GENERAL NOTES

DATED JANUARY 2007 & SUPPLEMENTED WITH HO.CO. GIS TOPOGRAPHICAL INFORMATION

1. THE SUBJECT PROPERTY IS ZONED R-20 PER THE 2-2-04 COMPREHENSIVE ZONING PLAN AND THE COMP LITE ZONING REGULATION AMENDMENTS EFFECTIVE 7-28-2006. . THIS PROJECT IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS

AND THE ZONING REGULATIONS EFFECTIVE APRIL 13, 2004. I. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE

. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION I 410-313-1880 AT LEAST FIVE(5) WORKING DAYS PRIOR TO THE START OF WORK.

THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" @ 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK. . THE BOUNDARY SURVEY FOR THIS PROJECT WAS PREPARED BY PHRA DATED JANUARY, 2007. . THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD RUN SURVEYS WITH TWO FOOT CONTOUR INTERVALS PREPARED BY PHRA

MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. #29GB AND #29G5 WERE USED FOR THIS PROJECT 9. EXISTING UTILITIES SHOWN HAVE BEEN TAKEN FROM CONTRACT DRAWINGS #34-4170-D AND FIELD SURVEYED LOCATIONS. THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO ANY CONSTRUCTION ACTIVITY AND SHALL ADJUST ALL UTILITIES AND

10. THIS PROPERTY IS WITHIN THE METROPOLITAN DISTRICT. WATER AND SEWER SERVICE SHALL BE PUBLIC, CONNECTING TO EXISTING CONTRACT #34-4170-D. UNDER CONTRACT No.34-4728-D: DRAINAGE AREA IS WITHIN THE PATUXENT RIVER WATERSHED. . THIS SUBDIVISION IS SUBJECT TO SECTION 18,122,8 OF THE HOWARD COUNTY CODE. PUBLIC WATER AND PUBLIC SEWER SERVICE ALLOCATIONS WILL BE GRANTED AT THE TIME OF ISSUANCE OF THE BUILDING PERMIT IF CAPACITY IS AVAILABLE AT THAT TIME 12. BASED ON AVAILABLE COUNTY MAPS AND RECORDS, THERE ARE NO HISTORIC STRUCTURES, SITES OR KNOWN CEMETERIES LOCATED ON THE SUBJECT PROPERTY.

3. THERE ARE EXISTING STRUCTURES LOCATED ON THIS SITE TO BE REMOVED. THE HOUSE, GARAGE AND BARN ON PARCEL 165 WERE BUILT CIRCA 1958. THE 2 SHEDS ON PARCEL 8 WERE BUILT CIRCA 1958.

14. A NOISE STUDY IS NOT REQUIRED FOR THIS DEVELOPMENT. 15. MAA APPROVAL IS NOT REQUIRED FOR THIS DEVELOPMENT

AREA NECESSARY REQUIRED FOR THESE IMPROVEMENTS.

16. THE APFO TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY MARS GROUP, INC. DATED JULY, 2011 AND APPROVED 17. THE GEOTECHNICAL REPORT FOR THIS PROJECT WAS PREPARED BY GEOTECHNICAL LABORATORIES, INC., DATED APRIL, 2007

18. THERE ARE 100 YEAR-FLOODPLAIN. STREAMS, STEEP SLOPES AND FORESTED AREAS LOCATED ON-SITE. THE FLOODPLAIN STUDY FOR THIS PROJECT WAS PREPARED BY PHRA DATED JANUARY, 2011 AND WAS APPROVED UNDER SP-12-002 19. THERE ARE NO WETLANDS LOCATED ON-SITE AS OUTLINED IN A WETLAND DELINEATION PREPARED BY PHRA DATED 2007. 20. NO GRADING, REMOVAL OF VEGETATIVE COVER AND TREES ARE NOT PERMITTED IN WETLANDS, STREAMS, WETLAND BUFFERS, STREAM BUFFERS, FLOODPLAIN, STEEP SLOPES, OR FOREST CONSERVATION EASEMENT AREAS. DISTURBANCE TO THE EXISTING INTERMITTENT STREAM AND ASSOCIATED BUFFER IS PROPOSED NEAR THE BEGINNING OF THE PUBLIC ACCESS PLACE.

A NECESSARY DISTURBANCE FOR ROAD AND UTILITY CONSTRUCTION. IMPACTS WILL BE MINIMIZED AND WILL INCLUDE ONLY THE

21. FOREST STAND DELINEATION PLAN WAS PREPARED BY PHRA, DATED JUNE, 2011 AND APPROVED UNDER SP-12-002 22. FOREST CONSERVATION OBLIGATIONS IN ACCORDANCE WITH THE FOREST CONSERVATION MANUAL SHALL BE FULFILLED BY: ON-SITE REFORESTATION OF 0.96 ACRES, ON-SITE RETENTION OF 0.78 ACRES (DOES NOT INCLUDE FLOODPLAIN) AND OFF-SITE RE-FORESTATION OF 0.47 ACRES ON THE TALLEY PROPERTY, TAX MAP 8, PARCEL 2 (F-07-003FC1/KINDLER OVERLOOK, PLAT (20094). RED-LINE REVISIONS TO THE ROAD CONSTRUCTION DRAWINGS FOR F-07-003/KINDLER OVERLOOK HAVE BEEN PROCESSED TO SHOW THE 0.47 ACRES OF OFF-SITE EASEMENT, SURETY FOR .96 ACRES OF REFORESTATION IN THE AMOUNT OF \$30,9000 SHALL BE POSTED WITH THE DEVELOPER'S AGREEMENT FOR THIS SUBDIVISION, F-13-004.

THE HOWARD COUNTY CODE AND FOREST CONSERVATION ACT. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE THE FOREST CONSERVATION EASEMENT; HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST

24. ALL LANDSCAPING REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL AND SECTION

25. PERIMETER LANDSCAPING, TRASH PAD SCREENING AND WP-12-011 PLANTINGS SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 16.124 OF THE LANDSCAPE MANUAL. FINANCIAL SURETY IN THE AMOUNT OF \$11,250.00 FOR 33 SHADE TREES, 5 EVERGREENS, AND 20 SHRUBS SHALL BE POSTED WITH THE DEVELOPER AGREEMENT FOR THIS FINAL PLAN, F-13-004. 26. WRITTEN APPROVAL FROM BG&E FOR THE PROPOSED LANDSCAPING ALONG TROTTER ROAD WAS OBTAINED BY

ORRESPONDENCE DATED SEPTEMBER 17, 2012 AND APPROVED UNDER THESE PLANS. 7. FOR FLAG OR PIPESTEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE ARE PROVIDED TO THE 28. DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:

DWELLINGS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:

A) WIDTH - 12' (16' SERVING MORE THAN ONE RESIDENCE).

B) SURFACE - 6" OF COMPACT CRUSHER RUN BASE WITH TAR AND CHIP COATING.

C) GEOMETRY - MAX. 15% GRADE, MAX. 10% GRADE CHANGE & MIN. 45' TURNING RADIUS.

D) STRUCTURES(CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOAD)

E) DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOODPLAIN WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY.

F) STRUCTURE CLEARANCES - MINIMUM 12 FEET.

G) MAINTENANCE - SUFFICIENT TO INSURE ALL WEATHER USE.

29. A USE-IN-COMMON MAINTENANCE AGREEMENT FOR LOTS 6 TO 8 SHALL BE RECORDED SIMULTANEOUSLY WITH THE PLAT FOR THIS SUBDIVISION IN THE LAND RECORDS OF HOWARD COUNTY, MI 30. UNLESS OTHERWISE NOTED AS "PRIVATE", ALL EASEMENTS ARE PUBLIC.

32. STORMWATER MANAGEMENT SHALL BE PROVIDED FOR THIS PROJECT BASED ON GUIDELINES ESTABLISHED BY THE MDE STORMWATER MANAGEMENT ACT OF 2009. SWM FOR THIS PROJECT SHALL BE PROVIDED BY ESD TO THE MEP UTILIZING; (N-1) DISCONNECTION OF ROOFTOP RUN-OFF; (M-5) DRY WELLS; (M-6) MICRO-BIORETENTION; AND (M-8) grass swales, as shown on these approved road construction plans f-13-004

3. THE STORMWATER MANAGEMENT FACILITIES SHALL BE PRIVATELY OWNED AND MAINTAINED; SAVING AND EXCEPTING e grass swales along the roadway which shall be jointly owned and maintained 34. THE TRAFFIC CONTROL DEVICES SHOWN ON THESE PLANS ARE APPROXIMATE AND MUST BE FIELD APPROVED BY HOWARD COUNTY TRAFFIC DIVISION (410-313-5752) PRIOR TO INSTALLATION.

55. ALL TRAFFIC CONTROL DEVICES AND THEIR LOCATIONS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "MARYLAND MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MIMUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.

36. ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED WITHIN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED (QUICK PUNCH), SQUARE TUBE POST (14 GUAGE) INSERTED INTO 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GUAGE) - 3' LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.

37. THE R1-1 STOP SIGN AND THE STREET NAME SIGN (SNS) ASSEMBLY FOR THIS DEVELOPMENT MUST BE INSTALLED BEFORE THE BASE PAVING IS COMPLETED. 38. A PRIVATE RANGE OF ADDRESS SIGN ASSEMBLY SHALL BE FABRICATED AND INSTALLED BY HOWARD COUNTY BUREAU OF HIGHWAYS AT THE DEVELOPER/OWNERS EXPENSE, CONTACT HOWARD COUNTY TRAFFIC DIVISION AT 410-313-5752

39. ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE BUILDERS EXPENSE.

40. ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED. 41. STREET LIGHT PLACEMENT AND TYPE OF FIXTURES AND POLES SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY

DESIGN MANUAL, VOLUME III (2006), SECTION 5.5.A. A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY 42. ALL AREAS OF CONTROLLED FILL TO BE AT 95% COMPACTION PER AASHTO-T180 STANDARDS

AS-BUILT CERTIFICATION

of the State of Maryland.

and belief the facilities shown on this "AS-BUILT"

Plan meet the Approved Plans and Specifications

Professional Certification. I hereby certify that these

documents were prepared or approved by me, and that

I am a duly licensed professional engineer under the laws

License No. 21443 Expiration Dails: 12-21-18

ADDITION TO THE REQUIRED PERIMETER LANDSCAPE TREES.

ACCESS PLACE WITHIN THE METROPOLITAN DISTRICT.

SITE ANALYSIS DATA/TABULATION) GENERAL SITE DATA PRESENT ZONING: R-20

LOCATION: TAX MAP 35 - GRID 2 - PARCELS 8, 9, & 165 APPLICABLE DPZ FILE REFERENCES: (SP-07-012 & S-06-011 VOID); SP-12-002 Mason, P.E.

#34-4735-D; F-08-162; ECP-11-067; WP-12-011; SDP-09-024 VOID(F-08-162); WP-09-080(F-08-162), WP-09-225(F-08-162) WP-12-012(SP-12-002) SEC.16.1205.(a)(7) SPECIMEN TREE REMOVA DEED REFERENCES: P.8-L.9289/F.626, PLAT NOs.20852-20853

P.9-L.8014/F.604, P.135-L.8014/F.594 PROPOSED USE OF SITE: RESIDENTIAL - 14 SFD AND 4 OPEN SPACE LOTS

PROPOSED WATER AND SEWER SYSTEMS: PUBLIC) AREA TABULATION TOTAL AREA OF SITE. 7.66 Ac.± AREA OF 100 YEAR FLOODPLAIN. .0.90 Ac.± AREA OF STEEP SLOPES (25% OR GREATER). .0.25 Ac.± 1) STEEP SLOPES OUTSIDE OF 100YR FLOODPLAIN. 2) STEEP SLOPES INSIDE OF 100YR FLOODPLAIN. .0.00 Ac.± NET AREA OF SITE. .6.51 Ac.± AREA OF THIS PLAN SUBMISSION. 7.66 Ac.± LIMIT OF DISTURBANCE .5.12 Ac.± .3.83 Ac.± AREA OF PROPOSED BUILDABLE LOTS. AREA OF OPEN SPACE LOTS . .3.10 Ac.± .0.69 Ac.± AREA OF PROPOSED PUBLIC ROAD. 0.04 Ac.± AREA OF PROPOSED PUBLIC R/W DEDICATION.) DENSITY TABULATION NET AREA OF SITE. 6.51 Ac.± ALLOWABLE RESIDENTIAL LOT YIELD .

4) UNIT/LOT TABULATION TOTAL NUMBER OF RESIDENTIAL LOTS

PROPOSED ON THIS SUBMISSION 4) OPEN SPACE DATA MINIMUM RESIDENTIAL LOT SIZE SELECTED. 12,000 S.F. OPEN SPACE REQUIRED FOR TOTAL AREA OF SITE (40% OF 7.66 Ac.) .3.06 Ac.± TOTAL AREA OF PROPOSED OPEN SPACE LOTS PROVIDED WITH THIS SUBDIVISION. .3.10 Ac.± 1) OPEN SPACE AREAS LESS THAN 35' IN WIDTH (NON-CREDITED) 2) TOTAL AREA OF OPEN SPACE MEETING MINIMUM OPEN SPACE REQUIREMENTS (CREDITED). .3.10 Ac.±

PROPOSED ON THIS SUBMISSION

TOTAL NUMBER OF OPEN SPACE LOTS

AREA OF RECREATIONAL OPEN SPACE REQUIRED

TOTAL AREA OF RECREATIONAL OPEN SPACE PROVIDED.

 $(200 \text{ SF/UNIT} \times 14 \text{ LOTS} = 2.800 \text{ SF})$

SHEET INDEX

CONSTRUCTION/GRADING PLAN, NOTES AND DETAILS

5 SEDIMENT & EROSION CONTROL PLAN, NOTES AND DETAILS

FINAL FOREST CONSERVATION NOTES, AND TABULATIONS

12,012 SF.

1 TITLE SHEET, NOTES AND DETAILS

2 EXISTING CONDITIONS PLAN AND SOILS MAP

6 ROADWAY PLAN, PROFILES, NOTES, AND DETAILS

PROPOSED SWM-ESD DRANAGE AREA MAP

PROPOSED SITE PLAN, NOTES, AND DETAILS

8 PROPOSED SWM-ESD NOTES AND DETAILS

FINAL FOREST CONSERVATION PLAN

DESCRIPTION

TROTTER POINT

LOTS 1-14 AND OPEN SPACE LOTS 15-18

PARCELS 8, 9, & 165 / ZONE: R-20 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

FINALS/ROAD CONSTRUCTION PLANS F-13-004

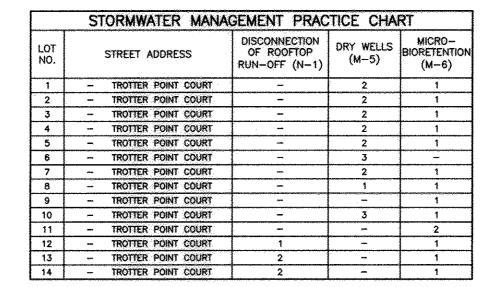
PARCEL

2.51 Ac.

RETUG

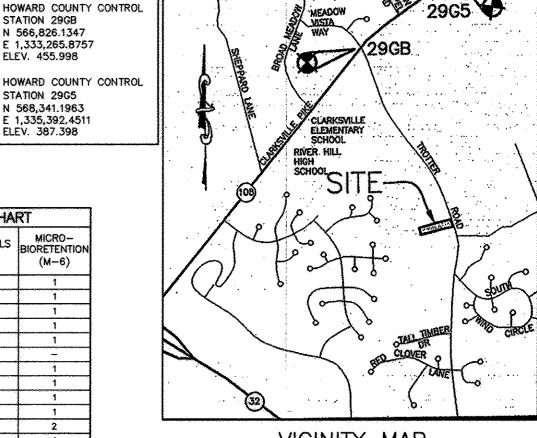
LOT 15

[T]___ZQNE



STATION 29GB N 566,826.1347

E 1,333,265.8757



VICINITY MAP SCALE: 1'=2000' ADC MAP 4934, GRID C-6,7

LEGEND

SOILS CLASSIFICATION

SOILS DELINEATION

AS - BUILT NOTES: 1.) HORZONTAL DATUM FOR THIS AS-BUILT IS BASED ON THE MARYLAND STATE REFERENCE SYSTEM NAD 83/ ADJ 07 AS PROJECTED FROM HO.CO. GEODETIC CONTROL STATIONS 29G8 AND 20G5. VERTICAL DATUM FOR THIS AS-BUILT LOIS 16 à 17 L.4887/F.0021 15 NORTH AMERICAN VERTICAL DATUM T.M. 53 P.7 NAVO 88 AS PROJECTED FROM THE ABOVE MENTIONED HOWARD COUNTY GEODIETIC ZONED: R-20 ROĐERI D SEMON CONTROL STATIONS and we 2.) THE INSTRUMENTS USED IN PERFORMING T.M.35 P.108 THE AS-BUILT WERE A 5"TOOK STATION L.720/F.003 AND FREM AND RIKEPS. 3) THIS AS-BUILT WAS PERFORMED BY 12,000 SF ZONED R-30 12,000 SF 12,006 SF 12,007 SF 12,006 SF

SPACE

1,551

NOTE: CONTRACTORS TO EXERCISE EXTREME CAUTION WHEN WORKING IN AREA OF EXIST. OVERHEAD LINES ALONG TROTTER ROAD

BENCHMARK ENGINEERING , INC.

ROLINDARY COORDINATE

DUC	JINDAKT CO	UTUINATE
	TABLE (NAD) '83)
NO.	NORTHING	EASTING
1	563,305.1125	1,335,244.0733
2	563,140.4522	1,335,301.8202
3	562,975.9671	1,335,359.5056
4	562,804.4115	1,335,391.6121
5,	562,708.3967	1,334,693.5156
6	562,847.7276	1,334,658.6808
7()	562,987.0170	1,334,623.8564
8 ; - <	. 563,126.6392	1,334,588.9487
- \$	- · ·	-
10:	563,186.7952	1,335,285.5676
11	563,160.1026	1,335,271.0076
12	563,087,4760	1,335,015.8653
13	563,075.3527	1,334,966.2808
14	563,050.4716	1,334,851.5796
15	563,063.1761	1,334,848.8237
16	563,054.6964	1,334,809.7328
17	562,980.4238	1,334,825.8441
18	562,988.9035	1,334,864.9350
19	563,001.6080	1,334,862.1791
20	563,026.4892	1,334,976.8803
21	563,039.2341	1,335,029.0076
22	563,109.3299	1,335,286.3094
23	563,092.3098	1,335,318.7039
-	A-1-4-	
24	563,076.4725	1,335,324.2581
25	563,036.8388	1,335,336.2829
26	562,829.8071	1,335,383.3924

562,803.8315

	999
EXISTING CONTOURS	999
PROPOSED CONTOURS	999 999
, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
EXISTING WOODS LINE	AND
PROPOSED WOODS LINE	minn
EXISTING SPECIMEN TREE	9
EXISTING STREAM	
EXISTING STREAM BANK	· — · · ·
EXISTING STREAM BUFFER	
EXISTING 100-YR FLOODPLAIN	
EXISTING STRUCTURE	

PROPOSED STRUCTURE • • • • • • • • LIMIT OF DISTURBANCE STABILIZED CONSTRUCTION ENTRANCE SUPER SILT FENCE FARTH DIKE DRAINAGE AREA DRAINAGE DIVIDE To STUDY PATH PRIVATE DRAINAGE &

UTILITY EASEMENTS PUBLIC DRAINAGE & UTILITY EASEMENTS PUBLIC WATER, SEWER & UTILITY EASEMENTS PRIVATE USE-IN-COMMON ACCESS EASEMENTS RECREATIONAL AREA OPEN SPACE EXISTING STEEP SLOPES 15%-25%

25% - OR GREATER

RETENTION

REFORESTATION

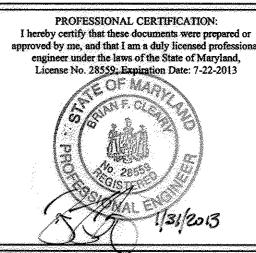
EXISTING STEEP SLOPES FOREST CONSERVATION ESMT. FOREST CONSERVATION ESMT.

NO. DATE REVISION **BENCHMARK** ► ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS

1,335,387.3954

ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE A SUITE 418 A ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644 60 THOMAS JOHNSON DRIVE ▲FREDERICK, MARYLAND 21702 (P) 301-371-3505 (F) 301-371-3506

WWW.8EI-CIVILENGINEERING.COM



DWNER/DEVELOPER TROTTER POINT, L.L.C. 9695 NORFOLK AVENUE LAUREL, MD 20723 PHONE: 410-792-2565

LOTS 1-14 AND OPEN SPACE LOTS 15-18 RESUBDIVISION OF FOREST HILLS, LOTS 13-15; PB.5/PG.4 & A RESUBDIVISION TROTTER POINT O.S. LOT 1 AND LOTS 2-5 PLATS #20852-20853(F-08-162)

TAX MAP 35 - GRID 2 PARCELS 8, 9 & 165 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND FINALS/ROAD CONSTRUCTION PLANS TITLE SHEET NOTES AND DETAILS PROJECT NO. 2283

DRAWING 1 OF 12AS SHOWN AS-BUIL F-13-004

TROTTER POINT 260URT 12,853 SF //SPACE AREA// 3828/S.F. (0.08/AC OPEN SPACE LOT 17 (DEDICATED TO HOA) TROTTER POINT, LLC. - 13370/F. 0119 12,000 SF 1.M. 35 PARCEL 165 12,016 SF 12,006 SF 12,001 SF 12,096 SF OPEN SPACE LOT 18 LAND DEDICATED TO HOWARD COUNTY, MO MAINTAINED BY DEPARTMENT OF RECREATION AND PARKS) I hereby certify, by my seal, that to the best of my knowledge 75,180_SF (1.73AC) TM 35 PARCELY LAND DEDICATED TO HOWARD COUNTY, MD (MAINTAINED BY DEPARTMENT OF RECREATION AND PARKS) 1.07/13 2.60 Ac. ZONED R-20 EASEMENT #A 0.71 AC. NON-GREDIT N 562,7001 LAND DEDICATED TO HOWARD COUNTY, JEAN R. MILLER L0273/F.0275 MD (MAINTAINED BY DEPARTMENT OF RECREATION AND PARKS T.M. 35 P.10 EXISTING BUILDING 107 12 ZONED: R-20 HOWARD COUNTY PUBLIC HORKS GENERAL NOTES (CONTINUED) T.M.35 P.427 FOR RIGHT OF WAY ELEVATION L.6153/F.693 43. THE ARTICLES OF INCORPORATION FOR THE HOMEOWNER'S ASSOCIATION WERE RECORDED ON 8/15/2008 AS CHART AND RECOVERY ACCOUNT No.D12675013 AMONG THE RECORDS OF THE MARYLAND STATE DEPARTMENT OF ASSESSMENTS AND TAXATION. ZONED R-20 44. ALL ASPECTS OF THIS PROJECT ARE IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS SKETCHES SEE SHEET NO. & 45. WAIVER PETITION WP-12-011 WAS APPROVED BY LETTER DATED AUGUST 10, 2011 TO WAIVE SECTION 16.1205(A)(7) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS TO ALLOW FOR THE REMOVAL OF SPECIMEN TREES HAVING A DIAMETER OF 30" OR GREATER, SUBJECT TO THE FOLLOWING CONDITIONS: 1) APPROVAL IS GIVEN FOR REMOVAL OF SEVEN OF SIXTEEN SPECIMEN TREES AS SHOWN ON THE WAIVER PETITION EXHIBIT AND IDENTIFIED AS APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS SPECIMEN TREES NOS. 1 TO 7; 2) TWO LANDSCAPE TREES PER EVERY SPECIMEN TREE REMOVED SHALL BE PROVIDED HAVING A MINIMUM DIAMETER OF 3-1/2" (FOR A TOTAL OF 14 SHADE TREES), THE REPLACEMENT TREES ARE TO BE IN

(IN FEET

1 inch = 50

2-13-13 CHIEF, BUREAU OF HIGHWAYS APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING 2-13-13 CHIEF, DIVISION OF LAND DEVELOPMENT

Sus/ Edush

CHIEF, DEVELOPMENT ENGINEERING DIVISION ALV

Design: MCR | Draft: MCR | Check: BFC | SCALE:

2 15-13

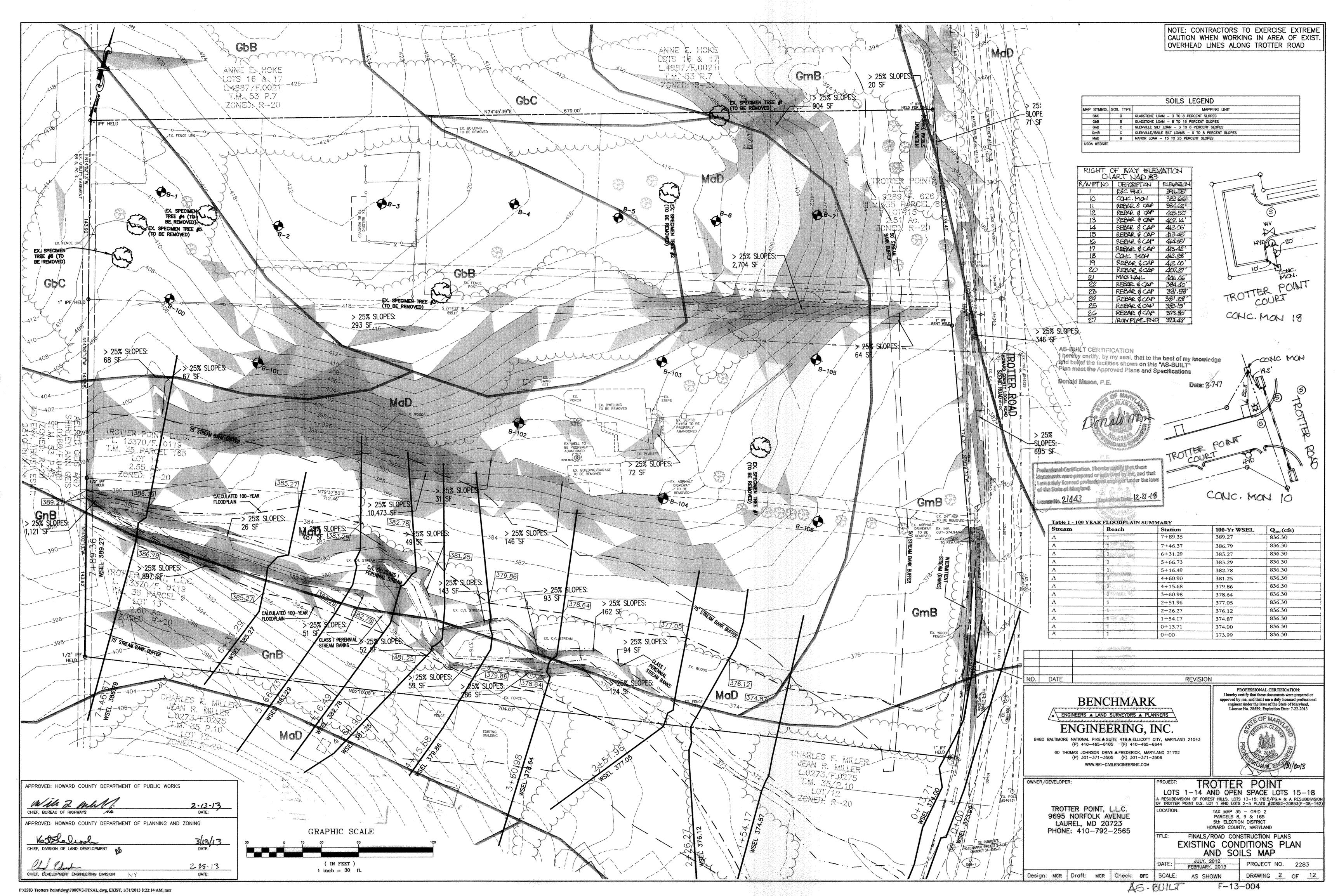
P:\2283 Trotters Point\dwg\7009V3-FINAL.dwg, COVER, 1/31/2013 8:42:20 AM, mcr

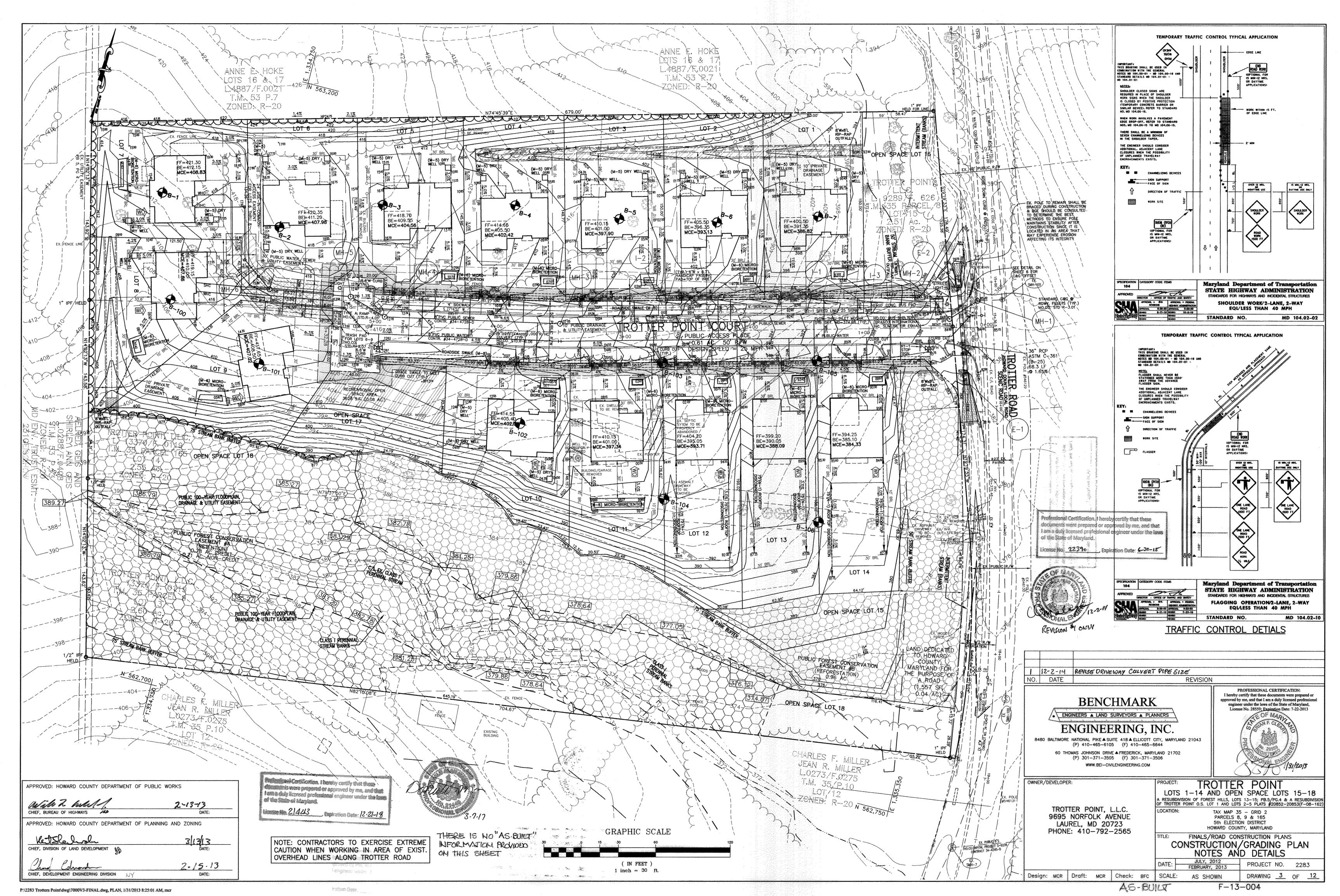
2,800 SF

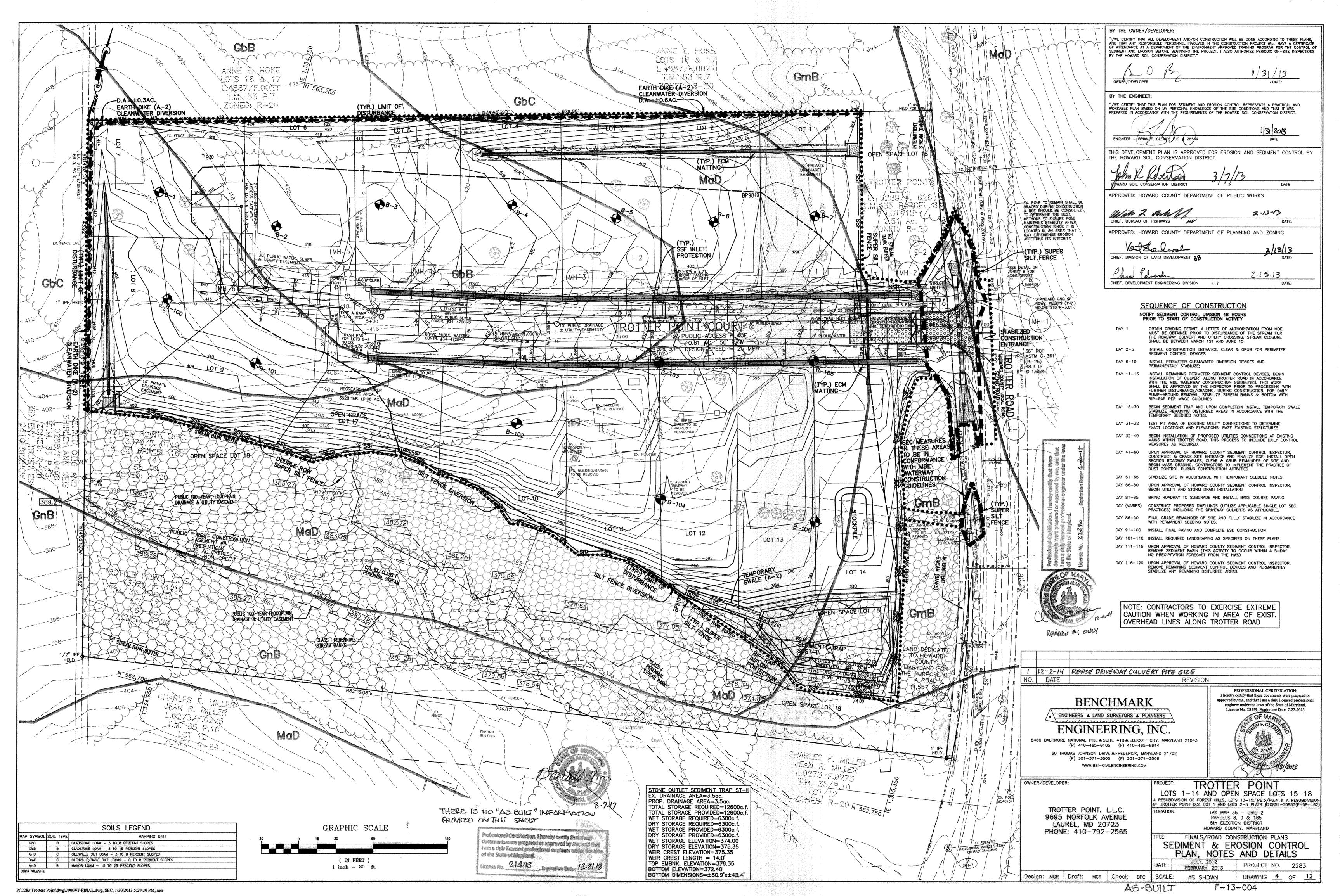
46. A DESIGN MANUAL WAIVER WAS APPROVED PER LETTER DATED DECEMBER 13, 2011, TO WAIVE STD. R.1.01 OF THE

47. THE 10'x10' CONCRETE BUS PAD AND SHELTER WILL BE OWNED AND MAINTAINED BY THE H.O.A.

HOWARD COUNTY DESIGN MANUAL VOL.IV TO ALLOW FOR THE USE OF A MODIFIED OPEN SECTION ROADWAY FOR A PUBLIC







VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT

FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, B) 14 DAYS AS TO ALL OTHER DISTURBED

ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE

L DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATION OIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDINGS (SEC. 51) RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND

ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS

ACRES

TOTAL AREA OF SITE TOTAL AREA DISTURBED AREA TO BE ROOFED OR PAVED AREA TO BE VEGETATIVELY STABILIZED

CONTROL AND REVISIONS THERETO.

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 CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING, OTHER BUILDING OR GRADING INSPECTION PPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE

TRENCHES FOR THE CONSTRUCTION OF UTILITIES ARE LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO IDENTIFY AN OFF-SITE SPOIL AREA WITH AN APPROVED SEDIMENT & EROSION CONTROL PLAN AND PERMIT.

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A

SHORT-TERM VEGETATIVE COVER IS NEEDED

SOIL AMENDMENTS: APPLY 600 LBS PER ACRE 10-10-10 FERTILIZER (14

THROUGH NOVEMBER 15, SEED WITH 2-1/2 BUSHELS PER ACRE OF ANNUAL RYE (3.2 LBS/1000 SQ FT). FOR THE PERIOD MAY 1 THROUGH AUGUST 14, SEED WITH 3 LBS PER ACRE OF WEEPING LOVEGRASS (.07 LBS/1000 SQ FT). FOR THE PERIOD NOVEMBER 16 THROUGH FEBRUARY 28, PROTECT SITE BY

SOON AS POSSIBLE IN THE SPRING, OR USE SOD. MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SO FT) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ FT) OF EMULSIFIED ASPHALT ON

REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

PERMANENT SEEDBED PREPARATION

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY

SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ON OF THE FOLLOWING SCHEDULES: PREFERRED - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (9) LBS/1000 SQ FT) AND 600 LBS PER ACRE 10-10-10 FERTILIZEI (14 LBS/1000 SQ FT) BEFORE SEEDING. HARROW OR DISC INTO

UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS PER ACRE 30-0-0- UREAFORM FERTILIZER (9 LBS/1000 SC ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ FT) AND 1000 LBS PER ACRE 10-10-10 FERTILIZER (23 LBS/1000 SQ FT) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL.

THROUGH OCTOBER 15, SEED WITH 60 LBS PER ACRE (1.4 LBS/1000 SQ FT) OF KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS PER ACRE (.05 LBS/1000 SQ FT) OF WEEPING LOVEGRASS, DURING THE PERIOD OF OCTOBER 16 THROUGH FEBRUARY 28, PROTECT SITE BY: OPTION (1) 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OPTION (2) USE SOD, OPTION (3) SEED WITH 60 LBS PER ACRE OF KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS PER ACRE OF WELL

MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ FT) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ FT) OF EMULSIFIED ASPHALT ON (8 GAL/1000 SQ FT) FOR ANCHORING.

MAINTENANCE: INSPECT ALL SEEDED AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

30.0 DUST CONTROL

ontrolling dust blowing and movement on construction sites and roads

o prevent blowing and movement of dust from exposed soil surfaces, reduce on and Conditions Where Practice Applie

his practice is applicable to areas subject to dust blowing and movement where on and

 Imporary Methods
 Mulches - See standards for vegetative stabilization with mulches only. Mulch should be crimped or tracked to prevent blowing.

Vegetative Cover - See standards for temporary vegetative cover 3. Tillage — To roughen surface and bring clods to the surface. This is an emergency measure which should be used before soil blowing starts. Begin plowing on windward side of site. Chisel-type plows spaced about 12" apart, spring-toothed harrows, as similar plows are examples of equipment which may conduce the desired of similar plows are examples.

may produce the desired effect. Irrigation — This is generally done as an emergency treatment. Site is sprinkled with water until the surface is moist. Repeat as needed. At no time should the site be irrigated to the point that runoff begins to flow.

Barriers — Solid board fences, silt fences, snow fences, burlap fences, straw bales, and similar material can be used to control air currents and soil blowing.

Barriers placed at right angles to prevailing currents at intervals of about 10 times their height are effective in controlling soil blowing. 6. Calcium Chloride - Apply at rates that will keep surface moist. May need

1. Permanent Vegetation - See standards for permanent vegetative cover, and

permanent stabilization with sod. Existing trees or large shrubs may afford valuable protection if left in place. . Topsoiling - Covering with less erosive soil materials. See standards for

3. Stone - Cover surface with crushed stone or coarse gravel.

, Agriculture Handbook 346. Wind Erosion Forces in the United States and Their Use in Predicting Soil Loss. 2. Agriculture Information Bulletin 354. How to Control Wind Erosion, USDA-ARS.

NOTE: ALL SUPER SILT FENCES TO BE CHECKED DAILY TO ENSURE COMPLIANCE AND REPAIRED IMMEDIATELY AS REQUIRED

NOTE: THE AREAS OF ESD IMPLEMENTATION SHALL HAVE LIMITED ACCESS FROM HEAVY CONSTRUCTION EQUIPMENT TO AVOID UNNECESSARY COMPACTION WHEN PRACTICAL

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21.0 STANDARD AND SPECIFICATIONS FOR TOPSOI

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

Conditions Where Practice Applies

This practice is limited to areas having 2:1 or flatter slopes where a. The texture of the exposed subsoll/parent material is not adequate to produce

b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.

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. II. For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.

Construction and Material Specification

Topsoil salvaged from the existing site may be used provided that 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-SCS in cooperation with Maryland Agricultural Experimental Station.

II. Topsoll Specifications — Soil to be used as topsoll must meet the following Topsoil shall be a loam, sandy loam, clay loam, slit loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones,

li. Topsoll must be free of plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nutsedge, poison ivy, thistle, or others as specified.

slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 1/2"

III. Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.

III. For sites having disturbed areas under 5 acres:

i. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative

IV. For sites having disturbed areas over 5 acres: i. On soil meeting topsoil specifications, obtain test results dictating fertilizer and lime

amendments required to bring the soil into compliance with the following: a, pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of

less than 6.0, sufficient time shall be prescribed to raise the pH to 6.5 or higher. b. Organic content of topsoil shall be not less than 1.5 percent by weight.

c. Topsoil having soluble salt content greater than 500 parts per million shall not be used. d. No sod or seed shall 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

Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientisi and approved by the appropriate approval authority, may be used in lieu of natural topsoil. ii. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative

When topsolling, maintain needed erosion and sediment control practices such as diversion Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.

II. Grades on the great to be topsoiled, which have been previously established, shall be maintained, lii.Topsoll shall be uniformly distributed in a 4"-8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional preparation and tillage. Any irregularities in the surface

esulting from topsolling or other operations shall be corrected in order to prevent the formation

ly. Topsoil shall not be placed while 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. G-21-2

VI, Alternative for Permanent Seeding - instead of applying the full amounts of lime and commercial

i. Composted Sludge Material for use as a soll conditioner for sites having disturbed areas over acres shall be tested to prescribed amendments and for sites having disturbed areas under 5

a. Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.

b. Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 the appropriate constituents must be added to meet the requirements prior to use c. Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.

iv. Composted studge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1,000 square feet, and 1/3 the normal lime application rate.

References: Guideline Specifications, Soil Preparation and Sadding. MD-VA, Pub. #1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institutes. Revised 1973.

B-4-4 STANDARDS AND SPECIFICATIONS

TEMPORARY STABLIZATION

To stabilize disturbed soils with vegetation for up to 6 months.

To use fast growing vegetation that provides cover on disturbed soils

PUMP

Conditions Where Practice Applies Exposed soils where around cover is needed for a period of 6 months or less. For longer duration of time,

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

2. For sites having soil tests performed, use and show the recommended rates by the testing agency.

lone as prescribed in Section B-4-3.A.1.b and maintain until the next seeding season

When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch

FILTER BAG

1. Filter Bag shall be constructed of filter fabric with a maximum apparent opening size cooresponding with US Sieve Size 40 (0.425mm). 1. Unfold Filter Bag on a stabilized area over dense vegetation, straw, or gravel (if an increased drainage surface is needed). Insert discharge hose from pump into Filter Bag a minimum of six inches (6") and tightly clamp to prevent water from flowing out of the Replace the unit when 1/2 full of sediment or when sediment has reduced the flow rate of the pump discharge to an impractical rate. Dispose of sediment outside of the stream buffer, in a location approved by the inspector. WATER

HOSE CLAM

FILTER

B-4-5 STANDARDS AND SPECIFICATIONS

FOR PERMANENT STABILIZATION

To stabilize disturbed soils with permanent vegetation

To use long-lived perennial grasses and legumes to establish permanent ground cover on disturbed soils Conditions Where Practice Applie Exposed soils where ground cover is needed for 6 months or more

General Use

Hardiness Zone (from Figure B.3) and based on the site condition or purpose found on Tabl B.2. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seedi b Additional planting specifications for exceptional sites such as shorelines, stream banks, or

dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA NRCS Technical Field Office Guild, Section 342 - Critical Area Planting. c For sites having disturbed areas over 5 acres, use and show the rates recommended by the

d For areas receiving low maintenance, apply urea form fertilizer (46-0-0) at 3 ½ pounds per 1000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary.

a. Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.

purpose. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The summary is to be placed on the plan. Kentucky Bluegrass: Full sun Mixture: For use in areas that receive intensive management. Irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds

per 1000 square feet. Choose a minimum of three Kentucky Bluegrass Cultivars with ear Kentucky Bluegrass/Perennial Rye: Full Sun Mixture: For use in full sun areas where Seeding Rate: 2 pounds mixture per 1000 square feet. Choose a minimum of thre

iii. Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium management in full sun to medium sha Recommended mixture includes; Certified Tall Fescue Cultivars 95 to 100 percei Certified Kentucky Bluegrass Cultivars 0 to 5 percent. Seeding Rate: 5 to 8 pounds pe 1000 square feet. One or more cultivars may be blended

Kentucky Bluegrass Cultivars with each ranging from 10 to 35 percent of the total mixture

. Kentucky Bluegrass/Fine Fescue; Shade Mixture: For use in areas with shade in Bluegrass lawns, For establishment in high quality, intensively managed turf area. Mixture Includes Certified Kentucky Bluegrass Cultivars 30 to 40 percent and Certified Fine Fescue and 60 to 70 percent. Seeding Rate: 1 1/2 to 3 pounds per 1000 square feet

Select turfgrass varieties from those listed in the most current University of Marylan ublication, Agronomy Memo #77, "Turfgrass Cultivar Recommendations for Maryland" Choose certified material. Certified material is the best guarantee of cultivar purity. The certification program of the Maryland Department of Agriculture, Turf and Seed Section, provides a reliable means of consumer protection and assures a pure genetic line.

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

level and rake the areas to prepare a proper seedbed. Remove stones and debris over 1.5 nches in diameter. The resulting seedbed must be in such condition that future moving of

e. If soil moisture is deficient, supply new seedings with adequate water for plant growth (% to 1 inch every 3 to 4 days depending on soil texture) until they are firmly established. This is not especially true when seedings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites.

B. Sod: to provide quick cover on disturbed areas (2:1 grade or flatter)

Class of turfgrass must be Maryland State Certified. Sod labels must be made available to the

b. Sod must be machine cut at a uniform soil thickness of ¼ inch, plus or minus ¼ inch, at the time of cutting. Measurement for thickness must exclude top growth and thatch. Broken pads and tom or uneven ends will not be acceptable. c. Standard size sections of sod must be strong enough to support their own weight and retain their size and shape when suspended vertically with a firm grasp on the upper 10 percent of the party.

d. Sod must not be harvested or transplanted when moisture content (excessively dry or wet) may adversely affect its survival. Sod must be harvested, delivered, and installed within a period of 36 hours. Sod not

transplanted within this period must be approved by an agronomist or soil scientist prior to its 2. Sod Installation

a. During periods of excessively high temperature or in areas having dry subsoil, lightly irrigate

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 or overlapped and that all joints are butted light 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. Ensur

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

a. In the absence of adequate rainfall, water daily during the first week or as often and sufficient

b. After the first week, sod watering is required as necessary to maintain adequate moisture c. Do not mow until the sod is firmly rooted. No more than 1/3 of the grass leaf must be removed

STREAM STABILIZATION RIPRAP MWCG 2.1

1002 ½ in (64 mm) 85-100 1 in (25 mm) 60-100 1/4 in (13 mm)

No. 10

The thickness of the filter should not be less than 6 inches (15 cm). Generally, filters that are one-half the thickness of the riprap layer are satisfactory. Synthetic filter cloth may be used cautiously based on the 1994 MD Standards and Specifications for Soil Erosion and Sediment Control

Stone Gradations for Riprap Stone Classes

Class Size % Total Weight < Given Size 150 lb (70 kg)

700 lb (320 kg) 20 lb (10 kg)

III 2000 lb (910 kg) 40 lb (20 kg) Uniform-grade riprap should incorporate angular rock to promote interlocking

INSTALLATION GUIDELINES

All erosion and sediment control devices, including dewatering basins, should be implemented as the first order of business according to a plan approved by the WMA or local authority. Once a slope stabilization project is initiated, preparation and placement of the riprap should immediately follow the initial isturbance to minimize the chances for further slope degradation. The recommended construction procedure for riprap is as follows beginning with initial slope preparations (refer to Detail 2.1):

1. The contractor should install all sediment and erosion control devices as the first order of business.

3. All fill in the subgrade should be compacted to a density approximating that of the surrounding undisturbed material. 4. Provisions must be made to anchor the ripmp at the stream bed so as to provide protection against undermining. If this cannot be accomplished by creating a toe trench, an alternative method of protection must receive prior written approval from the WMA or local authority.

Excavation should be made in reasonably close conformity with the existing stream slope and bed.

5. The filter layer or blanket should be placed immediately after slope preparation. The stone for granular filters should be spread in a uniform layer to the specified depth. Where more than one layer is employed, they should be spread such that there is minimal mixing. When cloth filters are used, special care should be taken not to damage the fabric during ripmp placement. 6. Riprap placement should begin with the toe. The larger stones, as specified by the design gradation, should be placed in the toe and along the perimeter of the slope and channel protection. The ripmp should be placed with suitable equipment in such a manner as to produce a reasonably graded mass of stones with zero drop height. The placing of stones that cause extensive segregation is not allowed.

Where appropriate, a low flow channel shall be constructed through the riprap. . Any excavation voids existing along the edges of the completed slope and channel protection should be backfilled and compacted. 8. All disturbed areas should be permanently stabilized in accordance with an approved sediment and

B-4-3 STANDARDS AND SPECIFICATIONS

DETAIL 23C - CURB INLET PROTECTION (COG OR COS INLETS)

WIRE MESH

MAX. DRAMAGE AREA . 1/4 ACRE

Construction Specification

1. Attach a continuous piece of wire mesh (30" minimum width by throat length plus

1') to the 2" x 4" weir (measuring throat length plus 2') as shown on the standard

5. Securely notil the 2" X 4" welr to a 9" long vertical epacer to be located between he welr and the talet face (max. 4" apart).

4. Place the assembly against the inlet throat and not (minimum 2' lengths of 2' 4' to the top of the weir of spacer locations). These 2' × 4' another shall extend across the first top and be held in place by sandbags or alternate weight.

The assembly shall be placed so that the end spacers are a minimum 1' beyond

This type of protection must be inspected frequently and the filter cloth and stane replaced when clagged with sediment.

8. Assure that starm flow does not bypass the inlet by installing a temporary

worth or asphalt dike to direct the flow to the inlet.

WOVEN SUT FILM CECTEXTILE-

ROSCION STATE

CONSTRUCTION SPECIFICATIONS

Riprop Layer — a minimum of 19" of MDSHA Class I riprop

stream flow

onto a stable velocity dissipator made of rip rap or sandbags

31 2015

8. Form the -1/2 "x -1/2" wire mesh and the geolextile fabric to the concrete gutter and against the face of the curb on both sides of the late. Place clean -3/4" x 1 1/2" stone over the wire mesh and geolextile in such a manner to prevent water from entering the inlet under or around the geotextile.

U.S. DEPARTMENT DE AGRICULTURE PAGE MARYLAND DEPARTMENT OF ENVIRONM
SDIL CONSERVATION SERVICE E - 16 - 58 VATER MANAGEMENT ADMINISTRATIO
STANDARD SYMBOL

10 FT MAX.

INSTALL 2% INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SH FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART, DRIVE THE POSTS A MINIMUM OF 36 INCHES INCH THE REGISTRY

FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2% BICH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS.

WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDMENT BY PASS.

45 DEGREES TO THE MAIN FENCE AUGMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SLT FENCE.

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

REMOVE ACCUMULATED SECRETATION DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SECRETARY REACHES 25% OF FENCE HEIGHT, REPLACE GEOTEXTILE IF TORN, IF UNDERMINING OCCUPS, REPRETALL CHAIN TERM FENCING AND SECRETARY TORN TO CONTROL MARTHAID STANDARDS AND SECRETARIOS FOR SOIL ENOSION AND SECRETARIOS FOR SOIL ENOSION AND SECRETARIOS AND SECRETARIOS FOR SOIL ENOSION AND SECRETARIOS AND SECRETARIOS FOR SOIL ENOSION AND SECRETARIOS FOR SO

STREAM STABILIZATION RIPRAP

Toe Trench - minimum toe trench

depth below channel invert: 24

PUMP AROUND PRACTICE

MWCG DETAIL 1.2

NOT TO SCALE

discharge hoses

Dewatering pump

clean water dike-

Filter Layer — use a 9" layer of #57 stone. Filter fabric may be used instead of gravel.

MWCG DETAIL 2.1

SUPER SILT FENCE

CALVANIZED CHAIN LINK FENCE WITH WOVEN SLIT FILM GEOTEXTILE

|-----S\$F------|

SEEDING AND MULCHING

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

A. Seeding

a. All seed must meet the requirements of the Maryland State Seed Law, All seed must be within the 6 months immediately preceding the date of sowing such material on any project Refer to table 8.4 regarding the quality of seed. Seed tags must be available upon request to

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, of nitrogen fixing bacteria prepared specifically for the species, inoculants must not be used

later than the date indication on the container. Add fresh inoculants as direct on the packar. Use four times the recommended rate when hydroseeding. Note: it is very important to kee

inoculant as cool as possible until used. Temperatures above 75 to 80 degrees Fahrenheit car

weaken bacteria and make the inoculant less effective. used for weed control until sufficient time has etapsed (14 days min.) to permit dissipation of

 a. Dry Seeding: This includes use of conventional drop or broadcast spreaders. Permanent Seeding Table B.3, or site specific seeding summaries. 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

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

c. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer . 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_2O_5 (phosphorous), 200 pounds per acre; K2O (potassium), 200 pounds per acre,

ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in

 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.

a. Straw consisting of thoroughly threshed wheat, rve, 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 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 woo 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 and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings,

v. WCFM material must not contain elements or compounds at concentration levels that will WCFM must conform to the following physical requirements: fiver 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.

of wood cellulose fiber per 100 gallons of water.

Anchoring

uniform loose depth of 1 to 2 inches. Apply mulch to achieve a uniform distribution and depth so that the soil surface is not exposed. When using a mulch anchoring tool, increase the c. Wood cellulose fiber used as mulch must be applied at a net dry weight of 1500 pounds per

acre. Mix the wood cellulose fiber with water to attain a mixture with a maximum of 50 pounds

or water. This may be done by one of the following methods (Listed by preference), depending upon the size of the area and erosion hazard:

A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch 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, . Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at a net dry weight of 750 pounds per acre. Mix the wood cellulose fiber with water at a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water. iii. Synthetic binders such as Acrylic DLR (Agro-Tack), DCA-70, Petroset, Terra Tax II, Terra

Tack AR or other approved equal may be used. Follow application rates as specified by the manufacturer. Application of liquid binders needs to be heavier at the edges where wind catches mulch, such as in valleys and on crests of banks. Use of asphalt binders is iv. Lightweight plastic netting may be stapled over mulch according to manufacturer recommendations. Netting is usually available in rolls 4 to 15 feet wide and 300 to 3,000

CULVERT EXTENSION SPECIFICATIONS

1. THE CONTRACTOR SHOULD TAKE CARE TO LIMIT INSTREAM WORK TO THAT WHICH CAN BE COMPLETED BEFORE A RAIN EVENT IS ANTICIPATED. WHEN A RAIN EVENT IS EXPECTED. THE WORK AREA MUST BE STABILIZED AND THE PUMP AROUND REMOVED FROM THE CHANNEL. WORK SHOULD NOT BE CONDUCTED IN THE CHANNELS DURING RAIN EVENTS.

2. WHEN PUMP AROUND IS REMOVED, STREAM BANK AND BOTTOM STABILIZATION SHALL CONSIST OF RIPRAP (MWCG 2.1). INSTALL SANDBAG DIKES UPSTREAM AND DOWNSTREAM OF EXISTING CULVERT AND THE PROPOSED CULVERT EXTENSIONS. (UPSTREAM) CLEAN WATER SANDBAG DIKE SHOULD BE A MINIUMUM OF 3' IN HEIGHT. DOWNSTREAM DIKE SHOULD BE 2' IN HEIGHT.

4. STREAM FLOW SHOULD BE PUMPED AROUND THE WORK AREA AS SHOWN IN MGWC DETAIL 1.2., EXCEPT THAT THE CONVEYANCE PIPE SHOULD BE LAID OR HUNG INSIDE THE EXISTING CULVERT, TO ALLOW MAINTENANCE OF TRAFFIC ON THE EXISTING DRIVE. THE PIPE SHOULD BE A MINIMUM OF 12" IN DIAMETER. THE PIPE SHOULD INCLUDE SUFFICIENT JOINTS AND VALVING TO REMOVE SECTIONS IN ORDER TO PLACE CULVERT EXTENSION SECTIONS. THE PUMP SHOULD BE CAPABLE OF CONVEYING 13 CFS (2-YEAR STORM). THE SYSTEM SHOULD DISCHARGE ONTO A STABLE VELOCITY DISSIPATER MADE OF RIPRAP OR SANDBAGS. WATER FROM THE WORK AREA SHOULD BE PUMPED AND

DISCHARGED THROUGH AN APPROVED FILTER BAG OR OTHER

APPROVED DEVICE. THE DEVICE SHOULD BE LOCATED SUCH THAT THE WATER DRAINS BACK INTO THE CHANNEL BELOW THE DOWNSTREAM SANDBAG DIKE.

6. ALL EXCAVATED MATERIAL SHOULD BE DEPOSITED AND STABILIZED IN AN APPROVED AREA OUTSIDE OF THE FLOODPLAIN ON THE PROJECT SITE.

in the state of th

is the stay is a seal professional engineer realizable (see) as

ENGINEER - BRIAN F. CLEARY) P.E. # 28569

BY THE ENGINEER:

BY THE OWNER/DEVELOPER: "I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICAT OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL O SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT. 1/31/13 OWNER/DEVELOPER DATE:

"I/WE CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION 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.

SOIL STABILIZATION MATTING DIVERSION FENCE p---- 0F -------MAXIMUM DRAINAGE AREA + 2 AG 10 FT MAX. ELEVATION EXTEND IMPERMEABLE SHEETING —
OR PROVIDE SOIL STABILIZATION MATTING
4 FT MIN. ALONG FLOW SURFACE

STAPLES SHALL BE PLACED 2' APART WITH 4 ROWS FOR EACH STRIP, 2 OUTER ROWS, AND 2 ALTERNATING ROWS DOWN THE CENTER.

NOTE: IF FLOW WILL ENTER FROM THE EDGE OF THE MATTING THEN THE AREA EFFECTED BY THE FLOW MUST BE KEYED-IN.

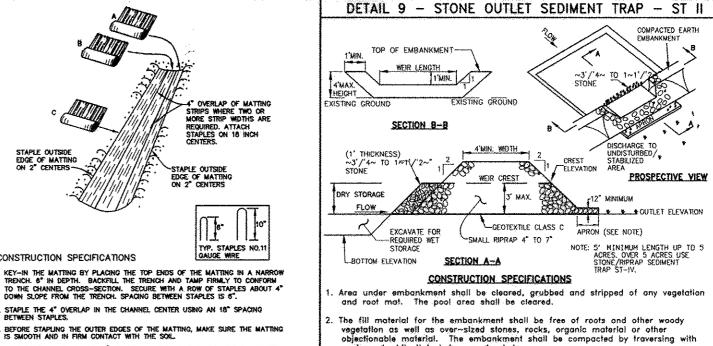
CONSTRUCTION SPECIFICATIONS

SECTION CONSTRUCTION SPECIFICATIONS USE 42 INCH HIGH, 9 GAUGE OR THICKER CHAIN LINK FENCING (2% INCH MAXIMUM OPENING) USE 2% INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FO LENGTH SPACED NO FURTHER THAN 10 FEET APART. THE POSTS DO NOT MEED TO BE SET IN CONCRETE. FASTEN CHAIN LINK FENCE SECURELY TO THE FENCE POSTS WITH WIRE TIES SECURE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING TO CHAIN LINK FENCE WITH THES SPACED EVERY 24 INCHES AT TOP, MID SECTION, AND BELOW GROUND SURFACE.

EXTEND SHEETING A MINIMUM OF 4 FEET ALONG FLOW SURFACE AND EMBED END A MINIMUM O 8 NICHES INTO GROUND, SOIL STABILIZATION MATTING MAY BE USED IN LIEU OF IMPERMEABLE SHEETING ALONG FLOW SURFACE. WHEN TWO SECTIONS OF SHEETING ADJOIN EACH OTHER, OVERLAP BY 6 INCHES AND FOLD WITSEAM FACING DOWNGRADE.

5. Surface Water — all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a Location - A stabilized construction entrance shall be legated at every point where construction traffic enters or leaves a construction sits. Vehicles leaving the sits must travel over the entire length of the stabilized construction entrance. MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDBLENT CONTROL S. DEPARTMENT OF AGRICULTURE PAGE MARYLAND DEPARTMENT OF ENVIRONMEN SOIL CONSERVATION SERVICE F-17-3 WATER MANAGEMENT ADMINISTRATION 2013 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

completed in the following sequence (refer to Detail 1.2, this sheet):



S. WHERE ONE ROLL OF MATTING ENDS AND ANOTHER BEGINS, THE END OF THE TOP STRIP SHALL OVERLAP THE UPPER END OF THE LOWER STRIP BY 4", SHIPLAP FASHIO REINFORCE THE OVERLAP WITH A DOUBLE ROW OF STAPLES SPACED 8" APART IN A STAGGERED PATTERN ON ETHER SIDE. The stone used in the outlet shall be small rip-rap 4" to 7" in size with a 1' thick layer of 3/4" to 11/2" washed aggregate placed on the upstream face of the outlet. Stone facing shall be an necessary to prevent clagging. Geotextile Class C may be substituted for the stone facing by placing if on the inside face of the stone outlet. THE DISCHARGE END OF THE MATTING LINER SHOULD BE SIMILARLY SECURED WITH WITH 2 DOUBLE ROWS OF STAPLES. Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to one half of the wet storage depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that

GEOTEXTILE CLASS C

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE

PROFILE

PLAN VIEW

Geotestile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. **The plan approval authority may not require single family residence to use geotextile.

4. Stone — crushed aggregate (2" to 3") or rectained or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the

ounted berm with 5:1 stopes and a minimum of 5" of atone over the pipe. Pipe has

to be sized according to the drainage. When the SCE is located at a high spot and

according to the amount of runoff to be conveyed. A 5" minimum will be required.

as no drainage to convey a pipe will not be necessary. Pipe should be sized

1. Length - minimum of 50° (*30° for single residence tot).

*50' MINIMUM LENGTH

- EXISTING PAVEMEN

CONSTRUCTION SPECIFICATIONS The structure shall be inspected periodically and after each rain and repairs made

STONE OUTLET SEDIMENT TRAP - ST II

is abated. Once constructed, the top and outside face of the embankment shall be stabilized with seed and mulch. Points of concentration inflow shall be protected in accordance with grade stabilization structure criteria. The remainder of the interior slopes should be stabilized (one time) with seed and mulch upon trap completion and monitored and maintained erosion free during the life of the trap The Structure shall be dewatered by approved methods, removed and the area

stabilized when the drainage area has been properly stabilized. Refer to Section D for specifications concerning trap dewatering . Minimum trap depth shall be measured from the weir elevation

Geotextile Class C shall be placed over the bottom and sides of the outlet channel prior to the placement of stone. Sections of filter cloth must overlap at least 1 with the section nearest the entrance placed on top. The filter cloth shall be embedded at least 6" into existing ground at the entrance of the outlet channel.

in an erosion free manner to an existing stable channel.

The elevation of the top If any dike directing water into the trap must equal or

U.S. DEPARTMENT OF AGRICULTURE PAGE MARYLAND DEPARTMENT OF ENVIRONMENT SOIL CONSERVATION SERVICE C-9-10 WATER MANAGEMENT ADMINISTRATION DETAIL 20A - REMOVABLE PUMPING STATION HOOK AND CHAIN FOR REMOVAL STANDARD SYMBO **⊠**RPS ANTICIPATED WATER SURFACE ELEV. 0.000 (0000 ELEVATION (CUT AWAY) Construction Specifications

> After installing the outer pipe, backfill around outer pipe with 2" aggregate or also grovel. 3. The inside stand pipe (center pipe) should be constructed by perforating a corrugated or PVC pipe between 12" and 35" in diameter. The perforations shall be 1/2" X 5" sits or 1" diameter holes 6" on center. The center pipe shall be wrapped with 1/2" hardware cloth first, then wrapped again with Geotextile Class. The center pipe should extend 12" to 18" above the anticipated water surface elevation or riser creat elevation when dewatering a basin.

PUMP AROUND PRACTICE MWCG 1.2 PLEMENTATION SEQUENCE Sediment control measures, pump-around practices, and associated channel and bank construction should be

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 company's satisfaction. 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 local utilities a minimum of 48 hours before starting construction. 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. Construction should not begin until all sediment and erosion control measures have been installed and approved 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. Upon installation of all sediment control measures and approval by the sediment control inspector and the local environmental protection and resource managemen

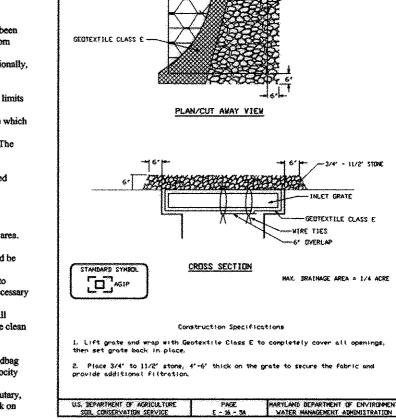
inspection and enforcement division, the contractor should begin work at the upstream section and proceed downstream beginning with the establishment of stabilized construction entrances. In some cases, work may begin downstream if appropriate. The sequence of construction must be followed unless the 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.

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. 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 the channel below the downstream sandbag dike. Traversing 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 Waterway Construction).

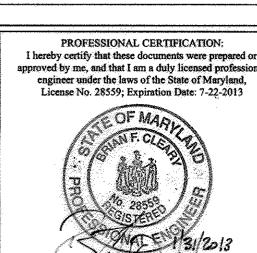
grading must be stabilized at the end of each day with seed and mulch or seed and matting as specified on the plans. 10. After an area is completed and stabilized, the clean water dike should be removed. After the first sediment flush, a new clean water dike should be established upstream from the old sediment dike. Finally, upon establishment of a new sediment dike below the old one, the old sediment dike should be removed. A pump around must be installed on any tributary or storm drain outfall which contributes baseflow to the work area. This should be accomplished by locating a sandbag dike at the downstream end of the tributary or storm drain outfall and pumping the stream flow around the work area. This water should discharge onto the same velocity 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

DATE

NO.



BENCHMARK ► ENGINEERS A LAND SURVEYORS A PLANNERS ENGINEERING, INC.



OWNER/DEVELOPER: TROTTER POINT, L.L.C. 9695 NORFOLK AVENUE

LOTS 1-14 AND OPEN SPACE LOTS 15-18 A RESUBDIVISION OF FOREST HILLS, LOTS 13-15; PB.5/PG.4 & A RESUBDIVISION OF TROTTER POINT O.S. LOT 1 AND LOTS 2-5 PLATS #20852-20853(F-08-162) TAX MAP 35 - GRID 2 PARCELS 8, 9 & 165 5th ELECTION DISTRICT

FINALS/ROAD CONSTRUCTION PLANS SEDIMENT & EROSION CONTROL PLAN, NOTES AND DETAILS PROJECT NO. 2283

AS-BUILT

8480 BALTIMORE NATIONAL PIKE A SUITE 418 A ELLICOTT CITY, MARYLAND 21043

(P) 410-465-6105 (F) 410-465-6644

60 THOMAS JOHNSON DRIVE ▲ FREDERICK, MARYLAND 21702

(P) 301-371-3505 (F) 301-371-3506

WWW.BEI-CIVILENGINEERING.COM

approved by me, and that I am a duly licensed professiona

F-13-004

HOWARD COUNTY, MARYLAND

AS SHOWN

dissipater used for the main stem pump around. 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 remova 14. After construction, all disturbed areas should be regraded and revegetated as per the planting plan.

THE CONTRACTOR SHOULD ONLY BEGIN WORK IN AN AREA

UTILITY INSTALLATION SPECIFICATIONS

WHICH CAN BE COMPLETED BY THE END OF THE DAY.
AT THE END OF EACH WORK DAY, THE WORK AREA MUST
BE STABILIZED AND THE PUMP AROUND REMOVED FROM ---- work area-HE CHANNEL. WORK SHOULD NOT BE CONDUCTED IN HE CHANNELS DURING RAIN EVENTS. length not to exceed that which can be INSTALL SANDBAG DIKES UPSTREAM AND DOWNSTREAM OF completed in one day PROPOSED UTILITY CUT. SANDBAG DIKE SHOULD BE A MINIUMUM OF 2' IN HEIGHT. STREAM FLOW SHOULD BE PUMPED AROUND THE WORK SECTION A-A impervious sheeting REA AS SHOWN IN MGWC DETAIL 1.2. THE PUMP SHOULD DISCHARGE ONTO A STABLE VELOCITY DISSIPATER

base flow + 1' 2' minimum WATER FROM THE WORK AREA SHOULD BE PUMPED AND DISCHARGED THROUGH AN APPROVED FILTER BAG OR OTHER APPROVED DEVICE. THE DEVICE SHOULD BE LOCATED SUCH THAT THE WATER DRAINS BACK INTO THE CHANNEL BELOW THE DOWNSTREAM SANDBAG DIKE. UTILITIES SHOULD BE INSTALLED AT A MINIMUM OF 3' THERE ISNO'AS-BUILT" BELOW THE STREAM BED.
THE DISTURBED STREAM BANK SHALL BE PERMANENTLY INFORMATION PROVIDED STABILIZED AS SHOWN IN MGWC DETAIL 2.1, USING A 46' LAYER OF CLASS III RIPRAP AT CROSSING 1, AND A 19" LAYER OF CLASS I RIPRAP AT CROSSING 2. ON THIS SHEET

> THIS DEVELOPMENT PLAN IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS 2-13-13 CHIEF, BUREAU OF HIGHWAYS APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION

LAUREL, MD 20723 PHONE: 410-792-2565 3/13/13 CHIEF, DIVISION OF LAND DEVELOPMENT A DATE:

2.15.13 Design: MCR | Draft: MCR | Check: BFC

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

DETAIL 23B - AT GRADE INLET PROTECTION

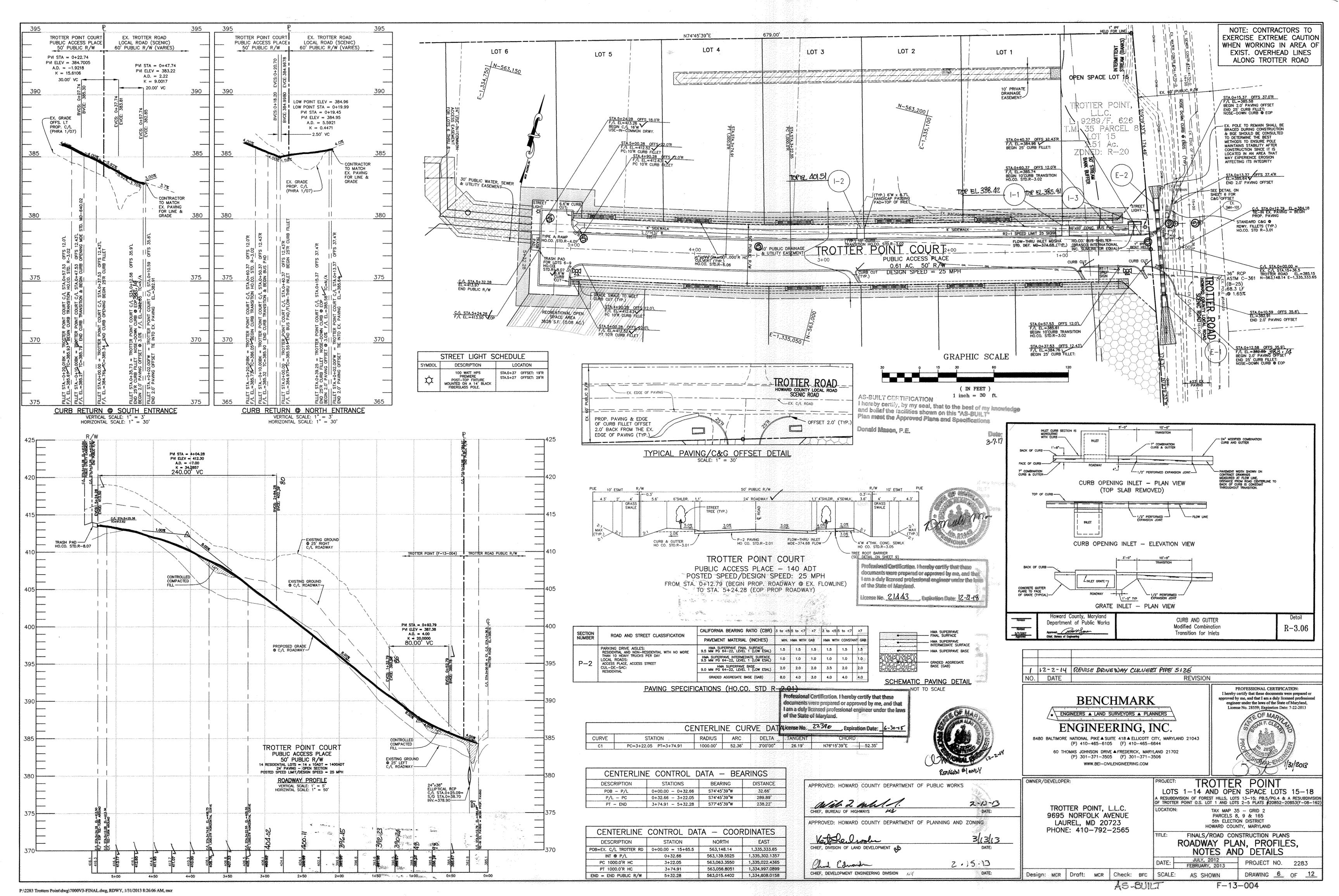
The outer pipe should be 48" dia, or shall, in any case, be at least 4" greater in diameter than the center pipe. The outer pipe shall be wrapped with 1/2" hardwar cloth to prevent backfill motorfold from entering the perforations.

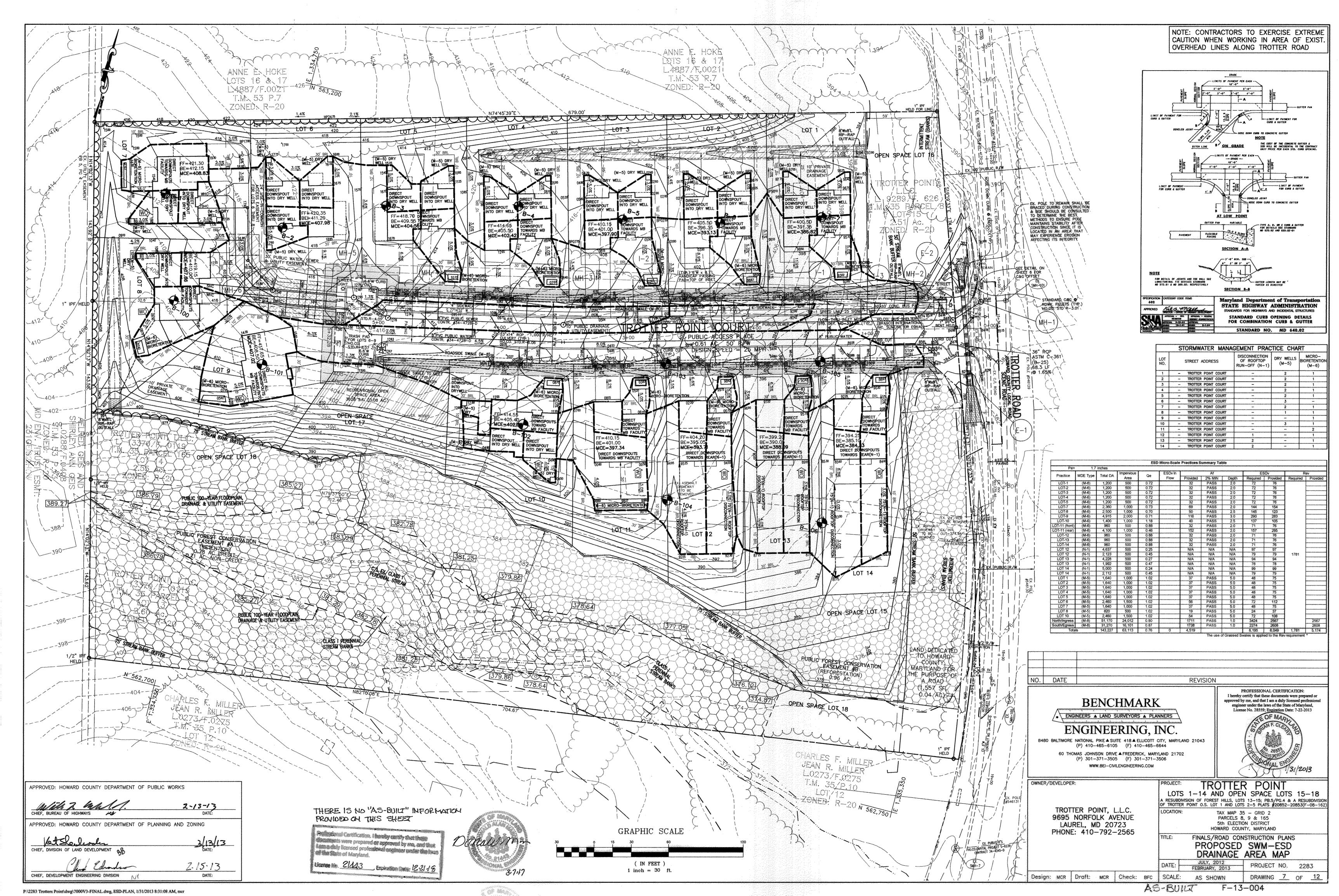
S. DEPARTMENT OF AGRICULTURE PAGE MARYLAND DEPARTMENT OF ENVIRONME SOIL CONSERVATION SERVICE D - 12 - 5 WATER MANAGEMENT ADMINISTRATION

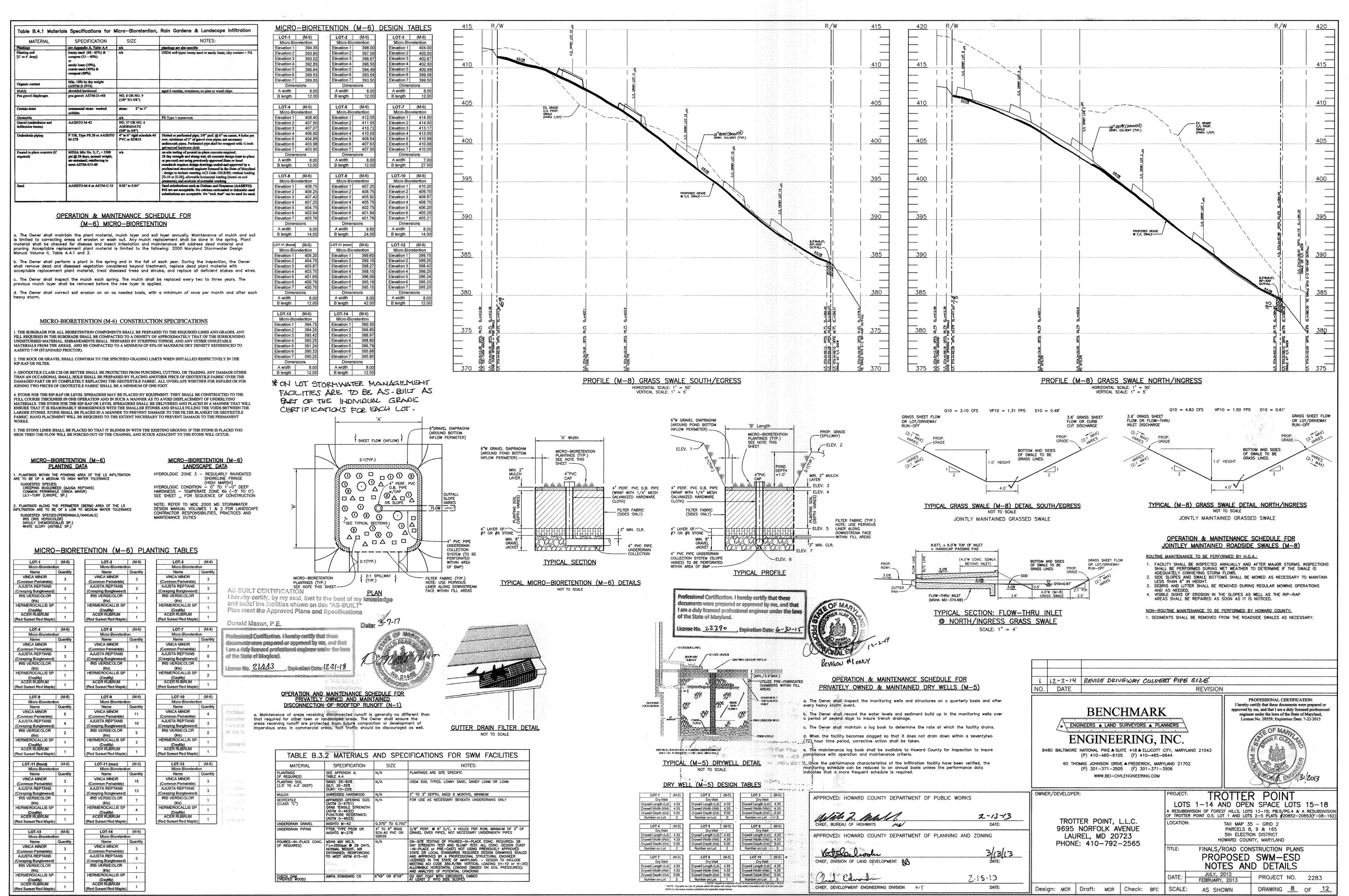
DRAWING 5 OF 12 SCALE:

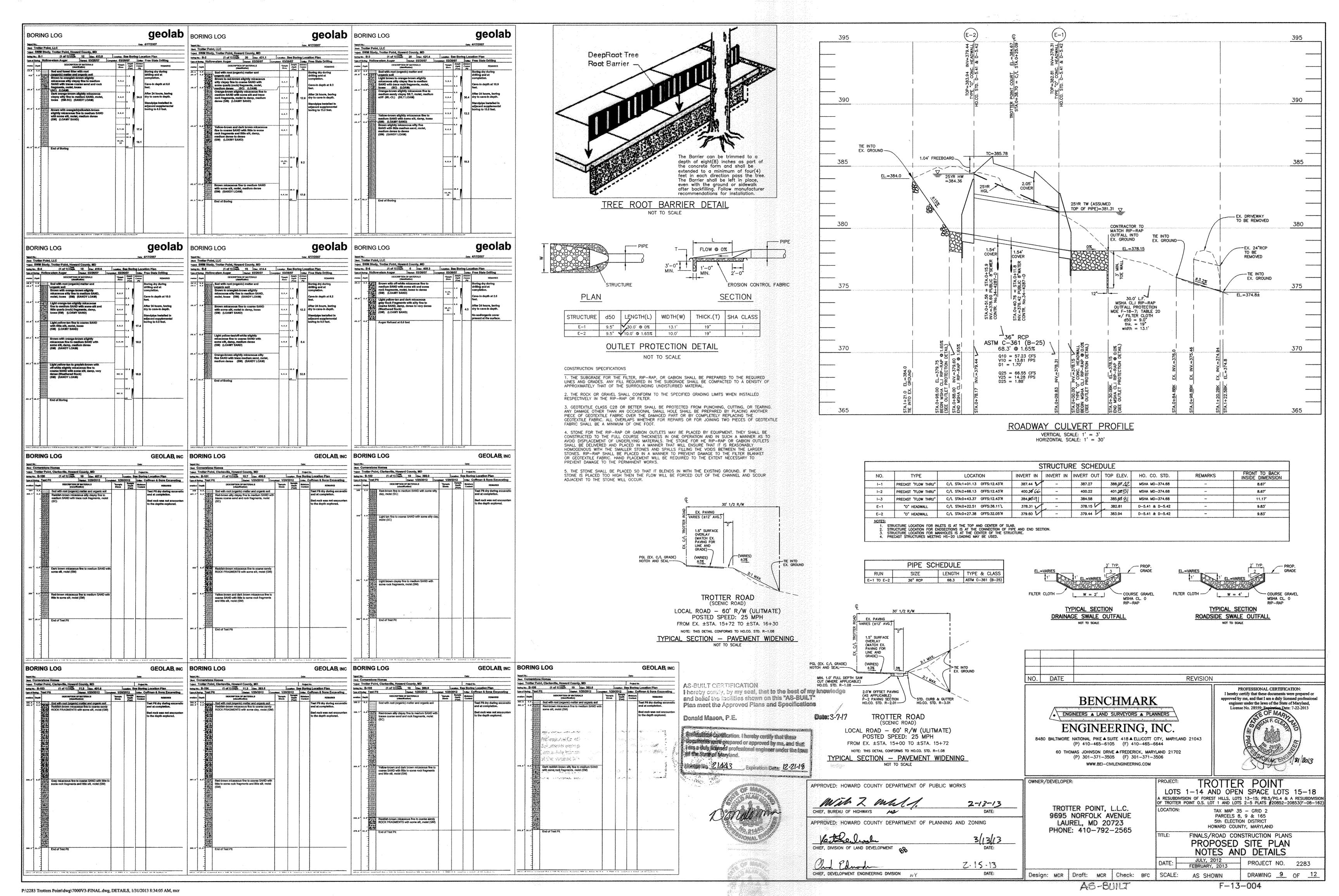
U.S. DEPARTMENT OF AGRICULTURE PAGE MARYLAND DEPARTMENT OF ENVIRONME SOIL CONSERVATION SERVICE C - 9 - 10A WATER MANAGEMENT ADMINISTRATION

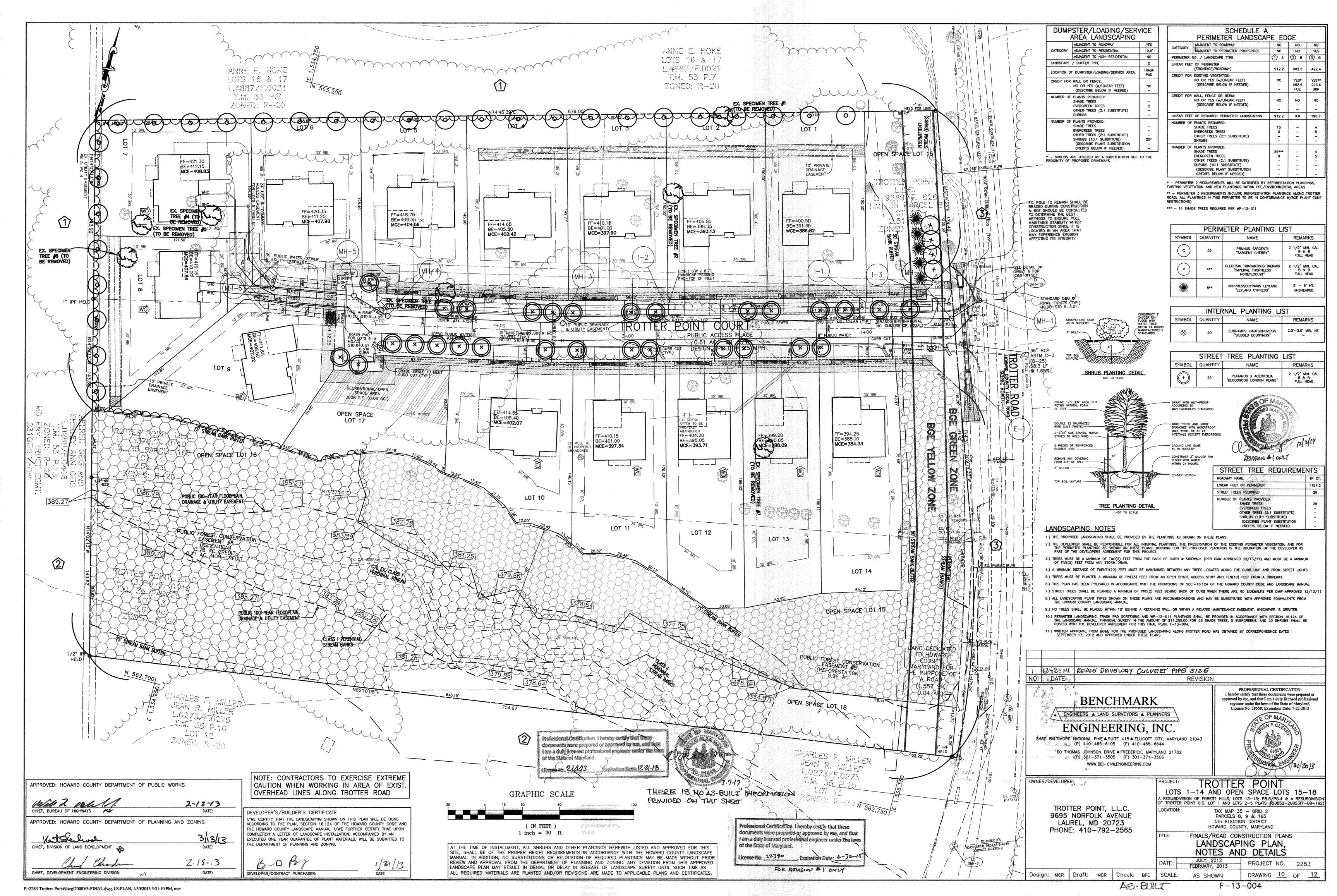
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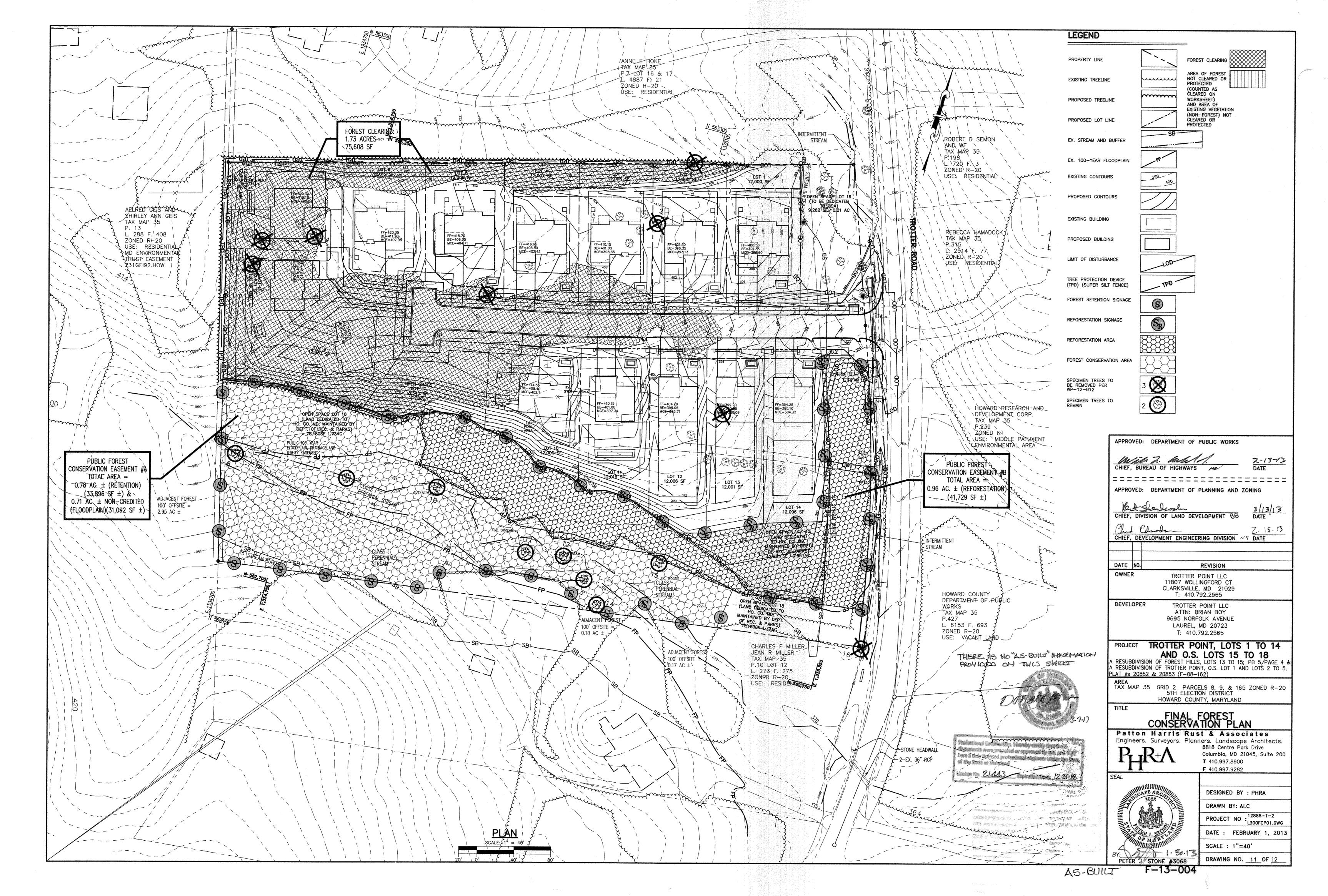












GENERAL NOTES:

- 1. THE SITE IS LOCATED AT ALONG TROTTER ROAD IN CLARKSVILLE, MD 21029 (TAX MAP 47, PARCELS 8, 9, & 165). THE SITE CONSISTS THREE (3) PARCELS THAT TOTAL 7.65
- 2. TOPOGRAPHIC AND BOUNDARY INFORMATION IS FROM A FIELD SURVEY PREPARED BY PATTON HARRIS RUST & ASSOCIATES DATED JANUARY 2007.
- 3. THE SITE IS ZONED R-20 (RESIDENTIAL). CURRENTLY, THE SITE CONTAINS ONE RESIDENCE ON PARCELS 9 & 165. PARCEL 8 CONTAINS THE REMAINS OF A DEMOLISHED HOUSE AND TWO REMAINING SHEDS.
- 4. NO RARE, THREATENED, OR ENDANGERED PLANTS OR ANIMALS OR CRITICAL HABITATS WERE OBSERVED IN THE FIELD.
- 5. NO TREES, SHRUBS, OR PLANTS IDENTIFIED AS RARE, THREATENED OR ENDANGERED SPECIES WERE OBSERVED.
- 6. THERE ARE NO KNOWN CEMETERIES OR BURIAL PLOTS LOCATED ON THE SITE, ACCORDING TO THE HOWARD COUNTY CEMETERIES INVENTORY.
- 7. THERE ARE EXISTING BUILDINGS ON THE SITE AS SHOWN. ALL EXISTING BUILDINGS ARE TO BE REMOVED. STRUCTURES ARE PROPOSED AS SHOWN.
- 8. THIS SITE IS LOCATED IN THE MIDDLE PATUXENT RIVER WATERSHED (#2131106).
- 9. THERE ARE STREAMS AND FLOODPLAINS LOCATED ON THIS SITE. NO WETLANDS EXIST ON THIS PROPERTY.
- 10. THIS SITE CONTAINS ONE HYDRIC SOIL, GLENVILLE-BAILE SILT LOAM (GnB). THE SOILS ON SITE ARE GLADSTONE LOAM (3-8% SLOPES)-GBB, GLADSTONE LOAM (8-15% SLOPES)-GbC, GLENVILLE SILT LOAM (3-8% SLOPES)-GmB, GLENVILLE-BAILE SILT LOAM (0-8% SLOPES)-GnB, AND MANOR LOAM (15-25% SLOPES)-Mad ACCORDING TO THE USDA NATURAL RESOURCES CONSERVATION SERVICE WEB SOIL SURVEY.
- II. THE FSD, DATED JUNE 29, 2011, HAS BEEN PREPARED BY PATTON HARRIS RUST & ASSOCIATES IN CONJUNCTION WITH THESE PLANS. FIELD WORK FOR THIS INVENTORY WAS CONDUCTED ON JULY 20, 2006, FEBRUARY 23, 2007 & JUNE 29, 2011 BY JONATHAN NORMAN, PLANNER OF PATTON HARRIS RUST AND ASSOCIATES UNDER THE SUPERVISION OF PETER J. STONE, RLA OF PATTON HARRIS RUST AND ASSOCIATES.
- 12. THERE ARE TWO EXISTING FOREST STANDS LOCATED ON SITE, AS SHOWN ON THE PLAN. FOREST STAND 1 IS A MEDIUM PRIORITY FOREST STAND DUE TO MINIMAL PROTECTED ENVIRONMENTAL SYSTEMS AND FOREST STAND 2 IS A HIGH PRIORITY FOREST STAND DUE TO THE PRESENCE OF PROTECTED ENVIRONMENTAL SYSTEMS, SUCH AS STREAMS AND FLOODPLAIN.
- 13. THERE ARE 16 SPECIMEN TREES LOCATED ON SITE, AS SHOWN ON THE PLAN.
- 14. THE HOWARD COUNTY FOREST CONSERVATION MANUAL SUPERCEDES ANY DISCREPANCIES BETWEEN THE MANUAL AND THESE PLANS.
- 15. THIS PROJECT COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION.
- 16. FOREST CONSERVATION OBLIGATIONS IN ACCORDANCE WITH THE FOREST CONSERVATION MANUAL SHALL BE FULFILLED BY ON-SITE REFORESTATION OF 0.96 ACRES, ON-SITE RETENTION OF 0.78 ACRES (DOES NOT INCLUDE FLOODPLAIN) AND OFF-SITE REFORESTATION OF 0.47 ACRES ON THE TALLEY PROPERTY, TAX MAP 8, PARCEL 2 (F-07-003FC1/KINDLER OVERLOOK, PLAT #20094). RED-LINE REVISIONS TO THE ROAD CONSTRUCTION DRAWINGS FOR F-07-003/KINDLER OVERLOOK HAVE BEEN PROCESSED TO SHOW THE 0.47 ACRES OF OFF-SITE EASEMENT. SURETY FOR \$46 ACRES OF REFORESTATION IN THE AMOUNT OF \$20,900, SHALL BE POSTED WITH THE DEVELOPER'S AGREEMENT FOR THIS SUBDIVISION, F-13-004.

Howard County Forest Conservation Worksheet

Project Nan	ne TROTTER POINT		
County File	# F-		
Da	te: July 11, 2012		
740 140			
Net Tract		A =[Acres 7.66
Α.	Total Tract Area	B =	0.90
В.	Other Deductions: 100 year floodplain	c = -	6.76
C.	Net Tract Area Net Tract Area = (A-B-C) RESIDENTIAL SUBURBAN		
Land Use	Gateyory.	D =	1.01
D.	Afforestation Threshold (Net Tract Area X _ 15%	E =	1.35
E.	Conservation Threshold (Net Tract Area X20%		
	Forest Cover	F =[2.51
F.	Existing Forest Cover within the Net Tract Area	Ġ =	1.16
G . []:	Area of Forest Above Conservation Threshold		
• .	If the Existing Forest Cover (F) is greater than Conservation Threshold (G), then $G = \frac{1}{2} \left(\frac{1}{2} + \frac{1}{2} \right) = \frac{1}{2} \left(\frac{1}{2} + \frac{1}{2} + \frac{1}{2} \right) = \frac{1}{2} \left(\frac{1}{2} + \frac{1}{2} +$		
	G = Existing Forest Cover (F) - Conservation Threshold (E); Otherwise G = 0		
Break Ev	en Point	н =	1.58
H.	Break Even (Amount of forest that must be retained so that no mitigation is required)		1.00
	(1) If the area of forest above the Conservation Threshold (G) is greater than zero, then		
	H = (0.2 X the area of forest above Conservation Threshold (G)) + the Conservation		
	Threshold (E)		
	(2) If the area of forest above the Conservation Threshold (G) is equal to zero, then		
	H = Existing Forest Cover (F)		0.93
I,	Forest Clearing Permitted Without Mitigation		0.00
	I = Existing Forest Cover (F) - Break Even Point (H)		
Propose	d Forest Clearing	J =[1.73
J.	Total Area of Forest to be Cleared	K =	0.78
Κ.	Total Area of Forest to be Retained		0.10
	K = Existing Forest Cover (F) - forest to be cleared (J)		
Planting	Requirements	I no	
If the Total	al Area of Forest to be Cleared (K) is at or above the Breakeven Point (H), no planting is required and	<i>i</i> (10	
further ca	alculations are necessary (L=0, M=0, N=0, P=0);		
If not, ca	culate the planting requirement below:		0.29
L.	Reforestation for Clearing Above the Conservation Threshold		0.40
i.	(1) If the total area of forest to be retained (K) is greater than the		
entino. E	Conservation Threshold (E), then		
. * . *	L = the area of forest to be cleared (J) X 0.25: or		
	(2) If the forest to be retained (K) is less than or equal to the Conservation Threshold (E), then		
	L = area of forest above Conservation Threshold (G) XU.25	M =	1.14
M.	Referentation for Cleaning Relow the Conservation Threshold	W -	
	(4) # Eviating Forget Cover (F) is greater than Conservation Threshold (E) and the		
	forest to be retained (K) is less than or equal to the conservation (incomore), then		
	M = 2 0 V (the Conseniation Threshold (E) - the totest to be retained (11)		
	(2) If Existing Forest (F) is less than or equal to the Conservation Threshold (E), then		
	M = 2.0 X Forest to be cleared (J).	k i _	A A
N.	Condition Potentian Above the Conservation Threshold	N =	0.0
	If the area of forest to be retained (K) is greater than the Conservation Threshold (E),		
	then N = K - E		
D	Total Reforestation Required P = L + M - N	P = _	1,4
P.	Table & Reconstition Degrating	Q = _	0.0
Q.	(1) If Existing Forest Cover (F) is less than the Afforestation Threshold (D) then		
	2 = the Afforestation Threshold (D) - the Existing Forest Cover (F)		

Q = the Afforestation Threshold (D) - the Existing Forest Cover (F)

Total Planting Requirement R = P + Q

R = 1.43

PUBLIC FOREST CONSERVATION EASEMENT #	AREA RETENTION (IN ACRES)	AREA REFORESTATION (IN ACRES)	AREA OFF-SITE REFORESTATION (IN ACRES)
A	0.78 AC ±	0	
В	0	0.96 AC ±	
			0.47 AC ±
TOTAL	0.78 AC ±	0.96 AC ±	0.47 AC ±

STREAM BUI		
CONSERVATION	CHART	
ACREAGE OF STREAM BUFFER CONSERVED	2.46 AC ±	
WIDTH OF STREAM BUFFER CONSERVED	50'-150'	
LENGTH OF STREAM BUFFER CONSERVED	1,188'±	

PLANT	COMMUNITY	SUMMA	ARY	et al triangle (i set mineral minerio) i se i periodo a se escentrar com escentral fili fili
SYMBOL	COMMUNI	ľ	AREA	PRIORITY RETENTION
F)	FOREST		1,99 Ac.±	MEDIUM
F2	FOREST		1.30 Ac.±	HIGH

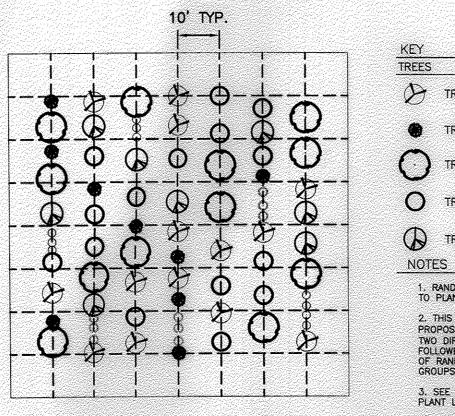
FOREST CLEARING JUSTIFICATION:

IN ORDER TO DEVELOP THE SITE AS SHOWN WITH REQUIRED DRIVEWAYS, AND HOUSES, 1,73 ACRES OF FOREST MUST BE CLEARED.

	SPECIMEN TREE CHART			
KEY	SPECIES	SIZE	CONDITION	REMAIN/REMOVE
1	BLACK LOCUST (Robinia pseudoacacia)	48"	FAIR	REMOVE
2	SILVER MAPLE (Acer saccharinum)	32"	GOOD	REMOVE
3	TULIP POPLAR (Liriodendron tulipifera)	30"	GOOD	REMOVE
4	TULIP POPLAR (Liriodendron tulipifera)	44"	GOOD	REMOVE
5	SLIPPERY ELM (Ulmus rubra)	40"	GOOD	REMOVE
6	SILVER MAPLE (Acer saccharinum) (MULTI-STEM)	51"	GOOD	REMOVE
7	WEEPING WILLOW (Salix babylonica)	49"	POOR	REMOVE
8	BLACK WALNUT (Juglans nigra)	33"	GOOD	REMAIN
9	TULIP POPLAR (Liriodendron tulipifera)	65"	GOOD	REMAIN
10	TULIP POPLAR (Liriodendron tulipifera)	33"	GOOD	REMAIN
11	RED MAPLE (Acer rubrum)	36"	GOOD	REMAIN
12	SHAGBARK HICKORY (Carya ovata)	34"	GOOD	REMAIN
13	SILVER MAPLE (Acer saccharinum)	35"	GOOD	REMAIN
14	TULIP POPLAR (Liriodendron tulipifera)	36"	GOOD	REMAIN
15	TULIP POPLAR (Liriodendron tulipifera)	62"	GOOD	REMAIN
16	WHITE OAK (Quercus alba)	45"	FAIR	REMOVE

SOIL	S CHART					
MAP SYMBOL	NAME	STRUCTURAL LIMITATIONS Dwellings w/ Basements	EROSION HAZARD	HYDRIC (Yes/No)	SLOPE (%)	k FACTOR
GbB	Gladstone loam	Not limited	-	No	3-8	-
GbC	Gladstone loam	Somewhat limited: slope	Moderate	No	8-15	-
GmB	Glenville silt loam	Very limited: Depth to saturated zone	Moderate	No	3-8	0.22
GnB	Glenville-Baile silt loam	Very limited: Depth to saturated zone	Moderate	Yes	0-8	0.22
MaD	Maner loam	Very limited: flooding, Depth to saturated zone	Moderate	No	15-25	0.43

SOURCE: USDA NATURAL RESOURCES CONSERVATION SERVICE WEB SOIL SURVEY



TREE SPECIES 'A' O SHRUB SPECIES 'A' O SHRUB SPECIES 'B' TREE SPECIES 'B'

TREE SPECIES 'C' TREE SPECIES 'D'

TREE SPECIES 'E'

1. RANDOMLY LOCATE GROUPS OF PLANT SPECIES, TAKING CARE NOT TO PLANT IN SUCCESSION MORE THAN 4 OF THE SAME SPECIES. 2. THIS DETAIL PROVIDES A HYPOTHETICAL, GRAPHIC DEPICTION OF A PROPOSED LAYOUT FOR FIVE DIFFERENT TREE SPECIES (A-E) AND TWO DIFFERENT SHRUB SPECIES (A-B). IT IS NOT MEANT TO BE FOLLOWED EXACTLY. THE PURPOSE IS TO ACHIEVE THE APPEARANC OF RANDOM SPACING. SHRUB PLANTINGS SHOULD BE GROUPED IN

3. SEE PLANT LIST FOR ACTUAL NUMBER OF PLANT SPECIES. SEE PLANT LIST FOR ON-CENTER SPACING REQUIREMENTS. 4. PLANTS SHALL NOT BE PLANTED IN A GRID PATTERN IN BOTH DIRECTIONS. IN ONE DIRECTION, 10' ROWS SHALL BE LAID OUT CONTRACTOR TO PROVIDE A LAYOUT PLAN PRIOR TO PLANTING.

5. CONTRACTOR SHALL LEAVE 12' AT THE EDGE OF EACH PLANTING AREA FOR MAINTENANCE AND CIRCULATION. . CONTRACTOR SHALL ADJUST SPECIES IN FIELD BASED ON

SEMI RANDOM PLANTING LAYOUT DETAIL NOT TO SCALE

SEQUENCE OF OPERATIONS PRE-CONSTRUCTION SITE PREPARATION

- 1. FIELD STAKE LIMITS OF DISTURBANCE (L.O.D.) AT 25' INTERVALS.
- 2. REVIEW L.O.D. IN FIELD AND ADJUST IF PRACTICAL.
- 3. INSTALL TREE PROTECTION FENCE AT THE L.O.D. AND IMPLEMENT TREE PROTECTION METHODS AS
- 4. Clear and grub as necessary to facilitate root pruning to a depth of 2–3 feet within THE LIMITS OF THE PROPOSED FOREST RETENTION AREA AND AROUND SPECIMEN TREES TO BE SAVED. CLEAR REMAINING TREES IN A WAY THAT "SAVE TREES" ARE NOT DISTURBED. GRIND STUMPS 12" IN DIAMETER AND LARGER THAT ARE WITHIN 25' OF THE L.O.D.
- 5. PRUNE AND FERTILIZE DESIRABLE 'EDGE TREES' AS PER CONSULTING ARBORIST'S RECOMMENDATIONS AND DETAILS PROVIDED ON THIS SHEET.
- 6. THERE SHALL BE NO STAGING, STORAGE, OR STOCKPILING OF MATERIALS OUTSIDE OF THE L.O.D.
- 7. REMOVE OR TREAT WITH AN ACCEPTABLE METHOD, NOXIOUS PLANT MATERIAL SUCH AS MULTIFLORA ROSE, TEARTHUMB, AND JOHNSON GRASS BEFORE INSTALLING REFORESTATION PLANTS.
- 8. INSTALL TREE PROTECTION SIGNAGE.
- 9. STABILIZE ANY DISTURBED AREAS USING THE SPECIFIED STABILIZATION MIXTURE WHICH ALLOWS FOR NATURAL REVEGETATION OF FOREST COMMUNITIES.

FOREST CONSERVATION SEQUENCE OF OPERATIONS

1. PRIOR TO BEGINNING ANY GRADING OPERATIONS ON THIS SITE OR ON A RESPECTIVE LOT, THERE MAY BE A PRECONSTRUCTION MEETING HELD AT THE SITE WHICH IS TO INCLUDE THE CONTRACTOR AND REPRESENTATIVES FROM PATTON HARRIS RUST & ASSOCIATES, INC. (PHR+A). THE HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING (DPZ) AND THE OWNER WILL BE NOTIFIED BY THE CONTRACTOR AS TO THE TIME AND PLACE OF THE FIELD MEETING, SHOULD THEY WISH TO SEND A REPRESENTATIVE. THE PURPOSE OF THIS MEETING WILL BE TO REVIEW THE APPROVED FCP AND TO FIELD VERIFY THE CORRECT LIMITS OF DISTURBANCE (LOD).

- 2. THE LIMITS OF DISTURBANCE (LOD) PERTINENT TO THE PRESERVATION OF WOODED AREAS SHALL BE STAKED IN THE FIELD WITH FINAL ADJUSTMENTS BEING MADE AS NECESSARY TO INSURE ADEQUATE PROTECTION OF THE CRITICAL ROOT ZONE OF TREES DESIGNATED FOR RETENTION. STAKES TO BE USED SHALL BE THOSE SPECIFIED FOR THE "TREE PROTECTION DEVICE" TO WHICH APPROVED PROTECTIVE MATERIAL WILL BE ATTACHED. ALTERNATE MEANS OF DEFINING THE LOD MAY BE USED IF APPROVED BY THE DPZ.
- 3. ALL FOREST RETENTION AREAS SHALL BE PROTECTED BY HIGHLY VISIBLE, WELL ANCHORED TEMPORARY PROTECTION DEVICES (SEE DETAIL), WHICH SHALL BE SECURELY IN PLACE PRIOR TO ANY CLEARING OR GRADING OPERATIONS.
- 4. THE AREA BELOW THE DRIPLINE OF EXISTING TREES TO REMAIN/BE SAVED SHOULD REMAIN UNDISTURBED FROM CUTTING AND FILLING DURING THE DEVELOPMENT PROCESS. NO IMPERVIOUS MATERIAL SHOULD BE PLACED UNDER THE DRIPLINE OF TREES TO REMAIN. TREE PROTECTION FENCE IS REQUIRED TO BE INSTALLED AROUND THE TREES AT THE LIMIT OF DISTURBANCE. TREE PROTECTION FENCE IS ALSO REQUIRED AROUND EACH SPECIMEN TREE TO REMAIN. SEE PLAN FOR TREE PROTECTION FENCE LOCATIONS.
- 5. GRADING OPERATIONS OR OTHER CONSTRUCTION OPERATIONS WHICH COULD DISLODGE OR OTHERWISE DAMAGE THE PROTECTIVE DEVICES SHALL BE AVOIDED ALONG THE EDGES OF THE LOD LINES IF POSSIBLE. ANY PROTECTIVE DEVICES WHICH ARE DAMAGED DURING SITE CONSTRUCTION OPERATIONS SHALL BE PROPERLY REPAIRED IMMEDIATELY BY THE CONTRACTOR.
- 6. AFTER SITE GRADING, UTILITY ACCESS ROAD, AND DRIVEWAY CONSTRUCTION HAVE BEEN COMPLETED, ALL TREES ADJACENT TO THE LOD LINE SHALL BE INSPECTED FOR INDICATIONS OF CROWN DIE-BACK (SUMMER INDICATOR), DAMAGE WITHIN RESPECTIVE CRITICAL ROOT ZONES OR ANY DEAD WOOD OR OTHER CONDITIONS WHICH MIGHT BE HAZARDOUS TO PEDESTRIANS, BUILDINGS, UTILITY LINES VEHICULAR ACCESS WAYS OR PARKED
- 7. SHOULD THERE BE EVIDENCE OF ANY DAMAGE TO TREE TRUNKS, BRANCHES OR THE CRITICAL ROOT ZONE OF TREES WITHIN THE PROTECTED AREAS, OR TO ISOLATED SPECIMEN TREES TO BE PRESERVED, THE DAMAGE SHALL BE EXAMINED WITHIN A PERIOD OF TWO (2) DAYS FROM THE DATE OF OBSERVANCE BY A LICENSED TREE CARE PROFESSIONAL EXPOSED ROOTS SHOULD BE COVERED IMMEDIATELY TO A DEPTH OF 6 - 8 INCHES WITH SOIL. PREFERABLY MIXED WITH 50% PEAT MOSS OR LEAF MOLD.
- SAFETY HAZARD TO BUILDINGS, UTILITY LINES, VEHICLES, OR ACCESS AND EGRESS DRIVES OR PEDESTRIAN AREAS. TREES DESIGNATED FOR PRUNING OR REMOVAL SHALL BE PRUNED OR REMOVED USING EQUIPMENT AND METHODS WHICH WILL NOT DAMAGE OR DESTROY ADJACENT LARGE TREES OR UNDERSTORY TREES OR SHRUBS DESIGNATED FOR RETENTION.

8. REMOVE DAMAGED, DEAD OR DYING TREES OR LIMBS ONLY IF THE TREES OR LIMBS POSE AN IMMEDIATE

- 9. ALL TEMPORARY FOREST PROTECTION DEVICES WILL BE CAREFULLY REMOVED AFTER ALL GENERAL CONSTRUCTION, NECESSARY TREE SURGERY, REMOVAL OF DEBRIS, ETC. REGRADING AND RESEEDING OF SEDIMENT AND EROSION CONTROL DISTURBANCE HAVE BEEN COMPLETED AND ACCEPTANCE AND APPROVAL OF THE WORK AND SITE CONDITIONS HAVE BEEN GIVEN BY THE DPZ.
- 10. ALL SPECIMEN TREES AND TREES TO REMAIN SHALL BE MONITORED AND WATERED AS NEEDED DURING CONSTRUCTION TO MAINTAIN TREE HEALTH.

FOREST CONSERVATION PROGRAM

IT IS THE OBJECTIVE OF THE FOREST CONSERVATION PLAN OF THE TROTTER POINT PROPERTY TO RETAIN ENVIRONMENTAL INTEGRITY BY PRESERVING EXISTING WOODED AREAS & REFORESTING AREAS ON SITE. REFORESTED AREAS WILL BE PLANTED WITH MATURE TREES (1"-2" CALIPER).

FOREST PRESERVATION AREAS SHALL BE PERMANENTLY PROTECTED BY FOREST CONSERVATION EASEMENTS. III. GENERAL CONSTRUCTION NOTE:

THERE WILL BE NO STAGING OR STORING OF EQUIPMENT OUTSIDE THE LIMIT OF DISTURBANCE.

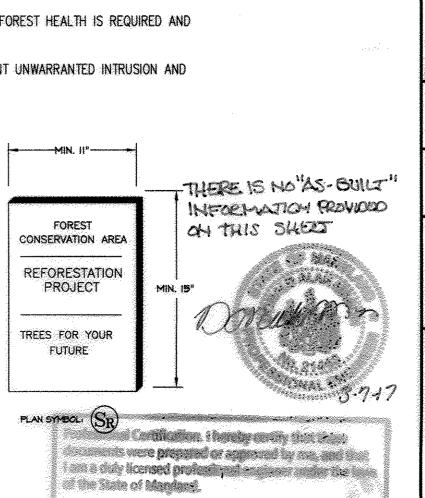
IV. POST CONSTRUCTION MANAGEMENT PRACTICE: A TWO-YEAR POSTED CONSTRUCTION AND MANAGEMENT PROGRAM TO ENSURE FOREST HEALTH IS REQUIRED AND INCLUDES THE FOLLOWING:

1-MAINTENANCE OF SIGNS, FENCES, AND TREE PROTECTION DEVICES TO PREVENT UNWARRANTED INTRUSION AND

2-CAREFUL REMOVAL OF ALL TEMPORARY STRUCTURES AFTER CONSTRUCTION.

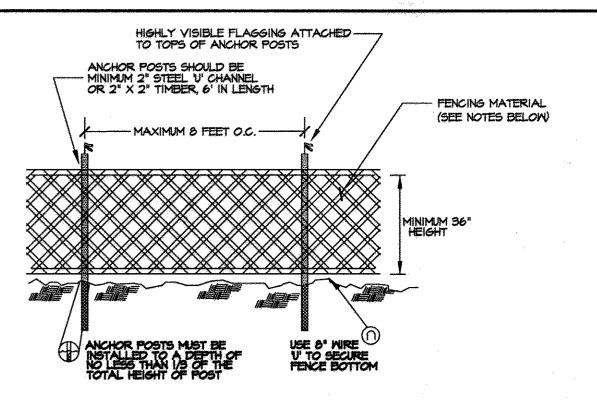
3-ROUTINE INSPECTIONS OF FOREST CONSERVATION EASEMENTS. 4-ROUTINE INSPECTIONS AND MAINTENANCE OF REFORESTATION AREAS.

FOREST CONSERVATION AREA -EXISTING GRADE PLAN SYMBOL: (S) FOREST CONSERVATION & REFORESTATION SIGN DETAIL NOT TO SCALE



ilem 2/2/3 12-21-19

PCCCARGORAGE LA - Parateta ek



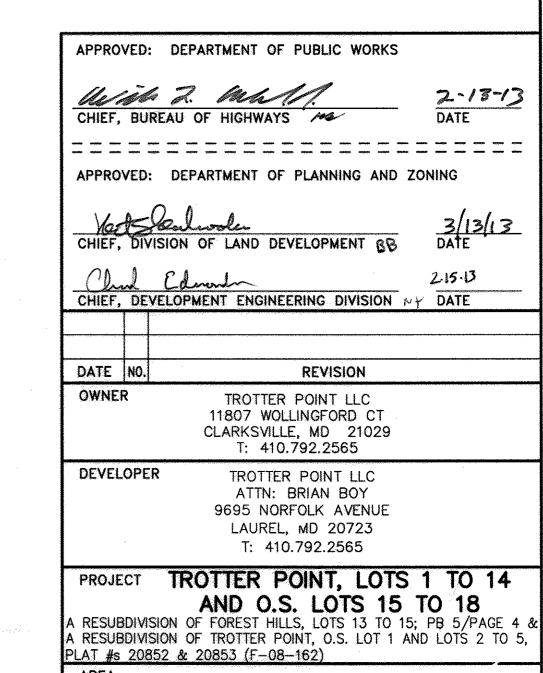
- BLAZE ORANGE MESH OR SUPER SILT FENCE FOR TREE PROTECTION DEVICE, ONLY.
- 2. BOUNDARIES OF PROTECTION AREA WILL BE ESTABLISHED PRIOR TO GRADING
- 9. AVOID DAMAGE TO CRITICAL ROOT ZONE. DO NOT DAMAGE OR SEVER LARGE ROOTS WHEN INSTALLING POSTS.
- 4. FENCING SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.

TREE PROTECTION FENCING NOT TO SCALE

REFORESTATION PLANTING LISTS - PUBLIC FOREST CONSERVATION EASEMENT #B

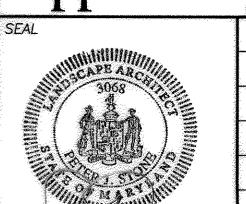
QUANTITIES	SCIENTIFIC/ COMMON NAME	SIZE	ROOT	REMARKS
24	LIRIODENDRON TULIPIFERA / TULIP TREE			
23	LIQUIDAMBAR STYRACIFLUA / SWEET GUM	_		FULL CROWN 15' ±
23	QUERCUS PALUSTRIS / PIN OAK	1" CAL.*	8 & B	SPACING; SEE RANDOM PLANTING
23	FAGUS GRANDIFOLIA / AMERICAN BEECH			DETAIL
23	NYSSA SYLVATICA/ BLACK GUM			
19	AMELANCHIER CANADENSIS / SERVICEBERRY			
19	CHIONANTHUS VIRGINICUS / WHITE FRINGETREE			
19	ILEX OPACA / AMERICAN HOLLY	3-4' HT.		
19	JUNIPERUS VIRGINIANA / EASTERN RED CEDAR	3-4' HT.		
TOTAL AREA:	0.96 ACRES			
TREES REQUI	RED: 192			
TREES PROVI	DED: 192			

*NOTE: CALCULATIONS FOR 1" CAL. PLANTS IS BASED ON 200 PLANTS PER ACRE.



TAX MAP 35 GRID 2 PARCELS 8, 9, & 165 ZONED R-20 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

FINAL FOREST CONSERVATION NOTES AND TABULATIONS Patton Harris Rust & Associates Engineers. Surveyors. Planners. Landscape Architects. 8818 Centre Park Drive



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DATE: FEBRUARY 1, 2013 SCALE : AS SHOWN

DRAWING NO. 12 OF 12