

GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- THE BOUNDARY SHOWN IS BASED ON A MONUMENTED FIELD-RUN SURVEY PERFORMED BY BENCHMARK ENGINEERING, INC., DATED DECEMBER, 2012.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL MONUMENTS 476A & 476B, WHICH ARE BASED ON THE MARYLAND STATE PLANE COORDINATE SYSTEM.
- EXISTING TOPOGRAPHY IS TAKEN FROM FIELD RUN SURVEY BY BENCHMARK ENGINEERING, INC., ON OR ABOUT DECEMBER 2012. CONTOUR INTERVAL IS 2 FEET.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- 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.
- FOREST STAND DELINEATION PLAN WAS PREPARED BY ECO-SCIENCE PROFESSIONALS, INC., DATED MARCH, 2013.
- SPECIMEN TREES WERE FOUND ON-SITE AS PER FOREST STAND DELINEATION PLAN PREPARED BY ECO-SCIENCE PROFESSIONALS, INC., DATED MARCH 2013. A WAIVER HAS BEEN APPROVED FOR THE REMOVAL OF THE SPECIMEN TREES; REF WP-14-021.
- WETLANDS DO NOT EXIST WITHIN THE LIMITS OF DISTURBANCE AS SHOWN ON THE WETLAND DELINEATION REPORT PREPARED BY ECO-SCIENCE PROFESSIONALS, INC., DATED MARCH 2013.
- A NOISE STUDY HAS BEEN PREPARED BY BENCHMARK ENGINEERING, INC. AND APPROVED UNDER THIS PLAN.
- A.P.F.O. TRAFFIC STUDY WAS PREPARED BY THE MARS TRAFFIC GROUP, INC., DATED DECEMBER, 2012 AND APPROVED UNDER THIS PLAN.
- NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE STREAMS, OR THEIR REQUIRED BUFFERS AND FLOODPLAIN UNLESS DEEMED NECESSARY BY THE DEPARTMENT OF PLANNING AND ZONING. THE SEWER CROSSING AT THE FLOODPLAIN HAS BEEN CONSIDERED AN ESSENTIAL DISTURBANCE BY DPZ.
- THERE ARE EXISTING STRUCTURES LOCATED ON-SITE TO BE REMOVED.
- TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO CEMETERY LOCATIONS ON-SITE.
- THIS PLAN IS SUBJECT TO THE AMENDED 5th EDITION OF THE HOWARD COUNTY SUBDIVISION REGULATIONS.
- THE WATER QUALITY HAS BEEN PROVIDED BY THE IMPLEMENTATION OF ONE (1) MICRO-BIOTRETENTION FACILITIES (M-6) AND (1) BIO-SWALE (M-8) TO TREAT ALL OF THE PROPOSED IMPERVIOUS ONSITE LIMITING UNDERDRAINS AND OUTFALLS TO REDUCE ADDITIONAL SITE DISTURBANCE AND ENVIRONMENTAL IMPACTS. EACH FACILITY DISCHARGES ON LOT TO MAINTAIN NATURAL FLOW PATTERNS. THE FACILITIES WILL BE PRIVATELY OWNED AND MAINTAINED. SEE SUPP. 17-028 FOR PRIVATE ON-LOT FACILITIES.
- FLOODPLAIN BASED ON FEMA AT ELEVATION 150.0 AS PROVIDED BY HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
- THE FOREST CONSERVATION EASEMENTS HAVE BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION ACT. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT. HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED. THE TOTAL FOREST CONSERVATION OBLIGATIONS ARE TO BE MET BY THE ON-SITE RETENTION OF 1.28 ACRES.
- STREET LIGHT PLACEMENT AND TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III (2006), SECTION 5.5.A. A MINIMUM SPACING OF 20 FEET SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE. A PRIVATE RANGE OF ADDRESS SIGN ASSEMBLY SHALL BE FABRICATED AND INSTALLED BY HOWARD COUNTY BUREAU OF HIGHWAYS AT THE DEVELOPER'S/OWNER'S EXPENSE. CONTACT HOWARD COUNTY TRAFFIC DIVISION AT 410-313-5752 FOR DETAILS AND COST ESTIMATES.
- LANDSCAPING REQUIREMENTS SHALL BE FULFILLED IN ACCORDANCE WITH THE HOWARD COUNTY CODE, SECTION 16.124 AND THE LANDSCAPE MANUAL. PERIMETER LANDSCAPING IS PROVIDED BY THE RETENTION OF THE EXISTING FOREST TO BE RETAIN WITHIN THE FCE ALONG THE PERIMETER OF THE SITE.
- FOR FLAG OR PIPESTEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE ARE PROVIDED TO THE JUNCTION OF THE FLAG OR PIPESTEM AND ROAD RIGHT-OF-WAY AND NOT TO THE PIPESTEM LOT DRIVEWAY.
- 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:
A) WIDTH - 12' (16" SERVING MORE THAN ONE RESIDENCE).
B) SURFACE - 6" OF COMPACT CRUSHED TAMPED 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 (H2S 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.
- TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- A PRE-SUBMISSION COMMUNITY MEETING FOR THIS PROJECT WAS HELD ON JANUARY 8, 2013 IN ACCORDANCE WITH SECTION 16.128 AND 16.147(6)(1) OF THE SUBDIVISION REGULATIONS.
- PREVIOUS DPZ FILES: ECP-13-065, WP-14-021
- WATER IS PUBLIC 44-1119-D, SEWER IS PUBLIC 49-S.
- THIS PLAN IS SUBJECT TO A DESIGN MANUAL WAIVER APPROVED OCTOBER 31, 2013 TO ALLOW LOTS ACCESSING FROM A USE-IN-COMMON EASEMENT SUBJECT TO THE FOLLOWING:
1. THE DRIVEWAY MUST BE BUILT 18' WIDE (ASPHALT TO ASPHALT) WITH P-2 PAVING WITH CONCRETE FUSH CURB ON BOTH SIDES AND A TURNAROUND AREA AT THE END. THIS DRIVEWAY MUST BE WITHIN A 40' ACCESS EASEMENT.
2. THE DRIVEWAY TURNING RADI AND TURNAROUND AREA MUST BE APPROVED BY THE DEPARTMENT OF FIRE AND RESCUE.
3. COMPLIANCE OF ANY APPROVAL CONDITIONS FOR WP-14-021.
- THIS PLAN IS SUBJECT TO WAIVER PETITION WP-14-021 APPROVED OCTOBER 31, 2013 TO THE FOLLOWING SECTIONS OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS:
SECTION 16.120(C)(2)(IV) OF THE AMENDED FIFTH EDITION - SHARED USE AND MAINTENANCE OF A SINGLE USE-IN-COMMON DRIVEWAY WILL BE REQUIRED ONLY IF THE TOTAL DEVELOPMENT POTENTIAL OF THE SUBDIVISION UNDER CURRENT ZONING WILL NOT EXCEED 6 UNITS (IN CONJUNCTION WITH SECTION 2.6B, VOLUME III [ROADS AND BRIDGES] OF THE DESIGN MANUAL). THE APPLICANT IS SEEKING TO UTILIZE A SHARED DRIVEWAY FOR MORE THAN SIX USERS.
SECTION 16.1205(A) (7) OF THE AMENDED FIFTH EDITION - ON-SITE FOREST RETENTION; SPECIMEN TREES ARE CONSIDERED PRIORITY FOR ON-SITE RETENTION AND PROTECTION IN THE COUNTY. THE APPLICANT PROPOSES TO REMOVE THREE (3) SPECIMEN TREES (TREES HAVING A 30" DIAMETER AT BREAST HEIGHT).
SECTION 16.14 AND SECTION 16.145OF THE AMENDED FIFTH EDITION - REQUIRES THE SUBMISSION OF A SKETCH PLAN AND/OR PRELIMINARY EQUIVALENT SKETCH PLAN. THE APPLICANT IS PROPOSING 9 SINGLE - FAMILY DETACHED IN-FEE SIMPLE LOTS WHICH IS, BY DEFINITION, A MAJOR SUBDIVISION.
APPROVAL IS SUBJECT TO THE FOLLOWING EIGHT (8) CONDITIONS:
1) SUBJECT TO SUBMISSION OF A FINAL SUBDIVISION PLAN FOR PROCESSING.
2) REPLACEMENT MITIGATION FOR THE 3 SPECIMEN TREES TO BE REMOVED AT A 1 TO 1 RATIO REPLACEMENT WITH LARGER 3 1/2" CALIBER NATIVE SPECIES TO BE PLANTED WITHIN OR NEAR THE PROPOSED FOREST CONSERVATION EASEMENT AREA.
3) ALL OF THE PLANNED RESIDENTIAL LOTS SHALL FRONT ON AND OBTAIN ACCESS FROM THE PROPOSED PRIVATE SHARED DRIVEWAY WITHIN THE PROJECT AREA. THE DEVELOPER SHALL BE RESPONSIBLE FOR ESTABLISHING SAFE VEHICULAR ACCESS TO ALL RESIDENTIAL LOTS ONTO BALTIMORE AVENUE.
4) A USE-IN-COMMON DRIVEWAY MAINTENANCE AGREEMENT MUST BE PREPARED AND RECORDED WITH THE PLAT. ALL FUTURE LOT OWNERS WILL BE SUBJECT TO THE REQUIREMENTS AND OBLIGATIONS OF THIS AGREEMENT. A NOTE MUST BE ADDED TO THE PLAT AND SITE DEVELOPMENT PLAN REGARDING THIS USE-IN-COMMON AGREEMENT, INCLUDING THE RECORDED LIBER AND FOLIO REFERENCE ONCE IT HAS BEEN RECORDED WITHIN THE LAND RECORDS OFFICE.
5) THE PROPOSED PRIVATE DRIVEWAY MUST BE CONSTRUCTED IN ACCORDANCE WITH THE APPROVED DESIGN MANUAL REQUIREMENTS ISSUED BY THE DEVELOPMENT ENGINEERING DIVISION. FURTHERMORE, THIS DRIVEWAY MUST BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH ANY ADDITIONAL REQUIREMENTS AND PLAN REVIEW COMMENTS PROVIDED BY THE DEVELOPMENT ENGINEERING DIVISION, THE DEPARTMENT OF FIRE AND RESCUE SERVICES AND THE DEPARTMENT OF PUBLIC WORKS AS PART OF THE FINAL PLAN PROCESS.
6) A COMPLETE TITLE REPORT MUST BE SUBMITTED TO THE OFFICE OF DPW, REAL ESTATE SERVICES FOR THE PREPARATION OF PUBLIC EASEMENT DOCUMENTS WITH THE FINAL PLAN PROCESSING.
7) A COMPLETE DEED HISTORY THAT PROVIDES A CHRONOLOGICAL DESCRIPTION OF HOW TAX PARCEL 257 WAS CREATED TO BE SUBMITTED WITH THE FINAL PLAN.
8) ON THE FINAL PLAT AND ON THE SITE DEVELOPMENT PLAN, PROVIDE A BRIEF DESCRIPTION OF THIS WAIVER PETITION, WP-14-021, AND DESIGN MANUAL WAIVER AS A GENERAL NOTE THAT INCLUDES THE WAIVER REQUESTS, SECTIONS OF THE REGULATIONS, ACTION AND DATE OF WAIVER APPROVAL.
29) THE 65 dba CONTOUR LINE DRAWN ON THIS SUBDIVISION PLAN IS ADVISORY AS REQUIRED BY THE HOWARD COUNTY DESIGN MANUAL, CHAPTER 5, REVISED FEBRUARY, 1992 AND CANNOT BE CONSIDERED TO EXACTLY LOCATE THE 65 dba NOISE EXPOSURE. THE 65 dba NOISE LINE ESTABLISHED BY HOWARD COUNTY TO ALERT DEVELOPERS, BUILDERS AND FUTURE RESIDENTS THAT AREAS BEYOND THIS THRESHOLD MAY EXCEED GENERALLY ACCEPTED NOISE LEVELS ESTABLISHED BY THE U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT.
30) OPEN SPACE LOT 11 TO BE DEDICATED TO HOWARD COUNTY DEPARTMENT OF RECREATION AND PARKS. OPEN SPACE LOT 10 TO BE OWNED AND MAINTAINED BY THE HOA.
31) THE EXISTING ONSITE WELL IS TO BE SEALED BY A LICENSED WELL DRILLER AND THE WELL ABANDONMENT REPORT RECEIVED BY THE HEALTH DEPARTMENT PRIOR TO BUILDING PERMIT APPROVAL.
32) IN ACCORDANCE WITH SECTION 110.01E OF THE ZONING REGULATIONS AT LEAST 10% OF THE DWELLING UNITS SHALL BE MODERATE INCOME HOUSING UNITS (MIHU). THIS DEVELOPMENT PROJECT REQUIRES 1 UNIT AND IS PROPOSING A FEE-IN-LIEU.

FINAL PLAT SUPPLEMENTAL PLAN PATUXENT OVERLOOK LOTS 1-9 AND OPEN SPACE LOTS 10 & 11 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

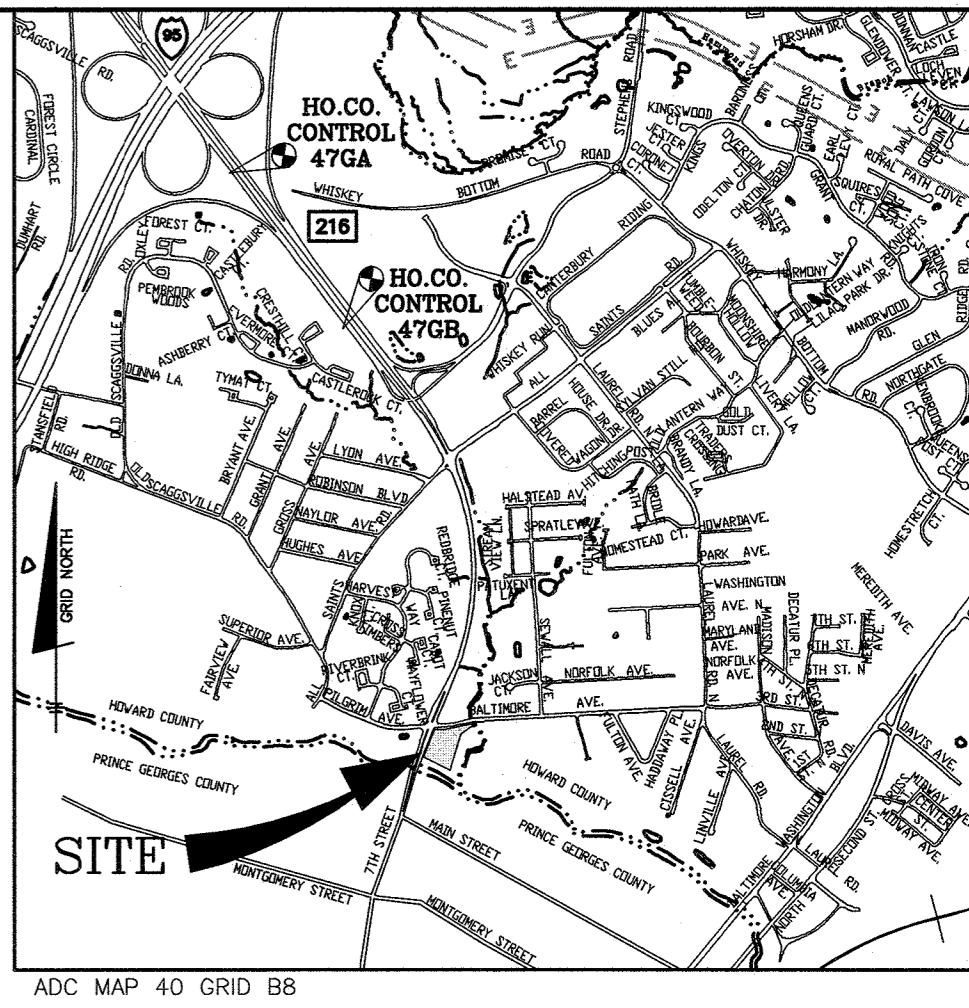
SHEET INDEX	
NO.	DESCRIPTION
1	COVER SHEET
2	LAYOUT PLAN AND ROAD PROFILE
3	GRADING, SEDIMENT & EROSION CONTROL AND SOILS PLAN
4	FOREST CONSERVATION PLAN AND LANDSCAPE PLAN
5	FOREST CONSERVATION PLAN AND LANDSCAPE PLAN
6	DRAINAGE AREA MAP, STORM DRAIN PROFILES AND STORMWATER MANAGEMENT DETAILS
7	SEDIMENT AND EROSION CONTROL DETAILS

BENCH MARKS

HO. CO. #476A (NAD '83)	ELEV. 350.468
STANDARD DISC ON CONCRETE MONUMENT MD RTE 216 AT I 95 BRIDGE	
N 532404.179	E 1351627.363
HO. CO. #476B (NAD '83)	ELEV. 259.239
STANDARD DISC ON CONCRETE MONUMENT INLAND IN MD RTE 216 NORTH OF ALL SAINTS ROAD	
N 529917.139	E 1353526.704

COORDINATE CHART

NO.	NORTH	EAST
1	N 525998.512	E 1354153.249
2	N 526039.657	E 1354217.672
3	N 526046.474	E 1354219.137
4	N 526110.765	E 1354500.593
5	N 525950.736	E 1354648.005
6	N 525963.552	E 1354599.107
7	N 525811.736	E 1354489.049
8	N 525461.367	E 1354586.742
9	N 525642.435	E 1354090.854
10	N 525650.987	E 1354060.593
11	N 525683.456	E 1354068.916
12	N 525711.998	E 1354064.088
13	N 525809.692	E 1354087.587



STORMWATER MANAGEMENT PRACTICES

LOT NUMBER	MICRO-BIO SWALE (NUMBER)	MICRO-BIO RETENTION (NUMBER)	DRY WELLS (NUMBER)
LOT 1	0	0	2
LOT 2	0	0	2
LOT 3	0	0	2
LOT 4	0	0	2
LOT 5	0	1	1
LOT 6	0	0	2
LOT 7	0	0	2
LOT 8	0	0	2
LOT 9	0	0	2
COMMON DRIVE	1	1	0

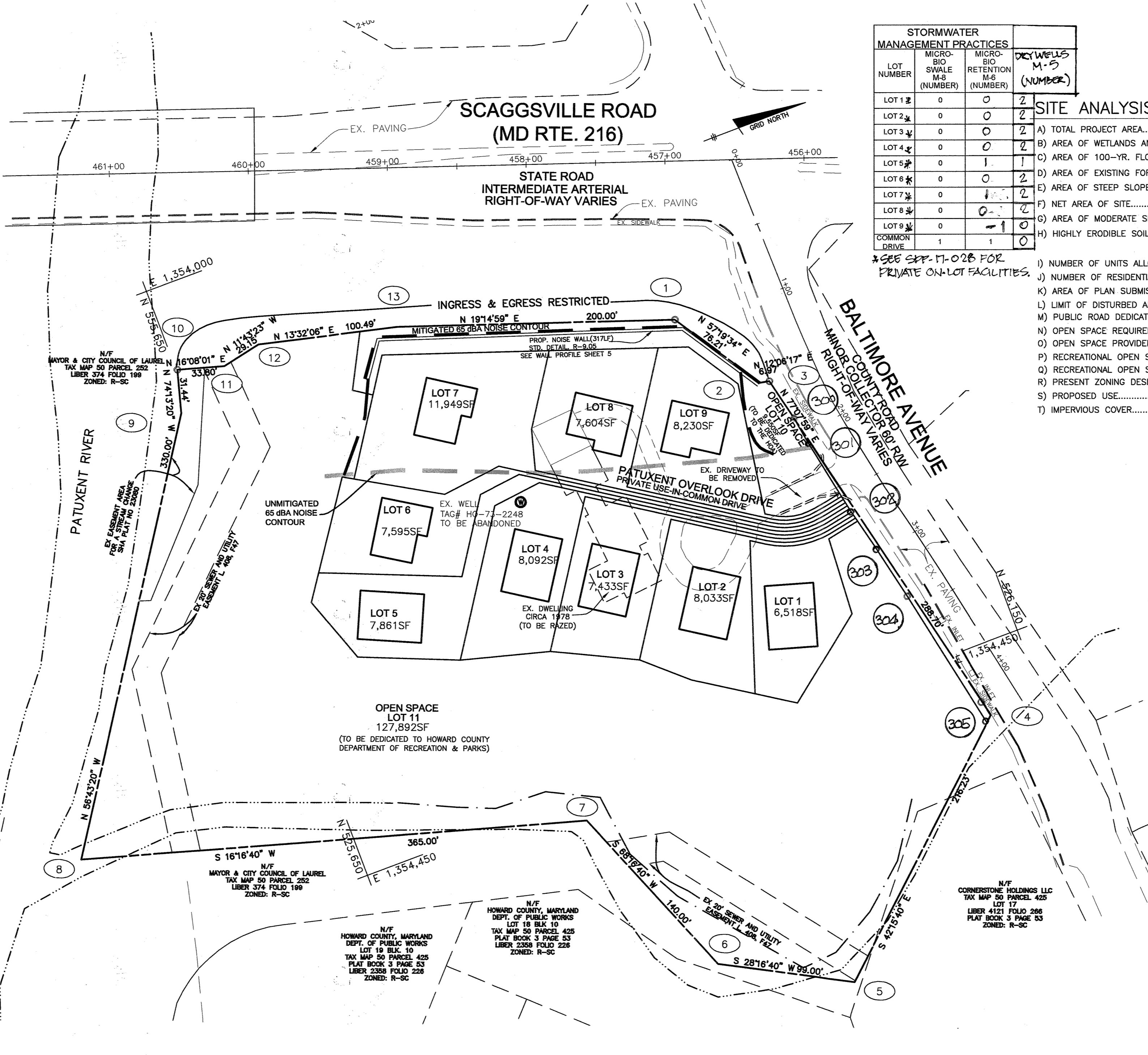
SITE ANALYSIS DATA/TABULATION

A) TOTAL PROJECT AREA.....	4.9 AC.
B) AREA OF WETLANDS AND BUFFER.....	N/A
C) AREA OF 100-YR. FLOODPLAIN.....	1.4 AC.
D) AREA OF EXISTING FOREST.....	2.9 AC.
E) AREA OF STEEP SLOPES 25% OF GREATER... 1.2 AC. (OUTSIDE FLOODPLAIN)	
F) NET AREA OF SITE.....	2.3 AC.
G) AREA OF MODERATE SLOPES 15% TO 25%... 1.3 AC.	
H) HIGHLY ERODIBLE SOILS (K > 0.35).....	2.0 AC.
I) NUMBER OF UNITS ALLOWED.....	9 (2.3 AC./4)
J) NUMBER OF RESIDENTIAL UNITS PROPOSED... 9	
K) AREA OF PLAN SUBMISSION.....	4.9 AC.
L) LIMIT OF DISTURBED AREA.....	2.01 AC.
M) PUBLIC ROAD DEDICATION.....	0.02 AC.
N) OPEN SPACE REQUIRED.....	1.2 AC. OR 25%
O) OPEN SPACE PROVIDED.....	3.2 AC OR 65% (LOTS 10 & 11)
P) RECREATIONAL OPEN SPACE REQUIRED.....	NA
Q) RECREATIONAL OPEN SPACE PROVIDED.....	NA
R) PRESENT ZONING DESIGNATION.....	R-SC
S) PROPOSED USE.....	SINGLE FAMILY DWELLINGS
T) IMPERVIOUS COVER.....	0.67 AC.

AS-BUILT NOTES:
 1.) HORIZONTAL DATUM FOR THIS AS-BUILT IS BASED ON THE MARYLAND STATE REFERENCE SYSTEM (NAD 83) / ADU 07 AS PROJECTED FROM HO. CO. GEODETIC CONTROL STATIONS 476A AND 476B. VERTICAL DATUM FOR THIS AS-BUILT IS NORTH AMERICAN VERTICAL DATUM (NAVD 83) AS PROJECTED FROM THE ABOVE MENTIONED HOWARD COUNTY GEODETIC CONTROL STATIONS.
 2.) THE INSTRUMENTS USED IN PERFORMING THE AS-BUILT WERE A 5" TOTAL STATION AND PRISM AND REF. GPS.
 3.) THIS AS-BUILT WAS PERFORMED BY BENCHMARK ENGINEERING, INC.

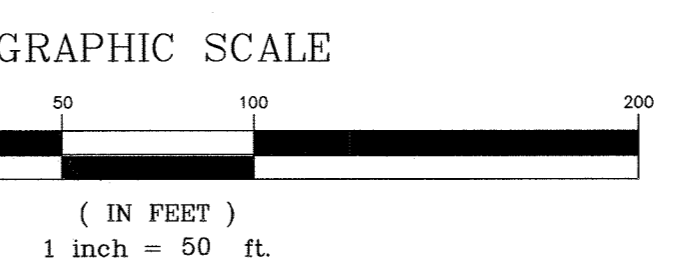
RIGHT OF WAY ELEVATION CHART

R/W P. NO.	DESCRIPTION	ELEVATION
300	REBAR # 40#	183.11'
301	REBAR # 40#	183.10'
302	MAGNALL	179.35'
303	REBAR # 40#	179.78'
305	REBAR # 40#	175.74'



MINIMUM LOT SIZE CHART

LOT	GROSS AREA	PIPESTEM AREA	MINIMUM LOT SIZE
1	6518 SF	64 SF	6454 SF
2	8033 SF	213 SF	7820 SF
3	7433 SF	365 SF	7068 SF
4	8092 SF	530 SF	7562 SF
5	7861 SF	616 SF	7245 SF
6	7595 SF	652 SF	6943 SF
7	11949 SF	617 SF	11332 SF
8	7604 SF	433 SF	7171 SF
9	8230 SF	156 SF	8074 SF



AS-BUILT CERTIFICATION
 I hereby certify, by my seal, that to the best of my knowledge and belief the facilities shown on this "AS-BUILT" Plan meet the Approved Plans and Specifications
 Donald Mason, P.E. Date: 11/21/14



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 of the State of Maryland.
 License No. 21443, Expiration Date: 12/31/16

APPROVED: DEPARTMENT OF PUBLIC WORKS
 [Signature] 9/23/2014
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature] 10/20/14
 CHIEF, DIVISION OF LAND DEVELOPMENT

[Signature] 9-25-14
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

NO.	DATE	REVISION
1	9.23.14	UPDATE ON-LOT SWM FACILITIES PER SUPP 17-028

BENCHMARK ENGINEERING, INC.
 ENGINEERS & LAND SURVEYORS & PLANNERS
 6480 BALTIMORE NATIONAL PIKE SUITE 315 ELLIOTT COTT. MARYLAND 21043
 (P) 410-465-6105 (F) 410-465-6644
 WWW.BE-CIVILENGINEERING.COM

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 of the State of Maryland.
 License No. 21443, Expiration Date: 12/31/16

OWNER: DEVELOPMENT PARTNERS, LLC
 11807 WOLLINGFORD COURT
 CLARKSVILLE, MD 21029
 301-490-0388

DEVELOPER: DEVELOPMENT PARTNERS, LLC
 11807 WOLLINGFORD COURT
 CLARKSVILLE, MD 21029
 301-490-0388

9801 BALTIMORE AVENUE
PATUXENT OVERLOOK
 LOTS 1-9 AND OPEN SPACE LOTS 10 & 11

TAX MAP 50, GRID 02, PARCELS 257
 6th ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

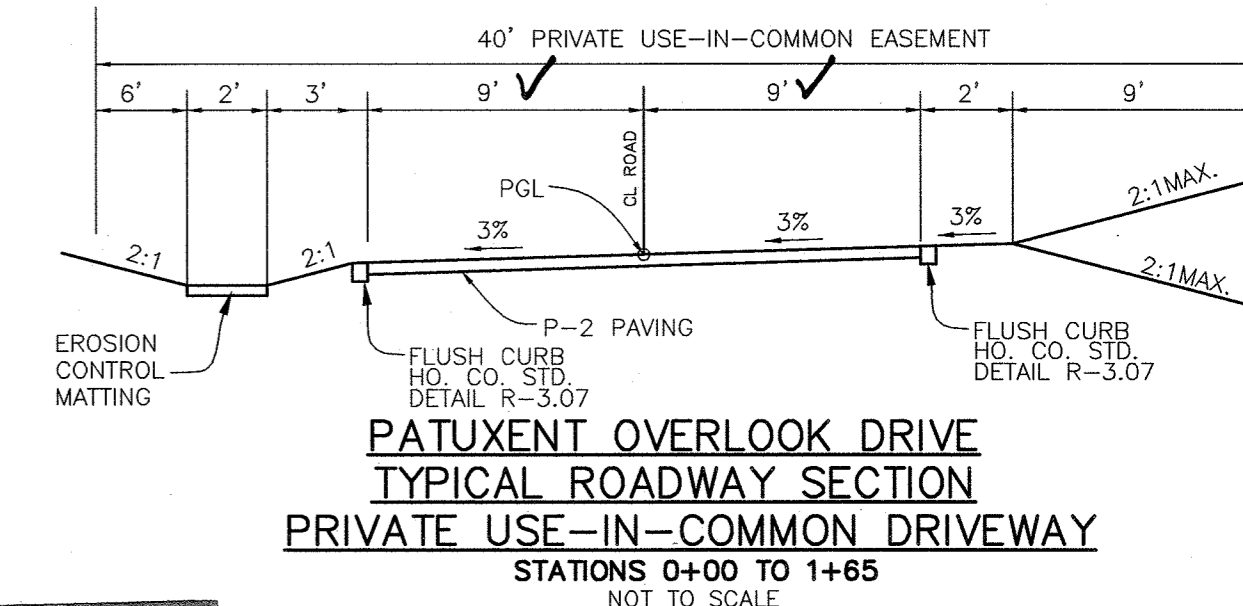
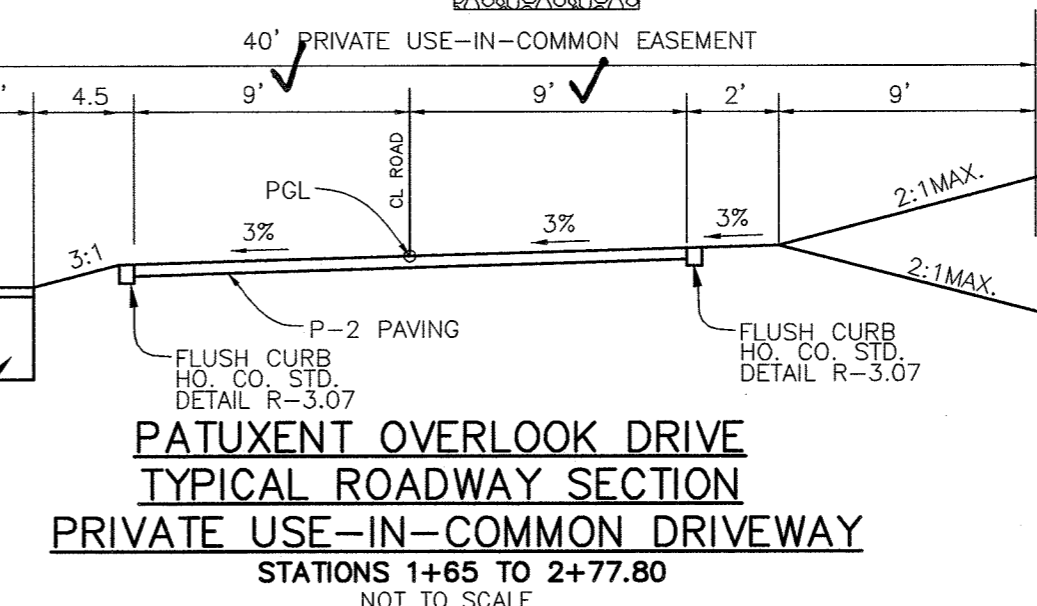
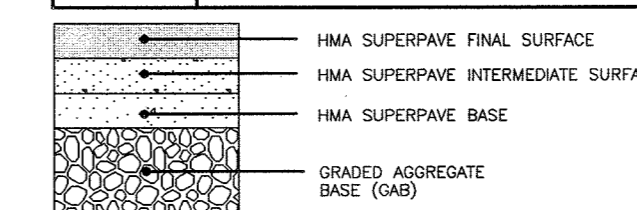
FINAL PLAT SUPPLEMENTAL PLAN
COVER SHEET

DATE: SEPTEMBER 2014 BEI PROJECT NO. 1583
 SCALE: AS SHOWN SHEET 1 OF 7

AS-BUILT F-14-080

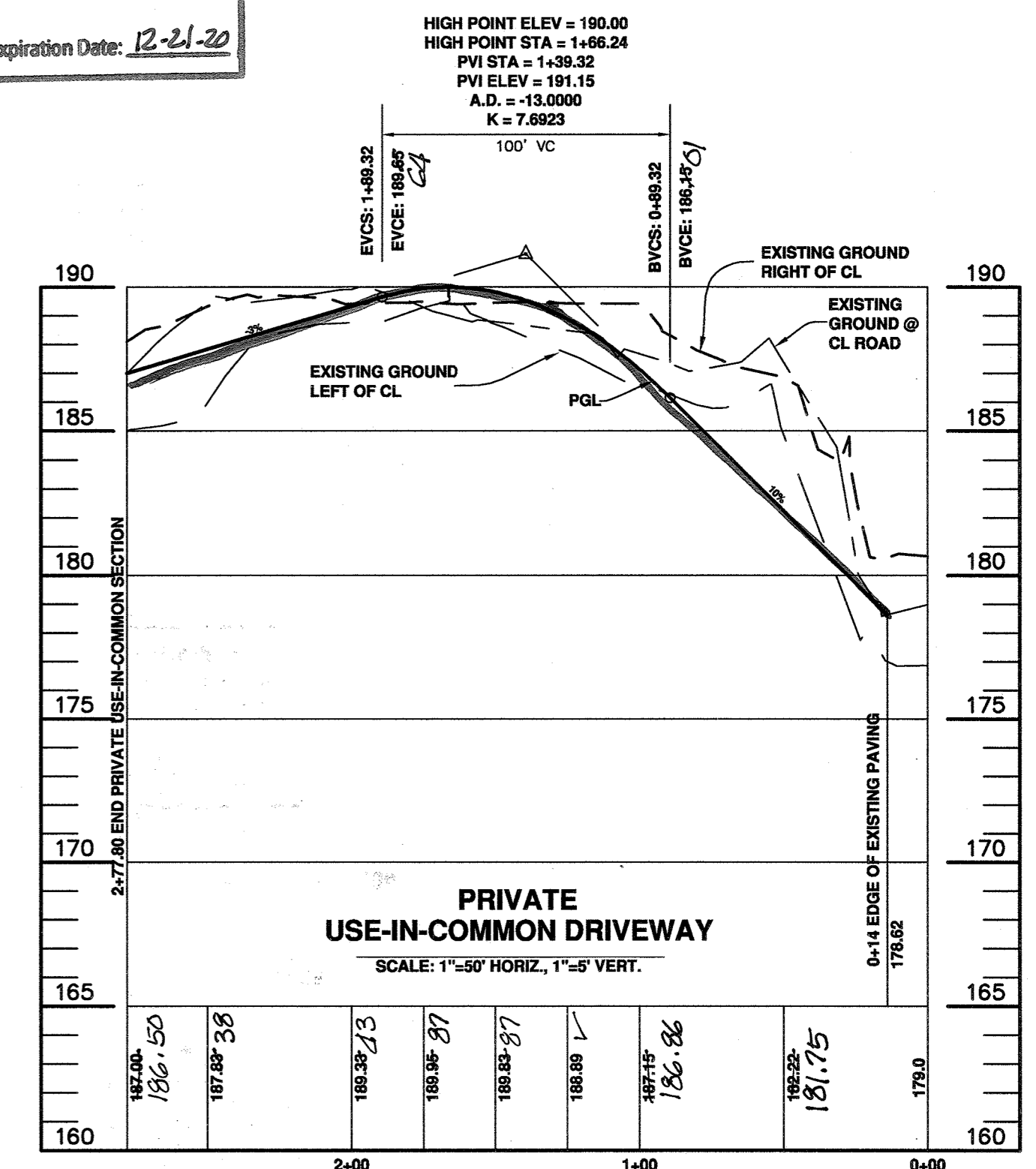
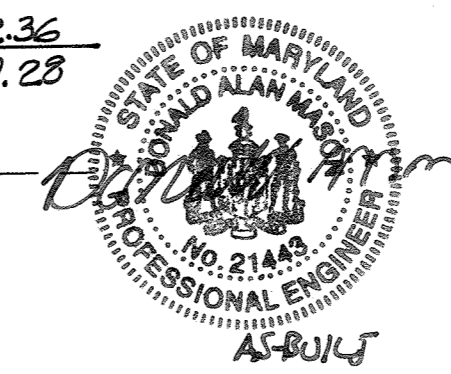
STREET LIGHT LOCATION			
SYMBOL	LOCATION	OFFSET	FIXTURE/POLE TYPE
☼	CL STA 0+26.5	26.5' RT.	100 WATT HPS VAPOR PREMIER POST-TOP FIXTURE MOUNTED ON A 14' BLACK FIBERGLASS POLE

SECTION NUMBER	ROAD AND STREET CLASSIFICATION	CALIFORNIA BEARING RATIO (CBR)					
		3 TO <5	5 TO <7	7	3 TO <5	5 TO <7	7
P-2	PARKING DRIVE ASILES: RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 10 HEAVY TRUCKS PER DAY LOCAL ROADS: ACCESS PLACE, ACCESS STREET CUL-DE-SAC: RESIDENTIAL	PAVEMENT MATERIAL (INCHES)					
		HMA SUPERPAVE FINAL SURFACE					
		9.5 MM PG 64-22, LEVEL 1 (LOW ESAL)					
		HMA SUPERPAVE INTERMEDIATE SURFACE					
9.5 MM PG 64-22, LEVEL 1 (LOW ESAL)							
HMA SUPERPAVE BASE							
19.0 MM PG 64-22, LEVEL 1 (LOW ESAL)							
GRADED AGGREGATE BASE (GAB)							
8.0							
4.0							
3.0							
4.0							
4.0							



AS-BUILT CERTIFICATION
I hereby certify, by my seal, that to the best of my knowledge
and belief the facilities shown on this "AS-BUILT"
Plan meet the Approved Plans and Specifications
Donald Mason, P.E.

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
of the State of Maryland.
License No. 21413 Expiration Date: 12-21-20



CENTERLINE CURVE TABLE						
CURVE	LENGTH	RADIUS	TANGENT	CHORD LENGTH	CHORD BEARING	DELTA
C1	41.01'	53.00'	21.59'	39.99'	N11°06'34"E	44°19'59"

NO	DATE	REVISION
2	9.30.19	REMOVE PORTION OF BD. SWALE NOT CONSTRUCTED, REMOVE CURB TO PBL
1	1/8/19	LOTS 2 & 3 NOT CONSTRUCTED & IMPROVED DRAINAGE TO MATCH DE-17-02B
1	1/8/19	REMOVE FCE FOR PUBLIC SEWER & UTILITY EASEMENT

BENCHMARK ENGINEERING, INC.
ENGINEERS & LAND SURVEYORS & PLANNERS
9480 BALTIMORE NATIONAL PIKE & SUITE 315 & ELLICOTT CITY, MARYLAND 21043
(P) 410-485-8105 (F) 410-485-8644
WWW.BE-CIVILENGINEERING.COM

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 of the State of Maryland.
License No. 22390, Expiration Date: 6.30.15.

OWNER: 9801 BALTIMORE AVENUE
PATUXENT OVERLOOK
LOTS 1-9 AND OPEN SPACE LOTS 10 & 11

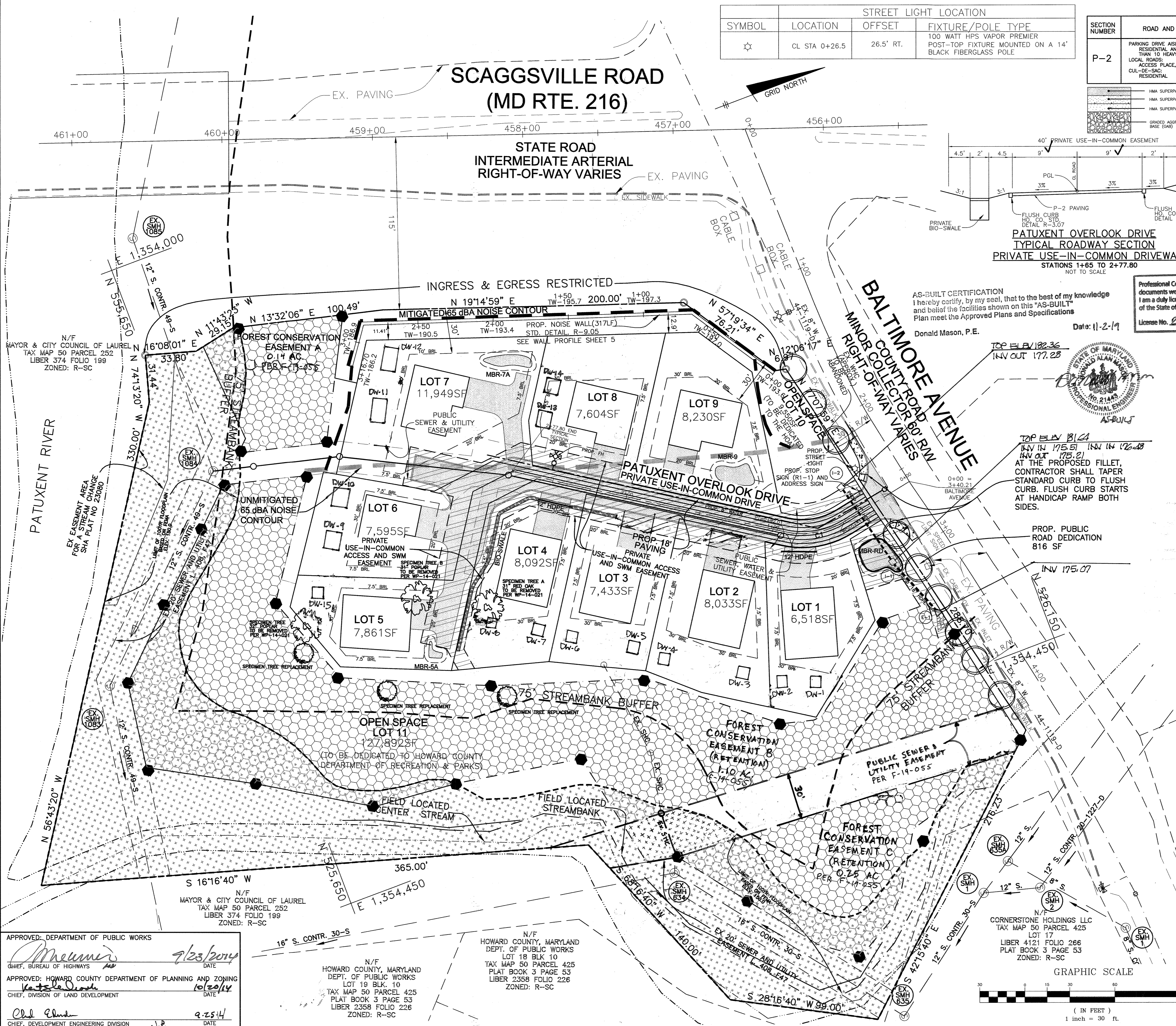
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301-490-0388

DEVELOPER: DEVELOPMENT PARTNERS, LLC
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CLARKSVILLE, MD 21029
301-490-0388

TAX MAP 50, GRID 02, PARCELS 257
HOWARD COUNTY, MARYLAND

FINAL PLAT SUPPLEMENTAL PLAN
LAYOUT PLAN

DATE: SEPTEMBER 2014 BEI PROJECT NO. 1583
SCALE: 1"=30' SHEET 2 OF 7



APPROVED: DEPARTMENT OF PUBLIC WORKS
CHIEF, BUREAU OF HIGHWAYS
DATE: 9/23/2014

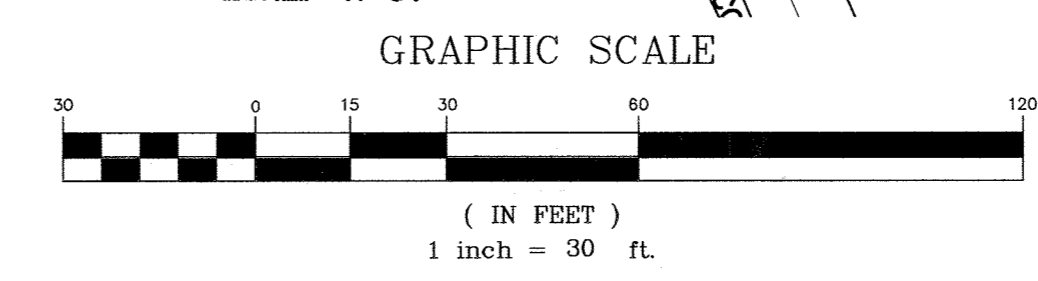
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
CHIEF, DIVISION OF LAND DEVELOPMENT
DATE: 10/20/14

CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE: 9.25.14

N/F HOWARD COUNTY, MARYLAND
DEPT. OF PUBLIC WORKS
LOT 18 BLK 10
TAX MAP 50 PARCEL 425
PLAT BOOK 3 PAGE 53
LIBER 2358 FOLIO 226
ZONED: R-SC

N/F HOWARD COUNTY, MARYLAND
DEPT. OF PUBLIC WORKS
LOT 19 BLK. 10
TAX MAP 50 PARCEL 425
PLAT BOOK 3 PAGE 53
LIBER 2358 FOLIO 226
ZONED: R-SC

N/F CORNERSTONE HOLDINGS LLC
TAX MAP 50 PARCEL 425
LOT 17
LIBER 4121 FOLIO 266
PLAT BOOK 3 PAGE 53
ZONED: R-SC



SCAGGSVILLE ROAD
(MD RTE. 216)

STATE ROAD
INTERMEDIATE ARTERIAL
RIGHT-OF-WAY VARIES

PROPOSED NOISE WALL
SEE PROFILE SHEET 5

BALTIMORE AVENUE
MINOR COLLECTOR ROAD 60' RW
RIGHT-OF-WAY VARIES

HANDICAP SIDEWALK RAMP DETAIL
SCALE: 1"=20'

SWALE COMPUTATIONS

SWALE #1:

Given Input Data:	
Shape	Trapezoidal
Solving for	Depth of Flow
Flowrate	0.5500 cfs
Slope	0.1000 ft/ft
Manning's n	0.0300
Height	12.0000 in
Bottom width	24.0000 in
Left slope	2.0000 ft/ft (V/H)
Right slope	2.0000 ft/ft (V/H)
Computed Results:	
Depth	1.0785 in
Velocity	2.9925 fps
Full Flowrate	27.5522 cfs
Flow area	0.1838 ft ²
Flow perimeter	26.4116 in
Hydraulic radius	1.0021 in
Top width	25.0785 in
Area	2.5000 ft ²
Perimeter	50.8328 in
Percent full	8.9876 %

SWALE #2 (BIO SWALE):

Given Input Data:	
Shape	Trapezoidal
Solving for	Depth of Flow
Flowrate	0.3900 cfs
Slope	0.0800 ft/ft
Manning's n	0.0300
Height	12.0000 in
Bottom width	24.0000 in
Left slope	3.0000 ft/ft (V/H)
Right slope	3.0000 ft/ft (V/H)
Computed Results:	
Depth	0.9408 in
Velocity	2.4552 fps
Full Flowrate	22.4201 cfs
Flow area	0.1586 ft ²
Flow perimeter	25.9834 in
Hydraulic radius	0.8803 in
Top width	24.6272 in
Area	2.3333 ft ²
Perimeter	49.2982 in
Percent full	7.8399 %

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 of the State of Maryland.
License No. **D1113**, Expiration Date: **12-21-20**

AS-BUILT CERTIFICATION
I hereby certify, by my seal, that to the best of my knowledge and belief the facilities shown on this "AS-BUILT" Plan meet the Approved Plans and Specifications

Donald Mason, P.E.

Date: **11/21/14**



N/F
MAYOR & CITY COUNCIL OF LAUREL
TAX MAP 50 PARCEL 252
LIBER 374 FOLIO 199
ZONED: R-SC

FOREST CONSERVATION
EASEMENT
1.67 AC.
1.26 AC. CREDIT

LOT 7
FF=189.4
BF=180.4
MCE=180

LOT 8
FF=192.1
BF=182.9
MCE=181.0

LOT 9
FF=194.5
BF=185.5
MCE=181.0

LOT 6
FF=186.7
BF=177.7
MCE=177.1

LOT 4
FF=191.0
BF=182.0
MCE=181.9

LOT 3
FF=193.5
BF=184.5
MCE=181.9

LOT 2
FF=191.5
BF=182.5
MCE=182.5

LOT 5
FF=182.3
BF=173.3
MCE=173.2

LOT 1
FF=189.5
BF=180.5
MCE=180.4

ENGINEER'S CERTIFICATE
I HEREBY 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.

Cl Malagari 9-3-14
ENGINEER - CHRISTOPHER A. MALAGARI DATE

DEVELOPER'S CERTIFICATE
I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT THE DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

Bl O'S 9-3-14
DEVELOPER DATE

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

John R. Klotz 9/9/14
N/F JUNCION OF LAUREL PARCEL 252 FOLIO 199 R-SC DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS
Macumir 9/23/2014
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Kate S. Jank 10/20/14
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Chad Edm 9-25-14
CHIEF, DEVELOPMENT ENGINEERING DIVISION J.P. DATE

N/F JUNCION OF LAUREL PARCEL 252 FOLIO 199 R-SC

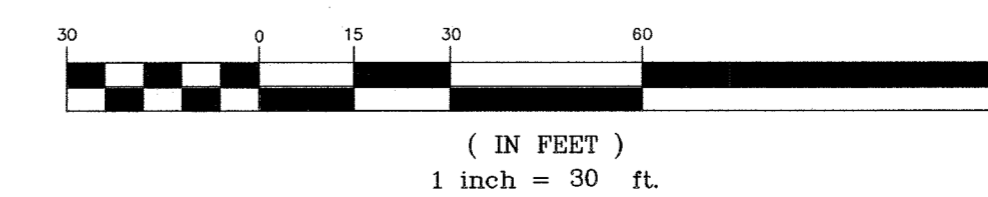
N/E HOWARD COUNTY, MARYLAND DEPT. OF PUBLIC WORKS LOT 19 BLK 10 TAX MAP 50 PARCEL 425 PLAT BOOK 3 PAGE 53 LIBER 2358 FOLIO 226 ZONED: R-SC

N/F HOWARD COUNTY, MARYLAND DEPT. OF PUBLIC WORKS LOT 18 BLK 10 TAX MAP 50 PARCEL 425 PLAT BOOK 3 PAGE 53 LIBER 2358 FOLIO 226 ZONED: R-SC

FOREST CONSERVATION EASEMENT 1.67 AC. 1.26 AC. CREDIT

CORNERSTONE HOLDINGS LLC
TAX MAP 50 PARCEL 425 LOT 17 LIBER 4121 FOLIO 266 PLAT BOOK 3 PAGE 53 ZONED: R-SC

GRAPHIC SCALE



REMOVE PORTION OF BIO SWALE NOT CONSTRUCTED. REMOVE CURBSETS FOR LOTS 2 & 3 NOT CONSTRUCTED & UPDATE ON LOT 5 AND TO MATCH SDR-17-02B

BENCHMARK ENGINEERING, INC.
6480 BALTIMORE NATIONAL PIKE & SUITE 315 & ELLICOTT CITY, MARYLAND 21043
(P) 410-465-6105 (F) 410-465-8644
WWW.BEI-CIVILENGINEERING.COM

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 of the State of Maryland.
License No. **22299**, Expiration Date: **6-30-15**

OWNER: 9801 BALTIMORE AVENUE
PATUXENT OVERLOOK
LOTS 1-9 AND OPEN SPACE LOTS 10 & 11

DEVELOPMENT PARTNERS, LLC
11807 WOLLINGFORD COURT
CLARKSVILLE, MD 21029
301-490-0388

TAX MAP 50, GRID 02, PARCELS 257
6th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

DEVELOPER: DEVELOPMENT PARTNERS, LLC
11807 WOLLINGFORD COURT
CLARKSVILLE, MD 21029
301-490-0388

FINAL PLAT SUPPLEMENTAL PLAN
GRADING, SEDIMENT & EROSION CONTROL
AND SOILS PLAN

DATE: SEPTEMBER 2014 BEI PROJECT NO. 1583
SCALE: 1"=30' SHEET 3 OF 7

**SCAGGSVILLE ROAD
(MD RTE. 216)**

STATE ROAD
INTERMEDIATE ARTERIAL
RIGHT-OF-WAY VARIES

LANDSCAPING NOTES

- 1) THE PROPOSED LANDSCAPING SHALL BE PROVIDED BY THE PLANTINGS AS SHOWN ON THESE PLANS.
- 2) THE DEVELOPER SHALL BE RESPONSIBLE FOR ALL INTERNAL PLANTINGS; THE PRESERVATION OF THE EXISTING PERIMETER VEGETATION AND FOR THE PERIMETER PLANTINGS AS SHOWN ON THESE PLANS. BONDING FOR THE PROPOSED PLANTINGS IS THE OBLIGATION OF THE DEVELOPER AS PART OF THE DEVELOPER'S AGREEMENT.
- 3) TREES MUST BE A MINIMUM OF FOUR (4) FEET FROM THE CURB OR SIDEWALK AND MUST BE A MINIMUM OF FIVE (5) FEET FROM ANY STORM DRAIN.
- 4) A MINIMUM DISTANCE OF TWENTY (20) FEET MUST BE MAINTAINED BETWEEN ANY TREES LOCATED ALONG THE CURB LINE AND FROM STREET LIGHTS.
- 5) TREES MUST BE PLANTED A MINIMUM OF FIVE (5) FEET FROM AN OPEN SPACE ACCESS STRIP AND TEN (10) FEET FROM A DRIVEWAY.
- 6) THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL.
- 7) STREET TREES SHALL BE PLANTED SIX (6) FEET BEHIND FACE OF CURB WHEN THERE ARE NO SIDEWALKS.
- 8) ALL LANDSCAPING PLANT TYPES SHOWN ON THESE PLANS ARE RECOMMENDATIONS AND MAY BE SUBSTITUTED WITH APPROVED EQUIVALENTS FROM THE HOWARD COUNTY LANDSCAPE MANUAL.
- 9) NO TREES SHALL BE PLACED WITHIN 10' BEHIND A RETAINING WALL OR WITHIN A RELATED MAINTENANCE EASEMENT, WHICHEVER IS GREATER.
- 10) THE SURETY FOR THE REQUIRED 9 STREET TREES (\$2,700.00) AND ADDITIONAL 3 TULIP POPLAR TREES (\$9,000.00) THAT ARE REQUIRED FOR THE REMOVAL OF THE SPECIMEN TREES HAS BEEN POSTED AS PART OF THE DWP DEVELOPER'S AGREEMENT FOR A TOTAL OF THE AMOUNT OF \$3,600.00.

**SCHEDULE A
PERIMETER LANDSCAPE EDGE**

CATEGORY	ADJACENT TO ROADWAY				ADJACENT TO PERIMETER PROPERTIES				TOTAL
	NO	NO	YES	NO	NO	YES	YES	NO	
PERIMETER NO. / LANDSCAPE TYPE	0	2	0	0	0	0	0	0	0
LINEAR FEET OF PERIMETER (FRONTAGE/ROADWAY)	0	830	359	446	0	0	0	0	0
CREDIT FOR EXISTING VEGETATION: NO OR YES (W/LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	YES	830	359	146	NO	0	301	NO	0
LINEAR FEET OF REQUIRED PERIMETER LANDSCAPING	0	0	0	0	0	0	0	0	0
CREDIT FOR WALL, FENCE OR BERM: NO OR YES (W/LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	0	0	0	NO	0	0	NO	0
NUMBER OF PLANTS PROVIDED:									
SHADE TREES	-	-	-	-	-	-	-	-	0
EVERGREEN TREES	-	-	-	-	-	-	-	-	-
OTHER TREES (2:1 SUBSTITUTE)	-	-	-	-	-	-	-	-	-
SHRUBS	-	-	-	-	-	-	-	-	-
NUMBER OF PLANTS PROVIDED:									
SHADE TREES	-	-	-	-	-	-	-	-	0
EVERGREEN TREES	-	-	-	-	-	-	-	-	-
OTHER TREES (2:1 SUBSTITUTE)	-	-	-	-	-	-	-	-	-
SHRUBS (10:1 SUBSTITUTE)	-	-	-	-	-	-	-	-	-

NOTE: DUE TO THE PRESERVATION OF THE EXISTING ONSITE TREES NO PERIMETER LANDSCAPING IS REQUIRED.

STREET TREE REQUIREMENTS

ROADWAY NAME:	BALTIMORE AVENUE
LINEAR FEET OF ROADWAY	389
STREET TREES REQUIRED 1:40	9
NUMBER OF PLANTS PROVIDED:	
SHADE TREES	9
EVERGREEN TREES	-
OTHER TREES (2:1 SUBSTITUTE)	-
SHRUBS (10:1 SUBSTITUTE)	-

SPECIMEN TREE CHART

KEY	SPECIES, SIZE	CONDITION	ACTION
A	RED OAK 31" dbh	POOR CONDITION, DIEBACK NOTED	TO BE REMOVED
B	TULIP POPLAR 31" dbh	GOOD CONDITION	TO BE REMOVED
C	TULIP POPLAR 32" dbh	GOOD CONDITION	TO BE REMOVED

THE FOLLOWING IS PART OF THE CONDITION OF APPROVAL OF WP-14-021: REPLACEMENT MITIGATION FOR THE 3 SPECIMEN TREES TO BE REMOVED AT A 1 TO 1 RATIO, REPLACEMENT WITH LARGER 3 1/2" CALIPER NATIVE SPECIES TO BE PLANTED WITHIN OR NEAR THE PROPOSED FOREST CONSERVATION EASEMENT AREA.

DEVELOPER'S/BUILDER'S CERTIFICATE

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION OF A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE-YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

DEVELOPER: *J. Ogle* DATE: 9-3-14

"NO AS-BUILT INFORMATION IS PROVIDED ON THIS SHEET"



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 of the State of Maryland.
License No. 21443 Expiration Date: 12-31-20

FOREST CONSERVATION EASEMENT B (RETENTION)
1.10 AC. TOTAL
0.86 AC. CREDITED PER F-14-055

FOREST CONSERVATION EASEMENT C (RETENTION)
0.25 AC. TOTAL
0.14 AC. CREDITED PER F-14-055

STREET TREE LANDSCAPE PLANTING LIST

SYMBOL	QUANTITY	NAME	REMARKS
(Symbol)	9	ACER TATARICUM TATARIAN MAPLE	2 1/2" CAL.
(Symbol)	3	LIRIODENDRON TULIPIFERA "TULIP POPLAR" SHADE TREE	3 1/2"-4" CAL.

3 TULIP POPLARS ARE PROVIDED FOR THE 3 SPECIMEN TREES REMOVED UNDER WP-14-021.

3 TULIP POPLARS ARE PROVIDED FOR THE 3 SPECIMEN TREES REMOVED UNDER WP-14-021.

NOT TO SCALE

TREE PLANTING DETAIL

NOT TO SCALE

STREET TREE LANDSCAPE PLANTING LIST

NOT TO SCALE

TREE PLANTING DETAIL

NOT TO SCALE

STREET TREE LANDSCAPE PLANTING LIST

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TREE PLANTING DETAIL

NOT TO SCALE

STREET TREE LANDSCAPE PLANTING LIST

NOT TO SCALE

TREE PLANTING DETAIL

NOT TO SCALE

PERIMETER 3
446 LF
446 LF CREDIT

PROPOSED NOISE WALL
SEE PROFILE SHEET 5

BALTIMORE AVENUE
MINOR COLLECTOR ROAD 60' R/W
RIGHT-OF-WAY VARIES
PERIMETER 4
280 LF

N/F
MAYOR & CITY COUNCIL OF LAUREL
TAX MAP 50 PARCEL 252
LIBER 374 FOLIO 199
ZONED: R-SC

PERIMETER 2
359 LF
359 LF CREDIT

PERIMETER 1
830 LF
830 LF CREDIT

N/E
HOWARD COUNTY, MARYLAND
DEPT. OF PUBLIC WORKS
LOT 18 BLK 10
TAX MAP 50 PARCEL 425
PLAT BOOK 3 PAGE 53
LIBER 2368 FOLIO 226
ZONED: R-SC

N/F
HOWARD COUNTY, MARYLAND
DEPT. OF PUBLIC WORKS
LOT 18 BLK 10
TAX MAP 50 PARCEL 425
PLAT BOOK 3 PAGE 53
LIBER 2368 FOLIO 226
ZONED: R-SC

N/F
CORNERSTONE HOLDINGS LLC
TAX MAP 50 PARCEL 425
LOT 17
LIBER 4121 FOLIO 266
PLAT BOOK 3 PAGE 53
ZONED: R-SC

APPROVED: DEPARTMENT OF PUBLIC WORKS
[Signature] 9/23/14
CHIEF, BUREAU OF HIGHWAYS
DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
[Signature] 9/23/14
CHIEF, DIVISION OF LAND DEVELOPMENT
DATE

APPROVED: DEVELOPMENT ENGINEERING DIVISION
[Signature] 9-23-14
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE

NO.	DATE	REVISION
2	9/20/14	REMOVE PORTION OF BIO-SWALE NOT CONSTRUCTED PER PERMITS PER LOTS 2 & 3 NOT CONSTRUCTED & W/DATE ON LOT 11 TO MATCH L.D.P. 17-026
1	1/8/14	REMOVE FCE FOR PUBLIC SEWER & UTILITY EASEMENT PER F-14-055

J. CHRIS OGLE
DNR QUALIFIED PROFESSIONAL

**BENCHMARK
ENGINEERING, INC.**
8480 BALTIMORE NATIONAL PIKE & SUITE 315 • ELLICOTT CITY, MARYLAND 21043
(P) 410-465-6105 (F) 410-465-6644
WWW.BEI-CVLENGINEERING.COM

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 of the State of Maryland.
License No. 22200 Expiration Date: 6-30-15

OWNER:
DEVELOPMENT PARTNERS, LLC
11807 WOLLINGFORD COURT
CLARKSVILLE, MD 21029
301-490-0388

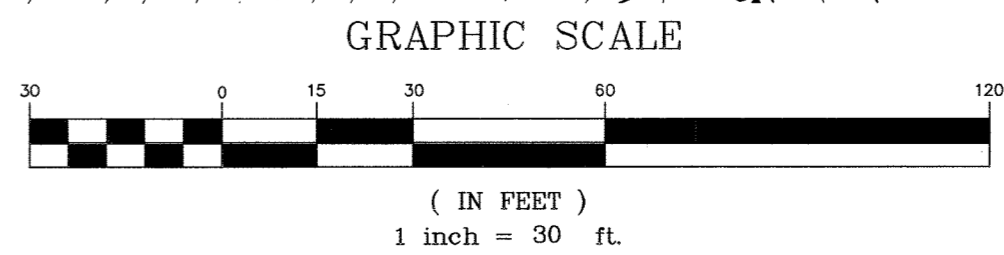
DEVELOPER:
DEVELOPMENT PARTNERS, LLC
11807 WOLLINGFORD COURT
CLARKSVILLE, MD 21029
301-490-0388

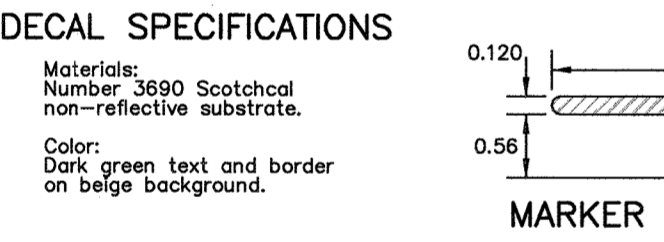
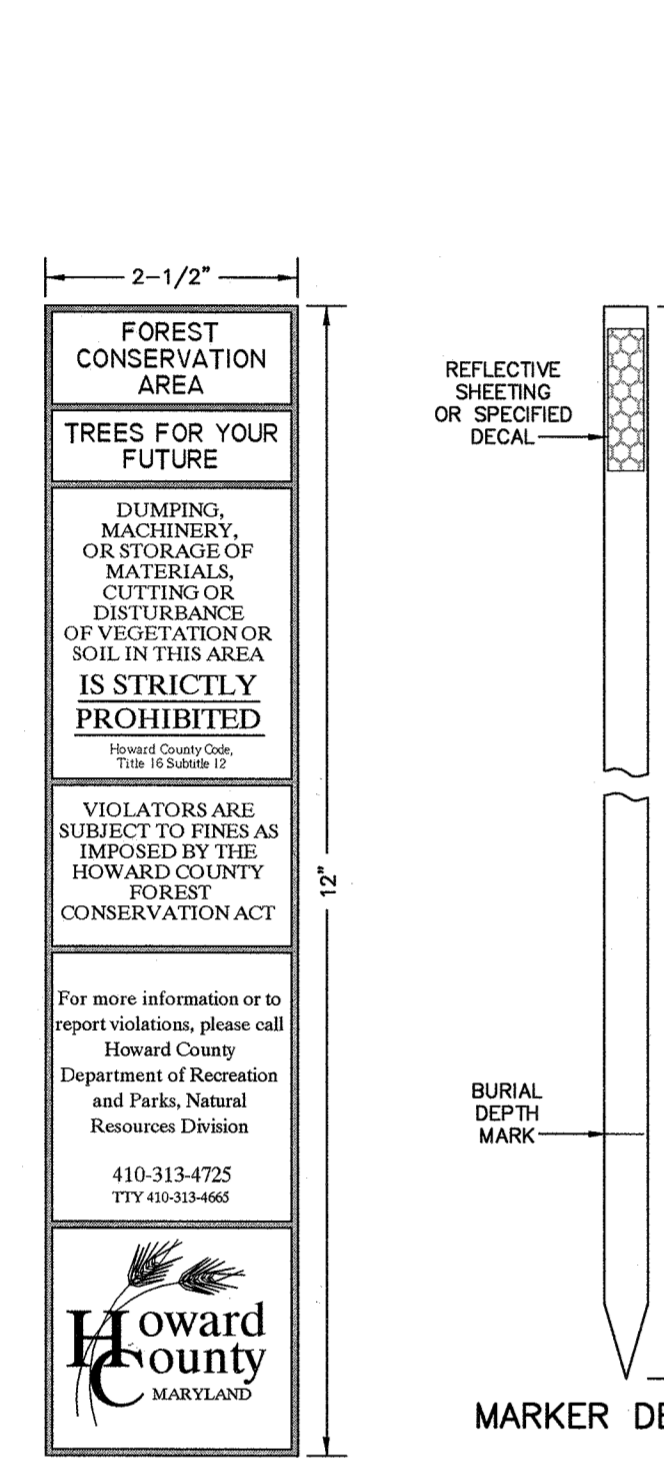
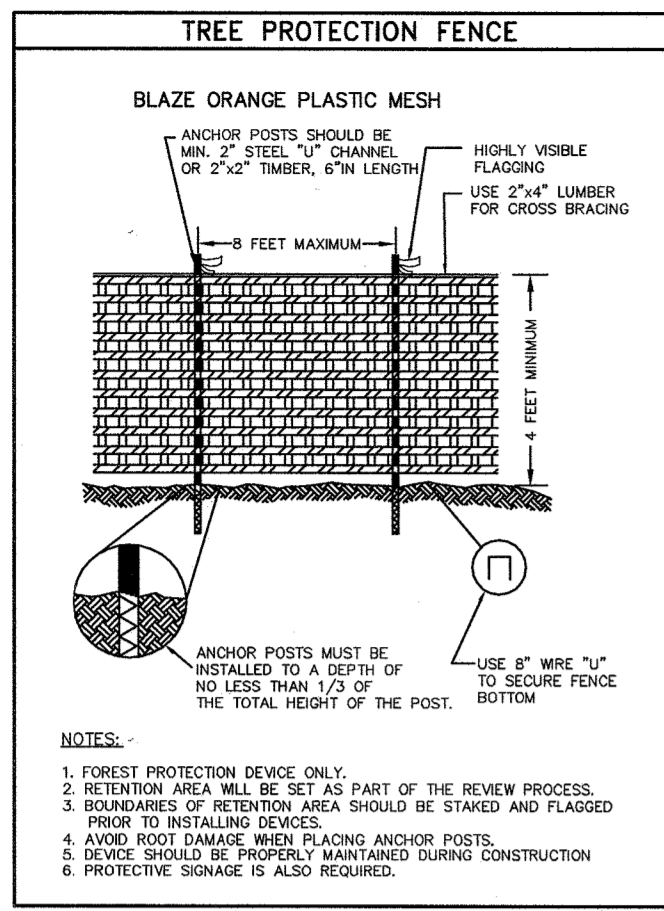
9801 BALTIMORE AVENUE
PATUXENT OVERLOOK
LOTS 1-9 AND OPEN SPACE LOTS 10 & 11

TAX MAP 50, GRID 02, PARCELS 257
6th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

**FINAL PLAT SUPPLEMENTAL PLAN
FOREST CONSERVATION PLAN AND
LANDSCAPE PLAN**

DATE: SEPTEMBER 2014 BEI PROJECT NO. 1583
SCALE: 1"=30' SHEET 4 OF 7

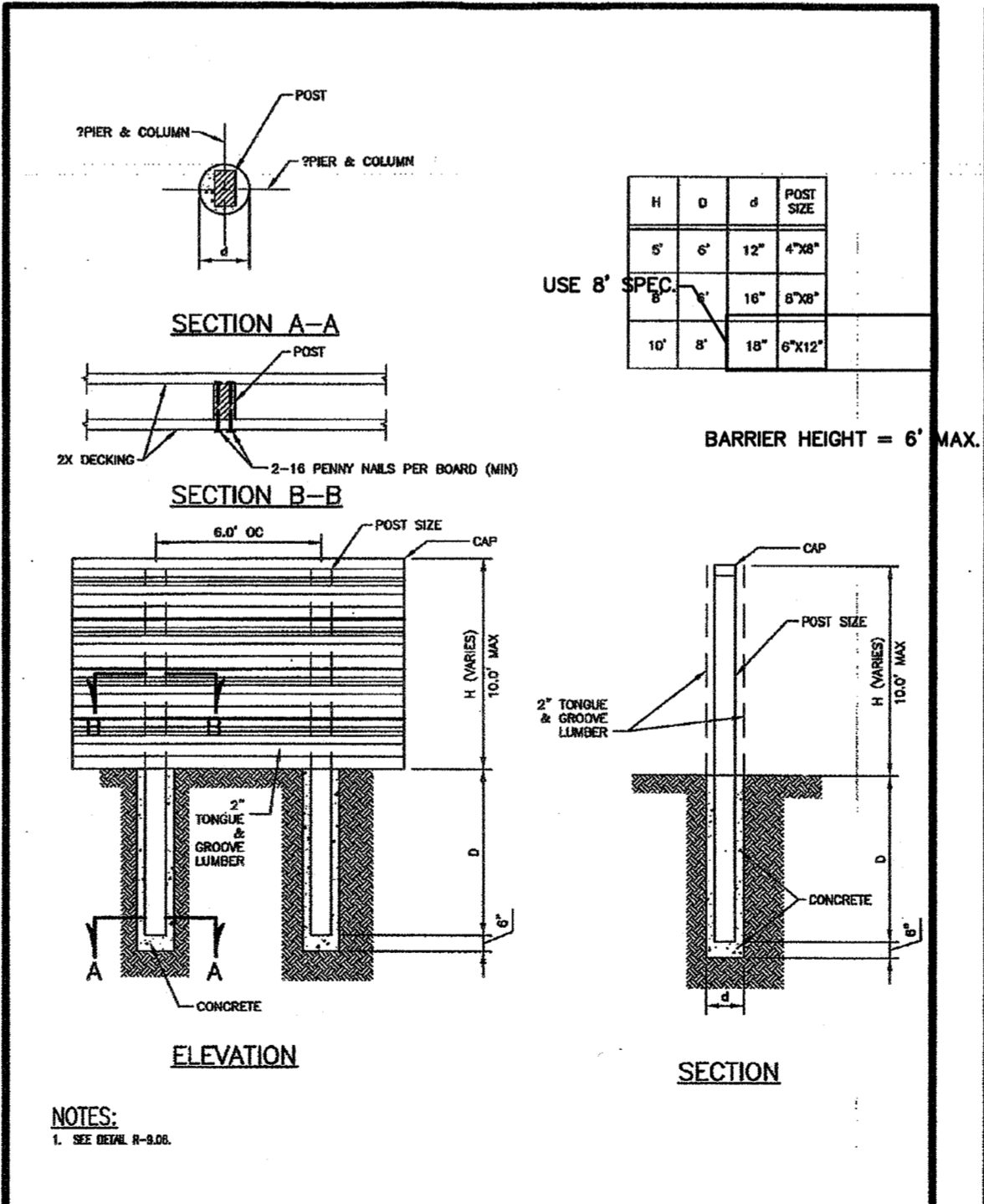
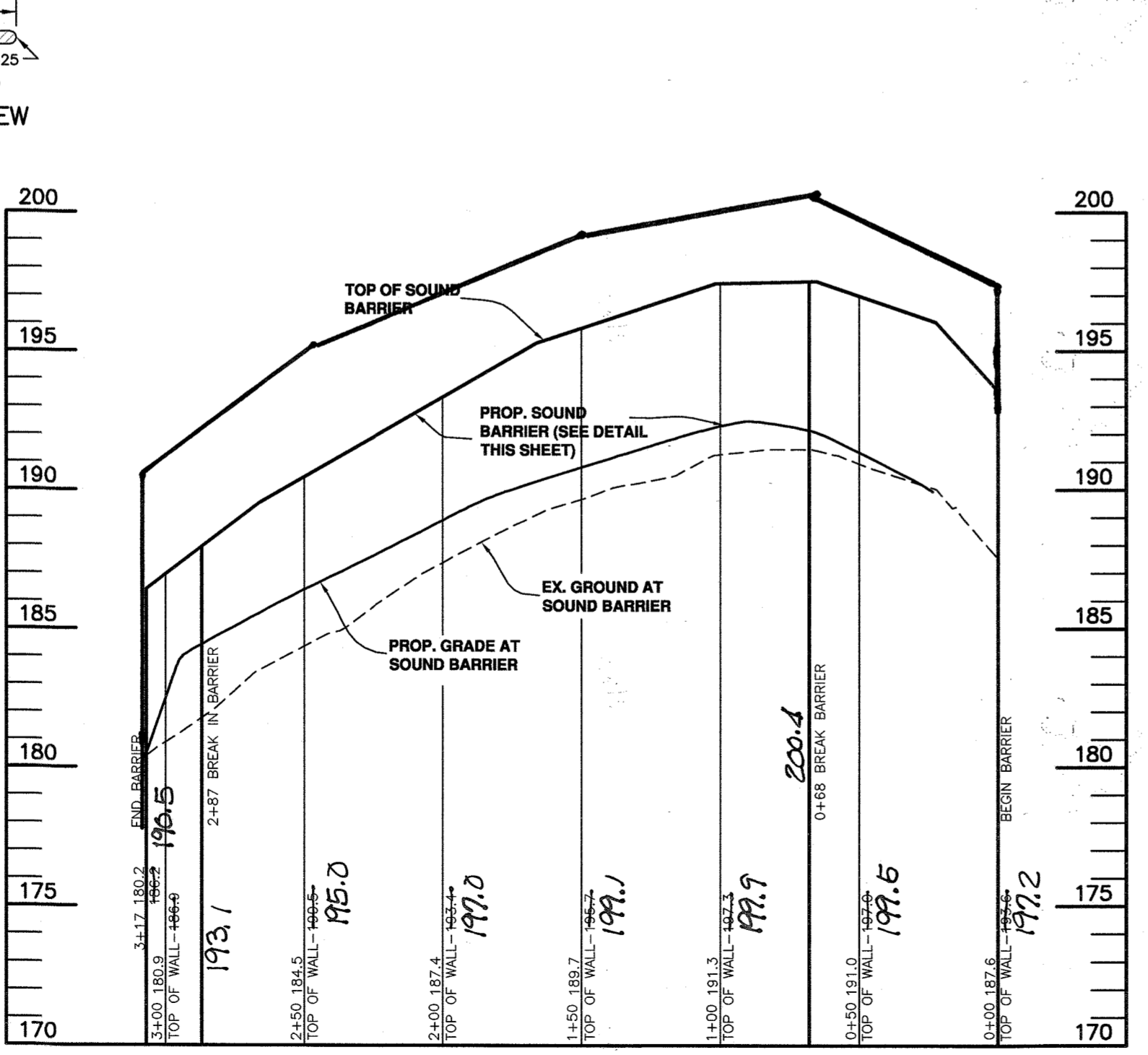




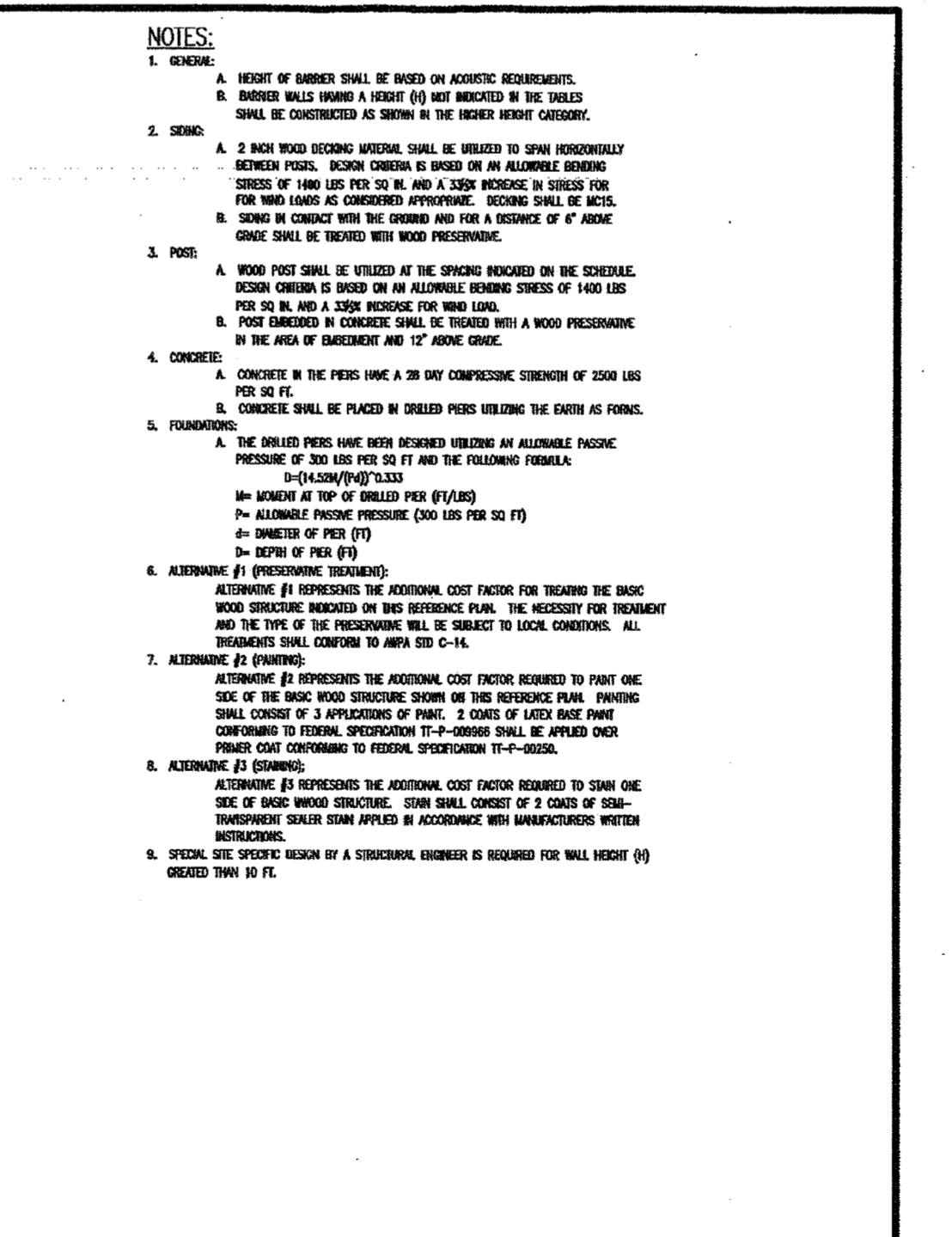
FOREST CONSERVATION NOTES:

1. ANY FOREST CONSERVATION EASEMENT (FCE) AREA SHOWN HEREON IS SUBJECT TO PROTECTIVE COVENANTS WHICH MAY BE FOUND IN THE LAND RECORDS OF HOWARD COUNTY WHICH RESTRICT THE DISTURBANCE AND USE OF THESE AREAS.
2. THE FOREST CONSERVATION EASEMENTS HAVE BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16-1200 OF THE HOWARD COUNTY CODE, FOREST CONSERVATION ACT. NO CLEARING, GRADING, OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENTS; HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.
3. LIMITS OF DISTURBANCE SHALL BE RESTRICTED TO AREAS OUTSIDE THE LIMIT OF TEMPORARY FENCING OR THE FCE BOUNDARY, WHICHEVER IS GREATER.
4. THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION OR DISTURBANCE OF VEGETATION IN THE FOREST CONSERVATION EASEMENT, EXCEPT AS PERMITTED BY HOWARD COUNTY DEPZ.
5. NO STOCKPILES, PARKING AREAS, EQUIPMENT CLEANING AREAS, ETC. SHALL OCCUR WITHIN AREAS DESIGNATED AS FOREST CONSERVATION EASEMENTS.
6. TEMPORARY FENCING SHALL BE USED TO PROTECT FOREST RESOURCES DURING CONSTRUCTION. THE FENCING SHALL BE PLACED ALONG ALL FCE BOUNDARIES WHICH OCCUR WITHIN 15 FEET OF THE PROPOSED LIMITS OF DISTURBANCE.
7. PERMANENT SIGNAGE SHALL BE PLACED 50-100' APART ALONG THE BOUNDARIES OF ALL AREAS INCLUDED IN FOREST CONSERVATION EASEMENTS.
8. THE TOTAL FOREST CONSERVATION OBLIGATION HAS BEEN MET BY THE ON-SITE RETENTION OF 1.26 AC. WITHIN A FOREST CONSERVATION EASEMENT.

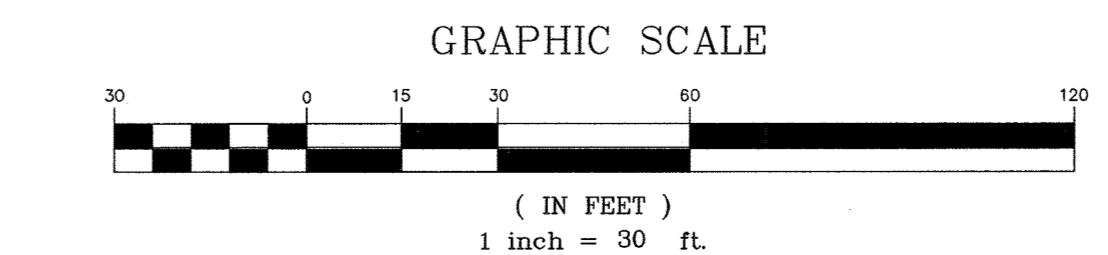
FOREST CONSERVATION WORKSHEET	
Patuxent Overlook	
Computations by: JCO	BEI JOB No. 1583
Date: 3/17/2014	
NET TRACT AREA:	
A. Total tract area	4.86 ac.
B. Other deductions (floodplain)	1.41 ac.
C. Net Tract Area	3.45 ac.
LAND USE CATEGORY:	
Select category (AR, MDR, IDR, HDR, MPD, CI)	HDR
D. Afforestation Threshold	15% x "F" = 0.52 ac.
E. Conservation threshold	20% x "F" = 0.69 ac.
EXISTING FOREST COVER:	
F. Existing forest cover	2.92 ac.
G. Area of forest above afforestation threshold	2.40 ac.
H. Area of forest above conservation threshold	2.23 ac.
BREAK EVEN POINT:	
I. Forest retention above threshold with no mitigation	1.14 ac.
J. Clearing permitted without mitigation	1.78 ac.
PROPOSED FOREST CLEARING:	
K. Total area of forest to be cleared	1.66 ac.
L. Total area of forest to be retained	1.26 ac.
PLANTING REQUIREMENTS:	
M. Reforestation for clearing above conservation threshold	0.42 ac.
N. Reforestation for clearing below conservation threshold	0.00 ac.
O. Credit for retention above conservation threshold	0.57 ac.
P. Total reforestation required	0.00 ac.
Q. Total afforestation required	0.00 ac.
R. Credit for landscaping - may not exceed 20% of "S."	0.00 ac.
S. Total reforestation and afforestation required	0.00 ac.



NOISE WALL	NOISE WALL NOTES	DETAIL
Howard County, Maryland Department of Public Works	Howard County, Maryland Department of Public Works	Howard County, Maryland Department of Public Works
Approved: [Signature]	Approved: [Signature]	Approved: [Signature]
Chief, Bureau of Engineering	Chief, Bureau of Engineering	Chief, Bureau of Engineering
Noise Wall Private	Noise Wall Notes Private	Detail R-9.05



NOISE WALL	NOISE WALL NOTES	DETAIL
Howard County, Maryland Department of Public Works	Howard County, Maryland Department of Public Works	Howard County, Maryland Department of Public Works
Approved: [Signature]	Approved: [Signature]	Approved: [Signature]
Chief, Bureau of Engineering	Chief, Bureau of Engineering	Chief, Bureau of Engineering
Noise Wall Private	Noise Wall Notes Private	Detail R-9.06



FOREST PROTECTION PROCEDURES - Preconstruction Phase

- 1) The edge of the woods to be protected will be marked (staked or flagged) in the field per the limits of forest conservation easement shown in the approved site development plan prior to the start of construction activity. All areas within protective easement are to be considered "off limits" to any construction activities. The optional protective fencing shall be installed at the outside edge of forested areas and should be combined with sediment control devices when possible. The limit of the critical root zone and therefore the location of the protective devices is to be determined as follows:
Edge of Forested Area - 1 foot of protective radius/inch of DBH or an eight foot protective radius, whichever is greater.
Critical Root Zone for the forest on this site is an average of 12 feet from the trunk of the tree.
- 2) Construction activities expressly prohibited within the preservation areas are:
Placing or stockpiling backfill or top soil in protected areas
Driving construction equipment into or through protected areas
Burning in or in close proximity to protected areas
Stacking or storing supplies of any kind
Concrete wash-off areas
Conducting trenching operations
Grading beyond the limits of disturbance
Parking vehicles or construction equipment
Removal of root mat or topsoil
Siting and construction of:
Access roads
Impervious surfaces
Stormwater management devices
Staging areas
- 3) Protective fencing (see Figure "Protective Fencing") shall be the responsibility of the general contractor. The general contractor shall affix signs to the fencing at 25' minimum intervals indicating that these areas are "Forest Retention Area" (see Figure "Signage"). The general contractor shall take great care to assure the restricted areas are not violated and that root systems are protected from smothering, flooding, excessive wetting from dewatering operations, off-site runoff, spillage, and drainage or solutions containing materials hazardous to tree roots.
- 4) The general contractor shall be responsible for any tree damaged or destroyed within the preservation areas whether caused by the contractor, his agents, employees, subcontractors, or licensees.
- 5) Foot traffic shall be kept to a minimum in the protective areas.
- 6) All trees which are not to be preserved within fifty feet of any preservation areas are to be removed in a manner that will not damage those trees that are designated for preservation. It is highly recommended that tree stumps within this fifty foot area be ground out with a stump grinding machine to minimize damage.
- 7) The general contractor shall designate a "wash out" area onsite for concrete trucks which will not drain toward a protected area.
- 8) A pre-construction meeting shall be held with local authorities before any disturbance has taken place on site.

FOREST PROTECTION PROCEDURES - Construction Phase

Forest and tree conditions should be monitored during construction and corrective measures taken when appropriate.

The following shall be monitored:

- a) Soil compaction
- b) Root injury - prune and monitor; consider crown reduction
- c) Limb injury - prune and monitor
- d) Flooded conditions - drain and monitor; correct problem
- e) Drought conditions - water and monitor; correct problem
- f) Other stress signs - determine reason, correct, and monitor

FOREST PROTECTION PROCEDURES - Post Construction Phase

The following measures shall be taken:

- 1) Corrective measures if damages were incurred due to negligence:
 - a) Stress reduction
 - b) Removal of dead or dying trees. This may be done only if trees pose an immediate safety hazard.
- 2) Removal of temporary structures:
 - a) No burial of discarded materials will occur onsite within the conservation area.
 - b) No open burning within 100 feet of a wooded area.
 - c) All temporary forest protection structures will be removed after construction.
 - d) Remove temporary roads by removing stone or broadcasting mulch; pre-construction elevation should be maintained.
 - e) Aerate compacted soil.
 - f) Replant disturbed sites with trees, shrubs and/or herbaceous plants.
 - g) Retain signs for retention areas or specimen trees.
 - h) A County official shall inspect the entire site.
- 3) Future protection measures:
 - a) Howard County and the developer shall arrange for the dedication of an appropriate forest conservation easement at a later date.

FOREST PROTECTION PROCEDURES - Preconstruction Phase

Stress Reduction and Protection of Specimen Trees Isolated from Forest Retention Areas and General Forest Retention Areas (as they may apply)

Isolated specimen trees that are to be preserved will be examined to determine if stress reduction techniques are needed. Protective measures and their evaluation criteria are provided on this plan only if they are employed herein.

Root Pruning
Evaluation Criteria
Will the critical root zone be affected by construction activities such as grade changes, digging for foundations and roads or utility installation?

Design Considerations

- a) Prune prior to construction as shown on the plan (see Figure "Root Pruning Detail.")
- b) Prune root with a clean cut using proper pruning equipment such as a vibratory knife.
- c) Exact location of pruning trench should be identified, and immediately backfilled to cover exposed roots after pruning with soil removed other topsoil, peat moss, or other suitable material or with other high organic soil.
- d) For trees over 15" in diameter, root pruning may be done up to one year in advance of construction.
- e) Tree(s) will be monitored for signs of stress.

Crown Reduction or Pruning
Evaluation Criteria
Has the root system been significantly reduced (>30%) or are there dead, damaged, or diseased limbs?

Design Considerations

- a) Reduce only at specified times of the year:
Flowering trees - only after flowering and before bud set
Non-flowering trees - in late winter, early spring or mid summer
- b) No more than 1/3 of the crown should be removed at one time using acceptable pruning methods (see Figure "Crown Reduction Detail")
- c) Monitor for signs of stress

Watering
Evaluation Criteria
Will construction activities alter the hydrology of the site? Has or will root pruning occur?

Design Considerations

- a) Water only as necessary
- b) Monitor for signs of stress (see Figure "Tree Planting and Maintenance Calendar")

Fertilizing
Evaluation Criteria
Is or will the tree(s) be under stressful conditions? Has or will root pruning occur?

Design Considerations

- a) Use low nitrogen and slow release fertilizers.
- b) Apply in late fall or early spring (see Figure "Tree Planting and Maintenance Calendar")
- c) For small trees (<3" in diameter), use punch hole method or pressurized injection method (see Figure "Application of Fertilizers by Injection.")
- d) For larger trees (>3" diameter), use punch hole method or pressurized injection method (see Figure "Application of Fertilizers by Injection.")
- e) Do not apply fertilizer any closer than 3' from tree trunk for pressurized injection method.
- f) Monitor for signs of stress.



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 of the State of Maryland.
License No. 21443 Expiration Date: 12-31-20

AS-BUILT CERTIFICATION
I hereby certify, by my seal, that to the best of my knowledge and belief the facilities shown on this "AS-BUILT" Plan meet the Approved Plans and Specifications
Date: 11/2/14
Donald Mason, P.E.

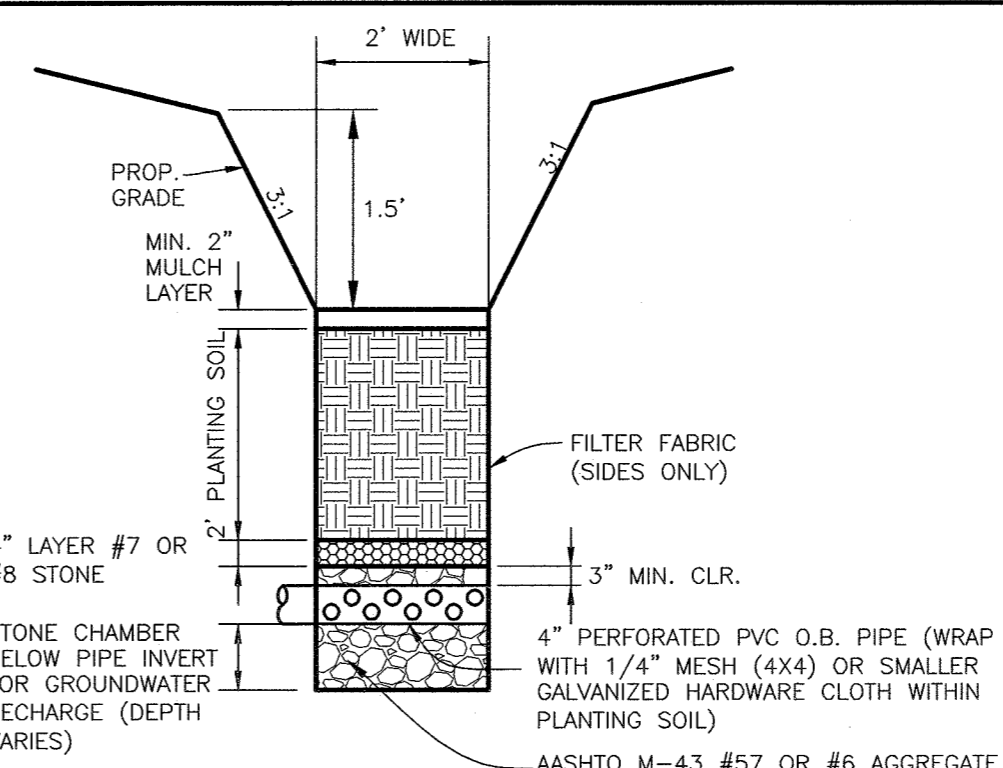
J. CHRIS OGLE
DNR QUALIFIED PROFESSIONAL

<p>BENCHMARK ENGINEERS & LAND SURVEYORS & PLANNERS ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE & SUITE 315 & ELLIOTT COTT. MARYLAND 21043 (P) 410-465-8105 (F) 410-465-8544 WWW.BEI-CIVILENGINEERING.COM</p>		<p>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 of the State of Maryland. License No. 21443 Expiration Date: 6-30-15</p>	
<p>OWNER: DEVELOPMENT PARTNERS, LLC 11807 WOLLINGFORD COURT CLARKSVILLE, MD 21029 301-490-0388</p>		<p>9801 BALTIMORE AVENUE PATUXENT OVERLOOK LOTS 1-9 AND OPEN SPACE LOTS 10 & 11</p>	
<p>DEVELOPER: DEVELOPMENT PARTNERS, LLC 11807 WOLLINGFORD COURT CLARKSVILLE, MD 21029 301-490-0388</p>		<p>TAX MAP 50, GRID 02, PARCELS 257 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND</p>	
<p>FINAL PLAT SUPPLEMENTAL PLAN FOREST CONSERVATION PLAN NOTES AND DETAILS</p>		<p>DATE: SEPTEMBER 2014 BEI PROJECT NO. 1583 SCALE: AS SHOWN SHEET 5 OF 7</p>	

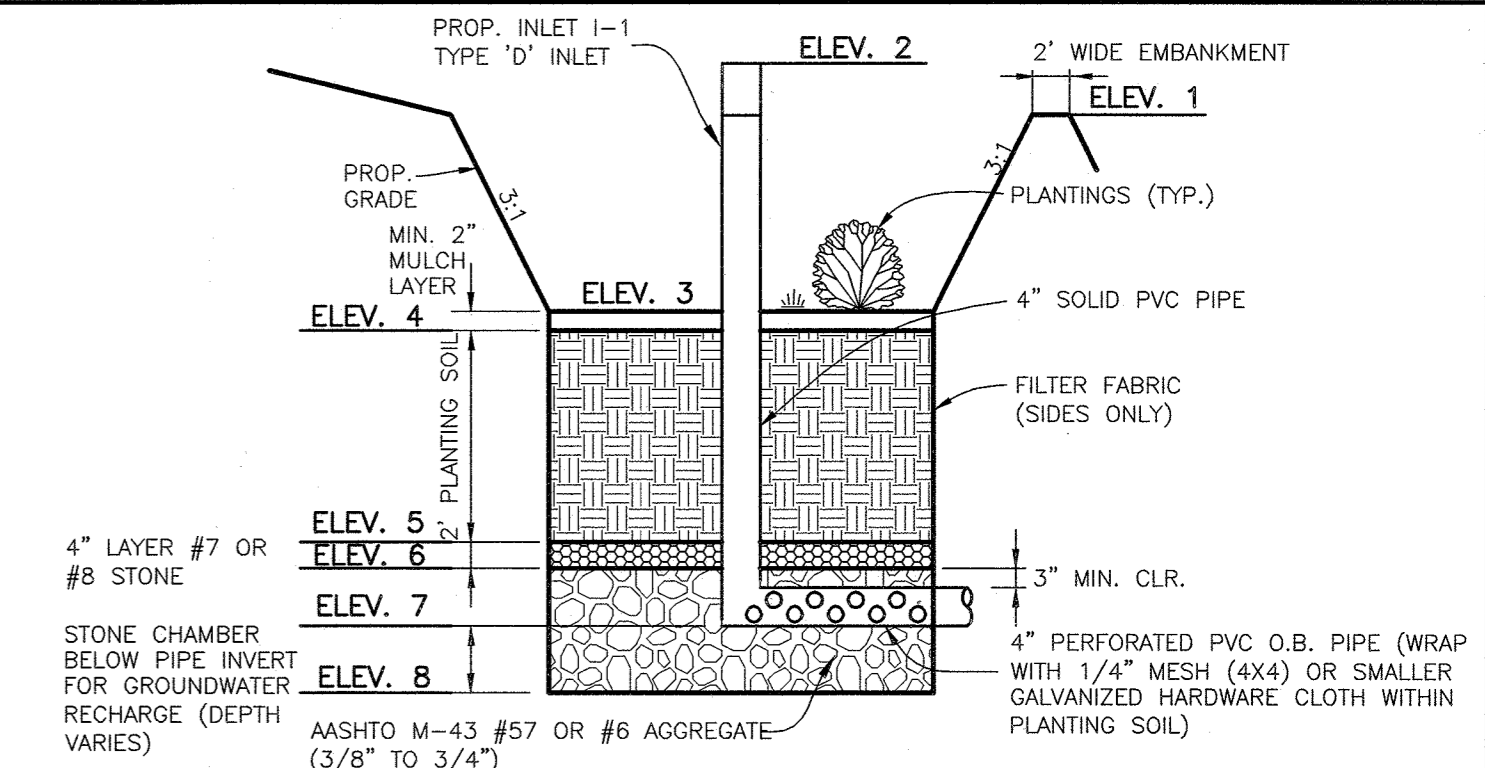
SCAGGSVILLE ROAD (MD RTE. 216)

STATE ROAD
INTERMEDIATE ARTERIAL
RIGHT-OF-WAY VARIES

AS-BUILT CERTIFICATION
I hereby certify, by my seal, that to the best of my knowledge
and belief the facilities shown on this "AS-BUILT"
Plan meet the Approved Plans and Specifications
Donald Mason, P.E. Date: 11/2/19



TYPICAL BIO-SWALE DETAIL
NOT TO SCALE



TYPICAL MICRO-BIORETENTION DETAIL
NOT TO SCALE

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 of the State of Maryland.
License No. 21443 Expiration Date: 12/1/20

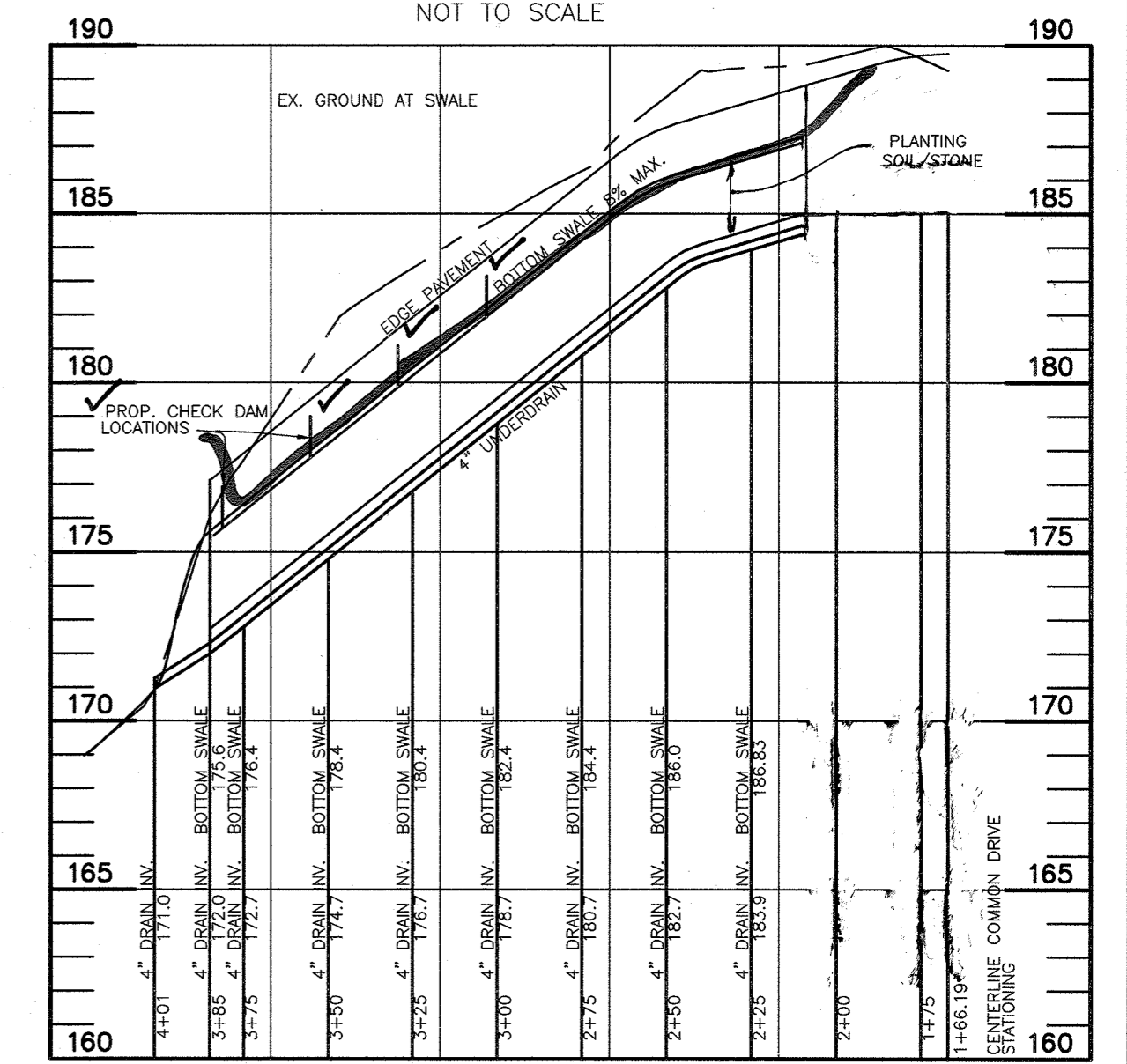


MBR DESIGN TABLES

MBR-RD	
ELEV. 1	180.50
ELEV. 2	181.30
ELEV. 3	179.50
ELEV. 4	179.33
ELEV. 5	177.33
ELEV. 6	177.00
ELEV. 7	176.42
ELEV. 8	176.22

SURFACE DIMENSIONS	
'A'	20'±
'B'	20'±
TOTAL SF	400

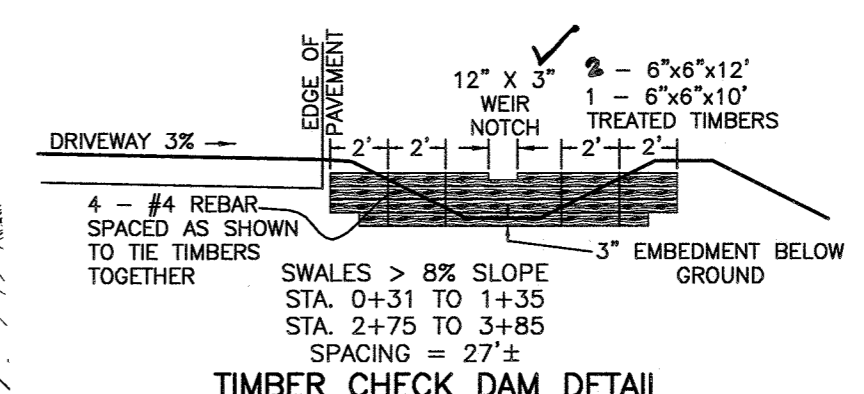
MICRO-BIORETENTION FACILITY DESIGN FOR THE ON LOTS FACILITIES WILL BE PROVIDED AT THE SITE DEVELOPMENT PLAN STAGE.



BIO-SWALE
SCALE: 1"=50' HORIZ, 1"=5' VERT.

STORM DRAINAGE AREA DATA

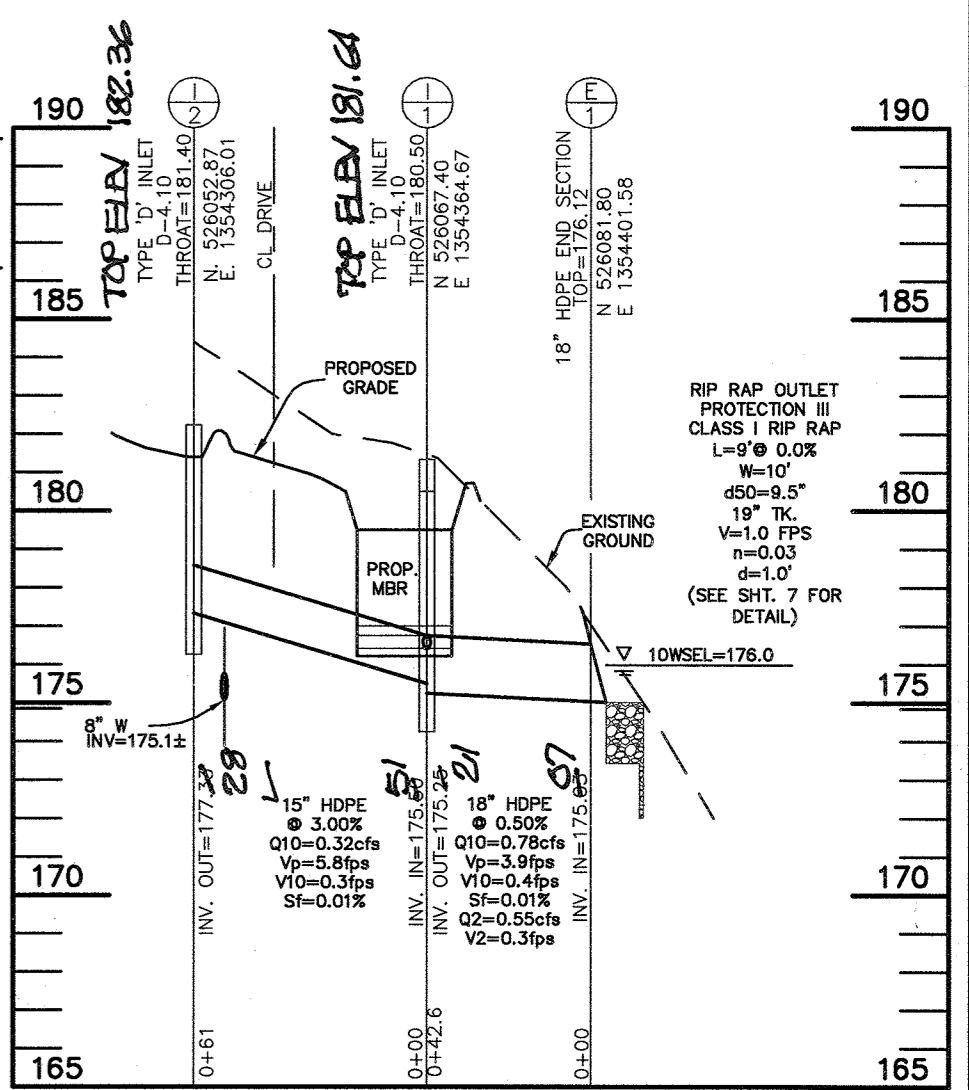
- (1-1) AREA = 0.19 AC ZONE = R-SC
"C" FACTOR = 0.32 IMPERVIOUS = 0%
- (1-2) AREA = 0.20 AC ZONE = R-SC
"C" FACTOR = 0.32 IMPERVIOUS = 40%



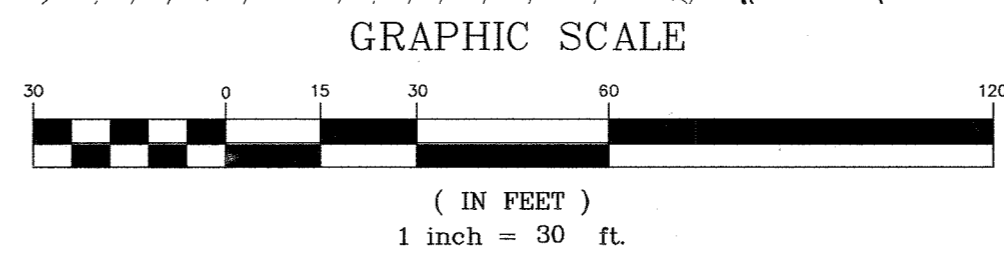
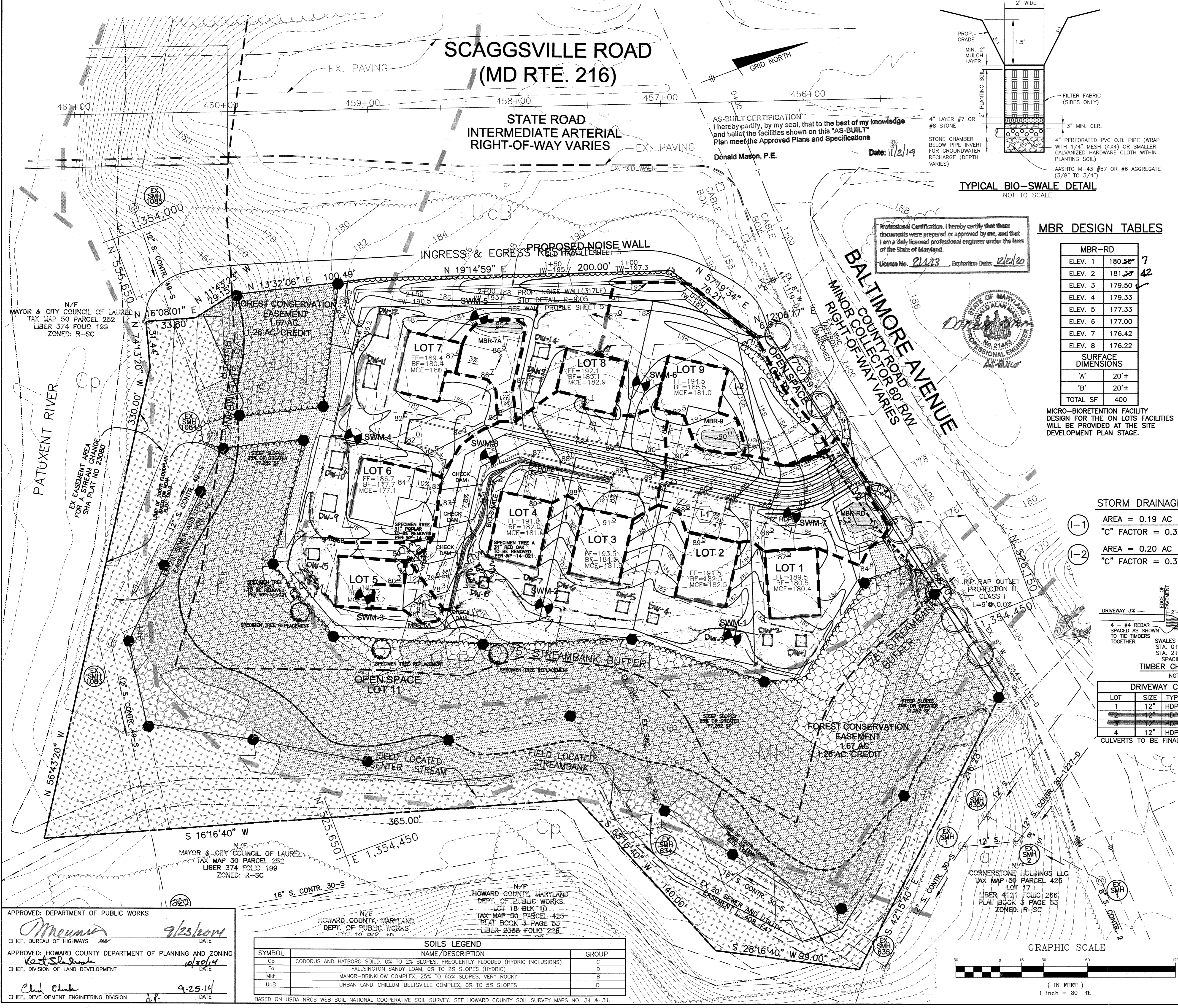
TIMBER CHECK DAM DETAIL
NOT TO SCALE

DRAINAGE CULVERT SCHEDULE					
LOT	SIZE	TYPE	PIPE	IN	OUT
1	12"	HDPE	24LF@2.4%	184.3	183.7
2	12"	HDPE	24LF@4.2%	187.8	186.8
3	12"	HDPE	24LF@2%	188.1	187.6
4	12"	HDPE	24LF@2.5%	186.7	186.1

CULVERTS TO BE FINALIZED AT THE SDP STAGE.



PRIVATE STORM DRAIN PROFILE
SCALE: 1"=50' HORIZ, 1"=5' VERT.



APPROVED: DEPARTMENT OF PUBLIC WORKS
9/23/2019
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
10/30/19
9-25-14

SOILS LEGEND		
SYMBOL	NAME/DESCRIPTION	GROUP
Cp	CODORUS AND HATBORO SOILS, 0% TO 2% SLOPES, FREQUENTLY FLOODED (HYDRIC INCLUSIONS)	C
Fo	FALLSINGTON SANDY LOAM, 0% TO 2% SLOPES (HYDRIC)	D
Mf	MANOR-BRINKLOW COMPLEX, 2% TO 6% SLOPES, VERY ROCKY	B
Uc-B	URBAN LAND-CHILLUM-BELTSVILLE COMPLEX, 0% TO 5% SLOPES	D

REVISIONS: REMOVE PORTION OF BIO-SWALE NOT CONSTRUCTED, CHANGE CULVERTS FOR LOTS 2 & 3 NOT CONSTRUCTED 3 UPDATE ON LOT 2 TO MATCH SWP 17-078

BENCHMARK ENGINEERING, INC.
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11807 WOLLINGFORD COURT CLARKSVILLE, MD 21029 301-490-0388

DEVELOPER: DEVELOPMENT PARTNERS, LLC
11807 WOLLINGFORD COURT CLARKSVILLE, MD 21029 301-490-0388

9801 BALTIMORE AVENUE
PATUXENT OVERLOOK
LOTS 1-9 AND OPEN SPACE LOTS 10 & 11

TAX MAP 50, GRID 02, PARCELS 257
6th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

FINAL PLAT SUPPLEMENTAL PLAN
DRAINAGE AREA MAP, STORM DRAIN PROFILES
AND STORMWATER MANAGEMENT DETAILS

DATE: SEPTEMBER 2014 BEI PROJECT NO. 1583
SCALE: 1"=30' SHEET 6 OF 7

B-4 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

Definition
Using vegetation as cover to protect exposed soil from erosion.

Purpose
To promote the establishment of vegetation on exposed soil.

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

Effects on Water Quality and Quantity
Stabilization practices are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and runoff to downstream areas.

Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff, infiltration, evaporation, transpiration, percolation, and groundwater recharge. Over time, vegetation will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth. Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone.

Sediment control practices must remain in place during grading, seeded preparation, seeding, mulching, and vegetative establishment.

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

1. Adequate vegetative stabilization requires 95 percent groundcover.

2. If an area has less than 40 percent groundcover, reestablish following the original recommendations for time, fertilizer, seed, and seeding.

3. If an area has between 40 and 94 percent groundcover, over-seed and fertilize using half of the rates originally specified.

4. Maintenance fertilizer rates for permanent seeding are shown in Table B.6.

B-4-1 STANDARDS AND SPECIFICATIONS FOR INCREMENTAL STABILIZATION

Definition
Establishment of vegetative cover on cut and fill slopes as work progresses.

Purpose
To provide timely vegetative cover on cut and fill slopes as work progresses.

Criteria
Any cut or fill slope greater than 15 feet in height. This practice also applies to stockpiles.

A. Incremental Stabilization - Cut Slopes

- Excavate and stabilize cut slopes in increments not to exceed 15 feet in height. Prepare seedbed and apply seed and mulch on all cut slopes as the work progresses.
- Construction sequence example (Refer to Figure B.1):
 - Construct and stabilize all temporary swales or dikes that will be used to convey runoff around the excavation.
 - Perform Phase 1 excavation, prepare seedbed, and stabilize.
 - Perform Phase 2 excavation, prepare seedbed, and stabilize. Overseed Phase 1 areas as necessary.
 - Perform final phase excavation, prepare seedbed, and stabilize. Overseed previously seeded areas as necessary.

Note: Once excavation has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

B. Incremental Stabilization - Fill Slopes

- Construct and stabilize fill slopes in increments not to exceed 15 feet in height. Prepare seedbed and apply seed and mulch on all slopes as the work progresses.
- Stabilize slopes immediately when the vertical height of a lift reaches 15 feet, or when the grading operation ceases as prescribed in the plans.
- At the end of each day, install temporary water conveyance practice(s), as necessary, to intercept surface runoff and convey it down the slope in a non-erosive manner.
- Construction sequence example (Refer to Figure B.2):
 - Construct and stabilize all temporary swales or dikes that will be used to divert runoff around the fill. Construct silt fence on low side of fill unless other methods shown on the plans address this concern.
 - At the end of each day, install temporary water conveyance practice(s), as necessary, to intercept surface runoff and convey it down the slope in a non-erosive manner.
 - Place Phase 1 fill, prepare seedbed, and stabilize.
 - Place Phase 2 fill, prepare seedbed, and stabilize.
 - Place final phase fill, prepare seedbed, and stabilize. Overseed previously seeded areas as necessary.

Note: Once the placement of fill has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

B-4-4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

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

Purpose
To use fast growing vegetation that provides protection on disturbed soils.

Conditions Where Practice Applies
Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time, permanent stabilization practices are required.

Criteria

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

H-5 STANDARDS AND SPECIFICATIONS FOR DUST CONTROL

Definition
Controlling the suspension of dust particles from construction activities.

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

Conditions Where Practice Applies
Areas subject to dust blowing and movement where on and off-site damage is likely without treatment.

Specifications

- Mulches: See Section B-4.2 Soil Preparation, Topsoiling, and Soil Amendments; Section B-4.3 Seeding and Mulching; and Section B-4.4 Temporary Stabilization. Mulch must be anchored to prevent blowing.
- Vegetative Cover: See Section B-4.4 Temporary Stabilization.
- Tillage: Till to a minimum surface depth of 2 inches. Begin plowing on windward side of site. Chisel-type plows spaced about 12 inches apart, spring-toothed harrows, and similar plows are examples of equipment that may produce the desired effect.
- Irrigation: Sprinkle site with water until the surface is moist. Repeat as needed. The site must not be irrigated to the point that runoff occurs.
- 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.
- Chemical Treatment: Use of chemical treatment requires approval by the appropriate plan review authority.

ENGINEER'S CERTIFICATE

I HEREBY 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.

C. Malagan 9-3-14
ENGINEER - CHRISTOPHER A. MALAGANI DATE

DEVELOPER'S CERTIFICATE

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL 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. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

Bl. Osberg 9-3-14
DEVELOPER DATE

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

APPROVED: DEPARTMENT OF PUBLIC WORKS
J. P. [Signature] 9/9/14
HOWARD SCD DATE

APPROVED: CHIEF, BUREAU OF HIGHWAYS
[Signature] 9/23/2014
DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
[Signature] 10/20/14
DATE

APPROVED: CHIEF, DEVELOPMENT ENGINEERING DIVISION
J.P. DATE

B-4-2 STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

Definition
The process of preparing the soils to sustain adequate vegetative stabilization.

Purpose
To provide a suitable soil medium for vegetative growth.

Conditions Where Practice Applies
Where vegetative stabilization is to be established.

Criteria

A. Soil Preparation

- Temporary Stabilization
 - Seeded preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened, it must not be eroded or dragged smooth but left in the roughened condition. Slopes 3:1 or flatter are to be tracked with ridges running parallel to the contour of the slope.
 - Apply fertilizer and lime as prescribed on the plans.
 - Incorporate time and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means.
- Permanent Stabilization
 - A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:
 - Soil pH between 6.0 and 7.0.
 - Soil soluble salts less than 500 parts per million (ppm).
 - Soil contains less than 40 percent clay but enough fine grained material (greater than 20 percent silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception: if forevegs will be planted, then a sandy soil (less than 30 percent silt plus clay) would be acceptable.
 - Soil contains 1.5 percent minimum organic matter by weight.
 - Soil contains sufficient soil moisture to permit adequate root penetration.
 - Application of amendments or topsoil is required if on-site soils do not meet the above conditions.
 - Seeded areas must be maintained in a true and even grade as specified on the approved plan, then scarified or otherwise loosened to a depth of 3 to 5 inches.
 - Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test.
 - Soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Rate lawn areas to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface where site conditions will not permit normal seeded preparation. Track slopes 3:1 or flatter with tracked equipment of the soil in an irregular condition with ridges running parallel to the contour of the slope. Leave a top 1 to 3 inches of soil loose and friable. Seeded loosening may be unnecessary on newly disturbed areas.

B. Topsoiling

- Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is to provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.
- Topsoil salvaged from an existing site may be used provided it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by the USDA-NRCS.
- Topsoiling is limited to areas having 2:1 or flatter slopes where:
 - The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
 - 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.
- Topsoiling Specifications: Soil to be used as topsoil must follow the following criteria:
 - Topsoil must be a loam, sandy loam, clay loam, loam, sandy clay loam, or loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Topsoil must not be a mixture of contrasting textures and 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 1/4 inch 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 must be applied as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.
- Topsoil application and sediment control practices must be maintained when applying topsoil.
 - Uniformly distribute topsoil in a 5 to 8 inch layer and lightly compact to a minimum thickness of 4 inches. Spreading is to be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations must be corrected in order to prevent the formation of depressions or water pockets.
 - Topsoil must not be placed if the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seeded preparation.

C. Soil Amendments (Fertilizer and Lime Specifications)

Soil tests must be performed to determine the exact rates 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 according 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 where it contains at least 20 percent magnesium oxide) or dolomite (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 clay types, spread ground limestone at the rate of 4 to 8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil.

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

Definition
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.

Criteria

A. Seeding

- Specifications
 - All seed must meet the requirements of the Maryland State Seed Law. All seed must be tested by 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.
 - Mulch alone may be applied between the fall and spring seeding dates only if the ground is frozen. The appropriate seed mixture must be applied when the ground thaws.
 - 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 use. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less effective.
 - Seed or seed mix must be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phytotoxic materials.
- Application
 - Dry Seeding: This includes use of conventional drop or broadcast spreaders.
 - Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.1, Permanent Seeding Table C, or site-specific seeding summaries.
 - Apply seed in the direction of the slope and in the direction of the wind. Apply half the seeding rate in each direction. Roll the seeded area with a weighted roller to provide good seed to soil contact.
 - Drill or Cutspreader Seeding: Mechanized equipment that apply and cover seed with soil.
 - Cutspreader equipment are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seeded must be firm after planting.
 - Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction.
 - 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; P2O5 (phosphorus), 200 pounds per acre; K2O (potassium), 200 pounds per acre.
 - 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.
 - Mix seed and fertilizer on site and seed immediately and without interruption. When hydroseeding do not incorporate seed into the soil.

B-4-5 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION (CONTINUED)

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 by preparing a proper seedbed. Remove stones and debris over 1 1/2 inches in diameter. The resulting seedbed must be in such condition that future mowing of grasses will pose no difficulty.

e. If soil moisture is deficient, supply new seedlings with adequate water for plant growth (1/2 to 1 inch every 3 to 4 days depending on soil texture) until they are firmly established. This is not especially true when seedlings are made late in the seeding season, in anomalously dry or hot seasons, or on adverse sites.

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

1. General Specifications

- Class of turfgrass must be Maryland State Certified. Sod labels must be made available to the job foreman and inspector.
- Sod must be machine cut at a uniform soil thickness of 1/2 inch, plus or minus 1/8 inch, at the time of cutting. Measurement for thickness must exclude top growth and thatch. Broken pads and torn or uneven ends will not be acceptable.
- Standard size sections of sod must be strong enough to support their own weight and retain their size and shape under standard verticillate with a firm grass on the upper 10 percent of the section. 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 installation.

2. Sod Installation

- During periods of excessively high temperature or in areas having dry subsoil, lightly irrigate the subsoil immediately prior to laying the sod.
- 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 the sod is not stretched or overlapped and that all joints are buffed tight in order to prevent voids which would cause air drying of the roots.
- Wherever possible, lay sod with the long edges parallel to the contour and with staggering joints.
- Roll and tamp, peg or otherwise secure the sod to prevent slippage on slopes. Ensure solid contact exists between sod and roots and the underlying soil surface.
- 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.

3. Sod Maintenance

- In the absence of adequate rainfall, water daily during the first week or as often and sufficiently as necessary to maintain moist soil to a depth of 4 inches. Water sod during the heat of the day to prevent wilting.
- After the first week, sod watering is required as necessary to maintain adequate moisture content. Do not mow until the soil is firmly rooted. No more than 1/3 of the grass leaf must be removed by the initial cutting or subsequent cuttings. Maintain a grass height of at least 3 inches unless otherwise specified.

B-4-4 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

Definition
To stabilize disturbed soils with permanent vegetation.

Purpose
To use long-lived perennial grasses and legumes to establish permanent ground cover on disturbed soils.

Conditions Where Practice Applies
Exposed soils where ground cover is needed for 6 months or more.

Criteria

A. Seed Mixtures

- General Use
 - Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardiness Zone (from Figure B.3) and based on the site condition or purpose found on Table B.2. Enter selected mixtures, application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.
 - 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 Guide, Section 342 - Critical Area Planting.
 - For sites having disturbed areas over 5 acres, use and show the rates recommended by the soil testing agency.
 - For areas receiving low maintenance, apply urea form fertilizer (46-0-0) at 3 1/2 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.
- Turfgrass Mixtures
 - Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.
 - Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixtures, application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.

1. Kentucky Bluegrass: Full Sun Mixture: For use in areas that receive intensive management. Irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky Bluegrass Cultivars with each ranging from 10 to 35 percent of the total mixture by weight.

2. Turfgrass Mixtures:

- Kentucky Bluegrass/Perennial Ryegrass: Full Sun Mixture: For use in full sun areas where rapid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky Bluegrass Cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
- Kentucky Bluegrass/Perennial Ryegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium management in full sun to medium shade. Recommended mixture includes: Certified Tall Fescue Cultivars 95 to 100 percent, Certified Kentucky Bluegrass Cultivars 0 to 5 percent. Seeding Rate: 5 to 8 pounds per 1000 square feet. One or more cultivars may be blended.
- 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 50 to 40 percent and Certified Fine Fescue and 60 to 20 percent. Seeding Rate: 1 to 3 pounds per 1000 square feet.

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

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

B. Mulching

1. Mulch Materials (in order of preference)

- 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.
- Use only sterile straw mulch in areas where one species of grass is desired.
- Wood Cellulose Fiber Mulch (WCFFM) consisting of specially prepared wood cellulose processed into a uniform fibrous physical state.
 - WCFFM 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 surface.
 - WCFFM, including dye, must contain no germination or growth inhibiting factors.
 - WCFFM materials are to be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material must form a slurry in water, 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.
 - WCFFM material must not contain elements or compounds at concentration levels that will be phytotoxic.
 - WCFFM 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 1.8 percent maximum and water holding capacity of 90 percent minimum.

2. Application

- 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 mulch 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 a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
- Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon the size of the area and erosion hazard:
 - A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil without disturbing the surface a minimum of 2 inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should follow the contour.
 - Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at a net soil weight of 750 pounds per acre. Mix the wood cellulose fiber with water to a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
 - Synthetic binders such as Acrylic DLR (Agra-Tack), DCA-70, Petrosol, Terra Tax II, Terra Tack XR 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 solid binders is strictly prohibited.
 - Lightweight plastic netting may be stapled over the mulch according to manufacturer recommendations. Netting is usually available in rolls 4 to 15 feet wide and 300 to 3,000 feet long.

B-4-6 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA

Definition
A mound or pile of soil protected by appropriately designed erosion and sediment control measures.

Purpose
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.

Criteria

- The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan.
- The footprint of the stockpile must be sized to accommodate the anticipated volume of material and based on a side slope ratio not steeper than 2:1. Benching must be provided in accordance with Section B.3 Land Grading.
- Runoff from the stockpile area must drain to a suitable sediment control practice.
- Access the stockpile area from the upgrade side.
- Clear water runoff into the stockpile area must be minimized by use of a diversion device such as an earth dike, temporary swale or diversion fence. Provisions must be made for discharging concentrated flow in a non-erosive manner.
- Where runoff concentrations along the toe of the stockpile fill, an appropriate erosion/sediment control practice must be used to intercept the discharge.
- Stockpiles must be stabilized in accordance with the 3:7 day stabilization requirement as well as Standard B-4.1 Incremental Stabilization and Standard B-4.4 Temporary Stabilization.
- If the stockpile is located on an impervious surface, a liner should be provided below the stockpile to facilitate cleaning. Stockpiles containing contaminated material must be covered with impermeable sheeting.

Maintenance

The stockpile area must continuously meet the criteria 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, 2:1 slopes, 30 feet for 1:1 slopes, or 40 feet for 4:1 slopes, benching must be provided in accordance with Section B-3 Land Grading.

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 of the State of Maryland.

License No. 210413 Expiration Date: 12/31/20

B-4-5 STANDARDS AND SPECIFICATIONS FOR CORRUGATED HDPE FLARED END SECTION SPECIFICATIONS

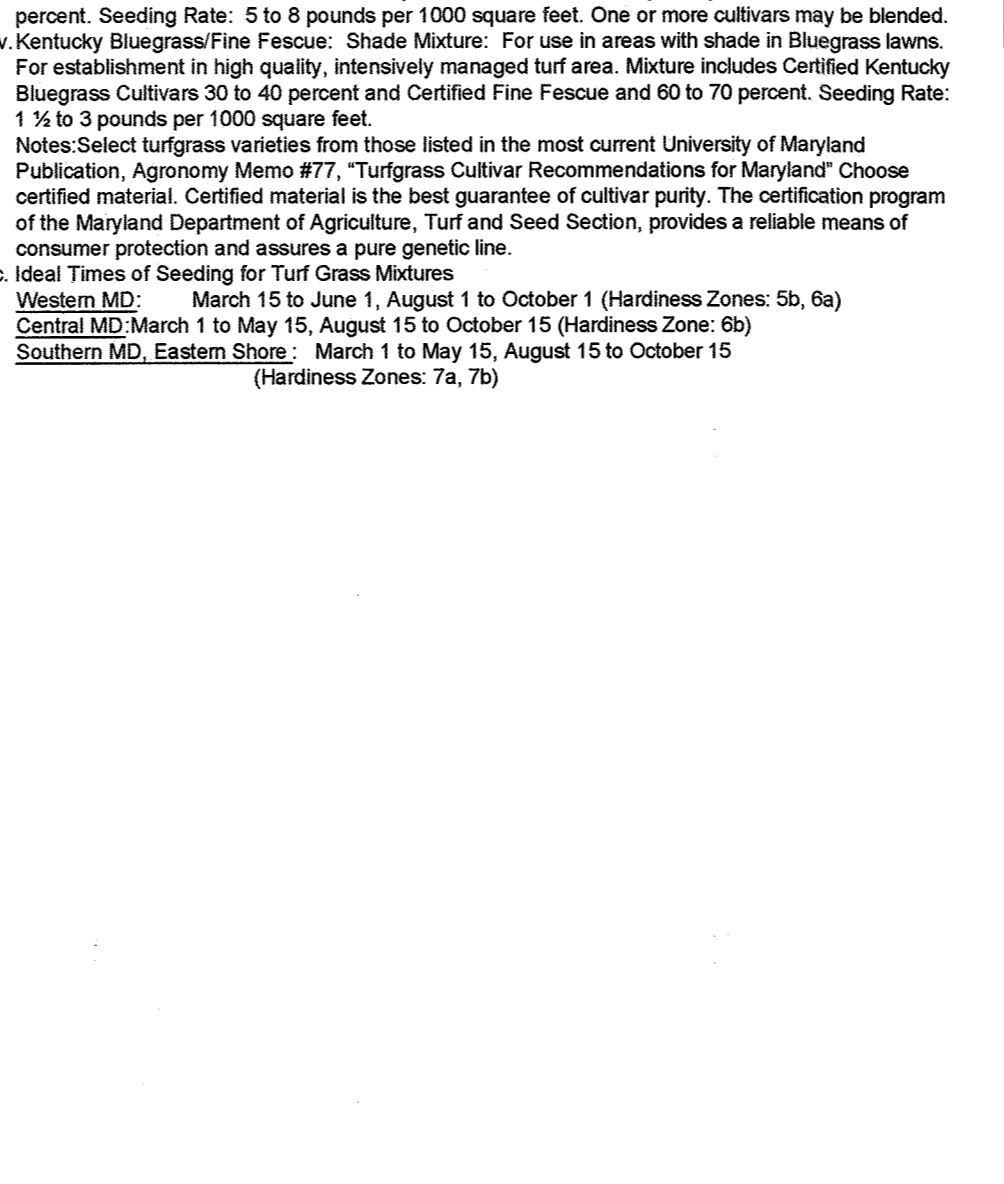
Scope
This specification describes 12- through 36-inch (300 to 900mm) Flared End Sections for use in cutbank and drainage outlet applications for Corrugated HDPE Pipe.

Requirements
The flared end pipe and the end section shall be at the same elevation as the Flared End Section and shall be high density polyethylene meeting ASTM D3350-02 with a minimum wall thickness of 21.55200. Each end section shall have a carbon black additive for UV protection.

Installation
Installation shall be in accordance with those issued by state or local authorities. Visit www.drainpipe.com for Advanced Pipe Products' standard recommended installation instructions.

Dimension	12" Pipe Diameter (300 mm)		18" Pipe Diameter (450 mm)		24" Pipe Diameter (600 mm)		30" Pipe Diameter (750 mm)		36" Pipe Diameter (900 mm)	
	Length (ft)	Weight (lb)	Length (ft)	Weight (lb)	Length (ft)	Weight (lb)	Length (ft)	Weight (lb)	Length (ft)	Weight (lb)
A) H	42	42	42	89	42	89	42	89	42	89
B) H	42	42	42	89	42	89	42	89	42	89
C) H	34	34	34	48	34	48	34	48	34	48
D) H	34	34	34	48	34	48	34	48	34	48
E) H	34	34	34	48	34	48	34	48	34	48

TOP VIEW
SIDE VIEW
FRONT VIEW



SEDIMENT CONTROL NOTES

- A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1855).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 3 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, B) 7 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. B-4-5), TEMPORARY SEEDING (SEC. B-4-4) AND MULCHING (SEC. B-4-3). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMITS FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS:

TOTAL AREA OF SITE	4.9	ACRES
AREA DISTURBED	2.0	ACRES
AREA TO BE ROOFED OR PAVED	0.67	ACRES
AREA TO BE VEGETATIVELY STABILIZED	1.34	ACRES
TOTAL CUT	4920	CU. YDS.
TOTAL FILL	1000	CU. YDS.
- OFFSITE WATER/BORROW ARE LOCATION: _____
- ANY SEDIMENT CONTROL PRACTICE THAT IS DISTURBED BY GRADING ACTIVITY FOR 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 ENFORCEMENT AUTHORITY. UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE ENFORCEMENT AUTHORITY, NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.
- 4/2013
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO IDENTIFY THE SPILL/BORROW SITE AND NOTIFY AND OBTAIN APPROVAL FROM THE SEDIMENT CONTROL INSPECTOR OF THE SITE AND ITS GRADING PERMIT NUMBER AT THE TIME OF CONSTRUCTION.
- 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 OR BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED BY THE END OF EACH WORKDAY, WHICHEVER IS SHORTER.
- ANY CHANGES OR REVISIONS TO THE SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE PLAN APPROVAL AUTHORITY PRIOR TO PROCEEDING WITH CONSTRUCTION.
- 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 ENFORCEMENT AUTHORITY. UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE ENFORCEMENT AUTHORITY, NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.



DETAIL E-3 SUPER SILT FENCE

CONSTRUCTION SPECIFICATIONS

- INSTALL 2x6 DIMENSION GALVANIZED STEEL POSTS OF 0.060 WALL THICKNESS AND 50 FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
- FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (26 INCH MAXIMUM OPENING) TO THE SUPER SILT FENCE.
- FASTEN WOVEN SILT GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPPER EDGE OF CHAIN LINK FENCE WITH TIED 2x4'S AT 20 INCHES TO THE TOP AND 48 INCHES TO THE BOTTOM OF THE FENCE. A MINIMUM OF 6 INCHES MUST BE LOCATED AT A HIGH SPOT.
- WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FUSED, AND STAPLED TO PREVENT SEEDING BY WIND.
- EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPBEFORE AT THE ENDS OF THE SUPER SILT FENCE.
- PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/PERMIT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS OF SECTION H-1 MATERIALS.
- REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT ACCUMULATED UNDER THE SUPER SILT FENCE. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

DETAIL E-1 STABILIZED CONSTRUCTION ENTRANCE

CONSTRUCTION SPECIFICATIONS

- PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SILE. USE MINIMUM LENGTH OF 50 FEET (40 FEET FOR SINGLE RESIDUALS) AND USE MINIMUM WIDTH OF 10 FEET. FLARE SIDE TO 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
- USE NEWLY SEEDING THROUGH THE SILE UNDER THE ENTRANCE. MAINTAIN POSITIVE DRAINAGE PROTECTIVE PRACTICE THROUGH THE SILE WITH A MOUNTAINABLE BEAM (6 IN MIN.) AND 4 FT. MIN. HIGH. MAINTAIN POSITIVE DRAINAGE PROTECTIVE PRACTICE THROUGH THE SILE WITH A MOUNTAINABLE BEAM (6 IN MIN.) AND 4 FT