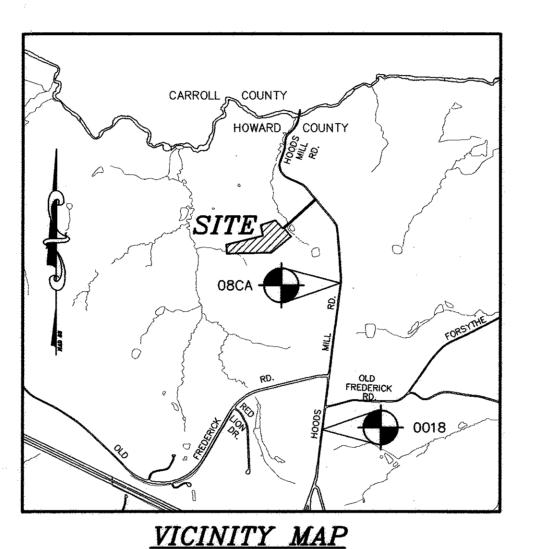
SUPPLEMENTAL PLANS

PERCIVAL PROPERTY

LOTS 1 THRU 3 AND NON-BUILDABLE BULK PARCEL 'A' FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SHEET INDEX

	SHEET INDEA
SHEET NO.	TITLE
1	SUPPLEMENTAL PLAN - COVER SHEET
2.	SUPPLEMENTAL GRADING & SEDIMENT CONTROL PLAN FOR DRIVEWAY CONSTRUCTION
3	SUPPLEMENTAL, GRADING, LANDSCAPE AND FOREST CONSERVATION PLAN
4	EROSION AND SEDIMENT CONTROL NOTES AND DETAILS
5	SWM DETAILS
6	STREAM CROSSING DETAILS



ADC MAP: 10 GRID: B-4

STORMWATER MANAGEMENT PRACTICES

(NUMBER)

OF ROOFTOP OF NON-ROOFTOP CONSERVATION RUNOFF RUNOFF AREAS HARVESTING WETLANDS INFILTRATION BERMS WELLS BIORETENTION GARDENS

M-2

(NUMBER) (NUMBER)

M-4 M-5

0

M-6 M-7

(NUMBER) (NUMBER) (NUMBER) (NUMBER) (NUMBER)

GREEN PERMEABLE REINFORCED DISCONNECTION DISCONNECTION SHEETFLOW TO RAINWATER

(Y/N)

N N

(Y/N)

I CERTIFY THAT THIS PLAN FOR EROSION AND SE A PRACTICAL AND WORKABLE PLAN BASED ON M THE SITE CONDITIONS AND THAT IT WAS PREPARE REQUIREMENTS OF THE HOWARD SOIL CONSERVAT	Y PERSONAL KNOWLEDGE OF ED IN ACCORDANCE WITH THE
	10/31/16
SIGNATURE OF ENGINEER	DATE
R. JACOB HIKMAT, PE	
PRINTED NAME OF ENGINEER	
DEVELOPERS CERTIFICATI	
I CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCT ACCORDING TO THIS PLAN, AND THAT ANY RESPON INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT BEGINNING THE PROJECT. HOWARD SOIL CONSERVED TO CONDUCT PERIODIC ON—SITE INSPECTION.	NSIBLE PERSONNEL AVE A CERTIFICATE OF MENT APPROVED NT AND EROSION BEFORE
	, , , , ,
	10/21//6
SIGNATURE OF DEVELOPER	/0/31//6 DATE
SIGNATURE OF DEVELOPER GREENBERRY INC. PRINTED NAME OF DEVELOPER	/ <u>0/31//6</u> DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION WY

CHIEF, DIVISION OF LAND DEVELOPMENT ALM

<u>OWNER</u>

MARILYN AND STEVE PERCIVAL C/O MILDENBERG, BOENDER & ASSOC., INC. 7350-B GRACE DRIVE COLUMBIA, MARYLAND 21044 410-997-0296



I HEREBY CERTIFY THAT THESE DOCUMENTS WERE

	PREPARED OR APPROVED BY ME AND THAT I AM
. 3	A DULY LICENSED PROFESSIONAL ENGINEER
1.2.2	UNDER THE LAWS OF THE STATE OF MARYLAND,
1.5	LICENSE NO. 17942, EXP DATE 09/03/18.
`	
	10/21/16
	R. VACOB HIKMAI, P.E.

- 1. THIS SUBJECT PROPERTY IS ZONED RC-DEO PER THE OCTOBER 6, 2013 COMPREHENSIVE ZONING PLAN.
- TOPOGRAPHY WITHIN 200' OF SITE BOUNDARY SHOWN HEREON IS BASED ON FIELD RUN SURVEY PERFORMED BY MILDENBERG, BOENDER & ASSOC., INC. ON OR ABOUT DECEMBER 2014. OTHER TOPOGRAPHY SHOWN IS
- 4. BOUNDARY SHOWN HEREON IS BASED ON A FIELD RUN MONUMENTED BOUNDARY SURVEY PERFORMED ON

OR ABOUT DECEMBER 2014 BY MILDENBERG, BOENDER & ASSOC., INC.

- 5. COORDINATES BASED ON NAD '83 (HORIZONTAL) AND NAD '88 (VERTICAL) MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS STA, No. 08CA N 610521.247 E 1308742.138 ELEV. 625.025 STA. No. 0018 N 607697.318 E 1308424.256 ELEV. 626.856
- PROJECT BACKGROUND: ADDRESS: 854 RTE 97, COOKSVILLE, MD 21723 LOCATION: TAX MAP: 8 PARCEL: 237 GRID: 5 ELECTION DISTRICT: FOURTH DEED REFERENCE: 06157/00647 PREVIOUS PROJECT NUMBERS: ECP-15-059 SITE AREA TABULATION
- TOTAL AREA: 11.4 AC.±
 MINIMUM LOT SIZE PROPOSED: 3.0 AC NUMBER OF BUILDABLE LOTS: 3 NUMBER OF PARCELS: 1 TYPE OF PROPOSED UNIT: SFD AREA OF ROAD DEDICATION: 999 SF 0.02 AC±
- THIS AREA DESIGNATES A PRIVATE SEWAGE EASEMENT OF AT LEAST 10,000 SQ. FT. AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL, IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWAGE IS AVAILABLE. THIS EASEMENT SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWAGE EASEMENT. RECORDATION OF A MODIFIED EASEMENT
- DEVELOPER'S RESPONSIBILITY TO SCHEDULE THE WELL DRILLING PRIOR TO APPLYING FOR A BUILDING PERMIT. IT WILL NOT BE CONSIDERED "GOVERNMENT DELAY" IF THE WELL DRILLING HOLDS UP HEALTH DEPARTMENT APPROVAL OF THE BUILDING PERMIT.
- 12. STORM WATER MANAGEMENT IS PROVIDED BY (M-6) MICRO-BIORETENTION FACILITIES IN ACCORDANCE WITH THE 2007 MARYLAND STORM WATER DESIGN MANUAL. MICRO-BIORETENTION FACILITIES (M-6) WILL BE PRIVATELY
- 13. WETLANDS, STREAM AND ITS BUFFER EXIST ON SITE AS CERTIFIED IN THE WETLAND REPORT PREPARED BY
- 14. FOREST STAND DELINEATION PERFORMED BY ECO-SCIENCE PROFESSIONALS, INC. IN JUNE 2015. A TOTAL OF 4
- SPECIMEN TREES EXIST ON SITE.
- 15. APFO ROAD TEST IS NOT REQUIRED FOR THIS PROJECT. THIS IS A MINOR SUBDIVISION.
- 16. NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT. LOT AREA IS OUTSIDE OF THE NOISE ZONE. 17. NO HISTORIC STRUCTURES, CEMETERIES, OR GRAVE SITES EXIST ON-SITE.
- 18. SITE IS NOT ADJACENT TO A DESIGNATED SCENIC ROAD.
- 19. ALL EXISTING STRUCTURES ARE TO REMAIN UNLESS OTHERWISE NOTED. 20. FOREST CONSERVATION OBLIGATIONS IN ACCORDANCE WITH SECTION 16.1200 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION ACT FOR THIS SUBDIVISION WILL BE FULFILLED BY ON-SITE RETENTION OF A TOTAL OF 3.24 ACRES OF FOREST ON EASEMENTS "A" (1.85 ACRES), "B" (0.44 ACRES) AND "C" (0.95 ACRES). NO CLEARING. GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION. EASEMENT; HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST
- CONSERVATION EASEMENT ARE ALLOWED. 21. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
- 22. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING (28 SHADE TREES) IN THE AMOUNT OF \$8,400 TO BE POSTED
- 23. A PRE-SUBMISSION COMMUNITY MEETING FOR THIS PROJECT WAS HELD ON JUNE 22, 2015 AT 6:00 PM
- 24. DEVELOPMENT REGULATIONS PER COUNCIL BILL 45-2003 AND THE ZONING REGULATIONS AS AMENDED BY COUNCIL BILL 75-2003. DEVELOPMENT OR CONSTRUCTION ON LOTS MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE BUILDING / GRADING PERMIT.
- 25. ALL LOTS/RESIDENTIAL UNITS IN THIS SUBDIVISION ARE SUBJECT TO THE MIHU FEE-IN-LIEU REQUIREMENT THAT IS TO BE CALCULATED AND PAID TO THE DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS AT THE TIME OF BUILDING PERMIT ISSUANCE BY THE PERMIT APPLICANT.
- 26. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- 27. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS / BUREAU OF ENGINEERING, CONSTRUCTION INSPECTION DIVISION AT (410)313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- 28. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY
- 29. TRAFFIC CONTROL DEVICES:
- THE R1-1 ("STOP") SIGN AND THE STREET NAME SIGN (SNS) ASSEMBLY FOR THIS DEVELOPMENT MUST BE INSTALLED BEFORE THE BASE PAVING IS COMPLETED. THE TRAFFIC CONTROL DEVICE LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND MUST BE FIELD
- APPROVED BY HOWARD COUNTY TRAFFIC DIVISION (410-313-2430) PRIOR TO THE INSTALLATION OF ANY ALL TRAFFIC CONTROL DEVICES AND THEIR LOCATIONS SHALL BE IN ACCORDANCE WITH THE LATEST
- ADDITION OF THE "MARYLAND MANUAL ON UNIFORM TRAFFIC DEVICES" (MINUTCO). ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON 2" GALVANIZED STEEL, PERFORATED ("QUICK PUNCH"), SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2.5" GALVANIZED STEEL, PERFORATED TUBE SLEEVE (12 GAUGE) - 3' LONG. THE ANCHOR SHALL NOT EXTEND MORE THAN TWO (QUICK PUNCH) HOLES ABOVE GROUND LEVEL. A
- 30. STREET LIGHT PLACEMENT AND TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III (1993) AND AS MODIFIED BY GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (JUNE 1993). A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND
- 31. THIS DEVELOPMENT IS WITHIN THE "TIER IV" GROWTH AREA. ONLY MINOR SUBDIVISIONS ARE PERMITTED.

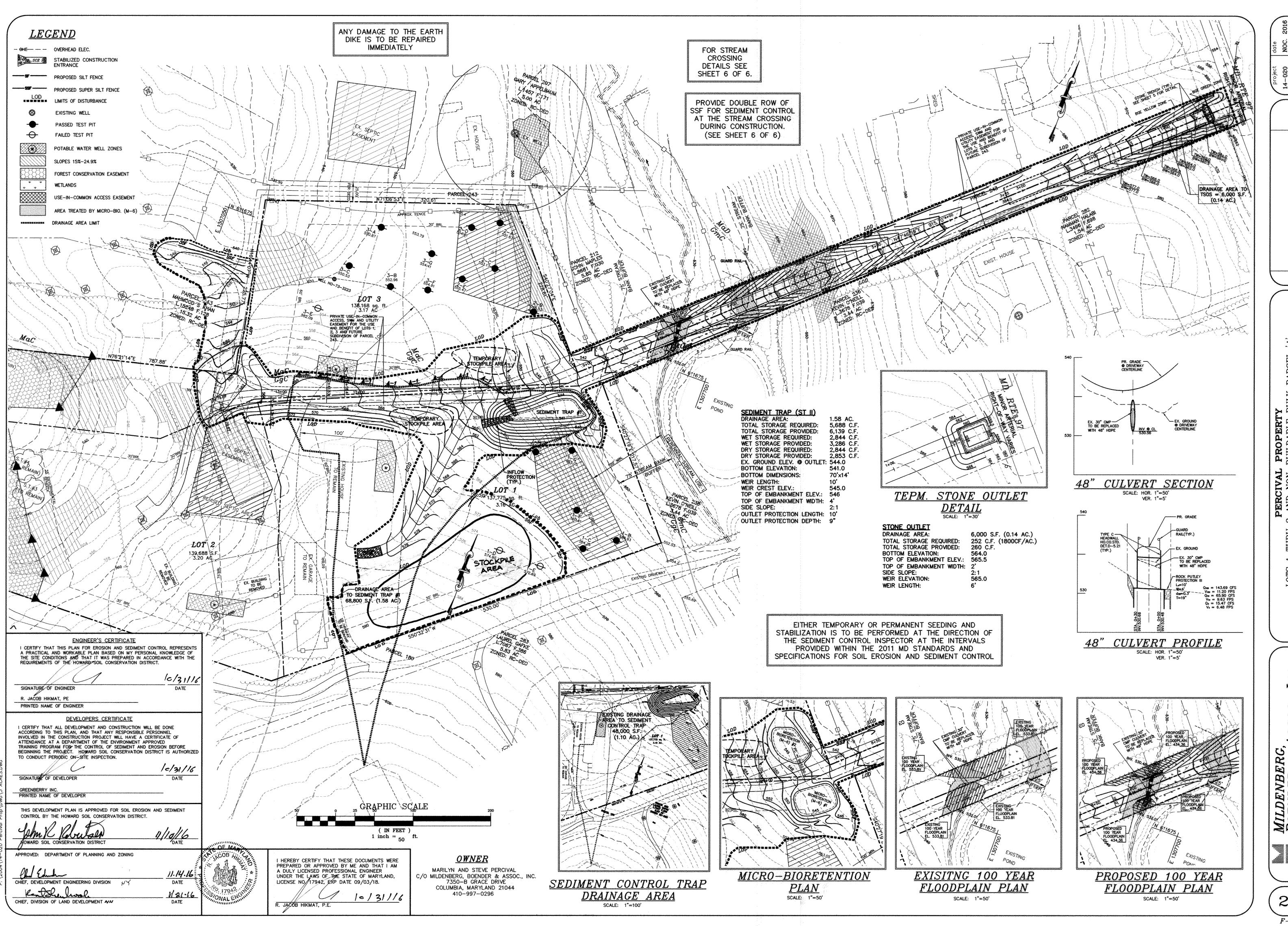
GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST

- 32. THERE IS A FLOODPLAIN ON THIS SITE.
- 33. OPEN SPACE REQUIREMENTS HAVE BEEN SATISFIED VIA THE PAYMENT OF A FEE-IN-LEIU IN THE AMOUNT OF
- 34. THIS PROJECT IS SUBJECT TO ALTERNATIVE COMPLIANCE WP-16-146 TO THE SECTIONS 16.120(b0(4)(i) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS WHICH REQUIRES THAT RESIDENTIAL LOTS SHALL HAVE REGULAR, RECTANGULAR SHAPE AND SECTION 16.120(b)(4)(iii) WHICH PROHIBITS ENVIRONMENTAL FEATURES AND FOREST CONSERVATION EASEMENTS ON RESIDENTIAL LOTS LESS THAN 10 ACRES IN SIZE. WAIVER WAS APPROVED ON JULY 12, 2016 SUBJECT TO THE FOLLOWING CONDITIONS:
- 35' SETBACK SHALL BE PROVIDED FROM ENVIRONMENTAL BUFFERS AND FOREST CONSERVATION EASEMENTS. - NO GRADING, REMOVAL OF VEGETATIVE COVER, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE ENVIRONMENTAL AREAS FOR ALL LOTS EXCEPT THE ESSENTIAL MD. RT. 97 ENTRANCE DRIVEWAY.
- AT THE BUILDING PERMIT STAGE, THE APPLICANT SHOULD MAKE REASONABLE EFFORT TO KEEP THE DISTANCE BETWEEN PROPOSED HOUSE SITE AND FOREST CONSERVATION EASEMENT AREA AT THE MAXIMUM TO AVOID POSSIBLE FUTURE ENCROACHMENTS BY HOMEOWNERS.

Soc.

OF **6**

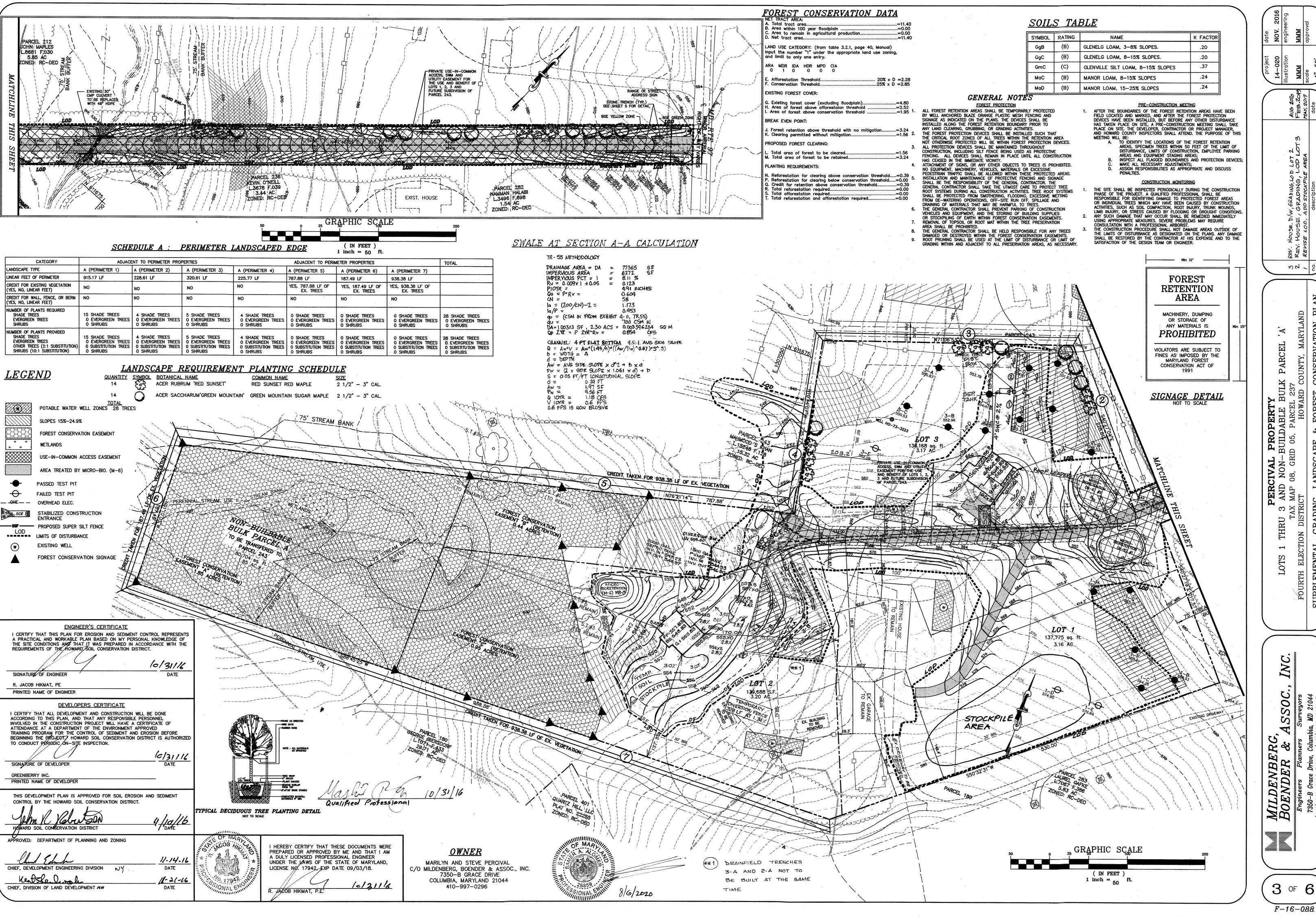
F-16-088



2 of 6

GRADING

F-16-088



CONSERVATION

NDSCAPE

TOPSOIL IS PLACED OVER PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION. THE PURPOSE IS TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE TOPSOIL SALVAGED FROM AN EXISTING SITE MAY BE USED PROVIDED IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY

TOPSOILING IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:
THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.

AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN. TOPSOIL SPECIFICATIONS: SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA: TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED B THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURE SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1½ INCHES IN DIAMETER. TOPSOIL MUST BE FREE OF NOXIOUS PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACK GRASS, JOHNSON GRASS, NUT SEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.

TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING TOPSOIL. UNIFORMLY DISTRIBUTE TOPSOIL IN A 5 TO 8 INCH LAYER AND LIGHTLY COMPACT TO A MINIMUM THICKNESS OF 4 INCHES. SPREADING IS TO BE PERFORMED IN SUCH A MANNER THAT SODDING OR

RREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS MUST BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.

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
CRADNIC AND SECRET OFFICE APPLICATION. GRADING AND SEEDBED PREPARATION.

SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. AN

C. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS) SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS OF 5 ACRES OR MORE. SOIL ANALYSIS MAY BE PERFORMED BY A RECOGNIZED PRIVATE OR COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSES.

FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROPRIATE EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS MUST ALL BE DELIVERED TO THE SITE FULLY LABELED CCORDING TO THE APPLICABLE LAWS AND MUST BEAR THE NAME, TRADE NAME OR TRADEMARK AND WARRANTY OF THE PRODUCER.

LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED EXCEPT WHEN HYDROSEEDING) WHICH CONTAINS AT LEAST 50 PERCENT TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE MUST BE GROUND TO SUCH FINENESS THAT AT LEAST 50 PERCENT WILL PASS THROUGH A #100 MESH SIEVE AND 98 TO 100 PERCENT WILL PASS THROUGH A #20 MESH SIEVE.

LIME AND FERTILIZER ARE TO BE EVENLY DISTRIBUTED AND INCORPORATED INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. 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

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS

A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF

THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

DEVELOPERS CERTIFICATE

I CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE

INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF

TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT

CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION

CHIEF, DIVISION OF LAND DEVELOPMENT **

BEGINNING THE PROJECT. HOWARD SOIL CONSERVATION DISTRICT IS AUTHORIZE

ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL

ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED

SIGNATURE OF ENGINEER

SIGNATURE OF DEVELOPER

PRINTED NAME OF DEVELOPER

GREÉNBERRY INC.

PRINTED NAME OF ENGINEER

TO CONDUCT PERIODIC ON-SITE INSPECTION.

R/JACOB HIKMAT, PE

DATE

DATE

DATE

1-21-16

(B-4-3) STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING

THE APPLICATION OF SEED AND MULCH TO ESTABLISH VEGETATIVE COVER.

PURPOSE
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 GRADING.

1. SPECIFICATIONS a. ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED MUST BE SUBJECT TO RE-TESTING BY A RECOGNIZED SEED LABORATORY. ALL SEED USED MUST HAVE BEEN TESTED WITHIN THE 6 MONTHS IMMEDIATELY PRECEDING THE DATE OF SOWING SUCH MATERIAL ON ANY PROJECT. REFER TO TABLE B.4 REGARDING THE QUALITY OF SEED. SEED TAGS MUST BE AVAILABLE UPON REQUEST TO THE INSPECTOR TO VERIFY TYPE OF SEED AND SEEDING RATE.

b. MULCH ALONE MAY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES ONLY IF THE GROUND IS FROZEN. THE APPROPRIATE SEEDING MIXTURE MUST BE APPLIED WHEN THE GROUND THAWS.

c. INOCULANTS: THE INOCULANT FOR TREATING LEGUME SEED IN THE SEED MIXTURES MUST BE A PURE CULTURE OF NITROGEN FIXING BACTERIA PREPARED SPECIFICALLY FOR THE SPECIES. INOCULANTS MUST NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER. ADD FRESH INOCULANTS AS DIRECTED ON THE PACKAGE. USE FOUR TIMES THE RECOMMENDED RATE WHEN HYDROSEEDING, NOTE: IT IS VERY IMPORTANT TO KEEP INOCULANT AS COOL AS POSSIBLE UNTIL USED. TEMPERATURES ABOVE 75 TO 80 DEGREES FAHRENHEIT CAN WEAKEN BACTERIA AND MAKE THE INOCULANT LESS EFFECTIVE.

SOD OR SEED MUST NOT BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OF CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.

Q. DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS.
 I. INCORPORATE SEED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON TEMPORARY SEEDING TABLE B.1, PERMANENT SEEDING TABLE B.3, OR SITE—SPECIFIC SEEDING SUMMARIES.
 II. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION. ROLL THE SEEDED AREA WITH A WEIGHTED ROLLER TO PROVIDE GOOD SEED TO SOIL CONTACT.

b. Drill or cultipacker seeding: Mechanized seeders that apply and cover seed with soil I. CULTIPACKING SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST 1/4 INCH OF SOIL COVERING. SEEDBED MUST BE FIRM AFTER PLANTING. II. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN

c. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer) 1. 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; P_2 O_5 (PHOSPHOROUS), 200 POUNDS PER ACRE; K_2 O (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.

OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.

CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS.

1. MULCH MATERIALS (IN ORDER OF PREFERENCE)

a. STRAW CONSISTING OF THOROUGHLY THRESHED WHEAT, RYE, OAT, OR BARLEY AND REASONABLY BRIGHT IN COLOR. STRAW IS TO BE FREE OF NOXIOUS WEED SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW AND NOT MUSTY, MOLDY, CAKED, DECAYED, OR EXCESSIVELY DUSTY. NOTE: USE ONLY STERILE STRAW MULCH IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED.

b. WOOD CELLULOSE FIBER MULCH (WCFM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE. 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.

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 WIL 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 PHYTO-TOXIC. 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.

APPLY MULCH TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING WHEN STRAW MULCH IS USED, SPREAD IT OVER ALL SEEDED AREAS AT THE RATE OF 2 TONS PER ACRE TO A UNIFORM LOOSE DEPTH OF 1 TO 2 INCHES. APPLY MULCH TO ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT EXPOSED. WHEN USING A MULCH ANCHORING TOOL, INCREASE THE APPLICATION RATE TO 2.5 TONS PER ACRE. 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

ANCHORING 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 HIS PRACTICE SHOULD FOLLOW THE CONTOUR.

II. WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. APPLY THE FIBER BINDER AT A NET DRY WEIGHT OF 750 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER AT A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER. SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRO-TACK), DCA-70, PE TACK AR OR OTHER APPROVED EQUAL MAY BE USED. FOLLOW APPLICATION RATES AS SPECIFIED BY THE MANUFACTURER. APPLICATION OF LIQUID BINDERS NEEDS TO BE HEAVIER AT THE EDGES WHERE WIND

IV. LIGHTWEIGHT PLASTIC NETTING MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER RECOMMENDATIONS. NETTING IS USUALLY AVAILABLE IN ROLLS 4 TO 15 FEET WIDE AND 300 TO 3,000 (B-4-5) STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

TO STABILIZE DISTURBED SOIL WITH PERMANENT VEGETATION.

TO USE LONG-LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND COVER OF DISTURBED CONDITIONS WHERE PRACTICE APPLIES EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR 6 MONTHS OR MORE.

A. SELECT ONE OR MORE OF THE SPIECES OF MIXTURES LISTED IN TABLE B.3 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE 8.3) AND BASED IN THE SITE CONDITION OR PURPOSE FOUND ON TABLE B.2. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN

THE PERMANENT SEEDING SUMMARY. B. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES, STREAM BANKS, OR DINES OR FOR SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT MAY BE FOUND IN USDA-NRCS TECHNICAL FIELD GUIDE, SECTION 342-CRITICAL AREA PLANTING.

C. FOR SITES HAVING DISTURBAD AREA OVER 5 ACRES, USE AND SHOW RATES RECOMMENDED BY THE SOIL TESTING AGENCY. FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREA FROM FERTILIZED (40-0-01) AT 3 1/2 POUNDS PER 1000 S.F. (150 POUNDS PER ACRE) AT THE TIME OF SEEDING IN ADDITION TO THE

SOIL AMENDMENTS SHOWN IN THE PERMANENT SEEDING SUMMARY. 2. TURFGRASS MIXTURES

A. AREAS WHERE TURFGRASS MAY BE DESIRE INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE. B. SELECT ONE OR MORE OF THE SPECIES OF MIXTURES LISTED BELOW BASED ON THE SITE

CONDITIONS OR PURPOSE. ENTER SELECTED MIXTURE(S), APPLOCATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. I. KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN AREAS THAT RECEIVE INTENSIVE MANAGEMENT. IRRIGATION REQUIRED IN THE AREAS OF CENTRAL MARYLAND AND EASRERN SHORE. RECOMMENDED CERTIFIED KENTUCKY BLUEGRASS SEEDING RETA: 1.5 TO 2.0 POUNDS PER 1000 S.F. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO

35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT. KENTUCKY BLUEGRASS/PERENIAL RYE: FULL SUN MIXTURE: FOR USE IN FULL SUN AREAS WHERE RAPID ESTABLISHMENT IS NECESSARY ABD WHEN TURF WILL RECEIVE MEDIUM TO INTENSUVE MANAGEMENT. CERTIFIED PERENIAL RYEGRASS CULTIVARS/CERTIFIED KENTUCKY BLUEGRASS SEEDINGRATE: 2 POUNDS MIXTURE PER 1000 S.F. SHOOSE A MINIMUM OF THREE KENTUCKYBLUEGRASS CULTIVARS EITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL

MIXTURE BT WEIGHT.

TALL FESCUE/KENTUCKY BLUEGRASS: FULL MIXTURE: FOR USE IN DROUGHT AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MANAGEENT IN FULL SUN TO MEDIUM SHADE. RECOMMENDED MIXTURE INCLUDES; CERTIFIED TALL FESCUE CULTIVARS 65 TO 100 PERCENT, CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 0 TO 5 PERCENT. SEEDING RATE: 5 TO 8 PERCENT PER 1000 S.F. ONE OR

IV. KENTUCKY BLUEGRASS/FINE FESCUE: SHADE MIXTURE: FOR USE IN AREAS WITH SHADE BLUEGRASS LAWNS. FOR ESTABLISHMENT IN HIGH QUALITY, INTENSIVELY MANAGED TIRF AREA.
MIXTURE INCLUDES; CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 30 TO 40 PERCANT AND CERTIFIES FINE FESCUE AND 60 TO 70 PERCENT. SEEDING RATES 1 1/2 TO 3 POUNDS PER 1000 S.F. C. IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURE

CENTRAL MD: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONE: 6B) SOUTHERN MD. EASTERN SHORE: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONE: 7A, 7B) D. TILL AREAS TO RECEIVE SEED BY DISKING OR OTHER APPROVED METHODS TO A DEPTH OF 2 TO 4 INCHES, LEVEL AND RAKE THE AREAS TO PREPARE A PROPER SEEDBED. REMOVE STONE AND DEBRIS OVER 1.5 INCHES IN DIAMETER. THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE

WESTERN MD: MARCH 15 TO JUNE 1, AUGUST 1 TO OCTOBER 1 (HARDINESS ZONES: 5B,6A)

MOWING OF GRASS WILL POSE NO DIFFICULTY.

E. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH 0.5 TO 1 INCH EVERY 3 TO 4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON,

(B-4-8) STANDARDS AND SPECIFICATION FOR STOCKPILE AREA

IN ABNORMALLY DRY OR HOT SEASON, OR ON ADVERSE SITES.

A MOUND OR PILE OF SOIL PROTECTED BY APPROPRIATELY DESIGNED EROSION AND SEDIMENT CONTROL MEASURES. TO PROVIDE A DESIGNATED LOCATION FOR THE TEMPORARY STORAGE OF SOIL THAT CONTROLS THE POTENTIAL FOR EROSION, SEDIMENTATION , AND CHANGES TO DRAINAGE PATTERNS. CONDITIONS WHERE PRACTICE APPLIES STOCKPILE AREAS ARE UTILIZED WHEN IT IS NECESSARY TO SALVAGE AND STORE SOIL FOR LATER USE.

 THE STOCKPILE LOCATION AND ALL RELATED SEDIMENT CONTROL PRACTICES MUST BE CLEARLY INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN. 2. THE FOOTPRINT OF 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

3. RUNOFF FROM THE STOCKPILE AREA MUST DRAIN TO A SUITABLE SEDIMENT CONTROL PRACTICE. 4. ACCESS THE STOCKPILE AREA FROM THE UPGRADE SIDE.

5. CLEAR WATER RUNOFF INTO THE STOCKPILE AREA MUST BE MINIMIZED BY USE OF A DIVERSION DEVISE SUCH AS AN EARTH DIKE, TEMPORARY SWALE OR DIVERSION FENCE. PROVISIONS MUST BE MADE FOR DISCHARGING CONCENTRATED FLOW IN A NON-EROSIVE MANNER.

WHERE RUNOFF CONCENTRATES ALONG THE TOE OF THE STOCKPILE FILL, AN APPROPRIATE EROSION/SEDIMENT CONTROL PRACTICE MUST BE USED TO INTERCEPT THE DISCHARGE. 7. STOCKPILE MUST BE STABILIZED IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION REQUIREMENT AS WELL AS STANDARD B-4-I INCREMENTAL STABILIZATION AND STANDARD B-4-4 TEMPORARY STABILIZATION.

IF THE STOCKDILE IS LOCATED ON AN INDEPLACE SUPERCE A LINED SHOULD BE DECIMED BELOW THE TO FACILITATE CLEANUP. STOCKPILES CONTAINING CONTAMINATED MATERIAL MUST COVERED WITH IMPERMEABLE

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

ST-III

MAXIMUM DRAINAGE AREA - 10 ACRES

DETAIL G-1-3 RIPRAP OUTLET

SEDIMENT TRAP ST-III

CLEAR, GRUB, AND STRIP ANY VEGETATION AND ROOT MAT FROM THE AREA UNDER THE EMBANGUE AND TRAP BOTTOM.

CONSTRUCT TOP OF EMBANGMENT I FOOT MINIMUM ABOVE TOP OF RIPRAP QUILLET, COMPACT THE EMBANGMENT BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.

USE CLEAN CLASS 1 RIPRAP PLACED 19 INCHES IN DEPTH FOR THE OUTLET AND APRON. USE OF RECYCLED CONCRETE EQUIVALENT IS ACCEPTABLE.

CONSTRUCT AND MAINTAIN THE OUTLET ACCORDING TO APPROVED PLAN, AND IN SUCH A MAINNER THAT EROSION AT OR BELOW THE OUTLET DOES NOT OCCUR.

O. REMOVE SEDMENT AND RESTORE TRAP TO ORIGINAL DIMENSIONS WHEN SEDMENT HAS ACCUMULATED TO CLEANOUT ELEVATION (25% OF WET STORAGE DEPTH), DEPOSIT REMOVED SEDMENT IN A APPROVED AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE. KEEP POINTS OF INFLOW AND OUTFLOW AS WELL AS INTERIOR OF THE TRAP FREE FROM EROSION AND REMOVE ACCUMULATED DEBRIS. MAINTAIN EMBANISMENTS TO CONTINUOUSLY MEET REQUIREMENTS FOR ADOLITY VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION 8-4 VEGETATIVE STABILIZATION. REMOVE ANY TREES, BRUSH, OR OTHER WOODY VEGETATION GROWING ON EMBANISMENT OR NEAP PRINCIPAL SPILLWAY. MAINTAIN LINE, GRADE, AND CROSS SECTION.

WHEN DEWATERING TRAP, PASS THE REMOVED WATER THROUGH AN APPROVED SEDIMENT CONTROL

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

USE FILL MATERIAL FREE OF ROOTS, WOODY VEGETATION, OVERSIZED STONES, ROCKS, ORGANIC MATERIAL, OR OTHER OBJECTIONABLE MATERIAL FOR THE EMBANGMENT.

ST-III

STANDARD SEDIMENT CONTROL NOTES

1. 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:

PRIOR TO THE START OF EARTH DISTURBANCE UPON COMPLETION OF THE INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. PRIOR TO THE START OF ANOTHER PHASE OF CONSTRUCTION OR OPENING OF ANOTHER PRIOR TO THE REMOVAL OR MODIFICATION OF SEDIMENT CONTROL PRACTICES.

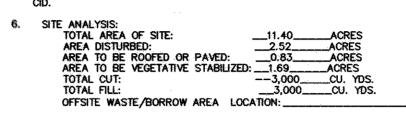
OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE. OTHER RELATED STATE AND FEDERAL PERMITS SHALL BE REFERENCED, TO ENSURE COORDINATION AND TO AVOID CONFLICTS WITH THIS

2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND REVISIONS

3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION IS REQUIRED WITHIN THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED AREAS ON THE PROJECT SITE EXCEPT FOR THOSE AREAS UNDER ACTIVE GRADING.

4. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 2011 MARYLAND STANDARD AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR TOPSOIL (SEC. B-4-2), PERMANENT SEEDING (SEC. B-4-5) TEMPORARY SEEDING (SEC. B-4-4) AND MULCHING (SEC. B-4-3). TEMPORARY STABILIZATION MITH MULCH ALONE CAN ONLY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES IF THE GROUND IS FROZEN. INCREMENTAL STABILIZATION (SEC. B-4-1) SPECIFICATIONS SHALL BE ENFORCED IN AREAS WITH >15' OF CUT AND/OR FILL. STOCKPILES (SEC. B-4-8) IN EXCESS OF 20 FT. MUST BE BENCHED WITH STABLE OUTLET. ALL CONCENTRATED FLOW, STEEP SLOPE, AND

5. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE, AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE



DETAIL B-1 STABILIZED CONSTRUCTION

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

SO FT MIN. LENGTH *

PROFILE

ENTRANCE

7. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.

ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY
BY THE CID. THE SITE AND ALL CONTROLS SHALL BE INSPECTED BY THE CONTRACTOR
WEEKLY; AND THE NEXT DAY AFTER EACH RAIN EVENT. A WRITTEN REPORT BY THE
CONTRACTOR, MADE AVAILABLE UPON REQUEST, IS PART OF EVERY INSPECTION AND SHOULD INCLUDE:

-INSPECTION DATE -INSPECTION TYPE (ROUTINE, PRE-STORM EVENT, DURING RAIN EVENT)
-NAME AND TITLE OF INSPECTOR -WEATHER INFORMATION (CURRENT CONDITIONS AS WELL AS TIME AND AMOUNT OF LAST RECORDED PRECIPITATION -BRIEF DESCRIPTION OF PROJECT'S STATUS (E.G., PERCENT COMPLETE) AND/OR

-EVIDENCE OF SEDIMENT DISCHARGE -IDENTIFICATION OF PLAN DEFICIENCIES -IDENTIFICATION OF SEDIMENT CONTROLS THAT REQUIRE MAINTENANCE -IDENTIFICATION OF MISSING OR IMPROPERLY INSTALLED SEDIMENT CONTROLS -COMPLIANCE STATUS REGARDING THE SEQUENCE OF CONSTRUCTION AND STABILIZATION REQUIREMENTS -PHOTOGRAPHS

-MONITORING/SAMPLING -MAINTENANCE AND/OR CORRECTIVE ACTION PERFORMED
-OTHER INSPECTION ITEMS AS REQUIRED BY THE GENERAL PERMIT FOR STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES (NPDES, MDE).

TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN AND SHALL BE BACK-FILLED AND STABILIZED BY THE END OF EACH WORKDAY, WHICHEVER IS SHORTER.

10. ANY MAJOR CHANGES OR REVISIONS TO THE PLAN OR SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE HSCD PRIOR TO PROCEEDING WITH CONSTRUCTION. MINOR REVISIONS MAY ALLOWED BY THE CID PER THE LIST OF HSCD-APPROVED FIELD CHANGES.

 DISTURBANCE SHALL NOT OCCUR OUTSIDE THE L.O.D. A PROJECT IS TO BE SEQUENCED SO THAT GRADING ACTIVITIES BEGIN ON ONE GRADING UNIT (MAXIMUM ACREAGE OF 20 AC. PER GRADING UNIT) AT A TIME. WORK MAY PROCEED TO A SUBSEQUENT GRADING UNIT WHEN AT LEAST 50 PERCENT OF THE DISTURBED AREA IN THE PRECEDING GRADING UNIT HAS BEEN STABILIZED AND APPROVED BY THE CID. UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE HSCD, NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.

12. WASH WATER FROM ANY EQUIPMENT, VEHICLES, WHEELS, PAVEMENT, AND OTHER SOURCES MUST BE TREATED IN A SEDIMENT BASIN OR OTHER APPROVED WASHOUT STRUCTURE.

13. TOPSOIL SHALL BE STOCKPILED AND PRESERVED ON-SITE FOR REDISTRIBUTION ONTO FINAL

14. ALL SILT FENCE AND SUPER SILT FENCE SHALL BE PLACED ON-THE-CONTOUR, AND BE IMBERICATED AT 25' MINIMUM INTERVALS, WITH LOWER ENDS CURLED UPHILL BY 2' IN

15. STREAM CHANNELS MUST NOT BE DISTURBED DURING THE FOLLOWING RESTRICTED TIME USE I AND IP MARCH 1 - JUNE 15

USE III AND IIIP OCTOBER 1 - APRIL 30

USE IV MARCH 1 - MAY 31

DETAIL C-9 DIVERSION FENCE

10 FT MAX.

ELEVATION

16. A COPY OF THIS PLAN, THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND ASSOCIATED PERMITS SHALL BE ON-SITE AND AVAILABLE WHEN THE SITE IS ACTIVE.

DETAIL E-3 SUPER SILT FENCE

10 FT MAX.

GALVANIZED CHAIN LINK FENCE WITH WOVEN SLIT FILM GEOTEXTILE

-----SSF-----

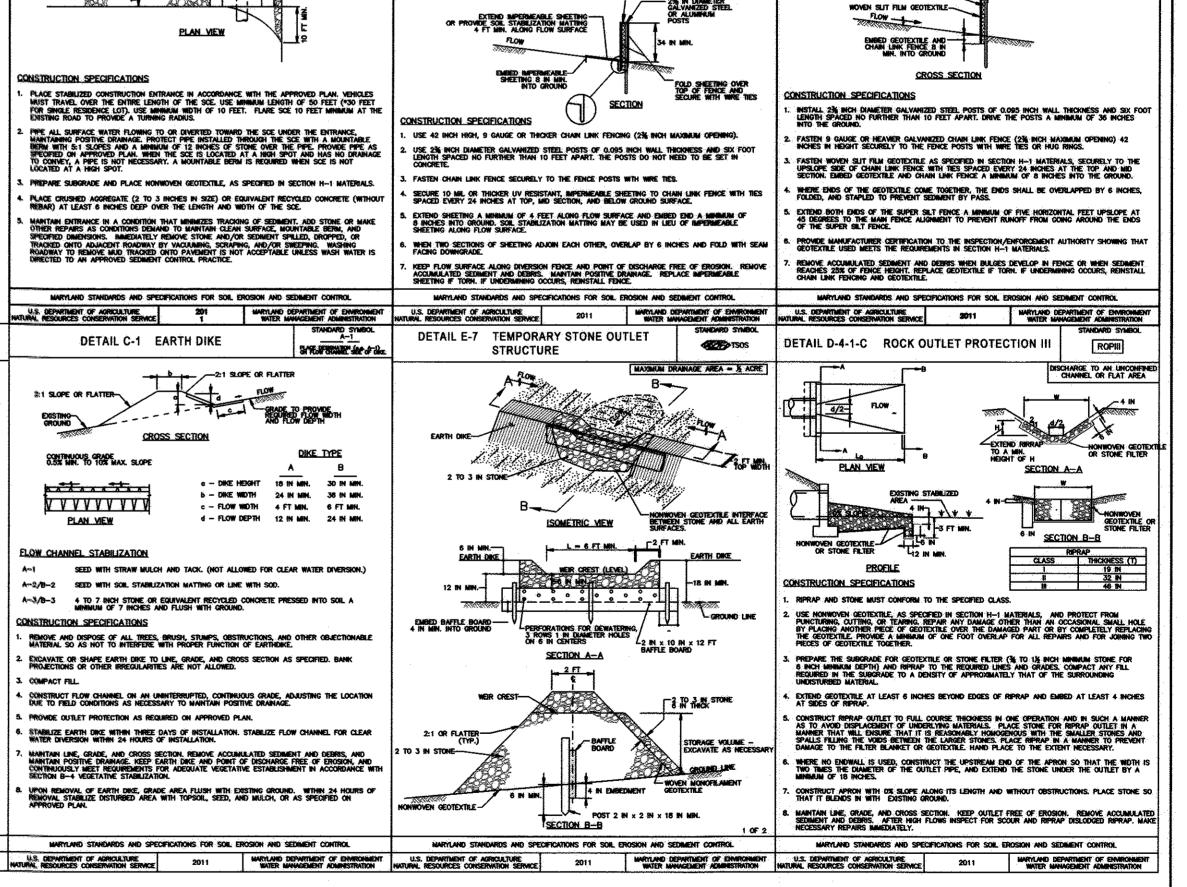
Д

Y BUI

Д

ZZO

ERC AND



7A AND 7E

AUG 15 TO NOV 3

AUG 15 TO NOV 3

MAY 1 TO AUG 14

			PERMANE	ENT SE	EDING SUM	MARY		
	HARDINESS ZONE (FROM FIGURE B.3): 6b FERTILIZER RATE SEED MIXTURE (FROM TABLE B.3): 8 (10-20-20)							
NO.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS	N	P ₂ O ₅	K₂O	LIME RATE
1	TALL FESCUE	100	MARCH 1-MAY 15 AUG 15-OCT 15	1/4"-1/2"	45 LBS. PER ACRE (1 LB./1000 SF)	90 LBS. PER ACRE (2 LB./1000 SF)	90 LBS. PER ACRE (2 LB./1000 SF)	2 TONS / ACRI (90 LBS / 1000 SF)

DETAIL G-1-3 RIPRAP OUTLET

SEDIMENT TRAP ST-III

ISOMETRIC VIEW

SECTION A-A

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDMENT CONTROL

EROSION AND SEDIMENT CONTROL MAY BE USED.

AUG 1 TO SEP 30 AUG 1 TO OCT 15 (HORDEUM VULGAR (AVENA SATIVA MAR 15 TO MAY 31; MAR 1 TO MAY 15; AUG 1 TO SEP 30 AUG 1 TO OCT 15 0.5 (TRITICUM AESTIVUM MAR 15 TO MAY 31; MAR 1 TO MAY 15; FEB.15 TO APR 30; AUG 1 TO OCT 31 AUG 1 TO OCT 15 AUG 15 TO DEC 15 CEREAL RYE 0.5 (SECALE ITALICA) VARM SEASON GRASSES JUN 1 TO JUL 31 MAY 16 TO JUL 31 20 0.5 0.5 JUN 1 TO JUL 31 MAY 16 TO JUL 31 (PENNISETUM GLAUCUI

PLANT SPECIES

COOL SEASON GRASSE

TEMPORARY SEEDING FOR SITE STABILIZATION

(INCHES

(B-4-4) STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION O STABILIZE DISTURBED SOIL WITH VEGETATION FOR UP TO 6 MONTHS.

TO USE FAST GROWING VEGETATION THAT PROVIDES COVER ON DISTURB SOIL.

XPOSED SOILS WHERE GROUND COVER IS NEEDED FOR A PERIOD OF 6 MONTHS OR LESS. FOR SELECT ONE OR MORE OF THE SPECIES OR SEED MIXTURES LISTED IN TABLE B.1 FOR THE

APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3), AND ENTER THEM IN THE TEMPORARY SEEDING SUMMARY ALONG WITH APPLICATION RATES, SEEDING DATES AND TABLE 8-1 PLUS FORTELIZER AND LIME RATES MUST BE PUT ON THE PLAN. FOR SITES HAVING SOIL TESTS PERFORMED, USE AND SHOW THE RECOMMENDED RATES BY THE TESTING AGENCY. SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY SEEDING.

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.1b, AND MAINTAIN UNTIL THE NEXT SEEDING SEASON.

SEQUENCE OF CONSTRUCTION:

2. PERFORM CLEARING AND GRUBBING AS NECESSARY FOR THE INSTALLATION OF

3. CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE AT LOCATION INDICAT

4. CONSTRUCT PERIMETER CONTROLS: SILT FENCES (SF), SUPER SILT FENCE

GRADE SITE AS SHOWN ON GRADING AND SEDIMENT CONTROL PLAN FOR

CONSTRUCT DRIVEWAY ON LOT 1 AND USE-IN-COMMON DRIVEWAY FROM

DO NOT DISTURB THE STREAM, CHECK WEATHER REPORT TO BE SURE THAT IT WILL BE A MINIMUM THREE (3) DAYS WITHOUT RAIN.

FOR CULVERT INSTALLATION AND STREAM CROSSING SEQUENCING, SEE SHHE

13. UPON THE APPROVAL OF SEDIMENT CONTROL INSPECTOR, REMOVE SEDIMENT

14. CONSTRUCT REMAINING PART OF USE-IN-COMMON DRIVEWAY (TO STA.12+50)

SEDIMENT CONTROL DEVICES AND STABILIZE REMAINING DISTURBED AREAS.

SEE SHEET 6 OF 6 FOR STREAM CROSSING

AND CULVERT REPLACEMENT DETAILS.

CONSTRUCT EARTH DIKE (5 DAYS).
 ANY DAMAGE TO THE EARTH DIKE IS TO BE REPAIRED IMMEDIATELY.

DRIVEWAY CONSTRUCTION (SHEET 2 OF 6). (10 DAYS).

11. CONSTRUCT TEMPORARY STONE OUTLET STRUCTURE (3 DAY)

ASSOCIATED SWM DEVISES (STONE TRENCHES) (15 DAYS).

CONTROL DEVICES FROM PIPESTEM AREA (2 DAYS).

15. SEED AND MULCH DISTURBED AREA (1 DAY).

12. CONSTRUCT USE-IN-COMMON DRIVEWAY WITHIN THE PIPESTEM WITH

16. CONVERT SEDIMENT TRAP #1 INTO MICRO-BIORETENTION MB-1, AND

CONSTRUCT MICRO-BIORETENTION FACILITY MB-2 (10 DAYS).

17. UPON THE APPROVAL OF SEDIMENT CONTROL INSPECTOR, REMOVE

1. OBTAIN GRADING PERMIT (1 DAY).

PERIMETER CONTROLS (5 DAYS)

5. CONSTRUCT SEDIMENT TRAP (5 DAYS)

7. CLEAR AND GRUB SITE (5 DAYS).

STA.11+00 TO 9+00 (14 DAYS).

(SSF) AND DIVERSIONFENCES (7 DAYS).

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. 17942, 2XP DATE 09/03/18.

MARILYN AND STEVE PERCIVAL C/O MILDENBERG, BOENDER & ASSOC., INC 7350-B GRACE DRIVE COLUMBIA, MARYLAND 21044 410-997-0296

<u>OWNER</u>

- DEPTH OF OUTLET

F-16-088

MILDENBE BOENDER

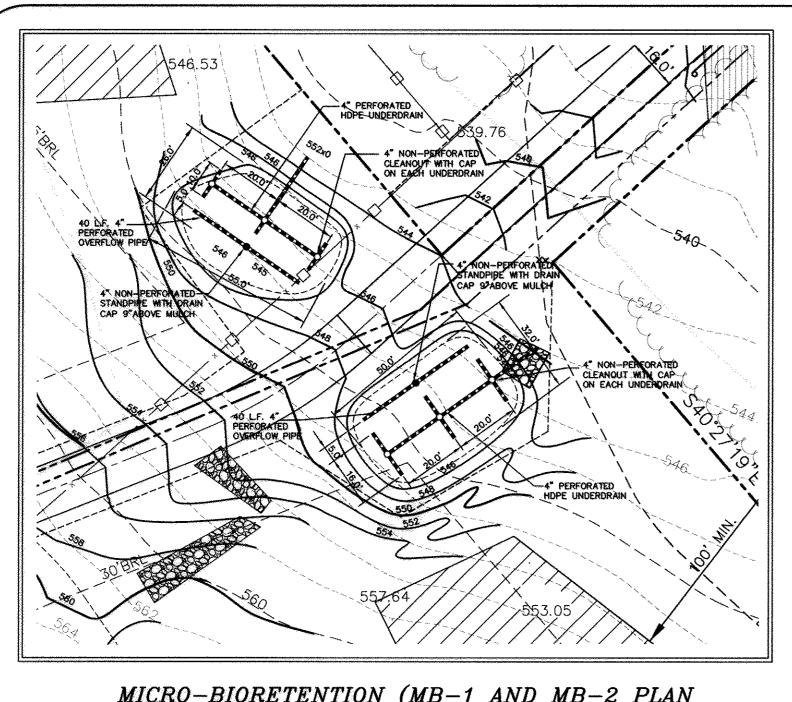
SO

S

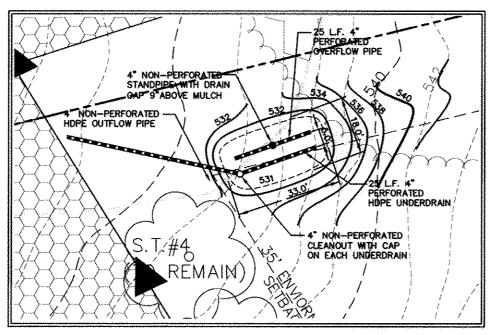
ゼ

ER(

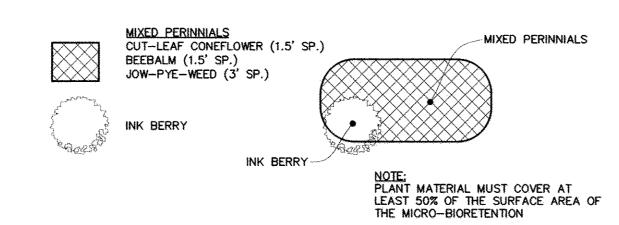
4 of 6



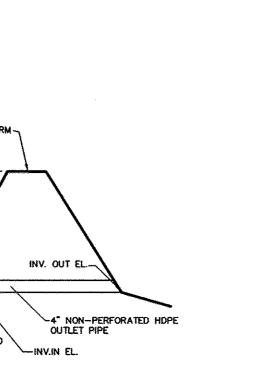
MICRO-BIORETENTION (MB-1 AND MB-2 PLAN SCALE: 1"=30'



MICRO-BIORETENTION (MB-3) PLAN



TYP. MICRO-BIORETENTION
(M-6) DETAIL
SCALE: NTS



4" PERFORATED HOPE UNDERDRAIN, INV. EL. TYP. MICRO-BIORETENTION

WIRE MESH

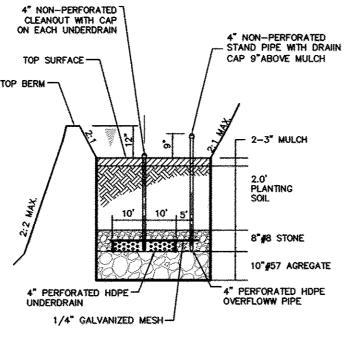
(M-6) DETAIL

HOT TO SCALE

11.14.16

11-21-16

DATE



TYP. SECTION MICRO-BIORETENTION (M-6)

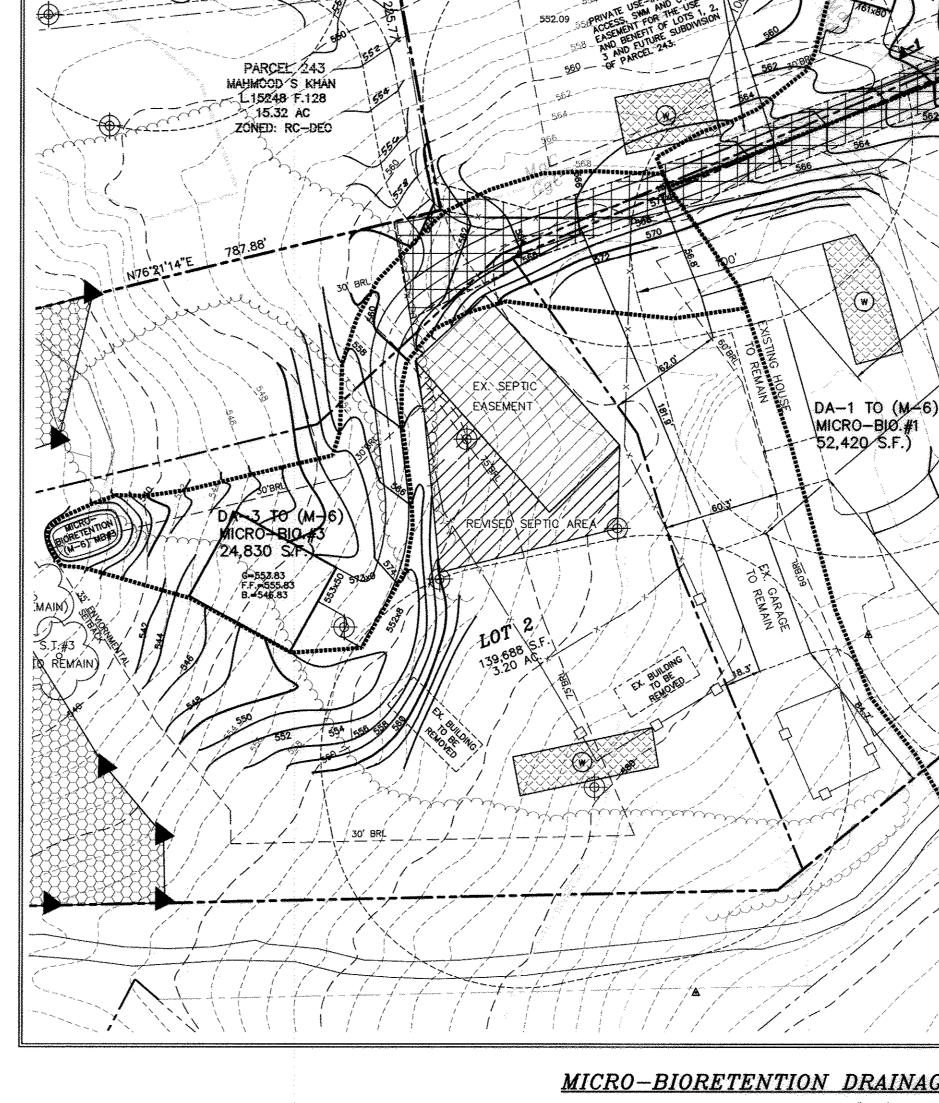
SWM SUMMARY REQUIRED MB #1 LOT 1 UIC DRIVEWAY 1,249 C.F. 1,782 C.F. MB #2 LOT 3 UIC DRIVEWAY 1,340 C.F. 1.948 C.F. MB #3 LOT 2 UIC DRIVEWAY 797 C.F. 825 C.F. STONE Rev TRENCHES UIC DRIVEWAY 206 C.F. 208 C.F.

3,592 C.F. 4,763 C.F. TOTAL:

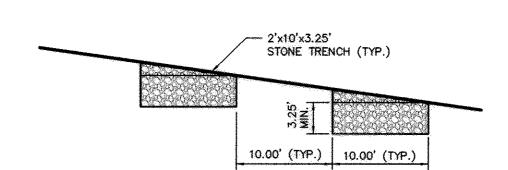
PROVIDED

			~~				
FACILITY	TOP EL.	TOP OF BERM	INV. IN UNDERDRAIN	INV. OUT UNDERDRAIN	AREA AT TOP EL.	AREA AT BERM EL.	INV. EL. OVERFLOW PIPE
MB #1	545.00	546.00	544.00	543.50	1,180 SF	1,458 SF	544.00
MB #2	545.00	546.00	544.00	543.50	1,290 SF	1,615 SF	544.00
MB #3	531.00	532.00	528.00	527.50	525 SF	7.28 SF	528.00

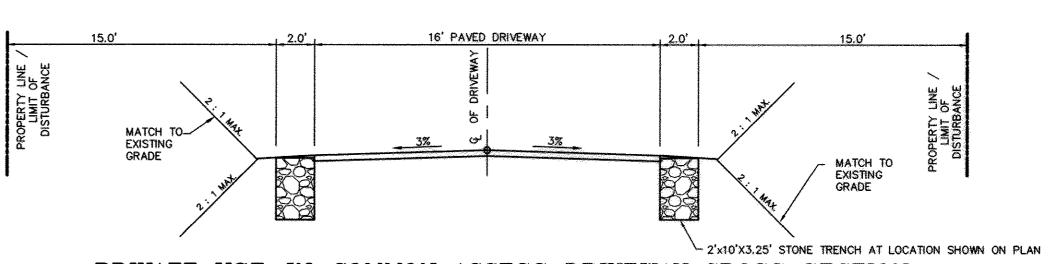
MICRO-BIORETENTION SCHEDULE



MICRO-BIORETENTION DRAINAGE AREA MAP SCALE: 1"=50"



STONE TRENCH DETAIL



PRIVATE USE-IN-COMMON ACCESS DRIVEWAY CROSS SECTION STA. 0+00 TO STA. 9+50 NOT TO SCALE

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

- A. THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL VOLUME II, TABLE A.4.1 AND 2.
- B. THE OWNER SHALL PERFORM A PLANT INSPECTION IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL, TREAT DISEASED TREES AND SHRUBS, AND REPLACE ALL DEFICIENT STAKES AND WIRES.

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. 10/3/116 SIGNATURE OF ENGINEER R. JACOB HIKMAT, PE PRINTED NAME OF ENGINEER DEVELOPERS CERTIFICATE I CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. HOWARD SOIL CONSERVATION DISTRICT IS AUTHORIZED TO CONDUCT PERIODIC ON—SITE INSPECTION. 10/31/11 SIGNATURE OF DEVELOPER GREENBERRY INC. PRINTED NAME OF DEVELOPER THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION NY

CHIEF, DIVISION OF LAND DEVELOPMENT NA

Kentslewoh

ENGINEER'S CERTIFICATE

10' MIN. SETBACK

4" NON-PERFORATED HDPE -OUTLET PIPE

<u>OWNER</u>

MARILYN AND STEVE PERCIVAL C/O MILDENBERG, BOENDER & ASSOC., INC. 7350-B GRACE DRIVE COLUMBIA, MARYLAND 21044 410-997-0296

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. 17942, EXP DATE 09/03/18. R. JAÇOB HIKMAT, P.E.

10131116

5 of 6

F-16-088

ASSOC.

MILDENBERG, BOENDER & A

PERCIVA

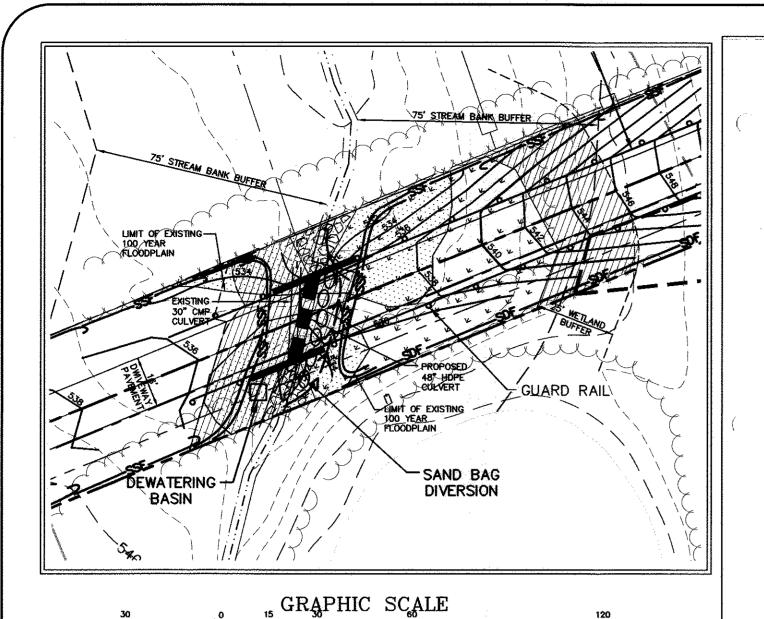
S AND NOI

K MAP 08, (
RICT

a S AX

PARCEL 283 LAUREL GAFKE 5.83 AC ZONED: RC-DEO

C. 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. D. THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.



$1 \text{ inch} = \frac{1}{30} \text{ ft.}$

BEST MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS AND 100-YEAR FLOODPLAINS

- 1. NO EXCESS FILL, CONSTRUCTION MATERIAL, OR DEBRIS SHALL BE STOCKPILED OR STORED IN NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS OR 100-YEAR FLOODPLAIN. 2. PLACE MATERIALS ON 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 100-YEAR FLOODPLAIN. 3. DO NOT USE EXCAVATED MATERIALS 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 MATERIALS, OR OTHER DELETERIOUS SUBSTANCE. 4. PLACE HEAVY EQUIPMENT ON MATS OR SUITABLY OPERATE THE EQUIPMENT TO PREVENT DAMAGE
- TO NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR 100-YEAR FLOODPLAIN. 5. 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 ORIGINALLY AUTHORIZED STRUCTURE
- 6. RECTIFY ANY NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, OR 100-YEAR FLOODPLAIN TEMPORARILY IMPACTED BY ANY CONSTRUCTION.
- 7. ALL STABILIZATION IN THE NONTIDAL WETLANDS AND NONTIDAL WETLAND BUFFER SHALL CONSIST OF THE FOLLOWING SPECIES: ANNUAL RYEGRASS (LOLIUM MULTIFLORUM), MILLET (SETARIA ITALICA) BARLEY (HORDEUM SP.) OATS (UNIOLA SP. /OR RYE ((SECALE CEREALÉ). 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
- 8. AFTER INSTALLATION HAS BEEN COMPLETED, MAKE POST-CONSTRUCTION GRADES AND ELEVETIONS THE SAME AS THE ORIGINAL GRADES AND ELEVATIONS IN TEMPORARILY IMPACTED AREAS.
- 9. 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 PERIOD 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 SURFACE SHALL BE CONTROLLED TO PREVENT THE WASHING OF DEBRIS INTO THE WATERWAY.
- 11. CULVERTS SHALL BE CONSTRUCTED AND ANY RIP RAP PLACED SO AS NOT TO OBSTRUCT THE MOVEMENT OF AQUATIC SPECIES, UNLESS THE PURPOSE OF ACTIVITY IS TO IMPOUND WATER.

ENGINEER'S CERTIFICATE I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. 10/3116 SIGNATURE OF ENGINEER R. JACOB HIKMAT, PE PRINTED NAME OF ENGINEER DEVELOPERS CERTIFICATE I CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. HOWARD SOIL CONSERVATION DISTRICT IS AUTHORIZED TO CONDUCT PERIODIC ON-SITE INSPECTION. 10/3/11/6 SIGNATURE OF DEVELOPER PRINTED NAME OF DEVELOPER

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT

CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION

CHIEF, DIVISION OF LAND DEVELOPMENTAH

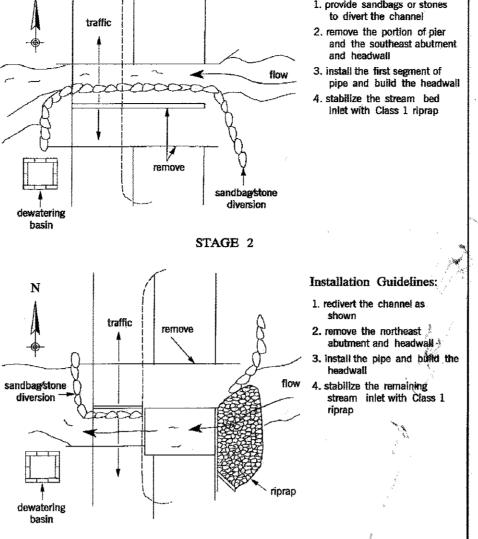
LEGEND

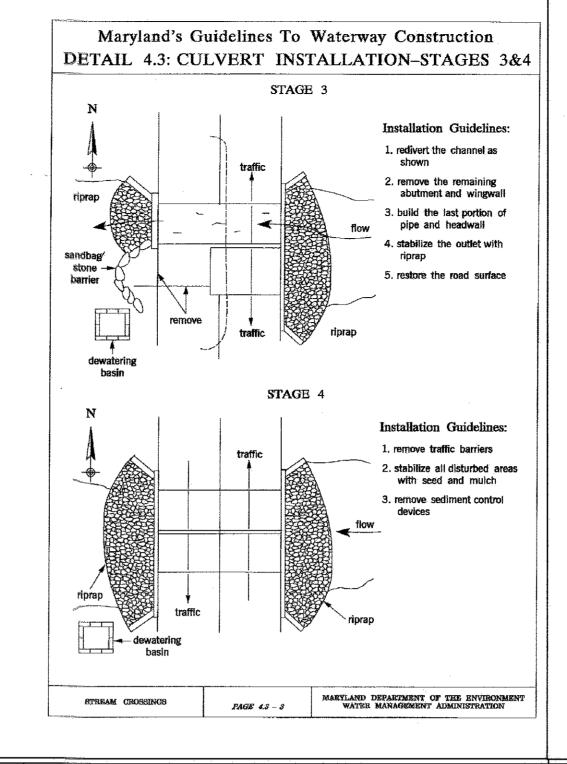
EXISTING TREE LINE LIMIT OF DISTURBANCE 100 YR FLOODPLAIN

WETLANDS DISTURBANCE WETLAND BUFFER DISTURBANCE STREAM DISTURBANCE

ousiness according to a plan approved by the WMA or local authority. (See the 1994 Maryland Standards and Specifications for Soil Erosion and Sediment Control.) A construction sequence, such as the proposed one listed 1. A diversion pipe as shown in MGWC 1.4: Diversion Pipe or other measure should be installed and a sandbag or stone barrier as shown in MGWC 1.5: Sandbag/Stone Diversion should be constructed according to specifications to divert the streamflow into the diversion. 2. A sandbag or stone barrier should be placed downstream to prevent the flow from backwashing into the 3. Culverts should be installed such that the following requirements are met. The culvert slope should match the streambed slope while not exceeding 3%. Culverts should be depressed when possible to encourage siltation for improved fish passage as shown in For non-depressed culverts, the outfall height should not exceed 5 inches (12 centimeters), and concrete aprons The stable width/depth ratio of the bankfull stage stream channel should be maintained with the culvert design. Use of elliptical pipe may help attain the proper channel dimension especially for B, C, and E stream types. A low flow channel shall be constructed through the riprap placements across the stream bed. 4. The disturbed sections of the channel, including the slopes and streambed, should be stabilized with methods 5. The construction area should be dewatered, and the temporary stream diversion removed starting at the 6. Finally, the dewatering basin(s) should be restored to the original grade, the silt fence removed, and all MARYLAND DEPARTMENT OF THE ENVIRONMEN WATERWAY CONSTRUCTION GUIDELINES

Maryland's Guidelines To Waterway Construction **DETAIL 4.3: CULVERT INSTALLATION-STAGES 1&2** STAGE 1 Installation Guidelines: 1. provide sandbags or stones to divert the channel traffic 2, remove the portion of pier and the southeast abutment 3. install the first segment of pipe and build the headwall 4. stabilize the stream bed inlet with Class 1 riprap remove





MGWC 1.1: DEWATERING BASINS

Temporary measure for filtering sediment-laden water

DESCRIPTION

The work should consist of installing dewatering basins jointly with channel diversion measures to filter sedimentladen water from in-stream construction sites before the water re-enters the downstream reach.

EFFECTIVE USES & LIMITATIONS

Undersized dewatering basins will not adequately filter sediment-laden water from the construction site.

MATERIAL SPECIFICATIONS

Materials for dewatering basins should meet the following requirements:

ultraviolet light, and mildew and should be rot resistant.

- Riprap: Riprap should be washed and have a diameter ranging from 4 to 6 inches (10 to 15 centimeters). Filter Cloth: Filter cloth should be a woven or non-woven fabric consisting only of continuous chain polymeric filaments or yarns of polyester. The fabric should be mert to commonly encountered chemicals, hydro-carbons,
- Straw Bales/Silt Fence: Straw bales should meet the criteria as specified in the 1994 Maryland Standards and Specifications for Soil Erosion and Sediment Control.

INSTALLATION GUIDELINES

Due to the danger of overtopping by events greater than the design flow, dewatering basins require a vegetative buffer strip to filter sediment-laden overflow. A 50-foot (15-meter) minimum grass-covered buffer width is required for slopes less than 20 degrees (1:2.7) when right-of-way is not limited. For slopes greater than 20 degrees, basins should have a 100-foot (30-meter) minimum buffer width when practical.

- All erosion and sediment control devices should be installed as the first order of business according to a plan approved by the Water Management Administration (WMA) or local authority. Dewatering basins should be constructed as follows (refer to Detail 1.1):
- 1. Excavated subsoil and topsoil should be stored separately and replaced in their natural order. Additionally, the excavated sediments should be prevented from entering the waterway by using sediment perimeter controls or
- 2. The dewatering basin should have a minimum depth of 3 feet (1 meter) where basin depth is measured from the
- 3. Once the dewatering basin becomes filled to one-half of the excavated depth, accumulated sediment should be removed and disposed of in an approved area outside the 100-year floodplain unless otherwise authorized by the
- 4. Sediment control devices should remain in place until all disturbed areas are stabilized and the inspecting authority approves their removal. All disturbed ground contours should be returned to their original condition unless otherwise approved by the WMA or local authority.

MARYLAND DEPARTMENT OF THE ENVIRONMENT WATERWAY CONSTRUCTION GUIDELINES REVISED NOVEMBER 2000

MGWC 1.2: PUMP-AROUND PRACTICE

MGWC 4.3: CULVERT INSTALLATION

The following is a typical installation sequence for culverts which details the minimum requirements to be

This method has been chosen in order to illustrate a general sequence of construction and is not suitable for all

All erosion and sediment control devices, including dewatering basins, should be implemented as the first order of

projects. Therefore, the construction sequence should be reviewed and modified as necessary to meet specific

project needs. Consideration of a bridge or bottomless arch should be made prior to selecting a culvert.

incorporated into the project.

CONSTRUCTION SEQUENCE

EFFECTIVE USES & LIMITATIONS

pelow, should then be followed (refer to Detail 4.3.)

MGWC 4.5: Depressed Culverts.

approved by the WMA.

should be avoided whenever possible.

downstream section and moving upstream

Temporary measure for dewatering in channel construction sites

The work should consist of installing a temporary pump around and supporting measures to divert flow around instream construction sites.

IMPLEMENTATION SEQUENCE

Sediment control measures, pump-around practices, and associated channel and bank construction should be completed in the following sequence (refer to Detail 1.2):

- 1. Construction activities including the installation of erosion and sediment control measures should not begin until all necessary easements and/or right-of-ways have been acquired. All existing utilities should be marked in the field prior to construction. The contractor is responsible for any damage to existing utilities that may result from construction and should repair the damage at his/her own expense to the county's or utility
- 2. The contractor should notify the Maryland Department of the Environment or WMA sediment control inspector at least 5 days before beginning construction. Additionally, the contractor should inform the local environmental protection and resource management inspection and enforcement division and the provider of ocal utilities a minimum of 48 hours before starting construction.
- 3. The contractor should conduct a pre-construction meeting on site with the WMA sediment control inspector, the county project manager, and the engineer to review limits of disturbance, erosion and sediment control requirements, and the sequence of construction. The contractor should stake out all limits of disturbance prior to the pre-construction meeting so they may be reviewed. The participants will also designate the contractor's staging areas and flag all trees within the limit of disturbance which will be removed for construction access. Trees should not be removed within the limit of disturbance without approval from the WMA or local authority
- 4. Construction should not begin until all sediment and erosion control measures have been installed and approve by the engineer and the sediment control inspector. The contractor should stay within the limits of the disturbance as shown on the plans and minimize disturbance within the work area whenever possible.
- 5. Upon installation of all sediment control measures and approval by the sediment control inspector and the local environmental protection and resource management inspection and enforcement division, the contractor should begin work at the upstream section and proceed downstream beginning with the establishment of stabilized construction entrances. In some cases, work may begin downstream if appropriate. The sequence of construction must be followed unless the contractor gets written approval for deviations from the WMA or local authority. The contractor should only begin work in an area which can be completed by the end of the day including grading adjacent to the channel. At the end of each work day, the work area must be stabilized and the pump around removed from the channel. Work should not be conducted in the channel during rain events.
- 6. Sandbag dikes should be situated at the upstream and downstream ends of the work area as shown on the plans, and stream flow should be pumped around the work area. The pump should discharge onto a stable velocity dissipater made of riprap or sandbags.

PAGE 1.2 - 1

MARYLAND DEPARTMENT OF THE ENVIRONMENT

REVISED NOVEMBER 2008

TEMPORARY INSTREAM CONSTRUCTION MEASURES

7. Water from the work area should be pumped to a sediment filtering measure such as a dewatering basin, sediment bag, or other approved source. The measure should be located such that the water drains back into

MGWC 1.2: PUMP-AROUND PRACTICE

- 8. Trayersing a channel reach with equipment within the work area where no work is proposed should be avoided If equipment has to traverse such a reach for access to another area, then timber mats or similar measures should be used to minimize disturbance to the channel. Temporary stream crossings should be used only when necessary and only where noted on the plans or specified. (See Section 4, Stream Crossings, Maryland Guidelines to
- 9. All stream restoration measures should be installed as indicated by the plans and all banks graded in accordance with the grading plans and typical cross-sections. All grading must be stabilized at the end of each day with seed and mulch or seed and matting as specified on the plans.

MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

MARYLAND DEPARTMENT OF THE ENVIRONMEN

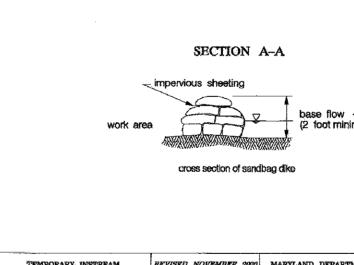
WATERWAY CONSTRUCTION GUIDELINE

REVISED NOVEMBER 2008

- 10. After an area is completed and stabilized, the clean water dike should be removed. After the first sediment flush, a new clean water dike should be established upstream from the old sediment dike. Finally, upon stablishment of a new sediment dike below the old one, the old sediment dike should be removed.
- 11. A pump around must be installed on any tributary or storm drain outfall which contributes baseflow to the work drain outfall and pumping the stream flow around the work area. This water should discharge onto the same relocity dissipater used for the main stem pump around 12. If a tributary is to be restored, construction should take place on the tributary before work on the main stem
- reaches the tributary confluence. Construction in the tributary, including pump around practices, should follow the same sequence as for the main stem of the river or stream. When construction on the tributary is completed, work on the main stem should resume. Water from the tributary should continue to be pumped around the work area in the main stem.
- 13. The contractor is responsible for providing access to and maintaining all erosion and sediment control devices until the sediment control inspector approves their removal.

PAGE 1.2 - 2

14. After construction, all disturbed areas should be regraded and revegetated as per the planting plan.



PLAN VIEW diversion pumps

Maryland's Guidelines To Waterway Construction

DETAIL 1.2: PUMP-AROUND PRACTICE

sediment dike --- sump-hole or pool — work area length not to exceed that which can be pumps should discharge onto a stable velocity dissipator made of rip ray

Maryland's Guidelines To Waterway Construction **DETAIL 1.1: DEWATERING BASINS** PLAN VIEW straw bale dike or berm 6-ft (1.8-m) minimum 6-ft (1.8-m) minimum A--stone outle SECTION A-A SECTION B-B 2 to 3-ft (0.6 to 0.9-m) rebar or stakes for (15 cm)4-in (10-cm) minimum depth

<u>OWNER</u>

MARILYN AND STEVE PERCIVAL C/O MILDENBERG. BOENDER & ASSOC., INC. 7350-B GRACE DRIVE COLUMBIA, MARYLAND 21044 410-997-0296

DATE

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. 17942; EXP DATE 09/03/18. 19/3/1/6 R. JACOB HIKMAT, P.E.

SEQUENCE OF CONSTRUCTION FOR 48" HDPE CULVERT INSTALLATION

- A. EXCAVATE AROUND EXISTING 30" CMP CULVERT. DO NOT DISTURB THE STREAM. CHECK WEATHER REPORT, TO BE SURE THAT IT WILL BE A MINIMUM TEN (10)
- B. REMOVE EXISTING 30" CMP PIPE. (MUST BE DONE PRIOR TO MARCH 1, OR AFTER JUNE 15.) (1 DAY) C. INSTALL 48" HDPE CULVERT (1 DAYS).

TEMPORARY INSTREAM CONSTRUCTION MEASURES

- D. CONSTRUCT WINGWALLS. (6 DAYS)
- E. STABILIZE DISTRUBED AREAS PER BEST MANAGEMENT PRACTICES.

6 OF 6

---1

0