND SEDIMENT CONTROL, AND ASSOCIATED PERMITS SHALL BE LIGHTLY IRRIGATE THE SUBSOIL IMMEDIATELY PRIOR TO LAYING THE SOD. ON-SITE AND AVAILABLE WHEN THE SITE IS ACTIVE. B. LAY THE FIRST ROW OF SOD IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO IT AND TIGHTLY WEDGED AGAINST EACH OTHER. STAGGER LATERAL JOINTS TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. ENSURE THAT SOD IS NOT STRETCHED ITEM 11, REGARDING PROJECT DISTURBANCE IS NO LONGER A REQUIREMENT. 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.). WATER THE SOD IMMEDIATELY FOLLOWING ROLLING AND TAMPING LINTH THE LINDERSIDE OF OWNER/DEVELOPER CERTIFICATION: "I/WE CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN INCLUDING INSPECTING AND MAINTAINING CONTROLS. AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL ON EROSION AND SEDIMENT PRIOR TO BEGINNING THE PROJECT. I CERTIFY RICHT—OF—ENTRY FOR PERIODIC SON—SITE EVALUATION BY HOWARD COUNTY, THE HOWARD SOIL CONSERVATION DISTRICT AND/OR MDE." Michael Pfan 9/21/2023 OWNERS BEFELL FER ... SIGNATURE Michael Pfau PRINTED NAME & TITLE "I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS, THAT IT REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT." --- DocuSigned by Rob Vogel 9/21/2023 REGISTRATION NO. 16193 (P.E), R.L.S., OR R.L.A. (circle one) APPROVED: DEPARTMENT OF PUBLIC WORKS 10/27/2023 CHIEF. BUREAU OF HIGHWAYS APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING 10/26/2023 (Hd1) Edmondson

CHIEF, DEVELOPMENT ENGINEERING DIVISION

CHIEF, DIVISION OF LAND DEVELOPMENT

DATE

10/27/2023

DATE

THE NEW SOD PAD AND SOIL SURFACE BELOW THE SOD ARE THOROUGHLY WET COMPLETE HE OPERATIONS OF LAYING, TAMPING AND IRRIGATING FOR ANY PIECE OF SOD WITHIN EIGHT 3 SOD MAINTENANCE 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 PREVENT WILTING. 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 OTHERWISE SPECIFIED. PERMANENT SEEDING SUMMARY HARDINESS ZONE (FROM FIGURE B.3): ZONE 6b SEED MIXTURE (FROM TABLE B.3): 9 (10-20-20)NO SPECIES APPLICATION SEEDING DATES N P₂ O₅ COOL SEASON T.F. 60 LB / AC MAR 1 TO 45 LB/AC 90 LB/AC 90 LB/AC 2 TONS/AC 1/4-1/2 IN. | (1 LB PER | (2 LB PER | (2 LB PER | (90 LB PER K.B. 40 LB / AC AUG 15 TO | 1000 SF) | 1000 SF) | 1000 SF) | 1000 SF) **NOTES** DURING GRADING AND AFTER EACH RAINFALL, THE CONTRACTOR SHALL INSPECT AND PROVIDE THE NECESSARY MAINTENANCE ON THE SEDIMENT AND EROSION CONTROL MEASURES SHOWN HEREON. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE,

KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN AREAS THAT RECEIVE

AND EASTERN SHORE. RECOMMENDED CERTIFIED KENTUCKY BLUEGRASS CULTIVARS

II. KENTUCKY BLUEGRASS/PERENNIAL RYE: FULL SUN MIXTURE: FOR USE IN FULL SUN

AREAS WHERE RAPID ESTABLISHMENT IS NECESSARY AND WHEN TURF WILL RECEIVE

SOUARE FEET, CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH

PRONE AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MANAGEMENT IN FUL

SUN TO MEDIUM SHADE RECOMMENDED MIXTURE INCLUDES: CERTIFIED TALL FESCUE

CULTIVARS 95 TO 100 PERCENT, CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 0 TO 1

PERCENT. SEEDING RATE: 5 TO 8 POUNDS PER 1000 SQUARE FEET. ONE OR MORE

CULTIVARS 30 TO 40 PERCENT AND CERTIFIED FINE FESCUE AND 60 TO 70 PERCENT.

WESTEM MD: MARCH 15 TO JUNE 1, AUGUST ITO OCTOBER 1 (HARDINESS ZONES: SB, 6A)

). TILL AREAS TO RECEIVE SEED BY DISKING OR OTHER APPROVED METHODS TO A DEPTH OF

IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT

RE FIRMLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE

SOD MUST BE HARVESTÉD, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS.

EXCESSIVELY DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL.

- 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

SHADE IN BLUEGRASS LAWNS. FOR ESTABLISHMENT IN HIGH QUALITY, INTENSIVELY

MEDIUM TO INTENSIVE MANAGEMENT. CERTIFIED PERENNIAL RYEGRASS CULTIVARS/

CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 2 POUNDS MIXTURE PER 1000

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

IV. KENTUCKY BLUEGRASS/FINE FESCUE: SHADE MIXTURE: FOR USE IN AREAS WITH

MANAGED TURF AREA. MIXTURE INCLUDES: CERTIFIED KENTUCKY BLUEGRASS

SEEDING RATE: 1½ TO 3 POUNDS PER 1000 SQUARE FEET.

PERCENT OF THE TOTAL MIXTURE BY WEIGHT.

CULTIVARS MAY BE BLENDED

INTENSIVE MANAGEMENT. IRRIGATION REQUIRED IN THE AREAS OF CENTRAL MARYLAND

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

PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED A. 3 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1 B. 7 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE. Olexander Bratchie 10/27/2023

B-4-5 STANDARDS AND SPECIFICATIONS R-4-2 STANDARDS AND SPECIFICATIONS SOIL PREPARATION, TOPSOILING AND SOIL AMENDMENTS PERMANENT STABILIZATION HE PROCESS OF PREPARING THE SOILS TO SUSTAIN ADEQUATE VEGETATIVE STABILIZATION PURPOSE TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. CONDITIONS WHERE PRACTICE APPLIES TO USE LONG-LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND WHERE VEGETATIVE STABILIZATION IS TO BE ESTABLISHED. CRITERIA
A. SOIL PREPARATION

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 FOUIPMENT 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 B. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS. C. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.

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 PLUS 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. B. APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET THE ABOVE CONDITIONS. C. GRADED AREAS MUST BE MAINTAINED IN A TRUE AND EVEN GRADE AS SPECIFIED OF 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 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 CONCEM HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION. . 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 USDA-3. TOPSOILING IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE: A. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH. 3. 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 C. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
D. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE. 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 TRASH, OR OTHER MATERIALS LARGER THAN 11/2 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 . 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. A. EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING B. 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) 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 BE USED FOR CHEMICAL ANALYSES. P FERTILIZERS MUST BE UNIFORM IN COMPOSITION FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROPRIATE FOLUPMENT 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 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." 4. LIME AND FERTILIZER ARE TO BE EVENLY DISTRIBUTED "AND INCORPORATED INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. 5. 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 TOPSOIL.

> B-4-4 STANDARDS AND SPECIFICATIONS TEMPORARY STABILIZATION

___ __ __ __ __ __ __ __ ___

<u>DEFINITION</u> TO STABILIZE DISTURBED SOILS WITH VEGETATION FOR UP TO 6 MONTHS.

TO USE FAST GROWING VEGETATION THAT PROVIDES COVER ON DISTURBED SOILS. CONDITIONS WHERE PRACTICE APPLIES

MAINTAIN UNTIL THE NEXT SEEDING SEASON.

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 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 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

TEMPORARY SEEDING SUMMARY

		ONE (FROM FIGURE E (FROM TABLE B.		NE 6b	FERTILIZER RATE	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	MAR 1 TO MAY 15 AUG 1 TO 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.		

B-4-3 STANDARDS AND SPECIFICATIONS SEEDING AND MULCHING

<u>DEFINITION</u> THE APPLICATION OF SEED AND MULCH TO ESTABLISH VEGETATIVE COVER.

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

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

A. SEEDING 1.SPECIFICATIONS A. ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED MUST BE

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 AN 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 ROUND 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 NOCULANTS 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 THE INOCULANT LESS EFFECTIVE 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 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 SEEDIN 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 SEEDRED 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.

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. 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 UNIFORMLY SPREAD SLURRY. 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 AT CONCENTRATION LEVELS THAT WILL BE 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 MULCH ANCHORING TOOL. INCREASE THE APPLICATION RATE TO 2.5 TONS PER ACRE. 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 UPON THE SIZE OF THE AREA AND EROSION HAZARD: 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 CONTOLIR 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 FDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS. USE OF ASPHALT BINDERS '. 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

__ __ __ __ __ __ __ ___

B-4-8 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA

A MOUND OR PILE OF SOIL PROTECTED BY APPROPRIATELY DESIGNED EROSION AND SEDIMENT CONTROL MEASURES.

<u>PURPOSE</u> TO PROVIDE A DESIGNATED LOCATION FOR THE TEMPORARY STORAGE OF SOIL THAT CONTROLS THE POTENTIAL FOR EROSION, SEDIMENTATION, AND CHANGES TO DRAINAGE

CONDITIONS WHERE PRACTICE APPLIES

STOCKPILE AREAS ARE UTILIZED WHEN IT IS NECESSARY TO SALVAGE AND STORE SOIL FOR LATER USE. <u>CRITERIA</u>

THE STOCKPILE LOCATION AND ALL RELATED SEDIMENT CONTROL PRACTICES MUST BE CLEARLY INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN. 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. CLEAR WATER RUNOFF INTO THE STOCKPILE AREA MUST BE MINIMIZED BY USE OF A DIVERSION DEVICE SUCH AS AN EARTH DIKE, TEMPORARY SWALE OR

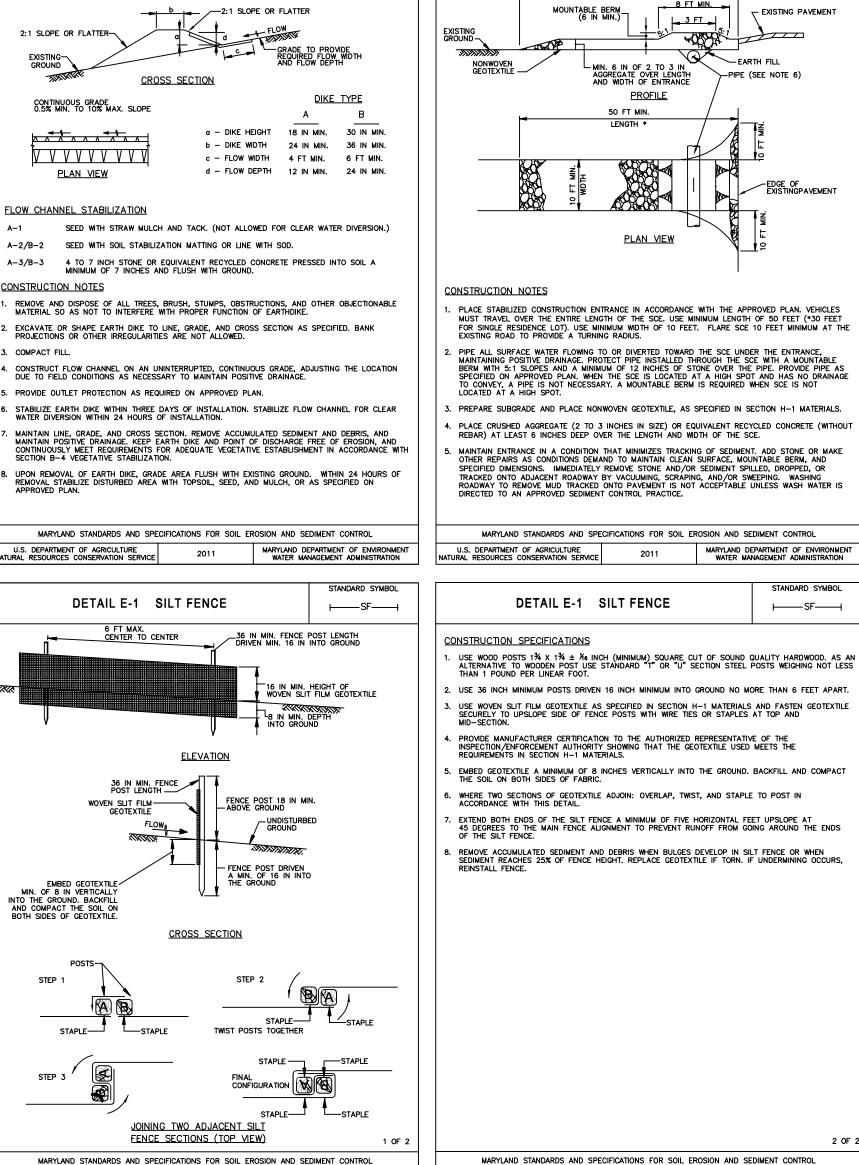
DIVERSION FENCE. PROVISIONS MUST BE MADE FOR DISCHARGING

CONCENTRATED FLOW IN A NON-FROSIVE MANNER WHERE RUNOFF CONCENTRATES ALONG THE TOE OF THE STOCKPILE FILL, AN APPROPRIATE EROSION/SEDIMENT CONTROL PRACTICE MUST BE USED TO INTERCEPT THE DISCHARGE. 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. 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

<u>MAINTENANCE</u>

THE STOCKPILE AREA MUST CONTINUOUSLY MEET THE REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE TABILIZATION. SIDE SLOPES MUST BE MAINTAINED AT NO STEEPER THAN A 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-3 LAND GRADING.



PLACE DESIGNATION (e.g. A-1) ON FLOW CHANNEL SIDE OF DIKE

DETAIL C-1 EARTH DIKE

2011

STABILIZATION MATTING

CHANNEL APPLICATION

ISOMETRIC VIEW

USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.

USE TEMPORARY SOIL STABILIZATION MATTING MADE OF DEGRADABLE (LASTS 6 MONTHS MINIMUM)
NATURAL OR MAN—MADE FIBERS (MOSTLY ORGANIC). MAT MUST HAVE UNIFORM THICKNESS AND
DISTRIBUTION OF FIBERS THROUGHOUT AND BE SMOLDER RESISTANT. CHEMICALS USED IN THE MAT
MUST BE NON—LEACHING AND NON—TOXIC TO VEGETATION AND SEED GERMINATION AND NON—INJURIOUS
TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF
2x2 INCHES AND SUPFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF
THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.

SECURE MATTING USING STEEL STAPLES, WOOD STAKES, OR BIODEGRADABLE EQUIVALENT. 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 1 TO 1½ INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH

SECONDARY LEG, AND A MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH—SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPED AT THE BOTTOM.

PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL BLAN

UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTERLINE. WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAY MAT SMOOTHLY AND FIRMLY ON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.

OVERLAP OR ABUT THE ROLL EDGES PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE NEXT DOWNSTREAM MAT

ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

2011

. KEY—IN UPSTREAM END OF EACH MAT ROLL BY DIGGING A 6 INCH (MINIMUM) TRENCH AT THE UPSTREAM END OF THE MATTING, PLACING THE ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END.

3. STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.

TSSMC - 1,5 lb/ft² (* INCLUDE SHEAR STRESS)

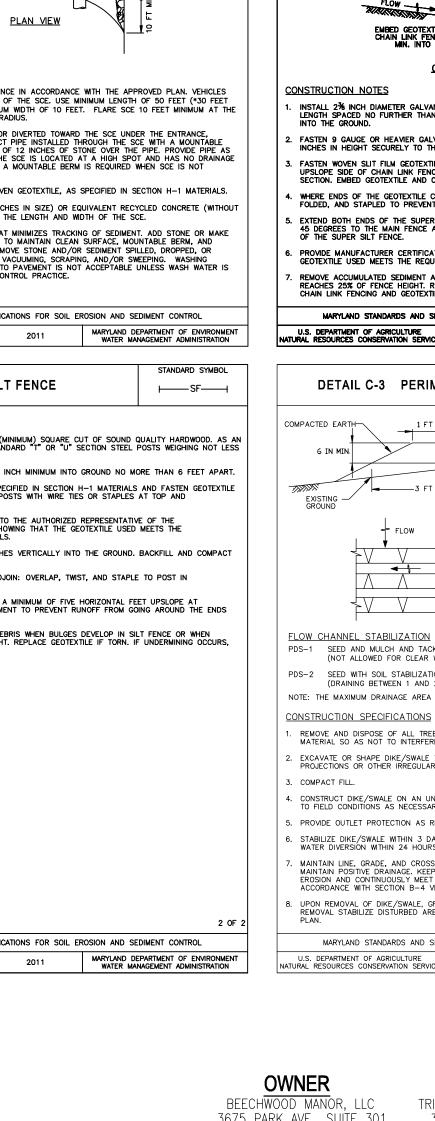
-6 IN MIN. DEPTH KEY TRENCH FOR UPPER END OF DOWNSLOPE ROLL (TYP.)

- PREPARED SURFACE WITH SEED IN PLACE

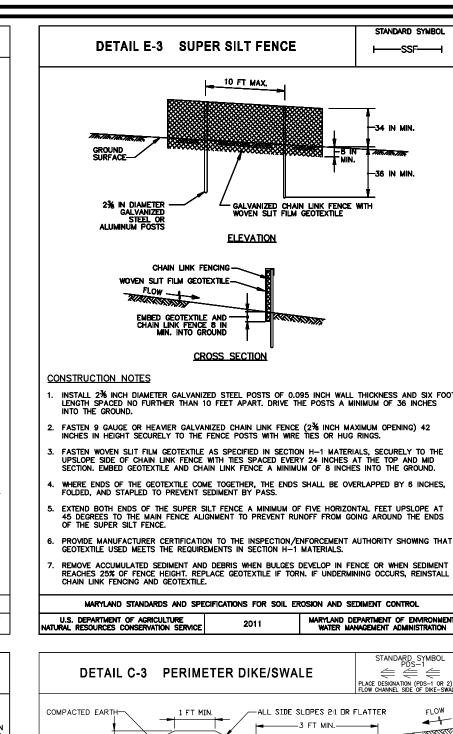
DETAIL B-4-6-A TEMPORARY SOIL

DETAIL B-1 STABILIZED CONSTRUCTION

ENTRANCE

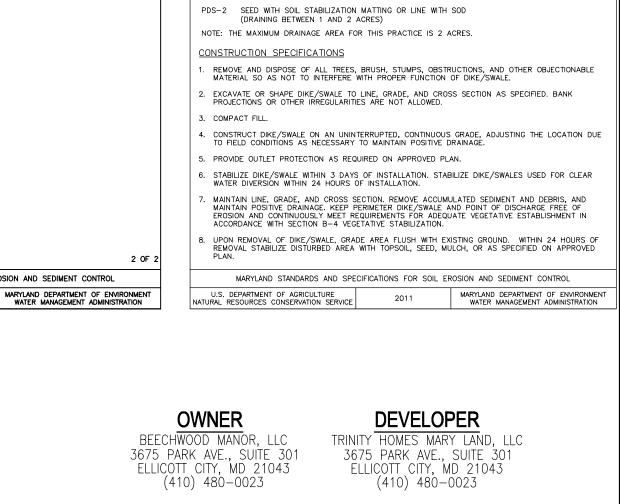


SCE



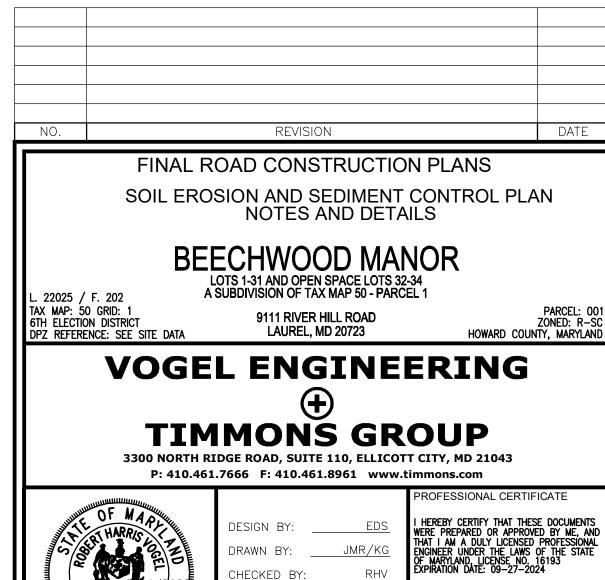
CROSS SECTION

6 IN MIN.



SEED AND MULCH AND TACK (DRAINING < 1 ACRE) (NOT ALLOWED FOR CLEAR WATER DIVERSION.)

6 IN MIN.



____AUGUST 2023

W.O. NO.: 17-26

AS SHOWN

SCALE:

ORBRIDGEBARIOSEICE PE No.161

F-23-018

SHEET 21

SEQUENCE OF CONSTRUCTION

STAKEOUT LIMITS OF DISTURBANCE. - 3 DAYS

- A. ORTAIN GRADING PERMIT. 1 DAY B. THE DEVELOPER WILL OBTAIN ALL NECESSARY STATE PERMITS FOR THE PROPOSED HW-1 RIP RAP APRON RE-CONSTRUCTION IMPACTS.
- -MDE AUTHORIZATION NUMBER: 23-NT-3134/202360907 C. OBTAIN A NATIONAL POLLUTANT DISCHARGE FLIMINATION SYSTEM (NPDES) PERMIT - 1 DAY
- DEVELOPER / CONTRACTOR SHALL REQUEST A PRE-CONSTRUCTION MEETING WITH THE APPROPRIATE ENFORCEMENT AUTHORITY PRIOR TO BEGINNING CONSTRUCTION. - 1 DAY NOTIFY HOWARD COUNTY BUREAU OF INSPECTIONS AND PERMITS (410-313-1880) AT LEAST 24 HOURS BEFORE STARTING ANY WORK. - 1 DAY
- EXISTING ELECTRIC, WATER AND SEWER SERVICE SHALL REMAIN UNINTERRUPTED AT ALL TIMES.
- CONTRACTOR SHALL LOCATE AND PROTECT DRY UTILITY SERVICES PRIOR TO BEGINNING WORK. 1 MONTH. PHASE 1 - GRADING AND SOIL EROSION & SEDIMENT CONTROL PLAN
- INSTALL THE PROJECT STABILIZED CONSTRUCTION ENTRANCE (SCE), WHERE SHOWN HEREON. 1 DAY WITH CLEAR WEATHER FORCAST, COMPLETE INSTALLATION OF THE CLEANWATER BYPASS STORM DRAIN SYSTEM FROM RECONSTRUCTED RIP RAP APRON @ EXISTING HW-1 (TWIN FAWN TRAIL) AND HW-1 TO I-3 NEAR ADJOINING "HUDDLESTON PROPERTY" (PARCEL 476) AS WELL AS THE CONVERSION OF EX I-14 TO MANHOLE 18. - 4 DAYS INSTALL INLET PROTETCION (AS DETAILED) AND STABILIZE DISTURBANCES WITH TEMPORARY SEEDING AND STRAW
- COMPLETE CLEARING AND GRUBBING FOR THE INSTALLATION OF THE PERIMETER CONTROLS 1 DAY INSTALL PERIMETER CONTROLS AT THE LIMIT OF DISTURBANCE, WHERE SHOWN OR AS DIRECTED BY THE
- SEDIMENT CONTROL INSPECTOR. 14 DAYS WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, COMPLETE THE CONSTRUCTION OF THE PROJECT'S SEDIMENT TRAPS PER THE DETAILS AND SPECIFICATIONS SHOWN HEREON. - 1 WEEK
- EARTH DIKES DIRECTING SITE DISTURBANCES TO THE TRAP SHALL BE CONSTRUCTED AT THE SAME TIME AS THE SEDIMENT TRAP. EARTH DIKES SHALL BE CONSTRUCTED STARTING AT THE TRAP AND HEADING OUTWARD TO THE UPHILL MOST POINT EARTH DIKES SHALL BE LINED AS DETAILED HEREON. ANY TEMPORARY MATTING IS MADE WITH DEGRADEABLE
- STABILIZE THE DISTURBED AREAS FROM THE AFOREMENTIONED DISTURBANCES WITH TEMPORARY SEEDING MIXTURE AND STRAW MULCH - 2 DAYS

(6 MONTH), NATURAL OR MANMADE FIBERS OF UNIFORM THICKNESS AND DISTRIBUTION OF FIBERS

- WITH TRAPS IN PLACE AND FUNCTIONING AND WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, COMPLETE REMAINING CLEARING AND GRUBBING WHICH ALLOWS FOR MASS GRADING OPERATIONS. BEGIN MASS GRADING OPERATIONS. 1 MONTH
- PHASE 2 GRADING AND SOIL EROSION & SEDIMENT CONTROL PLANS

THROUGHOUT AND IS SMOLDER RESISTANT. -1 DAY

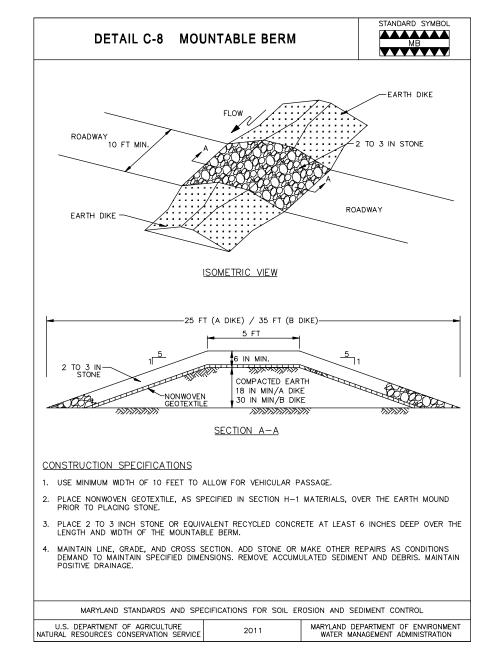
- WITH PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR, CONTINUE PROJECT MASS GRADING AND COMPACTED FILLS REQUIRED TO BRING SITE TO OR NEAR ROAD RIGHT-OF-WAY SUBGRADE ELEVATION. - 1 MONTH
- BEGIN THE INSTALLATION OF THE PROJECT'S SITE UTILITIES (WATER, SEWER AND STORM DRAIN) AND LANDSCAPE WALLS PER THE DETAILS HEREIN. - 1 MONTH EARTH DIKES FEEDING TRAPS MAY REQUIRE RELOCATION TO PROVIDE POSITIVE FLOW TO THE TRAPS AS THE
- PROPOSED GRADES ARE ESTABLISHED. 2 WEEKS -INSTALL INLET PROTECTION WHERE DIRECTED HEREON. -NO INLET PROTECTION IS REQUIRED FOR INLETS THE DRAIN TO THE PROJECT SEDIMENT TRAPS.
- AT THIS TIME, SEWER AND WATER MAINS SHOULD BE TESTED AND APPROVED FOR SERVICE. ONCE GRADING OPERATIONS AND UTILITY DISTURBANCES ARE COMPLETE, STABILIZE DISTURBANCES WITH PERMANENT SEEDING MIXTURE AND STRAW MULCH
- WITH UTILITIES IN PLACE AND WITH PERMISSION FROM INSPECTOR, PLACE ROAD TO SUBBASE. 3 DAYS DRESS ROADS OR PORTIONS THEREOF AND INSTALL STONE SUBBASE IN PREPARATION FOR THE INSTALLATION OF
- ROADWAY CURB & GUTTER 1 WEEK INSTALL CURB & GUTTER. BEGIN TWIN FAWN TRAIL AND RIVER HILL ROAD IMPROVEMENTS TO INCLUDE ROAD WIDENING, CURB AND GUTTER INSTALLATION, ROAD SUBBASE AND BASE COAT PAVEMENT. - 2 WEEKS
- BACKFILL CURBING AND PLACE RIGHT-OF-WAY TO FINAL GRADE. 1 WEEK BEGIN DRY UTILITY INSTALLATION. - 1 MONTH
- PROJECT STORMWATER ESD AS PART OF THE SITE MASS GRADING OPERATIONS THE MICRO-BIORETENTION AND/OR BIO-RETENTION SYSTEMS CAN BE EXCAVATED AT THIS POINT TO AN ELEVATION AT LEAST 1 FOOT ABOVE ULTIMATE UNDERDRAIN PIPE INVERT ELEVATION, THIS WILL ALLOW THE FEEDING STORM DRAIN SYSTEMS TO FUNCTION, THIS MATERIAL CAN BE UTILIZED FOR ONSITE MASS GRADING FILL MATERIALS AS WELL AS PROVIDE POCKETS OF SEDIMENT STORAGE FOR THE ALLOWANCE OF THE EVENTUAL TRAP BACKFILL OPERATIONS.
- COMPLETION OF A PROJECT STORMWATER ESD MICRO-BIORETENTION OR BIO-RETENTION SYSTEMS SHALL OCCUR WHEN ITS CONTRIBUTING DRAINAGE AREA IS STABILIZED — (DAILY)

 - AS GRADES ARE ESTABLISHED, THESE DISTURBANCES SHALL BE IMMEDIATELY STABILIZED WITH PERMANENT SEEDING MIXTURE AND STRAW MULCH. - 1 MONTH
- WITH PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR, BACKFILL TRAPS, ADD TOPSOIL PER THE SPECIFICATIONS SHOWN HEREON AND STABILIZE WITH PERMANENT SEEDING MIXTURE AND STRAW MULCH. STORM DRAIN INLETS PREVIOUSLY DIVERTED INTO SEDIMENT TRAP SHALL BE PROTECTED WITH INLET PROTECTION - 7 DAYS
- BEGIN HOUSE CONSTRUCTION PER SEPARATE SITE DEVELOPMENT PLAN. 2 YEARS WITH CONTRIBUTING AREAS STABILIZED, COMPLETE CONSTRUCTION OF ESD BIORETENTION AND MICRO-BIORETENTION FACILITIES WHICH RECEIVE CLEAN RUNOFF. ONCE CONSTRUCTED, PROTECT ANY INSTALLED ESD FACILITIES FROM RECEIVING "DIRTY" RUNOFF BY IMMEDIATELY STABILIZING FACILITY SIDE SLOPES WITH SOD AND SURROUND FACILITY WITH SILT FENCE
- BEGIN "TRAIL" AMENITY CONSTRUCTION AS DETAILED HEREIN 3 WEEKS BEGIN INSTALLATION OF PROJECTS SIDEWALKS, - 1 MONTH
- COMPLETE ANY FINE GRADING REQUIRED FROM DISTURBANCES MADE BY SIDEWALK AND TRAIL INSTALLATION. ADD TOPSOIL PER THE SPECIFICATIONS SHOWN HEREON AND STABILIZE WITH PERMANENT SEEDING MIXTURE AND STRAW MULCH.
- COMPLETE INSTALLATION OF PROJECTS LANDSCAPE PLANTING REQUIREMENTS 1 MONTH COMPLETE INSTALLATION OF ANY REQUIRED FOREST CONSERVATION PLANTINGS AND SIGNAGE. - 1 WEEK COMPLETE INSTALLATION OF ANY REMAINING PROJECT AMENITIES SPECIFIED HEREON. - 1 MONTH
- AFTER PERMISSION HAS BEEN GIVEN BY SEDIMENT CONTROL INSPECTOR, REMOVE ANY REMAINING E/S CONTROLS AND STABILIZE THE DISTURBED AREAS FROM THE AFOREMENTIONED DISTURBANCES WITH PERMANENT SEEDING MIXTURE AND STRAW MULCH - DAILY
- NOTE: ANY CHANGES OR REVISIONS TO THE SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE PLAN APPROVAL AUTHORITY PRIOR TO PROCEEDING WITH CONSTRUCTION

SEQUENCE OF CONSTRUCTION NOTES

1. THE SEDIMENT SHALL BE REMOVED FROM THE SEDIMENT TRAP WHEN THE CLEANOUT ELEVATION HAS BEEN REACHED. — DAILY -THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE ON THE SEDIMENT AND EROSION CONTROLS SHOWN HEREON AFTER EACH RAINFALL AND ON A DAILY BASIS. — DAILY -THE SEDIMENT TRAP SHALL BE DEWATERED BY PUMPING. THE ACCUMULATED SEDIMENT SHALL BE PLACED UP GRADE FROM THE STRUCTURE IN SUCH A MANNER AS NOT TO INTERFERE WITH CONSTRUCTION OPERATIONS OR CAUSE EROSION DOWN GRADE FROM THE STRUCTURE. - DAILY 2. EARTH DIKES DIRECTING SITE DISTURBANCES TO THE TRAP SHALL BE CONSTRUCTED AT THE SAME TIME AS THE SEDIMENT RAP. EARTH DIKES SHALL BE CONSTRUCTED STARTING AT THE TRAP AND OUT TO THE UPHILL MOST POINT. EARTH DIKES SHALL BE LINED AS DETAILED HEREON. TEMPORARY MATTING IS MADE WITH DEGRADEABLE (6 MONTH), NATURAL OR MANMADE FIBERS OF UNIFORM THICKNESS AND DISTRIBUTION OF FIBERS THROUGHOUT AND IS SMOLDÈR RESISTÁNT. 🗕 1 DA' 3. AS ULTIMATE GRADES BETWEEN CONTROLS AND THE LOD ARE ESTABLISHED, THESE DISTURBANCES SHALL BE IMMEDIATELY STABILIZED WITH PERMANENT SEEDING MIXTURE AND STRAW MULCH. CONSTRUCTION IN TRAP AREAS SHALL BE DELAYED. UNTIL ALL CONTRIBUTING AREAS ARE STABILIZED OR PERMISSION HAS BEEN GIVEN BY THE SEDIMENT CONTROL INSPECTOR

4. TRAP SHALL REMAIN AS DIRECTED BY SEDIMENT CONTROL INSPECTOR AND SHALL BE BACKFILLED WITH PERMISSION OF SEDIMENT CONTROL INSPECTOR AS ULTIMATE GRADES ARE ESTABLISHED ALL CONTRIBUTING AREAS ARE STABILIZED. TRAP SHALL BE REPLACED WITH SUPER SILT FENCE AT THE LIMITS OF DISTURBANCE AS SUPPORTING SLOPES ARE SET TO FINAL GRADE. WITH SLOPES AT GRADE, IMMEDIATELY STABILIZE WITH PERMANENT SEEDING MIXTURE AND STRAW MULCH. - 2 WEEKS



H-1 STANDARDS AND SPECIFICATIONS FOR MATERIALS Table H.I: Geotextile Fabrics

SLIT FILM MONOFILAMENT NONWOVEN GEOTEXTILE GEOTEXTILE GEOTEXTILE MINIMUM AVERAGE ROLL VALUE (1)			WOVE	EN	WO\	ÆN			
MINIMUM AVERAGE ROLL VALUE (1)							NONWOVEN		
			GE01	GEOTEXTILE GEOTEXTILE			GEOTEXTILE		
				MININ	MUM AVER	AGE ROL	L VALUE	(1)	
PROPERTY TEST METHOD MD CD MD CD CD	PROPERTY	TEST METHOD	MD	CD	MD	CD	MD	CD	
Grab Tensile Strength ASTM D-4632 200lb 200lb 370lb 250lb 200lb 200lb	Grab Tensile Strength	ASTM D-4632	200lb	200lb	370lb	250lb	200lb	200lb	
<u>Grab Tensile Elongation</u> <u>ASTM D-4632 15% 10% 15% 15% 50% 50%</u>	Grab Tensile Elongation	ASTM D-4632	15%	10%	15%	15%	50%	50%	
Trapezoidal Tear Strength ASTM D-4533 75lb 75lb 100lb 60lb 80lb 80lb	Trapezoidal Tear Strength	ASTM D-4533	75lb	75lb	100lb	60lb	80lb	80lb	
Puncture Strength ASTM D-6241 450 lb 900lb 450lb	Puncture Strength	ASTM D-6241	450	lb	900	lb	450lb		
Apparent Opening Size (2) ASTMD-4751 U.S. Sieve 30 U.S. Sieve 70 U.S. Sieve 70	Apparent Opening Size (2)	ASTMD-4751	U.S. Siev	/e 30	U.S. Sie	ve 70	U.S. Sieve 70		
(0.59 mm) (0.21 mm) (0.21 mm)				(0.59 mm)		(0.21 mm)		mm)	
Permittivity ASTMD-4491 0.05 sec^-1 0.28 sec^-1 1.1 sec^-1	Permittivity	tivity ASTMD-4491		0.05 sec^-1		0.28 sec^-1		ec^-1	
Ultraviolet Resistance ASTM D-4355 70% strength 70% strength 70% strength			70% strength		70% strength		70% strength		
Retained at 500 hours	Retained at 500 hours								

(1) All numeric values except apparent opening size (AOS) represent minimum average roll values (MARV). MARV is calculated as the typical minus two standard deviations. MD is machine direction; CD is cross (2) Values for AOS represent the average maximum opening.

Geotextiles must be evaluated by the National Transportation Product Evaluation Program (NTPEP) and conform to the values in Table H.1.

The geotextile must be inert to commonly encountered chemicals and hydrocarbons and must be rot and mildew resistant. The geotextile must be manufactured from fibers consisting of long chain synthetic polymers and composed of a minimum of 95 percent by weight of polyoletins or polyesters, and formed into a stable network so the filaments or yarns retain their dimensional stability relative to each other. including selvages.

When more than one section of geotextile is necessary, overlap the sections by at least one foot. The gentextile must be pulled taut over the applied surface. Equipment must not run over exposed fabric. When placing riprap on geotextile, do not exceed a one foot drop height.

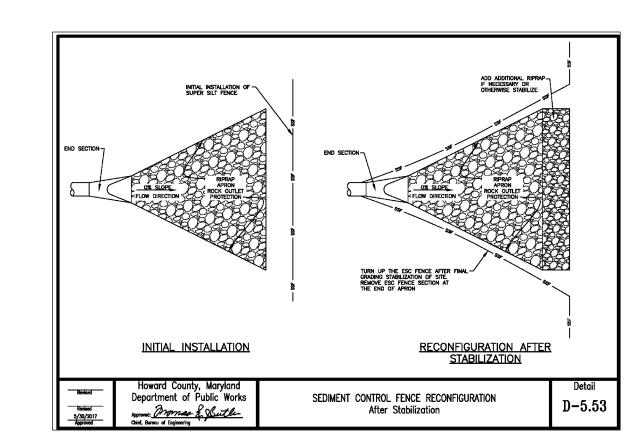
Table H.2: Stone Size

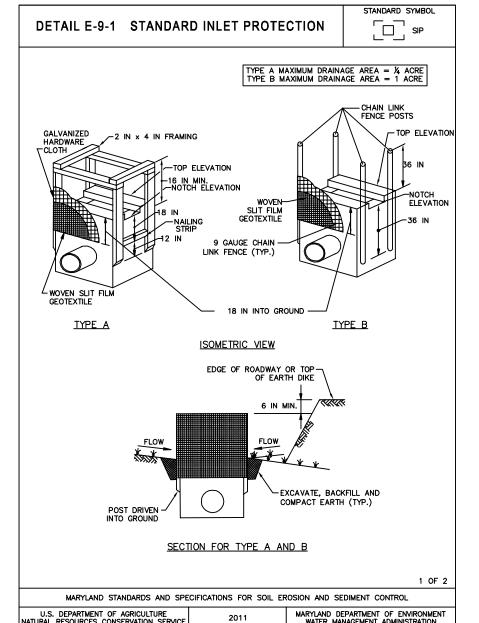
ΈE	SIZE RANGE	d50	d100	AASHT0	MIDSIZE WEIGHT(3)
JMBER 57(1)	$\frac{3}{8}$ to $1-\frac{1}{2}$ inch	1/2in	1 – 1/2 in	M-43	N/A
JMBER 1	2 to 3 inch	$2-\frac{1}{2}$ in	3in	M-43	N/A
PRAP(2) LASS 0)	4 to 7 inch	5— <mark>1</mark> in	7in	N/A	N/A
ASS I	N/A	9-1/2 in	15in	N/A	40lb
ASS II	N/A	16in	24in	N/A	200lb
ASS III	N/A	23in	34in	N/A	600lb

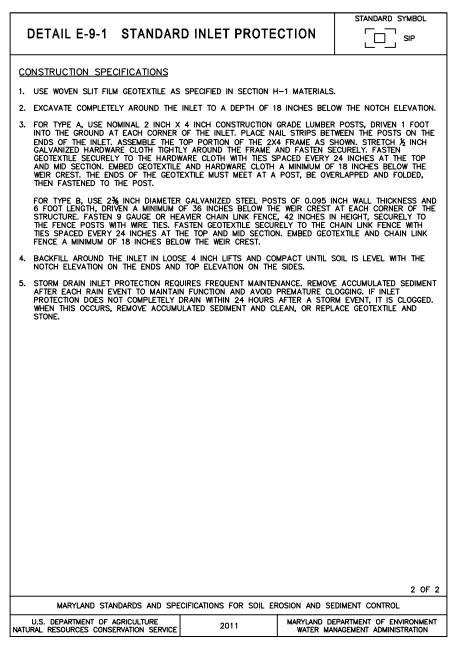
(1) This classification is to be used on the upstream face of stone outlets and check dams. (2) This classification is to be used for gabions. (3) Optimum gradation is 50 percent of the stone being above and 50 percent below the midsize.

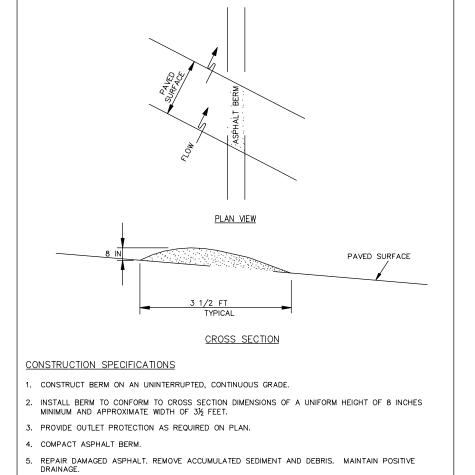
Stone must be composed of a well graded mixture of stone sized so that fifty (50) percent of the pieces by weight are larger than the size determined by using the charts. A well graded mixture, as sed herein, is defined as a mixture composed primarily of larger stone sizes but with a sufficient mixture of other sizes to fill the smaller voids between the stones. The diameter of the largest stone in such a mixture must not exceed the respective d100 selected from Table H.2. The d50 refers to the median diameter of the stone. This is the size for which 50 percent, by weight, will be smaller and 50 percent will be larger.

Note: Recycled concrete equivalent may be substituted for all stone classifications for temporary control measures only. Concrete broken into the sizes meeting the appropriate classification, containing no steel reinforcement, and having a minimum density of 150 pounds per cubic foot may be used as an









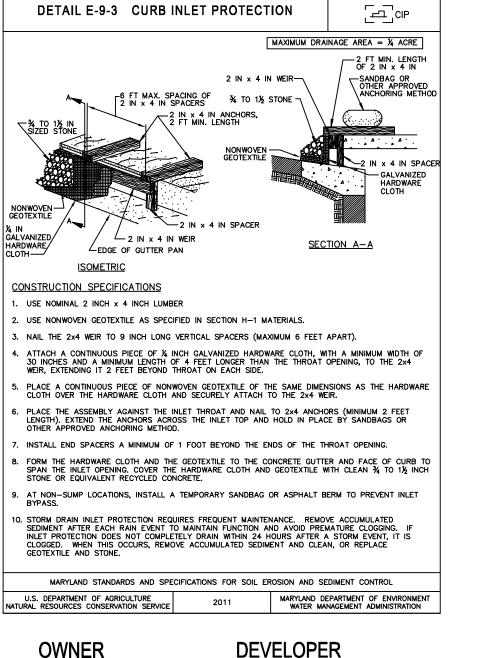
3. UPON REMOVAL OF ASPHALT BERM, RETURN TO ORIGINAL CONDITIONS OR AS SPECIFIED ON APPROVED

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

MARYLAND DEPARTMENT OF ENVIRONMEN
WATER MANAGEMENT ADMINISTRATION

DETAIL C-5 TEMPORARY ASPHALT BERM

STANDARD SYMBO



TRINITY HOMES MARY LAND, LLC

STANDARD SYMBOL



<u>ID</u> REGISTRATION NO. <u>16193</u>

APPROVED: DEPARTMENT OF PUBLIC WORKS

(HdD Edmondson

CHIEF, DEVELOPMENT ENGINEERING DIVISION

CHIEF, DIVISION OF ALAND DEVELOPMENT

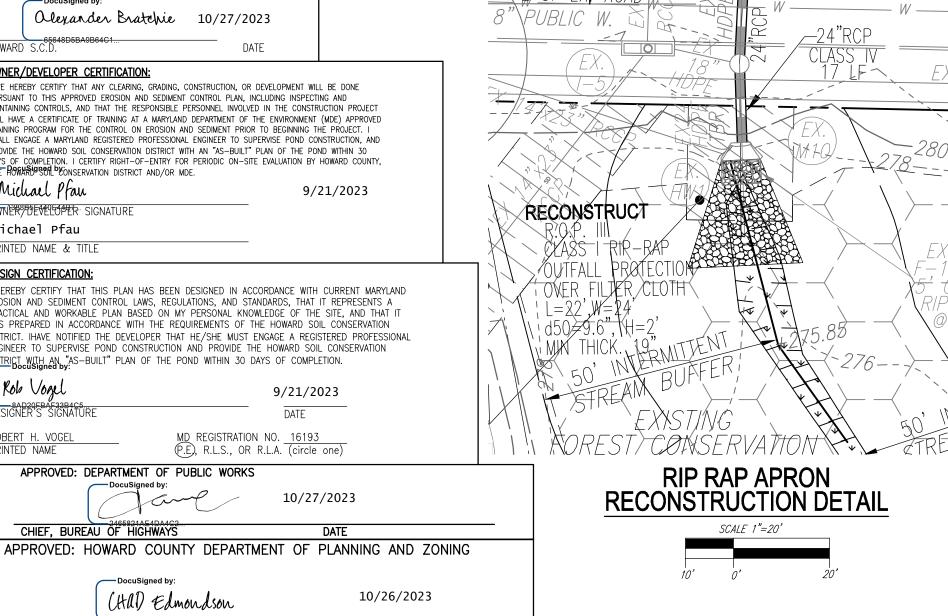
CHIEF, BUREAU OF HIGHWAYS

(P.E), R.L.S., OR R.L.A. (circle one)

10/27/2023

10/26/2023

10/27/2023



OFFSITE WETLAND, WETLAND AND STREAM BUFFERS, SOUTH OF TWIN FAWN TRAIL, ARE AS SHOWN ON F-15-053 - PLAT 23768 - FOXWOOD MANOR

THIS PLAN PROPOSES THE RECONSTRUCTION OF THE RIP RAP OUTFALL

AT EXISTING F-15-053 - HW-1.

BEST MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, AND 100-YEAR FLOODPLAINS NO EXCESS FILL, CONSTRUCTION MATERIAL, OR DEBRIS SHALL BE STOCKPILED OR STORED IN NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE

PLACE MATERIALS IN A LOCATION AND MANNER WHICH DOES NOT ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF NONTIDAL WETLANDS. NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN. DO NOT USE THE EXCAVATED MATERIAL AS BACKFILL IF IT CONTAINS WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE. IF ADDITIONAL BACKFILL IS REQUIRED, USE CLEAN MATERIAL FREE OF WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE PLACE HEAVY EQUIPMENT ON MATS OR SUITABLY OPERATE THE EQUIPMENT TO PREVENT DAMAGE TO NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.

REPAIR AND MAINTAIN ANY SERVICEABLE STRUCTURE OR FILL SO THERE IS NO PERMANENT LOSS OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, OR WATERWAYS, OR PERMANENT MODIFICATION OF THE 100 YEAR FLOODPLAIN IN EXCESS OF THAT LOST UNDER THE ORIGINALLY AUTHORIZED STRUCTURE OR FILL. RECTIFY ANY NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, OR 100-YEAR

FLOODPLAIN TEMPORARILY IMPACTED BY ANY CONSTRUCTION. ALL STABILIZATION IN THE NONTIDAL WETLAND AND NONTIDAL WETLAND BUFFER SHALL CONSIST OF THE FOLLOWING SPECIES: ANNUAL RYEGRASS (LOLIUM MULTIFLORUM), MILLET (SETARIA ITALICA), BARLEY (HORDEUM SP.), OATS (UNIOLA SP.), AND/OR RYE (SECALE CEREALE). THESE SPECIES WILL ALLOW FOR THE STABILIZATION OF THE SITE WHILE ALSO ALLOWING FOR THE VOLUNTARY REVEGETATION OF NATURAL WETLAND SPECIES. OTHER NON-PERSISTENT VEGETATION MAY BE ACCEPTABLE, BUT MUST BE APPROVED BY THE NONTIDAL WETLANDS AND WATERWAYS DIVISION. KENTUCKY 31 FESCUE SHALL NOT BE UTILIZED IN WETLAND OR BUFFER AREAS. THE AREA SHOULD BE SEEDED AND MULCHED TO REDUCE EROSION AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED.

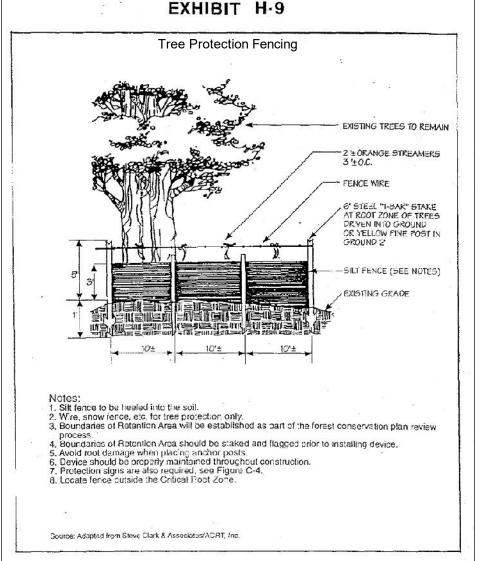
AFTER INSTALLATION HAS BEEN COMPLETED, MAKE POST-CONSTRUCTION GRADES AND ELEVATIONS THE SAME AS THE ORIGINAL GRADES AND ELEVATIONS IN TEMPORARILY IMPACTED TO PROTECT AQUATIC SPECIES, IN-STREAM WORK IS PROHIBITED AS DETERMINED BY THE

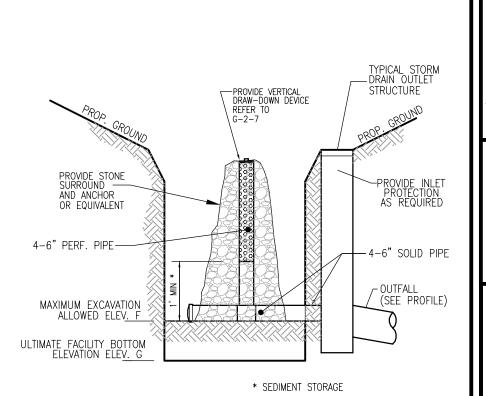
CLASSIFICATION OF THE STREAM: USE I WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PELIOD MARCH 1 THROUGH JUNE 15, INCLUSIVE, DURING ANY YEAR. USE III WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD OCTOBER 1 THROUGH APRIL 30, INCLUSIVE, DURING ANY YEAR. USE IV WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH MAY 31, INCLUSIVE, DURING ANY YEAR. 10) STORMWATER RUNOFF FROM IMPERVIOUS SURFACES SHALL BE CONTROLLED TO PREVENT THE

WASHING OF DEBRIS INTO THE WATERWAY. 11) CULVERTS SHALL BE CONSTRUCTED AND ANY RIPRAP PLACED SO AS NOT TO OBSTRUCT THE MOVEMENT OF AQUATIC SPECIES, UNLESS THE PURPOSE OF THE ACTIVITY IS TO

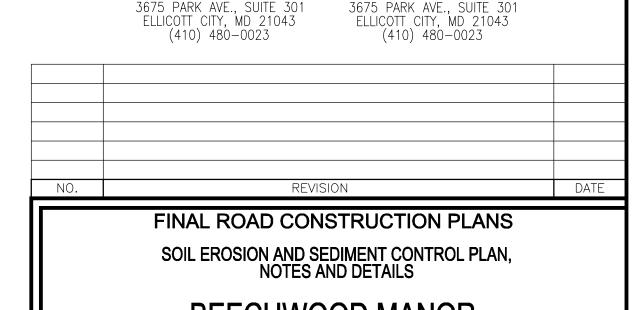
THE DEVELOPER WILL OBTAIN ALL NECESSARY STATE PERMITS FOR THE PROPOSED ENVIRONMENTAL IMPACTS. -MDE AUTHORIZATION NUMBER 23-NT-3134/202360907

ALL WORK IN THE NONTIDAL WETLANDS, WETLAND BUFFERS SHALL BE COMPLETED PER THE BEST MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, AND 100-YEAR FLOODPLAINS





BIORETENTION. MICRO-BIORETENTION AND BIOSWALE SEDIMENT CONTROL DEWATERING DEVICE



BEECHWOOD MANOR

LOTS 1-31 AND OPEN SPACE LOTS 32-34 A SUBDIVISION OF TAX MAP 50 - PARCEL _. 22025 / F. 202 TAX MAP: 50 GRID: 1

W.O. NO.:

BEECHWOOD MANOR, LLC

3675 PARK AVE.. SUITE 301

LAUREL, MD 20723 DPZ REFERENCE: SEE SITE DATA HOWARD COUNTY, MARYLAND **VOGEL ENGINEERING**

9111 RIVER HILL ROAD

TIMMONS GROUP P: 410.461.7666 F: 410.461.8961 www.timmons.com

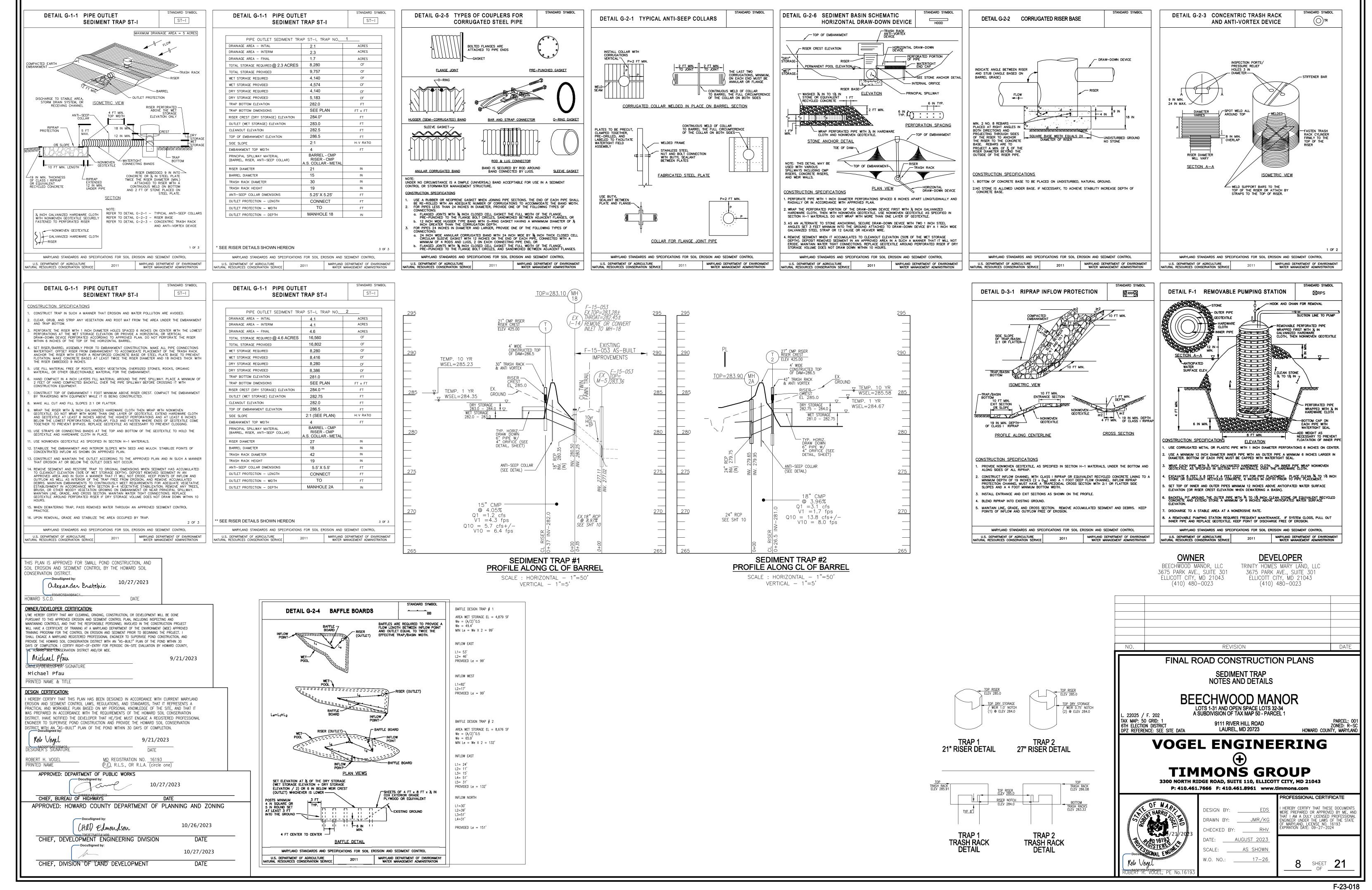


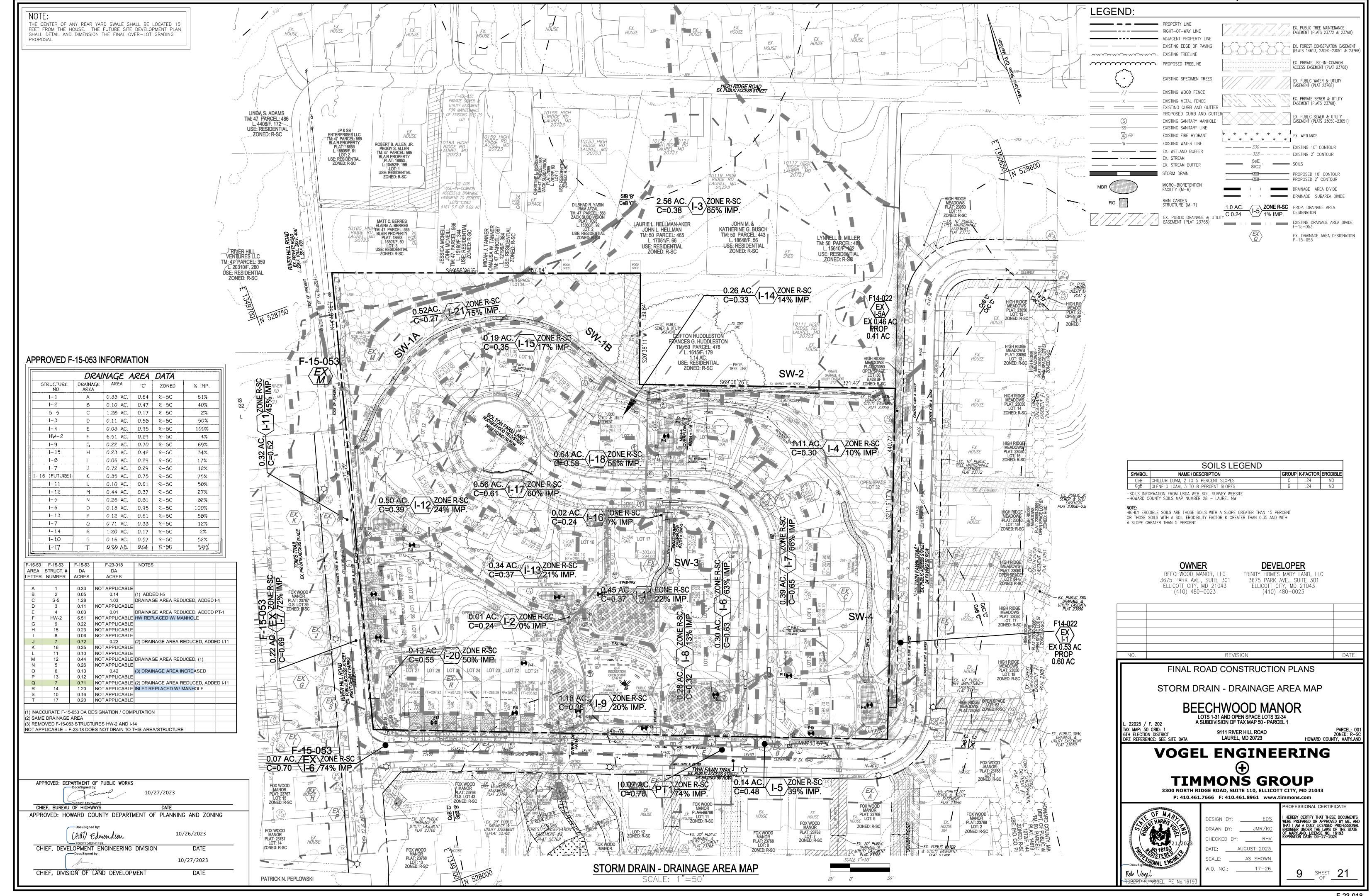
6TH ELECTION DISTRICT

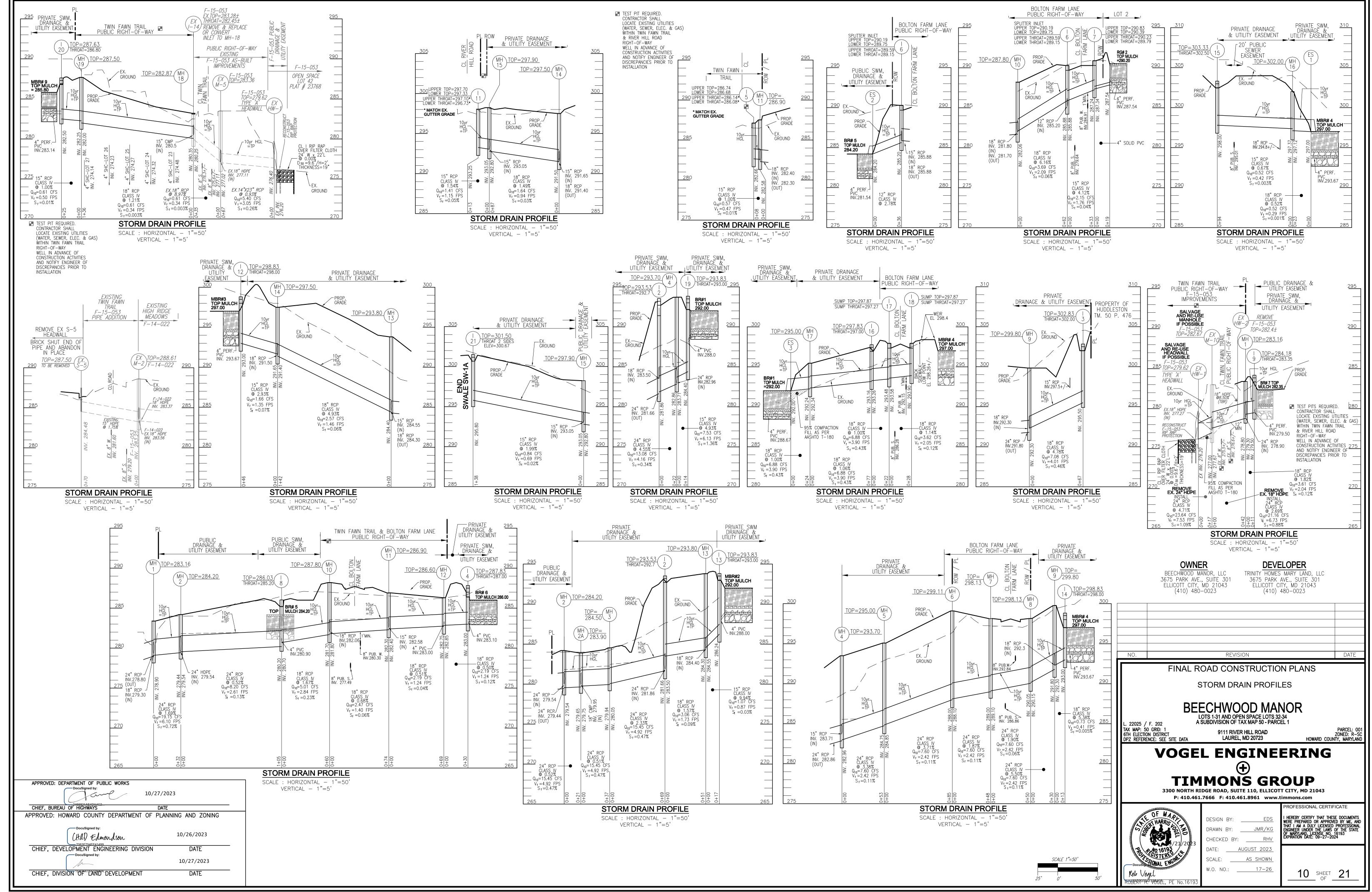
PROFESSIONAL CERTIFICATE VERE PREPARED OR APPROVED BY ME. AN RAWN BY: CHECKED BY: AUGUST 2023 SCALE: AS SHOWN

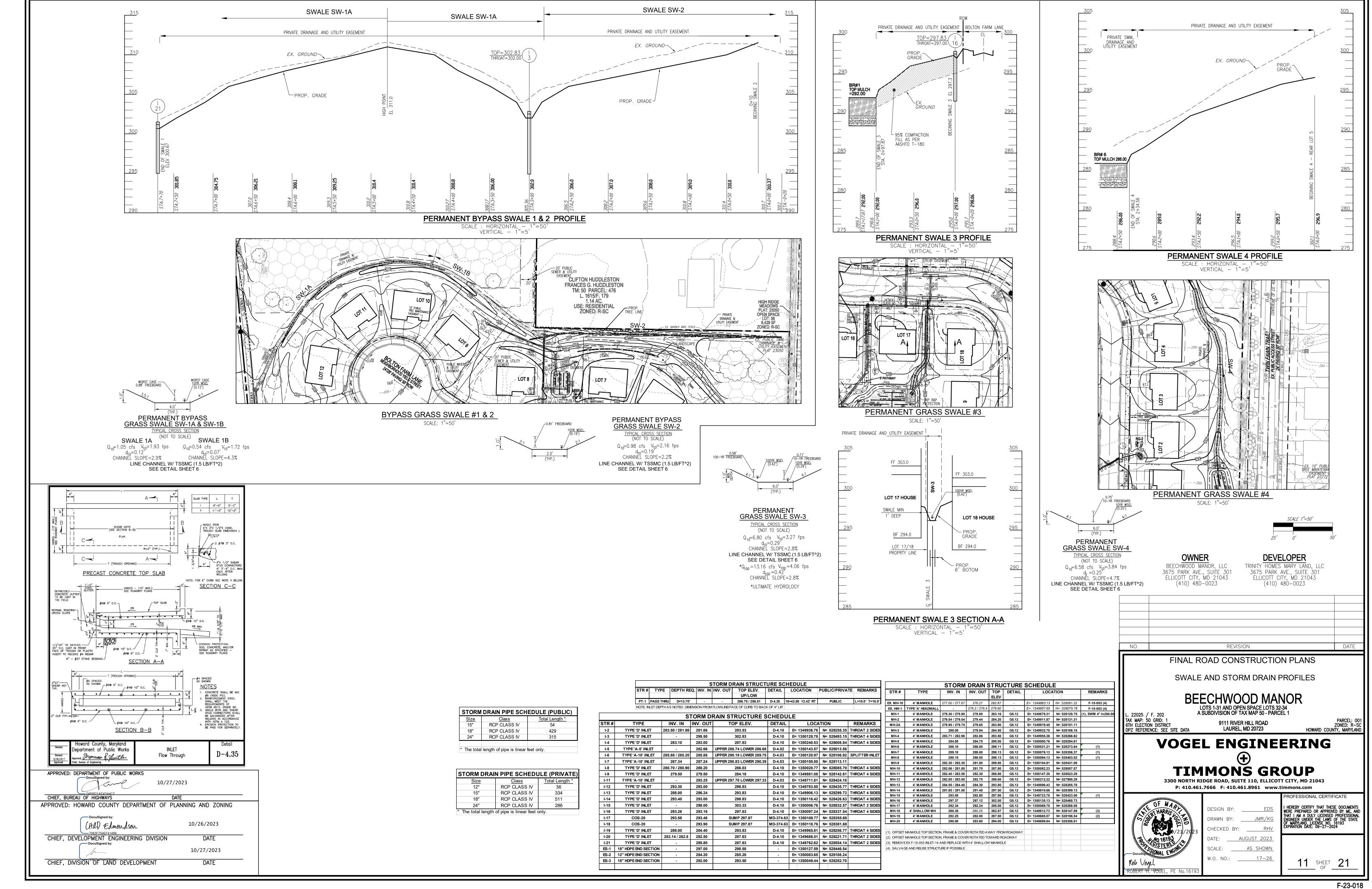
SHEET 21

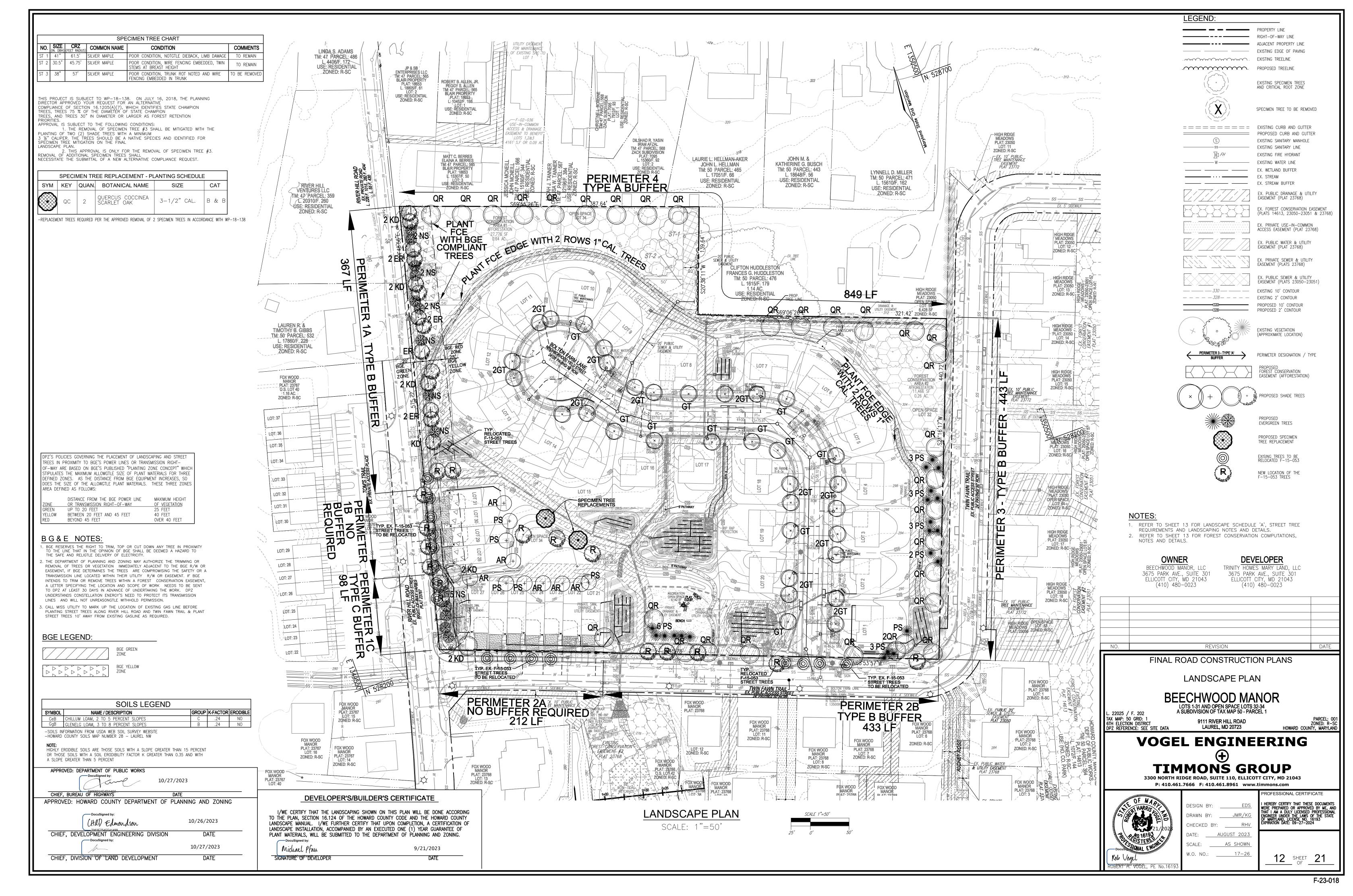
ZONED: R-SO

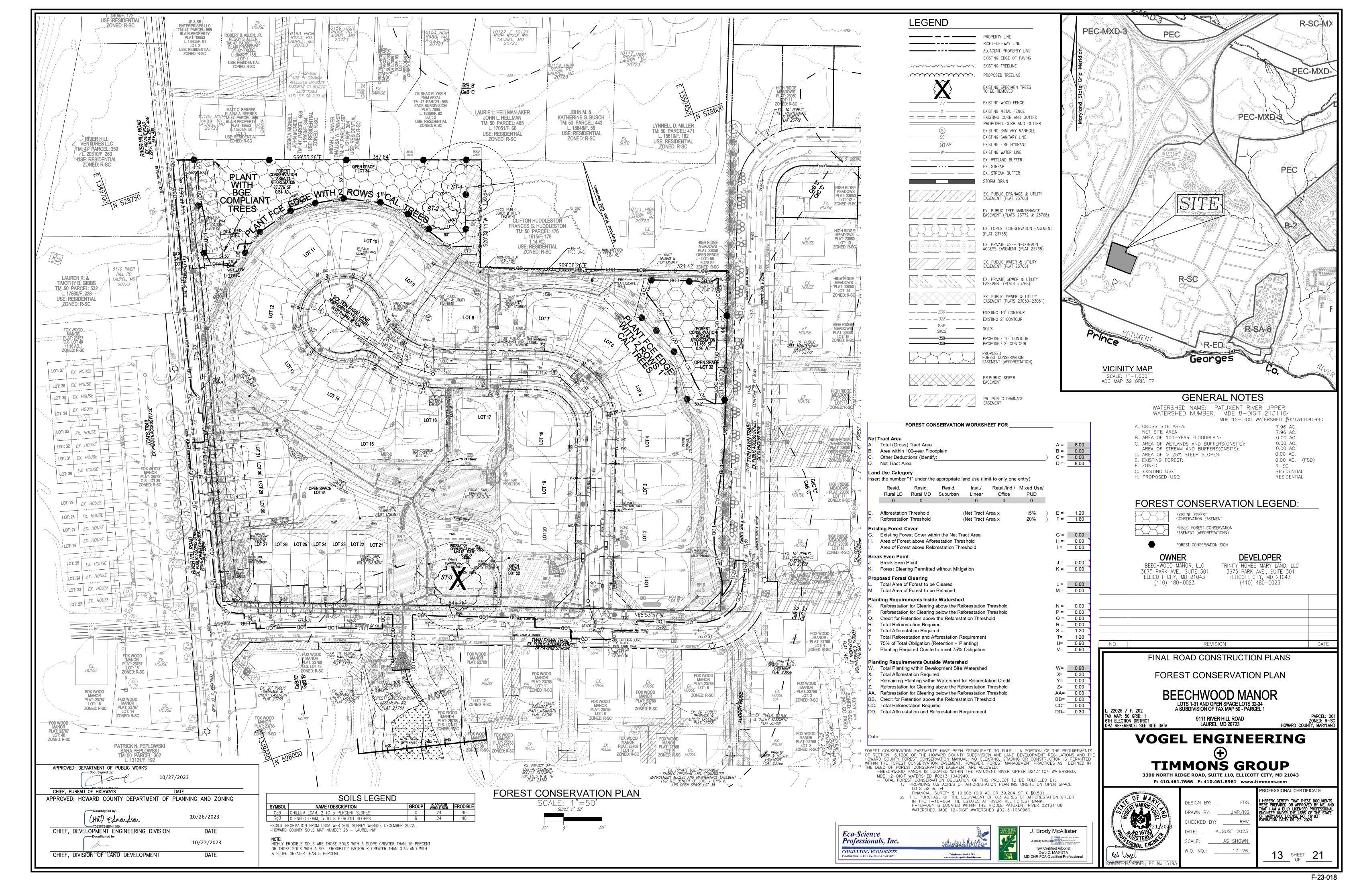












REFORESTATION AND AFFORESTATION PLANTING PLANS A. PLANTING PLAN AND METHODS

REFORESTATION AND AFFORESTATION WILL BE ACCOMPLISHED THROUGH A MIXED PLANTING OF WHIPS AND BRANCHED TRANSPLANTS. CONTAINER GROWN STOCK IS RECOMMENDED BUT BAREROOT STOCK MAY BE USED TO HELP CONTROL REFORESTATION AND AFFORESTATION COSTS. IF BAREROOT STOCK IS USED THE ROOT SYSTEMS OF ALL PLANTS WILL BE DIPPED IN AN ANTI-DESICCANT GEL PRIOR TO PLANTING TO IMPROVE MOISTURE RETENTION IN THE ROOT SYSTEMS.

PRIOR TO PLANTING THE PROPOSED FOREST CONSERVATION EASEMENTS ALL MULTIFLORA ROSE IN THE PLANTING AREA SHALL BE REMOVED. REMOVAL OF THE ROSE MAY BE PERFORMED WITH MOWING AND HERBICIDE TREATMENTS. PHYSICAL REMOVAL OF ALL TOP GROWTH FOLLOWING BY A PERIODIC HERBICIDE TREATMENT OF STUMP SPROUTS IS RECOMMENDED. NATIVE TREE AND SHRUB SPECIES OCCURRING WITHIN THE ROSE THICKETS SHOULD BE RETAINED WHEREVER POSSIBLE. HERBICIDES TREATMENTS SHALL OCCUR ON 2 MONTH INTERVALS DURING THE FIRST GROWING SEASON AND ONCE EACH IN THE SPRING AND FALL FOR SUBSEQUENT YEARS. HERBICIDE USED SHALL BE MADE SPECIFICALLY TO ADDRESS WOODY PLANT MATERIAL AND SHALL BE APPLIED AS PER MANUFACTURERS SPECIFICATIONS. CARE SHOULD BE TAKEN NOT TO SPRAY PLANTED TREES OR NATURALLY OCCURRING NATIVE TREE/SHRUB SEEDLINGS. IT IS RECOMMENDED THAT INITIATION OF ROSE REMOVAL BEGIN AT LEAST SIX MONTHS PRIOR TO PLANTING. B. PLANTING AND SOIL SPECIFICATIONS

PLANT MATERIAL WILL BE INSTALLED IN ACCORDANCE WITH THE PLANTING DETAIL AND PLANTING SPECIFICATIONS SHOWN ON THE FOREST CONSERVATION PLAN.

C. MAINTENANCE OF PLANTINGS FOR INFORMATION REGARDING MAINTENANCE OF THE REFORESTATION AND AFFORESTATION PLANTINGS, SEE SECTION VIII B.

D. GUARANTEE REQUIREMENTS

A 90 PERCENT SURVIVAL RATE OF THE REFORESTATION AND AFFORESTATION PLANTINGS WILL BE REQUIRED AFTER
ONE GROWING SEASON. ALL PLANT MATERIAL BELOW THE 90 PERCENT SURVIVAL THRESHOLD WILL BE REPLACED AT
THE BEGINNING OF THE SECOND GROWING SEASON. AT THE END OF THE SECOND GROWING SEASON, A 75 PERCENT SURVIVAL RATE WILL BE REQUIRED. ALL PLANT MATERIAL BELOW THE 75 PERCENT SURVIVAL THRESHOLD WILL BE
REPLACED BY THE BEGINNING OF THE NEXT GROWING SEASON. E. SECURITY FOR REFORESTATION AND AFFORESTATION

SECTION 16-1209 OF THE HOWARD COUNTY FOREST CONSERVATION ACT REQUIRES THAT A DEVELOPER SHALL POST 2. A SECURITY (BOND, LETTER OF CREDIT, ETC.) WITH THE COUNTY TO INSURE THAT ALL WORK IS DONE IN ACCORDANCE WITH THE FCP.

CONSTRUCTION PERIOD PROTECTION PROGRAM

A. FOREST PROTECTION TECHNIQUES

1. SOIL PROTECTION AREA (CRITICAL ROOT ZONE)

2. FENCING AND SIGNAGE

Eco-Science

Professionals, Inc.

Michael Pfan

SIGNATURE OF DEVELOPER

APPROVED: DEPARTMENT OF PUBLIC WORKS

(HD) Edmondson

CHIEF, DEVELOPMENT ENGINEERING DIVISION

CHIEF, DIVISION CHECK CHIEF

EXISTING FOREST LIMITS OCCURRING WITHIN 25 FEET OF THE LIMITS OF DISTURBANCE SHALL BE PROTECTED USING TEMPORARY PROTECTIVE FENCING. PERMANENT SIGNAGE SHALL BE PLACED AROUND THE AFFORESTATION AREA PRIOR TO PLANT INSTALLATION, AS SHOWN ON THE PLAN.

1. THE DEVELOPER SHALL P

B. PRE-CONSTRUCTION MEETING UPON STAKING OF LIMITS OF DISTURBANCE A PRE-CONSTRUCTION MEETING WILL BE HELD BETWEEN THE DEVELOPER, CONTRACTOR AND APPROPRIATE COUNTY INSPECTOR. THE PURPOSE OF THE MEETING WILL BE TO VERIFY THAT ALL SEDIMENT CONTROL IS IN ORDER, AND TO NOTIFY THE CONTRACTOR OF POSSIBLE PENALTIES FOR NON-COMPLIANCE WITH THE FCP.

C. STORAGE FACILITIES/EQUIPMENT CLEANING

ALL EQUIPMENT STORAGE, PARKING, SANITARY FACILITIES, MATERIAL STOCKPILING, ETC. ASSOCIATED WITH CONSTRUCTION OF THE PROJECT WILL BE RESTRICTED TO THOSE AREAS OUTSIDE OF THE PROPOSED FOREST CONSERVATION EASEMENT. CLEANING OF EQUIPMENT WILL BE LIMITED TO AREA WITHIN THE LOD OF THE PROPOSED HOMESITES. WASTEWATER RESULTING FROM EQUIPMENT CLEANING WILL BE CONTROLLED TO PREVENT RUNOFF INTO ENVIRONMENTALLY SENSITIVE AREAS.

THE FOLLOWING TIMETABLE REPRESENTS THE PROPOSED TIMETABLE FOR DEVELOPMENT. THE ITEMS OUTLINED IN THE FOREST CONSERVATION PLAN WILL BE ENACTED WITHIN TWO (2) YEARS OF SUBDIVISION APPROVAL.

- BELOW FIND A PROPOSED SEQUENCE OF CONSTRUCTION.

 1. INSTALL ALL SIGNAGE AND SEDIMENT CONTROL DEVICES.

 2. HOLD PRE—CONSTRUCTION MEETING BETWEEN DEVELOPER, CONTRACTOR AND COUNTY INSPECTOR.

 3. BUILD ACCESS ROADS, INSTALL UTILITIES, AND CONSTRUCT HOME. STABILIZE ALL DISTURBED AREAS
- 3. BUILD ACCESS ROADS, INSTALL UTILITIES, AND CONSTRUCT HOME. STABILIZE ALL DISTURBED AREAS ACCORDINGLY.
 4. BEGIN MULTIFLORA ROSE REMOVAL, AS NEEDED. INSTALL PERMANENT PROTECTIVE SIGNAGE FOR EASEMENTS AND INITIATE PLANTINGS IN ACCORDANCE WITH FOREST CONSERVATION PLAN. PLANTINGS WILL BE COMPLETED WITHIN TWO (2) YEARS OF SUBDIVISION APPROVAL.
 5. REMOVE SEDIMENT CONTROL.
 6. HOLD POST—CONSTRUCTION MEETING WITH COUNTY INSPECTORS TO ASSURE COMPLIANCE WITH FCP. SUBMIT CERTIFICATION OF INSTALLATION.
 7. MONITOR AND MAINTAIN PLANTINGS FOR 2 YEARS.
- E. CONSTRUCTION MONITORING

A QUALIFIED PROFESSIONAL DESIGNATED BY THE DEVELOPER, WILL MONITOR CONSTRUCTION OF THE PROJECT TO ENSURE THAT ALL ACTIVITIES ARE IN COMPLIANCE WITH THE FOREST CONSERVATION PLAN. F. POST-CONSTRUCTION MEETING

UPON COMPLETION OF CONSTRUCTION, A QUALIFIED PROFESSIONAL DESIGNATED BY THE DEVELOPER, WILL NOTIFY THE COUNTY THAT CONSTRUCTION HAS BEEN COMPLETED AND ARRANGE FOR A POST—CONSTRUCTION MEETING TO REVIEW THE PROJECT SITE. THE MEETING WILL ALLOW THE COUNTY INSPECTOR TO VERIFY THAT REFORESTATION / AFFORESTATION PLANTINGS HAVE BEEN INSTALLED.

POST-CONSTRUCTION MANAGEMENT PLAN

HOWARD COUNTY REQUIRES A TWO YEAR POST-CONSTRUCTION MANAGEMENT PLAN BE PREPARED AS PART OF THE FOREST CONSERVATION PLAN. THE PLAN GOES INTO EFFECT UPON ACCEPTANCE OF THE CONSTRUCTION CERTIFICATION OF COMPLETION BY THE COUNTY. A QUALIFIED PROFESSIONAL DESIGNATED BY THE DEVELOPER, WILL BE RESPONSIBLE FOR IMPLEMENTATION OF THE POST-CONSTRUCTION MANAGEMENT PLAN. THE FOLLOWING ITEMS WILL BE INCORPORATED INTO THE PLAN:
A. FENCING AND SIGNAGE

PERMANENT SIGNAGE INDICATING THE LIMITS OF THE RETENTION/REFORESTATION/AFFORESTATION AREA SHALL BE MAINTAINED.

B. GENERAL SITE INSPECTIONS/MAINTENANCE OF PLANTINGS
SITE INSPECTIONS WILL BE PERFORMED A MINIMUM OF THREE TIMES DURING THE GROWING SEASON. THE PURPOSE
OF THE INSPECTIONS WILL BE TO ASSESS THE HEALTH OF THE REFORESTATION/AFFORESTATION PLANTINGS.
APPROPRIATE MEASURES WILL BE TAKEN TO RECTIFY ANY PROBLEMS WHICH MAY ARISE.

IN ADDITION, MAINTENANCE OF THE REFORESTATION/AFFORESTATION PLANTINGS WILL INVOLVE THE FOLLOWING STEPS:

1. WATERING — ALL PLANT MATERIAL SHALL BE WATERED TWICE A MONTH DURING THE 1ST GROWING SEASON, MORE OR LESS FREQUENTLY DEPENDING ON WEATHER CONDITIONS. DURING THE SECOND GROWING SEASON, ONCE A MONTH DURING MAY—SEPTEMBER, IF NEEDED.

2. REMOVAL OF INVASIVE EXOTICS AND NOXIOUS WEEDS. OLD FIELD SUCCESSIONAL SPECIES WILL BE

DEVELOPER'S/BUILDER'S CERTIFICATE

TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY

LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, A CERTIFICATION OF

LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE (1) YEAR GUARANTEE OF

PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING

- DENTIFICATION OF SERIOUS PLANT PESTS AND DISEASES, TREATMENT WITH APPROPRIATE AGENT. PRUNING OF DEAD BRANCHES.

 AFTER 12 AND 24 MONTHS, REPLACEMENT OF PLANTS, IF REQUIRED, IN ACCORDANCE WITH THE GUARANTEE REQUIREMENTS SHOWN ON THE FCP.

C. EDUCATION

THE DEVELOPER WILL PROVIDE APPROPRIATE MATERIALS TO PROPERTY OWNERS INFORMING THEM OF THE LOCATION AND PURPOSE OF THE REFORESTATION/AFFORESTATION AREA. MATERIALS MAY INCLUDE SITE PLANS AND INFORMATION EXPLAINING THE INTENT OF THE FOREST CONSERVATION LAW. INFORMATION EXPLAINING THE INTENT OF THE FOREST SOCIOENTS. SOCIENTAS. SOCIOENTS. SOCIENTAS. SOCIOENTS. SOCIENTS. SOCIOENTS. SOCIOENTS. SOCIOENTS. SOCIOENTS. SOCIOENTS. SOCIENTS. SOCIOENTS. SOCIOENTS. SOCIOENTS. SOCIOENTS. SOCIOENTS. SOCIOENTS. SOCIENTAS. SOCIOENTS. SOCIENTAS. SOCIOENTS. SOCIENTAS. SOCIOENTS. SOCIOENTS

PLANTING NOTES:

- PLANTING DENSITY BASED SPACING REQUIREMENTS.
- PLANTING MAY BE MADE IN A CURVILINEAR FASHION ALONG CONTOUR. THE PLANTING SHOULD AVOID A GRID APPEARANCE BUT SHOULD BE SPACED TO FACILITATE MAINTENANCE - MULTIFLORA ROSE/HEAVY BRUSH REMOVAL/CONTROL MAY BE REQUIRED PRIOR TO INSTALLATION OF PLANTING. ALL WHIPS ARE REQUIRED TO BE INSTALLED WITH TREE SHELTERS PER HOWARD COUNTY FCA REQUIREMENTS.

— PLANTING UNITS DEFINED BY THE SPACING REQUIREMENTS ESTABLISHED IN THE FCA MANUAL. ONE PLANT UNIT IS DEFINED AS 200 1" CALIPER TREES, OR 100 2" CALIPER TREES. BY CONVERSION IT HAS BEEN DETERMINED THAT A SEEDING OR WHIP WITHOUT SHELTER = 1 UNIT, WHIP WITH SHELTER = 2 UNITS, 1"CALIPER TREE = 3.5 UNITS AND 2" CALIPER TREE = 7 UNITS. THE USE OF PLANT UNITS SIMPLIFIES THE PLANT DENSITY CALCULATIONS WHEN MIXING STOCK SIZE.

PLANTING/SOIL SPECIFICATIONS INSTALLATION OF BAREROOT/PLUG PLANT STOCK SHALL TAKE PLACE BETWEEN MARCH 15 — APRIL 20; B&B/CONTAINER STOCK MARCH 15 — MAY 30 OR SEPTEMBER 15 — NOVEMBER 15. FALL PLANTING OF B&B STOCK IS NOT RECOMMENDED. DISTURBED AREAS SHALL BE SEEDED AND STABILIZED AS PER GENERAL CONSTRUCTION PLAN FOR PROJECT. PLANTING AREAS NOT IMPACTED BY SITE GRADING SHALL HAVE NO ADDITIONAL TO DESCRIPTION OF THE PROJECT OF THE PROJECT

- FOR PROJECT. PLANTING AREAS NOT IMPACTED BY SITE GRADING SHALL HAVE NO ADDITIONAL TOPSOIL INSTALLED.

 BAREROOT PLANTS SHALL BE INSTALLED SO THAT THE TOP OF ROOT MASS IS LEVEL WITH THE TOP OF EXISTING GRADE. ROOTS SHALL BE DIPPED IN AN ANTI-DESICCANT GEL PRIOR TO PLANTING. BACKFILL IN THE PLANTING PITS SHALL CONSIST OF 3 PARTS EXISTING SOIL TO 1 PART PINE FINES OR EQUIVALENT.

 FERTILIZER SHALL CONSIST OF AGRIFORM 22-8-2, OR EQUIVALENT, APPLIED AS PER MANUFACTURER'S SPECIFICATIONS, FOR WOODY PLANTS. HERBACEOUS PLANT SHALL BE FERTILIZED WITH OSMOCOTE 8-6-12.

 PLANT MATERIAL SHALL BE TRANSPORTED TO THE SITE IN A TARPED OR COVERED TRUCK. PLANTS SHALL BE KEPT MOIST PRIOR TO PLANTING.

 THE CONTRACTOR SHALL REMOVE ALL NON-ORGANIC DEBRIS ASSOCIATED WITH THE PLANTING OPERATION FROM THE SITE.
- SEQUENCE OF CONSTRUCTION
- SEDIMENT CONTROL SHALL BE INSTALLED IN ACCORDANCE WITH GENERAL CONSTRUCTION PLAN FOR SITE. 2. PLANTS SHALL BE INSTALLED AS PER PLANT SCHEDULE AND THE PLANTING/SOIL SPECIFICATIONS FOR THE PROJECT.

 7. UPON COMPLETION OF THE PLANTING, SIGNAGE SHALL BE INSTALLED AS SHOWN.

 4. PLANTINGS SHALL BE MAINTAINED AND GUARANTEED IN ACCORDANCE WITH THE MAINTENANCE AND GUARANTEE REQUIREMENTS FOR PROJECT.

 MAINTENANCE OF PLANTINGS
- MAINTENANCE OF PLANTINGS SHALL LAST FOR A PERIOD OF TWO YEARS.
 PLANTINGS MUST RECEIVE 2 GALLONS OF WATER, EITHER THROUGH PRECIPITATION OR
 WATERING, WEEKLY DURING THE 1ST GROWING SEASON, AS NEEDED. DURING SECOND
 GROWING SEASON, ONCE A MONTH DURING MAY—SEPTEMBER, IF NEEDED.
 INVASIVE EXOTICS AND NOXIOUS WEEDS WILL BE REMOVED, AS REQUIRED, FROM PLANTING
 AREAS MECHANICALLY AND/OR WITH LIMITED HERBICIDE. OLD FIELD SUCCESSIONAL SPECIES
 WILL BE RETAINED.
 PLANTS SHALL BE EXAMINED A MINIMUM TWO TIMES DURING THE GROWING SEASON FOR
 SERIOUS PLANT PESTS AND DISEASES. SERIOUS PROBLEMS WILL BE TREATED WITH THE
 APPROPRIATE AGENT.
- DEAD BRANCHES WILL BE PRUNED FROM PLANTINGS.

GUARANTEE REQUIREMENTS

90 PERCENT SURVIVAL RATE OF THE REFORESTATION PLANTINGS WILL BE REQUIRED AFTER NE GROWING SEASON. ALL PLANT MATERIAL BELOW THE 90 PERCENT SURVIVAL THRESHOLD ILL BE REPLACED AT THE BEGINNING OF THE SECOND GROWING SEASON. AT THE END OF HE SECOND GROWING SEASON, A 75 PERCENT SURVIVAL RATE WILL BE REQUIRED. ALL ANT MATERIAL BELOW THE 75 PERCENT SURVIVAL THRESHOLD WILL BE REPLACED BY THE SEGINNING OF THE NEXT GROWING SEASON.

THE DEVELOPER SHALL PROVIDE EDUCATIONAL INFORMATION TO ALL PROPERTY OWNERS WITHIN THE NEW DEVELOPMENT/HOME ABOUT THE PROPER USE OF FOREST CONSERVATION AREAS.

AT THE END OF THE POST-CONSTRUCTION MANAGEMENT AND PROTECTION PERIOD THE DEVELOPER SHALL SUBMIT A CERTIFICATION TO THE COUNTY THAT ALL FOREST CONSERVATION AREAS HAVE REMAINED INTACT OR HAVE BEEN RESTORED TO APPROPRIATE CONDITION, THAT THE STIPULATED SURVIVAL RATES HAVE BEEN ACHIEVED, AND THAT ANY PERMANENT PROTECTION MEASURES REQUIRED BY THE PLAN ARE IN PLACE. UPON REVIEW AND ACCEPTANCE, THE COUNTY WILL INFORM THE DEVELOPED OF THEIR RELEASE THE DEVELOPMENT OF FUTURE OBLIGATIONS RELATED TO THE FOREST CONSERVATION ACT.

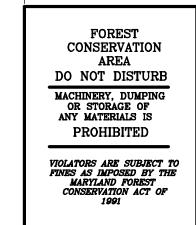
SEQUENCE OF CONTRUCTION-FOREST CONSERVATION

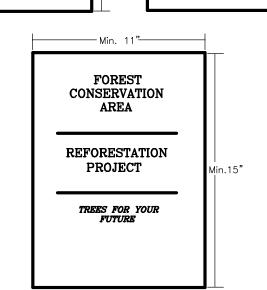
PRECONSTRUCTION MEETING /SITE WALK WITH CONTRACTORS AND OTHER RESPONSIBLE PARTIES TO DÉFINE PROTECTION MEASURES TO BE UTILIZED AND TO POINT OUT PARTICULAR TREES TO BE SAVED.

STAKE OUT LIMITS OF DISTURBANCE AND TREE PROTECTION FENCING LOCATIONS. INSTALL TREE PROTECTION FENCING: FENCING TO BE INSPECTED BY THE PROJECT ENGINEER OR THE PROJECT ECOLOGIST AND HOWARD COUNTY PLANNING AND ZONING. PROCEED WITH TREE REMOVAL AND SITE IMPROVEMENTS AS PER APPROVED SEDIMENT CONTROL PLAN - TO BE INSPECTED BY HOWARD COUNTY PLANNING AND ZONING. TEMPORARY TREE PROTECTION DEVICES SHALL BE REMOVED AFTER ALL FINISHED GRADING AND UTILITY CONSTRUCTION HAS OCCURED AND WITH APPROVAL FROM THE HOWARD COUNTY OFFICE OF PLANNING AND ZONING.

SPECIMEN TREE DO NOT REMOVE MACHINERY, DUMPING OR STORAGE OF ANY MATERIALS IS PROHIBITED

VIOLATORS ARE SUBJECT TO FINES AS IMPOSED BY THE MARYLAND FOREST CONSERVATION ACT OF





FOREST CONSERVATION AREA SIGNS

- . BOTTOM OF SIGNS TO BE HIGHER THAN TOP OF TREE PROTECTION FENCE.
- 2. SIGNS TO BE PLACED APPROXIMATELY 50-100' FEET APART. CONDITIONS ON SITE AFFECTING VISIBILITY MAY WARRANT PLACING SIGNS CLOSER OR FARTHER APART. WHERE SIGNS ARE TO BE PLACED AT THE REAR OF PROPOSED LOTS, SPACING SHAL BE APPROX. 25-30'+/-3. ATTACHMENT OF SIGNS TO TREES IS PROHIBITED.
- 4. ALL FOREST CONSERVATION SIGNAGE SHALL BE IN PLACE FOR PERPETUITY. 5. SIGN LOCATION SYMBOL =

FOREST O	CONSERVAT	TION EASEMENT	T TABLE		
EASEMENT	AFFOR	TOTAL			
	CREDITED	NON-CREDITED			
FCE#1	0.64 AC	O AC	0.7 AC		
FCE#2	0.26 AC	0 AC	0.3 AC		
TOTAL	0.90 AC	O AC	0.9 AC		

AFFORESTATION TO BE PROVIDED 0.90 ACRES

1" CALIPER TREES 180 TREES @ 200 TREES PER ACRE OR EQUAL

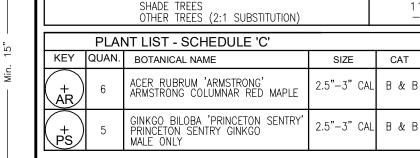
AS REQUIRED, TWO ROWS OF 1" CALIPER TREES SHALL BE PROVIDED ALONG THE FOREST CONSERVATION EASEMENT EDGE CLOSEST TO THE RESIDENTIAL LOTS.

AFFORESTATION PLANTING SCHEDULE FOREST CONSERVATION EASEMENTS 0.9 ACRES

	0.90 AC. (AFFORESTATION) @ 200 TI	REES/AC. = 180	TREES
QTY.	BOTANICAL NAME	SIZE	SPACING
33	LIRIODENDRON TULIPIFERA YELLOW POPLAR	1" CAL.	15' x 15'
33	QUERCUS PALUSTRIS PIN OAK	1" CAL.	15' x 15'
33	NYSSA SYLVATICA BLACK GUM	1" CAL.	15' x 15'
33	QUERCUS RUBRA RED OAK	1" CAL.	15' x 15'
34	ACER RUBRUM 'RED SUNSET' RED MAPLE	1" CAL.	15' x 15'
7	CARPINUS CAROLINIANA AMERICAN HORNBEAM	1" CAL.	15' x 15' (BGE*)
7	CERCIS CANADENIS RED BUD	1" CAL.	15' x 15' (BGE*)

BGE* - ACCEPTABLE YELLOW ZONE PLANTINGS

SCHEDULE 'C RESIDENTIAL DEVELOPMENT INTERNAL LANDSCAPING UMBER OF DWELLING UNITS NUMBER OF TREES REQUIRE NUMBER OF TREES PROVIDED



SCHEDULE 'A' - PERIMETER LANDSCAPE EDGE								
CATEGORY					O ROADW			TOTAL
PERIMETER/FRONTAGE DESIGNATION LANDSCAPE TYPE	1A B	1B N/A	1C C	2A N/A	2B B	3 B	4 A	
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	367	110	98	212	433	443	849	
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET DESCRIBE BELOW IF NEEDED)	NO	N/A	N/A	N/A	NO	NO	NO	
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET DESCRIBE BELOW IF NEEDED)	NO	NO	NO	NO	NO	NO	NO	
LENGTH OF PERIMETER REMAINING	367	110	98	212	433	443	849	
NUMBER OF PLANTS REQUIRED SHADE TREES EVERGREEN TREES SHRUBS	1:50 7 1:40 9	_ _ _	1:40 2 1:20 5	- - -	1:50 8 1:40 10	1:50 9 1:40 11	1:60 14	40 35 -
NUMBER OF PLANTS PROVIDED SHADE TREES EVERGREEN TREES OTHER TREES (2:1 SUBSTITUTION) SHRUBS (10:1 SUBSTITUTION)	_ 9 14 _	- - - -	_ 5 4 _	- - - -	8 10 - -	9 11 –	14 - - -	31 35 18
EX. SPECIMEN TREES TO REMAIN DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED	_	1	_	_	_	_	_	_

THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE LANDSCAPE MANUAL. A FINANCIAL SURETY SHALL BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT FOR THE REQUIRED LANDSCAPING IN THE AMOUNT OF \$21,150.

\$15,900 FOR 53 SHADE TREES (40 + 2 WP-18-138 + 11 INTERNAL)
\$5,250 FOR 35 EVERGREEN TREES

	PERIMETER LANDSCAPE EDGE LANDSCAPE SCHEDULE								
QUAN.	KEY	BOTANICAL NAME	SIZE	REM.					
31	QR	QUERCUS RUBRA NORTHERN RED OAK	2 1/2"-3" CAL.	В & В					
11	KD	CORNUS KOUSA KOUSA DOGWOOD (BGE)	8'-10' HGT.	В & В					
7	ER 🎇	CERCIS CANADENSIS EASTERN REDBUD (BGE)	1 1/2"-2" CAL.	В & В					
14	NS 🞇	ILEX 'NELLIE R. STEVENS' (BGE) NELLIE R. STEVENS HOLLY	5'-6' HGT.	В & В					
21	PS ∰	PINUS STROBUS EASTERN WHITE PINE	6'-8' HGT.	В & В					

NOTE: WITH PERMISSION FROM HOWARD COUNTY, PLANTINGS SPECIFIED HEREON MAY BE SUBSTITUTED WITH APPROVED SPECIES LISTED IN APPENDIX B & C OF THE HOWARD COUNTY LANDSCAPE MANUAL.

ALL PLANT MATERIALS SHALL BE FULL AND HEAVY. BE WELL FORMED AND

SYMMETRICAL, CONFORM TO THE MOST CURRENT AAN SPECIFICATIONS AND BE INSTALLED IN ACCORDANCE WITH HRD PLANTING SPECIFICATIONS. CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO DIGGING.

FINAL LOCATION OF PLANT MATERIAL MAY NEED TO VARY TO MEET FINAL FIELD CONDITIONS. TREES SHALL NOT BE PLANTED IN THE BOTTOM OF DRAINAGE SWALES. CONTRACTOR SHALL VERIFY PLANT QUANTITIES PRIOR TO BIDDING. IF PLAN DIFFERS FROM LANDSCAPE SCHEDULE, THE PLAN SHALL GOVERN.

TRAFFIC CONTROL SIGN NOTES:

. IN THE DIRECTION FACING A TRAFFIC CONTROL SIGN:
A) THERE SHALL BE A MINIMUM OF 30' BETWEEN THE

12 x 12

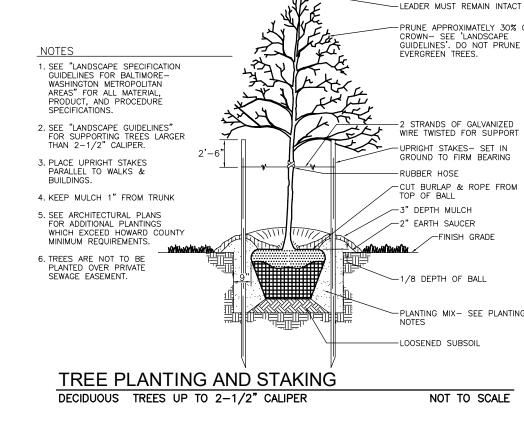
- SIGN FACE AND CLOSEST TREE FOR ALL STOP SIGNS. B) THERE SHALL BE A MINIMUM OF 30' BETWEEN THE
- SIGN FACE AND CLOSEST TREE FOR ALL SIGNS OTHER THAN A STOP SIGN.

 C) A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.

Figure A:18

- 1. AT THE TIME OF PLANT INSTALLATION, ALL SHRUBS AND TREES LISTED AND APPROVED ON THE LANDSCAPE PLAN, SHALL COMPL WITH THE PROPER HEIGHT REQUIREMENT IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATIONS OF THE REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE
- DEPARTMENT OF PLANNING AND ZONING, ANY DEVIATION FROM THE APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO THE APPLICABLE PLANS.
- 2. THE OWNER, TENANT AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.
- 3. SHOULD ANY TREE DESIGNATED FOR PRESERVATION FOR WHICH LANDSCAPING CREDIT IS GIVEN, DIE PRIOR TO RELEASE OF BONDS, THE OWNER WILL BE REQUIRED TO REPLACE THE TREE WITH THE EQUIVALENT SPECIES OR WITH A TREE WHICH WILL OBTAIN THE SAME HEIGHT, SPREAD, AND GROWTH CHARACTERISTICS. THE REPLACEMENT THE TREE WHICH WILL OBTAIN THE SAME HEIGHT, SPREAD, AND GROWTH CHARACTERISTICS. THE REPLACEMENT THE TREE WHICH WILL OBTAIN THE SAME HEIGHT. TREE MUST BE A MINIMUM OF 3 INCHES IN CALIPER AND INSTALLED
- AS REQUIRED IN THE HOWARD COUNTY LANDSCAPE MANUAL. 4. PLANTINGS SHOWN HEREON ARE THE RESPONSIBLITY OF THE
- 4. PLAININGS SHOWN HEREON ARE THE RESPONSIBILITY OF THE DEVELOPER TO INSTALL DURING THE CONSTRUCTION OF THE FINAL PLAN.
 5. SURETY FOR THE PROPOSED LANDSCAPING SHALL BE BASED ON THE NUMBER OF PLANTINGS REQUIRED.
 6. THE REMOVAL OF TREES 30" OR GREATER DHB IS PROHIBITED WITHOUT COUNTY APPROVAL.

LANDSCAPE PLANTING NOTES: SOIL AMENDMENTS AND FERTILIZATION RECOMMENDATIONS WILL BE MADE BASED UPON THE RESULTS OF SOIL ANALYSIS FOR NITROGEN, PHOSPHORUS, POTASSIUM, ORGANIC MATTER CONTENT AND pH. IF REQUIRED, FERTILIZER WILL BE PROVIDED USING A SLOW RELEASE, SOLUBLE 16-8-16 ANALYSIS DESIGNED TO LAST 5-8 YEARS CONTAINED IN POLYETHYLENE PERFORATED BAGS SUCH AS MANUFACTURED BY ADCO WORKS, P.O. BOX 310 HOLLINS, N.Y. 11423 OR EQUAL PLANT MATERIALS WILL BE PLANTED IN ACCORDANCE WITH THE PLANTING DETAILS AND PLANTING SCHEDULE. MULCH SHALL BE APPLIED IN ACCORDANCE WITH DIAGRAM PROVIDED AND SHALL CONSIST OF COMPOSTED, SHREDDED HARDWOOD BARK MULCH, FREE OF WOOD ALCOHOL.



STREET TREE CALCULATIONS					
STREET NAME LINEAR FEET NO. REQUIRED NO. PROVIDED					
BOLTON FARM LANE (0+00 - 6+50+/-)	1300/40	33	33		
	TOTAL	33	33		

PUBLIC STREET TREES ARE PROVIDED FOR THIS PROJECT IN ACCORDANCE WITH SECTION 16.124(e)(1) OF THE SUBDIVISION REGULATIONS AND THE LANDSCAPE MANUAL. THE STREET TREE REQUIREMENT FOR THIS PROJECT IS 33 SHADE TREES. FINANCIAL SURETY SHALL BE POSTED AS PART OF THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS COST ESTIMATE IN THE AMOUNTY OF \$9,900.00. NOTE: WITH PERMISSION FROM HOWARD COUNTY AND BG&E, PLANTINGS SPECIFIED HEREON MAY BE SUBSTITUTED WITH APPROVED SPECIES LISTED IN APPENDIX B & C OF THE HOWARD COUNTY LANDSCAPE MANUAL OR TREES APPROVED BY BG&E AS SUITABLE FOR PLANTING IN THEIR ZONES

	STREET TREE - PLANTING SCHEDULE							
KEY	QUAN.	SYMBOL	BOTANICAL NAME	SIZE	REM.			
GT	33	\bigcirc	GLEDITSIA TRIACANTHOS INERMIS "IMPERIAL" IMPERIAL THRONLESS HONFYI OCUST	2 1/2"-3" CAL.	В & В			

STREET TREE NOTES: 1. WHEN THE DISTANCE BETWEEN THE CURB AND SIDEWALK IS 6 FEET OR

GREATER, TREES SHALL BE LOCATED WITHIN THE RIGHT OF WAY AND SHALL BE CENTERED BETWEEN THE CURB AND THE SIDEWALK. 2. WHEN THE DISTANCE BETWEEN THE CURB AND THE SIDEWALK IS LESS THAN 6 FEET, AND WHERE TREES ARE PLANTED CLOSER THAN 3 FEET TO THE SIDEWALK, A BIOLOGIC ROOT INHIBITOR BARRIER OR PHYSICAL CONTAINER

BARRIER SHALL BE REQUIRED. 3. WHEN THE DISTANCE BETWEEN THE CURB AND THE SIDEWALK IS LESS THAN 6 FEET, TREES MAY BE PLANTED 3 FEET FROM THE SIDEWALK IN THE DIRECTION AWAY FROM THE ROAD. A 10 FOOT WIDE TREE MAINTENANCE EASEMENT SHALL BE REQUIRED IF THE RIGHT OF WAY IS LIMITED.

4. TREES SHALL BE PLACED A MINIMUM OF 30 FEET FROM ALL SIGNS AND INTERSECTIONS WHEN PLANTED BETWEEN SIDEWALK AND CURB, AND BE LOCATED WITH CONSIDERATION OF UNDERGROUND UTILITIES AND STRUCTURES STREET TREES MAY NOT BE PLANTED WITHIN 5 FEET OF A DRAIN INLET STRUCTURE, 5 FEET OF AN OPEN SPACE ACCESS STRIP, OR 10 FEET OF A

	APPROVED F-15-053 STREET TREE PLANTING SCHEDU					
SYM	ROAD NAME	BOTANICAL NAME	SIZE			
	2.5"-3" CAL.					
	RIVER HILL ROAD	ACER RUBRUM 'ARMSTRONG' ARMSTRONG COLUMNAR RED MAPLE 8 EX. TREES TO BE RELOCATED	2.5"-3" CAL.			

(410) 480-0023

- PRUNE AS DIRECTED

- RUBBER HOSE

TURNBUCKLES

- WIRE GUYS

PLANT SAUCER

TYPICAL EVERGREEN TREE

PLANTING DETAIL

REMOVE BURLAP FROM TOP - 1/3 OF BALL 2"X4"X3" WOOD STAKES

— BACKFILL MATERIAL

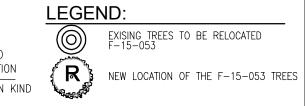
MATERIAL 6" MIN.

— 1'-0" ALL SIDES

COMPACTED BACKFILL

1.) 4 EXISTING TREES ALONG TWIN FAWN TRAIL TO BE RELOCATED OR REPLACED IN KIND OR EQUAL, FOR PROPOSED BOLTON FARM LANE INTERSECTION 2.) 4 EXISTING TREES ALONG TWIN FAWN TRAIL (LOTS 23-27) TO BE RELOCATED OR REPLACED IN KIND OR EQUAL, FOR PROPOSED BOLTON FARM LANE INTERSECTION 3.) 8 EXISTING TREES ALONG RIVER HILL RD TO BE RELOCATED OR REPLACED IN KIND

OR EQUAL TO ACCOMODATE NEW TOWNHOMES UNITS



OWNER DEVELOPER BEECHWOOD MANOR, LLC 3675 PARK AVE., SUITE 301 ELLICOTT CITY, MD 21043

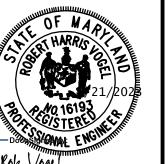
TRINITY HOMES MARY LAND, LLC 3675 PARK AVE., SUITE 301 ELLICOTT CITY, MD 21043 (410) 480-0023

FINAL ROAD CONSTRUCTION PLANS FOREST CONSERVATION & LANDSCAPE PLAN NOTES AND DETAILS

BEECHWOOD MANOR LOTS 1-31 AND OPEN SPACE LOTS 32-34 A SUBDIVISION OF TAX MAP 50 - PARCEL 1

L. 22025 / F. 202 TAX MAP: 50 GRID: 1 6TH ELECTION DISTRICT DPZ REFERENCE: SEE SITE DATA 9111 RIVER HILL ROAD LAUREL, MD 20723

VOGEL ENGINEERING TIMMONS GROUP 3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043



JMR/KG DRAWN BY: CHECKED BY: DATE: AUGUST 2023 SCALE: ____ AS SHOWN W.O. NO.:

P: 410.461.7666 F: 410.461.8961 www.timmons.com

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE: 09-27-2024 14 SHEET 21

PROFESSIONAL CERTIFICATE

PARCEL: 00 ZONED: R-SC HOWARD COUNTY, MARYLAND

These stocking and survival requirements are the minimum numbers estimated to meet Locate larger trees (B&B or container grown) or transplant stock at perimeter of reforestation/afforestation plantings of whips, seedling grown stock. - Protective Fencing * Smaller Stock

Typical Forest Tree Distribution Patterns IREE PROTECTION FENCE TO BE ERECTED IN LINE WITH RY PRUNING TRENCH, FENCE, TRENCH, AND LOD ARE THE SAME LINE. SEE SEPARATE DETAIL FOR FENCE SPECIFICATIONS Nonrandom Clumped Negative Association Random Nonrandom Positive Association SPECIES 1 (SPECIES 2 - MD 25 Naturally occurring cogulations of trees tend to be found in informal groupings. A cluster of trees is really a mosals of different species groups. The objective of an afforestation/reforestation plant is to select the appropriate species and distribution pattern for a choose site that minic natural Aggregate Distribution Drift MIN DEPTH OR AS DETERMINED AT 6" MAX WIDTH STO O Source: EQR, Inc. Mixing Transplant Stock Source: Adapted from Forest Conservation Manual, 199

Howard County, MD FOREST CONSERVATION MANUAL

Container Grown Seedling Tubes (Minimum Cavity Width 1.5") Container Grown 5, 7 Gallon or 1" Caliper B & B February 2021 February 20

Figure 3-N: Planting Patterns

ROOT PRUNING TRENCH TREE SAVE AREA 2. Stake, flag and/or fence boundaries of Retention Areas prior to trenching. 4. Immediately backfill trench with excavated soil or replace with organic soil 5. Cut roots cleanly using vibratory knife or other acceptable equipment

urce: Adapted from Steve Clark & Associates/ACRT, Inc. and State Forest Conservation Technical Manual 199

Howard County, MD FOREST CONSERVATION MANUAL

definition of forest from bare land.

In certain circumstances, any combination of the above mentioned stocking options, dry seeding, tree shelters, transplants, and/or natural regeneration may be appropriate strategie to fulfill the requirements of an approved FCD. They will be evaluated on a case-by-case basis by the approving authority. Spacing does not imply that trees or shrubs must be planted in a grid pattern

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING 10/26/2023 DATE 10/27/2023

J. Brody McAllister

J. Brody McAllister

Dit: C-US

Dit

Dit: C-US

Dit: C-US

Dit: C-US

Dit: C-US

Dit: C-US

Dit: C-

ISA Certified Arborist

MD DNR FCA Qualified Profession

9/21/2023

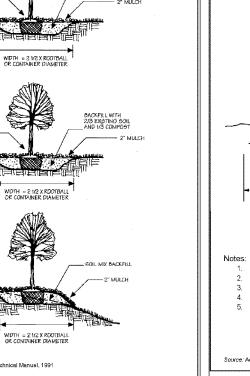
Cert ID: MA6471A

Planting on Slope ORIGINAL GRADE ----Source: Adapted from State Forest Conservation Technical Manual, 1997

Figure E-18: Plant Installatio

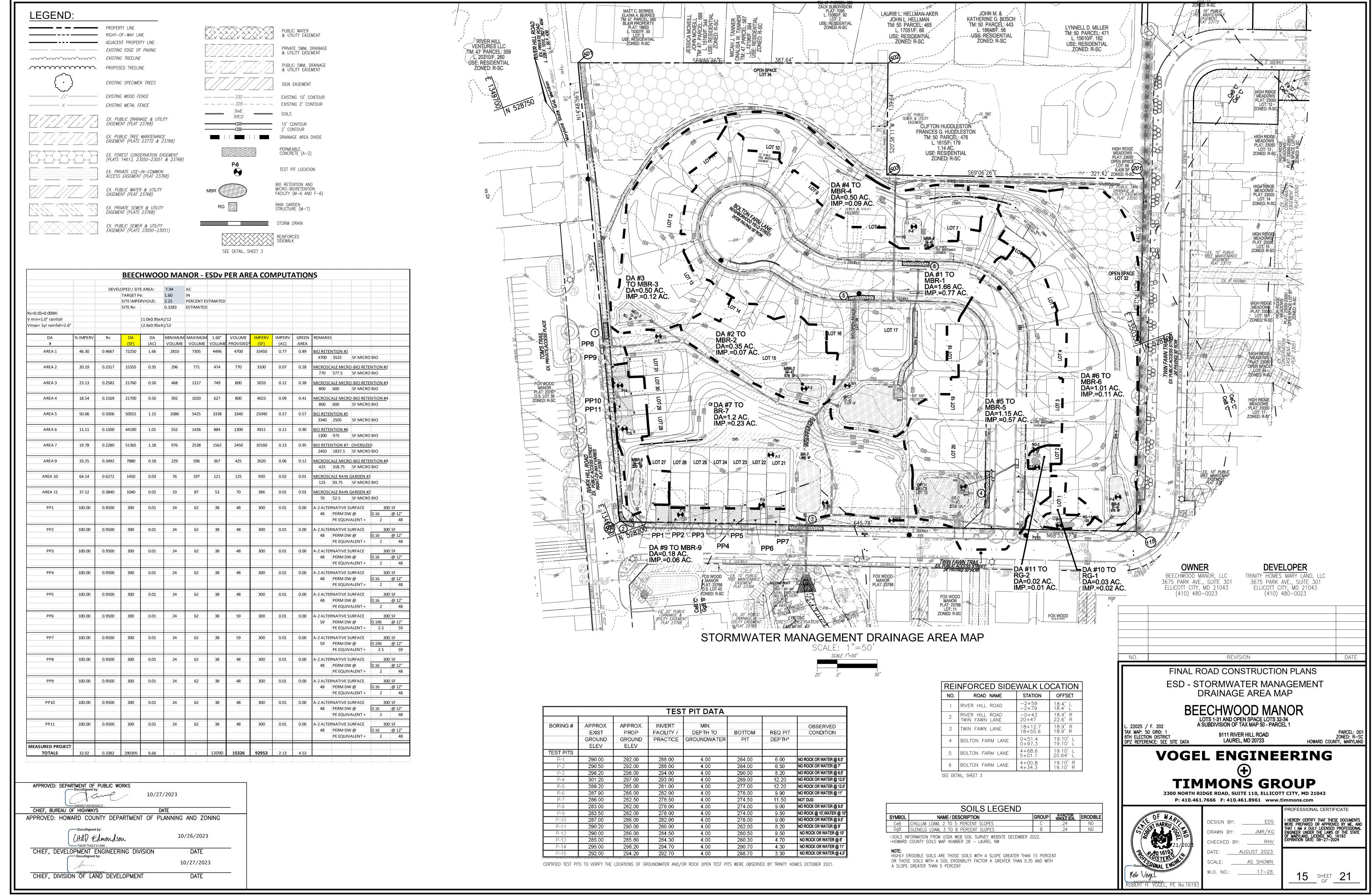
HEIGHT: ROOTBALL 10% ABOVE FINISHED GRADE

Disturbed Soil



BACKFILL WITH NATIVE SOIL

Figure E-9: Root Pruning



DocuSign Envelope ID: B6FC6B63-B500-4E46-AA7C-8B8B3E437706 APPENDIX B.4.C SPECIFICATIONS FOR MICRO-BIORETENTION. RAIN GARDEN, LANDSCAPE INFILTRATION Appendix B.4. Construction Specifications for Environmental Site Design Practices & INFILTRATION BERMS I. MATERIAL SPECIFICATIONS Table B.4.1 Materials Specifications for Micro-Bioretention, Rain Gardens & Landscape Infiltration THE ALLOWABLE MATERIALS TO BE USED IN THESE PRACTICES ARE DETAILED IN TABLE B.4.1. 2. FILTERING MEDIA OR PLANTING SOIL see Appendix A, Table A.4 plantings are site-specific THE SOIL SHALL BE A UNIFORM MIX. FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES, NO OTHER MATERIALS. loamy sand (60 - 65%) & OR SUBSTANCES SHALL BE MIXED OR DUMPED WITHIN THE MICRO-BIORETENTION PRACTICE THAT MAY BE HARMEUL TO PLANT GROWTH. OR PROVE A [2' to 4' deep] compost (35 – 40%) HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE PLANTING SOIL SHALL BE FREE OF BERMUDA GRASS, QUACKGRASS, JOHNSON GRASS, sandy loam (30%) OR OTHER NOXIOUS WEEDS AS SPECIFIED UNDER COMAR 15.08.01.05. coarse sand (30%) & THE PLANTING SOIL SHALL BE TESTED AND SHALL MEET THE FOLLOWING CRITERIA compost (40%) * 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%). Min. 10% by dry weight rganic content (ASTM D 2974) * CLAY CONTENT - MEDIA SHALL HAVE A CLAY CONTENT OF LESS THAN 5%. shredded hardwood - SHOULD BE BETWEEN 5.5 - 7.0. AMENDMENTS (E.G., LIME, IRON SULFATE PLUS SULFUR) MAY BE MIXED IN TO THE SOIL TO INCREASE Pea gravel diaphrag pea gravel: ASTM-D-448 NO. 8 OR NO. (1/8" TO 3/8") 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, Curtain drain namental stone: washed THEN A TEXTURE ANALYSIS SHALL BE PERFORMED FOR EACH LOCATION WHERE THE TOPSOIL WAS EXCAVATED. Geotextile Type 1 nonwoven Gravel (underdrains and AASHTO M-43 NO. 57 OR NO. 6 IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF BIORETENTION PRACTICES AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE AGGREGATE EXCAVATION HOES TO REMOVE ORIGINAL SOIL. IF PRACTICES ARE EXCAVATED USING LOADER, THE CONTRACTOR SHOULD USE WIDE TRACK OR MARSH TRACK 758, Type PS 28 or AASI 4" to 6" rigid schedule 40 EQUIPMENT, OR LIGHT EQUIPMENT WITH TURF TYPE TIRES. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS, PVC or SDR35 OR HIGH-PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION RESULTING IN REDUCED INFILTRATION RATES AND IS NOT ACCEPTABLE. COMPACTION WILL SIGNIFICANTLY CONTRIBUTE TO DESIGN FAILURE galvanized hardware cloth COMPACTION CAN BE ALLEVIATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS CHISEL PLOW, RIPPER, Poured in place concrete (if MSHA Mix No. 3: $f'_{c} = 3500$ OR SUBSOILER. THESE TILLING OPERATIONS ARE TO REFRACTURE THE SOIL PROFILE THROUGH THE 12 INCH COMPACTION ZONE. SUBSTITUTE METHODS psi @ 28 days, normal weight MUST BE APPROVED BY THE ENGINEER. ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT. air-entrained; reinforcing to meet ASTM-615-60 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. BACKFILL THE REMAINDER OF THE TOPSOIL TO FINAL GRADE. AASHTO-M-6 or ASTM-C-3 0.02" to 0.04 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 Table B.3.2 Materials Specifications for Bioretention RECOMMENDED PLANT MATERIAL FOR MICRO-BIORETENTION PRACTICES CAN BE FOUND IN APPENDIX A, SECTION A.2.3. 5. PLANT INSTALLATION Specification COMPOST IS A BETTER ORGANIC MATERIAL SOURCE, IS LESS LIKELY TO FLOAT, AND SHOULD BE PLACED IN THE INVERT AND OTHER LOW see Appendix A, Table A.4 n/a plantings are site-specific AREAS, MULCH SHOULD BE PLACED IN SURROUNDING TO A UNIFORM THICKNESS OF 2" TO 3", SHREDDED OR CHIPPED HARDWOOD MULCH lanting soil 30 - 55% IS THE ONLY ACCEPTED MULICH. PINE MULICH AND WOOD CHIPS WILL FLOAT AND MOVE TO THE PERIMETER OF THE BIORETENTION AREA 10 - 2**5**% 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 S 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. aged 6 months, minimum shredded hardwood pea gravel: ASTM-D-448 pea gravel: No. 6 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 rnamental stone: washed 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 Class "C" - apparent opening FOLLOWING THE NON-GRASS GROUND COVER PLANTING SPECIFICATIONS size (ASTM-D-4751), grab THE TOPSOIL SPECIFICATIONS PROVIDE ENOUGH ORGANIC MATERIAL TO ADEQUATELY SUPPLY NUTRIENTS FROM NATURAL CYCLING. THE PRIMARY tensile strength (ASTM-D-FUNCTION OF THE BIORETENTION STRUCTURE IS TO IMPROVE WATER QUALITY. ADDING FERTILIZERS DEFEATS, OR AT A MINIMUM, IMPEDES THIS GOAL 4632), puncture resistance 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. ASTM-D-4833) underdrain gravel AASHTO M-43 F 758, Type PS 28 or 4" to 6" rigid schedule UNDERDRAINS SHOULD MEET THE FOLLOWING CRITERIA: ASHTO M-278 40 PVC or SDR35 MSHA Mix No. 3; $f'_{c} = 3500$ n/a* 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. psi @ 28 days, normal weight. 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 4×4) GALVANIZED HARDWARE CLOTH. air-entrained; reinforcing to meet ASTM-615-60 * 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". AASHTO-M-6 or ASTM-C-33 | 0.02" to 0.04 substitutions are acceptable. No "rock dust" can be used for 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). THESE PRACTICES MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED. OPERATION AND MAINTENANCE SCHEDULE FOR LANDSCAPE INFILTRATION (M-3), MICRO-BIORETENTION (M-6) RAIN GARDENS (M-7), BIORETENTION SWALE (M-8), BIO-RETENTION (F-6) AND ENHANCED FILTERS (M-9) 1. THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY MAINTENANCE OF MULICH AND SOIL IS LIMITED TO CORRECTING AREAS OF FROSION OR WASH OUT ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL VOLUME II, TABLE A.4.1 AND 2. 2. THE OWNER SHALL PERFORM A PLANT IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER 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. 3. THE OWNER SHALL INSPECT THE MULCH EACH SPRING, THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS. THE PREVIOUS MULCH LAYER SHALL BE REMOVED BEFORE THE NEW LAYER IS APPLIED. 4. THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM. 4" CAPPED/SOLID RIGID—PVC OR HDPE OBSERVATION / CLEAN OUT PIPE MIN. 1 PER 1,000 SF OF SURFACE AREA (SEE PLANS) 3" MULCH 3:1 MAX / 3" MULCH— LAYER ELEV. E ELEV. C ELEV. C PLANTING SOIL DEPTH VARIES (SEE PLANTING SOIL PLANTING SOIL DEPTH VARIES (SEE PLANTING SOI PROVIDE FILTER OVERDRAIN (OD) 4" OVERFLOW DISTRIBUTION PIPE CHARACTERISTICS) CHARACTERISTICS UNDERDRAIN (UD) 4" SOLID PÝC 4" PEA GRAVEL-4" PEA GRAVEL-(1/8"-3/8" STONE)(1/8"-3/8" STONE)WASHÉD STONE ELEV. P WASHED STONE PIPE NOT CONNECTED TO UNDERDRAIN (UD) ELEV. F STONE REV ELEV. G **UNDER DRAIN-ONDERDRAIN (UD) 4" SLOTTED RIGID PVC OR PERFORATED SCH 40 PVC OR HDPE PIPE @ 0.00% — -PERFORATED PIPE SHALL BE WRAPPED WITH 1/4" GALVANIZED HARDWARE CLOTH SEE APPENDIX B.4.C (UD) TO OUTFALL 4" SLOTTED RIGID PVC OR PERFORATED SCH 40 PVC OR HDPE PIPE @ 0.00% —PERFORATED PIPE SHALL BE WRAPPED WITH 1/4" GALVANIZED HARDWARE CLOTH SEE APPENDIX B.4.C RAIN GARDEN (M-7), BIORETENTION (F-6) RAIN GARDEN (M-7), BIORETENTION (F-6) & MICRO-BIORETENTION (M-6) (UNDERDRAIN) MICRO-BIORETENTION (M-6) (OVERFLOW) *ADDITIONAL STONE PROVIDED FOR REV *ADDITIONAL STONE PROVIDED FOR REV

GROUND -

UNDISTURBED \

1. ONLY THE SIDES OF THE BIORETENTION, MICROBIORETENTION OR RAIN GARDEN ARE TO BE WRAPPED IN FILTER FABRIC. FILTER FABRIC BETWEEN LAYER OR AT THE BOTTOM OF THE FACILITY WILL CAUSE THE FACILITY

3. PROVIDE 5' MINIMUM SPACING BETWEEN UNDER DRAIN AND PERFERATED PIPE THROUGH STONE RESIVOIR

10/26/2023

10/27/2023

DATE

2. WRAP THE PERFORATED MBR UNDERDRAIN PIPE WITH 1/4" MESH (4x4) OR SMALLER GALVANIZED

10/27/2023

TO FAIL, AND THERFORE SHALL NOT BE INSTALLED.

(HD) Edmondson

CHIEF, DEVELOPMENT ENGINEERING DIVISION

CHIEF, DIVISION OF CHAND DEVELOPMENT

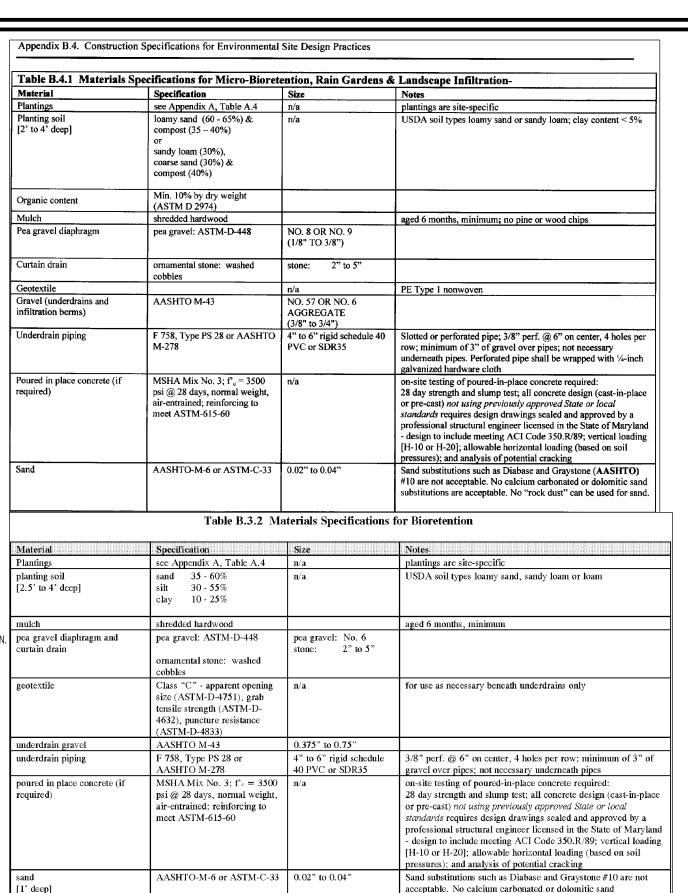
APPROVED: DEPARTMENT OF PUBLIC WORKS

OR SPACE PIPE EQUALLY ACROSS BOTTOM FOR SMALL BIOS. (SEE PLANS)

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

HARDWARE CLOTH.

CHIEF, BUREAU OF HIGHWAYS



TOP MBR/BR

TYPICAL SPILLWAY SECTION NOT TO SCALE

DETAILS OF OVERFLOW WEIR OUTLET

MICRO-BIORETENTION / BIORETENTION

SLOPE

-EROSION MATTING

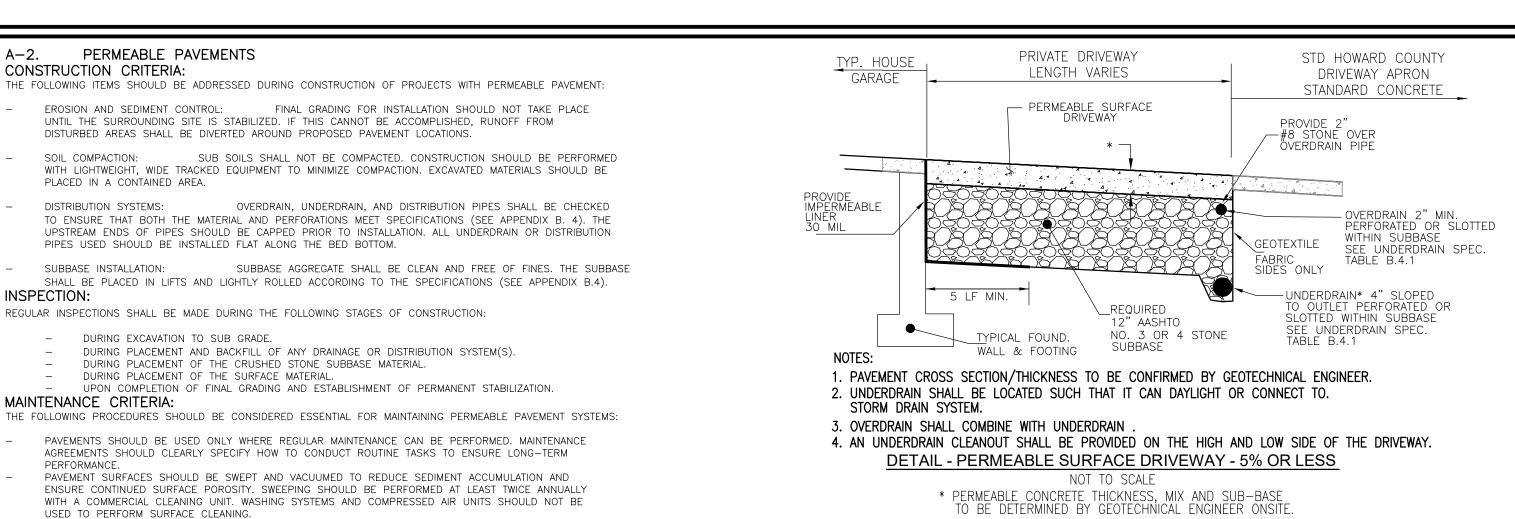
TO BOTTOM OF

WEIR VARIES

TYPICAL SPILLWAY PROFILE

TOP MBR/BR

- EX. GROUND



DRAINAGE PIPES, INLETS, STONE EDGE DRAINS, AND OTHER STRUCTURES WITHIN OR DRAINING TO THE

CLOGGING AND PREMATURE FAILURE. THESE VEHICLES SHOULD BE PREVENTED FROM TRACKING AND

DEICERS SHOULD BE USED IN MODERATION. WHEN USED, DEICERS SHOULD BE NON-TOXIC AND ORGANIC

AND CAN BE APPLIED EITHER AS CALCIUM MAGNESIUM ACETATE OR AS PRETREATED SALT. SNOW PLOWING

SHOULD BE DONE CAREFULLY WITH BLADES SET ONE-INCH HIGHER THAN NORMAL. PLOWED SNOW PILES

THE INDIVIDUAL LOT OWNER SHALL PERIODICALLY SWEEP (OR VACUUM POROUS CONCRETE

PAVEMENT) THE PAVEMENT SURFACES TO REDUCE SEDIMENT ACCUMULATION AND ENSURE

THE INDIVIDUAL LOT OWNER SHALL USE DEICERS IN MODERATION. DEICERS SHOULD BE

CONTINUED SURFACE POROSITY. SWEEPING SHOULD BE PERFORMED AT LEAST TWICE ANNUALLY

THE INDIVIDUAL LOT OWNER SHALL PERIODICALLY CLEAN DRAINAGE PIPES, INLETS, STONE EDGE

NON-TOXIC AND BE APPLIED EITHER AS CALCIUM MAGNESIUM ACETATE OR AS PRETREATED SALT.

THE INDIVIDUAL LOT OWNER SHALL ENSURE SNOW PLOWING IS PERFORMED CAREFULLY WITH

BLADES SET ONE-INCH ABOVE THE SURFACE. PLOWED SNOW PILES AND SNOW MELT SHOULD

WITH A COMMERCIAL CLEANING UNIT. WASHING OR COMPRESSED AIR UNITS SHOULD NOT BE

TRUCKS AND OTHER HEAVY VEHICLES CAN GRIND DIRT AND GRIT INTO THE POROUS SURFACES, LEADING TO

SUBBASE SHOULD BE CLEANED OUT AT REGULAR INTERVALS.

AND SNOW MELT SHOULD NOT BE DIRECTED TO PERMEABLE PAVEMENT.

OPERATION AND MAINTENANCE SCHEDULE FOR

PRIVATELY OWNED AND MAINTAINED PERMEABLE PAVEMENT (A-2)

DRAINS AND OTHER STRUCTURES WITHIN OR DRAINING TO THE SUBBASE

3/4" to 2" Stone (ASTM C33)

TIONAL SAND LAYER (12" MIN.)-

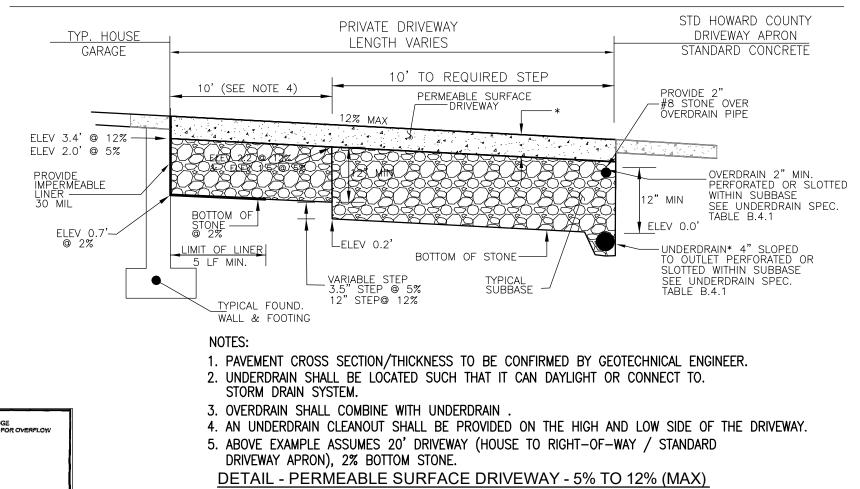
Y EASEMENT _ FF=288.60

20+00

SPILLING MATERIAL ONTO THE PAVEMENT.

USED TO PERFORM SURFACE CLEANING.

NOT BE DIRECTED TO PERMEABLE PAVEMENT.



TYPICAL PERMEABLE 4" UNDERDRAIN -SURFACE DRIVEWAY UNDERDRAIN / OVERDRAIN

* ALL PERMEABLE CONCRETE THICKNESS, MIX AND SUB-BASE TO BE

DETERMINED BY GEOTECHNICAL ENGINEER ONSITE.

PERMEABLE SURFACE

2" OVERDRAIN -

CAP AT GRADE

OUTLET DETAIL NOT TO SCALE - DETAILS SHOWN FOR INFORMATION ONLY,

DRIVEWAY DETAILING (TYPE, PLAN VIEW & FINAL PROFILE) WILL BE PART OF THE BUILDER'S FUTURE SITE DEVELOPMENT PLAN.

> OWNER DEVELOPER TRINITY HOMES MARY LAND. LLC BEECHWOOD MANOR, LLC 3675 PARK AVE., SUITE 301 3675 PARK AVE., SUITE 301 ELLICOTT CITY, MD 21043 ELLICOTT CITY, MD 21043 (410) 480-0023 (410) 480-0023

FINAL ROAD CONSTRUCTION PLANS **ESD - STORMWATER MANAGEMENT** NOTES AND DETAILS

BEECHWOOD MANOR

LOTS 1-31 AND OPEN SPACE LOTS 32-34 A SUBDIVISION OF TAX MAP 50 - PARCEL TAX MAP: 50 GRID: 1 6TH ELECTION DISTRICT 9111 RIVER HILL ROAD LAUREL, MD 20723

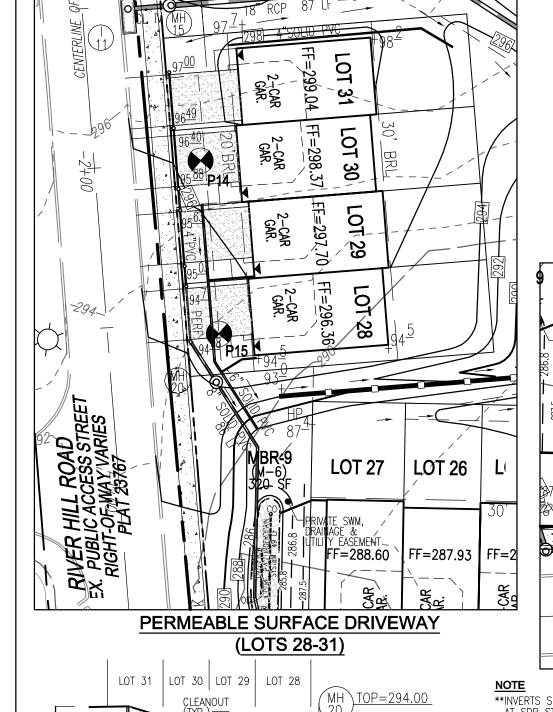
VOGEL ENGINEERING

TIMMONS GROUP 3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043

P: 410.461.7666 F: 410.461.8961 www.timmons.com

CHECKED BY: AUGUST 2023 SCALE: AS SHOWN ____17-26 W.O. NO.:

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE: 09-27-2024 16 SHEET 21



**INVERTS SUBJECT TO CHANGE - PROP. GROUND JNDERDRAIN. TOP=287.63 | THROAT=286.80 | 20 MBR# 9 TOP MULCH = 285.80 OVER / UNDERDRAIN 2"/4" PERV. PVC 8" SOLID 8" SOLID @ 10.67%

15" RCP CLASS IV @ 0.53%

(LOTS 28-31) SCALE: HORIZONTAL - 1"=: VERTICAL - 1"=5"

PERMEABLE SURFACE DRIVEWAY -OVER/UNDERDRAIN PROFILE

PERMEABLE SURFACE DRIVEWAY

(LOTS 21-27)

LOPED TO OUTLET ERFORATED OR SLOTTED

Typical Section w/Overdrain & Underdrain

FF=286.59 | FF=285.92

PERMEABLE SURFACE TYPICAL SECTION

FF=287.93 | FF=287.26 | FF=287.26 |

19`159.71

CENTERLINE OF EX. ROAD

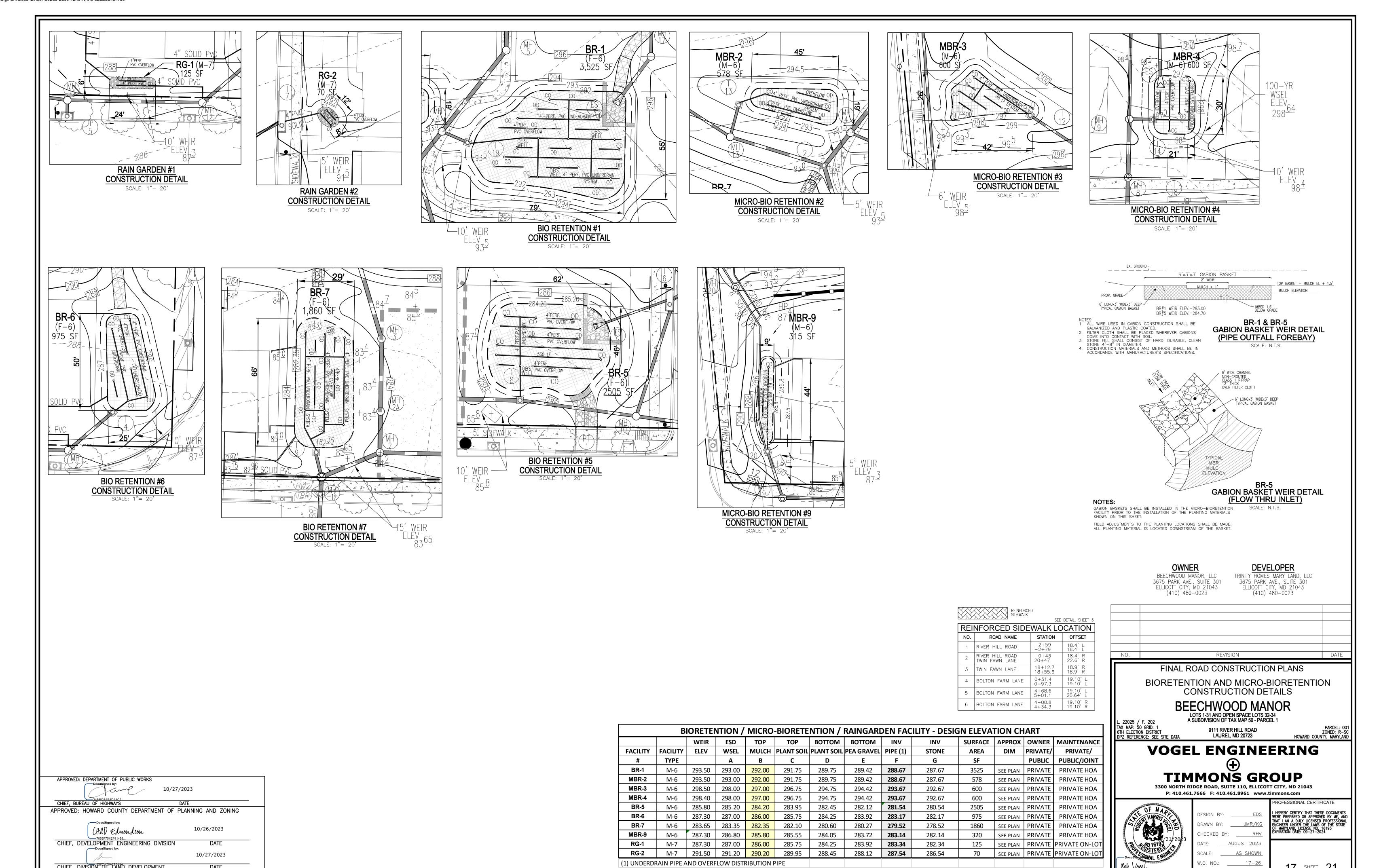
SCALE 1"=30'

DPZ REFERENCE: SEE SITE DATA

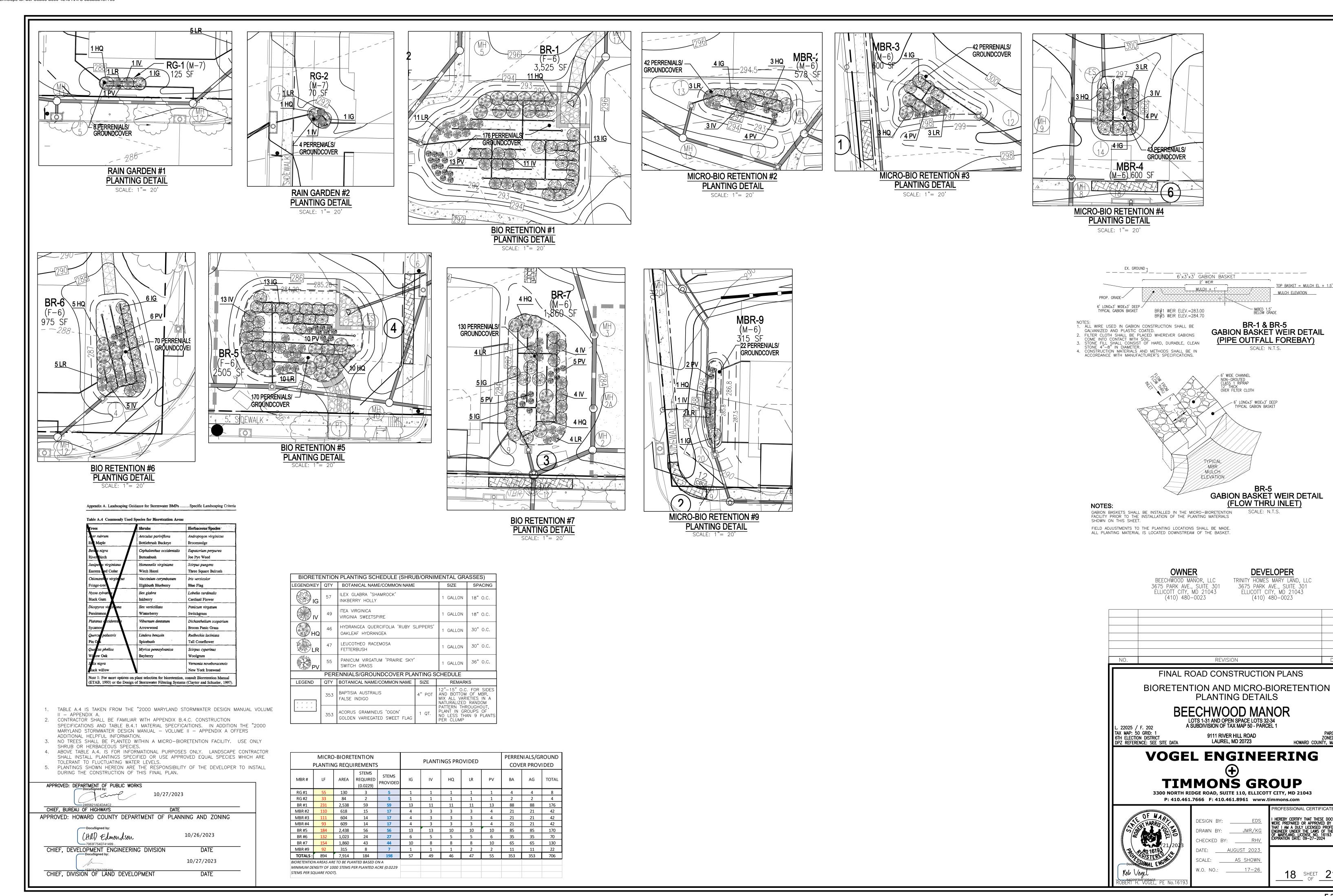
PARCEL: 001 ZONED: R-SC HOWARD COUNTY, MARYLAND

DATE

CHIEF, DIVISION OF LAND DEVELOPMENT



W.O. NO.:



PARCEL: 001 ZONED: R-SC HOWARD COUNTY, MARYLAND

PROFESSIONAL CERTIFICATE

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE: 09-27-2024

18 SHEET 21

TOP BASKET = MULCH EL + 1.5'

MULCH ELEVATION

BR-1 & BR-5

GABION BASKET WEIR DETAIL

(PIPE OUTFALL FOREBAY)

GABION BASKET WEIR DETAIL (FLOW THRU INLET)

DEVELOPER

TRINITY HOMES MARY LAND, LLC

3675 PARK AVE., SUITE 301

ELLICOTT CITY, MD 21043

(410) 480-0023

9111 RIVER HILL ROAD LAUREL, MD 20723

AUGUST 2023

____17-26

