

GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS, UNLESS WAIVERS HAVE BEEN APPROVED.
- 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.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION, WORK BEING DONE.
- TRAFFIC CONTROL WILL BE PROVIDED FOR THE PROPOSED ROAD WIDENING IN ACCORDANCE WITH THE LATEST MUTCD.
- TRAFFIC CONTROL DEVICES
 - THE R1-(15)TOP) SIGNS AND STREET NAME SIGN (SNS) ASSEMBLIES FOR THIS DEVELOPMENT MUST BE INSTALLED BEFORE THE BASE PAVING IS COMPLETE.
 - THE TRAFFIC CONTROL DEVICE LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND MUST BE FIELD APPROVED BY HOWARD COUNTY TRAFFIC DIVISION (410-313-5752) PRIOR TO THE INSTALLATION OF ANY OF THE TRAFFIC CONTROL DEVICES.
 - ALL TRAFFIC CONTROL DEVICES AND THEIR LOCATIONS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD).
 - ALL SIGN POST USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE - 3" LONG), A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON THE TOP OF EACH POST.
- THE EXISTING TOPOGRAPHY SHOWN HEREON IS FROM A TOPOGRAPHIC SURVEY BY FREDERICK WARD ASSOCIATES, DATED DECEMBER 2002.
- THE PROJECT BOUNDARY IS BASED ON A BOUNDARY SURVEY PERFORMED BY FREDERICK WARD ASSOCIATES, DATED DECEMBER 2002.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM.
- HOWARD COUNTY MONUMENT NOS. 38R2 AND 38R3 WERE USED FOR THIS PROJECT.
- THIS PROPERTY IS WITHIN THE METROPOLITAN DISTRICT.
- WATER IS PUBLIC AND WILL BE PROVIDED THROUGH CONTRACT # 14-4557-D.
- SEWER IS PUBLIC AND WILL BE PROVIDED THROUGH CONTRACT # 14-4557-D.
- STORM WATER MANAGEMENT TO BE PROVIDED FOR THIS DEVELOPMENT BY ENVIRONMENTAL SITE DESIGN UTILIZING UTILIZING A COMBINATION OF PRIVATE ON LOT AND H.O.A. MICRO BIO-RETENTION FACILITIES.
- EXISTING UTILITIES ARE BASED ON HOWARD COUNTY RECORDS AND FIELD SURVEY.
- THERE IS NO 100-YEAR FLOODPLAIN WITHIN THE LIMITS OF THIS PROJECT.
- NO WETLANDS OR STREAMS ARE LOCATED ON-SITE.
- THERE ARE NO PROPOSED DISTURBANCES TO THE WETLANDS OR ASSOCIATED BUFFERS.
- NO STEEP SLOPES ARE LOCATED ON-SITE.
- FOREST STAND DELINEATION PLAN WAS PREPARED BY ECO-SCIENCE PROFESSIONAL, INC. DATED SEPTEMBER 19, 2007 AND APPROVED UNDER SP-08-010.
- FOREST CONSERVATION PLAN PREPARED BY ROBERT H. VOGEL ENGINEERING, INC.
- TO THE BEST OF THE OWNERS KNOWLEDGE, THERE ARE NO CEMETERIES OR GRAVE SITES LOCATED ON THE SUBJECT PROPERTY.
- THIS PLAN IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, DEVELOPMENT OR CONSTRUCTION OF THESE LOTS MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE SITE DEVELOPMENT PLAN, WAIVER PETITION, OR BUILDING AND GRADING PERMITS.
- THE SUBDIVISION PLAN IS SUBJECT TO THE FOLLOWING DPZ FILES: F-95-64, PLAT # 11799 (BEALMEAR II SUBDIVISION LOTS 1 & 2), SP 08-010.
- THE SUBJECT PROPERTY IS ZONED "R-12" IN ACCORDANCE WITH THE 2/2/04 COMPREHENSIVE ZONING PLAN AND THE COMP. LITE ZONING REGULATIONS EFFECTIVE ON 7/28/06.
- A TRAFFIC STUDY 10, APPD TRAFFIC STUDY PREPARED BY THE TRAFFIC GROUP, DATED MARCH 27, 2007 AND REVISED 27, 2008.
- OPEN SPACE LOTS 1 AND 8 TO BE PRIVATELY OWNED AND MAINTAINED BY THE HOME OWNERS ASSOCIATION.
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL, A FINANCIAL SURETY IN THE AMOUNT OF \$5,400.00 FOR THE REQUIRED 15 SHADE TREES, 4 ORNAMENTAL AND 2 EVERGREEN TREES SHALL BE POSTED WITH THE DEVELOPERS AGREEMENT FOR THIS PLAN.
- PUBLIC STREET TREES ARE PROVIDED FOR THIS PROJECT IN ACCORDANCE WITH SECTION 16.124(a)(1) OF THE SUBDIVISION REGULATIONS AND THE LANDSCAPE MANUAL. FINANCIAL SURETY IN THE AMOUNT OF \$4,200.00 SHALL BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT FOR THE REQUIRED 14 STREET TREES. A MINIMUM OF 20' SHALL BE MAINTAINED BETWEEN STREET LIGHTS AND TREES.
- STREET LIGHTING IS REQUIRED FOR THIS SITE IN ACCORDANCE WITH SECTION 16.135 OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.
- TOTAL FOREST CONSERVATION OBLIGATION FOR THIS PROJECT (0.80 AC OR 26,136 SF) TO BE FULFILLED BY ON-SITE AFFORESTATION OF 0.38 ACRES (16,730 x 0.50 = 8,365) AND 0.22 ACRES (9,400 x 0.75 = 7,050) TO BE FULFILLED BY PAYMENT OF A FEE-IN-LIEU. FINANCIAL SURETY IN THE AMOUNT OF \$ 8,365 WILL BE POSTED WITH THE FOREST CONSERVATION MAINTENANCE AGREEMENT.
- THE FOREST CONSERVATION EASEMENT HAS BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.120 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.
- NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF WETLANDS, STREAM(S), OR THEIR REQUIRED BUFFERS, FLOODPLAIN AND FOREST CONSERVATION EASEMENT AREAS.
- A NOISE STUDY WAS PREPARED BY ROBERT H. VOGEL ENGINEERING, INC. DATED FEBRUARY 25, 2008 AND APPROVED UNDER SP-08-010.
- LOT 2 TO LOT 8 AND OPEN SPACE LOT 8 WILL UTILIZE A USE-IN-COMMON DRIVEWAY. HOWARD COUNTY STANDARD DETAIL NO. R-6-01 WILL BE UTILIZED FOR THE ENTRANCE AT THE INTERSECTION OF THE PUBLIC ROAD.
- THE PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
- THE GEOTECHNICAL REPORT FOR THIS PROJECT WAS PREPARED BY HERBST/BENSON & ASSOCIATES SP 08-10. TEST PITS WERE COMPLETED IN JULY 2012 FOR THE PROPOSED ENVIRONMENTAL SITE DESIGN FEATURES.
- THIS SUBDIVISION IS LOCATED IN THE BWI AIRPORT NOISE ZONE, REQUIRING EROSION AND SEDIMENT CONTROL, STORMWATER MANAGEMENT, LANDSCAPE PLAN AND BVI MARSHALL AIRPORT NOISE ZONE REVIEWS AS WELL AS A PRELIMINARY OBSTRUCTION ANALYSIS. THE MARYLAND AVIATION ADMINISTRATION ISSUED ITS APPROVAL LETTER FOR THE PROJECT ON NOVEMBER 28, 2012.
- PARKING TO BE PROVIDED IN ACCORDANCE WITH SECTION 133 OF THE ZONING REGULATIONS.
- SOIL COMPACTION SPECIFICATIONS, REQUIREMENTS, METHODS AND MATERIALS ARE TO BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE PROJECT GEOTECHNICAL ENGINEER. GEOTECHNICAL ENGINEER TO CONFIRM ACCEPTABILITY OF PROPOSED PAVING SECTION, BASED ON SOILS TEST.
- FOR FLAG OR PIPE STEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE TO BE PROVIDED AT THE JUNCTION OF FLAG OR PIPE STEM AND THE ROAD R/W AND NOT ONTO THE FLAG OR PIPE STEM DRIVEWAY.
- DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
 - WIDTH - 12' (16' SERVING MORE THAN ONE RESIDENCE).
 - SURFACE -- 12" ASTM C-33 3/4" TO 2" STONE WITH 7" PERMEABLE CONCRETE
 - GEOMETRY -- MAX. 15% GRADE, MAX. 10% GRADE CHANGE AND MIN. 45' TURNING RADIUS.
 - STRUCTURES (CULVERTS/BRIDGES) -- CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING).
 - DRAINAGE ELEMENTS -- CAPABLE OF SAFELY PASSING 100-YEAR FLOOD WITH NO MORE THAN 1' FOOT DEPTH OVER DRIVEWAY SURFACE.
 - MAINTENANCE -- SUFFICIENT TO ENSURE ALL WEATHER USE.
- THIS SUBDIVISION IS SUBJECT TO DESIGN MANUAL WAIVERS/ALTERNATIVE COMPLIANCE FROM SECTION 5.2.6.D.1A TO REDUCE THE DAM TOP WIDTH FROM 12' TO 10', SECTION 5.2.4.I TO REDUCE THE DISTANCE FROM THE END OF RIP RAP APRON TO THE PROPERTY LINE FROM 25' TO 10', SECTION 5.2.7.A.3, TO ELIMINATE THE 12' MAINTENANCE BENCH AND SECTION 5.2.7.B.2 TO REDUCE THE ORIFICE DIAMETER FROM THE MINIMUM SIZE 1.5" TO 1.3". ON AUGUST 29, 2008, THE HOWARD COUNTY DEVELOPMENT ENGINEERING DIVISION APPROVED THE REQUESTED WAIVERS / ALTERNATIVE COMPLIANCE REQUEST BASED ON:
 - THE SWIM POND IS PRIVATELY OWNED AND MAINTAINED AND NO ADVERSE IMPACTS TO COUNTY INFRASTRUCTURE
 - A 10' BENCH BEING PROVIDED ON THE LOT 7 SIDE AND A 5' BENCH ON THE REMAINDER OF THE POND PERIMETER AND SPLIT RAIL FENCE WITH 1" x 1" WIRE MESH SHALL BE PROVIDED ALONG THE LOT 7 PERIMETER AND HANOVER ROAD.

THESE WAIVERS / ALTERNATIVE COMPLIANCE APPROVALS ARE VOID AS THE STORMWATER POND AS SHOWN ON SP-08-10 IS NO LONGER PROPOSED. REFER TO GENERAL NOTE 13.

- A SHARED DRIVEWAY ACCESS AND MAINTENANCE OBLIGATION AGREEMENT FOR THE USE-IN-COMMON DRIVEWAY WHICH SERVES LOTS 2-6 AND OPEN SPACE LOT 8 HAS BEEN RECORDED IN THE LAND RECORDS OF HOWARD COUNTY SIMULTANEOUSLY WITH THE RECORDATION OF PLAT F-12-095. A REFERENCE TO THESE DOCUMENTS SHALL BE INCLUDED IN THE DEED(S) IN ACCORDANCE WITH SECTION 110.1.2 OF THE ZONING REGULATIONS.
- A PRIVATE RANGE OF ADDRESS SIGN SHALL BE FABRICATED AND INSTALLED BY HOWARD COUNTY - BUREAU OF HIGHWAYS AT THE DEVELOPERS/OWNERS EXPENSE. CONTACT HOWARD COUNTY TRAFFIC DIVISION AT 410-313-2430 FOR DETAILS AND COST ESTIMATES.
- OPEN SPACE LOTS 1 & 8 SHOWN HEREON ARE HEREBY DEDICATED TO THE HANOVER JUNCTION HOMEOWNERS' ASSOCIATION, INC. (HOMEOWNERS ASSOCIATION) FOR THE RESIDENTS OF THIS SUBDIVISION. THE ARTICLES OF INCORPORATION FOR THE HOMEOWNERS ASSOCIATION WERE FILED WITH THE STATE DEPARTMENT OF ASSESSMENTS AND TAXATION ON NOVEMBER 28, 2012, RECEIPT NO. D14978680.
- THE PROTECTIVE COVENANTS, INCLUDING COVENANTS GOVERNING THE MAINTENANCE OF COMMUNITY OWNED OPEN SPACE, SHALL BE RECORDED CONCURRENTLY WITH THE RECORDING OF THE RECORD PLAT.

APPROVED: DEPARTMENT OF PUBLIC WORKS
 CHIEF, BUREAU OF HIGHWAYS
 APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 CHIEF, DIVISION OF LAND DEVELOPMENT

LOT NO.	GROSS AREA	PIPESTEM AREA	MINIMUM LOT SIZE
2	7,513.41	306.79	7,206.62
3	7,953.25	729.95	7,223.30
4	8,371.69	1123.27	7,248.42
5	7,769.25	550.61	7,218.64

APPROVED: DEPARTMENT OF PUBLIC WORKS
 CHIEF, BUREAU OF HIGHWAYS
 APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 CHIEF, DIVISION OF LAND DEVELOPMENT

FINAL ROAD CONSTRUCTION PLAN

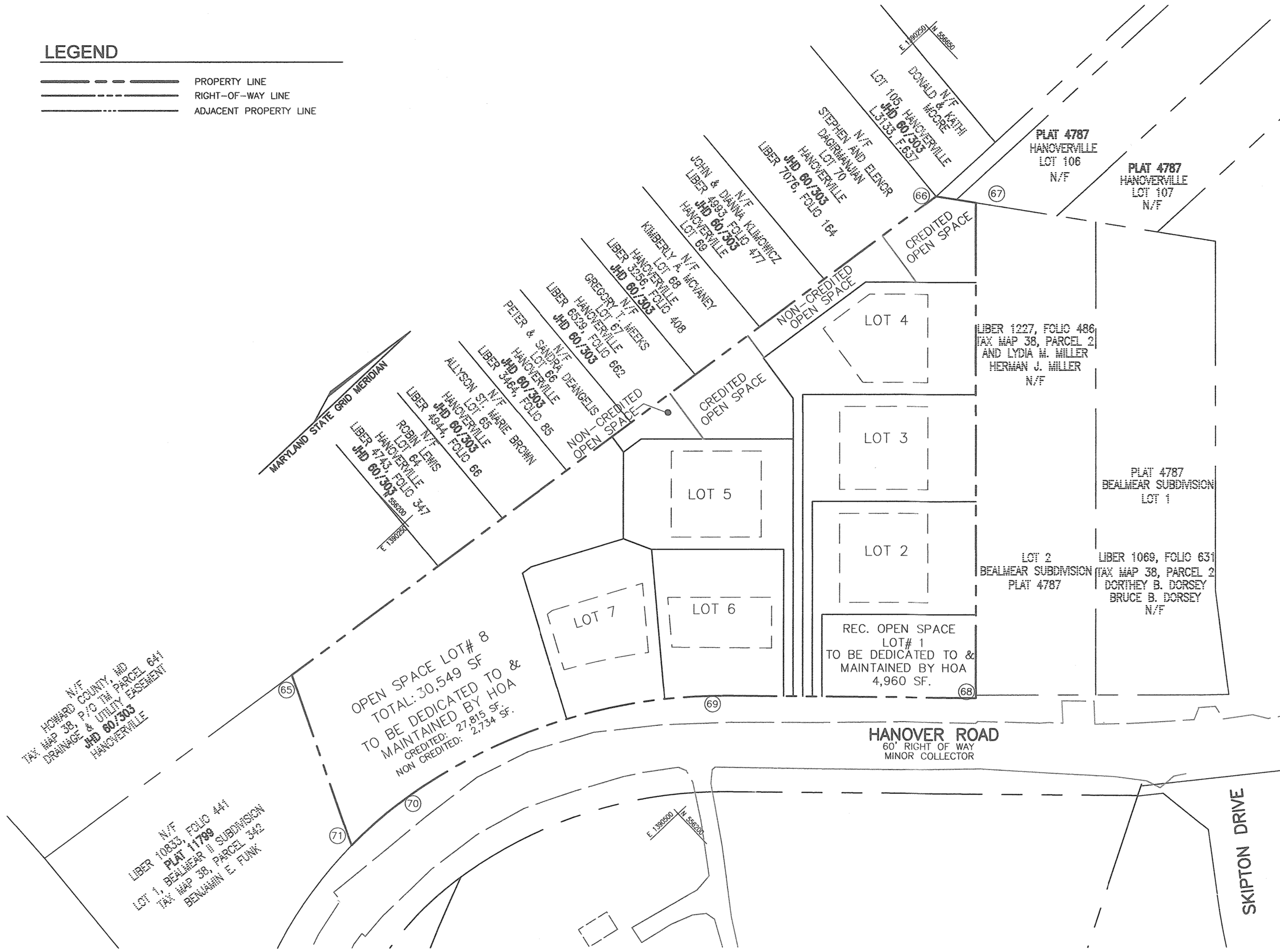
BASHAM PROPERTY

LOTS 2-7 & OPEN SPACE LOT 1 & 8

A RESUBDIVISION OF LOT 2 BEALMEAR II SUBDIVISION RECORDED AS PLAT NO. 11799 HOWARD COUNTY, MARYLAND

LEGEND

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- ADJACENT PROPERTY LINE



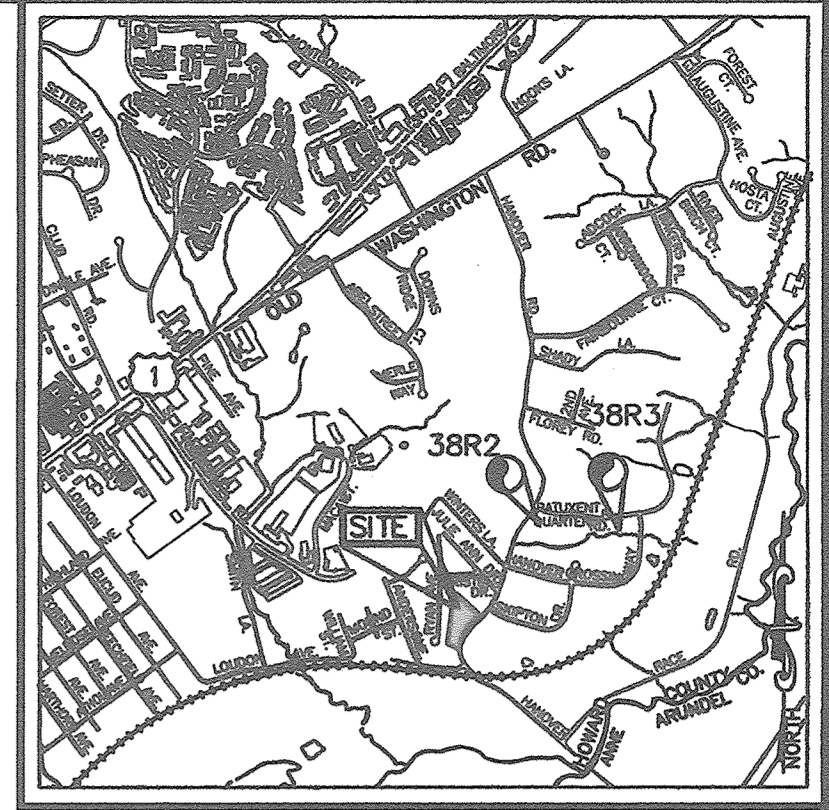
LOCATION MAP
SCALE: 1"=50'

SITE DATA

LOCATION: TAX MAP 38, GRID 14, P/O TM PARCEL 342
 1ST ELECTION DISTRICT
 DEED REFERENCE: 6906 / 307
 EXISTING ZONING: R-12
 GROSS AREA OF PROJECT: 81,533 SF (1.87 AC.)
 AREA OF 100-YEAR FLOODPLAIN: 0 AC.
 AREA OF 25% OR GREATER STEEP SLOPES: 0 AC.
 NET AREA OF PROJECT: 81,536.72 SF (1.87 AC.)
 AREA OF PROPOSED BUILDABLE LOTS: 46,404.27 SF (1.065 AC.)
 AREA OF OPEN SPACE REQUIRED: 40% OF GROSS AREA OF PARCEL (0.74 AC.)
 CREDITED OPEN SPACE PROVIDED: 27,815.03 SF : PROVIDED OPEN SPACE IS LOCATED ON OPEN SPACE LOT # 8
 4,959.78 SF : PROVIDED OPEN SPACE IS LOCATED ON OPEN SPACE LOT # 1.
 32,774.81 SF (0.752 AC) 40% OF GROSS AREA
 NON CREDITED OPEN SPACE PROVIDED: 2,734.36 SF (0.062 AC): PROVIDED OPEN SPACE IS LOCATED ON OPEN SPACE LOT # 8.
 TOTAL OPEN SPACE PROVIDED: 0.815 AC
 AREA OF RECREATIONAL OPEN SPACE REQUIRED : 200 SF PER UNIT (1200 SF)
 AREA OF RECREATIONAL OPEN SPACE PROVIDED : 4,959.78 SF -LOCATED ON LOT 1
 NUMBER OF BUILDABLE LOTS ALLOWED: 6 LOTS
 NUMBER OF BUILDABLE LOTS PROPOSED: 6 LOTS
 NUMBER OF OPEN SPACE LOTS: 2
 THE SMALLEST BUILDABLE LOT IS LOT 7 (7,200.46 SF).
 TOTAL APPROXIMATE LIMIT OF DISTURBANCE: 88,869 SF (2.0 AC.)
 PRELIMINARY PLAN APPROVAL DATE: FEBRUARY 12, 2009

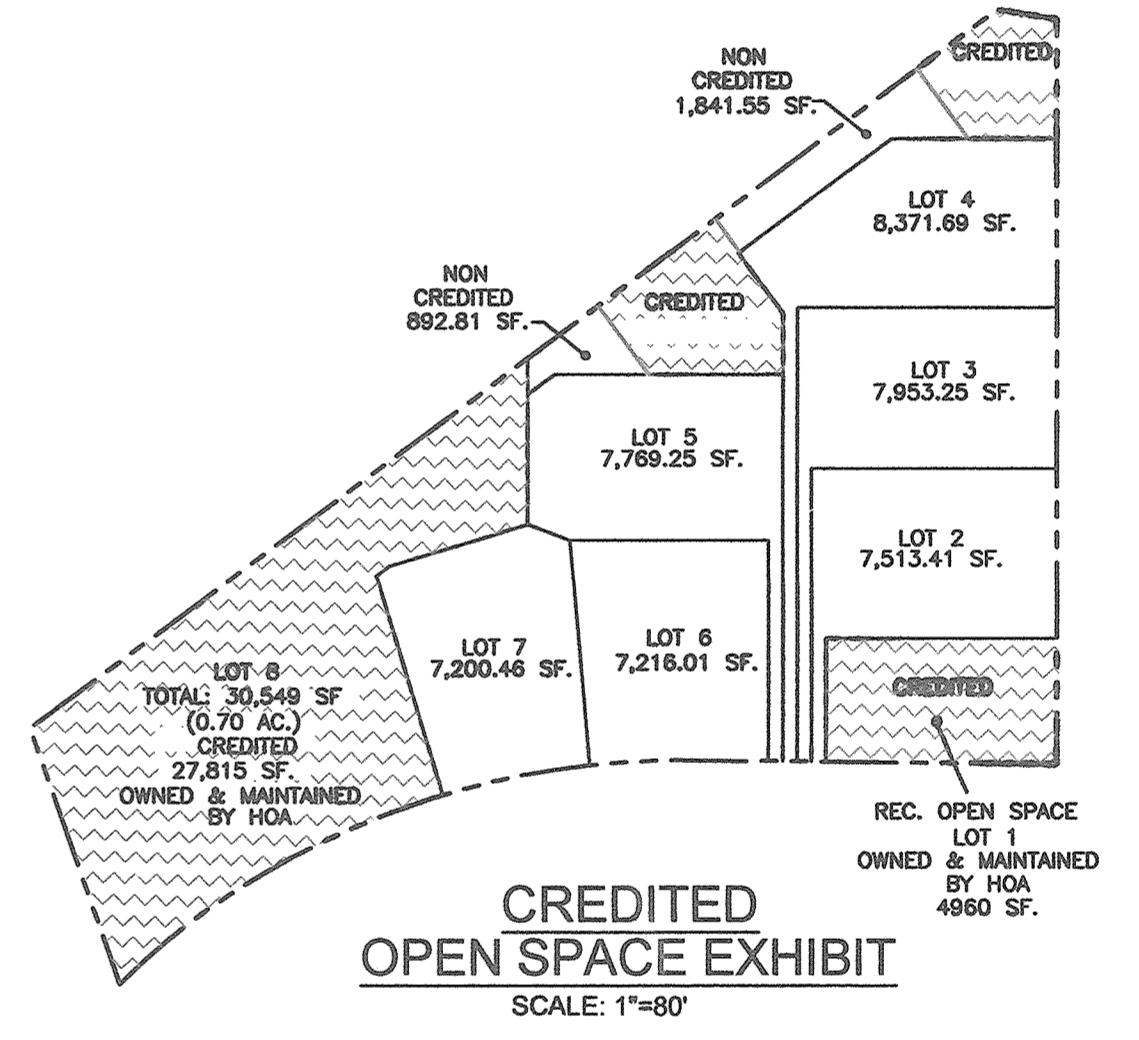
POINT	NORTHING	EASTING
65	556083.5857	1390270.9104
66	556581.4504	1390329.3956
67	556596.8248	1390349.3622
68	556384.9729	1390574.8004
69	556272.6138	1390467.2018
70	556086.3647	1390376.5792
71	556037.7203	1390374.1499

DESCRIPTION	SHEET NO.
COVER SHEET	1 OF 11
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AASCD / MAA NOTES & DETAILS	11 OF 11



ADC MAP COORDINATES

MAP: 4937
 GRID: E9
BENCH MARK
 HOWARD COUNTY CONTROL STATION 38R2
 NORTH 557,500.663'
 EAST 1,391,227.052'
 ELEVATION 168.768' (NAVD 1988)
 HOWARD COUNTY CONTROL STATION 38R3
 NORTH 557,417.823'
 EAST 1,391,983.177'
 ELEVATION 124.653' (NAVD 1988)



NO.	REVISION	DATE
1	REVISE PLANS TO REMOVE SIDEWALK ALONG THE FRONTAGE OF PARCEL 283 AND HANOVERVILLE LOT 114	2-16-18

FINAL ROAD CONSTRUCTION PLAN COVER SHEET

BASHAM PROPERTY
 LOTS 2-7 & OPEN SPACE LOT 1 & 8
 A RESUBDIVISION OF LOT 2 - BEALMEAR II SUBDIVISION
 RECORDED AS PLAT NO. 11799

1ST ELECTION DISTRICT: 14
 TAX MAP: 38 GRID: 14
 DPZ REF'S: SP 08-010

ZONING: R-12
 PARCEL: 342
 HOWARD COUNTY, MARYLAND

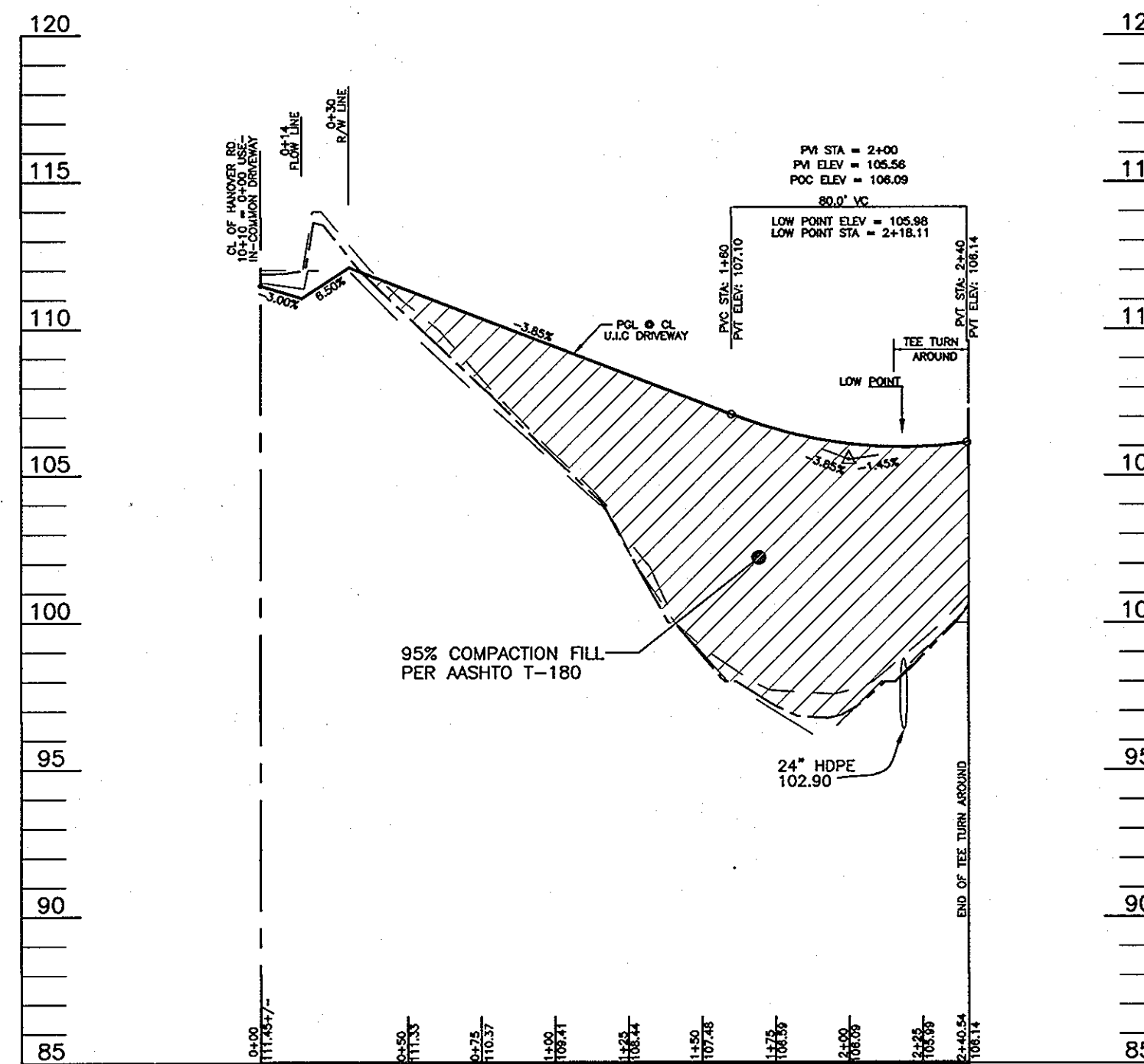
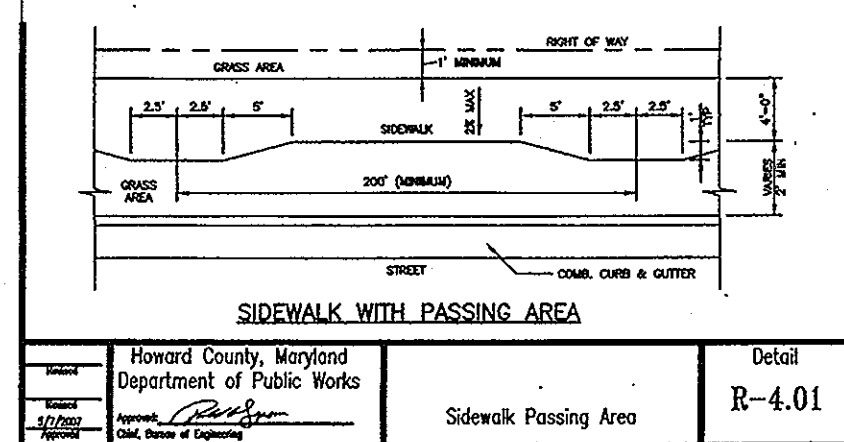
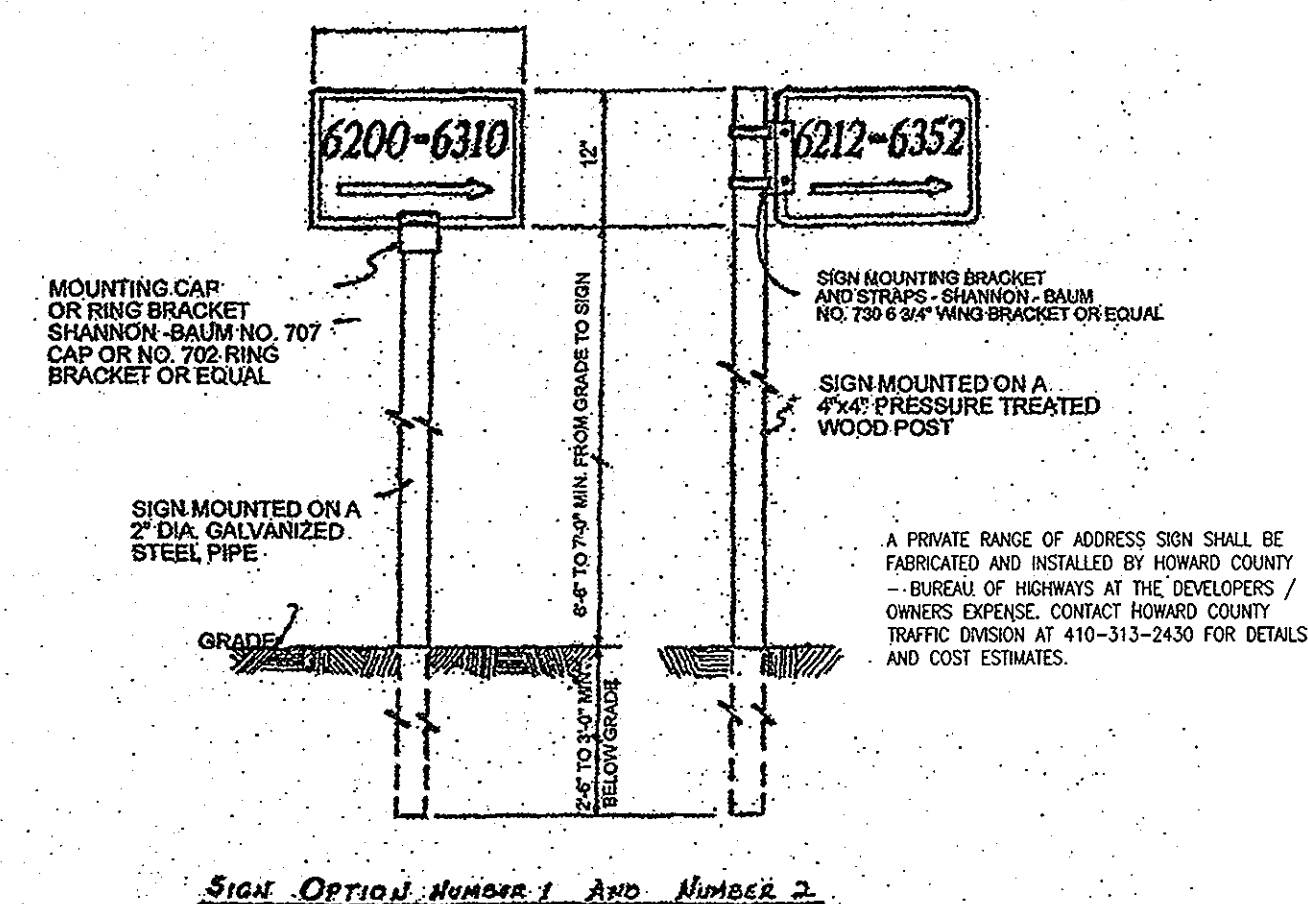
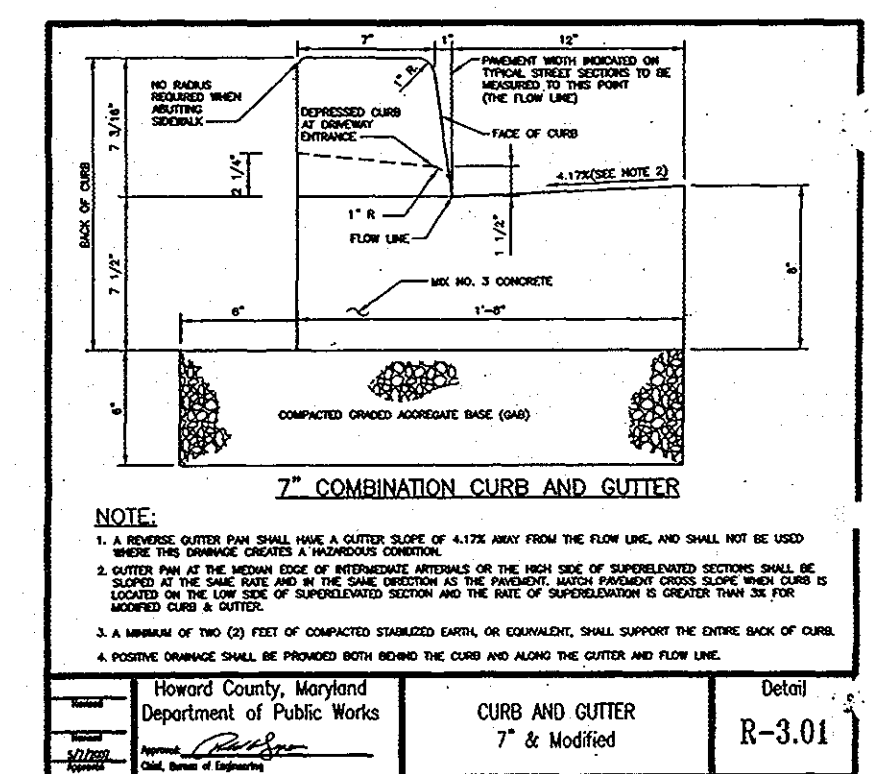
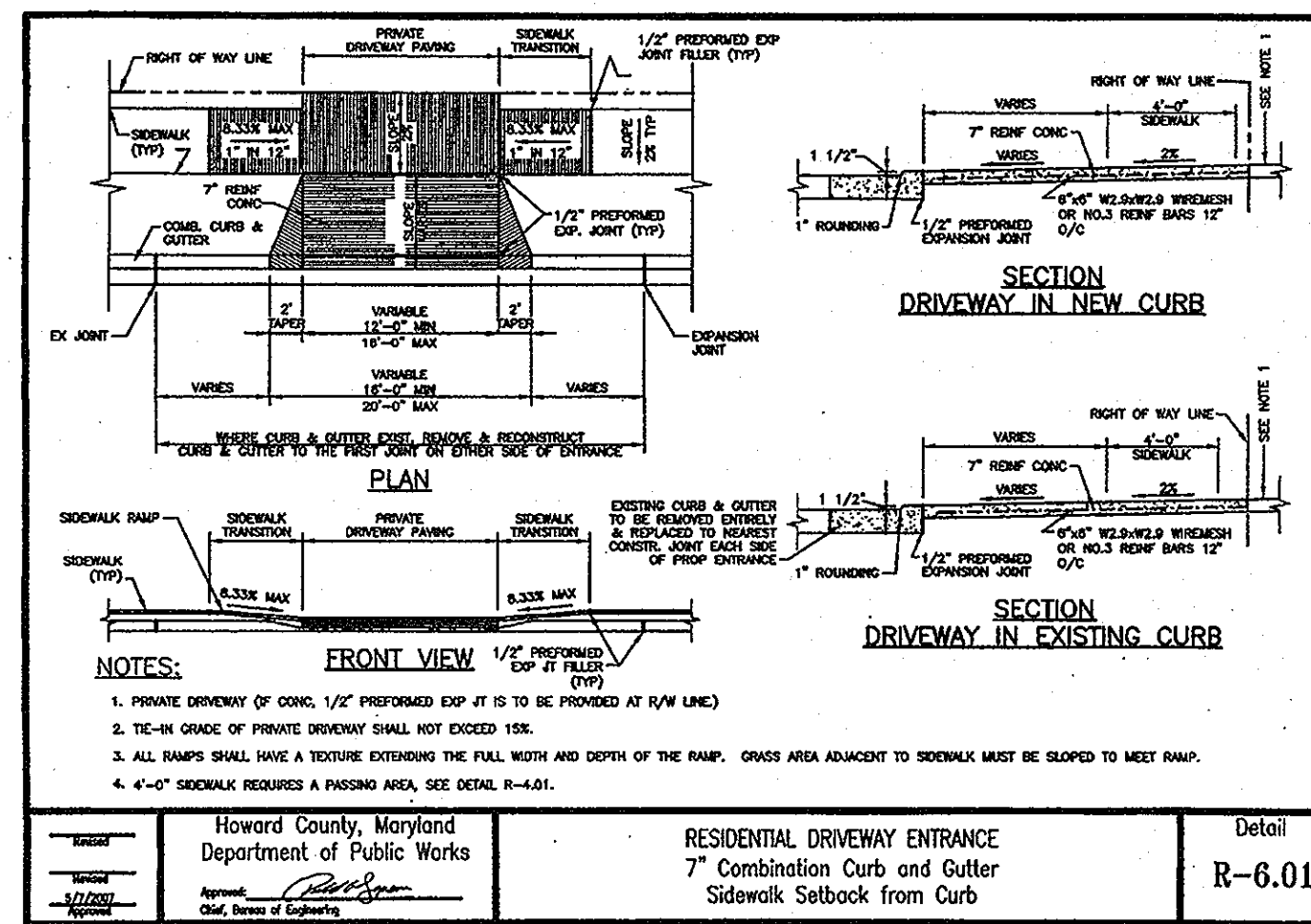
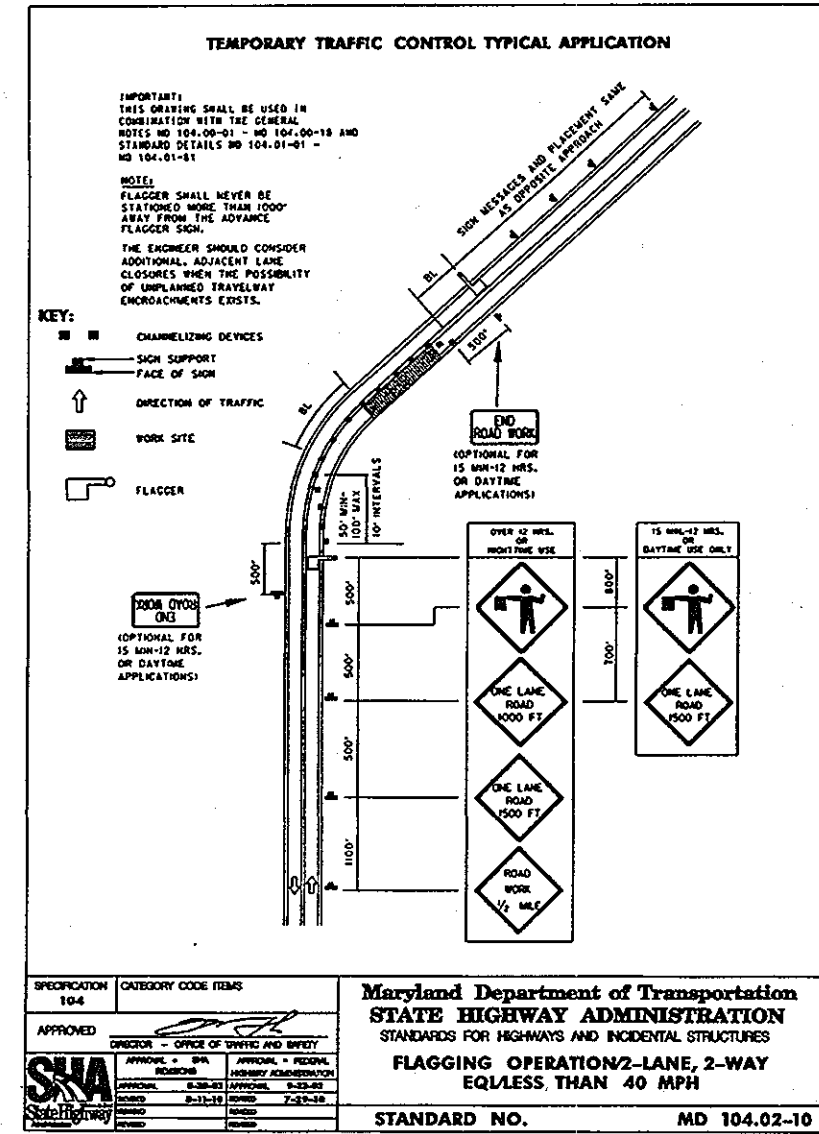
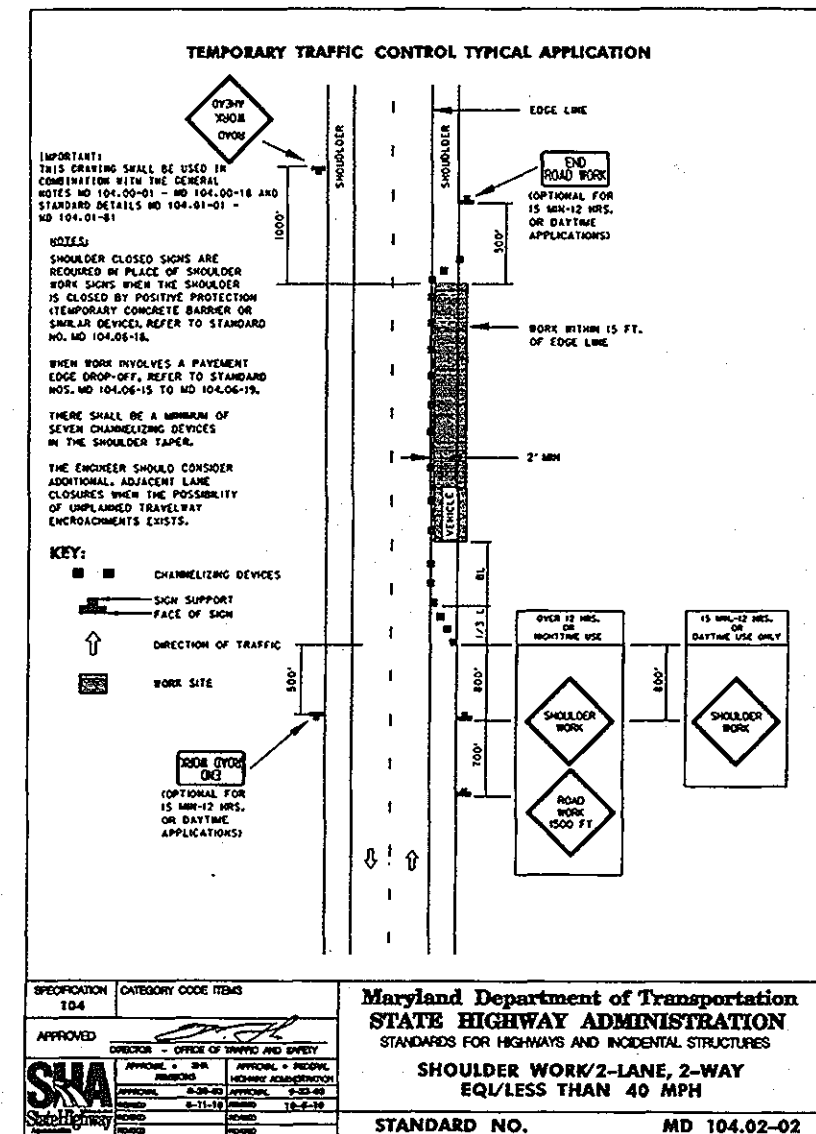
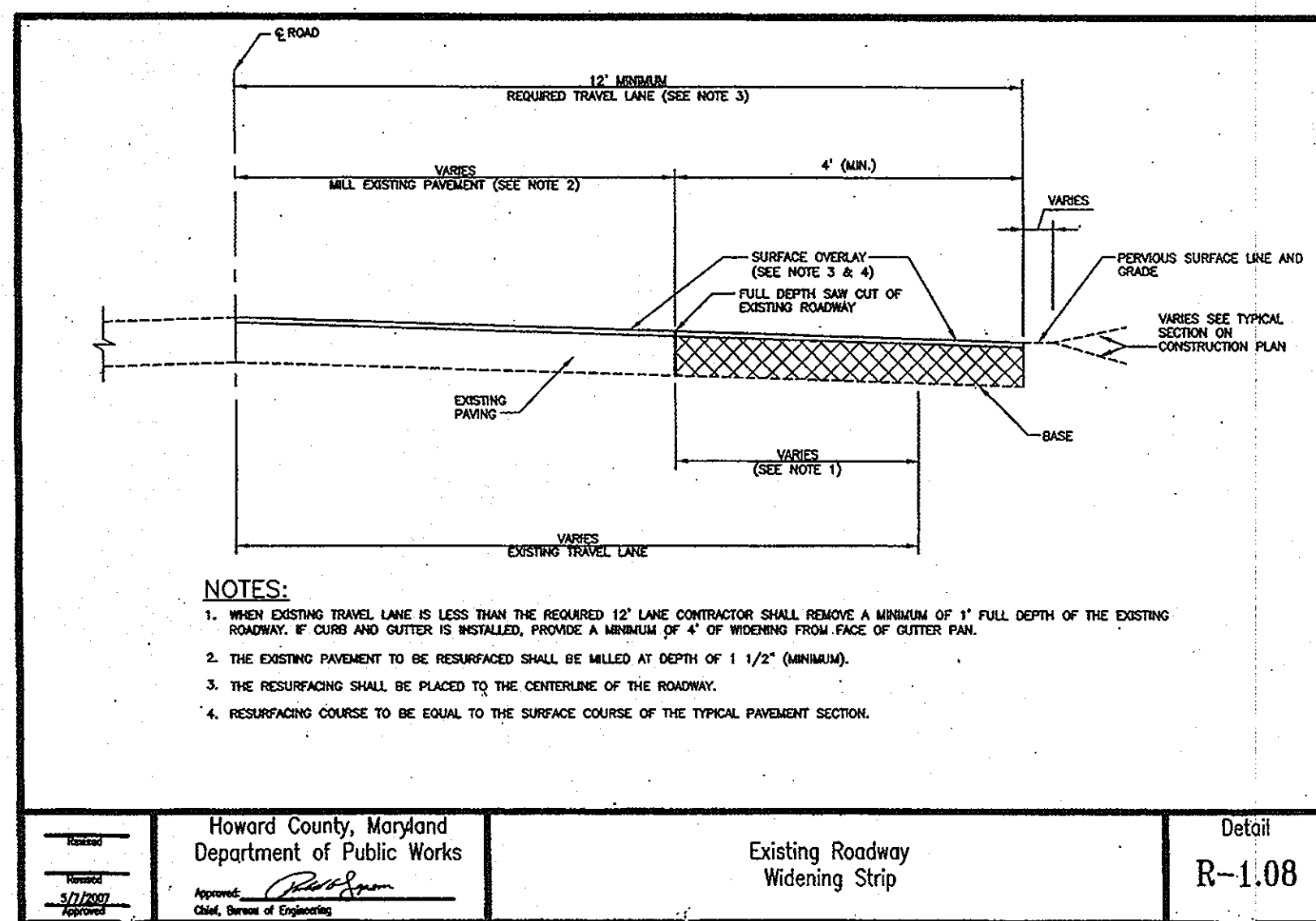
ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET
 ELLICOTT CITY, MD 21043
 TEL: 410.461.7666
 FAX: 410.461.8961

DESIGN BY: RHV
 DRAWN BY: EDS/RVE
 CHECKED BY: RHV
 DATE: JANUARY 2013
 SCALE: AS SHOWN
 W.O. NO.: 04-33

PROFESSIONAL CERTIFICATE
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DAILY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE: 09-27-2014

1 SHEET OF 11

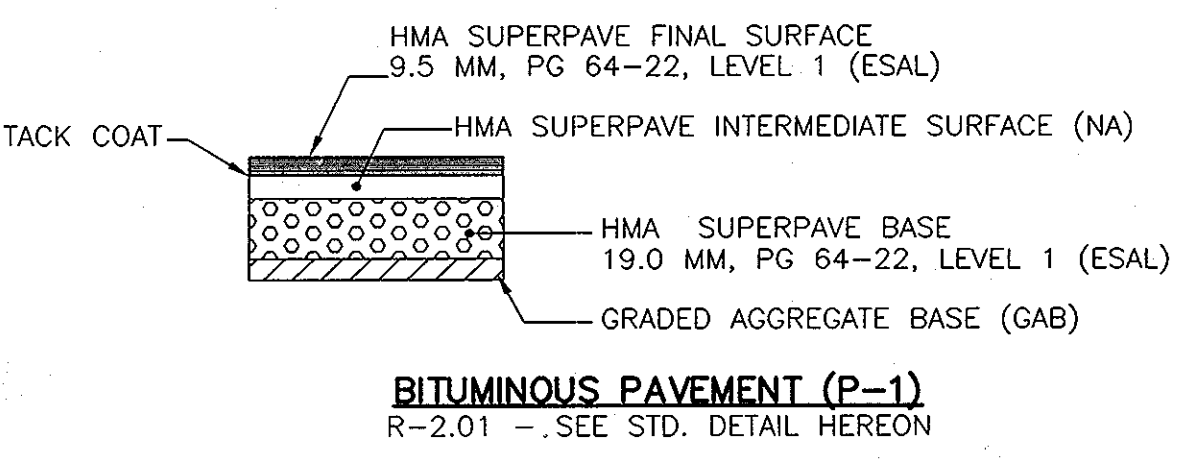
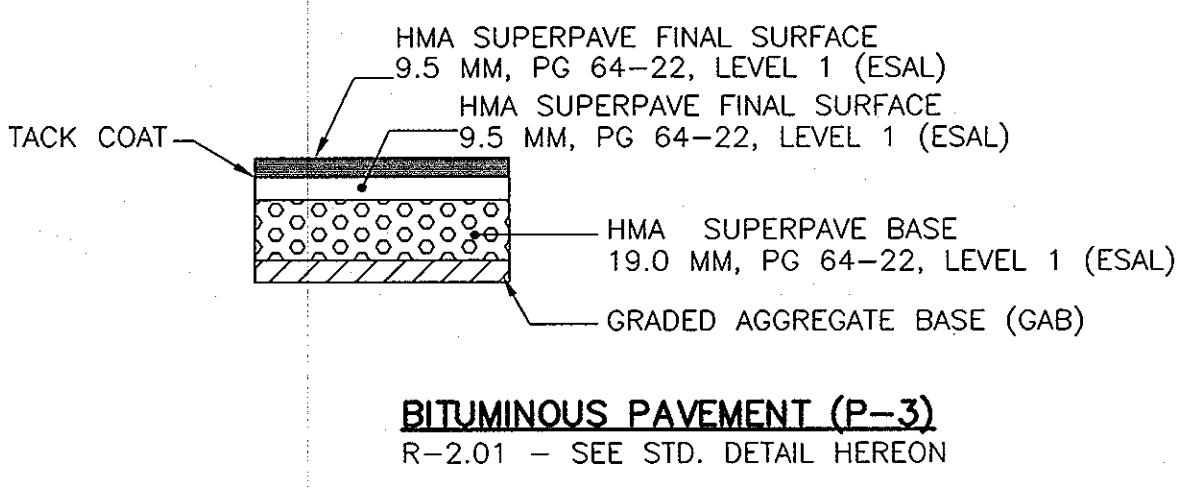
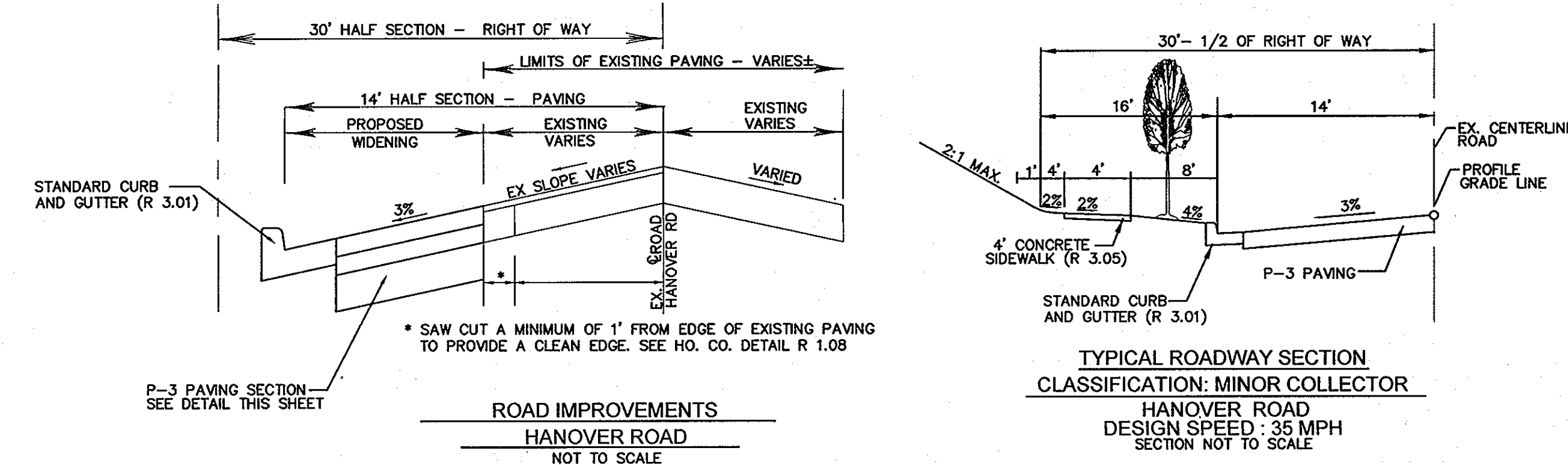
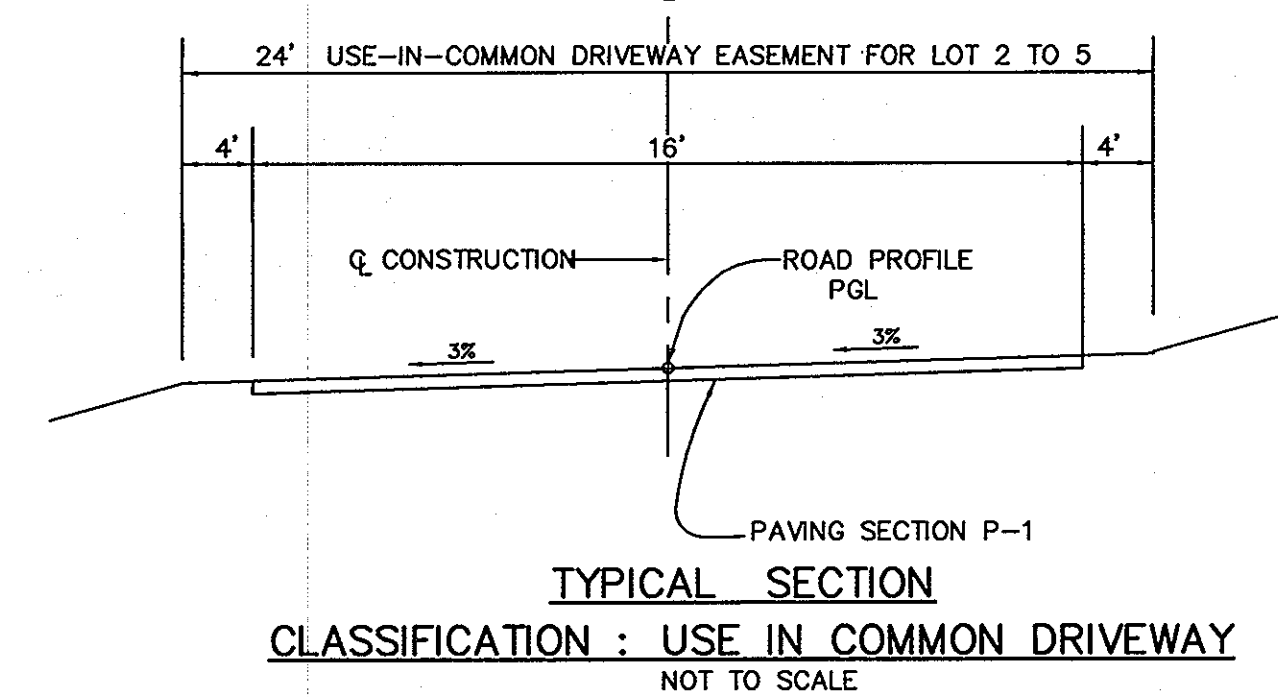
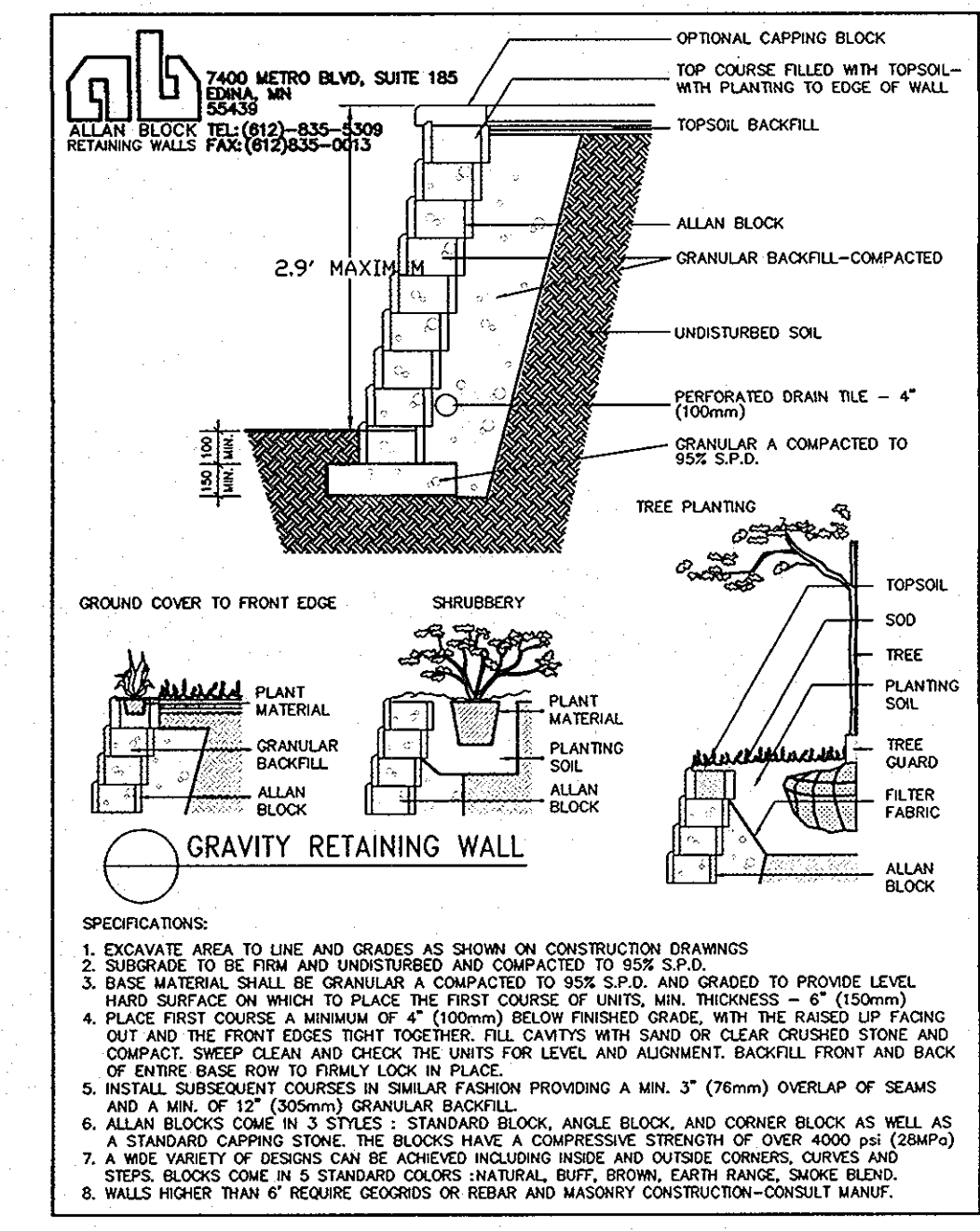
DEVELOPER/OWNER
 MAIN STREET BUILDERS
 5705 LANDING ROAD
 ELKBRIDGE, MARYLAND 21075-5742



SECTION NUMBER	ROAD AND STREET CLASSIFICATION	CALIFORNIA BEARING RATIO (CBR)						
		3 TO <5	5 TO <7	7 TO <10	10 TO <15	15 TO <20	20 TO <30	30 TO <40
P-1	PARKING DRIVE ASSES: RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 2 HEAVY TRUCKS PER DAY	HMA SUPERPAVE FINAL SURFACE 9.5 MM, PG 64-22, LEVEL 1 (ESAL)	1.5	1.5	1.5	1.5	1.5	1.5
		HMA SUPERPAVE INTERMEDIATE SURFACE (NA)	NA	NA	NA	NA	NA	NA
		HMA SUPERPAVE BASE 19.0 MM, PG 64-22, LEVEL 1 (ESAL)	2.0	2.0	2.0	3.5	3.0	2.5
P-2	LOCAL ROADS: ACCESS PLACE, ACCESS STREET CUL-DE-SACS: RESIDENTIAL	HMA SUPERPAVE FINAL SURFACE 9.5 MM, PG 64-22, LEVEL 1 (ESAL)	1.0	1.0	1.0	1.0	1.0	1.0
		HMA SUPERPAVE INTERMEDIATE SURFACE (NA)	NA	NA	NA	NA	NA	NA
		HMA SUPERPAVE BASE 19.0 MM, PG 64-22, LEVEL 1 (ESAL)	2.0	2.0	2.0	3.5	3.0	2.0
P-3	PARKING DRIVE ASSES: RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 10 HEAVY TRUCKS PER DAY	HMA SUPERPAVE FINAL SURFACE 9.5 MM, PG 64-22, LEVEL 1 (ESAL)	1.5	1.5	1.5	1.5	1.5	1.5
		HMA SUPERPAVE INTERMEDIATE SURFACE (NA)	NA	NA	NA	NA	NA	NA
		HMA SUPERPAVE BASE 19.0 MM, PG 64-22, LEVEL 1 (ESAL)	3.0	3.0	3.0	4.5	3.0	2.0
P-4	MINOR COLLECTORS: RESIDENTIAL MAJOR COLLECTORS	HMA SUPERPAVE FINAL SURFACE 12.5 MM, PG 64-22, LEVEL 2 (LOW GRAD)	2.0	2.0	2.0	2.0	2.0	2.0
		HMA SUPERPAVE INTERMEDIATE SURFACE (NA)	NA	NA	NA	NA	NA	NA
		HMA SUPERPAVE BASE 19.0 MM, PG 64-22, LEVEL 2 (LOW GRAD)	4.0	4.0	3.0	6.0	3.0	3.0

Notes:
1) HEAVY TRUCKS ARE DEFINED AS THOSE WITH SIX (6) WHEELS OR MORE INCLUDING GARAGE TRUCKS.
2) HMA SUPERPAVE LAYERS SHALL BE PLACED IN APPROPRIATE COMPACTED LIFT THICKNESS: 13.0 MM BASE (2.0" MIN TO 4.0" MAX), 12.5 MM SURFACE (1.5" MIN TO 3.0" MAX), AND 9.5 MM SURFACE (1.0" MIN TO 2.0" MAX)
3) GRADED AGGREGATE BASE (GAB) TO BE PLACED AND COMPACTED IN 4" MAX COMPACTED THICKNESS LAYERS.
4) THE INTERMEDIATE SURFACE COURSE LAYER MUST BE PLACED WITHIN 2 WEEDS OF PLACEMENT OF BASE COURSE, AND IS REQUIRED PRIOR TO SUBSTANTIAL COMPLETION FOR INSPECTION AND REDUCTION.
5) IN LIEU OF PLACING THE INTERMEDIATE SURFACE COURSE LAYER FOR COMMERCIAL/INDUSTRIAL ENTRANCE AREAS WITHIN THE COUNTY RIGHT-OF-WAY WHERE ADJACENT LANES ARE NOT REQUIRED, THE THICKNESS OF THE INTERMEDIATE SURFACE LAYER CAN BE ADDED TO THE REQUIRED THICKNESS OF THE BASE ASPHALT LAYER.
6) THE CONSTRUCTION DRAWINGS SHALL SHOW THE PAVING SECTION, ROAD CLASSIFICATION AND CBR VALUE FOR EACH ROADWAY

Howard County, Maryland
Department of Public Works
PAVING SECTIONS
P-1 to P-4
Detail
R-2.01



FINAL ROAD CONSTRUCTION PLAN
SITE NOTES & DETAILS

BASHAM PROPERTY
LOTS 2-7 & OPEN SPACE LOT 1 & 8
A RESUBDIVISION OF LOT 2 - BEALMEAR II SUBDIVISION
RECORDED AS PLAT NO. 11799 ZONING: R-12
1ST ELECTION DISTRICT TAX MAP: 38 GRID: 14 HOWARD COUNTY, MARYLAND
DPZ REF: SP 08-010 PARCEL: 342

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET ELLICOTT CITY, MD 21043 TEL: 410.461.7666 FAX: 410.461.8961

DESIGN BY: RHV
DRAWN BY: EDS/RVE
CHECKED BY: RHV
DATE: JANUARY 2013
SCALE: AS SHOWN
W.D. NO.: 04-33

PROFESSIONAL CERTIFICATE
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 18183 EXPIRATION DATE: 09-27-2014

3 SHEET OF 11

SEQUENCE OF CONSTRUCTION

1. OBTAIN GRADING PERMIT - 1 DAY
2. STAKEOUT LIMITS OF DISTURBANCE - 3 DAYS
3. INSTALL SILT FENCE (S/F), SURVEY STAKE (SS), DIVERSION FENCE AND EARTH DIKES AT THE LIMIT OF DISTURBANCE OR WHERE SHOWN - 3 DAYS
4. CLEAR & GRUB COMMON TO BYPASS STORM DRAIN SYSTEM CONSTRUCTION - 1 DAY
5. CONSTRUCT BYPASS STORM DRAIN SYSTEM ES-1 TO 10-2 AND INSTALL INLET PROTECTION ON 1-1 ONLY. PROTECT GRASS SWALE WITH SOD AS DETAILED HEREIN - 1 WEEK
6. CONSTRUCT CLEANWATER DIVERSION DIKE AS SHOWN HEREIN TO DIVERT OFFSITE WATER TO BYPASS STORM DRAIN SYSTEM (8-2) - 1 DAY
7. WITH BYPASS STORM DRAIN SYSTEM IN PLACE, OBTAIN PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR TO PROCEED. WATER FROM E-2 SHOULD NOT FLOW ACROSS DISTURBED GROUND - 1 DAY
8. CLEAR & GRUB AREA COMMON TO SEDIMENT TRAP AND CONSTRUCT TRAP #1 AND BAFFLE - 1 DAY
9. CONSTRUCT EARTH DIKES TO CONVEY DIRTY WATER TO TRAP #1 - 2 DAYS
10. THE SEDIMENT SHALL BE REMOVED FROM THE SEDIMENT TRAP WHEN THE CLEANOUT ELEVATION HAS BEEN REACHED - 1 DAY
11. THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE ON THE SEDIMENT AND EROSION CONTROLS SHOWN HEREIN AFTER EACH RAINFALL AND ON A DAILY BASIS - 1 DAY
12. THE SEDIMENT TRAP SHALL BE DETAILED BY PUMPING. THE ACCUMULATED SEDIMENT FROM THE TRAP SHALL BE PLACED UP GRADE FROM THE STRUCTURE IN SUCH A MANNER AS NOT TO INTERFERE WITH CONSTRUCTION OPERATIONS OR CAUSE EROSION DOWN GRADE FROM THE STRUCTURE - 3 DAYS
13. OBTAIN PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR TO PROCEED WITH CONSTRUCTION OPERATIONS - 2 DAYS
14. CLEAR & GRUB REMAINDER OF SITE (TO INCLUDE SLOPE CUT ACROSS HANOVER ROAD) - 1 DAY
15. COMPLETE SITE GRADING (TO INCLUDE SLOPE CUT ACROSS HANOVER ROAD). CONSTRUCT RETAINING WALL AND PLACE USE-IN-COMMON DRIVEWAY TO SUBGRADE - 5 DAYS
16. UPON COMPLETION OF SITE GRADING, ADD TOPSOIL PER THE SPECIFICATIONS SHOWN HEREIN, AND STABILIZE DISTURBED AREAS WITH PERMANENT SEEDING MIXTURE AND STRAW MULCH - 1 WEEK
17. INSTALL WATER & SEWER MAIN EXTENSIONS - 2 WEEKS
18. SAW CUT HANOVER ROAD FOR ROAD WIDENING AND CURB & GUTTER CONSTRUCTION - 1 DAY
19. PLACE HANOVER ROAD TO SUBGRADE ELEVATION & INSTALL CURB & GUTTER - 2 DAYS
20. UPON COMPLETION OF CURB & GUTTER INSTALLATION, INSTALL BASE COURSE PAVEMENT ALONG HANOVER ROAD, USE-IN-COMMON DRIVEWAY AND TEE TURNAROUND - 1 DAY
21. INSTALL SIDEWALK AND DRIVEWAY APRONS AS DETAILED HEREIN
22. COMPLETE FINAL GRADING AFTER THE ABOVE CONSTRUCTION ACTIVITIES AND STABILIZE THE DISTURBED AREAS FROM THE AFOREMENTIONED DISTURBANCES WITH PERMANENT SEEDING MIXTURE AND STRAW MULCH - 1 WEEK
23. AFTER ALL UPGRADE AREAS FROM THE SEDIMENT TRAP HAVE BEEN STABILIZED AND PERMISSION HAS BEEN GIVEN BY SEDIMENT CONTROL INSPECTOR AND A 2" STAND OF GRASS IS ACHIEVED, CONVERT TRAP TO THE PROPOSED MICRO-BIORETENTION FACILITY. STABILIZE THE DISTURBED AREAS WITH PERMANENT SEEDING MIXTURE AND STRAW MULCH - 3 DAYS
24. INSTALL LANDSCAPING, INSTALL FOREST CONSERVATION EASEMENT SIGNAGE AS SHOWN HEREIN - 5 DAYS
25. AFTER PERMISSION HAS BEEN GIVEN BY SEDIMENT CONTROL INSPECTOR, REMOVE ANY REMAINING E/2 CONTROLS STABILIZING THE DISTURBED AREAS FROM THE AFOREMENTIONED DISTURBANCES WITH PERMANENT SEEDING MIXTURE AND STRAW MULCH - 1 WEEK

SOILS LEGEND			
SOIL	NAME	K-VALUE	SOIL GROUP
Rsc	RUSSETT FINE SANDY LOAM, 5 TO 10 PERCENT SLOPES	.24	C
Uia	URBAN LAND-FALLSINGTON COMPLEX, 0 TO 2 PERCENT SLOPES	N/A	D

NOTES

1. REFER TO SHEET 5 FOR SEDIMENT CONTROL NOTES & STANDARD DETAILS
2. REFER TO SHEET 7 FOR STORM DRAIN PROFILES, STRUCTURE AND PIPE SCHEDULES. CONTRACTOR SHALL PROVIDE IMMEDIATE REPAIR OF ANY EARTH DIKES INTERRUPTED DURING CONSTRUCTION

NOTES

- THE CONTRACTOR CONTRACTOR IS RESPONSIBLE FOR PUMPING ALL STANDING WATER FROM EXCAVATED AREAS THAT REMAINS 24 HOURS AFTER A 1 OR 2-YEAR STORM EVENT OR 48 HOURS AFTER A 10-YEAR STORM EVENT. SEE SHEET 11.
- DURING GRADING AND AFTER EACH RAINFALL, THE CONTRACTOR SHALL INSPECT AND PROVIDE THE NECESSARY MAINTENANCE ON THE SEDIMENT AND EROSION CONTROL MEASURES SHOWN HEREIN.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITH:
 - A. 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, SWALES, DITCH PERIMETER SLOPES, SLOPES AND ALL SLOPES GREATER THAN 3:1.
 - B. 14 CALENDAR DAYS FOR ALL OTHER DISTURBED AREAS.

TRAP # 1	
Drainage Area	0.90 Acres
Storage Required	3,600 cu.ft.
Storage Provided	4,100 cu.ft.
Wet Storage Required	1,800 cu.ft.
Wet Storage Provided	1,978 cu.ft.
Dry Storage Required	1,800 cu.ft.
Dry Storage Provided	2,122 cu.ft.
Storage Elevation - Wet	92.70
Storage Elevation - Dry	94.00
Storage Depth - Wet	1.7 ft.
Storage Depth - Dry	1.3 ft.
Trap Bottom Elev.	91.00
Cleanout Elev.	92.00
Weir Crest	94.00
Trap Top Elevation	95.00
Trap Size	See Plan
Trap Type	ST-II

APPROVED: DEPARTMENT OF PUBLIC WORKS
 CHIEF, BUREAU OF HIGHWAYS
 DATE: 4/10/13

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 5/9/13

APPROVED: DIVISION OF LAND DEVELOPMENT
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 5/9/13

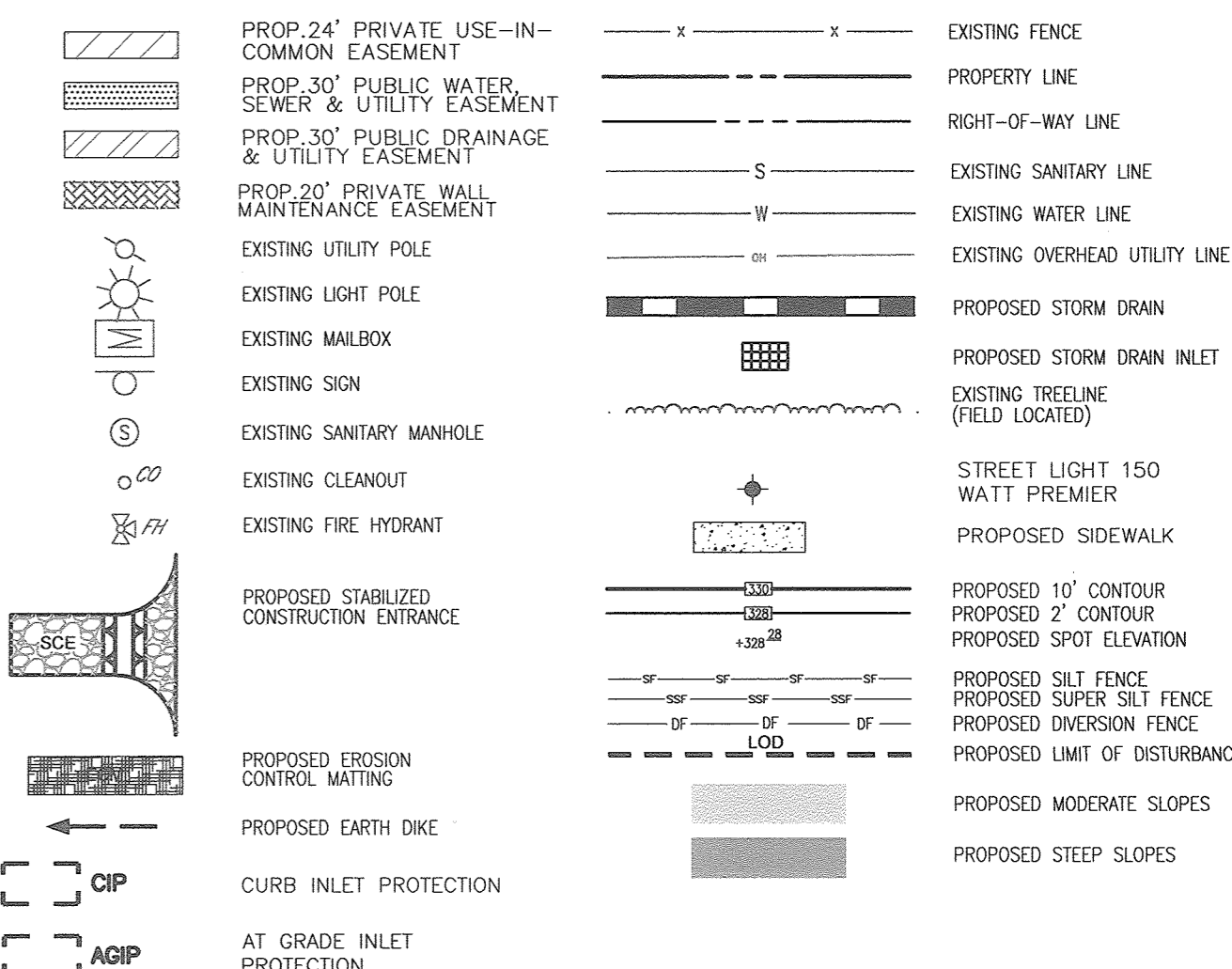
BY THE DEVELOPER:
 I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING 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.
 Signature: [Signature]
 DATE: 3-5-13

BY THE ENGINEER:
 I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
 Signature: [Signature]
 DATE: 2/25/13

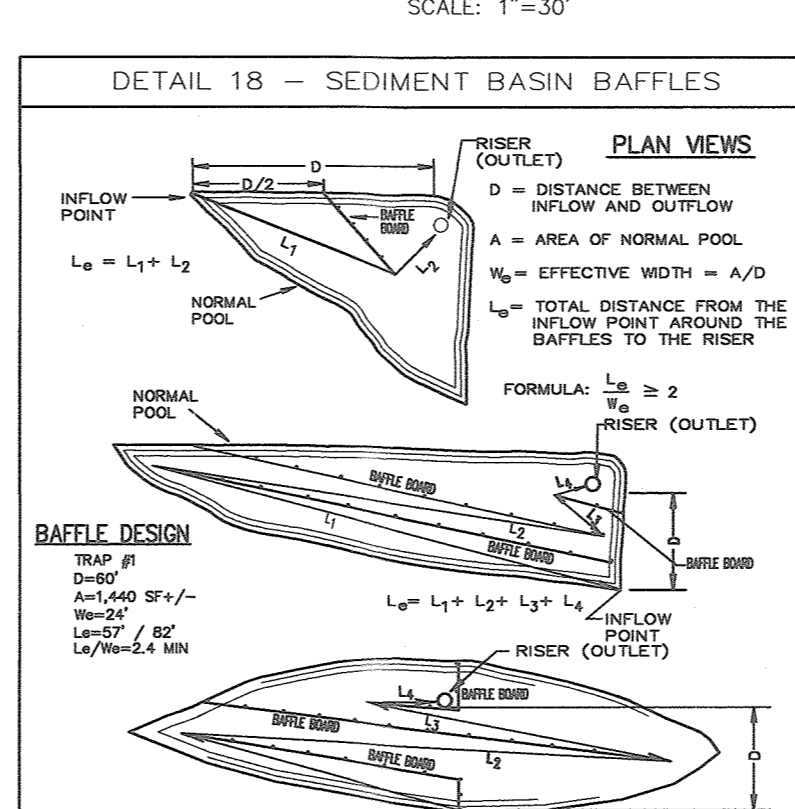
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 Signature: [Signature]
 DATE: 4/8/13



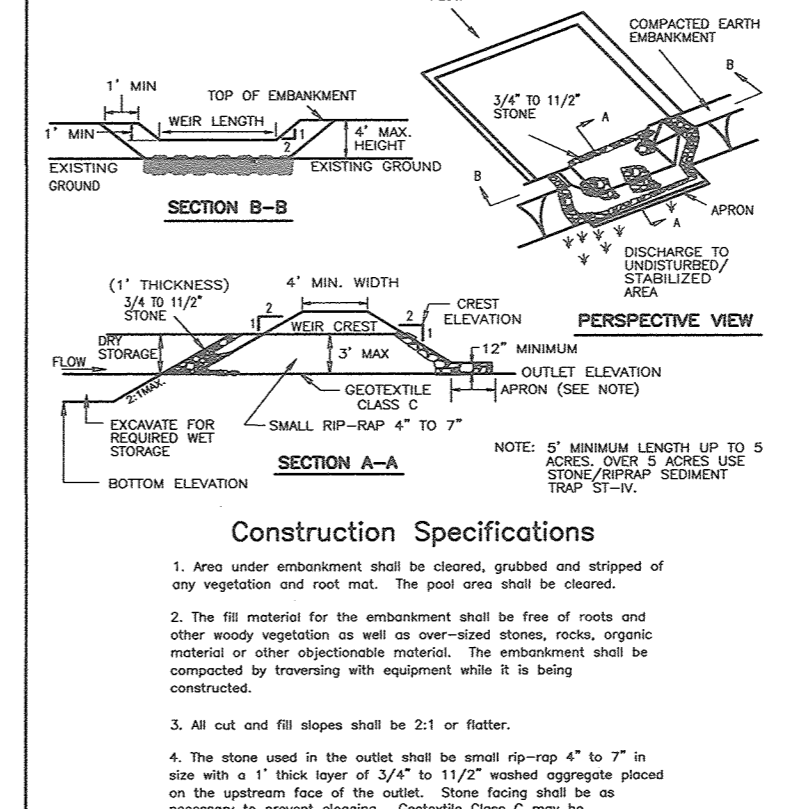
LEGEND



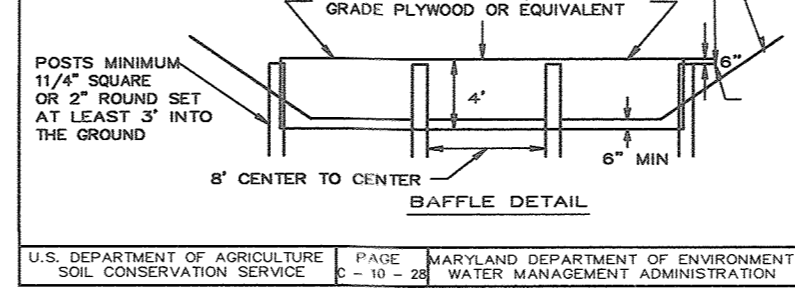
GRADING PLAN



DETAIL 9 - STONE OUTLET SEDIMENT TRAP - ST II



SEDIMENT TRAP PLAN VIEW



NO.	REVISION	DATE
1	REVISE PLANS TO REMOVE SIDEWALK ALONG THE FRONTAGE OF PARCEL 283 AND HANOVERVILLE LOT 14.	2-16-18

FINAL ROAD CONSTRUCTION PLAN
SOILS MAP, GRADING, SOIL EROSION AND SEDIMENT CONTROL PLAN
BASHAM PROPERTY
 LOTS 2-7 & OPEN SPACE LOT 1 & 8
 A RESUBDIVISION OF LOT 2 - BEALMEAR II SUBDIVISION
 RECORDED AS PLAT NO. 11799
 ZONING: R-12
 PARCEL: 342
 HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET
 ELLICOTT CITY, MD 21043
 TEL: 410.461.7666
 FAX: 410.461.8966

DESIGN BY: RHV
 DRAWN BY: EDS/RVE
 CHECKED BY: RHV
 DATE: JANUARY 2013
 SCALE: AS SHOWN
 W.O. NO.: 04-33

PROFESSIONAL CERTIFICATE
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE: 09-27-2014

NOTES

- UNLESS TO PATH SHOWN HEREON, TO ASSUMED TO BE WORST CASE 5 MINUTES.
- SEE STORM DRAIN PROFILES SHEET 7.
- SEE STRUCTURE SCHEDULE SHEET 7.
- THIS SHEET SHALL NOT BE USED FOR GRADING PURPOSES SEE SHEET 4.
- REFER TO SHEET 8 FOR MICRO-BIORETENTION (MBR) FACILITY NOTES AND DETAILS.

OPERATION AND MAINTENANCE SCHEDULE FOR BIO-RETENTION AREAS (MBR)

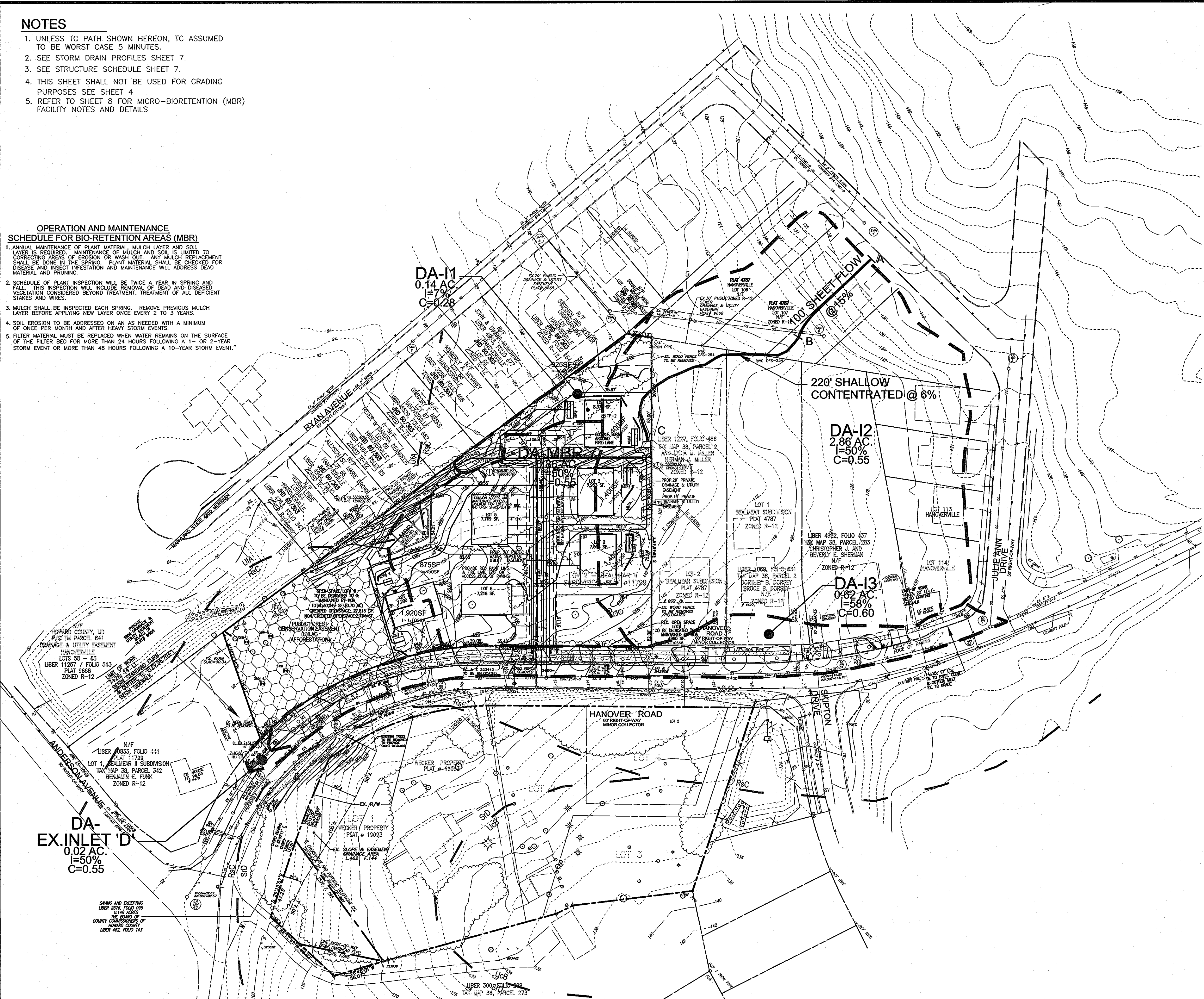
- ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER AND SOIL LAYER IS REQUIRED. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING.
- SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL. THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, TREATMENT OF ALL DEFICIENT STEMS AND BRANCHES.
- MULCH SHALL BE INSPECTED EACH SPRING. REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER ONCE EVERY 2 TO 3 YEARS.
- SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.
- FILTER MATERIAL MUST BE REPLACED WHEN WATER REMAINS ON THE SURFACE OF THE FILTER BED FOR MORE THAN 24 HOURS FOLLOWING A 1- OR 2-YEAR STORM EVENT OR MORE THAN 48 HOURS FOLLOWING A 10-YEAR STORM EVENT.

LEGEND:

- 300 --- EXISTING CONTOUR
- 400 --- PROPOSED CONTOUR
- + 402.88 PROPOSED SPOT ELEVATION
- 402.88 --- EXISTING SPOT ELEVATION
- ==== EXISTING CURB AND GUTTER
- ==== PROPOSED CURB AND GUTTER
- ⊙ EXISTING UTILITY POLE
- ⊙ EXISTING LIGHT POLE
- ⊙ EXISTING MAILBOX
- ⊙ EXISTING SIGN
- ⊙ EXISTING SANITARY MANHOLE
- S --- EXISTING SANITARY LINE
- EXISTING CLEANOUT
- ⊙ EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING OVERHEAD UTILITY LINE
- PROPOSED STORM DRAIN
- PROPOSED STORM DRAIN INLET
- EXISTING TREELINE (FIELD LOCATED)
- EXISTING FENCE
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- SOILS BOUNDARY
- PROPOSED SIDEWALK
- MODERATE SLOPES (15% - 24.99%)
- ⊙ SOIL BORING
- DIRECTION OF FLOW
- PROPOSED DRAINAGE DIVIDE
- TIME OF CONCENTRATION
- ⊙ TP-1 STORMWATER MANAGEMENT TEST PIT

SOILS LEGEND

SOIL	NAME	K-VALUE	SOIL GROUP
R-2	RUSSETT FINE SANDY LOAM, 5 TO 10 PERCENT SLOPES	.24	C
U-1A	URBAN LAND-FALLSINGTON COMPLEX, 0 TO 2 PERCENT SLOPES	N/A	D



DRAINAGE AREA MAP
SCALE: 1"=50'

APPROVED: DEPARTMENT OF PUBLIC WORKS
 CHIEF, BUREAU OF HIGHWAYS DATE 4/11/13
 APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE 4/10/13
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE 5/29/13

NO.	REVISION	DATE

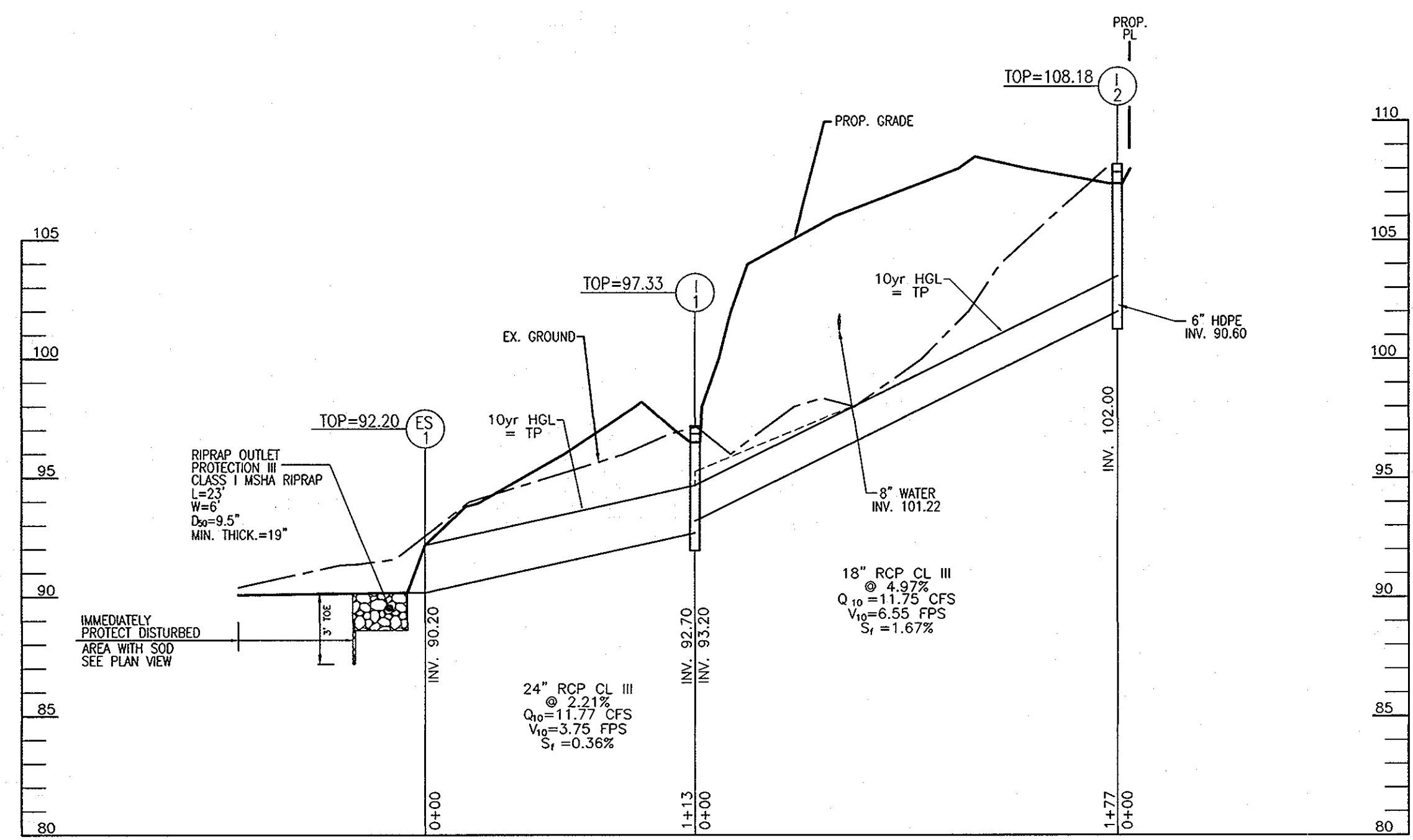
FINAL ROAD CONSTRUCTION PLAN
STORM DRAIN & STORMWATER MANAGEMENT (ESD)
DRAINAGE AREA MAP
BASHAM PROPERTY
 LOTS 2-7 & OPEN SPACE LOT 1 & 8
 A RESUBDIVISION OF LOT 2 - BEALMEAR II SUBDIVISION
 RECORDED AS PLAT NO. 11799 ZONING: R-12 PARCEL: 342

1ST ELECTION DISTRICT TAX MAP: 38 GRID: 14 DPZ REF'S: SP 08-010 HOWARD COUNTY, MARYLAND

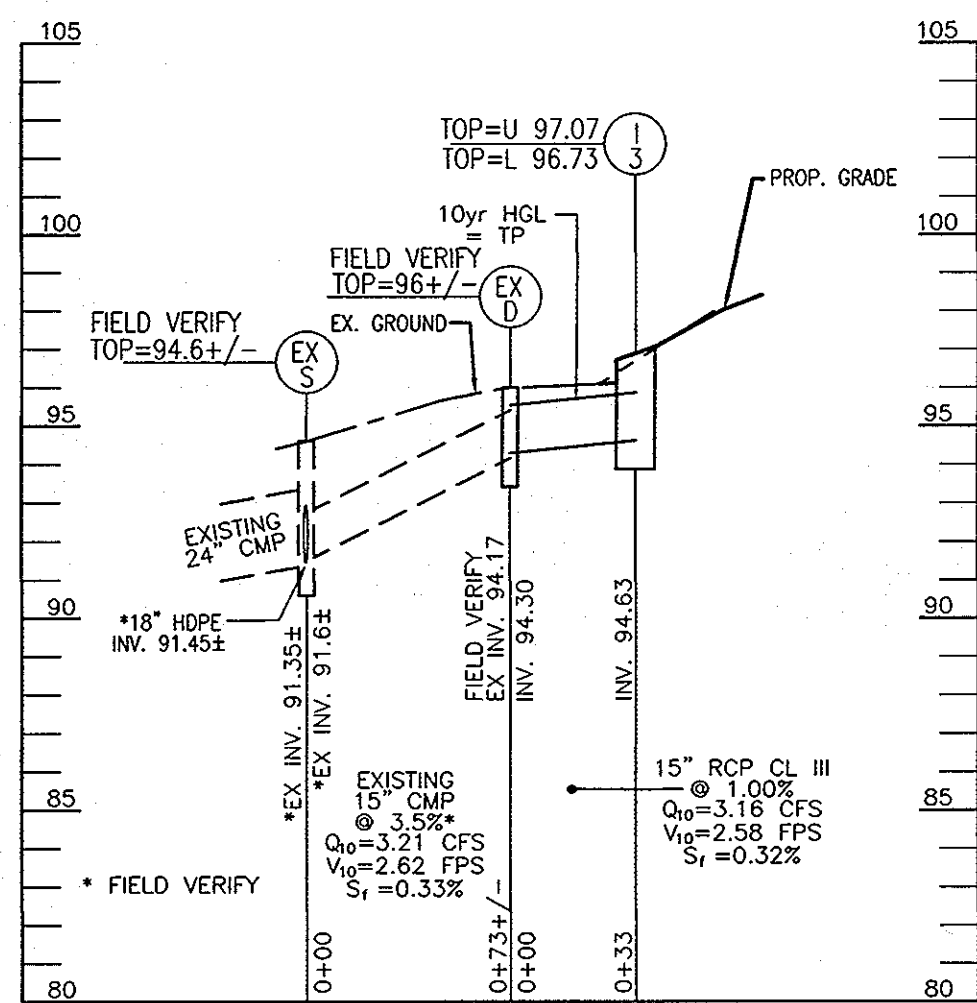
ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET ELLICOTT CITY, MD 21043 TEL: 410.461.7666 FAX: 410.461.8966

DESIGN BY: RHY	PROFESSIONAL CERTIFICATE I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE: 09-27-2014
DRAWN BY: EDS/RVE	
CHECKED BY: RHY	
DATE: JANUARY 2013	
SCALE: AS SHOWN	
W.O. NO.: 04-33	6 SHEET OF 11

DEVELOPER/OWNER
 MAIN STREET BUILDERS
 5705 LANDING ROAD
 ELKRIDGE, MARYLAND 21075-5742



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



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

STRUCTURE SCHEDULE							
STR #	TYPE	INV. IN	INV. OUT	TOP OR UPPER/LOWER	DETAIL	LOCATION	REMARKS
I-1	D	93.20	92.70	97.33	D-4.10	N 556381.90 E 1390310.96	(1) Throat 4 Sides
I-2	D	-	102.00	108.18	D-4.10	N 556509.65 E 1390431.97	(1) Throat 4 Sides
I-3	A-10	-	94.63	97.07U / 96.73L	D-4.03	7+34.27; 14' LT	Mid @ FC
D	D	94.30	EX 94.17	96+/-	D-4.10	7+03.88; 18.1' LT	(1) Throat 4 Sides
ES-1	24" END SEC.	-	90.20	92.20	D-5.51	N 556269.55 E 1390297.80	(2) 24" End Section

(1) Coordinate for Proposed Structure = Centerline of Structure
(2) Coordinate for End Section = Centerline of Pipe @ Upstream Face

PIPE SCHEDULE		
Size	Class	Total Length*
15"	RCP CL III	33
18"	RCP CL III	177
24"	RCP CL III	113

* The total length of pipe is linear feet only.

DETAIL 27 - ROCK OUTLET PROTECTION III

CONSTRUCTION SPECIFICATIONS

- THE SUBGRADE FOR THE FILTER, RIP-RAP, OR GABION SHALL BE PREPARED TO THE REQUIRED LINES AND GRADES. ANY FILL REQUIRED IN THE SUBGRADE SHALL BE COMPACTED TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
- THE ROCK OR GRAVEL SHALL CONFORM TO THE SPECIFIED GRADING LIMITS WHEN INSTALLED RESPECTIVELY IN THE RIP-RAP OR FILTER.
- GEOTEXTILE SHALL BE PROTECTED FROM PUNCHING, CUTTING, OR TEARING. ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE SHALL BE REPAIRED BY PLACING ANOTHER PIECE OF GEOTEXTILE OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE. ALL OVERLAPS WHETHER FOR REPAIRS OR FOR JOINING TWO PIECES OF GEOTEXTILE SHALL BE A MINIMUM OF ONE FOOT.
- STONE FOR THE RIP-RAP OR GABION OUTLETS MAY BE PLACED BY EQUIPMENT. THEY SHALL BE CONSTRUCTED TO THE FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. THE STONE FOR RIP-RAP OR GABION OUTLETS SHALL BE DELIVERED AND PLACED IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENEOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. RIP-RAP SHALL BE PLACED IN A MANNER TO PREVENT DAMAGE TO THE FILTER BLANKET OR GEOTEXTILE. HAND PLACEMENT WILL BE REQUIRED TO THE EXTENT NECESSARY TO PREVENT DAMAGE TO THE PERMANENT WORKS.
- THE STONE SHALL BE PLACED SO THAT IT BLENDS IN WITH THE EXISTING GROUND. IF THE STONE IS PLACED TOO HIGH THEN THE FLOW WILL BE FORCED OUT OF THE CHANNEL AND SCOUR ADJACENT TO THE STONE WILL OCCUR.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

NO.	REVISION	DATE

FINAL ROAD CONSTRUCTION PLAN
STORM DRAIN PROFILES
BASHAM PROPERTY
LOTS 2-7 & OPEN SPACE LOT 1 & 8
A RESUBDIVISION OF LOT 2 - BEALMEAR II SUBDIVISION
RECORDED AS PLAT NO. 11799 ZONING: R-12 PARCEL: 342
1ST ELECTION DISTRICT TAX MAP: 38 GRID: 14 DPZ REF'S: SP 08-010 HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET ELLICOTT CITY, MD 21043 TEL: 410.461.7666 FAX: 410.461.8961

PROFESSIONAL CERTIFICATE
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE: 09-27-2014

DESIGN BY: RHV
DRAWN BY: EDS/RVE
CHECKED BY: RHV
DATE: JANUARY 2013
SCALE: AS SHOWN
W.O. NO.: 04-33

7 SHEET OF 11

APPROVED: DEPARTMENT OF PUBLIC WORKS
Howard 4/1/13
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Chad 4/10/13
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Robert 5/09/13
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DEVELOPER/OWNER
MAIN STREET BUILDERS
5705 LANDING ROAD
ELKRIDGE, MARYLAND 21075-5742

APPENDIX B.4.C SPECIFICATIONS FOR MICRO-BIORETENTION, RAIN GARDEN, LANDSCAPE INFILTRATION & INFILTRATION BERMS

1. MATERIAL SPECIFICATIONS FOR MICRO-BIORETENTION, RAIN GARDEN, LANDSCAPE INFILTRATION & INFILTRATION BERMS
2. FILTERING MEDIA OR PLANTING SOIL
3. COMPACTING
4. PLANT MATERIAL

RECOMMENDED PLANT MATERIAL FOR MICRO-BIORETENTION PRACTICES CAN BE FOUND IN APPENDIX A, SECTION A.2.3.
5. PLANT INSTALLATION
6. UNDERDRAINS
7. MISCELLANEOUS

OPERATION AND MAINTENANCE SCHEDULE FOR MICROBIORETENTION AREAS
1. ANNUAL MAINTENANCE OF PLANT MATERIAL
2. SCHEDULE OF PLANT INSPECTION
3. MULCH SHALL BE INSPECTED EACH SPRING
4. SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED BASIS

B.4.B SPECIFICATIONS FOR PERMEABLE PAVEMENTS & REINFORCED TURF
1. PERVIOUS CONCRETE SPECIFICATIONS
2. PERMEABLE INTERLOCKING CONCRETE PAVEMENTS (PICP)
3. REINFORCED TURF

OPERATION AND MAINTENANCE SCHEDULE FOR BIO-RETENTION AREAS
1. ANNUAL MAINTENANCE OF PLANT MATERIAL
2. SCHEDULE OF PLANT INSPECTION
3. MULCH SHALL BE INSPECTED EACH SPRING
4. SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED BASIS

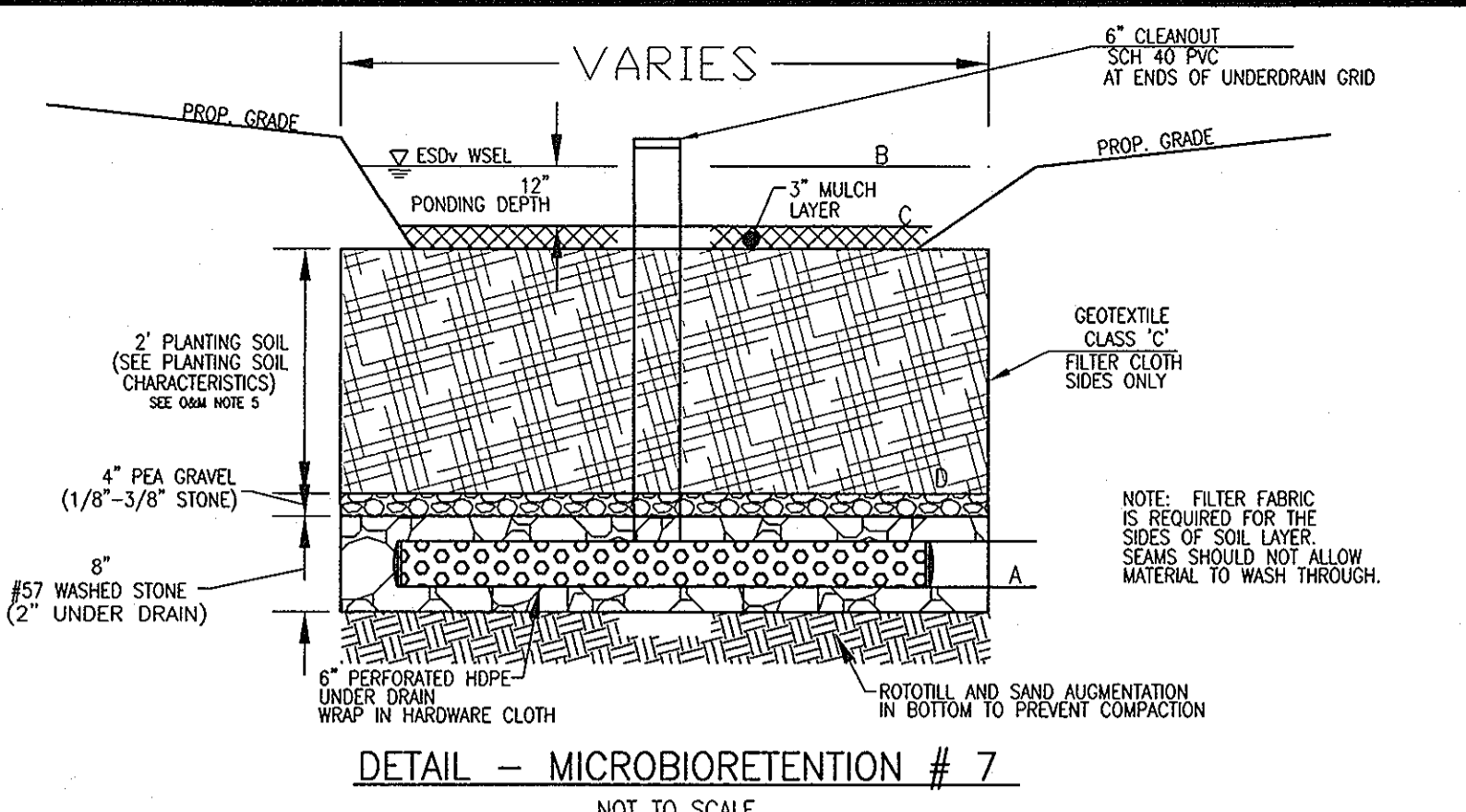


Table with 6 columns: MBR FACILITY, A, B, C, D, SURFACE AREA, APPROX. DIMENSIONS. Data for MBR #7: A=90.60, B=94.7, C=93.7, D=91.45, SURFACE AREA=1,355 SF, APPROX. DIMENSIONS=SEE PLAN.

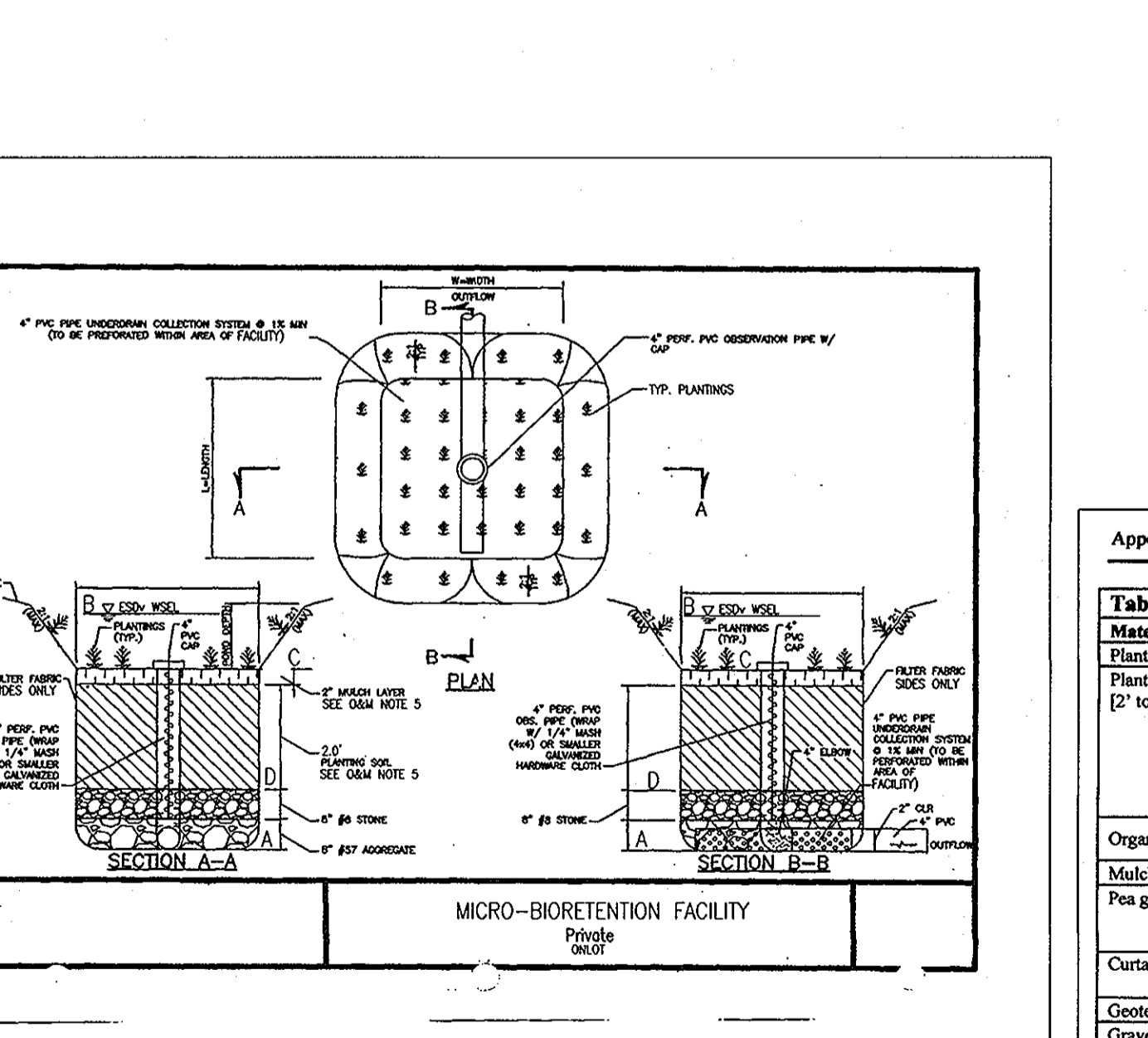
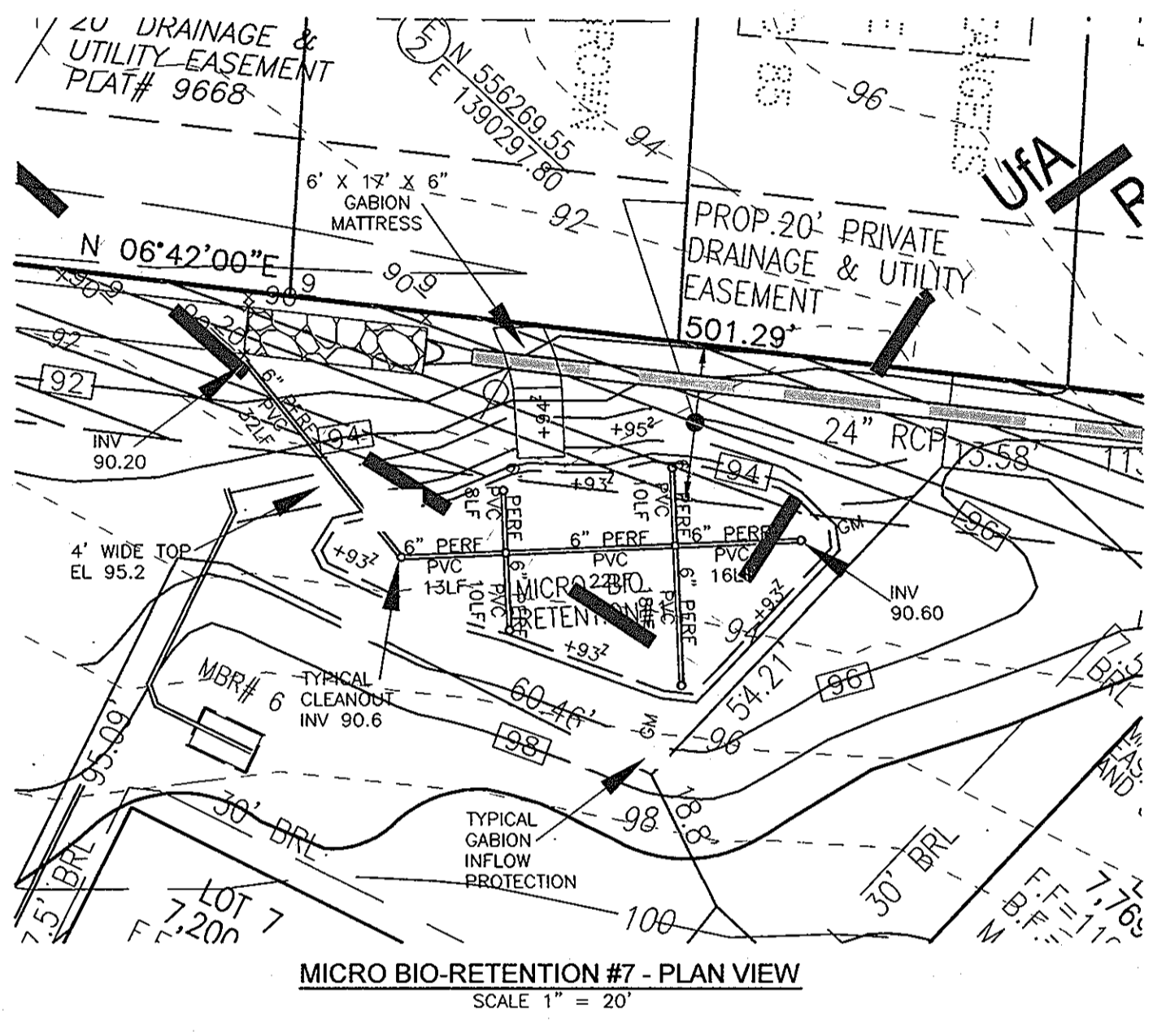


Table with 6 columns: MBR FACILITY, A, B, C, D, SURFACE AREA, APPROX. DIMENSIONS. Data for MBR #1 through MBR #6.

MICRO-BIORETENTION #7 PLANTING SCHEDULE. Table with columns: QTY, BOTANICAL NAME/COMMON NAME, SIZE, REMARKS. Includes plants like Cladrasite lutea 'Sweetshade', Ilex glabra compacta, and Rhododendron hybrid.

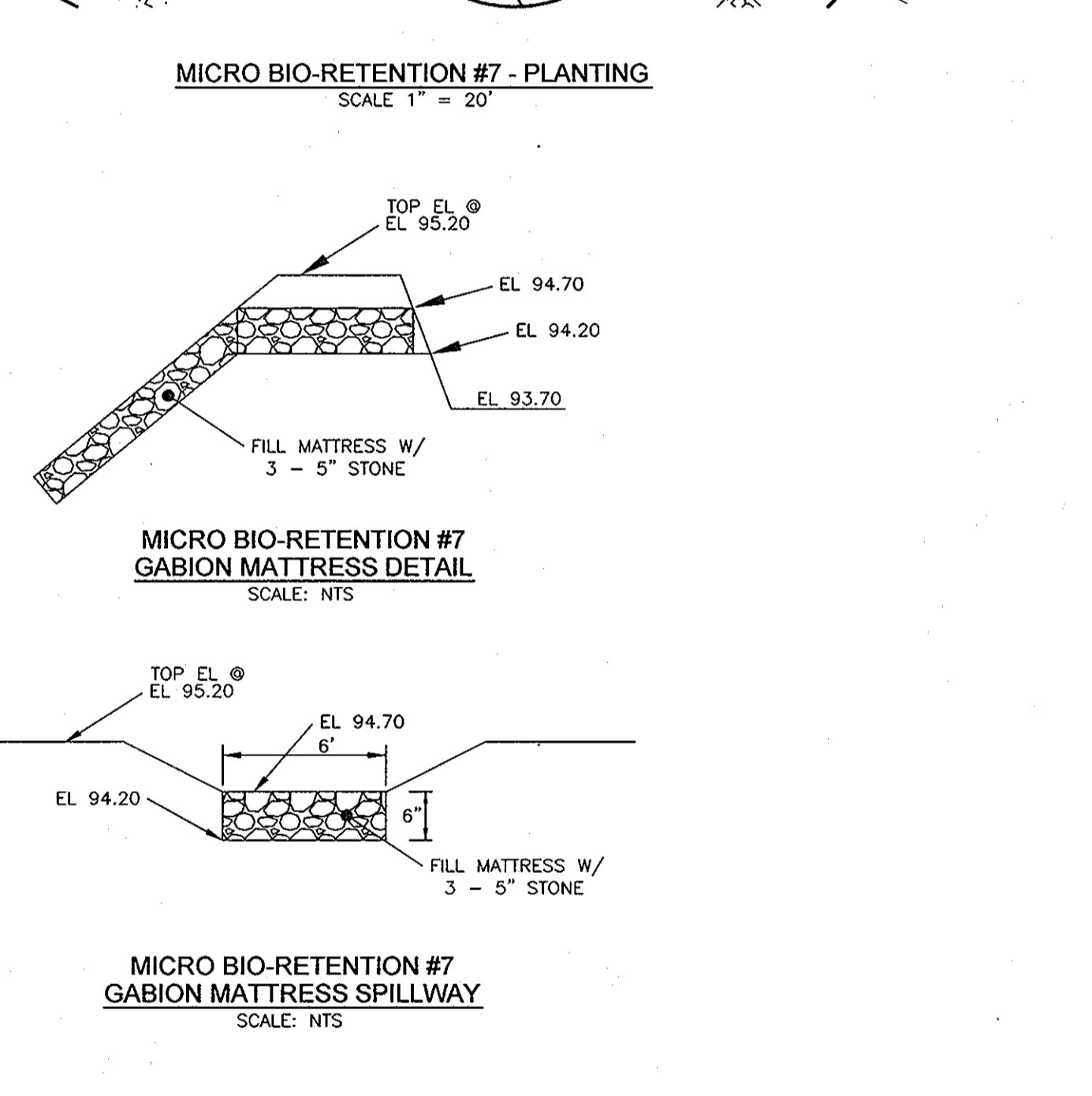
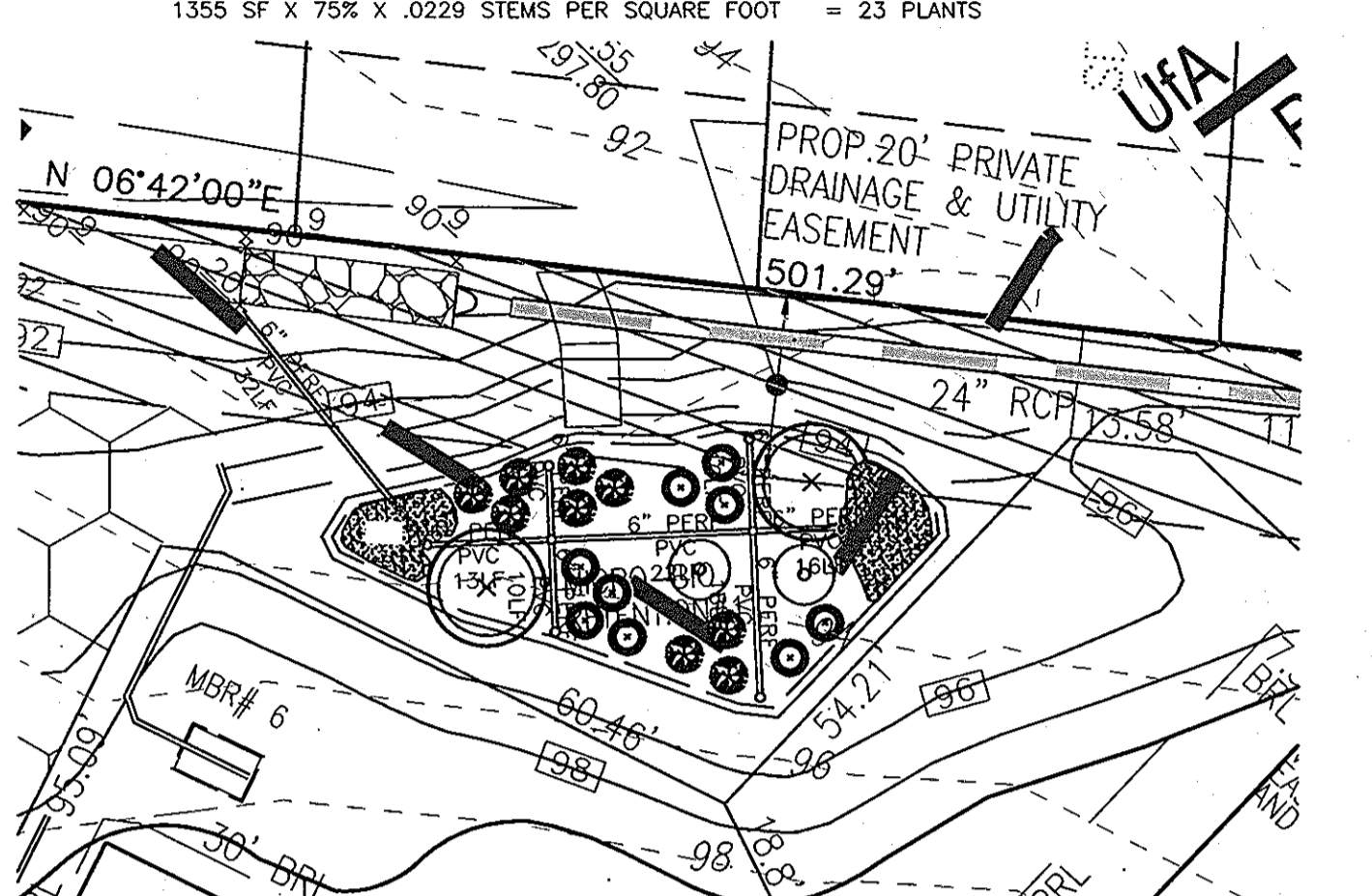


Table B.4.1 Materials Specifications for Micro-Bio-retention, Rain Gardens & Landscape Infiltration. Table with columns: Material, Specification, Size, Notes. Lists materials like planting soil, organic content, mulch, pea gravel, curtain drain, geotextile, gravel, underdrain piping, and sand.

"MICRO-BIORETENTION" PLANTING SCHEDULE NOTES:

- 1. ALL PLANT MATERIALS SHALL BE FULL AND HEAVY, BE WELL FORMED AND SYMMETRICAL...
2. CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO DIGGING...
3. FINAL LOCATION OF PLANT MATERIAL MAY VARY TO MEET FINAL FIELD CONDITIONS...
4. CONTRACTOR SHALL VERIFY PLANT QUANTITIES PRIOR TO BIDDING...
5. SEE SHEET FOR TYPICAL PLANTING SPECIFICATIONS AND DETAILS...
6. MICROBIORETENTION AREAS ARE TO BE PLANTED BASED ON A MINIMUM DENSITY OF 1000 STEMS PER PLANTED ACRE (0.229 STEMS PER SQUARE FOOT)...

ONLOT MICRO-BIORETENTION PLANTING SCHEDULE. Table with columns: QTY, BOTANICAL NAME/COMMON NAME, SIZE, REMARKS. Includes plants like Cladrasite lutea 'Sweetshade' and Kalmia latifolia.

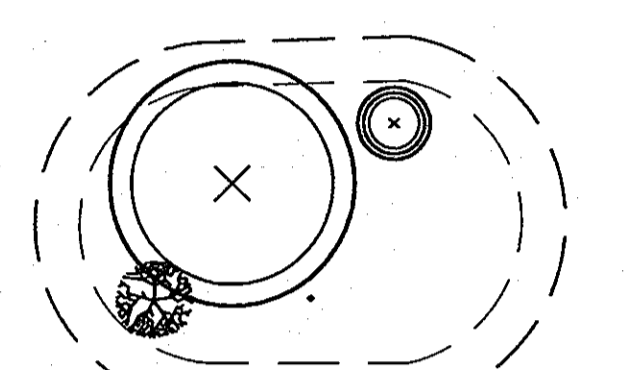


Table with 4 columns: MBR FACILITY, SURFACE AREA, REQUIRED PLANTINGS, PLANTINGS. Summary table for plant requirements for various MBR facilities.

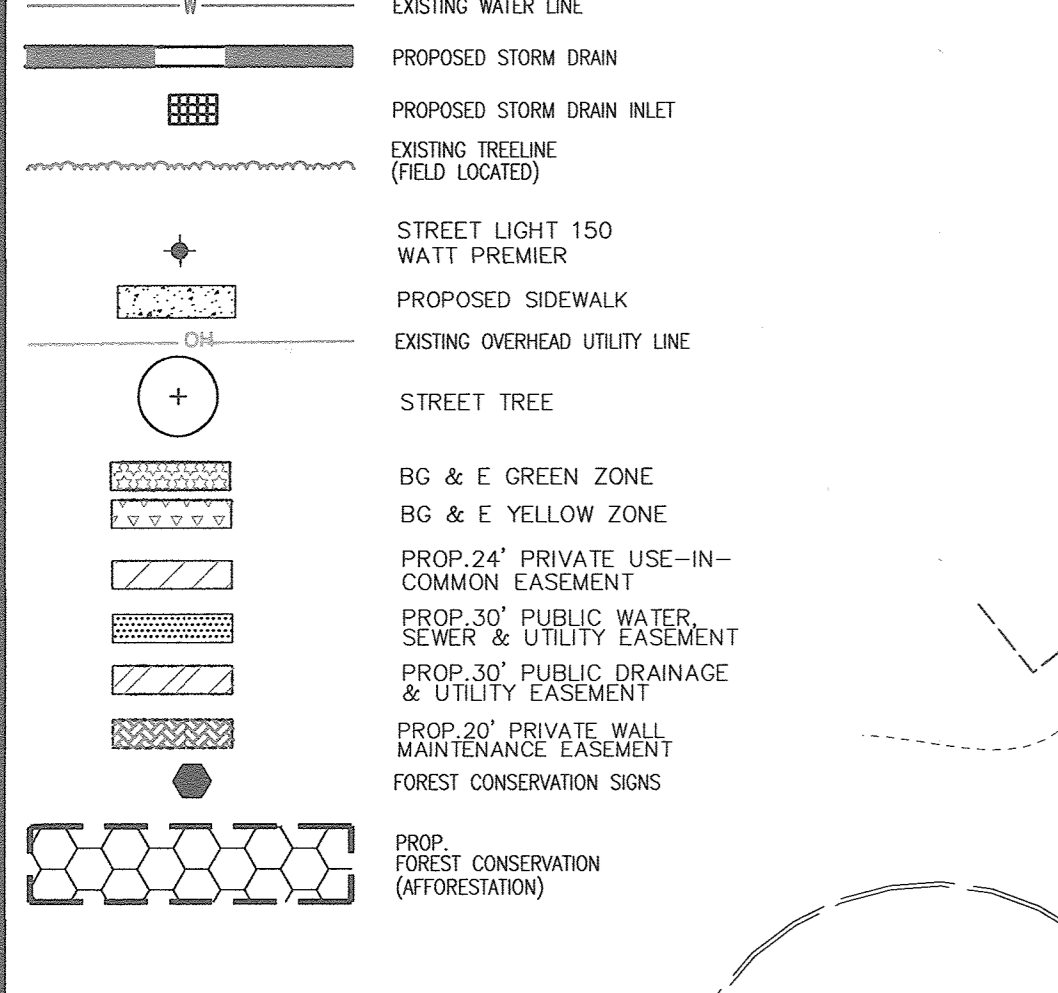
Table with 3 columns: NO., REVISION, DATE. Revision table for the construction plan.

FINAL ROAD CONSTRUCTION PLAN STORMWATER MANAGEMENT NOTES AND DETAILS. BASHAM PROPERTY. PROJECT INFORMATION, NOTES, and PROFESSIONAL CERTIFICATE.

DEVELOPER/OWNER. MAIN STREET BUILDERS 5705 LANDING ROAD ELKBRIDGE, MARYLAND 21075-5742

GENERAL NOTES

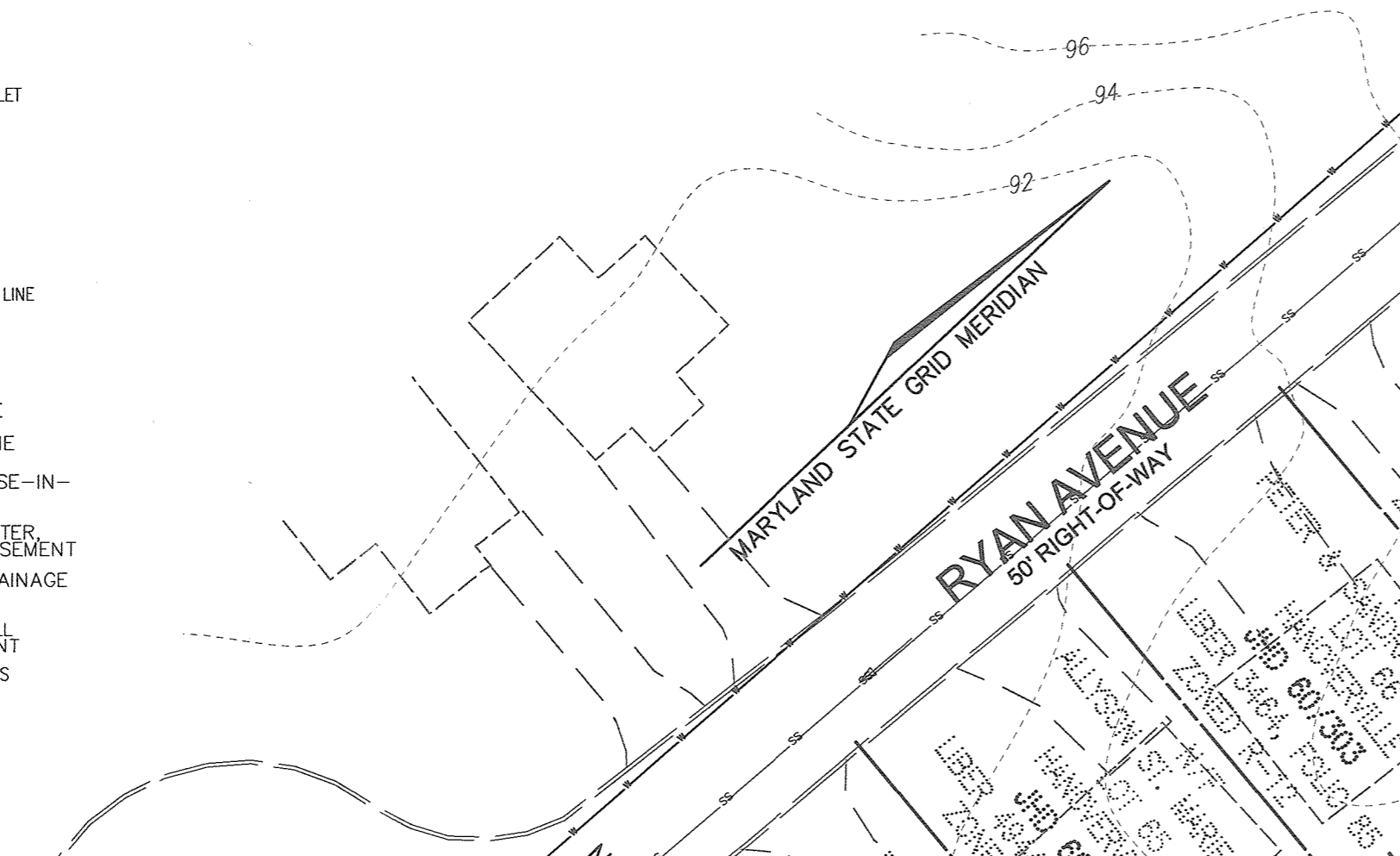
- LEGEND**
- EXISTING FENCE
 - PROPERTY LINE
 - RIGHT-OF-WAY LINE
 - EXISTING UTILITY POLE
 - EXISTING LIGHT POLE
 - EXISTING MAILBOX
 - EXISTING SIGN
 - EXISTING SANITARY MANHOLE
 - EXISTING SANITARY LINE
 - EXISTING CLEANOUT
 - EXISTING FIRE HYDRANT
 - EXISTING WATER LINE
 - PROPOSED STORM DRAIN
 - PROPOSED STORM DRAIN INLET
 - EXISTING TREE LINE (FIELD LOCATED)
 - STREET LIGHT 150 WATT PREMIER
 - PROPOSED SIDEWALK
 - EXISTING OVERHEAD UTILITY LINE
 - STREET TREE
 - BG & E GREEN ZONE
 - BG & E YELLOW ZONE
 - PROP. 24' PRIVATE USE-IN-COMMON EASEMENT
 - PROP. 30' PUBLIC WATER SEWER & UTILITY EASEMENT
 - PROP. 30' PUBLIC DRAINAGE & UTILITY EASEMENT
 - PROP. 20' PRIVATE WALL MAINTENANCE EASEMENT
 - FOREST CONSERVATION SIGNS
 - PROP. FOREST CONSERVATION (AFFORESTATION)



- B & E NOTES:**
- BGE RESERVES THE RIGHT TO TRIM, TOP OR CUT DOWN ANY TREE IN PROXIMITY TO THE LINE THAT IN THE OPINION OF BGE SHALL BE DEEMED A HAZARD TO THE SAFE AND RELIABLE DELIVERY OF ELECTRICITY.
 - THE DEPARTMENT OF PLANNING AND ZONING MAY AUTHORIZE THE TRIMMING OR REMOVAL OF TREES OR VEGETATION IMMEDIATELY ADJACENT TO THE BGE R/W OR EASEMENT, IF BGE DETERMINES THE TREES ARE COMPROMISING THE SAFETY OF A TRANSMISSION LINE LOCATED WITHIN THEIR UTILITY R/W OR EASEMENT. IF BGE INTENDS TO TRIM OR REMOVE TREES WITHIN A FOREST CONSERVATION EASEMENT, A LETTER SPECIFYING THE LOCATION AND SCOPE OF WORK, NEEDS TO BE SENT TO DPZ AT LEAST 30 DAYS IN ADVANCE OF UNDERTAKING THE WORK. DPZ UNDERSTANDS CONSTELLATION ENERGY'S NEED TO PROTECT ITS TRANSMISSION LINES AND WILL NOT UNREASONABLE WITHHOLD PERMISSION.
 - CALL MISS UTILITY TO MARK UP THE LOCATION OF EXISTING GAS LINE BEFORE PLANTING STREET TREES ALONG HANOVER ROAD & PLANT STREET TREES 10' AWAY FROM EXISTING GASLINE AS REQUIRED.

GENERAL NOTES

- NO CLEARING OF EXISTING VEGETATION IS PERMITTED WITHIN THE LANDSCAPE EDGE FOR WHICH CREDIT IS BEING TAKEN; HOWEVER, LANDSCAPE MAINTENANCE IS AUTHORIZED.
- THE OWNER, TENANT AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, PLANT MATERIALS, BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.
- AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS HEREWITH LISTED AND APPROVED FOR THIS SITE SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATION OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THIS APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO APPLICABLE PLANS AND CERTIFICATES.
- SHOULD ANY TREE DESIGNATED FOR PRESERVATION, FOR WHICH CREDIT IS GIVEN, DIE PRIOR TO RELEASE OF BONDS, THE OWNER / DEVELOPER WILL BE REQUIRED TO REPLACE THE TREE WITH THE EQUIVALENT SPECIES OR WITH A TREE WHICH WILL OBTAIN THE SAME HEIGHT, SPREAD AND GROWTH CHARACTERISTICS. THE REPLACEMENT TREE MUST MEET THE MINIMUM SIZE REQUIREMENT AND MUST BE INSTALLED AS REQUIRED IN THE LANDSCAPE MANUAL.
- THE EXISTING 44" RED OAK LOCATED ON LOT 6 SHALL BE REMOVED AND IS NOT SUBJECT TO STATE BILL NO. 666 AS SP 08-010 WAS APPROVED PRIOR TO THE ENACTMENT DATE OF 9/30/2009.



- B & E NOTES:**
- BGE RESERVES THE RIGHT TO TRIM, TOP OR CUT DOWN ANY TREE IN PROXIMITY TO THE LINE THAT IN THE OPINION OF BGE SHALL BE DEEMED A HAZARD TO THE SAFE AND RELIABLE DELIVERY OF ELECTRICITY.
 - THE DEPARTMENT OF PLANNING AND ZONING MAY AUTHORIZE THE TRIMMING OR REMOVAL OF TREES OR VEGETATION IMMEDIATELY ADJACENT TO THE BGE R/W OR EASEMENT, IF BGE DETERMINES THE TREES ARE COMPROMISING THE SAFETY OF A TRANSMISSION LINE LOCATED WITHIN THEIR UTILITY R/W OR EASEMENT. IF BGE INTENDS TO TRIM OR REMOVE TREES WITHIN A FOREST CONSERVATION EASEMENT, A LETTER SPECIFYING THE LOCATION AND SCOPE OF WORK, NEEDS TO BE SENT TO DPZ AT LEAST 30 DAYS IN ADVANCE OF UNDERTAKING THE WORK. DPZ UNDERSTANDS CONSTELLATION ENERGY'S NEED TO PROTECT ITS TRANSMISSION LINES AND WILL NOT UNREASONABLE WITHHOLD PERMISSION.
 - CALL MISS UTILITY TO MARK UP THE LOCATION OF EXISTING GAS LINE BEFORE PLANTING STREET TREES ALONG HANOVER ROAD & PLANT STREET TREES 10' AWAY FROM EXISTING GASLINE AS REQUIRED.

DPZ'S POLICIES GOVERNING THE PLACEMENT OF LANDSCAPING AND STREET TREES IN PROXIMITY TO BGE'S POWER LINES OR TRANSMISSION RIGHT-OF-WAY ARE BASED ON BGE'S PUBLISHED "PLANTING ZONE CONCEPT" WHICH STIPULATES THE MAXIMUM ALLOWABLE SIZE OF PLANT MATERIALS FOR THREE DEFINED ZONES. AS THE DISTANCE FROM BGE EQUIPMENT INCREASES, SO DOES THE SIZE OF THE ALLOWABLE PLANT MATERIALS. THESE THREE ZONES ARE DEFINED AS FOLLOWS:

ZONE	DISTANCE FROM THE BGE POWER LINE OR TRANSMISSION RIGHT-OF-WAY	MAXIMUM HEIGHT OF VEGETATION
GREEN	UP TO 20 FEET	25 FEET
YELLOW	BETWEEN 20 FEET AND 45 FEET	40 FEET
RED	BEYOND 45 FEET	ABOVE 40 FEET

SCHEDULE A: PERIMETER LANDSCAPE EDGE

CATEGORY	ADJACENT TO ROADWAYS		ADJACENT TO PERIMETER PROPERTIES / ROAD				
	1A	1B	2	3	4	5	TOTAL
LANDSCAPE TYPE	N/A	N/A	2	3	4	5	
LINEAR FEET OF ROADWAY FRONTAGE / PERIMETER	319'	99'	309'	25'	501'	113'	
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET DESCRIBE BELOW IF NEEDED)	NO	NO	NO	NO	NO	NO	
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET DESCRIBE BELOW IF NEEDED)	NO	NO	NO	NO	NO	NO	
NUMBER OF PLANTS REQUIRED (LF REMAINING)							
SHADE TREES		1:50	1:60	1:60	1:60	1:60	2
EVERGREEN TREES		1:40	2				2
NUMBER OF PLANTS PROVIDED			5	0	8	2	15
SHRUBS							2
OTHER TREES (2:1 SUBSTITUTION)							4
SHRUBS (10:1 SUBSTITUTION)							4
DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED							

PLANT LIST

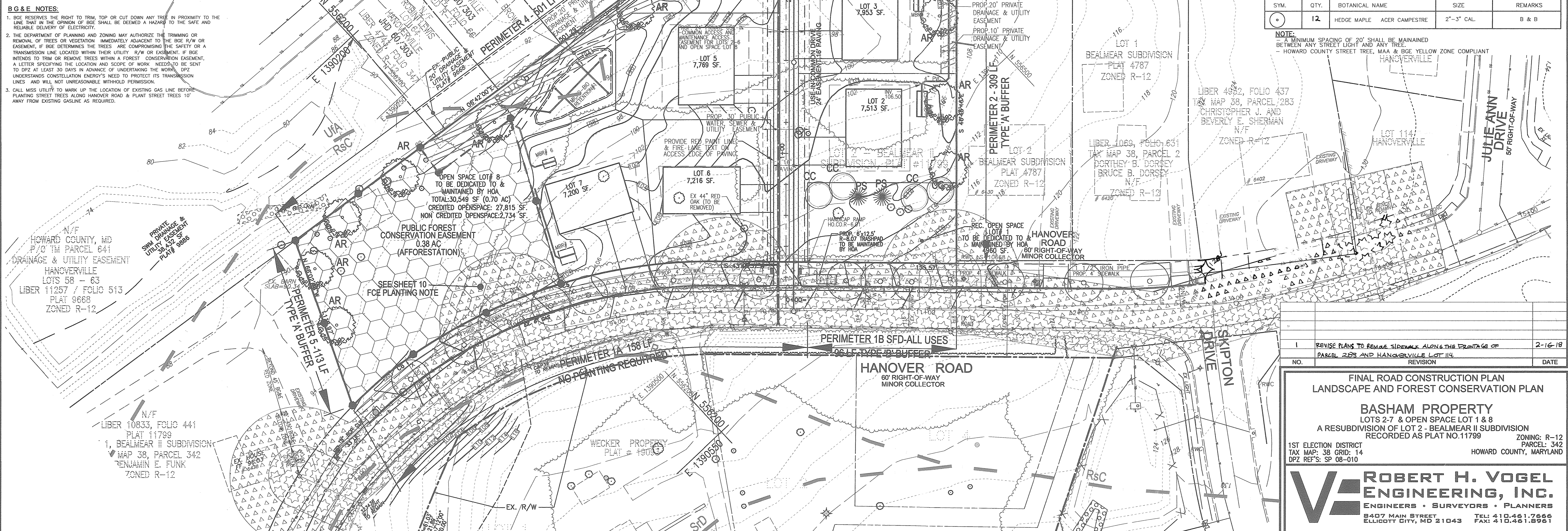
SYMBOL	QTY	BOTANICAL NAME	SIZE	REMARKS	NOTE
AR(1)	15	ACER RUBRUM	2 1/2"-3" CAL.	B & B	1. FINANCIAL SURETY FOR 15 SHADE TREES, 4 ORNAMENTAL AND 2 EVERGREEN TREES TO BE POSTED AS PART OF THE DPW DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$5,400.00 2. FINANCIAL SURETY FOR 14 PUBLIC STREET TREES TO BE POSTED OF THE DPW DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$4,200.00
CC(2)	4	EASTERN REDBUD CERCIS CANADENSIS (GROWTH HEIGHT < 25')	8'-10' CHT.	B & B	
PS	2	PINUS STROBUS EASTERN WHITE PINE	6'-8' HT.	B & B	

- (1) HOWARD COUNTY SHADE TREE & MARYLAND AVIATION ADMINISTRATION (MAA) COMPLIANT
(2) HOWARD COUNTY ORNAMENTAL TREE, MAA & BGE RED ZONE COMPLIANT

STREET TREE CALCULATIONS

STREET NAME	LINEAR FEET	REQUIRED TREES	PROVIDED TREES	
HANOVER ROAD	415/40	10	14	
SYM.	QTY.	BOTANICAL NAME	SIZE	REMARKS
AR	12	HEDGE MAPLE ACER CAMPESTRE	2"-3" CAL.	B & B

NOTE:
A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.
- HOWARD COUNTY STREET TREE, MAA & BGE YELLOW ZONE COMPLIANT



APPROVED: DEPARTMENT OF PUBLIC WORKS
 CHIEF, BUREAU OF HIGHWAYS DATE 4/1/12
 APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE 5-8-13
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE 5/09/13

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, A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE (1) YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

SIGNATURE OF DEVELOPER DATE 4-23-13

NOTES

- THIS SHEET SHALL NOT BE USED FOR GRADING PURPOSES SEE SHEET 4.
- REFER TO SHEET 7 FOR STORM DRAIN PROFILES, STRUCTURE AND PIPE SCHEDULES.

LANDSCAPE & FOREST CONSERVATION PLAN
SCALE: 1"=30'

SOILS LEGEND

SOIL	NAME	K-WALUE	SOIL GROUP
Rsc	RUSSETT FINE SANDY LOAM, 5 TO 10 PERCENT SLOPES	.24	C
Uia	URBAN LAND-FALLSINGTON COMPLEX, 0 TO 2 PERCENT SLOPES	N/A	D

OWNERS/DEVELOPERS

MAN STREET BUILDERS
 5706 LANDING ROAD
 ELKRIE, MARYLAND 21075-5700

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET
 ELLICOTT CITY, MD 21043
 TEL: 410.461.7666
 FAX: 410.461.8961

FINAL ROAD CONSTRUCTION PLAN
LANDSCAPE AND FOREST CONSERVATION PLAN

BASHAM PROPERTY
 LOTS 2-7 & OPEN SPACE LOT 1 & 8
 A RESUBDIVISION OF LOT 2 - BEALMEAR II SUBDIVISION
 RECORDED AS PLAT NO. 11799

1ST ELECTION DISTRICT
 TAX MAP: 38 GRID: 14
 DPZ REF'S: SP 08-010

ZONING: R-12
 PARCEL: 342
 HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET
 ELLICOTT CITY, MD 21043
 TEL: 410.461.7666
 FAX: 410.461.8961

DESIGN BY: RHV
 DRAWN BY: EDS/RVE
 CHECKED BY: RHV
 DATE: JANUARY 2013
 SCALE: AS SHOWN
 W.O. NO.: 04-33

PROFESSIONAL CERTIFICATE
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE: 09-27-2014

9 SHEET OF 11

GENERAL NOTES:

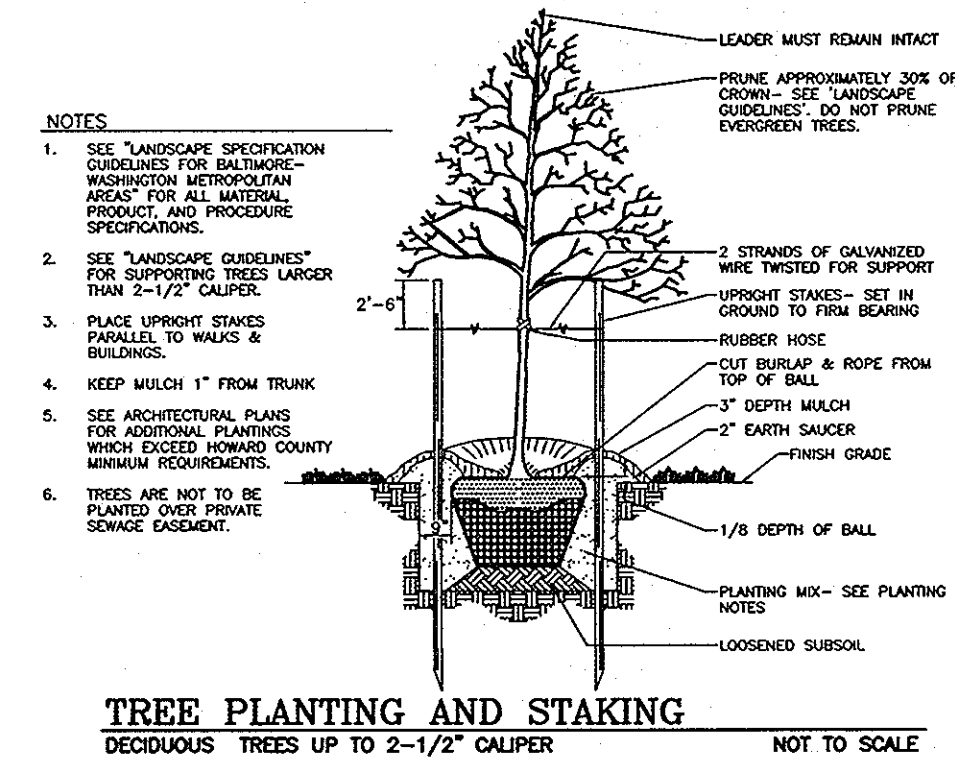
- 1. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE...
2. PUBLIC STREET TREES ARE PROVIDED FOR THIS PROJECT IN ACCORDANCE WITH SECTION 16.124(c)(1) OF THE SUBDIVISION REGULATIONS...
3. THE OWNER, TENANT AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING...
4. AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS LISTED HEREWITH AND APPROVED FOR THIS SITE SHALL BE OF THE PROPER HEIGHT...
5. THERE IS NO 100-YEAR FLOODPLAIN WITHIN THE LIMITS OF THIS PROJECT.
6. NO WETLANDS OR STREAMS ARE LOCATED ONSITE.
7. NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN WETLANDS, WETLANDS BUFFER, STREAM BANK BUFFER OR FOREST CONSERVATION EASEMENTS.
8. THE SUBJECT PROPERTY IS ZONED "R-12" IN ACCORDANCE WITH THE 2/2/04 COMPREHENSIVE ZONING PLAN AND THE COMP. LITE ZONING REGULATIONS...
9. THE PROJECT BOUNDARY IS BASED ON A BOUNDARY SURVEY PREPARED BY FREDERICK WARD ASSOCIATES, DATED DECEMBER 2002.
10. THE TOPOGRAPHY SHOWN HEREON IS BASED ON A TOPOGRAPHIC SURVEY PREPARED BY FREDERICK WARD ASSOCIATES DATED DECEMBER 2002.
11. THIS PROJECT IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.
12. TO THE BEST OF THE OWNERS KNOWLEDGE, THERE ARE NO GRAVE SITES, OR CEMETERIES LOCATED ON THE SUBJECT PROPERTY.
13. THE REMOVAL OF TREES 30' OR GREAT DHB IS PROHIBITED WITH OUT COUNTY APPROVAL.

GENERAL NOTES

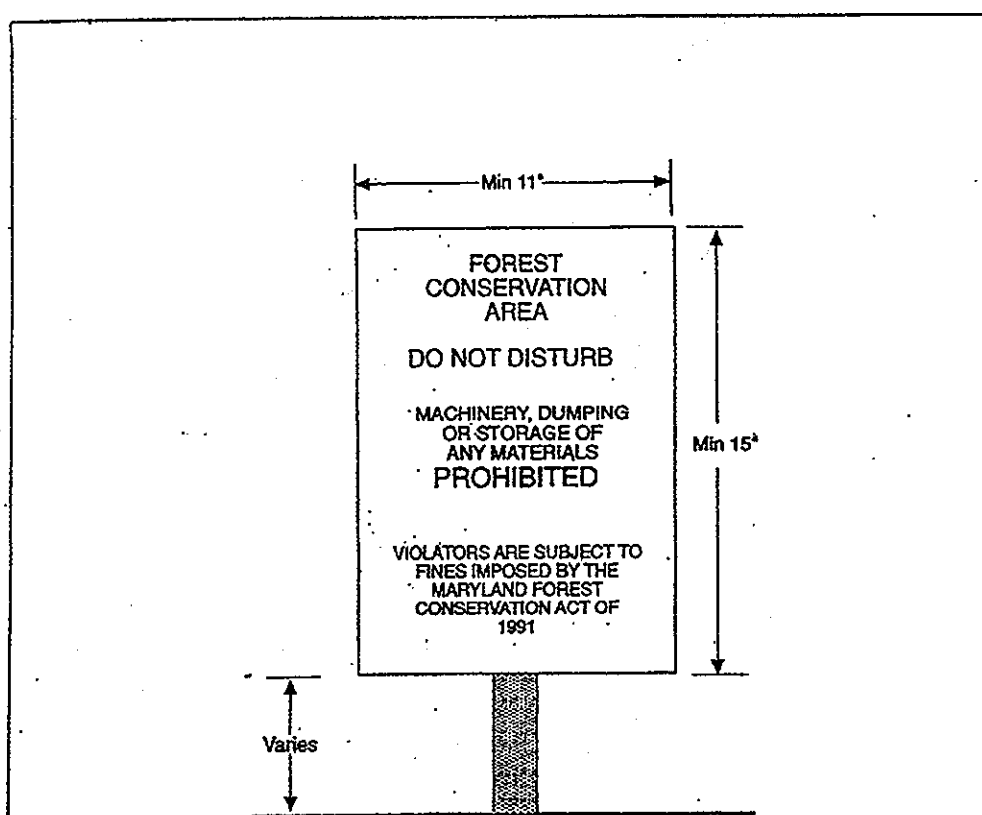
- 1. NO CLEARING OF EXISTING VEGETATION IS PERMITTED WITHIN THE LANDSCAPE EDGE FOR WHICH CREDIT IS BEING TAKEN. HOWEVER, LANDSCAPE MAINTENANCE IS AUTHORIZED.
2. THE OWNER, TENANT AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, PLANT MATERIALS, BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION...
3. AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS LISTED AND APPROVED FOR THIS SITE SHALL BE OF THE PROPER HEIGHT...
4. SHOULD ANY TREE DESIGNATED FOR PRESERVATION, FOR WHICH CREDIT IS GIVEN, DIE PRIOR TO RELEASE OF BONDS, THE OWNER / DEVELOPER WILL BE REQUIRED TO REPLACE THE TREE WITH THE EQUIVALENT SPECIES...
5. THE EXISTING 44" RED OAK LOCATED ON LOT 6 SHALL BE REMOVED AND IS NOT SUBJECT TO STATE BILL NO. 666 AS SP 08-010 WAS APPROVED PRIOR TO THE ENACTMENT DATE OF 9/30/2009.

LANDSCAPE SCHEDULE NOTE:

- 1. ALL PLANT MATERIALS SHALL BE FULL AND HEAVY, BE WELL FORMED AND SYMMETRICAL, CONFORM TO THE MOST CURRENT AAN SPECIFICATIONS AND BE INSTALLED IN ACCORDANCE WITH HRO PLANTING SPECIFICATIONS.
2. CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO DIGGING.
3. FINAL LOCATION OF PLANT MATERIAL MAY NEED TO VARY TO MEET FINAL FIELD CONDITIONS. TREES SHALL NOT BE PLANTED IN THE BOTTOM OF DRAINAGE SWALES.
4. CONTRACTOR SHALL VERIFY PLANT QUANTITIES PRIOR TO BIDDING. IF PLAN DIFFERS FROM LANDSCAPE SCHEDULE, THE PLAN SHALL GOVERN.

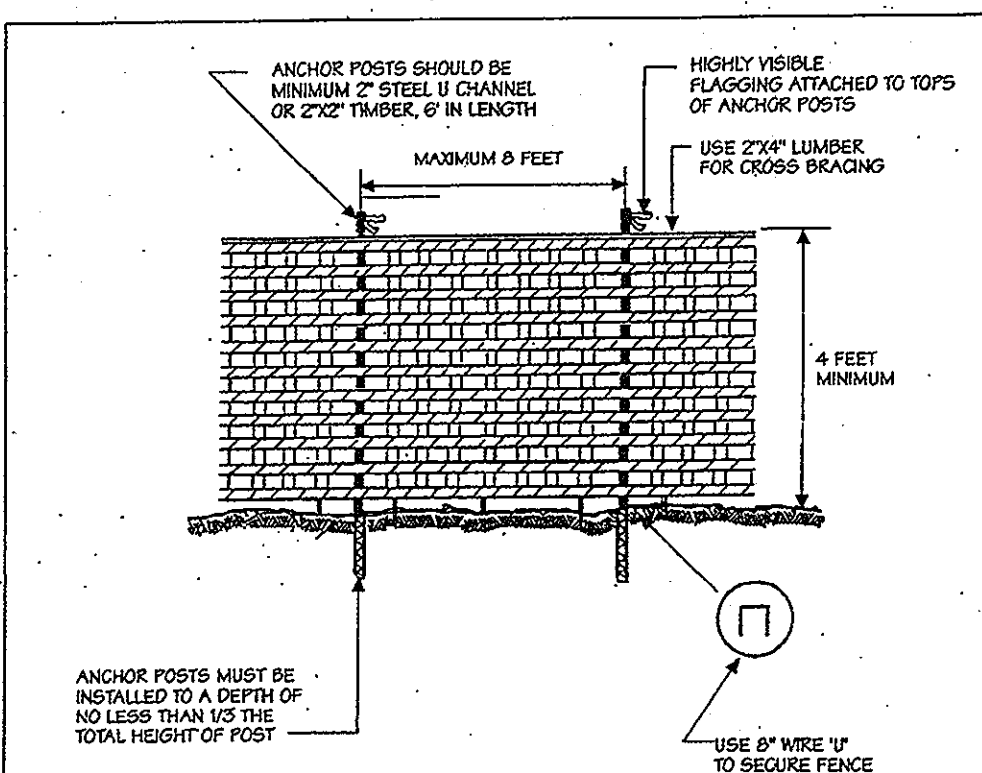


TREE PLANTING AND STAKING
DECIDUOUS TREES UP TO 2-1/2" CALIPER
NOT TO SCALE



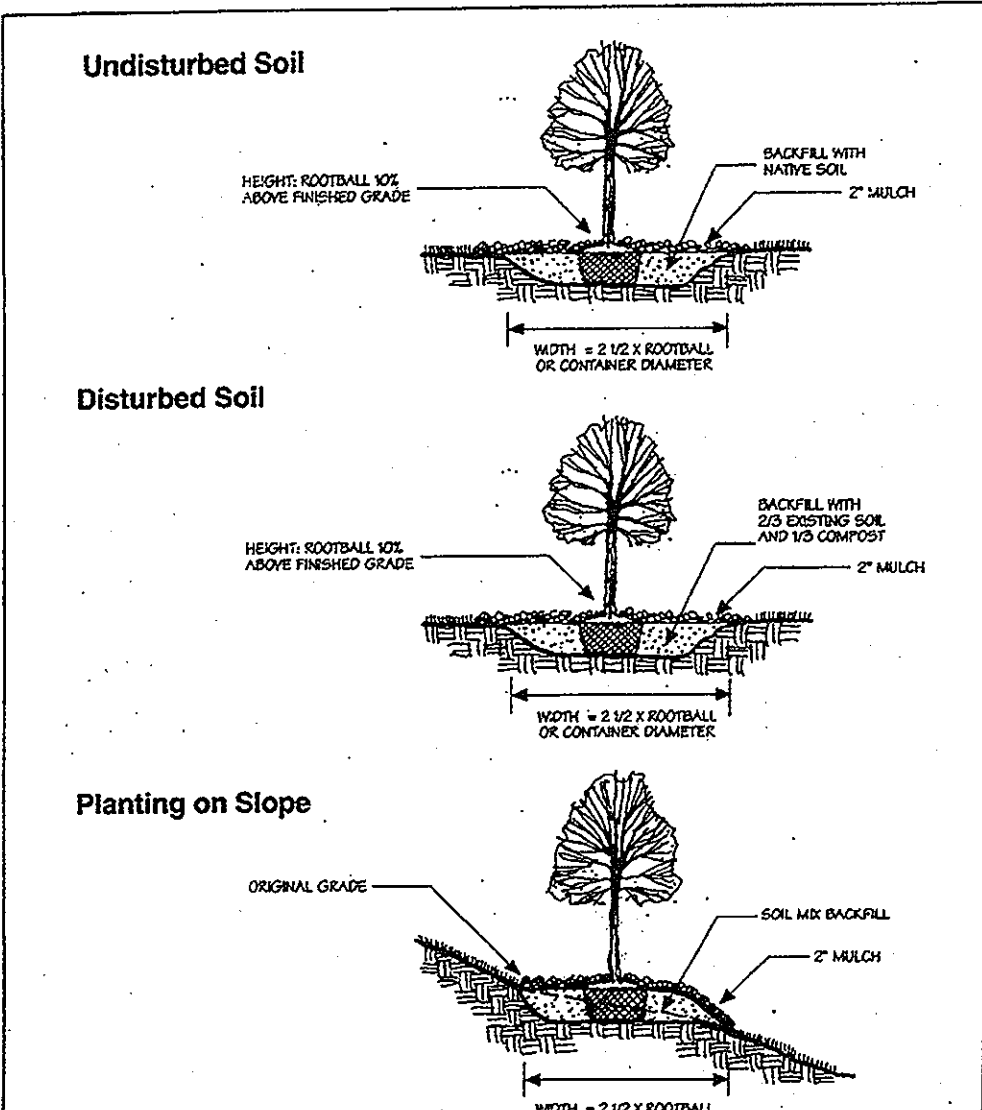
- Notes:
1. Bottom of signs to be higher than top of tree protection fence.
2. Signs to be placed approximately 50' feet apart. Conditions on site affecting visibility may warrant placing signs closer or farther apart.
3. Attachment of signs to trees is prohibited.

Construction Signs Figure C-4



- Notes:
1. Blaze orange or blue plastic mesh fence for forest protection device, only.
2. Boundaries of Retention Area will be established as part of the forest conservation plan review process.
3. Boundaries of Retention Area should be staked and flagged prior to installing device.
4. Avoid damage to critical root zone. Do not damage or sever large roots when installing posts.
5. Protection signs are required. See Figure C-4.
6. Device should be maintained throughout construction.

Plastic Mesh Tree Protection Fence Figure C-5



Container Grown and B&B Planting Techniques Figure C-16

AFFORESTATION AREA MONITORING NOTES

- 1. MONTHLY VISITS DURING THE FIRST GROWING SEASON ARE TO ASSESS THE SUCCESS OF THE PLANTINGS AND TO DETERMINE IF SUPPLEMENTAL WATERING, PEST CONTROL OR OTHER ACTIONS ARE NECESSARY...
2. THE MINIMUM SURVIVAL RATE SHALL BE 75% OF THE TOTAL NUMBER OF TREES PLANTED PER ACRE...
3. SURVIVAL WILL BE DETERMINED BY A STRATIFIED RANDOM SAMPLING OF THE PLANTINGS...
4. EFFECTIVE MONITORING WILL ASSESS PLANT SURVIVABILITY DURING THE FIRST GROWING SEASON... FOR REINFORCEMENT PLANTINGS IF REQUIRED AT THAT TIME.

AFFORESTATION PLANTING NOTES

- 1. AFFORESTATION AREAS MAY BE PLANTED AS SOON AS REASONABLE TO DO SO. LATE WINTER-EARLY SPRING PLANTINGS ARE PREFERRED...
2. SOIL AMENDMENTS AND FERTILIZATION RECOMMENDATIONS WILL BE MADE BASED UPON THE RESULTS OF SOIL ANALYSIS...
3. PLANT MATERIALS WILL BE PLANTED IN ACCORDANCE WITH THE PLANTING DETAILS AND PLANT SCHEDULE.
4. PLANT MATERIAL SHALL BE NURSERY GROWN AND INSPECTED PRIOR TO PLANTING...
5. PLANTING STOCK MUST BE PROTECTED FROM DESICCATION AT ALL TIMES PRIOR TO PLANTING...
6. NEWLY PLANTED TREES MAY REQUIRE WATERING AT LEAST ONCE PER WEEK DURING THE FIRST GROWING SEASON...
7. MULCH SHALL BE APPLIED IN ACCORDANCE WITH THE DIAGRAM PROVIDED...
8. ALL NURSERY STOCK TO BE SPRAYED WITH DEER REPELLENT CONTAINING BITREX, SUCH AS REPELLEX... FOR GROWING MEDIUM, SUCH AS REPELLEX TABLETS.

FOREST PROTECTION NOTES

- PRE-CONSTRUCTION ACTIVITIES
1. FOR RETENTION AREAS, INSTALL BLAZE ORANGE FENCE AND RETENTION SIGNS BEFORE CONSTRUCTION BEGINS.
2. FENCING SHALL BE MAINTAINED IN GOOD CONDITION AND PROMPTLY REPAIRED OR RESTORED AS THE SITUATION WARRANTS.
3. A QUALIFIED TREE CARE EXPERT SHALL DETERMINE IF ROOT PRUNING IS REQUIRED...
CONSTRUCTION PHASE
1. NO DISTURBANCE OR DUMPING IS ALLOWED INSIDE THE TREE RETENTION AREA.
2. NO EQUIPMENT SHALL BE OPERATED INSIDE THE TREE RETENTION AREA INCLUDING TREE CANOPIES.
3. IN THE EVENT OF DROUGHT, THE PROTECTED TREES SHALL BE MONITORED FOR SIGNS OF STRESS AND WATERED AS NEEDED.
POST-CONSTRUCTION ACTIVITIES
1. AT THE DIRECTION OF A QUALIFIED TREE CARE EXPERT, DAMAGES TO RETAINED TREES SHALL BE REPAIRED BY THE CONTRACTOR.
2. FENCE REMOVAL AND STABILIZATION SHALL BE AS PER THE SEDIMENT AND EROSION CONTROL PLAN.
3. DO NOT REMOVE SIGNS.

HOWARD COUNTY FOREST CONSERVATION WORKSHEET

Table with columns: ZONED R-12, NET TRACT AREA, LAND USE CATEGORY, AFFORESTATION THRESHOLD, CONSERVATION THRESHOLD, EXISTING FOREST COVER, EXISTING FOREST ABOVE AFFORESTATION THRESHOLD, AREA OF FOREST ABOVE CONSERVATION THRESHOLD, BREAK EVEN POINT, PROPOSED FOREST CLEARING, PLANTING REQUIREMENTS.

AFFORESTATION PROVIDED - AREA-1
0.38 ACRES
1" CALIPER TREES
76 TREES @ 200 TREES PER ACRE

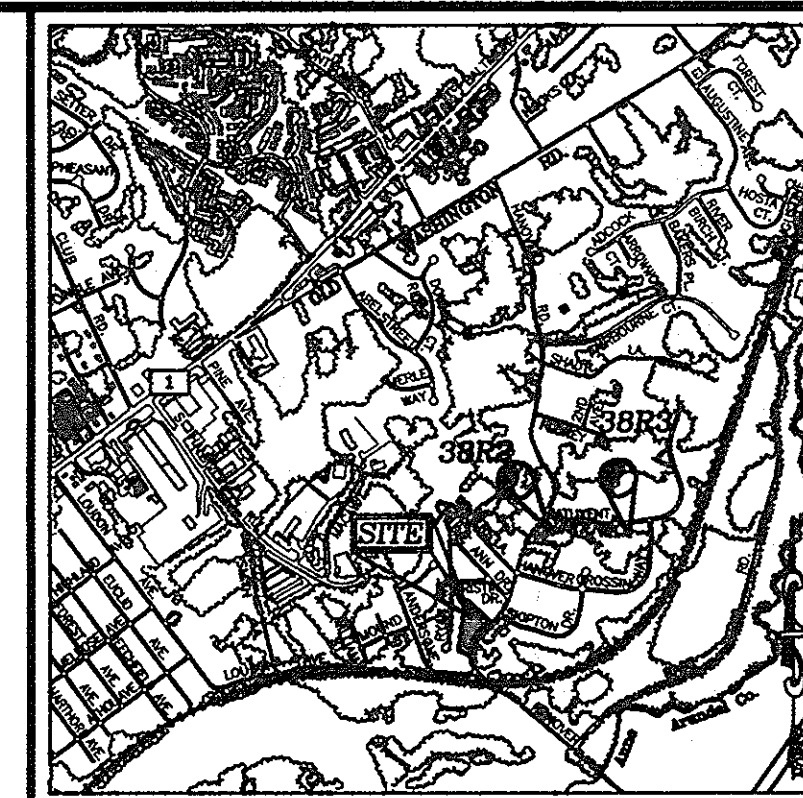
FCE # 1 - Planting Area B - 0.38 acres

Table with columns: Qty, Species, Size, Spacing, Total FCA Units. Lists tree quantities for Acer rubrum, Cercis canadensis, Ilex opaca, Linodendron tulipifera, Pinus strobus, and Total 1" caliper trees.

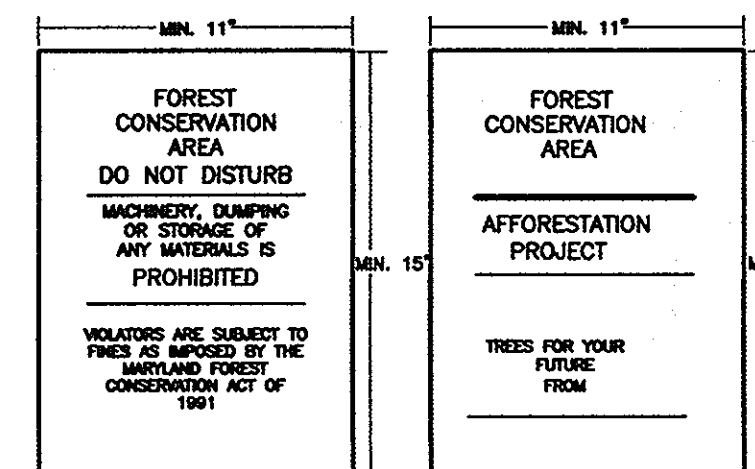
** species not to be planted in BGE green or yellow zone as shown on plan + species not to be planted in BGE green zone as shown on plan

Table with columns: Size, Number Required per Acre, Approximate Spacing feet on center, Survivability Requirement. Shows 200 trees of 5, 7 Gallon or 1" Caliper B & B at 15 x 15 spacing with 75% survivability requirement.

Site Stocking Figure A:18
Notes:
1. These stocking and survival requirements are the minimum numbers estimated to meet the definition of forest from bare land.
2. In certain circumstances, any combination of the above mentioned stocking options, dry seeding, tree shelters, transplants, and/or natural regeneration may be appropriate strategies to fulfill the requirements of an approved FCD...
3. Spacing does not imply that trees or shrubs must be planted in a grid pattern.



VICINITY MAP SCALE: 1"=200'



- NOTE:
1. BOTTOM OF SIGNS TO BE HIGHER THAN TOP OF TREE PROTECTION FENCE.
2. SIGNS TO BE PLACED AT A MAXIMUM SPACING OF 50-100 FEET. CONDITIONS ON-SITE AFFECTING VISIBILITY MAY WARRANT PLACING SIGNS CLOSER OR FARTHER APART.
3. ATTACHMENT OF SIGNS TO TREES IS PROHIBITED.
4. SIGN LOCATION SYMBOL

SIGNAGE DETAIL NOT TO SCALE

FOREST CONSERVATION SEQUENCE OF CONSTRUCTION

- PRECONSTRUCTION MEETING /SITE WALK WITH CONTRACTORS AND OTHER RESPONSIBLE PARTIES TO DEFINE PROTECTION MEASURES TO BE UTILIZED AND TO POINT OUT PARTICULAR TREES TO BE SAVED.
- STAKE OUT LIMITS OF DISTURBANCE AND TREE PROTECTION FENCING LOCATIONS.
- INSTALL TREE PROTECTION FENCING: FENCING TO BE INSPECTED BY THE PROJECT ENGINEER OR THE PROJECT ECOLOGIST AND HOWARD COUNTY PLANNING AND ZONING.
- PROCEED WITH TREE REMOVAL AND SITE IMPROVEMENTS AS PER APPROVED SEDIMENT CONTROL PLAN - TO BE INSPECTED BY HOWARD COUNTY PLANNING AND ZONING.
- TEMPORARY TREE PROTECTION DEVICES SHALL BE REMOVED AFTER ALL FINISHED GRADING AND UTILITY CONSTRUCTION HAS OCCURRED AND WITH APPROVAL FROM THE HOWARD COUNTY OFFICE OF PLANNING AND ZONING.

K&A PROJECTS 04-1331 ENGR, DWG, BASHAM-ROCKEY FINAL ROAD TO LANDSCAPE FOR CON. NOTES

APPROVED: DEPARTMENT OF PUBLIC WORKS
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
CHIEF, DIVISION OF LAND DEVELOPMENT, DATE 5/09/13

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...
DATE 4-22-13

Eco-Science Professionals, Inc. Consulting Ecologists
P.O. Box 5906 Glen Arm, Maryland 21057 Telephone (410) 832-2480 Fax (410) 832-4485
DEVELOPER/OWNER
MAIN STREET BUILDERS
5705 LANDING ROAD
ELKBRIDGE, MARYLAND 21075-5742

FINAL ROAD CONSTRUCTION PLAN LANDSCAPE AND FOREST CONSERVATION NOTES & DETAILS
BASHAM PROPERTY
LOTS 2-7 & OPEN SPACE LOT 1 & 8
A RESUBDIVISION OF LOT 2 - BEALMEAR II SUBDIVISION
RECORDED AS PLAT NO. 11799
ZONING: R-12 PARCEL: 342
1ST ELECTION DISTRICT TAX MAP: 38 GRID: 1 DPZ REF'S: SP 08-010
HOWARD COUNTY, MARYLAND
ROBERT H. VOGEL ENGINEERING, INC. ENGINEERS • SURVEYORS • PLANNERS
8400 MAIN STREET, ELKBRIDGE CITY, MD 21043 TEL: 410-461-7666 FAX: 410-461-8966
PROFESSIONAL CERTIFICATE
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DAILY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16183 EXPIRATION DATE: 09-27-2014
10 SHEET OF 11

