

GENERAL NOTES

- 1. ZONING: THE SUBJECT PROPERTIES ARE ZONED RR-DEO PER THE OCTOBER 6, 2013 COMPREHENSIVE ZONING PLAN.
2. PREVIOUS DEPARTMENT OF PLANNING AND ZONING FILE NUMBERS: ECP-16-044, WP-16-121, SP-16-007
3. SITE ANALYSIS:
TOTAL AREA OF SITE: 43.31 ACRES
AREA OF 100-YR FLOODPLAIN: 3.071 ACRES
AREA OF STEEP SLOPES (OUTSIDE OF FLOODPLAIN): 0.26 ACRES
NET AREA: 40.04 ACRES
AREA OF PROPOSED ROADWAY (PUBLIC): 0.84 ACRES
NO. OF SINGLE FAMILY DETACHED LOTS: 9
AREA OF SINGLE FAMILY DETACHED LOTS: 12.34 ACRES
NO. OF BUILDABLE PRESERVATION PARCELS: 1
AREA OF BUILDABLE PRESERVATION PARCELS: 4.66 ACRES
TOTAL NUMBER OF UNITS: 10
NO. OF NON-BUILDABLE PRESERVATION PARCELS: 2
AREA OF NON-BUILDABLE PRESERVATION PARCELS: 29.21 ACRES
TOTAL APPROXIMATE LIMIT OF PROP. SITE DISTURBANCE: 15.0 ACRES (35% OF GROSS)
4. OPEN SPACE REQUIREMENTS: NONE
5. THIS PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS AND THE AMENDED 5TH EDITION OF THE SUBDIVISION LAND DEVELOPMENT REGULATIONS UNLESS INDICATED OTHERWISE.
6. THE CEMETERY INVENTORY MAP DOES NOT SHOW ANY CEMETERIES WITHIN THE PROJECT LIMITS.
7. THE SCENIC ROADS MAP DOES NOT INDICATE ANY SCENIC ROADS IN THE VICINITY.
8. THE HISTORIC SITES MAP DOES NOT SHOW ANY HISTORICAL SITES WITHIN THE PROJECT LIMITS.
9. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY BENCHMARKS 40EA AND 40FB WERE USED FOR THIS PROJECT.
11. BOUNDARY INFORMATION IS FROM BOUNDARY SURVEYS BY GUTSCHICK, LITTLE AND WEBER, P.A., DATED DECEMBER, 2015.
12. SOILS DATA WAS TAKEN FROM THE SOIL SURVEY OF HOWARD COUNTY, MARYLAND ISSUED MARCH, 2009.
13. THE EXISTING TOPOGRAPHY IS TAKEN FROM AERIAL TOPOGRAPHY PREPARED BY MCKENZIE-SNYDER DURING DECEMBER, 2015.
14. THE WETLANDS DELINEATION STUDY FOR THIS PROJECT WAS PREPARED BY KLEBASCO ENVIRONMENTAL, LLC, DATED DECEMBER 21, 2015 AND APPROVED WITH THE PRELIMINARY EQUIVALENT SKETCH PLAN ON JANUARY 26, 2017.
15. THE FLOODPLAIN STUDY WAS PREPARED BY GUTSCHICK, LITTLE & WEBER, DATED FEBRUARY 2016, AND WAS APPROVED WITH THE PRELIMINARY EQUIVALENT SKETCH PLAN ON JANUARY 26, 2017.
16. A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT BECAUSE THERE ARE NO PROPOSED BUILDABLE LOTS WITHIN 250 FEET OF A MINOR ARTERIAL ROADWAY (ROUTE 216).
17. A TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY MARS GROUP IN A REPORT DATED JUNE 2015 AND WAS APPROVED WITH THE PRELIMINARY EQUIVALENT SKETCH PLAN (SP-16-007) ON JANUARY 26, 2017.
18. THE GEO-TECHNICAL REPORT WAS PROVIDED BY HILLIS-CARNEY DATED MARCH, 2016. THIS STUDY WILL BE APPROVED AS PART OF THIS FINAL PLAN.
19. EXISTING UTILITIES WERE TAKEN FROM AVAILABLE HOWARD COUNTY RECORDS.
20. THE PROJECT IS NOT WITHIN THE METROPOLITAN DISTRICT.
21. WATER AND SEWER ARE PRIVATE AND PROPOSED WELL AND SEPTIC SYSTEMS.
22. THE FOLLOWING STREAM BUFFERS HAVE BEEN PROVIDED:
INTERMITTENT STREAM: 50' BUFFER
PERENNIAL STREAM: 75' BUFFER
23. THE STREAM BUFFERS ARE MEASURED FROM THE STREAM BANKS AND NOT THE CENTERLINE.
24. NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF WETLANDS, STREAMS OR THEIR REQUIRED BUFFERS, FLOODPLAIN AND FOREST CONSERVATION EASEMENT AREAS, UNLESS DETERMINED TO BE ESSENTIAL OR NECESSARY BY DPZ.
25. THE FOREST CONSERVATION REQUIREMENTS OF SECTION 161200 OF THE HOWARD COUNTY CODE AND THE FOREST CONSERVATION MANUAL FOR THIS SUBDIVISION (ESTATES AT SCHOOLEY MILL) ARE MET BY THE CREATION OF ONE (1) FOREST CONSERVATION EASEMENT THAT CONTAINS MORE THAN THE BREAK-EVEN POINT MINIMUM ACRES FOR CREDITED RETENTION. THE MAXIMUM CLEARING AREA AT THE BREAK-EVEN POINT IS 12.434 ACRES AND THE PROPOSED CLEARING AREA FOR THIS DEVELOPMENT IS LESS THAN THAT AMOUNT. THE MINIMUM CREDITED RETENTION AREA AT THE BREAK-EVEN POINT IS 13.164 ACRES AND THE PROPOSED CREDITED RETENTION AREA WITHIN THE FCE IS MORE THAN 20 ACRES.
26. MINIMUM BUILDING SETBACK RESTRICTIONS FROM PUBLIC ROADS AND PROPERTY LINES WILL BE PROVIDED IN ACCORDANCE WITH THE ZONING REGULATIONS ADOPTED OCTOBER, 2013.
27. REQUIRED LANDSCAPE BUFFER PLANTINGS ARE PROVIDED IN ACCORDANCE WITH SECTION 16124 AND THE HOWARD COUNTY LANDSCAPE MANUAL. SEE SHEET #10 OF THIS PLAN SET FOR BUFFER (AND STREET) PLANTINGS. THE REQUIRED LANDSCAPE SURETY (IN THE AMOUNT OF \$19,950.00) IS POSTED WITH THE DEVELOPER AGREEMENT.
28. A PRE-SUBMISSION COMMUNITY MEETING WAS HELD FOR THIS PROJECT AT 6:00 PM ON 12/3/2015 AT THE MAPLE LAWN COMMUNITY CENTER IN COMPLIANCE WITH SECTION 16128 OF THE REGULATIONS.
29. STORMWATER MANAGEMENT FOR THIS SITE WILL BE PROVIDED IN ACCORDANCE WITH CHAPTER 5 OF THE MDE STORMWATER DESIGN MANUAL. BASED ON TABLE 5.3, THIS SITE HAS A TARGET PE OF 12". IN ORDER TO FULFILL THE STORMWATER MANAGEMENT REQUIREMENTS A COMBINATION OF NON-ROOFTOP RUNOFF (N-2), SHEET FLOW TO CONSERVATION AREA (N-3), DRY WELLS (M-3), AND SUBMERGED GRAVEL WETLAND (M-2) WILL BE USED. ALL PRACTICES WILL BE PRIVATELY OWNED AND MAINTAINED. ON LOT STORMWATER MANAGEMENT DEVICES SHALL BE PRIVATELY OWNED BY THE PROPERTY OWNER AND SHALL BE SUBJECT TO OPERATION AND MAINTENANCE AS SPECIFIED IN A RECORDED DECLARATION OF COVENANT. THE SUBMERGED GRAVEL WETLAND SHALL BE OWNED AND MAINTAINED BY THE HOMEOWNER'S ASSOCIATION.
30. DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO INSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
A) WIDTH - 12' (6' SERVING MORE THAN ONE RESIDENCE)
B) SURFACE - 6" OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING (1-1/2" MIN)
C) GEOMETRY - MAX. 1.5% GRADE, MAX. 10% GRADE CHANGE AND MIN. 45' TURNING RADIUS
D) STRUCTURE (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING)
E) DRAINAGE ELEMENTS - SAFELY PASSING 100-YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE
F) MAINTENANCE - SUFFICIENT TO INSURE ALL WEATHER USE
31. PER ZONING SECTION 1605.0.F, 10% OF THE TOTAL NUMBER OF UNITS MUST BE DEDICATED AS MIHUs. A FEE IN LIEU WILL BE PAID TO SATISFY THE MIH REQUIREMENTS.
32. THE DESIGN OF THIS CLUSTER SUBDIVISION REFLECTS THE INTENDED PRINCIPAL USE OF THE PRESERVED AREAS, PARCEL "A" - PRIVATE RESIDENCE, PARCEL "B" - ENVIRONMENTAL PROTECTION, PARCEL "C" - STORMWATER MANAGEMENT. THE PRESERVATION AREAS, AS DESIGNED, WILL FUNCTION FOR THEIR INTENDED USE, AND THE CLUSTER LOT ARRANGEMENT WILL MINIMIZE ADVERSE IMPACTS TO PRESERVATION AREAS INCLUDING UNIQUE & SENSITIVE ENVIRONMENTAL CONDITIONS, AND EXISTING ADJACENT FARM OPERATIONS. THE LOCATION AND SHAPE OF THE PRESERVATION PARCELS WILL PRESERVE THE QUALITY OF THE LANDSCAPE, PARTICULARLY AS VIEWED FROM SCAGESVILLE ROAD.
33. PRESERVATION PARCEL EASEMENT HOLDERS:
BUILDABLE PRESERVATION PARCEL "A" - (PRIVATELY OWNED WITH HOWARD COUNTY AND THE HOA AS THE TWO EASEMENT HOLDERS)
NON-BUILDABLE PRESERVATION PARCEL "B" - (TO BE CONVEYED TO HOWARD COUNTY WITH THE HOA AS THE EASEMENT HOLDER)
NON-BUILDABLE PRESERVATION PARCEL "C" - (TO BE CONVEYED TO THE HOA WITH HOWARD COUNTY AS THE EASEMENT HOLDER)
34. WP-16-121, AN ALTERNATIVE COMPLIANCE REQUEST FROM SUBDIVISION SECTION 161205(A)(7) PROHIBITING THE REMOVAL OF SPECIMEN TREES WAS APPROVED ON DECEMBER 7, 2016. THIS ALTERNATIVE COMPLIANCE REQUEST WILL ALLOW FOR THE REMOVAL OF 8 OF 65 SPECIMEN TREES FOR THE PROPOSED DEVELOPMENT AS SHOWN ON THE ALTERNATIVE COMPLIANCE EXHIBIT AS SPECIMEN TREE NUMBERS 1, 12, 13, 23, 26, 27, 30, 31, AND 40. APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:
1. COMPLIANCE WITH ALL SRC AGENCY COMMENTS GENERATED WITH THE REVIEW OF THE PRELIMINARY EQUIVALENT SKETCH PLAN, SP-16-007.
2. SIXTEEN (16) 2.5" - 3" CALIBER, NATIVE SHADE TREES AS MITIGATION FOR THE REMOVAL OF THE 8 SPECIMEN TREES FROM THE PROPERTY. SURETY FOR THE MITIGATION TREES SHALL BE ADDED TO THE LANDSCAPE SURETY WITH THE FINAL PLAN SUPPLEMENTAL AND ROAD CONSTRUCTION DRAWINGS.
3. INCLUDE THE ALTERNATIVE COMPLIANCE REQUEST NUMBER, DESCRIPTION, AND DECISION ON ALL ASSOCIATED PLANS, PLATS AND FUTURE SITE PLANS.
35. PER FC CASE 423, THE PLANNING BOARD APPROVED THIS PROJECT WITHOUT ANY CONDITIONS. THE PLANNING BOARD HEARING WAS HELD ON NOVEMBER 17, 2016 AND THE CASE WAS APPROVED ON DECEMBER 15, 2016.
36. WELLS MUST BE PROTECTED AT ALL TIMES DURING SITE PREPARATION AND DEVELOPMENT. PREFERABLY A HIGHLY VISIBLE MATERIAL SUCH AS ORANGE FENCING IS USED TO MARK WELL LOCATIONS.
37. THE DRIVEWAY MUST BE REMOVED FROM THE SDA ON LOTS 2 AND 3 PRIOR TO FINAL PLAT. THE SOIL SURFACE IS TO BE RESTORED TO APPROXIMATE ORIGINAL CONTOUR WITHOUT ADDITIONAL COMPACTION. THE HEALTH DEPARTMENT MAY REQUIRE CONFIRMATION OF SOIL PROFILES IN THE FORMER DRIVEWAY AREA PRIOR TO SIGNING THE FINAL PLAT.
38. THE EXISTING WELLS TO BE SEALED AND THE WELL ABANDONMENT REPORT RECEIVED BY THE HEALTH DEPARTMENT PRIOR TO SUBMITTAL OF FINAL PLAT. THE EXISTING SEPTIC SYSTEM IS TO BE PUMPED DRY AND PROPERLY ABANDONED PRIOR TO FINAL PLAT.
39. THE FUTURE PATHWAY BY OTHERS SHOWN ON NON-BUILDABLE PRESERVATION PARCEL B IS A CONCEPTUAL LAYOUT ONLY. THE PURPOSE OF IT IS TO ALERT THE FUTURE HOMEOWNERS IN THIS SUBDIVISION THAT HOWARD COUNTY DEPARTMENT OF RECREATION AND PARKS MAY SOMEDAY BUILD A PATHWAY IN THIS AREA. THIS PATHWAY WILL BE DESIGNED AND CONSTRUCTED BY A FUTURE PLAN AND THE ALIGNMENT IS SUBJECT TO CHANGE. A FUTURE PLAN WILL RESOLVE ALL DESIGN ISSUES INCLUDING WETLAND AND STREAM MITIGATION, STREAM CROSSINGS, GRADINGS, STORMWATER MANAGEMENT, AND ACCESS OFF OF RT. 216.
40. THE OWNERS/OCCUPANTS OF LOT 9 SHALL HAVE ACCESS AT ALL TIMES TO THE WELL LINE THAT CROSSES THE PRIVATE DRAINAGE EASEMENT THAT BISECTS LOT 9. ACCESS TO THE WELL LINE FOR INSTALLATION, MAINTENANCE, OR REPAIR SHALL HAVE PRIORITY OVER THE FUNCTION OF CONVEYANCE OF STORMWATER. A WELL LINE CROSSING THE PRIVATE DRAINAGE EASEMENT MUST BE INSTALLED THROUGH A CONDUIT WHICH EXTENDS 10 FEET BEYOND EACH SIDE OF THE DRAINAGE EASEMENT. IF THE INVERT OF THE PIPE CONVEYING STORMWATER IS LESS THAN 60 INCHES IN DEPTH, THE CONDUIT FOR THE WELL LINE MUST BE INSTALLED BENEATH THE STORMWATER CONVEYANCE PIPE DURING DEVELOPMENT OF THE SITE AND THE ENDS AT THE CONDUIT MARKED FOR ACCESS AT A LATER DATE.
41. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
42. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT 410-313-1800 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
43. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-251-TITI AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
44. TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNS 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.
45. STREET LIGHTS ARE NOT REQUIRED FOR THIS PROJECT.
46. A DESIGN MANUAL WAIVER REQUEST FROM VOLUME III, SECTION 2.3.A.10 REQUIREMENT FOR THE DESIGN SPEED AND MINIMUM RADI OF HORIZONTAL CURVES FOR A SELECTED ROADWAY CLASSIFICATION WAS APPROVED ON JULY 18, 2016. THIS REQUEST WILL ALLOW A CURVE RADIUS OF 85 FEET ALONG A PUBLIC ROAD. APPROVAL IS SUBJECT TO THE FOLLOWING:
I. PROVIDE GUARD RAIL BETWEEN THE ROADWAY AND THE BIOTRENTAL FACILITIES ALONG THE ENTIRETY OF THE CURVE. SPECIFY THE TYPE OF GUARD RAIL AND SPECIFY GUARD RAIL END TREATMENTS. PLEASE ENSURE THE GUARD RAIL IS SET BACK OFF THE EDGE OF PAVEMENT TO ALLOW AN APPROPRIATE "CLEAR ZONE" FOR RECOVERY.
47. WP-16-125, AN ALTERNATIVE COMPLIANCE REQUEST FROM SUBDIVISION SECTION 161205(A)(7) PROHIBITING THE REMOVAL OF SPECIMEN TREES WAS APPROVED ON JUNE 28, 2017. THIS ALTERNATIVE COMPLIANCE REQUEST WILL ALLOW FOR THE REMOVAL OF 4 SPECIMEN TREES FOR THE PROPOSED DEVELOPMENT AS SHOWN ON THE ALTERNATIVE COMPLIANCE EXHIBIT AS SPECIMEN TREE NUMBERS 15, 16, 18, AND 23. APPROVAL IS SUBJECT TO THE FOLLOWING CONDITION:
1. EIGHT (8) 2.5" - 3" CALIBER, NATIVE SHADE TREES AS MITIGATION FOR THE REMOVAL OF THE FOUR (4) SPECIMEN TREES FROM THE PROPERTY. SURETY FOR THE MITIGATION TREES SHALL BE ADDED TO THE LANDSCAPE SURETY WITH THE FINAL PLAN SUPPLEMENTAL AND ROAD CONSTRUCTION DRAWINGS.

FINAL PLAN
ESTATES AT SCHOOLEY MILL

Lots 1 - 9, BUILDABLE PRESERVATION PARCEL 'A', & NON-BUILDABLE PRESERVATION PARCELS 'B' & 'C' & FOREST CONSERVATION BANK ASBUILT

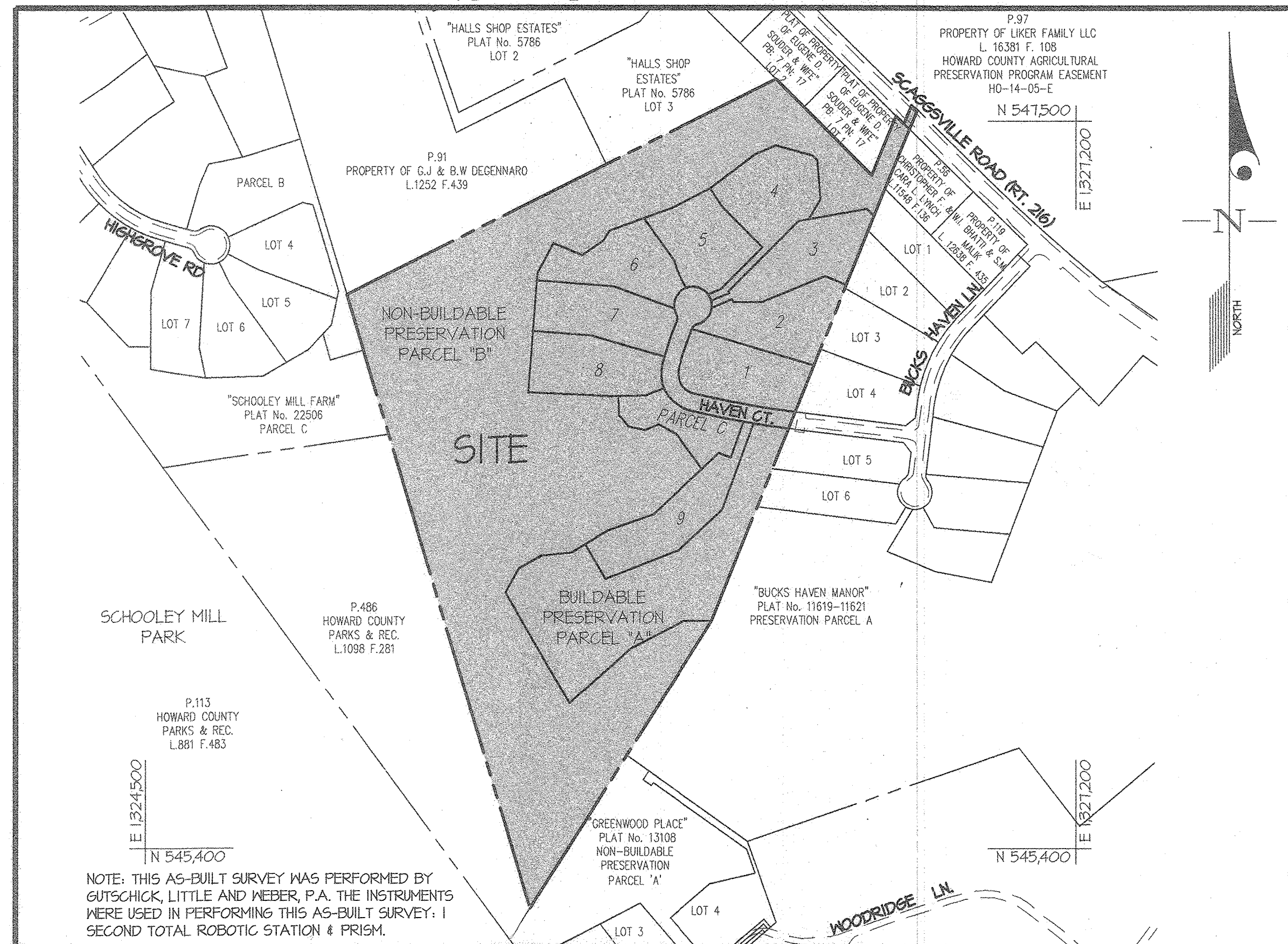


Table with 2 columns: BENCHMARKS, LOCATION PLAN. Includes coordinates for 40EA and 40FB.

HEALTH DEPARTMENT NOTES
1. THIS AREA DESIGNATES A PRIVATE SEWAGE AREA OF AT LEAST 10,000 SQUARE FEET AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWERAGE IS AVAILABLE. THIS AREA SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWAGE AREA. RECORDATION OF A MODIFIED SEWAGE AREA SHALL NOT BE NECESSARY.
2. THE LOTS SHOWN HEREON COMPLY WITH THE MINIMUM OWNERSHIP, WIDTH, AND LOT AREA AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT.
3. EXISTING WELLS, SEPTIC SYSTEMS, AND SEWAGE DISPOSAL AREAS WITHIN 100' OF THE PROPERTY AND THOSE WELLS WITHIN 200' DOWN GRADIENT OF EXISTING OR PROPOSED SEPTIC SYSTEMS OR SEWAGE DISPOSAL AREAS HAVE BEEN SHOWN.
4. ALL WELLS SHALL BE DRILLED PRIOR TO FINAL PLAT RECORDATION. IT IS THE DEVELOPER'S RESPONSIBILITY TO SCHEDULE THE WELL DRILLING PRIOR TO FINAL PLAT SUBMISSION. IT WILL NOT BE CONSIDERED "GOVERNMENT DELAY" IF THE WELL DRILLING HOLDS UP HEALTH DEPARTMENT SIGNATURE OF THE RECORD PLAT.
5. ENGINEER HAS UTILIZED AERIAL TOPOGRAPHY AT 2' CONTOURS AND HAS FOUND TOPOGRAPHY WITHIN SEPTIC RESERVE AREAS TO BE REASONABLY ACCURATE.
6. ANY CHANGES TO A PRIVATE SEWAGE AREA SHALL REQUIRE A REVISED PERC CERTIFICATION PLAN.
7. THE MARYLAND DEPARTMENT OF THE ENVIRONMENT HAS REVIEWED THE PROPOSED WELL AND SEWAGE DISPOSAL AREA LOCATIONS ILLUSTRATED ON THIS PLAN AS RECOMMENDED BY THE HOWARD COUNTY HEALTH DEPARTMENT, AND HAS GRANTED VARIANCES TO ALLOW THE WELLS TO BE DOWNGRADIENT OF SEWAGE DISPOSAL AREAS, EITHER SINGULAR OR IN COMBINATION, ON LOTS 1-4 PURSUANT TO THE FOLLOWING CONDITIONS:
A. DOWNGRADIENT WELLS WILL BE REQUIRED TO HAVE STEEL CASING TO A MINIMUM DEPTH OF 50 FEET OR 10 FEET INTO COMPETENT BEDROCK, WHICHEVER IS DEEPER, AND BE AT LEAST 200 FEET DISTANCE FROM ANY SEWAGE DISPOSAL AREA THAT IS UPGRADIENT.
B. SEPTIC SYSTEMS INSTALLED ON LOTS UPGRADIENT OF WELLS WILL HAVE THESE CHARACTERISTICS:
1. A BAT UNIT MUST BE INSTALLED IN THE INITIAL SYSTEM.
2. ALL DRAINFIELDS INSTALLED IN THE RESPECTIVE SDA WILL BE DESIGNED FOR LOW-PRESSURE DISTRIBUTION OR EQUIVALENT.
8. THE EXISTING WELLS SHALL BE SEALED PRIOR TO SIGNATURE OF FINAL PLAT, AND THE SEPTIC SYSTEM FOR ALL THREE RESIDENCES SHALL BE PROPERLY ABANDONED AND DOCUMENTATION SUBMITTED TO THE HEALTH DEPARTMENT PRIOR TO SIGNATURE OF FINAL PLAT.
9. A NOTICE OF EXEMPTION FROM GROUNDWATER APPROPRIATIONS PERMIT MUST BE SUBMITTED TO MDE WATER SUPPLY PROGRAM.

ON LOT MICRO-SCALE PRACTICES table with columns for Lot No., N, Y, and various lot numbers.

- SHEET INDEX
1. COVER SHEET
2. HAVEN COURT PLAN, PROFILE & DETAILS
3. GRADING PLAN
4. GRADING PLAN
5. GRADING PLAN
6. STORM DRAIN DRAINAGE AREA MAP
7. STORM DRAIN PROFILES
8. ESD STORMWATER DRAINAGE AREA MAP
9. ESD DETAILS
10. LANDSCAPE PLAN
11. SEDIMENT CONTROL OVERVIEW AND DRAINAGE AREA MAP
12. SEDIMENT CONTROL PLAN & SOILS MAPS
13. SEDIMENT CONTROL PLAN & SOILS MAPS
14. SEDIMENT CONTROL PLAN & SOILS MAPS
15. SEDIMENT CONTROL NOTES AND DETAILS
16. SEDIMENT CONTROL NOTES AND DETAILS
17. FOREST CONSERVATION OVERVIEW
18. FOREST CONSERVATION PLAN
19. FOREST CONSERVATION PLAN
20. FOREST CONSERVATION CHARTS, NOTES & DETAILS

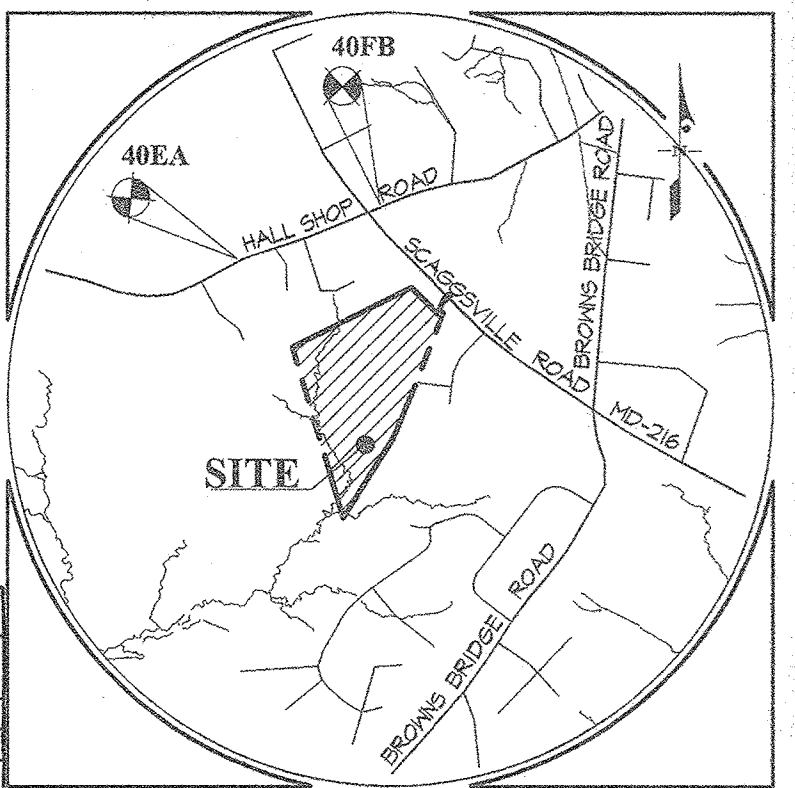
MINIMUM LOT SIZE CHART table with columns: LOT NUMBER, GROSS AREA, PIPESTEM AREA, MINIMUM LOT SIZE.

SETBACK REQUIREMENTS table with columns: SETBACK TYPE, SETBACK (Lots Less than 3 Acres), SETBACK (Lots More than 3 Acres).

ASBUILT CERTIFICATION
I hereby certify, by my seal, that to the best of my knowledge and belief the facilities shown on this plan were constructed as shown on this "AS-BUILT" plan meet the Approved Plans and Specifications. 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. 12975, Expiration Date: May 26, 2022.

Date: 7/27/21
Signature: Carl K. Gutschick, Professional Engineer, Maryland Reg. No. 12975

SITE DATA TABLE
PREVIOUS DEPARTMENT OF PLANNING AND ZONING FILE NUMBERS: ECP-16-044, WP-16-121, SP-16-007
A. GROSS AREA OF PROPERTY TRACT = 43.31± AC.
B. 100-YEAR FLOOD PLAIN AREA = 3.07± AC.
C. NET AREA OF PROPERTY TRACT = 40.04± AC.
D. AREA OF PROPOSED PUBLIC ROAD RIGHT OF WAY = 0.84± AC.
E. AREA OF PROPOSED LOTS = 12.34± AC.
F. PRESERVATION PARCEL A (BUILDABLE) = 4.66± AC.
G. PRESERVATION PARCEL B (NON-BUILDABLE) = 24.36± AC.
H. PRESERVATION PARCEL C (NON-BUILDABLE) = 0.85± AC.
I. DENSITY SHOWN = 10 LOTS
J. DENSITY REQUIRED = 0
K. OPEN SPACE REQUIRED (NONE) = 0.00 AC.
L. TOTAL NUMBER OF PROPOSED SFD BUILDABLE LOTS = 9
M. TOTAL NUMBER OF BUILDABLE PRESERVATION PARCELS = 1
N. TOTAL AREA PRESERVATION PARCELS = 24.81± AC.
O. TOTAL NUMBER OF NON-BUILDABLE PRESERVATION PARCELS = 2



BENCHMARKS table with columns: BENCHMARK, ELEV., N., E., DISTANCE.

LEGEND
--- 600 --- EXISTING CONTOUR
--- 500 --- PROPOSED CONTOUR
SBB --- STREAM BANK BUFFER
--- --- STREAM BANK
--- --- STREAM
--- x x x --- LIMIT OF CLEARING
--- --- EXISTING TREELINE
--- --- PROPOSED/ULTIMATE TREELINE
--- --- 100-YEAR FLOODPLAIN
--- --- EXISTING BUILDING
--- --- PROPOSED BUILDING
--- --- PROPOSED EDGE OF PAVEMENT
--- --- PROPOSED CURB AND GUTTER
--- --- PROP. STORM DRAIN
--- --- EX. STORM DRAIN
--- --- STRUCTURE NUMBER
--- --- STEEP SLOPES 25%
--- --- SOIL BOUNDARY
--- --- SOIL TYPE
--- --- WETLAND BUFFER
--- --- LIMIT OF WETLAND
--- --- WETLAND AREA
--- --- BUILDING RESTRICTION LINE
--- --- PROPERTY LINE
--- --- EX. CURB AND GUTTER
--- --- EX. EDGE OF PAVEMENT
--- --- SPECIMEN TREE LOCATIONS
--- --- EXISTING SEPTIC FIELD
--- --- PROPOSED SEPTIC FIELD
--- --- PROPOSED WELL LOCATION
--- --- PROPOSED WELL BOX
--- --- PROPOSED FOREST CONSERVATION EASEMENT
--- --- EASEMENTS
--- --- DRIVEWAY CULVERT PER R-6.06

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Chief, Bureau of Highways
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Chief, Division of Land Development
Chief, Development Engineering Division

GLWGUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE - SUITE 250 - BURTONTOWNE OFFICE PARK
BURTONTOWNE, MARYLAND 20866
TEL: 301-421-4024 FAX: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

Table with columns: DATE, REVISION, BY, APPR.

OWNER: THE WILBUR AND EVELYN HINKLE FAMILY LIMITED PARTNERSHIP
DEVELOPER: WILLIAMSBURG GROUP, LLC
PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE PLANS 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. 12975, EXPIRATION DATE: MAY 26, 2022.

ASBUILT COVER SHEET
ESTATES AT SCHOOLEY MILL
LOTS 1-9, Buildable Preservation Parcel 'A', & Non-Buildable Preservation Parcels 'B' & 'C' and FOREST CONSERVATION BANK
TAX PARCEL 93
LIBER 4637 FOLIO 68
HOWARD COUNTY, MARYLAND

Table with columns: SCALE, ZONING, G. L. W. FILE No., DATE, TAX MAP - GRID, SHEET.

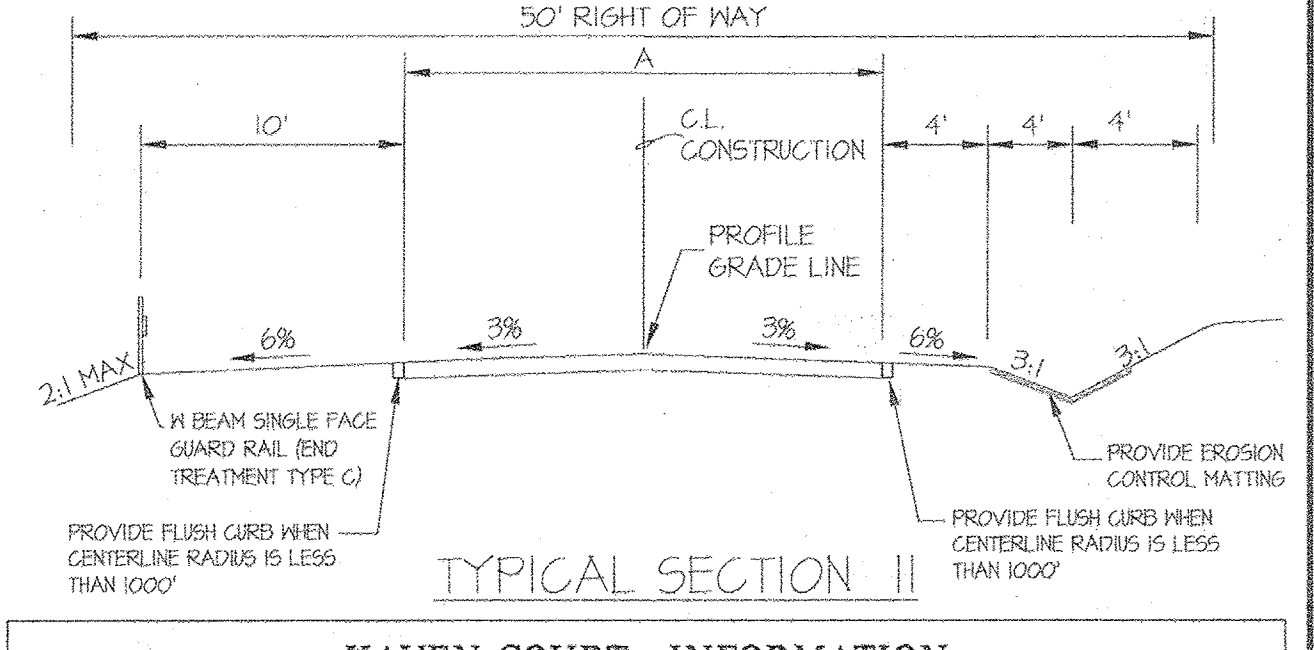
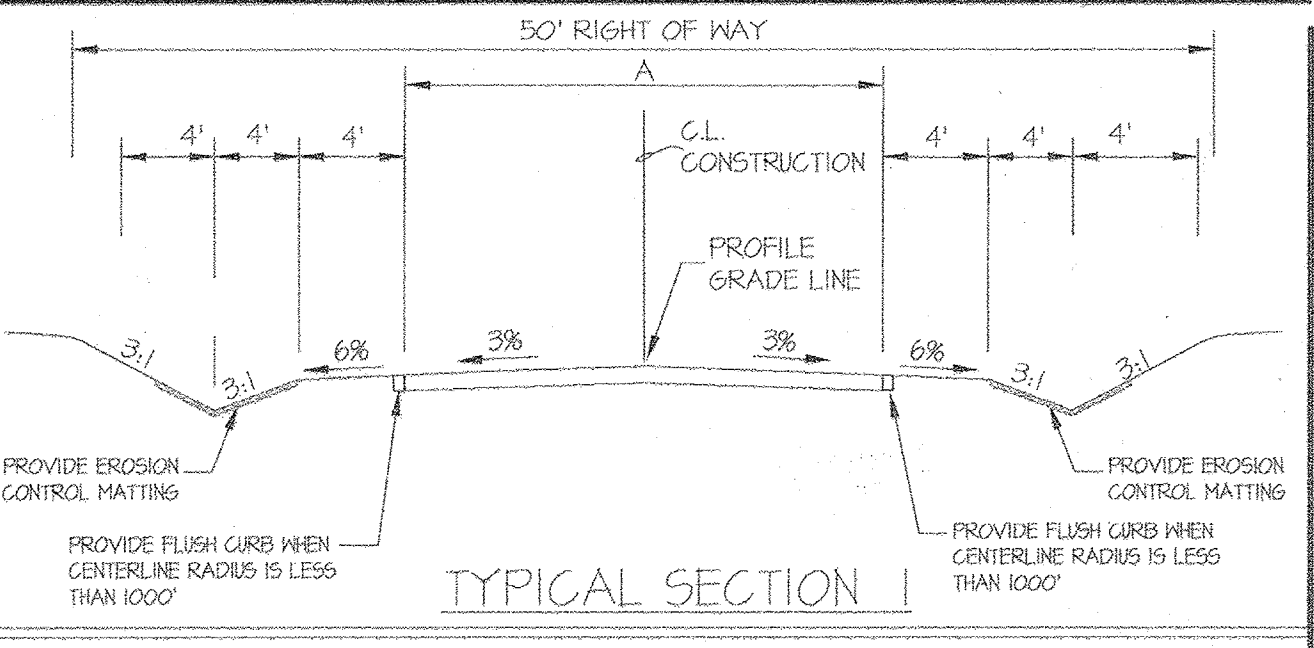
ASBUILT SHEET 1 OF 4
SCALE: AS SHOWN
ZONING: RR-DEO
G. L. W. FILE No.: 14067
DATE: JULY 2021
TAX MAP - GRID: 40-11
SHEET: 1 OF 20



**CURVE DATA CHART**

CURVE	STREET NAME	PC STA.	PT STA.	RADIUS	TANGENT	ARC	CHORD	BEARING	DELTA
C1	HAVEN CT	3+62.43	6+73.25	2800.00'	155.57'	310.82'	310.66'	N79°54'28"W	6°21'37"
C2	HAVEN CT	6+73.25	8+08.63	85.00'	86.89'	135.39'	121.52'	N31°05'52"W	91°15'37"
C3	HAVEN CT	8+08.63	9+95.18	900.00'	93.61'	186.55'	186.21'	N20°28'14"E	11°52'34"

**NOTES:**  
 1. PROPOSED PAVEMENT FOR HAVEN COURT IS TO BE HOWARD COUNTY P-2 PAVEMENT.  
 2. SEE SHEET 10 FOR STREET TREE LOCATIONS.  
 3. SEE SHEET 6 FOR DRIVEWAY CULVERT INFORMATION.  
 4. DRIVEWAY ENTRANCES ARE PER HOWARD COUNTY DETAIL R-6.06.

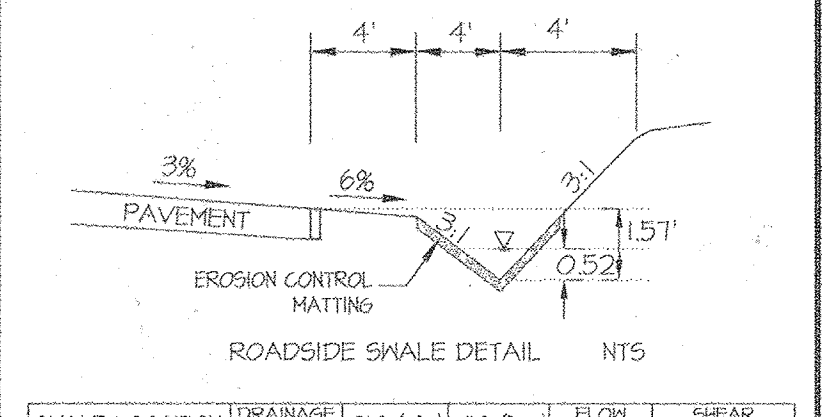


**HAVEN COURT - INFORMATION**

STATION	SECTION	CLASSIFICATION	DESIGN SPEED	A	PAVING SECTION
3+61 TO 5+82.14'	TYPICAL SECTION I	ACCESS PLACE	25 MPH	22'	P-2
5+82.14' TO 6+63.25'	TYPICAL SECTION II	ACCESS PLACE	25 MPH	22'	P-2
6+63.25' TO 7+87.30'	TYPICAL SECTION II	ACCESS PLACE	25 MPH	24'	P-2
7+87.30' TO 8+18.63'	TYPICAL SECTION I	ACCESS PLACE	25 MPH	24'	P-2
8+18.63' TO 9+27.41'	TYPICAL SECTION I	ACCESS PLACE	25 MPH	22'	P-2

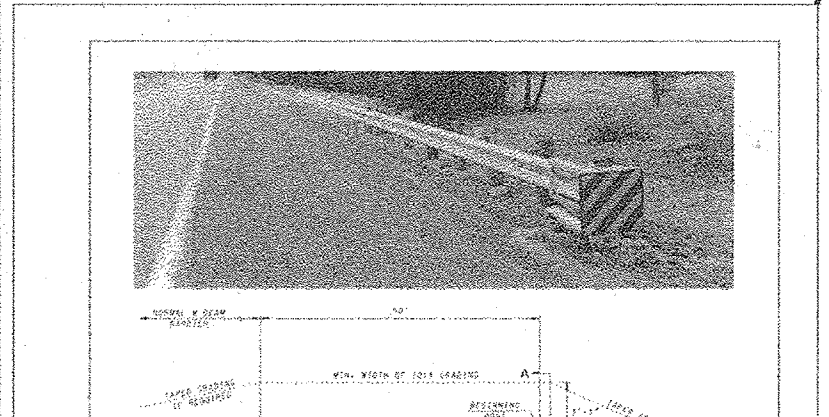
**CONSTRUCTION DETAILS**

(A) INSTALL GROUND MOUNTED SIGN SIGNING NOTES:  
 1. ALL SIGN POSTS 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 TOP OF EACH POST.  
 2. ALL SIGN LOCATIONS WITHIN THE PUBLIC RIGHT OF WAY SHALL BE APPROVED BY THE HOWARD COUNTY TRAFFIC DIVISION (410-313-5152) PRIOR TO ANY INSTALLATIONS.

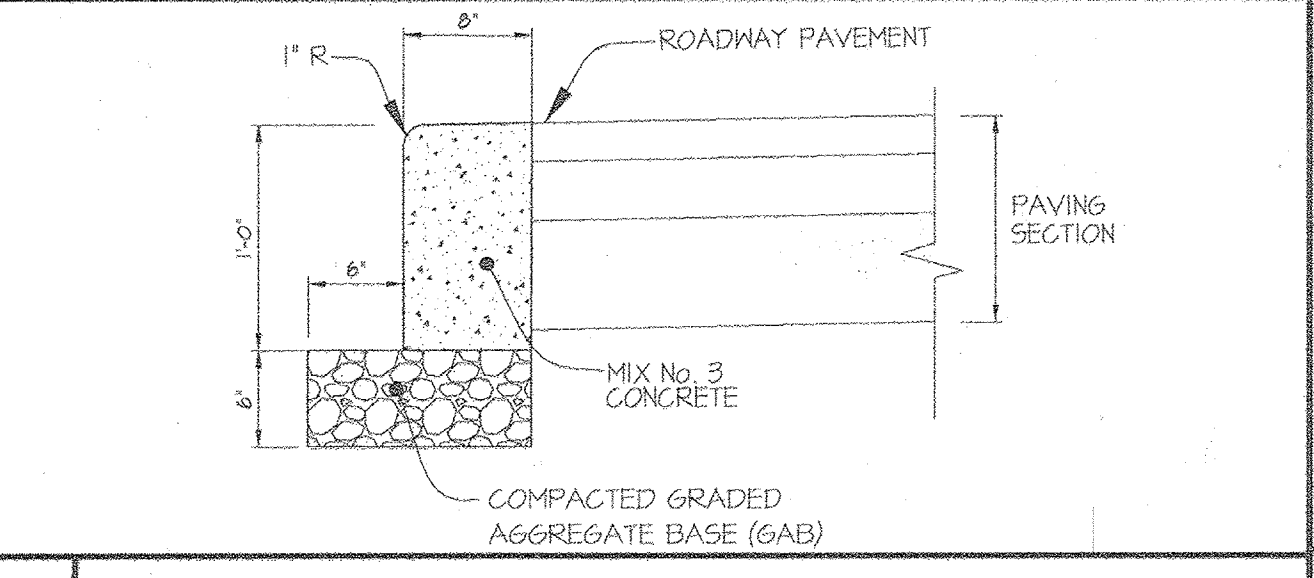


**SWALE DETAIL AND TABLE INFORMATION PROVIDED FOR THE MOST CASE SCENARIO FLOW DEPTH AND FLOW RATE FOR A ROADSIDE SWALE. FOR A SUMMARY OF ALL SITE SWALES, SEE SHEET 12.**

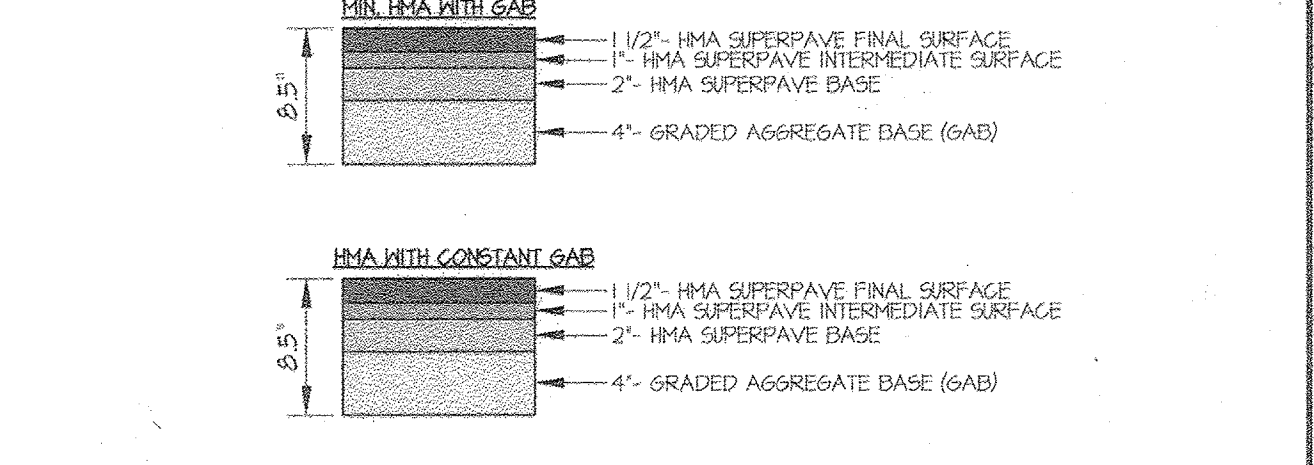
SWALE LOCATION	DRAINAGE AREA (SQ. FT.)	Q10 (cfs)	V10 (fpm)	FLOW DEPTH (IN)	SHEAR STRESS (LB/FT²)
T-1-B	1.06	3.06	3.74	0.52	0.57



**ROAD TYPICAL SECTIONS (R-1.0) NO SCALE**



**FLUSH CURB (R-3.07) NO SCALE**



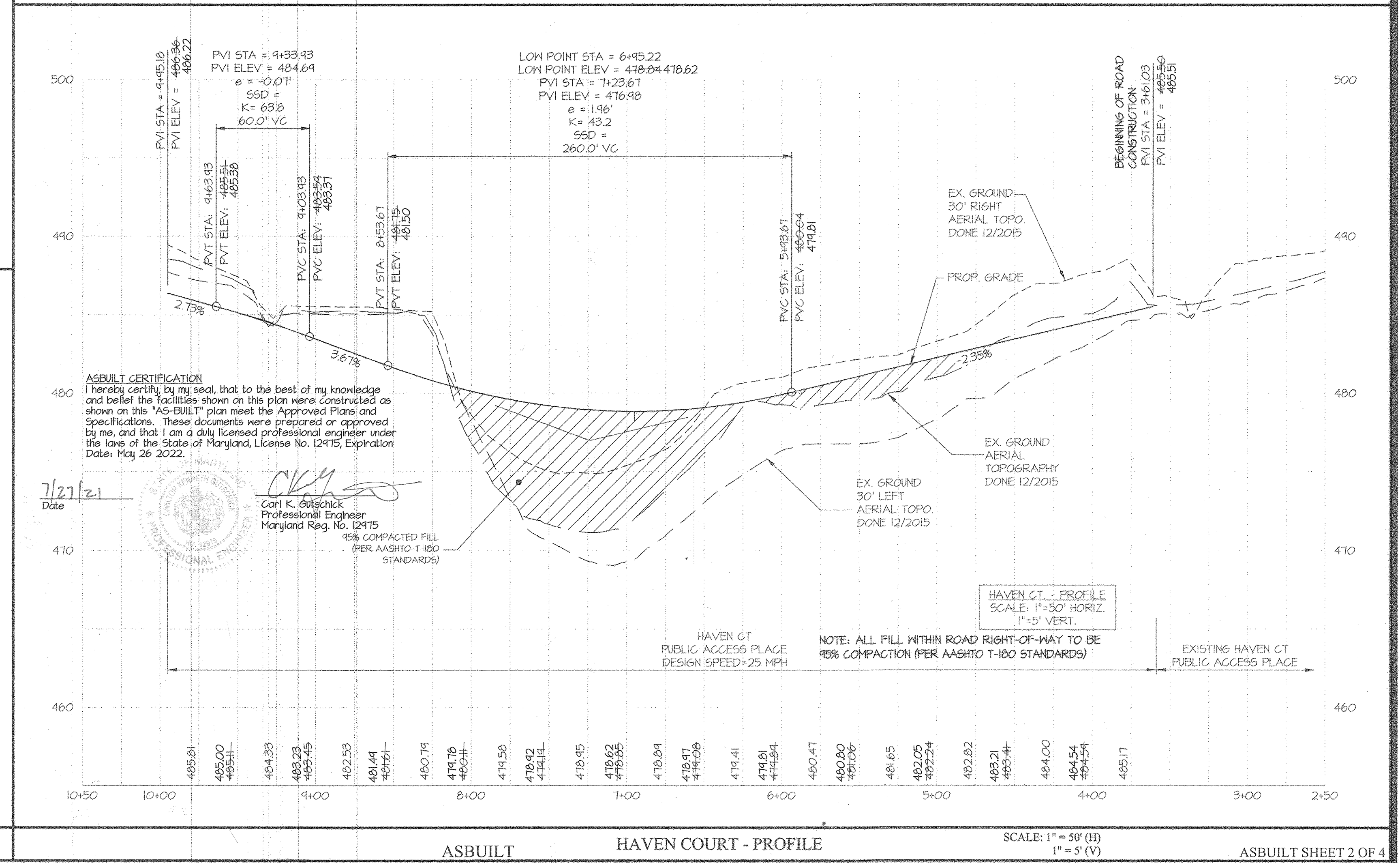
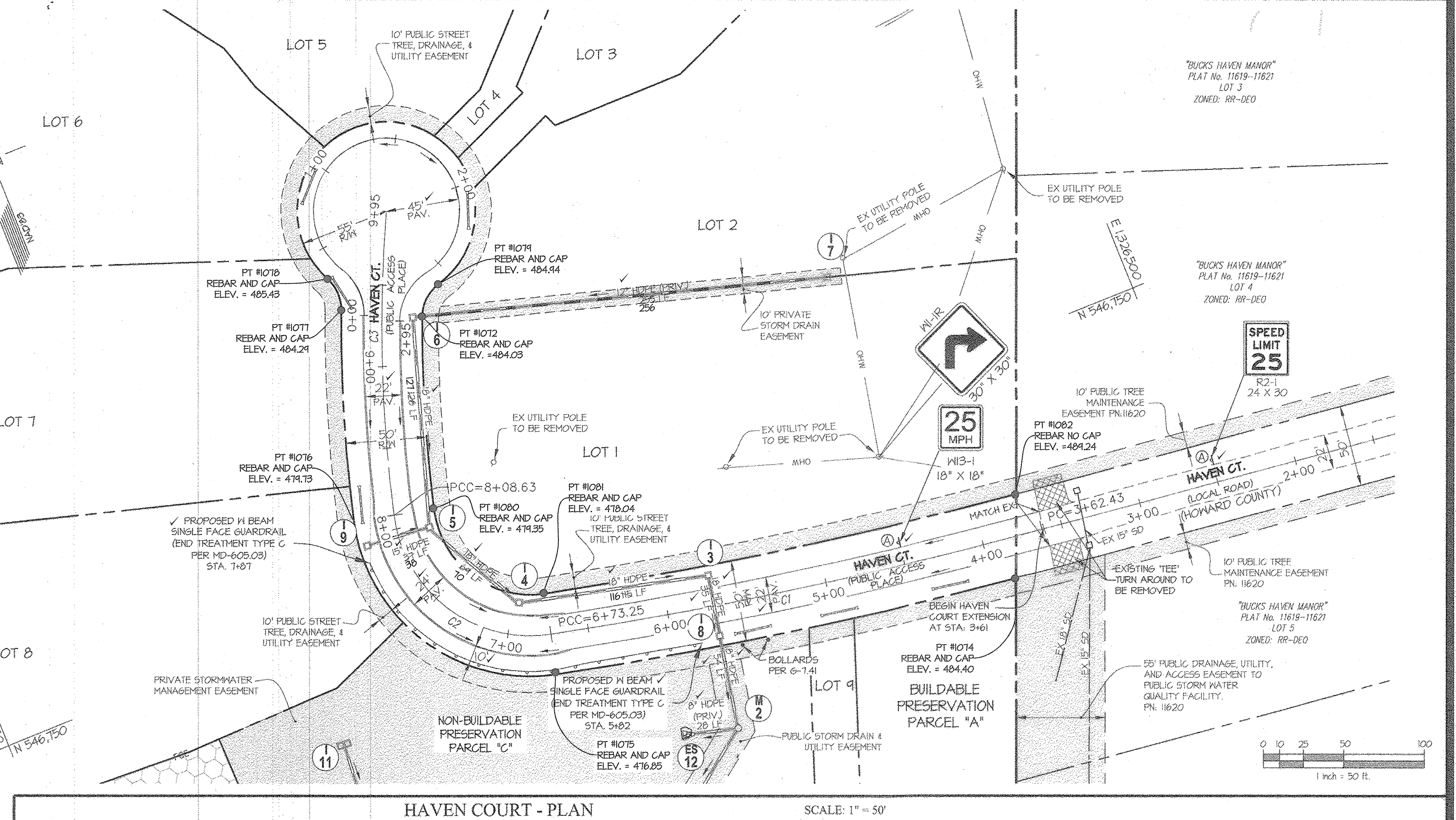
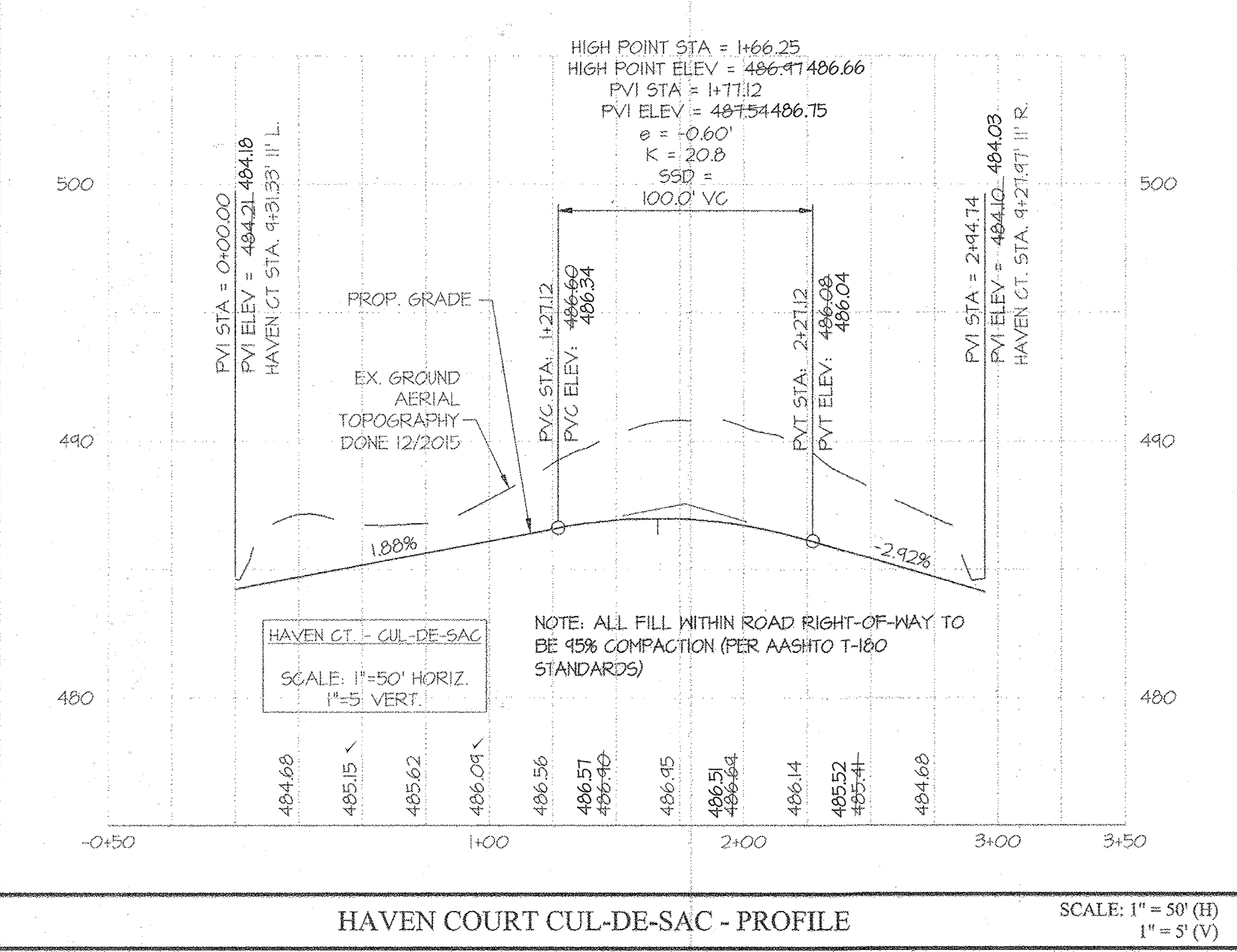
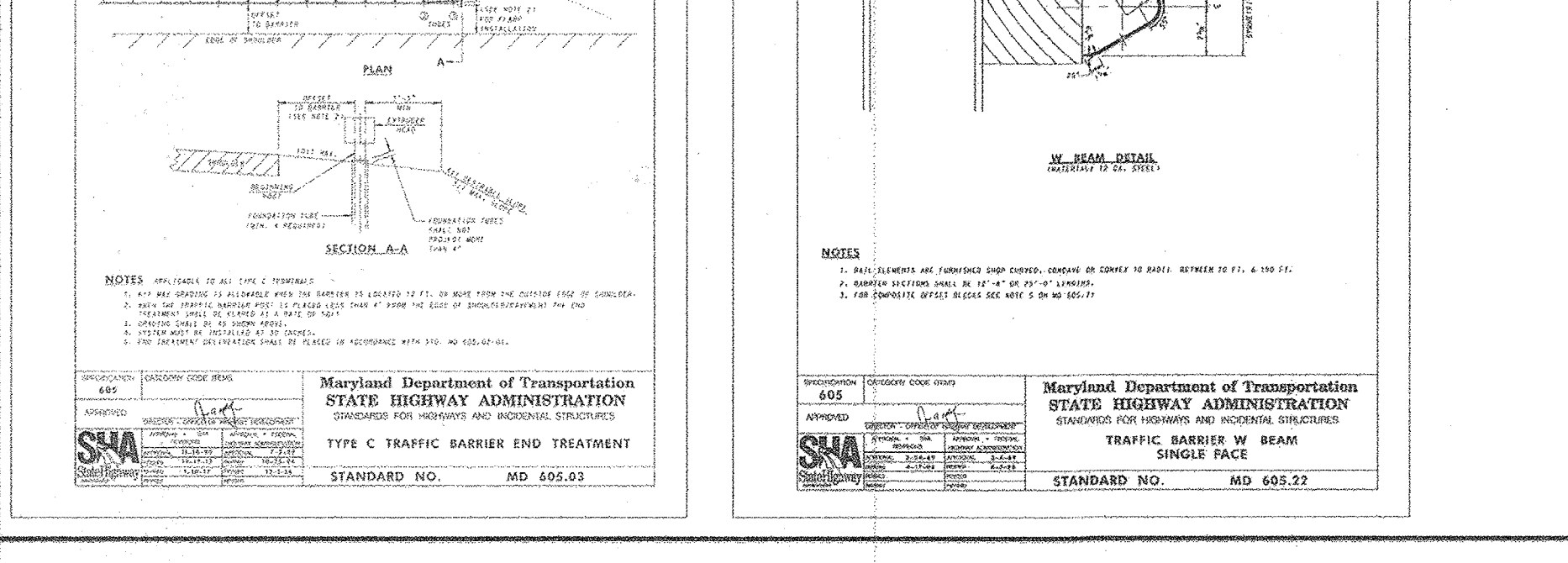
**P-2 PAVING SECTION**  
 NOTE: THE VALUES SHOWN ARE FOR A CBR VALUE 5 TO 7, DEPENDING ON THE CBR VALUES OBTAINED IN THE FIELD. THE PAVING SECTIONS MAY BE REVISED, IF APPROVED BY A PROFESSIONAL SOILS ENGINEER. THESE SUBSTITUTIONS MUST ALSO BE APPROVED BY THE HOWARD COUNTY DEPT. OF PUBLIC WORKS.

**PAVING SECTIONS (R-2.01) NO SCALE**

**APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS**  
 Chief, Bureau of Highways  
 Date: 8/22/2017

**APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING**  
 Chief, Division of Land Development  
 Date: 9-15-17

**APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING**  
 Chief, Development Engineering Division  
 Date: 9-11-17



**GLWGUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK  
 BURTONSVILLE, MARYLAND 20986  
 TEL: 301-421-4024 BALT. 410-680-1820 DC/VA 301-989-2524 FAX: 301-421-4186

**OWNER:** THE WILBUR AND EVELYN HINKLE FAMILY LIMITED PARTNERSHIP  
 3067 SHORECREST BAY DR MURRELLS INLET, SC 29576  
 ATTN: BARBARA DAWSON

**DEVELOPER:** WILLIAMSBURG GROUP, LLC  
 5485 HARPERS FARM RD SUITE 200 COLUMBIA, MD 21044  
 ATTN: BOB CORBETT 410-971-8800

**PROFESSIONAL CERTIFICATION**  
 I HEREBY CERTIFY THAT THESE PLANS 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. 12975.  
 EXPIRATION DATE: MAY 28, 2018

**HAVEN COURT PLAN, PROFILES and DETAILS**

**ESTATES AT SCHOOLEY MILL**  
 LOTS 1-9, Buildable Preservation Parcel 'A', & Non-Buildable Preservation Parcels 'B' & 'C' and FOREST CONSERVATION BANK  
 TAX PARCEL 93 LIBER 4637 FOLIO 68

SCALE	ZONING	G. L. W. FILE NO.
AS SHOWN	RR-DEO	14067

DATE	TAX MAP - GRID	SHEET
JULY 2021 AUG, 2017	40-11	2 OF 20

SCALE: 1" = 50' (H)  
 1" = 5' (V)

HOWARD COUNTY, MARYLAND



**LEGEND**

#7	SPECIMEN TREE LOCATIONS
#7	SPECIMEN TREE LOCATIONS (TO BE REMOVED)
[Symbol]	PROPOSED SEPTIC FIELD
[Symbol]	25' SEPTIC / SWM SETBACK
[Symbol]	PROPOSED WELL LOCATION
[Symbol]	100' WELL / SEPTIC & WELL / INFILTRATIVE SWM SETBACK
[Symbol]	PROPOSED 1500 SF WELL BOX
[Symbol]	100' WELL / SEPTIC & WELL / INFILTRATIVE SWM SETBACK
[Symbol]	DRY WELL (M-5)
[Symbol]	(7'x10'x5' UNLESS NOTED OTHERWISE) (MAXIMUM DRAINAGE AREA = 1,000 SF) (PRIVATELY OWNED AND MAINTAINED)
[Symbol]	MIN. CONSERVATION AREA WIDTH
[Symbol]	SHEET FLOW TO CONSERVATION AREA (N-3) (PRIVATELY OWNED AND MAINTAINED)
[Symbol]	NON-ROOFTOP DISCONNECT AREA (N-2) (PRIVATELY OWNED AND MAINTAINED)

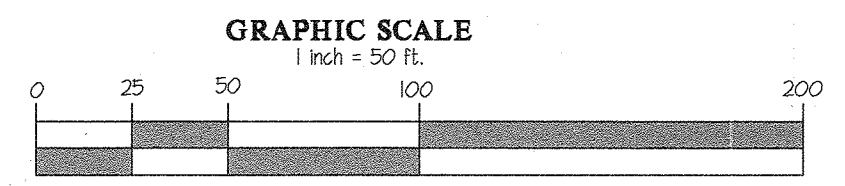
**SOILS (on site)**

Map Unit Symbol	Map Unit Name	Type	K Factor
BaA	Baile silt loam, 0 to 3 percent slopes	D	0.32
Co	Codorus and Habors silt loams, 0 to 3 percent slopes	C	0.31
GbB	Gladstone loam, 3 to 8 percent slopes	B	0.20
GbC	Gladstone loam, 8 to 15 percent slopes	B	0.20
GnB	Glennville-Baile silt loams, 0 to 8 percent slopes	D	0.31
MaD	Manor loam, 15 to 25 percent slopes	B	0.24

HOWARD COUNTY SOIL MAP NUMBER: 22 - CLARKSVILLE SM

- NOTE: THE SUBMERGED GRAVEL WETLAND WILL BE PRIVATELY OWNED AND MAINTAINED BY THE HOA.
- B-12
- STORMWATER BORING (SEE SHEETS 4-5 FOR ADDITIONAL SEPTIC BORINGS)
- [Symbol] TEST PIT PASSED FEB. 4-6, 2015
  - [Symbol] TEST PIT FAILED FEB. 4-6, 2015
  - [Symbol] TEST PIT PASSED MAY 11-13, 2015
  - [Symbol] TEST PIT FAILED MAY 11-13, 2015

- NOTES:
- PRIOR TO SIGNATURE OF FINAL PLAT, ALL EXISTING STRUCTURES AND DRIVENAYS ON SITE ARE TO BE REMOVED, THE EXISTING WELL SHALL BE SEALED, AND THE SEPTIC SYSTEMS FOR ALL THREE RESIDENCES SHALL BE PROPERLY ABANDONED AND DOCUMENTATION SUBMITTED TO THE HEALTH DEPARTMENT.
  - THE EXISTING DRIVEWAY IS TO BE REMOVED PRIOR TO FINAL PLAT SUBMITTAL WITH AS LITTLE DISTURBANCE AS POSSIBLE TO THE SDA FOR LOTS 1, 2 AND 3. THE SOIL SURFACE IS TO BE RETURNED TO APPROXIMATE ORIGINAL CONTOUR WITHOUT ADDITIONAL COMPACTION.
  - THE 'FUTURE PATHWAY BY OTHERS' SHOWN ON NON-BUILDABLE PRESERVATION PARCELS B AND C IS A CONCEPTUAL LAYOUT ONLY. THE PURPOSE OF IT IS TO ALERT THE FUTURE HOMEOWNERS IN THIS SUBDIVISION THAT HOWARD COUNTY DEPARTMENT OF RECREATION AND PARKS MAY SOMEDAY BUILD A PATHWAY IN THIS AREA. THIS PATHWAY WILL BE DESIGNED AND CONSTRUCTED BY A FUTURE PLAN AND THE ALIGNMENT IS SUBJECT TO CHANGE. A FUTURE PLAN WILL RESOLVE ALL DESIGN ISSUES INCLUDING WETLAND AND STREAM MITIGATION, STREAM CROSSINGS, FOREST MITIGATION, GRADING, STORMWATER MANAGEMENT, AND ACCESS OFF OF RT. 216.
  - SEWAGE DISPOSAL AREAS (SDA) ARE APPROVED AND INTENDED FOR INSTALLATION OF DRAINFIELD TRENCHES FOR WASTEWATER TREATMENT AND DISPOSAL. LOCAL INTENSIVE DISRUPTION OF THE SOIL AND DISTURBANCE OF VEGETATION WILL OCCUR, AND LIKELY WILL RESULT IN DAMAGE OR DESTRUCTION OF TREES AND OTHER VEGETATION WITHIN THE BOUNDARIES OF THE SDA AS WELL AS THE BRANCHES AND ROOTS OF PLANTS THAT EXTEND INTO THE SDA. HOUSES AND STORMWATER MANAGEMENT DEVICES SHOWN ARE FOR CONCEPTUAL PURPOSES ONLY AND CANNOT BE CONSTRUCTED PER THIS PLAN SET. FUTURE PLOT PLANS AND GRADING PLANS ARE REQUIRED FOR HOUSE CONSTRUCTION AND FINAL STORMWATER MANAGEMENT DEVICE SIZE AND LOCATIONS.



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Meunier* 8/22/2017  
 Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
*Katschke* 9-15-17  
 Chief, Division of Land Development Date

*Chen* 9-11-17  
 Chief, Development Engineering Division Date

DATE	REVISION	BY	APPR.
9-16-20	show actual house and SWM to be built on Lot 5	kjp	
9-15-20	show actual house and SWM to be built on Lot 2	kjp	
9-1-19	show actual house and SWM to be built on Lot 3	wesj	
8-12-19	show actual house and SWM to be built on Lot 6	gt	KJP
6-27-19	show actual house and SWM to be built on Lot 4	gt	KJP

OWNER:	DEVELOPER:	PROFESSIONAL CERTIFICATION:
THE WILBUR AND EVELYN HINKLE FAMILY LIMITED PARTNERSHIP 3067 SHORECREST BAY DR MURRELLS INLET, SC 29576 ATTN: BARBARA DAWSON	WILLIAMSBURG GROUP, LLC 5485 HARPERS FARM RD SUITE 200 COLUMBIA, MD 21044 ATTN: BOB CORBETT 410-997-8800	I HEREBY CERTIFY THAT THESE PLANS 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. 12975 EXPIRATION DATE: MAY 26, 2018 8/3/17

**GRADING PLAN**

**ESTATES AT SCHOOLEY MILL INFORMATION**

7/23/21

LOT 1-9, Buildable Preservation Parcel 'A', & Non-Buildable Preservation Parcels 'B' & 'C' and FOREST CONSERVATION BANK

TAX PARCEL 93  
LIBER 4637 FOLIO 68

SCALE: 1" = 50'

ZONING: RR-DEO

G. L. W. FILE NO. 14067

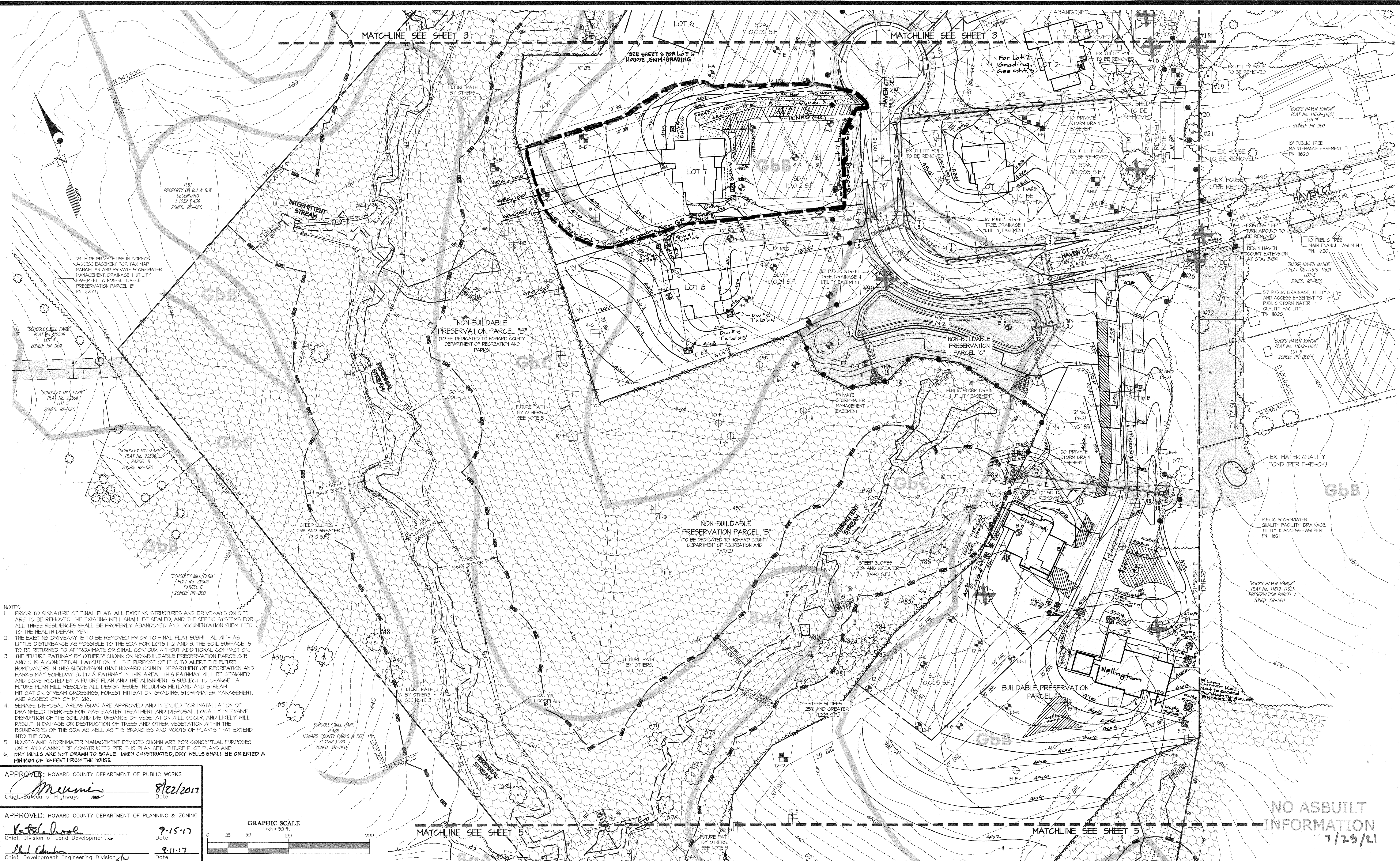
DATE: AUG, 2017

TAX MAP - GRID: 40-11

SHEET: 3 OF 20

ELECTION DISTRICT No. 5



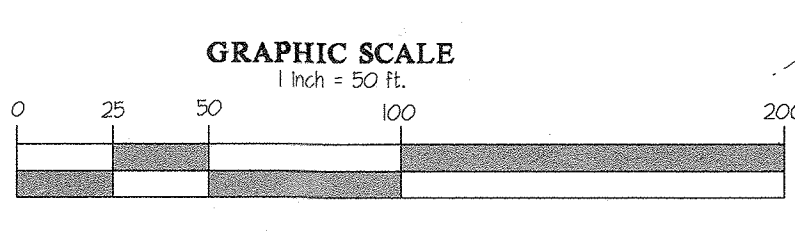


- NOTES:
1. PRIOR TO SIGNATURE OF FINAL PLAT, ALL EXISTING STRUCTURES AND DRIVEWAYS ON SITE ARE TO BE REMOVED. THE EXISTING WELLS SHALL BE SEALED, AND THE SEPTIC SYSTEMS FOR ALL THREE RESIDENCES SHALL BE PROPERLY ABANDONED AND DOCUMENTATION SUBMITTED TO THE HEALTH DEPARTMENT.
  2. THE EXISTING DRIVEWAY IS TO BE REMOVED PRIOR TO FINAL PLAT SUBMITTAL WITH AS LITTLE DISTURBANCE AS POSSIBLE TO THE SDA FOR LOTS 1, 2 AND 3. THE SOIL SURFACE IS TO BE RETURNED TO APPROXIMATE ORIGINAL CONTOUR WITHOUT ADDITIONAL COMPACTION.
  3. THE "FUTURE PATHWAY BY OTHERS" SHOWN ON NON-BUILDABLE PRESERVATION PARCELS B AND C IS A CONCEPTUAL LAYOUT ONLY. THE PURPOSE OF IT IS TO ALERT THE FUTURE HOMEOWNERS IN THIS SUBDIVISION THAT HOWARD COUNTY DEPARTMENT OF RECREATION AND PARKS MAY SOMEDAY BUILD A PATHWAY IN THIS AREA. THIS PATHWAY WILL BE DESIGNED AND CONSTRUCTED BY A FUTURE PLAN AND THE ALIGNMENT IS SUBJECT TO CHANGE. A FUTURE PLAN WILL RESOLVE ALL DESIGN ISSUES INCLUDING WETLAND AND STREAM MITIGATION, STREAM CROSSINGS, FOREST MITIGATION, GRADING, STORMWATER MANAGEMENT, AND ACCESS OFF OF RT. 216.
  4. SEWAGE DISPOSAL AREAS (SDA) ARE APPROVED AND INTENDED FOR INSTALLATION OF DRAINFIELD TRENCHES FOR WASTEWATER TREATMENT AND DISPOSAL. LOCALITY INTENSIVE DISRUPTION OF THE SOIL AND DISTURBANCE OF VEGETATION WILL OCCUR, AND LIKELY WILL RESULT IN DAMAGE OR DESTRUCTION OF TREES AND OTHER VEGETATION WITHIN THE BOUNDARIES OF THE SDA AS WELL AS THE BRANCHES AND ROOTS OF PLANTS THAT EXTEND INTO THE SDA.
  5. HOUSES AND STORMWATER MANAGEMENT DEVICES SHOWN ARE FOR CONCEPTUAL PURPOSES ONLY AND CANNOT BE CONSTRUCTED PER THIS PLAN SET. FUTURE PLOT PLANS AND DRY WELLS ARE NOT DRAWN TO SCALE. WHEN CONSTRUCTED, DRY WELLS SHALL BE ORIENTED A MINIMUM OF 10- FEET FROM THE HOUSE.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Mummis* 8/22/2017  
 Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
*Kate L. Hood* 9-15-17  
 Chief, Division of Land Development Date

*Chad Church* 9-11-17  
 Chief, Development Engineering Division Date



**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK  
 BURTONSVILLE, MARYLAND 20866  
 TEL: 301-421-4024 FAX: 301-989-2524 FAX: 301-421-4186

DATE	REVISION	BY	APPR.
9-15-20	show actual house and sww to be built on Lot 2	kjp	
11-23-19	show actual house and sww to be built on lot 1	wed	kjp
8-12-19	Add note to see sheet 3 for Lot 6 House, sww + Grading	gt	kjp
01-15-2019	show actual house and sww to be built on lot 2	wed	
11-7-2018	show actual house, grading & sww to be built on Parcel A	kjp	
12-15-2018	show actual house and sww to be built on Lot 1	gt	kjp
5-4-2018	show House and sww to be built on Lot 2 by GR 18-000	gt	APPR.

OWNER:  
 THE WILBUR AND EVELYN HINKLE FAMILY LIMITED PARTNERSHIP  
 3067 SHORECREST BAY DR MURRELLS INLET, SC 29576  
 ATTN: BARBARA DAWSON

DEVELOPER:  
 WILLIAMSBURG GROUP, LLC  
 5485 HARRERS FARM RD SUITE 200  
 COLUMBIA, MD 21044  
 ATTN: BOB CORBETT  
 410-997-8800

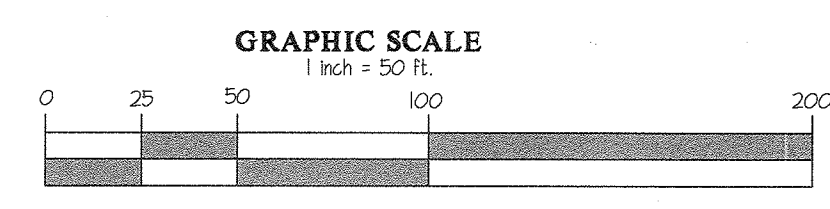
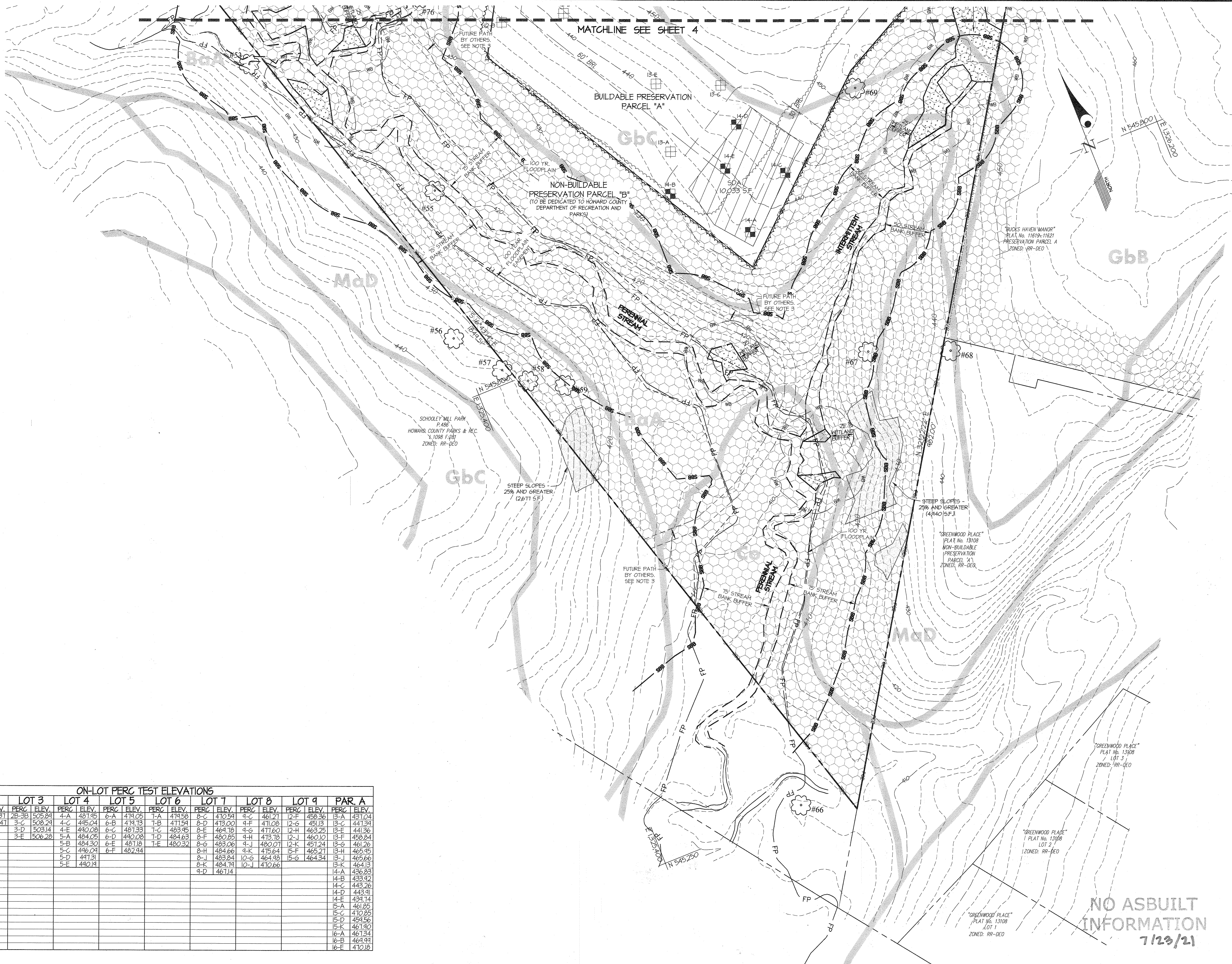
PROFESSIONAL CERTIFICATION  
 I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12975  
 EXPIRATION DATE: MAY 26, 2028  
 8/31/17 *CKL*

GRADING PLAN  
**ESTATES AT SCHOOLEY MILL**  
 LOTS 1-9, Buildable Preservation Parcel 'A', & Non-Buildable Preservation Parcels 'B' & 'C' and FOREST CONSERVATION BANK.  
 TAX PARCEL 93  
 LIBER 4637 FOLIO 68  
 HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE NO.
1"=50'	RR-DEO	14067
DATE	TAX MAP - GRID	SHEET
AUG, 2017	40-11	4 OF 20

NO ASBUILT INFORMATION  
 7/23/21





ON-LOT PERC TEST ELEVATIONS																							
LOT 1	LOT 2	LOT 3	LOT 4	LOT 5	LOT 6	LOT 7	LOT 8	LOT 9	PAR A														
PERC	ELEV.	PERC	ELEV.	PERC	ELEV.	PERC	ELEV.	PERC	ELEV.	PERC	ELEV.	PERC	ELEV.										
1-A	484.13	2A-2C	501.31	2B-2D	505.84	4-A	481.95	6-A	479.05	1-A	474.58	8-C	470.54	9-C	461.21	12-F	458.38	13-A	437.04				
1-C	486.21	2D-3A	508.47	3-C	508.24	4-C	485.04	6-B	479.73	7-B	471.54	8-D	473.00	9-F	471.08	12-G	459.13	13-C	447.34				
1-D	482.80	3-D	508.14	3-D	508.14	4-E	480.08	6-C	481.53	7-C	483.85	8-E	484.18	9-G	471.60	12-H	463.25	13-E	441.56				
1-E	488.52	3-E	506.28	3-E	506.28	5-A	484.05	6-D	480.08	7-D	484.63	8-F	480.85	9-H	473.18	12-I	460.10	13-F	458.84				
1-F	482.41					5-B	484.30	6-E	481.18	7-E	480.32	8-G	483.06	9-I	480.01	12-K	451.24	13-G	461.26				
1-G	482.57					5-C	486.04	6-F	482.94			8-H	484.66	9-K	475.64	15-F	465.21	13-H	465.95				
						5-D	481.31					8-I	485.84	10-G	464.98	15-G	464.34	13-I	465.66				
						5-E	480.14					8-K	484.71	10-I	470.66			13-K	464.13				
												9-D	467.14					14-A	436.83				
																		14-B	433.42				
																		14-C	443.26				
																		14-D	443.91				
																		14-E	434.14				
																		15-A	461.85				
																		15-C	470.85				
																		15-D	454.56				
																		15-K	467.30				
																		16-A	461.34				
																		16-B	464.94				
																		16-E	470.18				

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*[Signature]* 8/22/2017  
 Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
*[Signature]* 9-15-17  
 Chief, Division of Land Development Date

*[Signature]* 9-11-17  
 Chief, Development Engineering Division Date

**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
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 BURTONSVILLE, MARYLAND 20866  
 TEL: 301-421-4024 BAL: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

DATE	REVISION	BY	APP'R.

OWNER: THE WILBUR AND EVELYN HINKLE FAMILY LIMITED PARTNERSHIP  
 3067 SHORECREST BAY DR MURRELLS INLET, SC 29578  
 ATTN: BARBARA DAWSON

DEVELOPER: WILLIAMSBURG GROUP, LLC  
 5485 HARRIS FARM RD SUITE 200 COLUMBIA, MD 21044  
 ATTN: BOB CORBETT 410-997-8800

PROFESSIONAL CERTIFICATION  
 I HEREBY CERTIFY THAT THESE PLANS 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. 12975  
 EXPIRATION DATE: MAY 26, 2018  
 8/3/17 *[Signature]*

GRADING PLAN

**ESTATES AT SCHOOLEY MILL**  
**LOTS 1-9, Buildable Preservation Parcel 'A', & Non-Buildable Preservation Parcels 'B' & 'C' and FOREST CONSERVATION BANK**  
 TAX PARCEL 93 LIBER 4637 FOLIO 68

ELECTION DISTRICT No. 5

SCALE: 1"=50'

ZONING: RR-DEO

G. L. W. FILE No. 14067

DATE: AUG, 2017

TAX MAP - GRID: 40 - 11

SHEET: 5 OF 20

NO ASBUILT INFORMATION  
 7/23/21



Reach	River Sta	Profile	Q Total (cfs)	Min Chl El (ft)	W/S Elev (ft)	Cut W/S (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Side 3	PP 1		954.70	388.27	392.43	392.33	393.30	0.002817	8.89	234.10	145.91	0.83
Side 200	PP 1		954.70	392.00	394.52	394.52	395.32	0.003870	8.29	205.25	134.02	0.85
Side 400	PP 1		954.70	394.00	397.08	397.08	398.08	0.003298	8.52	172.61	114.22	0.89
Side 600	PP 1		954.70	396.00	399.52	399.52	400.28	0.004330	8.78	220.44	141.42	0.99
Side 800	PP 1		954.70	400.00	401.88	401.88	402.57	0.003800	6.99	244.39	217.47	0.81
Side 847.72	PP 1		954.70	401.29	404.14	404.14	405.09	0.004131	8.11	147.21	90.07	0.96
Side 1200	PP 1		535.90	404.09	406.85	406.85	407.41	0.005592	8.34	150.60	137.56	1.06
Side 1300	PP 1		535.90	406.00	408.60	408.60	409.29	0.003084	7.11	118.26	108.74	0.83
Side 1400	PP 1		535.90	408.00	409.97	409.97	410.51	0.004380	7.60	157.62	141.97	0.96
Side 1500	PP 1		535.90	408.54	410.79	410.79	411.54	0.004805	8.10	123.38	102.94	1.01
Side 1600	PP 1		535.90	410.00	413.07	413.07	413.80	0.003422	8.72	148.78	108.36	0.91
Side 1718.85	PP 1		535.90	412.00	414.11	414.11	414.71	0.004251	7.48	148.94	134.24	0.95
Side 1800	PP 1		535.90	413.22	416.19	416.19	417.02	0.003433	8.38	119.43	82.58	0.80
Side 1900	PP 1		535.90	414.00	417.52	417.52	418.61	0.003511	8.66	81.05	49.74	0.90
Side 2000	PP 1		535.90	416.00	420.06	420.06	421.25	0.003089	9.33	89.91	53.85	0.87
Side 2100	PP 1		535.90	418.43	422.32	422.32	423.20	0.003131	9.27	129.91	78.00	0.88
Side 2200	PP 1		535.90	420.00	423.56	423.56	424.51	0.003264	8.62	105.30	68.95	0.88
Side 2300	PP 1		535.90	422.00	424.35	424.35	425.27	0.004915	9.19	109.23	71.10	1.06
Side 2400	PP 1		535.90	423.45	426.36	426.36	427.17	0.003876	9.10	130.01	84.18	0.96
Side 2500	PP 1		297.50	424.81	427.04	427.04	427.64	0.003782	7.41	90.17	103.88	0.91
Side 2600	PP 1		297.50	428.42	428.17	428.17	428.68	0.005942	7.36	86.85	89.90	1.07
Side 2700	PP 1		297.50	428.00	430.64	430.64	431.44	0.003194	7.69	61.98	56.15	0.86
Side 2800	PP 1		297.50	430.00	431.35	431.35	431.97	0.005133	6.47	53.41	48.85	0.88
Side 2900	PP 1		297.50	430.44	433.53	433.53	434.38	0.003475	7.98	58.68	45.17	0.89
Side 3000	PP 1		297.50	432.00	434.89	434.89	435.82	0.003565	8.07	51.34	38.19	0.90
Side 3100	PP 1		297.50	434.00	435.92	435.92	436.22	0.003493	6.07	107.99	90.18	0.81
Side 3200	PP 1		297.50	436.00	438.49	438.49	439.51	0.003941	8.37	48.08	30.29	0.95
Side 3300	PP 1		297.50	440.00	442.27	442.27	443.12	0.003982	7.95	55.81	40.70	0.94
Side 3400	PP 1		297.50	442.00	444.72	444.72	445.47	0.003378	7.42	62.73	54.25	0.86
Side 3500	PP 1		297.50	444.00	447.04	447.04	448.09	0.003821	8.42	44.29	29.41	0.92
Side 3600	PP 1		297.50	448.00	448.42	448.42	449.39	0.004887	7.94	38.20	22.57	0.99
Side 3700	PP 1		297.50	448.88	452.40	452.40	453.43	0.003335	8.99	57.25	35.95	0.88
Side 3800	PP 1		297.50	454.00	456.56	456.56	457.30	0.003473	7.29	60.24	54.25	0.87

**LEGEND**

- B' TYPE SOILS
- C' TYPE SOILS
- D' TYPE SOILS
- STORM DRAIN DRAINAGE DIVIDE

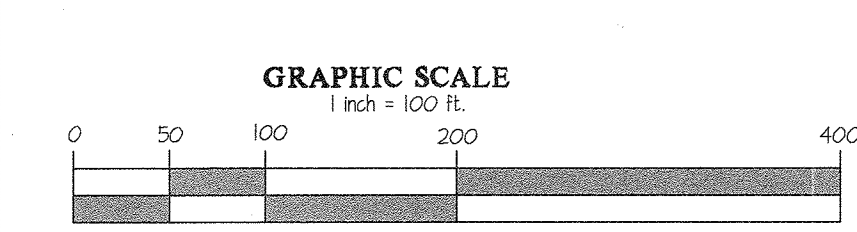
**'C' FACTOR COMPUTATIONS**

STRUCTURE	AREA (AC.)	'C'	IMPERVIOUS
I-3	0.67	0.34	20%
I-4	0.34	0.34	20%
I-5	0.39	0.34	20%
I-6	1.06	0.34	20%
I-7	0.52	0.34	20%
I-8	0.12	0.34	20%
I-9	0.72	0.34	20%
I-11	0.69	0.34	20%
I-14	0.29	0.34	20%
I-15	0.68	0.34	20%
HW-16	10.66	0.34	20%

**SOILS (on site)**

Map Unit Symbol	Map Unit Name	Type	K Factor
BaA	Baile silt loam, 0 to 3 percent slopes	D	0.32
Co	Codorus and Hatboro silt loams, 0 to 3 percent slopes	C	0.31
GbB	Gladstone loam, 3 to 8 percent slopes	B	0.20
GbC	Gladstone loam, 8 to 15 percent slopes	B	0.20
GnB	Glennville-Baile silt loams, 0 to 8 percent slopes	D	0.31
MaD	Manor loam, 15 to 25 percent slopes	B	0.24

HOWARD COUNTY SOIL MAP NUMBER: 22 - CLARKSVILLE SW



**DRIVEWAY CULVERT**

LOT	SIZE	MATERIAL	SLOPE
LOT 2	14" x 9" ARCH	CMP	2.9%
LOT 6	14" x 9" ARCH	CMP	1.9%
LOT 7	14" x 9" ARCH	CMP	3.7%
LOT 8	14" x 9" ARCH	CMP	2.0%
LOT 9	14" x 9" ARCH	CMP	2.4%
PARCEL A	14" x 9" ARCH	CMP	2.4%
PARCEL C	14" x 9" ARCH	CMP	2.4%

NOTE: THE HOUSES, DRIVEWAYS, AND GRADING OUTSIDE OF THE L.O.D. SHOWN ON THIS PLAN ARE CONCEPTUAL. THEY ARE USED TO ANTICIPATE ULTIMATE DRAINAGE DIVIDES AND ESTIMATE THE IMPERVIOUSNESS. SEE FUTURE PLOT PLANS FOR ALL ON-LOT STORMWATER MANAGEMENT, HOUSE LOCATION, DRIVEWAY LOCATION AND GRADING.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
  
 Chief, Bureau of Highways  
 8/22/2017  
 Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
  
 Chief, Division of Land Development  
 9-15-17  
 Date  
  
 Chief, Development Engineering Division  
 9-11-17  
 Date

**GLWGUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK  
 BURTONSVILLE, MARYLAND 20866  
 TEL: 301-421-4024 FAX: 301-421-4186

DATE	REVISION	BY	APP'R.

**OWNER:**  
THE WILBUR AND EVELYN HINKLE FAMILY LIMITED PARTNERSHIP  
3067 SHORECREST BAY DR  
MURRELLS INLET, SC 29576  
ATTN: BARBARA DAWSON

**DEVELOPER:**  
WILLIAMSBURG GROUP, LLC  
5485 HARRIS FARM RD  
SUITE 200  
COLUMBIA, MD 21044  
ATTN: BOB CORBETT  
410-997-8800

**PROFESSIONAL CERTIFICATION**  
 I HEREBY CERTIFY THAT THESE PLANS 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. 12975.  
 EXPIRATION DATE: MAY 26, 2017

**STORM DRAIN DRAINAGE AREA MAP**  
**ESTATES AT SCHOOLEY MILL**  
**LOTS 1-9, Buildable Preservation Parcel 'A', & Non-Buildable Preservation Parcels 'B' & 'C' and FOREST CONSERVATION BANK**  
 TAX PARCEL 93  
 LIBER 4637 FOLIO 68  
 HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE NO.
1"=100'	RR-DEO	14067
DATE	TAX MAP - GRID	SHEET
AUG, 2017	40-11	6 OF 20

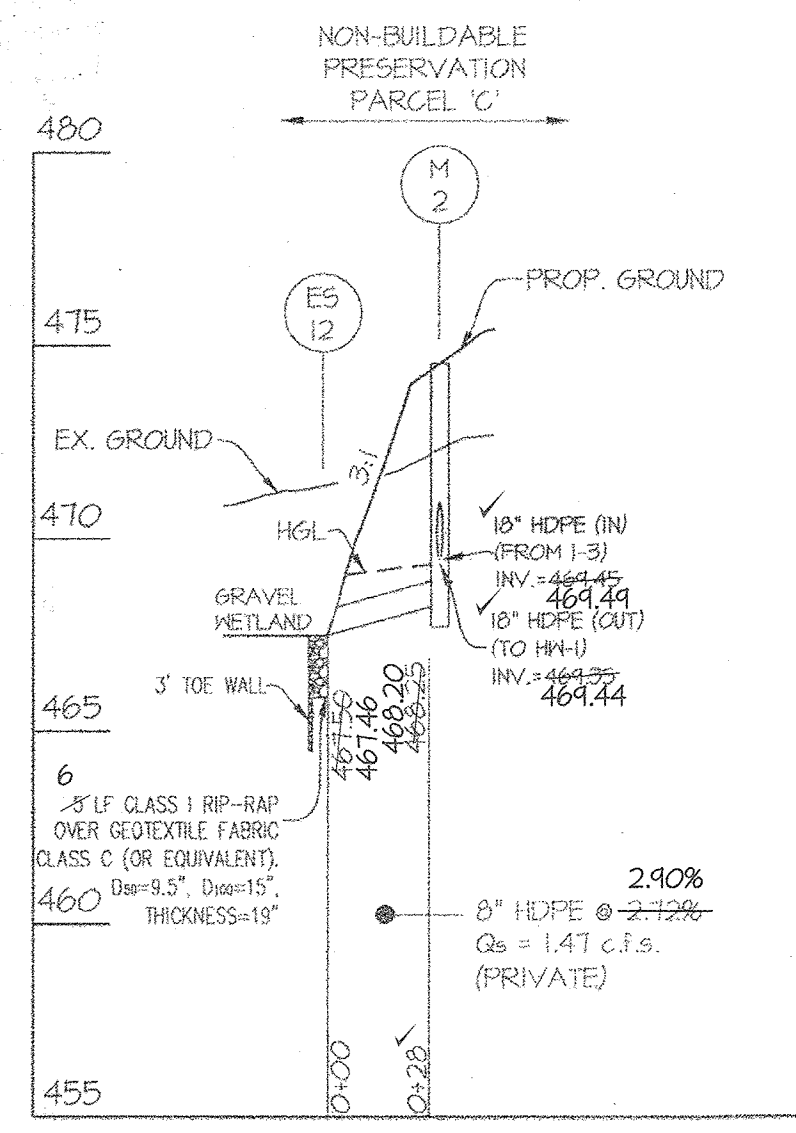
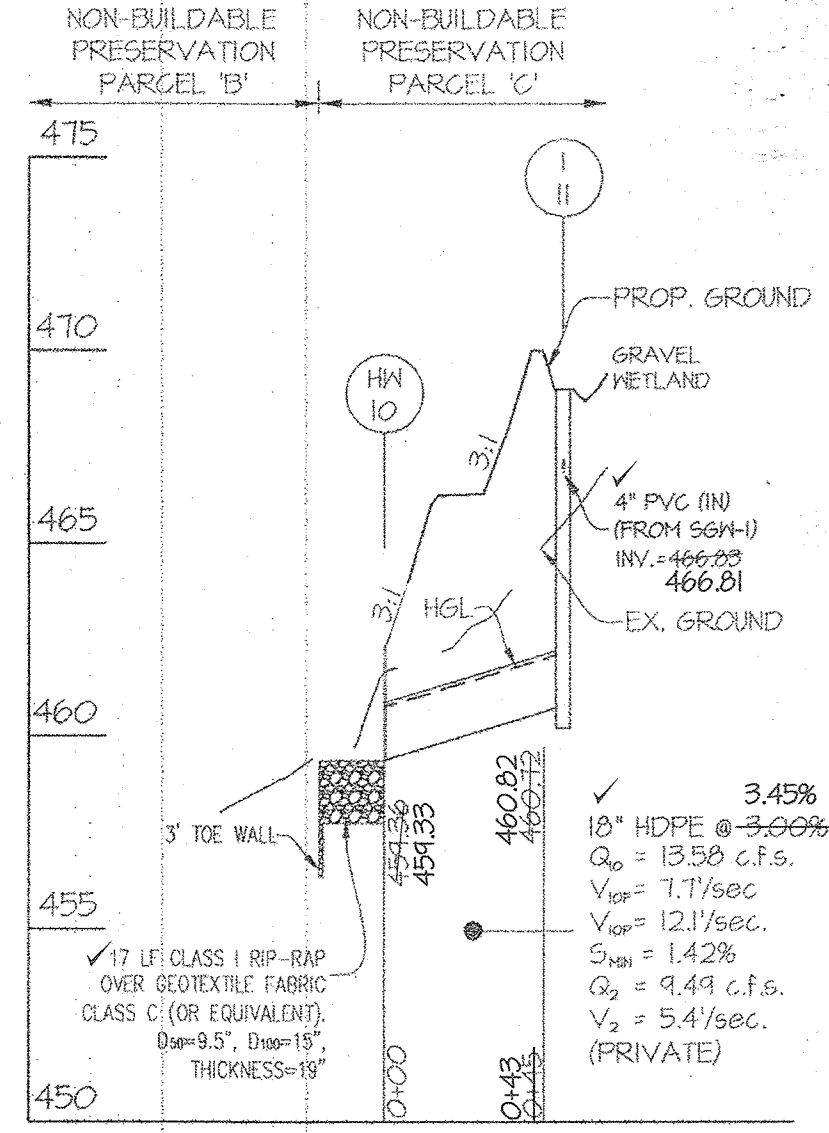
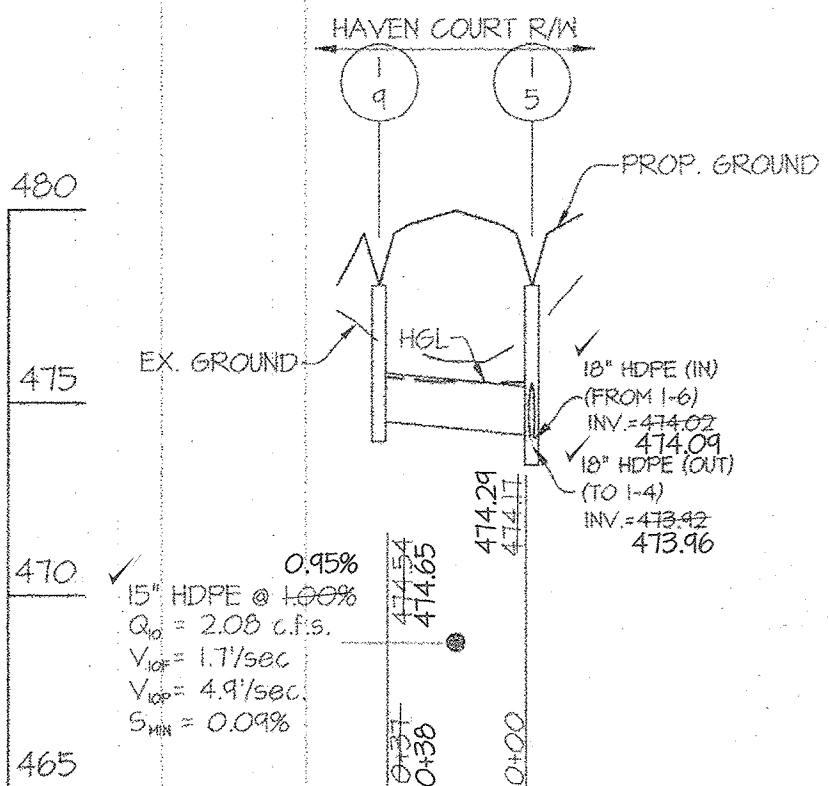
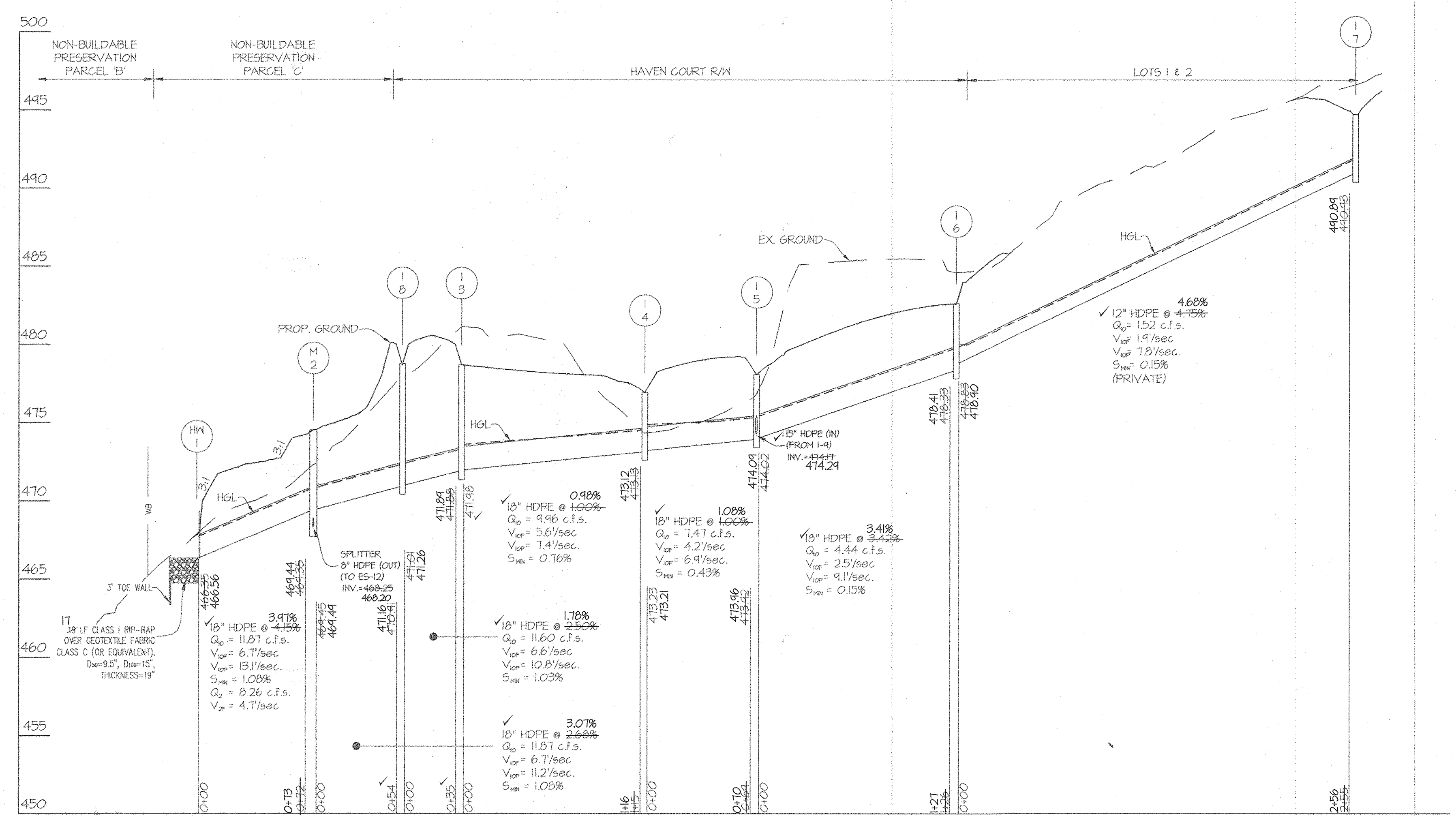


**NO ASBUILT INFORMATION**  
 7/23/21



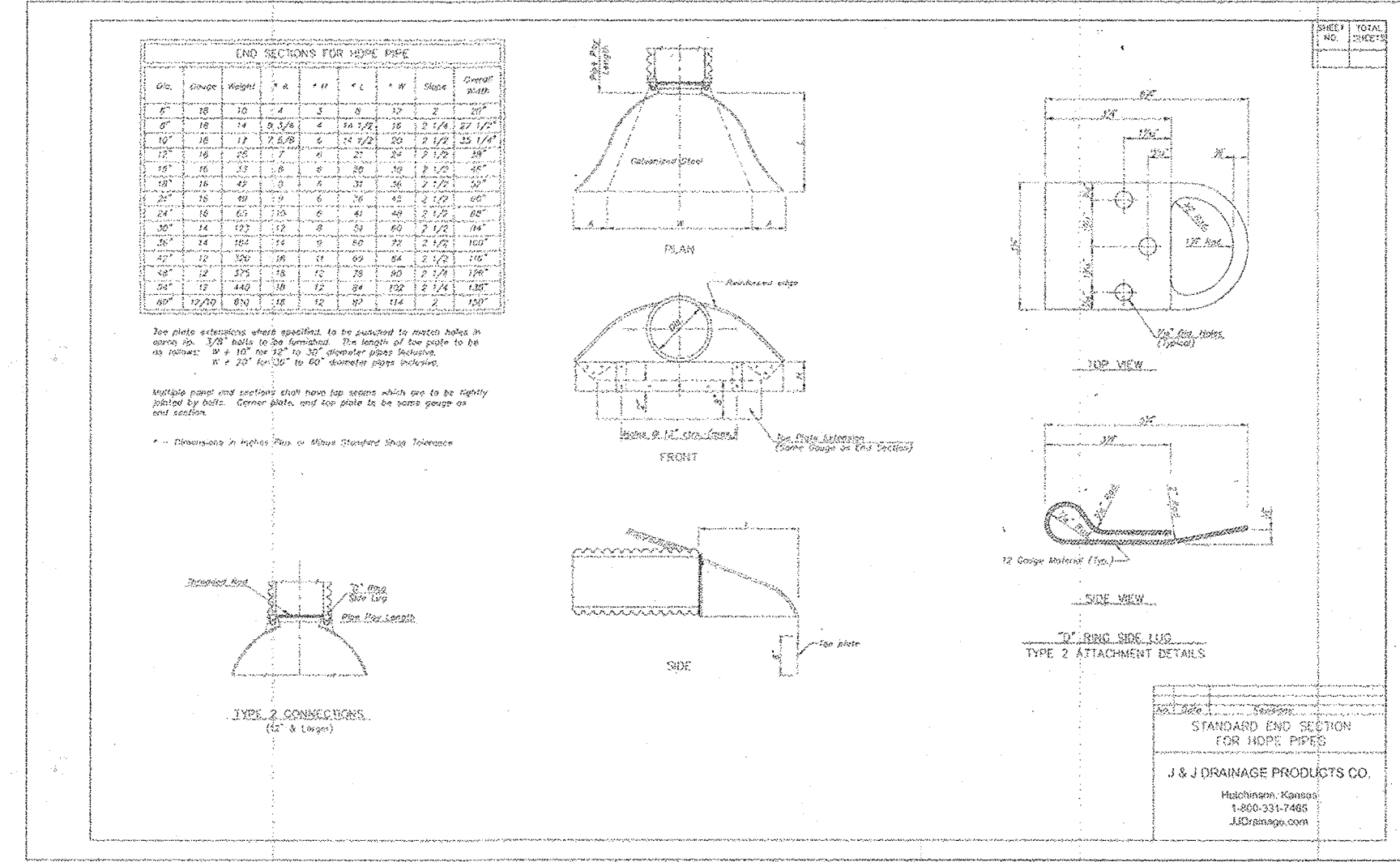
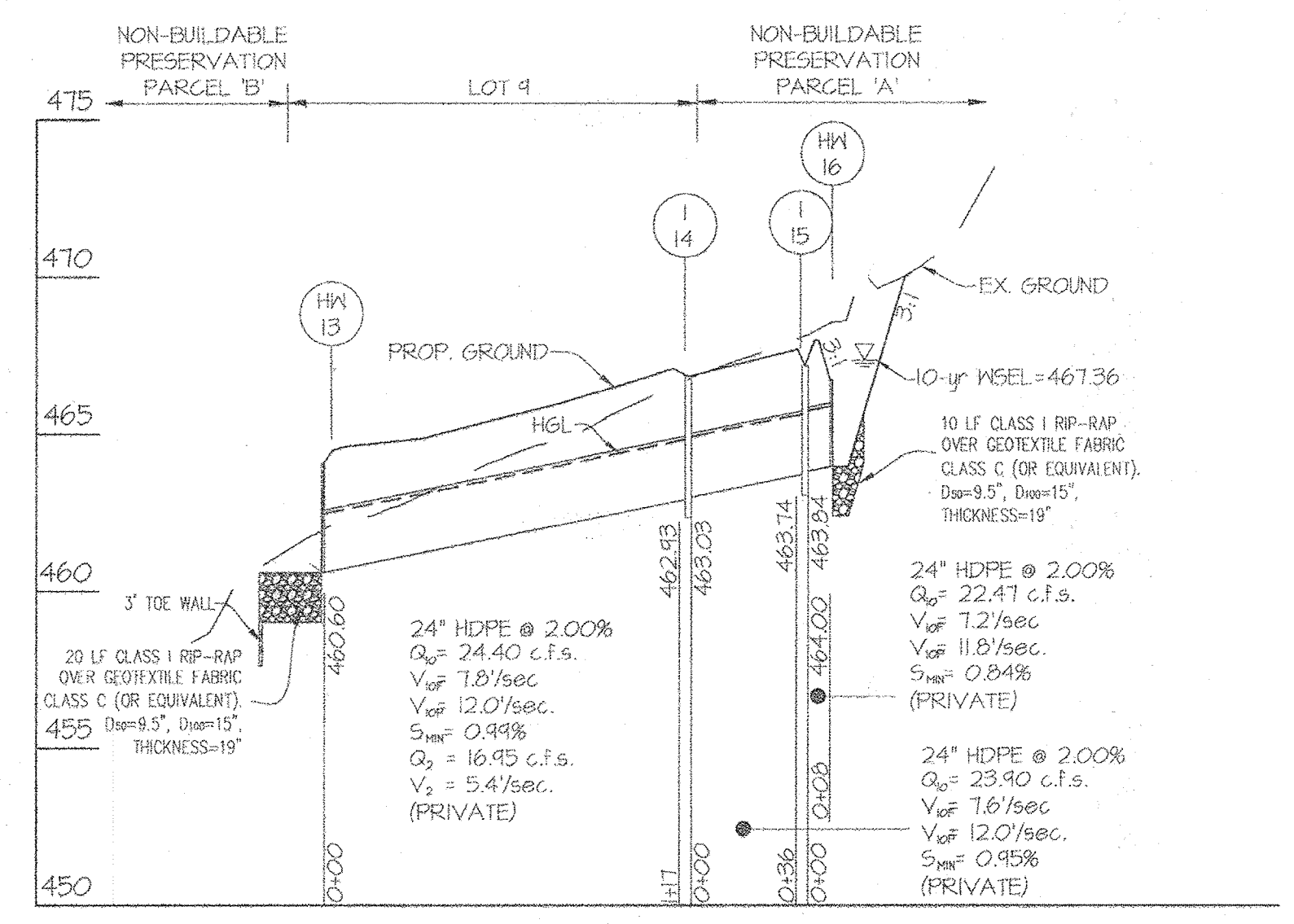
PIPE SCHEDULE			
SIZE	TYPE	QUANTITY (LF)	REMARKS
8"	HDPE	26	PRIVATE
12"	HDPE	255	PRIVATE
15"	HDPE	31	PUBLIC
18"	HDPE	471	PUBLIC
18"	HDPE	45	PRIVATE
24"	HDPE	161	PRIVATE

HDPE indicates High Density Polyethylene pipe, such as N-12 by ADS, or H-10 by Hancon or an approved equal.



**ASBUILT CERTIFICATION**  
I hereby certify, by my seal, that to the best of my knowledge and belief the facilities shown on this plan were constructed as shown on this "AS-BUILT" plan meet the Approved Plans and Specifications. 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. 12475, Expiration Date: May 26 2022.

7/27/21  
Date  
Carl K. Gutschick  
Professional Engineer  
Maryland Reg. No. 12475



NO.	TYPE	WIDTH (INSIDE)	TOP ELEVATION				INVERT				STD. DETAIL	REMARKS	LOCATIONS
			PROPOSED		AS-BUILT		PROPOSED		AS-BUILT				
			UPPER	LOWER	UPPER	LOWER	UPPER	LOWER	UPPER	LOWER			
I-3	YARD INLET	2'-0"	478.67	---	478.54	471.98	471.88	471.98	471.84	HO. CO. D-414*	PUBLIC		
I-4	YARD INLET	2'-0"	476.91	---	476.87	473.23	473.13	473.21	473.12	HO. CO. D-414*	PUBLIC		
I-5	YARD INLET	2'-0"	478.07	---	478.14	474.17	473.92	474.24	473.96	HO. CO. D-414*	PUBLIC		
I-6	YARD INLET	2'-0"	482.60	---	482.58	478.83	478.33	478.90	478.41	HO. CO. D-414*	PUBLIC		
I-7	YARD INLET	2'-0"	444.75	---	---	---	440.43	---	---	HO. CO. D-414*	PRIVATE		
I-8	YARD INLET	2'-0"	478.67	---	478.86	471.01	470.91	471.26	471.16	HO. CO. D-414*	PUBLIC		
I-9	YARD INLET	2'-0"	478.07	---	478.10	---	474.54	---	474.65	HO. CO. D-414*	PUBLIC		
I-11	DOUBLE 'S' INLET	2'-15"	464.00	---	---	---	460.72	---	460.72	HO. CO. D-4-23	PRIVATE		
I-14	DRAIN BASIN	2'-0"	466.85	---	---	463.03	462.93	---	---	***	PRIVATE		
I-15	DRAIN BASIN	2'-0"	467.20	---	---	463.84	463.74	---	---	***	PRIVATE		
M-2	STANDARD MANHOLE	4'-0"	474.53	---	474.43	469.45	468.25	469.44	468.20	HO. CO. G-5J2	PUBLIC (SEE DETAIL, SHEET 4)		
HW-1	HEADWALL	18"	464.35	---	464.56	---	466.35	---	466.56	HO. CO. D-5-II	PUBLIC		
HW-10	HEADWALL	18"	462.36	---	---	---	459.36	---	---	HO. CO. D-5-II	PRIVATE		
HW-13	HEADWALL	24"	464.10	---	---	---	460.60	---	---	HO. CO. D-5-II	PRIVATE		
HW-16	HEADWALL	24"	466.75	---	---	---	464.00	---	---	HO. CO. D-5-2I	PRIVATE		
ES-12	END SECTION	8"	464.67	---	---	---	467.50	---	---	**	PRIVATE		

NOTES:  
\* WITH THE INSPECTOR'S APPROVAL, CONTRACTOR MAY SUBSTITUTE YARD INLET PER MD SHA STANDARD DETAIL MD 381.01.  
\*\* END SECTION PER J & J DRAINAGE PRODUCTS CO. STANDARD END SECTION FOR HDPE PIPES, OR APPROVED EQUAL.  
\*\*\* NYLOPLAST 24" DRAIN BASIN WITH 24" STANDARD MEDIUM DUTY GRATE, OR APPROVED EQUAL.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
Chief, Bureau of Highways  
Date: 8/22/2017

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
Chief, Division of Land Development  
Date: 9-15-17

Chief, Development Engineering Division  
Date: 9-11-17

**GLWGUTSCHICK LITTLE & WEBER, P.A.**  
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
3309 NATIONAL DRIVE - SUITE 250 - BURTONTVILLE OFFICE PARK  
BURTONTVILLE, MARYLAND 20866  
TEL: 301-421-4024 FAX: 301-421-4186

DATE	REVISION	BY	APPR.

OWNER: THE WILBUR AND EVELYN HINKLE FAMILY LIMITED PARTNERSHIP  
3067 SHORECREST BAY DR MURRELLS INLET, SC 29576  
ATTN: BARBARA DAWSON

DEVELOPER: WILLIAMSBURG GROUP, LLC  
5485 HARRIS FARM RD SUITE 200 COLUMBIA, MD 21044  
ATTN: BOB CORBETT 410-997-8800

PROFESSIONAL CERTIFICATION  
I HEREBY CERTIFY THAT THESE PLANS 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. 12975, EXPIRATION DATE: MAY 26, 2018.

**STORM DRAIN PROFILES**  
**ESTATES AT SCHOOLEY MILL**  
LOTS 1-9, Buildable Preservation Parcel 'A', & Non-Buildable Preservation Parcels 'B' & 'C' and FOREST CONSERVATION BANK.  
TAX PARCEL 93 LIBER 4637 FOLIO 68  
ELECTION DISTRICT No. 5  
HOWARD COUNTY, MARYLAND

SCALE: 1"=50' (H) 1"=5' (V)  
ZONING: RR-DEO  
G. L. W. FILE No. 14067  
DATE: JULY 2021  
TAX MAP - GRID: 40-11  
SHEET: 7 OF 20



STORMWATER MANAGEMENT REQUIREMENT	
DEVELOPMENT AREA :	13.1 Ac.
% IMPERVIOUS:	10%
TARGET P <sub>10</sub> :	1.2"
REQUIRED ESDV:	
DEVELOPMENT AREA:	
A x Rv x P <sub>10</sub> /2 =	12,652 cf
(13.1 x 43560 x 2.12)/2 =	526 cf
ADDITIONAL CLEARING:	13,178 cf

STORMWATER MANAGEMENT PROVIDED BY DEVICE	
SUBMERGED GRAVEL WETLAND (M-2):	10,966 CU-FT
DRY WELLS (M-5):	1,430 CU-FT
SHEETFLOW TO CONSERVATION (N-3):	1,758 CU-FT
NON-ROOFTOP DISCONNECT (N-2):	1,344 CU-FT
TOTAL:	16,044 CU-FT
P <sub>10</sub> Provided =	1.73"

ESD SUMMARY TABLE				
AREA NO.	AREA (SF)	IMPERVIOUS	ESDV (CF)	P <sub>10</sub> PROVIDED
DA 1	222,586	23%	11,290	2.41
Lot 3	2,400	100%	196	1.03
Lot 4	7,015	100%	583	1.05
Lot 5	5,340	100%	455	1.08
Lot 6	7,575	100%	627	1.05
Lot 7	7,250	100%	585	1.02
Lot 8	7,005	100%	590	1.06
Lot 9	9,850	100%	825	1.06
PAR A	11,250	100%	898	1.01
TOTAL	280,271	38%	16,049	1.73
REQUIRED ESDV			13,178 cf	
PROVIDED ESDV			16,049 cf	

SOILS (on site)	Map Unit Name	Type	K Factor
BaA	Baile silt loam, 0 to 3 percent slopes	D	0.32
Co	Codorus and Hatboro silt loams, 0 to 3 percent slopes	C	0.31
GbB	Gladstone loam, 3 to 8 percent slopes	B	0.20
GbC	Gladstone loam, 8 to 15 percent slopes	B	0.20
GnB	Glenville-Baile silt loams, 0 to 8 percent slopes	D	0.31
MaD	Manor loam, 15 to 25 percent slopes	B	0.24

HOWARD COUNTY SOIL MAP NUMBER: 22 - CLARKSVILLE SH

**LEGEND**

- DRY WELL (M-5) (1'x10'x5' UNLESS NOTED OTHERWISE) (MAXIMUM DRAINAGE AREA = 1,000 SF) (PRIVATELY OWNED AND MAINTAINED)
- MINIMUM CONSERVATION AREA WIDTH SHEET FLOW TO CONSERVATION AREA (N-3) (PRIVATELY OWNED AND MAINTAINED)
- DISCONNECT OF NON-ROOFTOP RUNOFF (N-2) (PRIVATELY OWNED AND MAINTAINED)
- B-12 STORMWATER BORING
- B' TYPE SOILS
- C' TYPE SOILS
- D' TYPE SOILS
- ESD DRAINAGE DIVIDE
- DEVELOPMENT AREA
- LIMIT OF CLEARING

**NOTES:**

- THE SUBMERGED GRAVEL WETLAND FACILITY (M-2) WILL BE PRIVATELY OWNED AND MAINTAINED BY THE HOA.
- DRY WELLS ARE NOT DRAWN TO SCALE. WHEN CONSTRUCTED DRY WELLS SHALL BE A MINIMUM OF 10 FEET FROM THE HOUSE.

**GRAPHIC SCALE**  
1 inch = 100 ft

ON LOT MICRO-SCALE PRACTICES									
LOT NO.	(M-1)	(M-3)	(M-4)	(M-5)	(M-6)	(M-7)	(M-8)	(N-2)	(N-1)
Lot 1				N				N	N
Lot 2				2				N	N
Lot 3				2				Y	Y
Lot 4				2				N	Y
Lot 5				4				Y	N
Lot 6				4				Y	N
Lot 7				4				Y	Y
Lot 8				4				Y	Y
Lot 9				3				Y	Y
PARCEL A				6				Y	N

ADDITIONAL ESDV REQUIRED FOR EXISTING WOODS IN GOOD CONDITION (M-5S) CLEARED ON LOTS TO BECOME GRASS OPEN SPACE (M-6). AREA IS OUTSIDE OF DEVELOPMENT AREA.

EXISTING CONDITION RUNOFF: 0.08"  
PROPOSED CONDITION RUNOFF: 0.17"  
RUNOFF TO BE TREATED BY ESDV: 0.09"

AREA OF CLEARED WOODS: 70,188 sq. ft.  
(OUTSIDE DEVELOPMENT AREA)  
ADDITIONAL ESDV REQUIRED: 526 cf.



**NO ASBUILT INFORMATION 7/23/21**

NOTE: THE HOUSES, DRIVEWAYS, AND GRADING OUTSIDE OF THE L.O.D. SHOWN ON THIS PLAN ARE CONCEPTUAL. THEY ARE USED TO ANTICIPATE ULTIMATE DRAINAGE DIVIDES AND ESTIMATE THE IMPERVIOUSNESS. SEE FUTURE PLOT PLANS FOR ALL ON-LOT STORMWATER MANAGEMENT, HOUSE LOCATION, DRIVEWAY LOCATION AND GRADING.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 Chief, Bureau of Highways: *8/2/2021*  
 Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
 Chief, Division of Land Development: *9-15-21*  
 Date

Chief, Development Engineering Division: *9-11-21*  
 Date

**GLWGUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK  
 BURTONSVILLE, MARYLAND 20886  
 TEL: 301-421-4024 FAX: 301-421-4186

DATE	REVISION	BY	APPR.
9-10-20	Update SWM, house & grading for Lot 5	klp	
9-15-20	Update SWM, house & grading for Lot 2	klp	
11-19-20	Update SWM, house & grading for Lot 1	klp	
12-11-20	Update SWM, house & grading for Lots 3	wsj	
12-19-20	Update SWM, house & grading for Lot 6	gt	klp
1-17-21	Update SWM, house & grading for Lot 4	wsj	
1-15-2019	UPDATE SWM, HOUSE FOUNDATIONS FOR LOT 9	HBJ	
11-7-2018	Update SWM, house & grading for P.P.A	klp	
10-16-2018	Update SWM for Lot 7	gt	klp
5-4-2018	Update SWM for Lot 8	klp	

OWNER: THE WILBUR AND EVELYN HINKLE FAMILY LIMITED PARTNERSHIP  
 3067 SHORECREST BAY DR MURRELLS INLET, SC 29578  
 ATTN: BARBARA DAWSON

DEVELOPER: WILLIAMSBURG GROUP, LLC  
 5485 HARPERS FARM RD SUITE 200 COLUMBIA, MD 21044  
 ATTN: BOB CORBETT 410-997-8800

PROFESSIONAL CERTIFICATION

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EXPIRATION DATE: MAY 26, 2018

*8/3/21*

**ESD STORMWATER MANAGEMENT DRAINAGE AREA MAP**

**ESTATES AT SCHOOLEY MILL**  
 LOTS 1-9, Buildable Preservation Parcel 'A', & Non-Buildable Preservation Parcels 'B' & 'C' and FOREST CONSERVATION BANK  
 TAX PARCEL 93 LIBER 4637 FOLIO 68

SCALE: 1"=100'

ZONING: RR-DEO

G. L. W. FILE NO. 14067

DATE: AUG, 2017

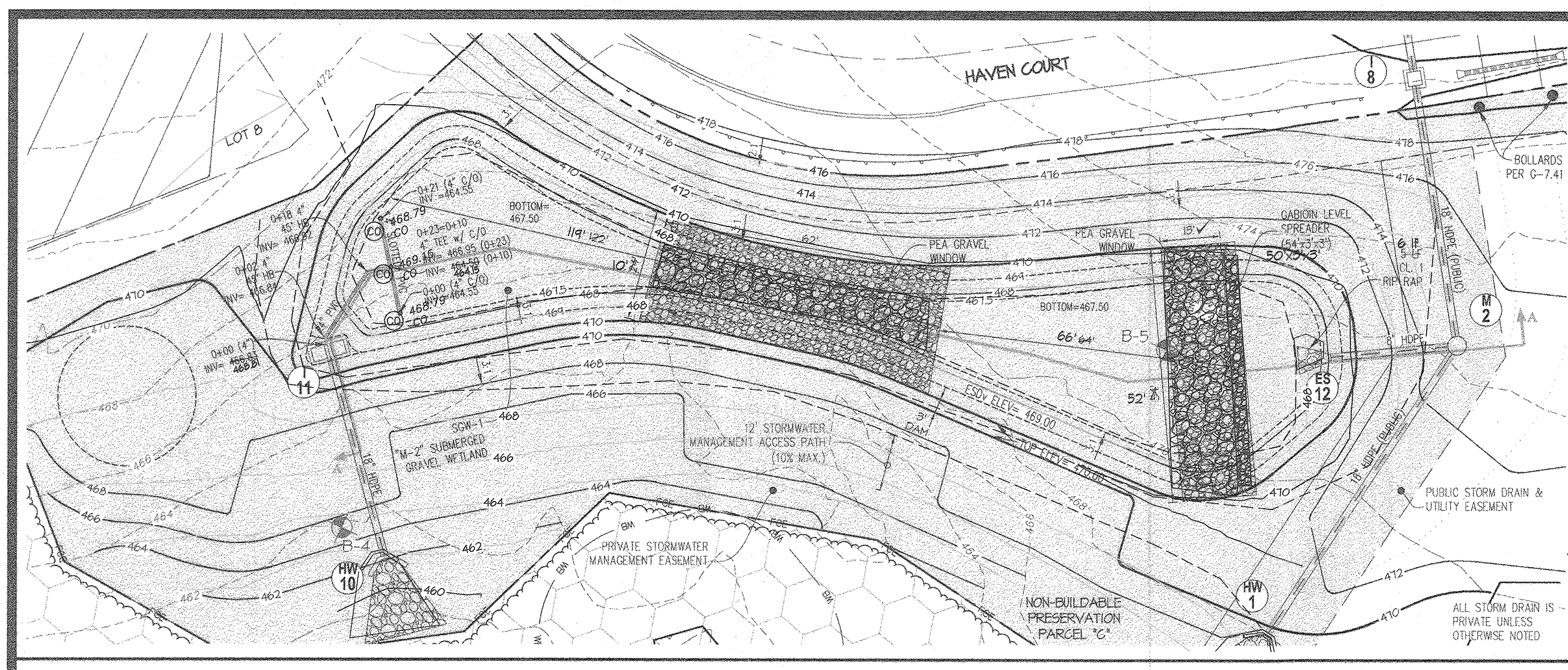
TAX MAP - GRID: 40-11

SHEET: 8 OF 20

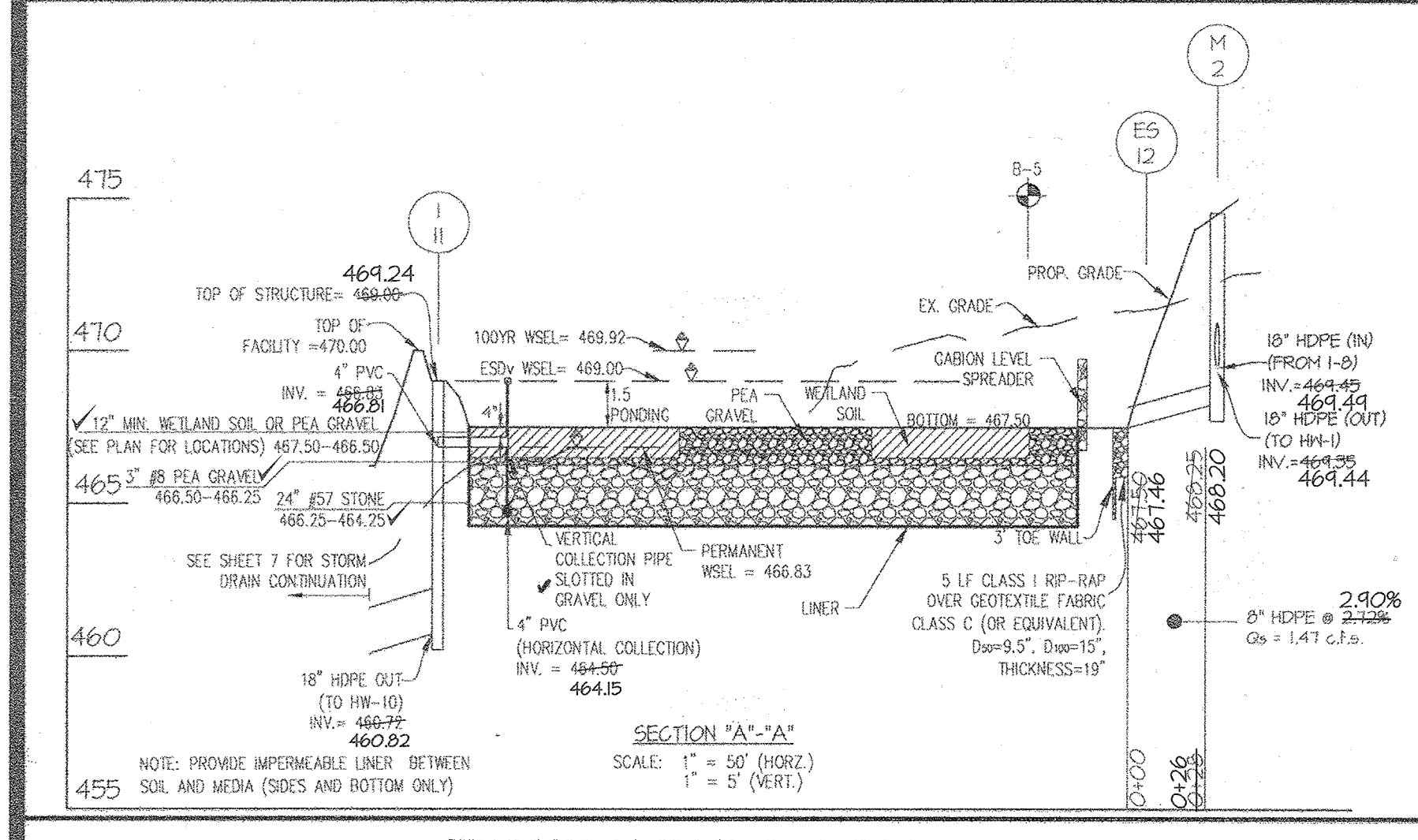
ELECTION DISTRICT No. 5

HOWARD COUNTY, MARYLAND





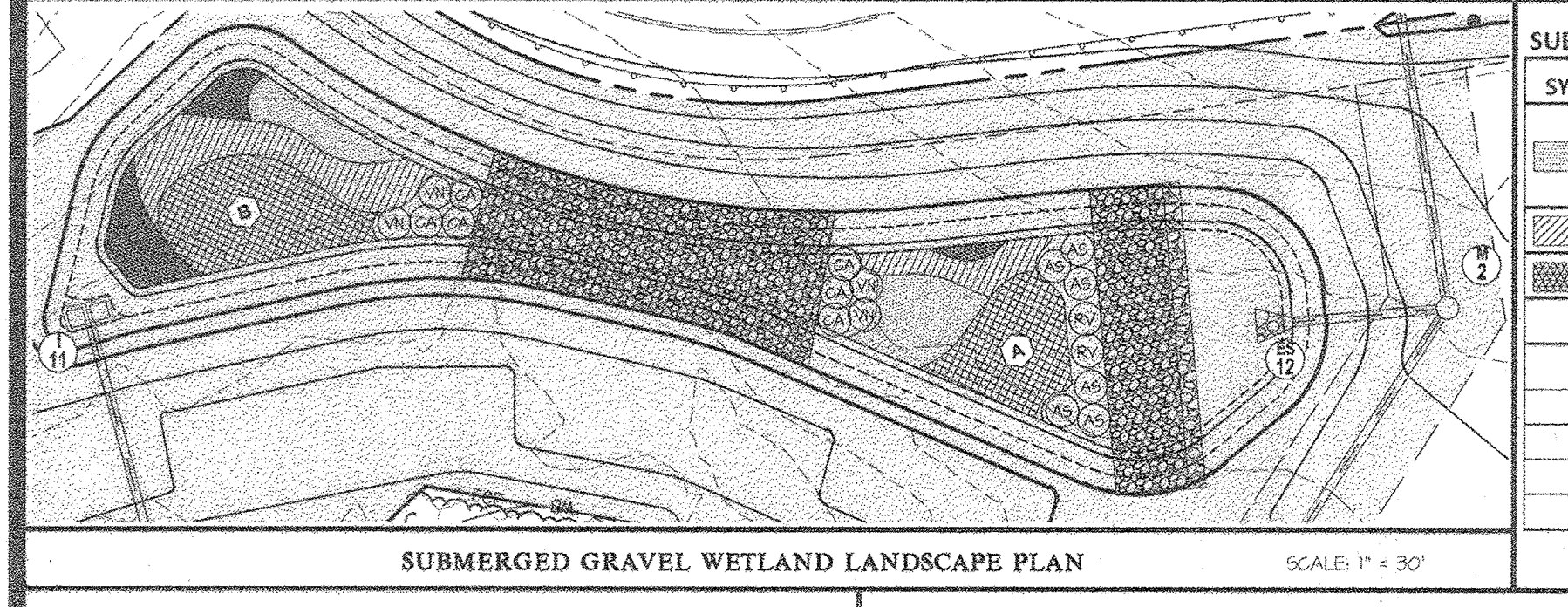
SUBMERGED GRAVEL WETLAND SCALE: 1" = 20'



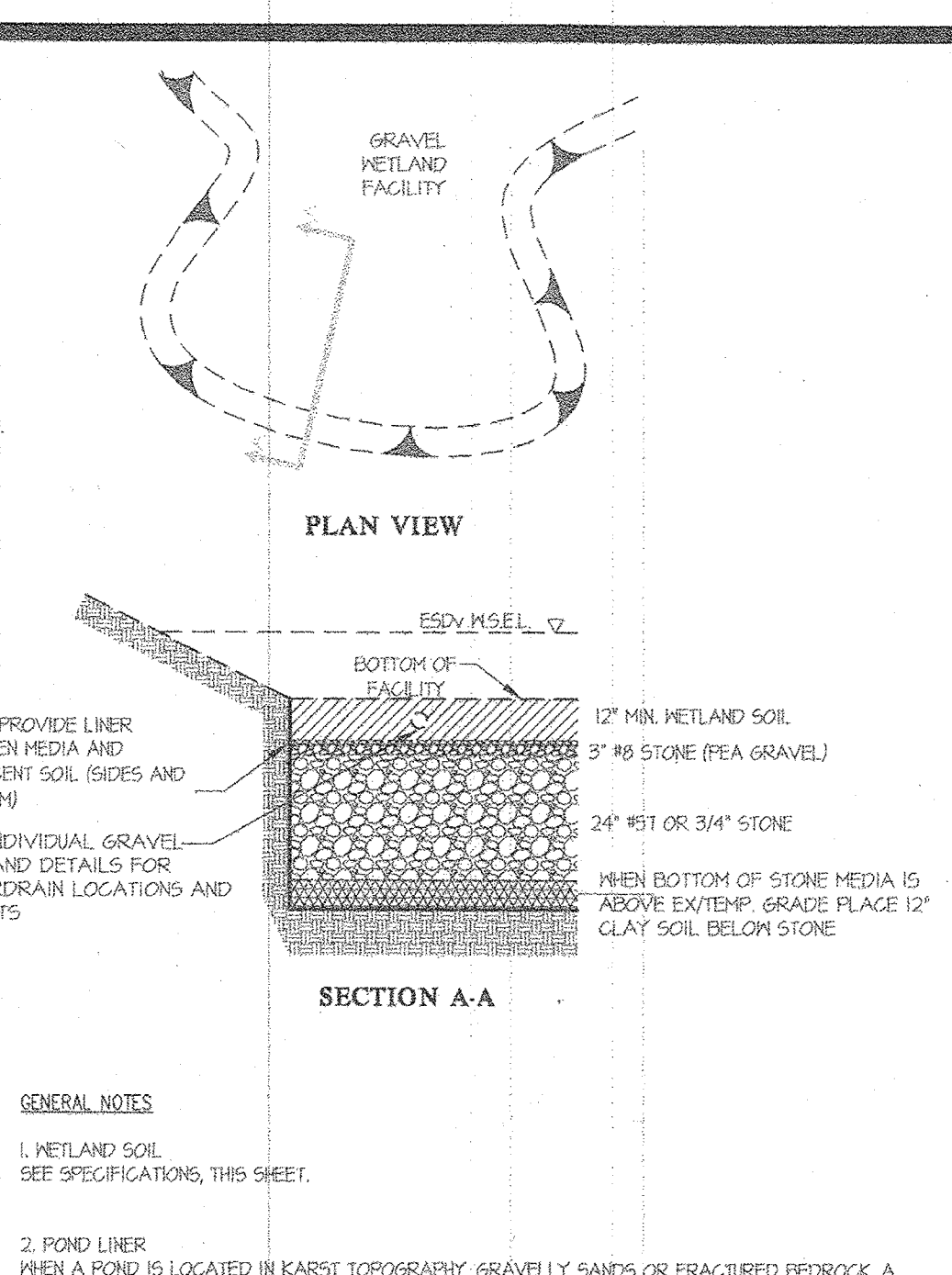
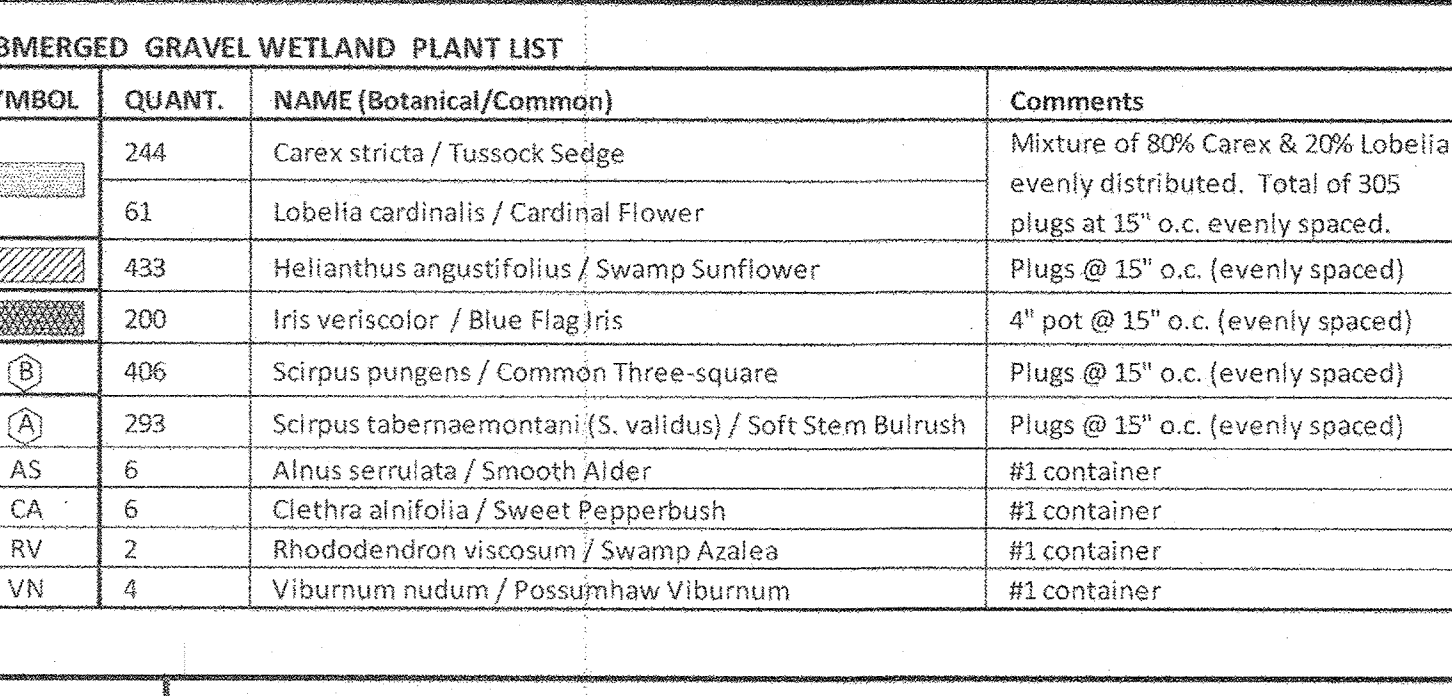
SUBMERGED GRAVEL WETLAND PROFILE SCALE: 1" = 5' (VERT.)

SIZE (INCHES)	TYPE	QUANTITY (LF)	REMARKS
4	PVC	20	SCHEDULE 40
4	SLOTTED PVC	23	SCHEDULE 40

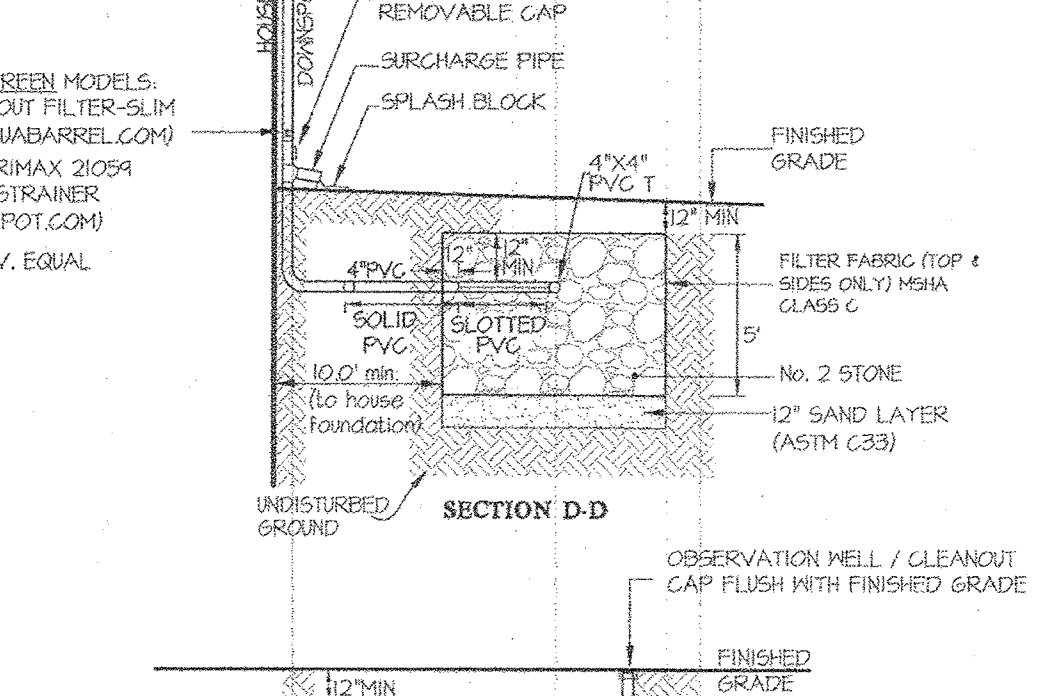
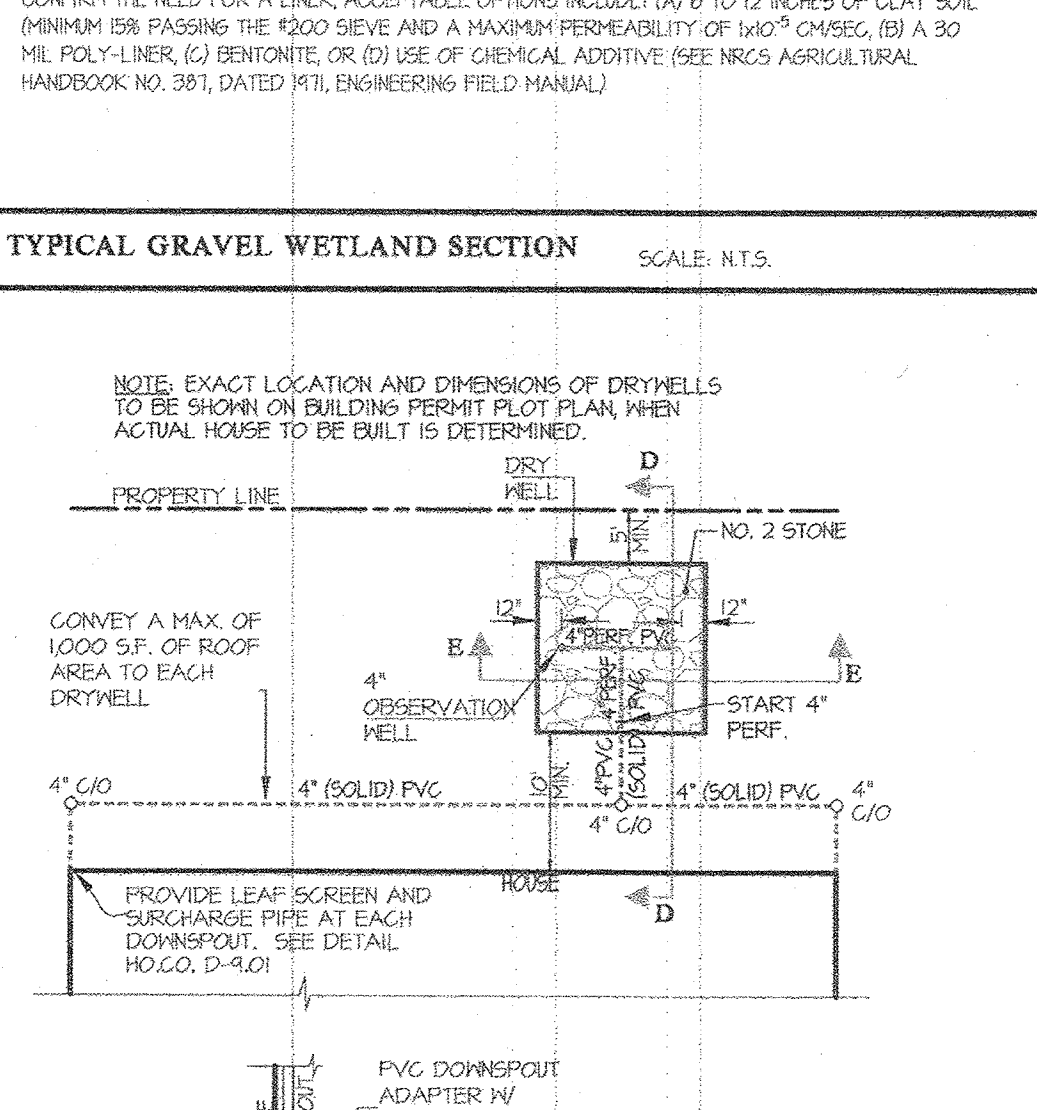
SYMBOL	QUANT.	NAME (Botanical/Common)	Comments
(S)	244	Carex stricta / Tussock Sedge	Mixture of 80% Carex & 20% Lobelia evenly distributed. Total of 305 plugs at 15" o.c. evenly spaced.
(L)	61	Lobelia cardinalis / Cardinal Flower	
(H)	433	Helianthus angustifolius / Swamp Sunflower	Plugs at 15" o.c. (evenly spaced)
(B)	200	Iris versicolor / Blue Flag/Iris	4" pot @ 15" o.c. (evenly spaced)
(A)	406	Scirpus pungens / Common Three-square	Plugs @ 15" o.c. (evenly spaced)
(R)	293	Scirpus tabernaemontani (S. validus) / Soft Stem Bulrush	Plugs @ 15" o.c. (evenly spaced)
AS	6	Alnus serrulata / Smooth Alder	#1 container
CA	6	Clethra alnifolia / Sweet Pepperbush	#1 container
RV	2	Rhododendron viscosum / Swamp Azalea	#1 container
VN	4	Viburnum nudum / Possumhaw Viburnum	#1 container



SUBMERGED GRAVEL WETLAND LANDSCAPE PLAN SCALE: 1" = 30'



TYPICAL GRAVEL WETLAND SECTION SCALE: N.T.S.



**OPERATION AND MAINTENANCE SCHEDULE FOR SUBMERGED GRAVEL WETLANDS (M-2) PRIVATELY OWNED AND MAINTAINED BY THE HOA**

- DURING THE FIRST YEAR OF OPERATION, THE HOA SHALL INSPECT THE FACILITY AFTER EVERY HEAVY STORM AND REPLACE VEGETATION AS NEEDED.
- THE HOA SHALL REMOVE SEDIMENT ACCUMULATED IN THE PRETREATMENT AREAS AS NECESSARY.
- SIGNS OF UNEVEN FLOW WITHIN THE WETLAND MAY MEAN THAT THE GRAVEL OR UNDERDRAIN IS CLOGGED. THE GRAVEL OR UNDERDRAIN SHALL BE REMOVED, CLEANED, AND REPLACED, AS NEEDED BY THE HOA.
- THE HOA SHALL ENSURE A DENSE STAND OF WETLAND VEGETATION IS MAINTAINED THROUGHOUT THE LIFE OF THE FACILITY AND REPLACE VEGETATION AS NEEDED.
- THE HOA SHALL ENSURE THE INLETS AND OUTLETS TO EACH GRAVEL WETLAND CELL ARE FREE FROM DEBRIS.
- HOWARD COUNTY WILL MAINTAIN PUBLIC STORM INLET AND ITS OUTFALL TO 50M FACILITY.

**OPERATION AND MAINTENANCE SCHEDULE FOR DISCONNECTED NON-ROOFTOP RUNOFF (N-2)**

- MAINTENANCE OF AREAS RECEIVING DISCONNECTED RUNOFF IS GENERALLY NO DIFFERENT THAN THAT REQUIRED FOR OTHER LAWN OR LANDSCAPED AREAS. THE AREAS RECEIVING RUNOFF SHOULD BE PROTECTED FROM FUTURE CONSTRUCTION (E.G. BY PLANTING TREES OR SHRUBS ALONG THE PERIMETER). IN COMMERCIAL AREAS, HIGH FOOT TRAFFIC SHOULD BE DISCOURAGED AS WELL.

**OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DRY WELLS (M-5)**

- THE OWNER SHALL INSPECT THE MONITORING WELLS AND STRUCTURES ON A QUARTERLY BASIS AND AFTER EVERY HEAVY STORM EVENT.
- THE OWNER SHALL RECORD THE WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING WELLS OVER A PERIOD OF SEVERAL DAYS TO INSURE TRENCH DRAINAGE.
- THE OWNER SHALL MAINTAIN A LOG BOOK TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
- WHEN THE FACILITY BECOMES CLOGGED SO THAT IT DOES NOT DRAIN DOWN WITHIN A SEVENTY-TWO (72) HOUR TIME PERIOD, CORRECTIVE ACTION SHALL BE TAKEN.
- THE MAINTENANCE LOG BOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
- ONCE THE PERFORMANCE CHARACTERISTICS OF THE INFILTRATION FACILITY HAVE BEEN VERIFIED, THE MONITORING SCHEDULE CAN BE REDUCED TO AN ANNUAL BASIS UNLESS THE PERFORMANCE DATA INDICATES THAT A MORE FREQUENT SCHEDULE IS REQUIRED.

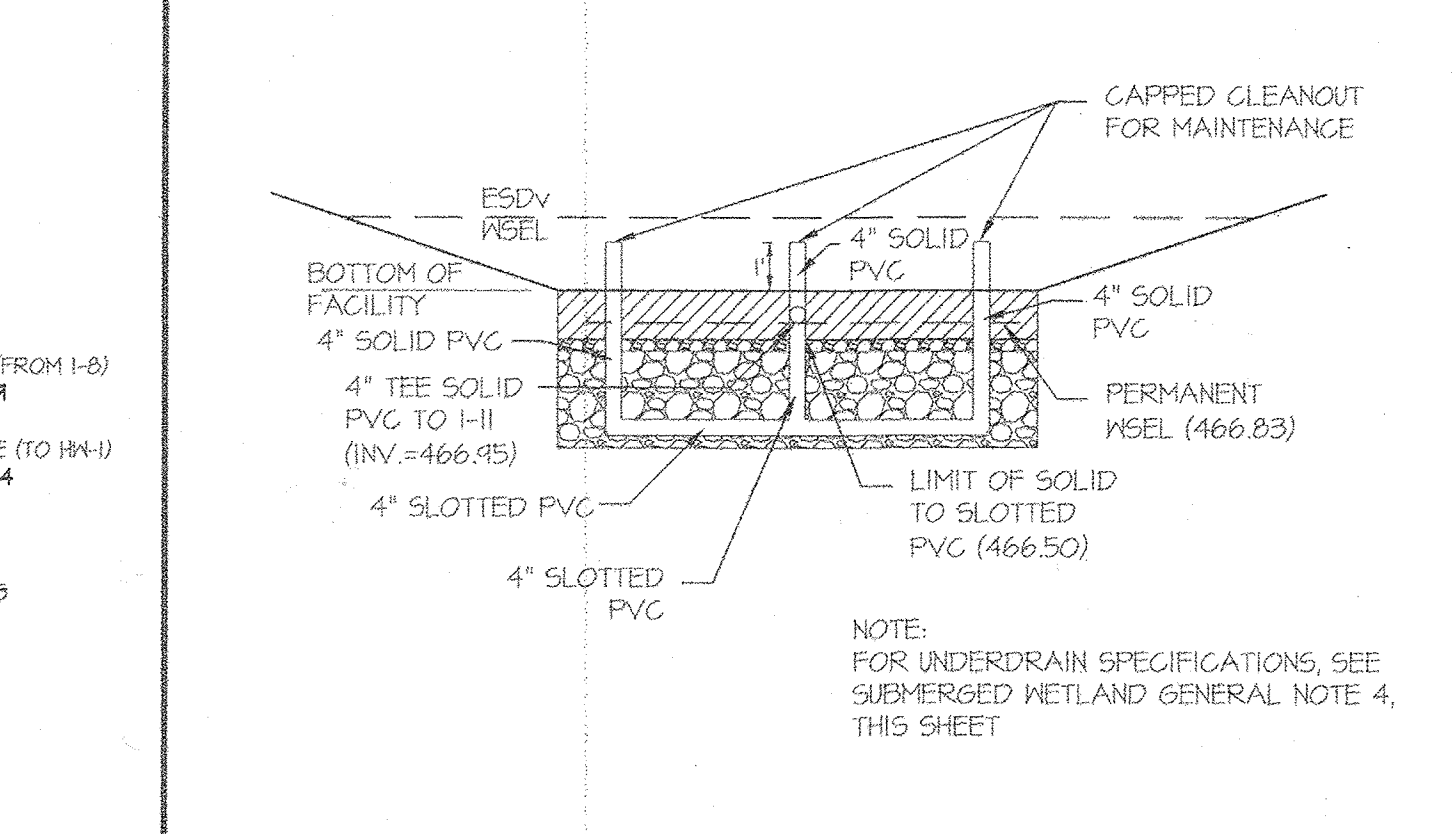
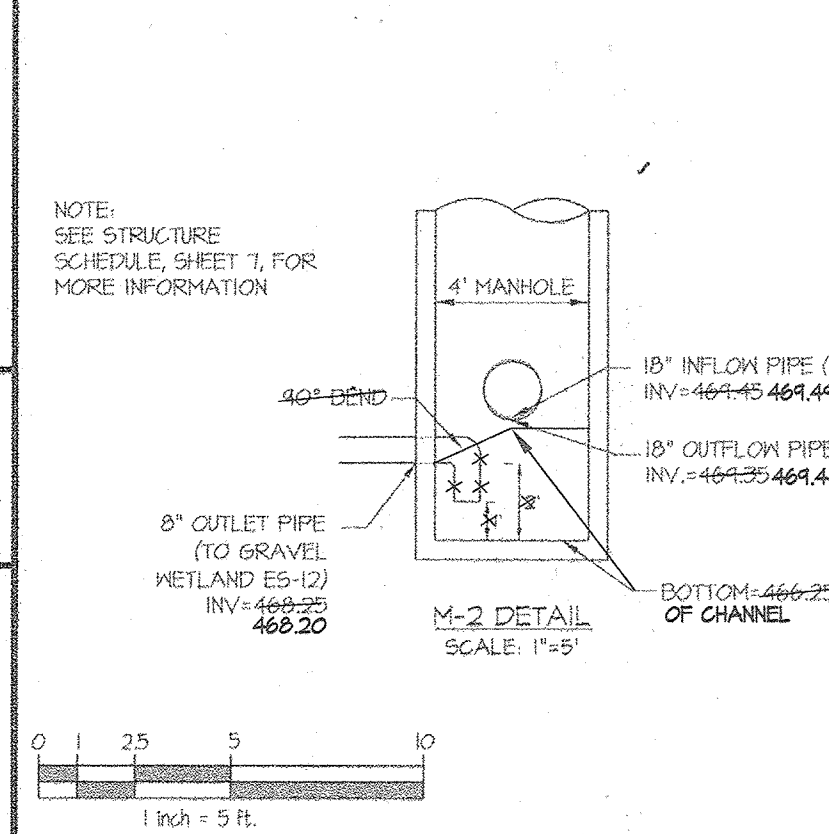
**APPENDIX B.1.1 - SUPPLEMENTAL POOL SPECIFICATIONS (NON-378)**  
 SUPPLEMENTAL STORMWATER PONDS AND WETLAND SPECIFICATIONS (NON-378)  
 THESE NOTES AND SPECIFICATIONS ARE IN ADDITION TO THE MD-378 SPECIFICATIONS. IF THERE IS ANY QUESTION AS TO THE APPLICABILITY, THE MD-378 SPECIFICATIONS SUPERSEDE.

- IT IS PREFERRED TO USE THE SAME MATERIAL IN THE EMBANKMENT AS IS BEING INSTALLED FOR THE CORE TRENCH. IF THIS IS NOT POSSIBLE BECAUSE THE APPROPRIATE MATERIAL IS NOT AVAILABLE, A DAM CORE WITH A SHELL MAY BE USED. THE CROSS-SECTION OF THE STORMWATER FACILITY SHOULD SHOW THE LIMITS OF THE DAM CORE (UP TO 10-YEAR WATER SURFACE ELEVATION) AS WELL AS THE ACCEPTABLE MATERIALS FOR THE SHELL. THE SHAPE OF THE DAM CORE AND THE MATERIAL TO BE USED IN THE SHELL SHOULD BE PROVIDED BY THE GEOTECHNICAL ENGINEER.
- IF THE COMPACTION TESTS FOR THE SITE IMPROVEMENTS IS USING A MODIFIED PROCTOR (ASTM D-155), THEN TO MAINTAIN ON-SITE CONSISTENCY, THE MODIFIED PROCTOR MAY BE USED IN LIEU OF A STANDARD PROCTOR (ASTM D-99). THE MINIMUM REQUIRED DENSITY USING THE MODIFIED PROCTOR TEST METHOD SHALL BE AT LEAST 92% OF THE OPTIMUM. THE MINIMUM REQUIRED DENSITY USING THE STANDARD PROCTOR TEST METHOD SHALL BE AT LEAST 85% OF THE MAXIMUM DRY DENSITY WITH A MOISTURE CONTENT OF 42% OR THE OPTIMUM.
- FOR ALL STORMWATER MANAGEMENT FACILITIES, A GEOTECHNICAL ENGINEER OR THEIR REPRESENTATIVE MUST BE PRESENT TO VERIFY COMPACTION IN ACCORDANCE WITH THE SELECTED TEST METHOD. THIS VERIFICATION NEEDS TO BE PROVIDED IN A REPORT TO THE DESIGN ENGINEER, SO THAT CERTIFICATION OF THE CONSTRUCTION OF THE FACILITY, IN ACCORDANCE WITH MD-378 SPECIFICATIONS, CAN BE MADE.
- A 4-INCH LAYER OF TOPSOIL SHALL BE PLACED ON ALL DISTURBED AREAS OF THE DAM EMBANKMENT. SEEDING, LIMING, FERTILIZING, MULCHING, ETC. SHALL BE IN ACCORDANCE WITH MARYLAND SOIL CONSERVATION SERVICE MD-342 OR THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, "PERMANENT SEEDING," SECTION IN CHAPTER 20. THE PURPOSE OF THE TOPSOIL IS TO ESTABLISH A GOOD GROWTH OF GRASS, WHICH IS NOT ALWAYS POSSIBLE WITH SOME OF THE MATERIALS THAT MAY BE PLACED FOR THE EMBANKMENT FILL.
- GEOTEXTILE PLACED BENEATH RIP-RAP SHALL BE CLASS "C" GEOTEXTILE OR BETTER (SEE SECTION 24.0, MATERIAL SPECIFICATIONS, 1994 STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, (NOE, 1994). SOME ACCEPTABLE GEOTEXTILES THAT MEET THE CLASS "C" CRITERIA INCLUDE:  
 AMOCO 4552 CARTRIDGE FX-705  
 CEGON N70 MIRAFL 180-N  
 MESTEC N07
- THIS IS ONLY A PARTIAL LISTING OF AVAILABLE GEOTEXTILES BASED ON INFORMATION PROVIDED BY THE MANUFACTURERS OF THE 1997 SPECIFIER'S GUIDE DATED DECEMBER 1996. IT IS THE RESPONSIBILITY OF THE ENGINEER TO VERIFY THE ADAPTABILITY OF THE MATERIAL AS THERE ARE CHANGES IN THE MANUFACTURING PROCESS AND THE TYPE OF FABRIC USED, WHICH MAY AFFECT THE CONTINUED ACCEPTANCE.
- A RULE OF THUMB TO DETERMINE WHEN AN EXCAVATED POND MAY NEED TO BE CONSIDERED AN EMBANKMENT POND IS AS FOLLOWS: PROVIDE CALCULATION OF 10' + 20 FEET = L, WHERE H = HEIGHT FROM POND BOTTOM TO TOP OF DAM. IF THE PROJECTION OF L DOWNSTREAM IS A HORIZONTAL LINE FROM POND BOTTOM TO TOP OF DAM, IF THE PROJECTION OF L DOWNSTREAM IS A SLOPE IS BELOW EXISTING GROUND, THE POND CAN BE CONSIDERED AN EXCAVATED POND. IN ADDITION, THE EXISTING GROUND SLOPE DOWNSTREAM OF THE POND MUST BE LESS THAN 10%.
- THE DESIGN ENGINEER AND GEOTECHNICAL ENGINEER SHOULD MAKE THE DETERMINATION THAT THE SETTLEMENT OF THE POND WILL NOT CAUSE EXCESSIVE JOINT EXTENSION. FOR FURTHER INFORMATION ON JOINT ANALYSIS, SEE WEDC PUBLICATION TR-11.
- FILL PLACEMENT SHALL NOT EXCEED A MAXIMUM 8-INCH. EACH LIFT SHALL BE CONTINUOUS FOR THE ENTIRE LENGTH OF THE EMBANKMENT.
- THE EMBANKMENT FILL SHALL NOT BE PLACED HIGHER THAN THE CENTERLINE OF THE PRINCIPAL SPILLWAY UNTIL AFTER THE PRINCIPAL SPILLWAY HAS BEEN INSTALLED. IF THE EMBANKMENT NEEDS TO BE EXCAVATED TO INSTALL THE PRINCIPAL SPILLWAY, THE SIDE SLOPE SHALL BE NO LESS THAN 2:1.
- THE SIDE SLOPES OF A CUT TO REPAIR A DAM, INSTALL A PRINCIPAL SPILLWAY FOR AN EXCAVATED POND, OR OTHER REPAIR WORK, SHALL BE NO LESS THAN 2:1.

**APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS**  
 Chief, Bureau of Highways  
 Date: 8/22/2017

**APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING**  
 Chief, Division of Land Development  
 Date: 9-11-17

**APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING**  
 Chief, Development Engineering Division  
 Date: 9-11-17



**GLWGuttschick Little & Weber, P.A.**  
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK  
 BURTONSVILLE, MARYLAND 20866  
 TEL: 301-421-4024 FAX: 301-989-2524

DATE	REVISION	BY	APPR.

**OWNER:** THE WILBUR AND EVELYN HINKLE FAMILY LIMITED PARTNERSHIP  
 3067 SHORECREST BAY DR MURRELLS INLET, SC 29576  
 ATTN: BARBARA DAWSON

**DEVELOPER:** WILLIAMSBURG GROUP, LLC  
 5485 HARPERS FARM RD SUITE 200 COLUMBIA, MD 21044  
 ATTN: BOB CORBETT 410-997-8800

**PROFESSIONAL CERTIFICATION**  
 I HEREBY CERTIFY THAT THESE PLANS 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. 12975  
 EXPIRATION DATE: MAY 26, 2018  
 8/31/17

**ESD STORMWATER MANAGEMENT DETAILS**  
**ESTATES AT SCHOOLEY MILL**  
 LOTS 1-9, Buildable Preservation Parcel 'A', & Non-Buildable Preservation Parcels 'B' & 'C' and FOREST CONSERVATION BANK  
 TAX PARCEL 93 LIBER 4637 FOLIO 68  
 HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE NO.
AS SHOWN	RR-DEO	14067
DATE: JULY 2021 AUG, 2017	TAX MAP - GRID: 40-11	SHEET: 9 OF 20







**SEDIMENT CONTROL LEGEND**

- 400 - - - - - EXISTING CONTOUR
- --- --- PROPOSED CONTOUR
- --- --- EXISTING TREELINE
- --- --- STREAM BUFFER
- --- --- 100 YEAR FLOODPLAIN
- --- --- LIMIT OF DISTURBANCE
- --- --- LIMIT OF GRADING
- --- --- OVERLAP OF LIMITS OF DISTURBANCE AND GRADING
- --- --- EARTH DIKE
- --- --- PROPOSED SILT FENCE
- --- --- PROPOSED SUPERSILT FENCE
- --- --- TEMPORARY SKALE
- --- --- STABILIZED CONSTRUCTION ENTRANCE
- --- --- PROPOSED TEMPORARY STOCKPILE AREA
- --- --- GABION MATTRESS
- --- --- ROCK OUTLET PROTECTION
- --- --- SEDIMENT BASIN BAFFLES
- --- --- EROSION CONTROL MATTING PER DETAIL B-4-B-C (SHEAR STRESS ≤ 15 LB/SF)
- --- --- HIGHLY ERODIBLE SOIL (> 25% SLOPES)
- --- --- STANDARD INLET PROTECTION (TYPE B)

**SEQUENCE OF CONSTRUCTION:**

1. OBTAIN A GRADING PERMIT AND ARRANGE A PRE-CONSTRUCTION MEETING WITH THE SEDIMENT CONTROL INSPECTOR (SCI) (1 DAY)
2. INSTALL THE STABILIZED CONSTRUCTION ENTRANCE (SCE) AND SUPER SILT FENCE (SSF). (5 DAYS)
3. WITH THE PERMISSION OF THE SCI, BEGIN CLEARING AND GRUBBING THE ENTIRE SITE (LOD-1). (5 DAYS)
4. ONCE CLEARING IS COMPLETE, STABILIZE ALL CLEARED AREAS OUTSIDE THE LIMIT OF PROPOSED GRADING (LOD-2). (5 DAYS)
5. INSTALL TRAP 1. (5 DAYS)
6. INSTALL CLEAN WATER DIVERSION (PDS #1, TYPE PDS-2) AND IMMEDIATELY STABILIZE. INSTALL EARTH DIKES 1 & 2. INSTALL STORM DRAIN FROM HW-16 TO HW-13. STABILIZE GRADING AT HW-16 AND PROVIDE STANDARD INLET PROTECTION FOR HW-14 & HW-15 AS STORM DRAIN IS BEING CONSTRUCTED. (30 DAYS)
7. WITH THE PERMISSION OF THE SCI, BEGIN MASS GRADING. A TEMPORARY SKALE SHALL BE INSTALLED AT THE LOW POINT IN THE ROAD TO DIRECT DRAINAGE INTO THE TRAP UNTIL STORM DRAIN CAN BE INSTALLED. (40 DAYS)
8. INSTALL ALL UTILITIES SHOWN ON THE SEDIMENT CONTROL PLANS. ONCE STORM DRAIN IS INSTALLED, REMOVE THE TEMPORARY SKALE CUTTING THROUGH THE ROAD. ONCE GRADING IS COMPLETE, STABILIZE ALL LOT AREAS AND BEGIN CONSTRUCTION OF PAVEMENT. (60 DAYS)
9. ONCE ALL AREA DRAINING TO TRAP 1 HAS BEEN STABILIZED AND WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, TRAP 1 AND THE EARTH DIKES MAY BE REMOVED. ONCE TRAP AND DIKES HAVE BEEN REMOVED, INSTALL SUBMERGED GRAVEL WETLAND AND ANY REMAINING UTILITIES. RELOCATE SSF AS NECESSARY. (5 DAYS)
10. STABILIZE THE SUBMERGED GRAVEL WETLAND AND REMOVE ANY REMAINING SEDIMENT CONTROL. (5 DAYS)

**PROPOSED DRAINAGE AREA INFORMATION**

AREA NO.	AREA (AC.)	CN	TC (HOURS)
TEMP 1	6.7	91	0.1

**THIS PLAN IS FOR SEDIMENT CONTROL PURPOSES ONLY**

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

*John K. Hester* 8/15/17  
 DEVELOPER'S/BUILDER'S CERTIFICATE

"I HEREBY CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND 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 HSCD."

*[Signature]* 8/13/17  
 SIGNATURE OF DEVELOPER/BUILDER DATE

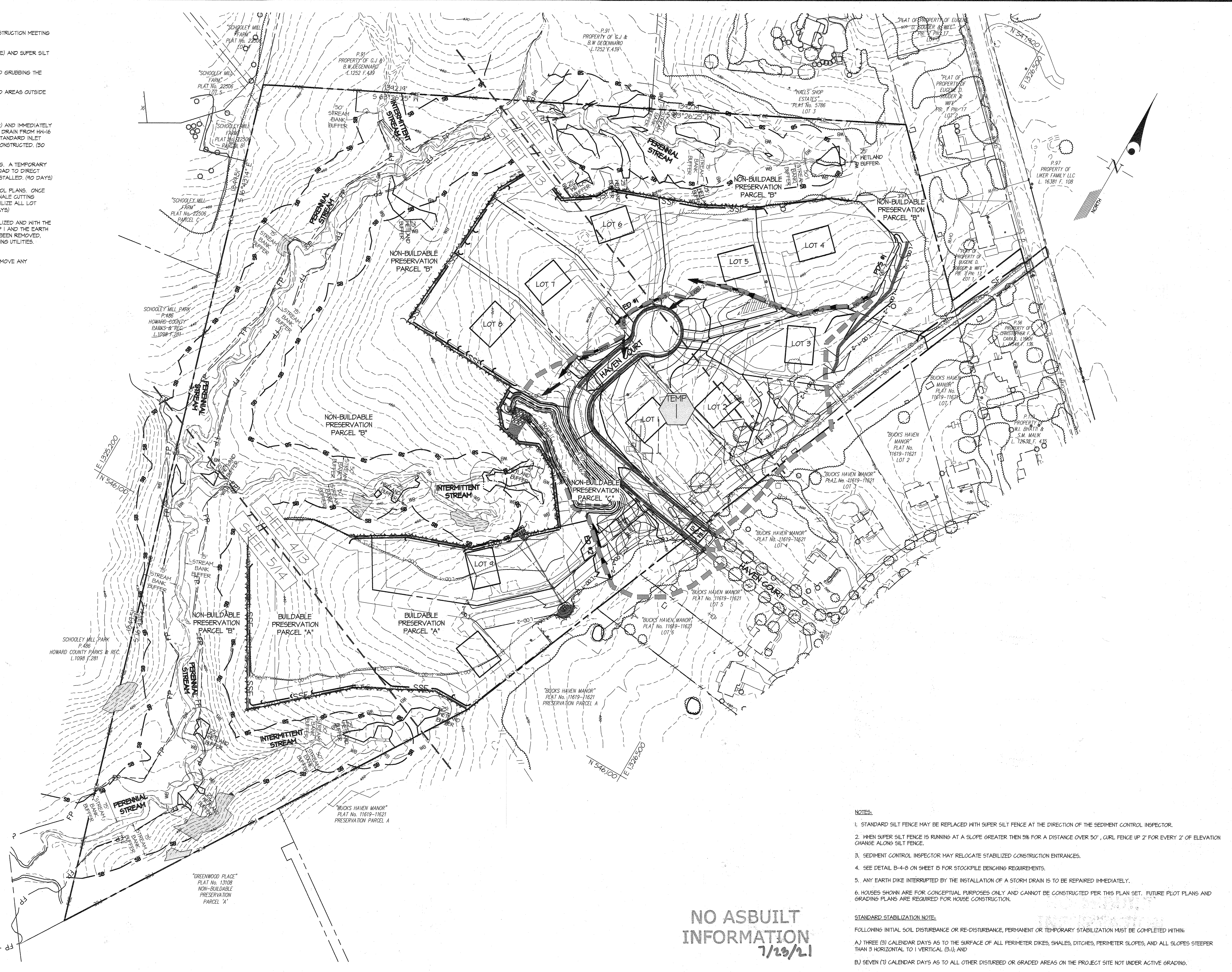
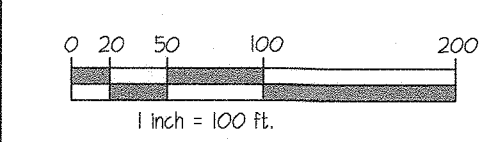
**ENGINEER'S CERTIFICATE**  
 "I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

*[Signature]* 8/13/17  
 ENGINEER'S SIGNATURE DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*[Signature]* 8/22/2017  
 Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
*[Signature]* 9-15-17  
 Chief, Division of Land Development Date  
*[Signature]* 9-11-17  
 Chief, Development Engineering Division Date

**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK  
 BURTONSVILLE, MARYLAND 20886  
 TEL: 301-421-4024 BALT: 410-580-1820 DC/VA: 301-999-2524 FAX: 301-421-4186



**NO ASBUILT INFORMATION**  
 7/19/21

- NOTES:**
1. STANDARD SILT FENCE MAY BE REPLACED WITH SUPER SILT FENCE AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.
  2. WHEN SUPER SILT FENCE IS RUNNING AT A SLOPE GREATER THEN 5% FOR A DISTANCE OVER 50', CURL FENCE UP 2' FOR EVERY 2' OF ELEVATION CHANGE ALONG SILT FENCE.
  3. SEDIMENT CONTROL INSPECTOR MAY RELOCATE STABILIZED CONSTRUCTION ENTRANCES.
  4. SEE DETAIL B-4-B ON SHEET 5 FOR STOCKPILE BENCHING REQUIREMENTS.
  5. ANY EARTH DIKE INTERRUPTED BY THE INSTALLATION OF A STORM DRAIN IS TO BE REPAIRED IMMEDIATELY.
  6. HOUSES SHOWN ARE FOR CONCEPTUAL PURPOSES ONLY AND CANNOT BE CONSTRUCTED PER THIS PLAN SET. FUTURE PLOT PLANS AND GRADING PLANS ARE REQUIRED FOR HOUSE CONSTRUCTION.
- STANDARD STABILIZATION NOTE:**  
 FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:  
 A) THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SKALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND  
 B) SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

OWNER: THE WLBUR AND EVELYN HINKLE FAMILY LIMITED PARTNERSHIP 3067 SHORECREST BAY DR MURRELLS INLET, SC 29578 ATTN: BARBARA DAWSON		DEVELOPER: WILLIAMSBURG GROUP, LLC 5485 HARRERS FARM RD SUITE 200 COLUMBIA, MD 21044 ATTN: BOB CORBETT 410-997-8800		PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE PLANS 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. 12975 EXPIRATION DATE: MAY 26, 2018 8/13/17 <i>[Signature]</i>		SEDIMENT CONTROL OVERVIEW and DRAINAGE AREA MAP			SCALE 1"=100'	ZONING RR-DEO	G. L. W. FILE NO. 14067
ESTATES AT SCHOOLEY MILL LOTS 1-9, Buildable Preservation Parcel 'A', & Non-Buildable Preservation Parcels 'B' & 'C' and FOREST CONSERVATION BANK TAX PARCEL 93 LIBER 4637 FOLIO 68						DATE AUG, 2017	TAX MAP - GRID 40-11	SHEET 11 OF 20	HOWARD COUNTY, MARYLAND		



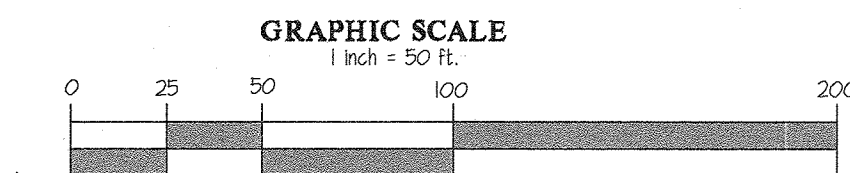
SOILS (on site)	Map Unit Symbol	Map Unit Name	Type	K Factor
BaA		Baile silt loam, 0 to 3 percent slopes	D	0.32
Co		Codorus and Hatboro silt loams, 0 to 3 percent slopes	C	0.31
GbB		Gladstone loam, 3 to 8 percent slopes	B	0.20
GbC		Gladstone loam, 8 to 15 percent slopes	B	0.20
GnB		Glenville-Baile silt loams, 0 to 8 percent slopes	D	0.31
MaD		Manor loam, 15 to 25 percent slopes	B	0.24

HOWARD COUNTY SOIL MAP NUMBER: 22 - CLARKSVILLE SW

- NOTES:**
- STANDARD SILT FENCE MAY BE REPLACED WITH SUPER SILT FENCE AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.
  - WHEN SUPER SILT FENCE IS RUNNING AT A SLOPE GREATER THAN 5% FOR A DISTANCE OVER 50', CURB FENCE UP 2' FOR EVERY 2' OF ELEVATION CHANGE ALONG SILT FENCE.
  - SEDIMENT CONTROL INSPECTOR MAY RELOCATE STABILIZED CONSTRUCTION ENTRANCES.
  - SEE DETAIL B-4-B ON SHEET 15 FOR STOCKPILE BENCHING REQUIREMENTS.
  - ANY EARTH DIKE INTERRUPTED BY THE INSTALLATION OF A STORM DRAIN IS TO BE REPAIRED IMMEDIATELY.
  - HOUSES SHOWN ARE FOR CONCEPTUAL PURPOSES ONLY AND CANNOT BE CONSTRUCTED PER THIS PLAN SET. FUTURE PLOT PLANS AND GRADING PLANS ARE REQUIRED FOR HOUSE CONSTRUCTION.

- STANDARD STABILIZATION NOTE:**
- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:
- THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (B:1) AND
  - SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

- NOTES:**
- PRIOR TO SIGNATURE OF FINAL PLAT, ALL EXISTING STRUCTURES AND DRIVEWAYS ON SITE ARE TO BE REMOVED, THE EXISTING WELL SHALL BE SEALED, AND THE SEPTIC SYSTEMS FOR ALL THREE RESIDENCES SHALL BE PROPERLY ABANDONED AND DOCUMENTATION SUBMITTED TO THE HEALTH DEPARTMENT.
  - THE EXISTING DRIVEWAY IS TO BE REMOVED PRIOR TO FINAL PLAT SUBMITTAL, WITH AS LITTLE DISTURBANCE AS POSSIBLE TO THE SDA FOR LOTS 1, 2 AND 3. THE SOIL SURFACE IS TO BE RETURNED TO APPROXIMATE ORIGINAL CONTOUR WITHOUT ADDITIONAL COMPACTION.
  - SEWAGE DISPOSAL AREAS (SDA) ARE APPROVED AND INTENDED FOR INSTALLATION OF DRAINFIELD TRENCHES FOR WASTEWATER TREATMENT AND DISPOSAL. LOCALLY INTENSIVE DISRUPTION OF THE SOIL AND DISTURBANCE OF VEGETATION WILL OCCUR, AND LIKELY WILL RESULT IN DAMAGE OR DESTRUCTION OF TREES AND OTHER VEGETATION WITHIN THE BOUNDARIES OF THE SDA AS WELL AS THE BRANCHES AND ROOTS OF PLANTS THAT EXTEND INTO THE SDA.
  - LINE INDICATING LOD AND 55% OVERLAP AND ARE SHOWN OFFSET FOR CLARITY IN THIS PLAN, WHERE THE LOD AND 55% RUN PARALLEL TO THE PROPERTY LINE, THE PROPERTY LINE GOVERNS THE EXTENTS OF BOTH.



**THIS PLAN IS FOR SEDIMENT CONTROL PURPOSES ONLY**

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

*Johal Khater* 8/13/17  
 HOWARD SOIL CONSERVATION DISTRICT DATE

**DEVELOPER'S/BUILDER'S CERTIFICATE**

"I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND 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 HSCD."

*[Signature]* 8/13/17  
 SIGNATURE OF DEVELOPER/BUILDER DATE

**ENGINEER'S CERTIFICATE**

"I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

*[Signature]* 8/13/17  
 ENGINEER'S SIGNATURE DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*[Signature]* 8/12/2017  
 Chief, Bureau of Highways DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

*[Signature]* 9-15-17  
 Chief, Division of Land Development DATE

*[Signature]* 9-11-17  
 Chief, Development Engineering Division DATE

**GLWGUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK  
 BURTONSVILLE, MARYLAND 20866  
 TEL: 301-421-4024 BALT: 410-885-1820 DC/VA: 301-959-2524 FAX: 301-421-4186

DATE	REVISION	BY	APP'R



OWNER:	DEVELOPER:	PROFESSIONAL CERTIFICATION
THE WILBUR AND EVELYN HINKLE FAMILY LIMITED PARTNERSHIP 3067 SHORECREST BAY DR MURRELLS INLET, SC 29576 ATTN: BARBARA DAWSON	WILLIAMSBURG GROUP, LLC 5485 HARRERS FARM RD SUITE 200 COLUMBIA, MD 21044 ATTN: BOB CORBETT 410-997-8800	I HEREBY CERTIFY THAT THESE PLANS 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. 12975 EXPIRATION DATE: MAY 26, 2018 8/17 <i>[Signature]</i>

**SEDIMENT CONTROL PLAN & SOILS MAP**

**ESTATES AT SCHOOLEY MILL**  
 LOTS 1-9, Buildable Preservation Parcel 'A', & Non-Buildable Preservation Parcels 'B' & 'C' and FOREST CONSERVATION BANK

TAX PARCEL 93  
 LIBER 4637 FOLIO 68

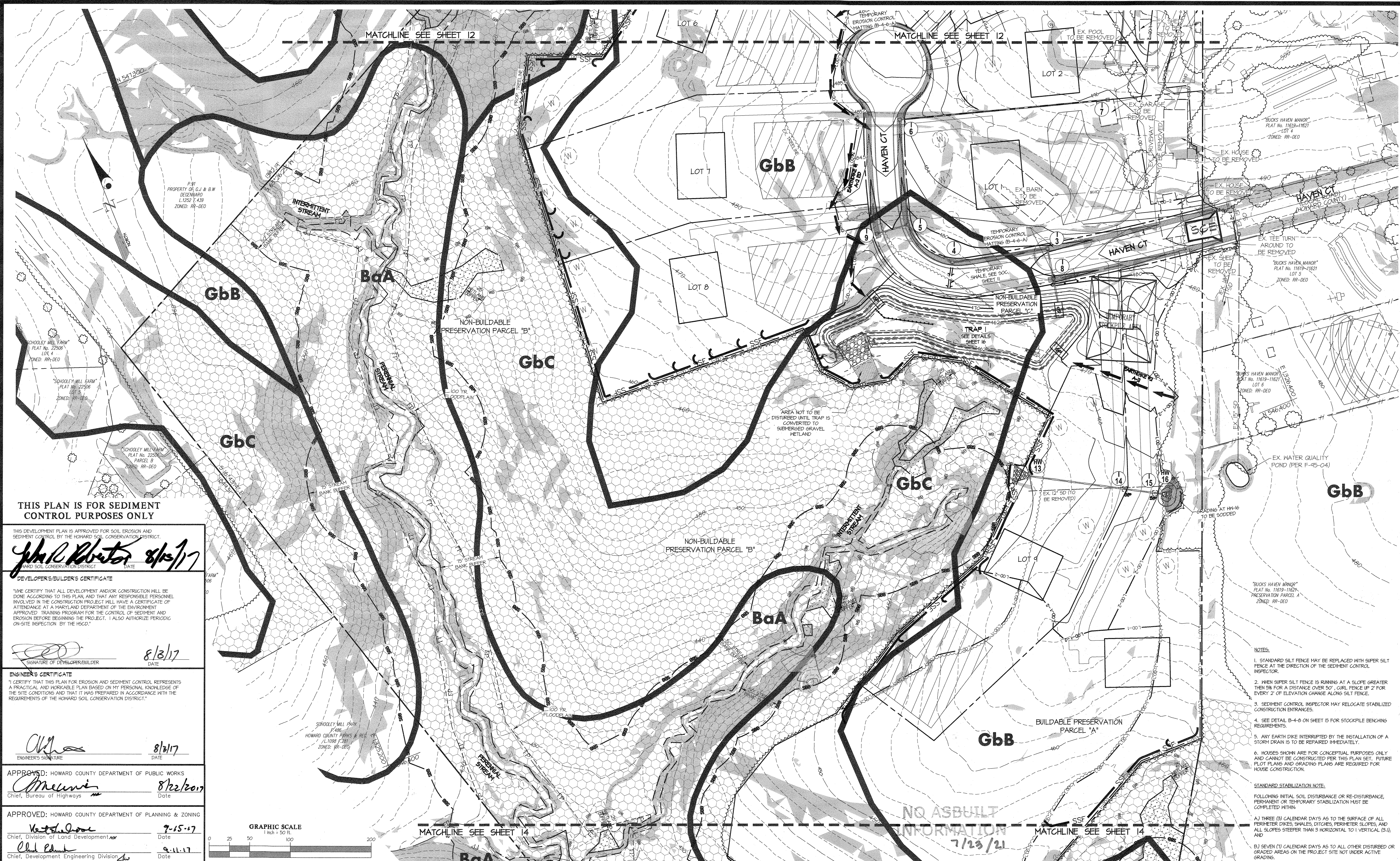
SCALE: 1"=50'  
 ZONING: RR-DEO  
 G. L. W. FILE NO. 14067

DATE: AUG, 2017  
 TAX MAP - GRID: 40 -11  
 SHEET: 12 OF 20

HOWARD COUNTY, MARYLAND

DATE	REVISION	BY	APP'R





**THIS PLAN IS FOR SEDIMENT CONTROL PURPOSES ONLY**

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

*Johal K. Khatun* 8/13/17  
 DEVELOPER'S/BUILDER'S CERTIFICATE DATE

I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND 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 HSCD.

*[Signature]* 8/13/17  
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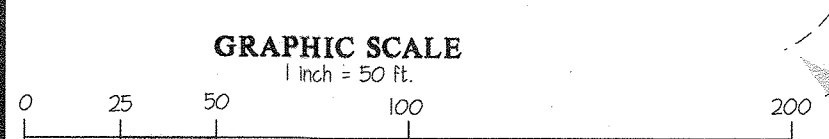
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*[Signature]* 8/13/17  
 ENGINEER'S SIGNATURE DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*[Signature]* 8/12/2017  
 Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
*[Signature]* 7-15-17  
 Chief, Division of Land Development Date

*[Signature]* 8-11-17  
 Chief, Development Engineering Division Date



**GLWGUTSCHICK LITTLE & WEBER, P.A.**  
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DATE	REVISION	BY	APP'R.

**OWNER:**  
 THE WILBUR AND EVELYN HINKLE FAMILY LIMITED PARTNERSHIP  
 3067 SHORECREST BAY DR MURRELLS INLET, SC 29576  
 ATTN: BARBARA DAWSON

**DEVELOPER:**  
 WILLIAMSBURG GROUP, LLC  
 5485 HARRERS FARM RD SUITE 200  
 COLUMBIA, MD 21044  
 ATTN: BOB CORBETT  
 410-997-8800

**PROFESSIONAL CERTIFICATION**  
 I HEREBY CERTIFY THAT THESE PLANS 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. 12975  
 EXPIRATION DATE: MAY 26, 2016  
 8/31/17 *[Signature]*

**SEDIMENT CONTROL PLAN & SOILS MAP**  
**ESTATES AT SCHOOLEY MILL**  
**LOTS 1-9, Buildable Preservation Parcel 'A', & Non-Buildable Preservation Parcels 'B' & 'C' and FOREST CONSERVATION BANK**  
 TAX PARCEL 93  
 LIBER 4637 FOLIO 68  
 ELECTION DISTRICT No. 5

SCALE	ZONING	G. L. W. FILE No.
1"=50'	RR-DEO	14067
DATE	TAX MAP - GRID	SHEET
AUG, 2017	40 -11	13 OF 20

- NOTES:**
- STANDARD SILT FENCE MAY BE REPLACED WITH SUPER SILT FENCE AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.
  - WHEN SUPER SILT FENCE IS RUNNING AT A SLOPE GREATER THAN 5% FOR A DISTANCE OVER 50', CURB FENCE 12" FOR EVERY 2' OF ELEVATION CHANGE ALONG SILT FENCE.
  - SEDIMENT CONTROL INSPECTOR MAY RELOCATE STABILIZED CONSTRUCTION ENTRANCES.
  - SEE DETAIL B-4-d ON SHEET 15 FOR STOCKPILE BENCHING REQUIREMENTS.
  - ANY EARTH DIKE INTERRUPTED BY THE INSTALLATION OF A STORM DRAIN IS TO BE REPAIRED IMMEDIATELY.
  - HOUSES SHOWN ARE FOR CONCEPTUAL PURPOSES ONLY AND CANNOT BE CONSTRUCTED PER THIS PLAN SET. FUTURE FLOT PLANS AND GRADING PLANS ARE REQUIRED FOR HOUSE CONSTRUCTION.
- STANDARD STABILIZATION NOTE:**  
 FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:
- A) THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SCALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (B); AND
- B) SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.



**NOTES:**

- STANDARD SILT FENCE MAY BE REPLACED WITH SUPER SILT FENCE AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.
- WHEN SUPER SILT FENCE IS RUNNING AT A SLOPE GREATER THAN 5% FOR A DISTANCE OVER 50', CURL FENCE UP 2' FOR EVERY 2' OF ELEVATION CHANGE ALONG SILT FENCE.
- SEDIMENT CONTROL INSPECTOR MAY RELOCATE STABILIZED CONSTRUCTION ENTRANCES.
- SEE DETAIL B-4-0 ON SHEET 15 FOR STOCKPILE BENCHING REQUIREMENTS.
- ANY EARTH DIKE INTERRUPTED BY THE INSTALLATION OF A STORM DRAIN IS TO BE REPAIRED IMMEDIATELY.

**STANDARD STABILIZATION NOTE:**

FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:

A) THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SHALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND

B) SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.



**THIS PLAN IS FOR SEDIMENT CONTROL PURPOSES ONLY**

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

*John R. Blanton* 8/15/17  
 DATE

**DEVELOPER'S/BUILDER'S CERTIFICATE**

"I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND 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 HSCD."

*[Signature]* 8/3/17  
 SIGNATURE OF DEVELOPER/BUILDER DATE

**ENGINEER'S CERTIFICATE**

"I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

*[Signature]* 8/3/17  
 ENGINEER'S SIGNATURE DATE

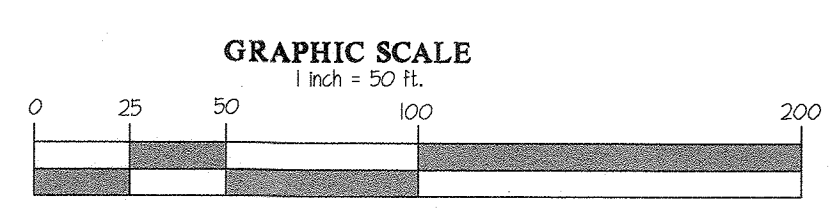
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*[Signature]* 8/22/2017  
 Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

*[Signature]* 9-15-17  
 Chief, Division of Land Development Date

*[Signature]* 9-11-17  
 Chief, Development Engineering Division Date



**NO ASBUILT INFORMATION**  
 7/23/21

**GLW GUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK  
 BURTONSVILLE, MARYLAND 20866  
 TEL: 301-421-4024 BALT: 410-880-1920 DC/VAN: 301-989-2524 FAX: 301-421-4186

DATE	REVISION	BY	APP'R.

**OWNER:**  
 THE WILBUR AND EVELYN HINKLE FAMILY LIMITED PARTNERSHIP  
 3067 SHORECREST BAY DR  
 MURRELLS INLET, SC 29576  
 ATTN: BARBARA DAWSON

**DEVELOPER:**  
 WILLIAMSBURG GROUP, LLC  
 5485 HARRIS FARM RD  
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EXPIRATION DATE: MAY 26, 2018

8/31/17 *[Signature]*



**SEDIMENT CONTROL PLAN & SOILS MAP**

**ESTATES AT SCHOOLEY MILL**  
 LOTS 1-9, Buildable Preservation Parcel 'A', & Non-Buildable Preservation Parcels 'B' & 'C' and FOREST CONSERVATION BANK  
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### B-4-2 STANDARD AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

**DEFINITION**  
THE PROCESS OF PREPARING THE SOIL TO SUSTAIN ADEQUATE VEGETATIVE STABILIZATION.

**PURPOSE**  
TO PROVIDE A SUITABLE SOIL FIRM FOR VEGETATIVE GROWTH.

**CONDITIONS WHERE PRACTICE APPLIES**  
WHERE VEGETATIVE STABILIZATION IS TO BE ESTABLISHED.

**CRITERIA**

- SOIL PREPARATION
  - SEEDBED PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SOUTERED 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 ROLLED OR GRADGED SMOOTH BUT LEFT TO THE DISCRETION OF THE CONTRACTOR TO BE TOPSOILED 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 LIME 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.
    - SOILABLE SALTS LESS THAN 500 PARTS PER MILLION (PPM).
    - SOIL CONTAINS LESS THAN 40 PERCENT CLAY BUT ENOUGH FINE GRANDED MATERIAL (GREATER THAN 30 PERCENT SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION: IF LOESS/CLAY 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 PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.
  - APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET THE ABOVE CONDITIONS.
  - GRADED AREAS MUST BE MAINTAINED IN A TRUE AND EVEN GRADE AS SPECIFIED ON THE APPROVED PLAN, THEN CHASED OR OTHERS 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.
  - MIX SOIL AMENDMENTS INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. RAKE LAWN AREAS TO SMOOTH THE SURFACE. REMOVE LARGE OBJECTS LIKE STONES AND BRANCHES, AND READY THE AREA FOR SEED APPLICATION. LOOSEN SURFACE SOIL BY DRAGGING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO ROUGHEN THE SURFACE WHICH WILL NOT PERMIT NORMAL SEEDBED PREPARATION. TRACK SLOPES 3:1 OR FLATTER WITH TRACKED EQUIPMENT LEAVING THE SOIL IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE. LEAVE THE TOP 1 TO 3 INCHES OF SOIL LOOSE AND FRAGILE. SEEDBED LOOSENING MAY BE UNNECESSARY ON NEWLY DISTURBED AREAS.
- TOPSOILING
  - TOPSOIL IS PLACED OVER PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION. THE PURPOSE IS TO PROVIDE A SUITABLE SOIL FIRM 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 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 TURFGRASS CONTAINING SURPLUS OF MOISTURE AND PLANT NUTRIENTS.
    - THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
    - THE SOIL IS SO AODIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
  - AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.
  - TOPSOIL SPECIFICATIONS: SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:
    - TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SILTY 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 TEXTURED SUBSTRATS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF CONCRETE, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1.5 INCHES IN DIAMETER.
    - TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.
  - TOPSOIL APPLICATION
    - EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING TOPSOIL.
    - UNIFORMLY DISTRIBUTE TOPSOIL IN A 5 TO 8 INCH LAYER AND LIGHTLY COMPACT TO A MINIMUM THICKNESS OF 4 INCHES. SPREADING IS TO BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL PREPARATION AND INTERFERENCES IN THE SUBSOIL. ANY DAMAGE 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 SEEDBED PREPARATION.
- SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)
  - SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS OF 5 ACRES OR MORE. SOIL ANALYSIS MAY BE PERFORMED BY A RECOGNIZED PRIVATE OR COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSES.
  - FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FINE 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 WHEN HYDRATED) WHICH CONTAINS AT LEAST 50 PERCENT TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIME MUST BE GROUND TO SUCH FINENESS THAT AT LEAST 50 PERCENT WILL PASS THROUGH A #100 MESH SIEVE AND 95 TO 100 PERCENT WILL PASS THROUGH A #200 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 AODIC OR COMPOSED OF HEAVY CLAYS, SPREAD GROUND LIMESTONE AT THE AT THE RATE OF 4 TO 8 TONS/ACRE (200-400 POUNDS PER 1000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL.

### 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 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**

- MULCHING: 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 ROUGHEN SURFACE AND BRING SOILS TO THE SURFACE BEING BLOWN ON INWARD SIDE OF SITE. CHECK-TILLER PLOWS SHOULD BE USED. SPRING-TOPPED HARROWS, AND SIMILAR PLOWS ARE EXAMPLES OF EQUIPMENT THAT PROVIDE 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.
- BARBERS: SOLID BOARD FENCES, SILT FENCES, SNOW FENCES, BURAP 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.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 Chief, Bureau of Highways  
 8/22/2017  
 Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
 Chief, Division of Land Development  
 9-15-17  
 Date

Chief, Development Engineering Division  
 9-11-17  
 Date

**GLWGUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
 3909 NORTON DRIVE - SUITE 250 - BURTONTVILLE OFFICE PARK  
 BURTONTVILLE, MARYLAND 20866  
 TEL: 301-421-4024 BALTO: 301-889-1820 DC/VA: 301-889-2524 FAX: 301-421-4186

DATE: \_\_\_\_\_ REVISION: \_\_\_\_\_

### 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 CONTROL, SLOPES, AND ANY DISTURBED AREA NOT UNDER ACTIVE GRADING.

**CRITERIA**

- SEEDING
  - ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED MUST BE SUBJECT TO RE-TESTING BY A RECOGNIZED SEED LABORATORY. ALL SEED USED MUST HAVE BEEN TESTED WITHIN THE 6 MONTHS IMMEDIATELY PRECEDING THE DATE OF SOWING SUCH MATERIAL. ON ANY PROJECT, REFER TO TABLE B.4 REGARDING THE QUALITY OF SEED. SEED TAGS MUST BE AVAILABLE (UPON REQUEST) TO THE INSPECTOR TO VERIFY TYPE OF SEED AND SEEDING RATE.
  - MULCH ALONE MAY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES ONLY IF THE GROUND IS FROZEN, THE APPROPRIATE SEEDING MIXTURE MUST BE APPLIED WHEN THE GROUND THAW.
  - INCULCANTS: THE INCULCANT FOR TREATING LEGUME SEED IN THE SEED MIXTURE MUST BE A PURE CULTURE OF NITROGEN FIXING BACTERIA PREPARED SPECIFICALLY FOR THE SPECIES. INCULCANTS MUST NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER. ADD FRESH INCULCANTS AS DIRECTED ON THE CONTAINER. ADD FRESH INCULCANTS TO THE RECOMMENDED RATE WHEN HYDRATED. NOTE: IT IS VERY IMPORTANT TO KEEP INCULCANT AS COOL AS POSSIBLE UNTIL USED. TEMPERATURES ABOVE 75 TO 80 DEGREES FAHRENHEIT CAN KILL BACTERIA AND MAKE THE INCULCANT LESS EFFECTIVE.
  - SOIL OR SEED MIXTURE MUST BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STABILIZERS OR CHEMICALS USED FOR WEED CONTROL. UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC 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 B.3, OR OTHER RECOMMENDED RATES.
    - APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION. THE SEED SHOULD BE PLACED WITH A WEIGHTED ROLLER TO PROVIDE GOOD SOIL TO SOIL CONTACT.
  - DRILL OR CULTRIPACKER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL.
    - CULTRIPACKER SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST 1/4 INCH OF SOIL COVERING. SEEDBED MUST BE FIRM AFTER PLANTING.
    - APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION.
  - HYDRATED SEEDING: APPLY SEED UNIFORMLY WITH HYDRATED SLURRY (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; P205 (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 HYDRATED SEEDING). NORMALLY, NOT MORE THAN 2 TONS ARE APPLIED BY HYDRATED SEEDING AT ANY ONE TIME. DO NOT USE BURNT HYDRATED LIME WHEN HYDRATED SEEDING.
    - MIX SEED AND FERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT INTERRUPTION.
    - WHEN HYDRATED SEEDING DO NOT INCORPORATE SEED INTO THE SOIL.
- MULCHING
  - MULCH MATERIALS (IN ORDER OF PREFERENCE)
    - STRAW CONSISTING OF THOROUGHLY THRESHED WHEAT, RYE, OAT, OR BARLEY WHICH IS REASONABLY FREE OF SEEDS AND STRAW IS TO BE USED. UNWASHED SEEDS AS SPECIFIED IN THE MARYLAND STATE SEED LAW AND NOT MUSTY, MOLDY, CANCER, OR EXCESSIVELY DUSTY. THERE IS ONLY STERILE STRAW MULCH IN AREAS WHERE OTHER SPECIES ARE TO BE PLANTED.
    - WOOD CELLULOSE FIBER MULCH (WCFM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM, FINE LIME (UP TO 3 TONS PER ACRE MAY BE APPLIED BY HYDRATED SEEDING). WCFM IS TO BE DYED GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WILL PROVIDE AN APPROPRIATE COLOR TO FACILITATE VISUAL INSPECTION OF THE UNIFORMLY SPREAD SLURRY.
    - WCFM, INCLUDING DYE, MUST CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS.
    - WCFM MATERIALS ARE TO BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE WOOD CELLULOSE FIBER MULCH WILL REMAIN IN UNIFORM SUSPENSION IN WATER UNDER AGITATION AND WILL BLEND WITH SLURRY, FERTILIZER AND OTHER ADDITIVES TO FORM A HOMOGENEOUS SLURRY. THE MULCH MATERIAL MUST FORM A BLOTTER-LIKE GROUND COVER, ON APPLICATION, HAVING MOISTURE ABSORPTION AND PERCOLATION PROPERTIES AND MUST COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL WITHOUT INHIBITING THE GROWTH OF THE GRASS SEEDLINGS.
    - WCFM MATERIAL MUST NOT CONTAIN ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE PHYTO-TOXIC TO PLANTS.
    - WCFM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS:
      - FIBER LENGTH OF APPROXIMATELY 10 MILLIMETERS. DIAMETER APPROXIMATELY 1 MILLIMETER. PH RANGE OF 4.0 TO 8.5. SHAPE OF 1.6 PERCENT MAXIMUM AND WATER HOLDING CAPACITY OF 90 PERCENT MINIMUM.
  - 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 1.0 TO 2.0 INCHES. APPLY MULCH TO ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT EXPOSED. WHEN USING A MULCH ANCHORING TOOL, INCREASE THE APPLICATION RATE TO 2.5 TONS PER ACRE.
    - WOOD CELLULOSE FIBER MULCH AS MULCH MUST BE APPLIED AT A NET DRY WEIGHT OF 1500 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER AT A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
    - SYNTHETIC BINDERS SUCH AS ACETYLE OLE (AGRO-TACK), DOA-70, PETROSET, TERRA TAC, TERRA MANUFACTURES. APPLICATION OF LIQUID BINDERS NEEDS TO BE HEAVIER AT THE EDGES WHERE WIND PICKS UP THE MULCH. SUCH AS IN VALLEYS AND ON CRESCENTS OF BANKS. USE OF ASPHALT 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.
- ANCHORING
  - PERFORM MULCH ANCHORING IMMEDIATELY FOLLOWING APPLICATION OF MULCH TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY PREFERENCE), DEPENDING UPON THE SIZE OF THE AREA AND EROSION HAZARD:
    - A MULCH ANCHORING TOOL IS A TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE. A MINIMUM OF 2 INCHES. THIS PRACTICE IS MOST EFFECTIVE ON LARGE AREAS, BUT IS LIMITED TO FLATTER SLOPES WHERE EQUIPMENT CAN OPERATE SAFELY. IF USED ON SLOPING LAND, THIS PRACTICE SHOULD FOLLOW THE CONTOUR.
    - WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. APPLY THE FIBER BINDER AT A NET DRY WEIGHT OF 150 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER AT A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
    - SYNTHETIC BINDERS SUCH AS ACETYLE OLE (AGRO-TACK), DOA-70, PETROSET, TERRA TAC, TERRA MANUFACTURES. APPLICATION OF LIQUID BINDERS NEEDS TO BE HEAVIER AT THE EDGES WHERE WIND PICKS UP THE MULCH. SUCH AS IN VALLEYS AND ON CRESCENTS OF BANKS. USE OF ASPHALT 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.

**ENGINEER'S CERTIFICATE**  
 "I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."  
 8/21/17  
 DATE

**DEVELOPER'S/BUILDER'S CERTIFICATE**  
 "I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND 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 HSCD."  
 8/3/17  
 DATE

**OWNER:** THE WILBUR AND EVELYN HINKLE FAMILY LIMITED PARTNERSHIP  
 3067 SHORECREST BAY DR MURRELLS INLET, SC 29576 ATTN: BARBARA DAWSON

**DEVELOPER:** WILLIAMS GROUP, LLC  
 5485 HARRERS FARM RD COLUMBIA, MD 21044 ATTN: BOB CORBETT 410-997-8800

**PROFESSIONAL CERTIFICATION**  
 I HEREBY CERTIFY THAT THESE PLANS 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. 12975  
 EXPIRATION DATE: MAY 26, 2018  
 8/3/17  
 DATE

### 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 COVER ON DISTURBED SOILS.

**CONDITIONS WHERE PRACTICE APPLIES**  
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 HARDNESS 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 DISTURBED AREAS OVER 5 ACRES, 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-4-3.1.A AND MAINTAIN UNTIL THE NEXT SEEDING SEASON.

No.	SPECIES	APPLICATION RATE (lb./ac)	SEEDING DATES	SEEDING DEPTHS	FERTILIZER RATE (lb./ac)	LIME RATE (lb./ac)
1	ANNUAL REGRASS	40 lb./ac	Mar. 1 to May 15, Aug. 1 to Oct. 15	0.5 INCHES	436 lb./ac (10 lb./1,000 sq ft)	2 tons/ac (90 lb./1,000 sq ft)
2	PEARL MILLET	20 lb./ac	May 16 to July 31	0.5 INCHES		

**SEDIMENT CONTROL NOTES**

- A PRE-CONSTRUCTION MEETING MUST OCCUR WITH THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION (CID), 410-313-1855 AFTER THE FUTURE LOD AND PROTECTED AREAS ARE MARKED CLEARLY IN THE FIELD. A MINIMUM OF 48 HOURS NOTICE TO DO MUST BE GIVEN AT THE FOLLOWING STAGES:
  - PRIOR TO THE START OF EARTH DISTURBANCE.
  - UPON COMPLETION OF THE INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING.
  - PRIOR TO THE START OF ANOTHER PHASE OF CONSTRUCTION OR OPENING OF ANOTHER GRADING UNIT.
  - PRIOR TO THE REMOVAL OR MODIFICATION OF SEDIMENT CONTROL PRACTICES.
- OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE. OTHER RELATED STATE AND FEDERAL PERMITS SHALL BE REFERENCED, TO ENSURE COORDINATION AND TO AVOID CONFLICTS WITH THIS PLAN.
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" AND REVISIONS THERETO.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
  - A CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1), AND
  - CALENDAR DAYS AS TO ALL OTHER DISTURBED AREAS ON THE PROJECT SITE EXCEPT FOR THOSE AREAS UNDER ACTIVE GRADING.
- 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 TOPSOIL (SEC. B-4-2), PERMANENT SEEDING (SEC. B-4-3), TEMPORARY SEEDING (SEC. B-4-4) AND MULCHING (SEC. B-4-3). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES. IF THE GROUND IS FROZEN, INCREMENTAL STABILIZATION (SEC. B-4-1) SPECIFICATIONS SHALL BE ENFORCED IN AREAS WITH 3:1 TO 1:1 SLOPE AND/OR FILL. STOCKPILES (SEC. B-4-8) IN EXCESS OF 20 FT. MUST BE REMOVED WITH STABLE OUTLET. ALL CONCENTRATED FLOW, STEEP SLOPE, AND HIGHLY ERODIBLE AREAS SHALL RECEIVE SOIL STABILIZATION MATTING (SEC. B-4-6).
- 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 CID.
- SITE ANALYSIS:
 

TOTAL AREA OF SITE	49.31 AC
AREA DISTURBED	15.01 AC
AREA TO BE ROOFED OR PAVED	0.51 AC
AREA TO BE VEGETATIVELY STABILIZED	14.51 AC
TOTAL CUT	83,001 CY
TOTAL FILL	8,300 CY
OFF-SITE WASTE/STORAGE	NA
AREA LOCATION	
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE CID. THE SITE AND ALL CONTROLS SHALL BE INSPECTED BY THE CONTRACTOR WEEKLY, AND THE NEXT DAY AFTER EACH RAIN EVENT. A WRITTEN REPORT BY THE CONTRACTOR, MADE AVAILABLE UPON REQUEST, IS PART OF EVERY INSPECTION AND SHOULD INCLUDE:
  - INSPECTION DATE
  - INSPECTION TYPE (ROUTINE, PRE-STORM EVENT, DURING RAIN EVENT)
  - NAME AND TITLE OF INSPECTOR
  - WEATHER INFORMATION (CURRENT CONDITIONS AS WELL AS TIME AND AMOUNT OF LAST RECORDED PRECIPITATION)
  - BRIEF DESCRIPTION OF PROJECT'S STATUS (E.G., PERCENT COMPLETE) AND/OR CURRENT ACTIVITIES
  - EVIDENCE OF SEDIMENT DISCHARGES
  - IDENTIFICATION OF PLAN DEFICIENCIES
  - IDENTIFICATION OF SEDIMENT CONTROLS THAT REQUIRE MAINTENANCE
  - COMPLIANCE STATUS REGARDING THE SEQUENCE OF CONSTRUCTION AND STABILIZATION REQUIREMENTS
  - PHOTOGRAPHS
  - MONITORING/SAMPLING
  - REPAIRS AND/OR CORRECTIVE ACTION PERFORMED
  - OTHER INSPECTION ITEMS AS REQUIRED BY THE GENERAL PERMIT FOR STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES (NPDES, MDE).
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO 3 PIPE LENGTHS OR THAT WHICH SHALL BE BACKFILLED AND STABILIZED BY THE END OF EACH WORK DAY, WHICHEVER IS SHORTER.
- ANY MAJOR CHANGES OR REVISIONS TO THE PLAN OR SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY HSCD PRIOR TO PROCEEDING WITH CONSTRUCTION. MAJOR REVISIONS MAY BE ALLOWED BY THE CID PER USDC-APPROVED FIELD CHANGES.
- SOIL MUST NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL.
- SOIL MUST BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOIL NOT INSTALLED WITHIN THIS PERIOD MUST BE APPROVED BY AN AGRONOMIST OR SOIL SCIENTIST PRIOR TO ITS INSTALLATION.
- SOIL INSTALLATION
  - DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSOIL, LIGHTLY IRRIGATE THE SUBSOIL IMMEDIATELY PRIOR TO LAYING THE SOIL.
  - LAY THE FIRST ROW OF SOIL IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO IT AND TIGHTLY NEEDED AGAINST THE OTHER STAGES LATERAL JOINTS TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. ENSURE THAT SOIL IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT Voids WHICH WOULD CAUSE AIR DRYING OF THE ROOTS. WHEREVER POSSIBLE, LAY SOIL WITH THE LONG EDGES PARALLEL TO THE CONTOUR AND WITH STAGGERING JOINTS, ROLL AND TAMP. PEG OR OTHERWISE SECURE THE SOIL TO PREVENT SUPPLAGE ON SLOPES. ENSURE SOIL CONTACT EXISTS BETWEEN SOIL ROOTS AND THE UNDERLYING SOIL SURFACE.
  - WATER THE SOIL IMMEDIATELY FOLLOWING ROLLING AND TAMPING UNTIL THE UNDERSIDE OF THE NEW SOIL PAD AND SOIL SURFACE BELOW THE SOIL ARE THOROUGHLY WET. COMPLETE THE OPERATIONS OF LAYING, TAMPING AND IRRIGATING FOR ANY PIECE OF SOIL WITHIN EIGHT HOURS.
- SOIL 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 SO DURING THE HEAT OF THE DAY TO PREVENT CRACKING.
  - AFTER THE FIRST WEEK, SOIL WATERING IS REQUIRED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE CONTENT.
  - DO NOT ALLOW 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-4-5 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

**DEFINITION**  
TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION.

**PURPOSE**  
TO USE LONG-LEAF 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**

- SEED MIXTURES
  - GENERAL USE
    - SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE B.3 FOR THE APPROPRIATE PLANT HARDNESS ZONE (FROM FIGURE B.3) AND BASED ON THE SITE CONDITION OR PURPOSE FOUND ON TABLE B.2. ENTER SELECTED MIXTURE(S), 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 MULCH OR ACETIC TREATMENT MAY BE FOUND IN USDA-NRCS TECHNICAL FIELD OFFICE GUIDE, SECTION 342 - CRITICAL AREA PLANTING.
    - FOR SITES HAVING DISTURBED AREA 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 MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.
  - KENTUCKY BLUEGRASS: FULL SILT 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.
  - KENTUCKY BLUEGRASS/PERENNIAL RYE: FULL SILT MIXTURE; FOR USE IN FULL SUN AREAS WHERE RAMP ESTABLISHMENT IS NECESSARY AND WHEN TURF WILL RECEIVE MEDIUM TO INTENSIVE MANAGEMENT. CERTIFIED PERENNIAL RYEGRASS CULTIVARS/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.
  - TALL FESCUE/KENTUCKY BLUEGRASS: FULL SILT MIXTURE; FOR USE IN DROUGHT PRONE AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MANAGEMENT IN FULL SUN TO MEDIUM SHADE. RECOMMENDED CERTIFIED TALL FESCUE CULTIVARS 85 TO 100 PERCENT, CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 15 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 AND IN AREAS RECEIVING LOW TO MEDIUM MANAGEMENT IN FULL SUN TO MEDIUM SHADE. CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 30 TO 40 PERCENT AND CERTIFIED FINE FESCUE AND GO TO 70 PERCENT. SEEDING RATE: 1 1/2 TO 3 POUNDS PER 1000 SQUARE FEET.

**NOTES:**

- SELECT TURFGRASS VARIETIES FROM THOSE LISTED IN THE MOST CURRENT UNIVERSITY OF MARYLAND LITERATURE, 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.
- IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURES  
 WESTERN MD: MARCH 15 TO JUNE 1, MARCH 1 TO OCTOBER 1 (HARDNESS ZONE: 5B, 6A)  
 CENTRAL MD: MARCH 15 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDNESS ZONE: 6B)  
 SOUTHERN MD: MARCH 15 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDNESS ZONE: 7A, 7B)
- IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS 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 ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ABNORMALLY DRY OR HOT SEASONS, OR ON ADVERSE SITES.

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

**HOWARD SOIL CONSERVATION DISTRICT**  
 8/15/17  
 DATE

### B-4-8 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 NO 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 CONCENTRATES ALONG THE TOE OF THE STOCKPILE FILL, AN APPROPRIATE EROSION/SEDIMENT CONTROL PRACTICE MUST BE USED TO INTERCEPT THE DISCHARGE.
- STOCKPILES MUST BE STABILIZED IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION REQUIREMENT AS WELL AS STANDARD B-4-1 INCREMENTAL STABILIZATION AND STANDARD B-4-4 TEMPORARY STABILIZATION.
- IF THE STOCKPILE IS LOCATED ON AN IMPERVIOUS SURFACE, A LINER SHOULD BE PROVIDED BELOW THE STOCKPILE TO FACILITATE CLEANUP. STOCKPILES CONTAINING CONTAMINATED MATERIALS MUST BE COVERED WITH IMPERMEABLE SHEETING.

**MAINTENANCE**

THE STOCKPILE AREA MUST CONTINUOUSLY MEET THE REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION. SIDE SLOPES MUST BE MAINTAINED AT NO STEEPER THAN A 2:1 RATIO. THE STOCKPILE AREA MUST BE KEPT FREE OF GRASS. IF THE VERTICAL HEIGHT OF A STOCKPILE EXCEEDS 20 FEET FOR 2:1 SLOPES, 30 FEET FOR 3:1 SLOPES, OR 40 FEET FOR 4:1 SLOPES, BENCHING MUST BE PROVIDED IN ACCORDANCE WITH SECTION B-3 LAND GRADING.

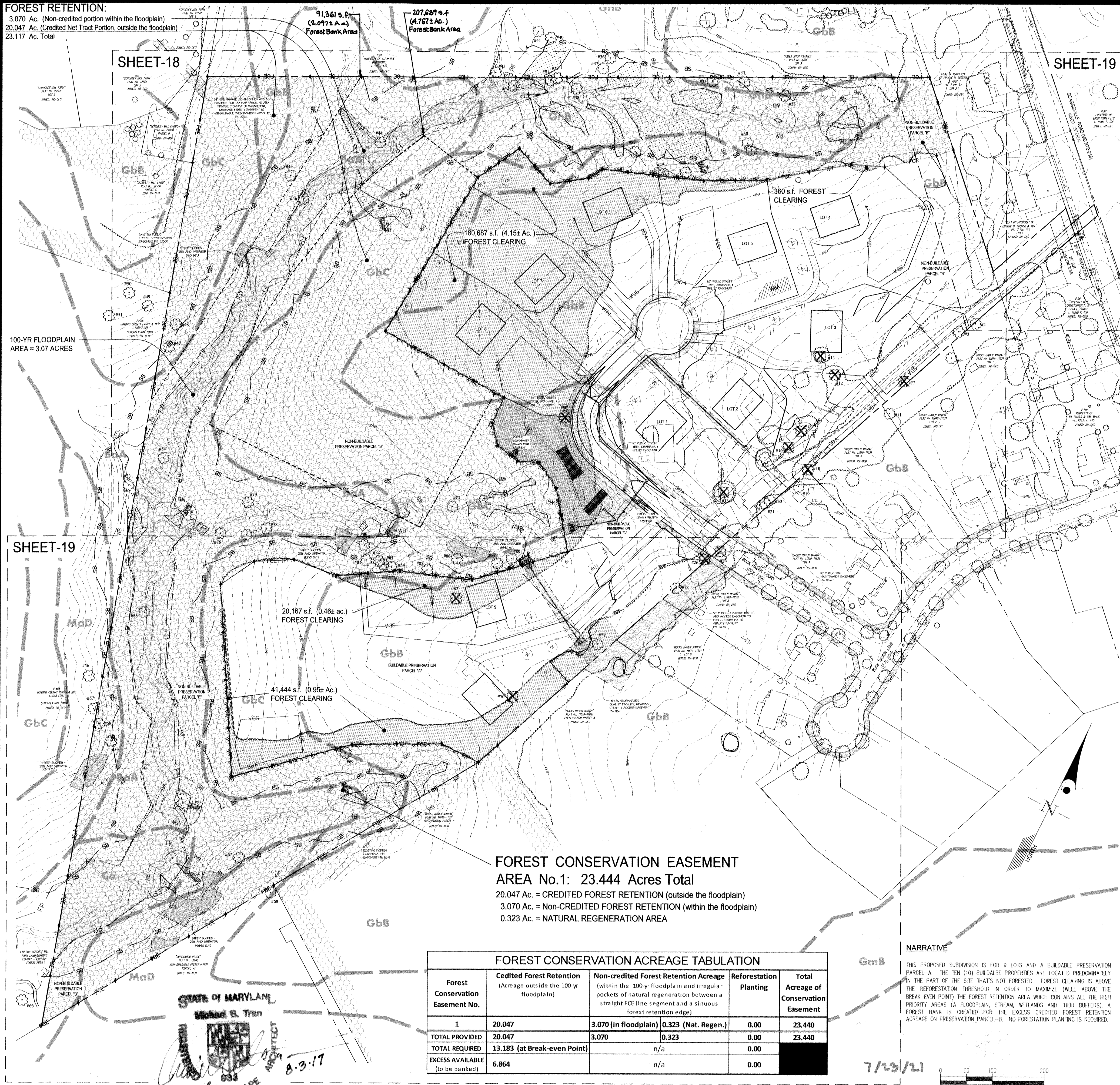
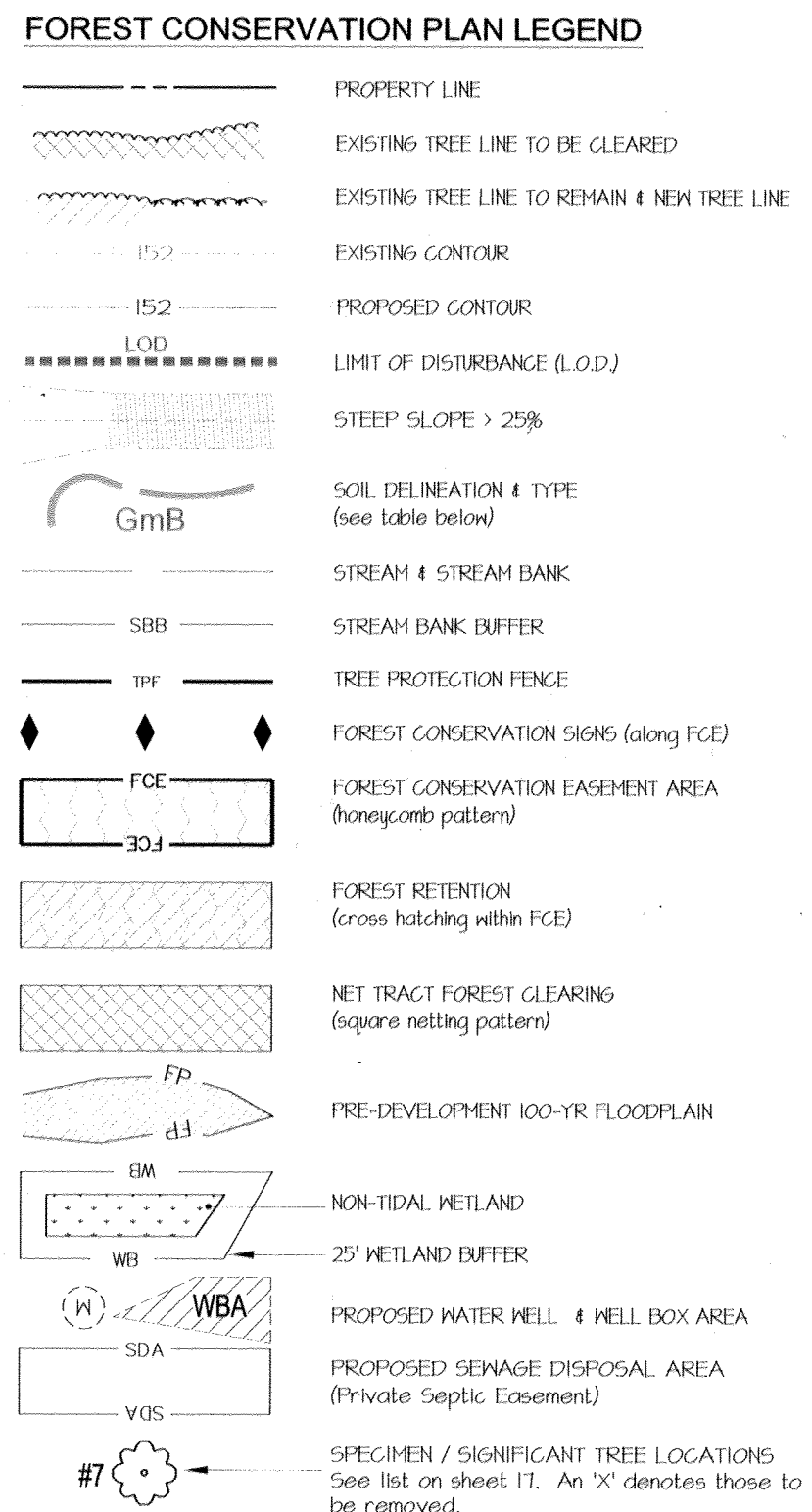
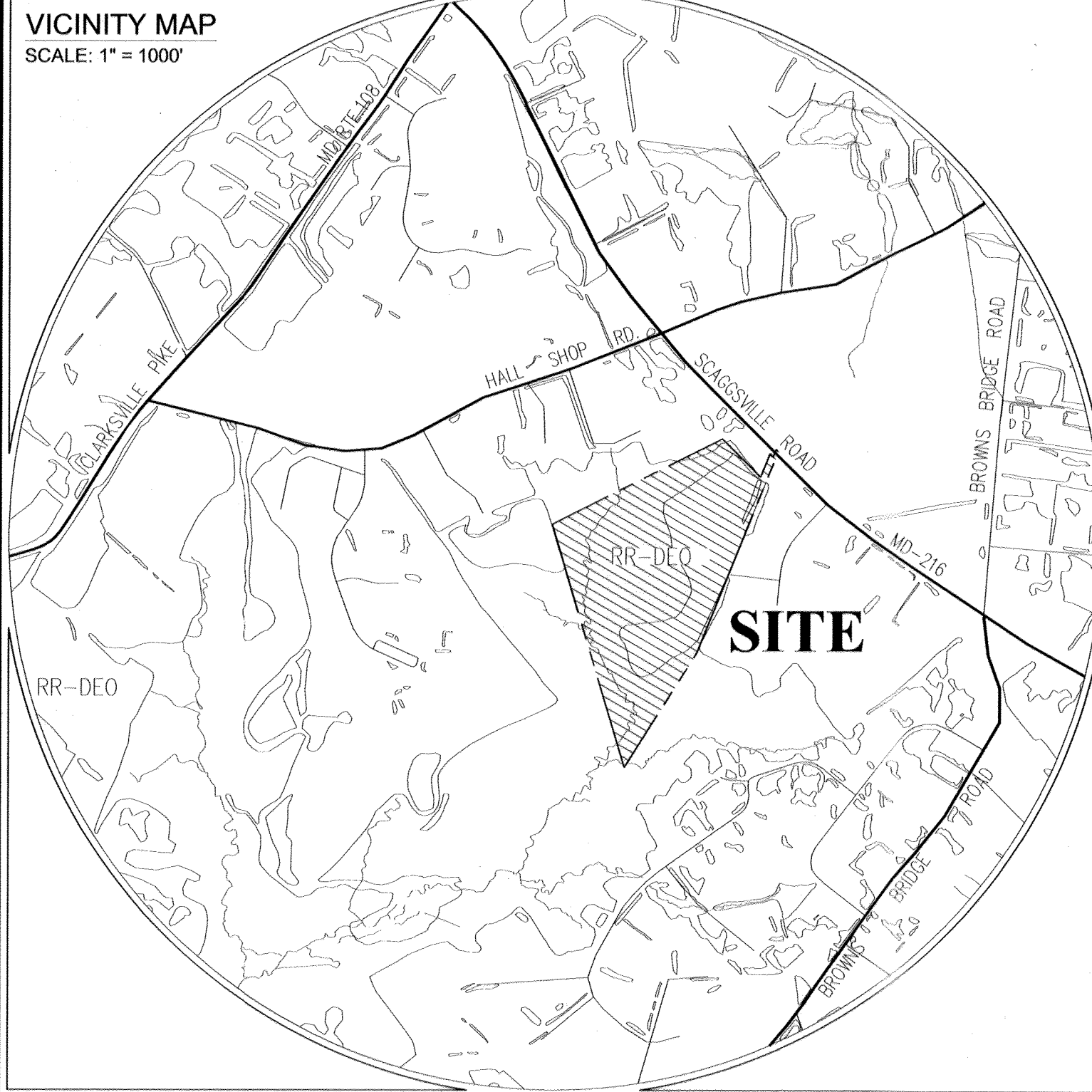
**NOTES:**

- STANDARD SILT FENCE MAY BE REPLACED WITH SUPER SILT FENCE IN THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.
- WHEN SUPER SILT FENCE IS RUNNING AT A SLOPE GREATER THAN 5% FOR A DISTANCE OVER 50', CARL FENCE UP 2' FOR EVERY 2' OF ELEVATION CHANGE ALONG SILT FENCE.
- SEDIMENT CONTROL INSPECTOR MAY RELOCATE STABILIZED CONSTRUCTION ENTRANCES.
- SEE DETAIL B-









### FOREST CONSERVATION WORKSHEET

**Project Name:** ESTATES AT SCHOOLEY MILL (Tax Parcel 93, L.4637 F.68) **DPZ File No.:** F-17-077

<b>1 Site Data</b>	
A. Gross Site Area	43,369
B. Area within 100-yr floodplain, if any	3,070
C. Area of existing easement for major utility transmission lines, if any	0,000
D. Net Tract Area	40,299
E. Land Use Category	Residential - Rural Medium Density
<b>2 Input Data</b>	
A. Net Tract Area	40,299
B. Reforestation Threshold (percent of net tract = 25%)	10,075
C. Afforestation Threshold (percent of net tract = 20%)	8,060
D. Existing Forest on Net Tract Area	25,618
E. Forest Clearing on Net Tract Area	5,571
F. Forest Retention on Net Tract Area	20,047
<b>3 Reforestation and/or Afforestation Calculations</b>	
A. Net tract forest clearing above reforestation threshold, if applicable	5,571
B. Net tract forest clearing below reforestation threshold, if applicable	0,000
C. Planting up to afforestation threshold, if applicable	0,000
D. Reforestation planting required for clearing above threshold (3A x 0.25)	1,393
E. Reforestation planting required for clearing below threshold (3B x 2.0)	0,000
F. Net tract forest retention above reforestation threshold (2F-2B, available credit)	9,972
G. Total reforestation planting required (3C+3D+3E - 3F)	0,000
<b>4 Break Even Point (BEP) Calculations</b>	
A. Maximum clearing allowed with no reforestation planting (2D-2B)/1.25	12,434
B. Minimum net tract retention at BEP 0.20(2D-2B)+2B or 2D-4A	13,183
<b>5 Forest Conservation Required</b>	
A. Forest Retention Area (2F)	20,047
B. Forest Planting Area (3G)	0,000
C. Total minimum FCE required for retention and reforestation	20,047
D. If 2F > 4B, then there's forest retention area available to be banked (2F-4B)	6,864

### ON-SITE SOILS

Symbol	Name	Type	K Factor
BaA	Boile silt loam, 0 to 3 percent slopes	D	0.32
Co	Codorus and Hattboro silt loams, 0 to 3 percent slopes	C	0.37
Gbb	Gladstone loam, 3 to 8 percent slopes	B	0.20
Gbc	Gladstone loam, 8 to 15 percent slopes	B	0.20
Gmb	Gladstone-Boile silt loams, 0 to 8 percent slopes	D	0.37
MaD	Manor loam, 15 to 25 percent slopes	B	0.24

- ### GENERAL NOTES
- THIS REFORESTATION PLAN IS PROVIDED IN ACCORDANCE WITH THE REQUIREMENTS OF SUBTITLE 12 "FOREST CONSERVATION" OF THE HOWARD COUNTY CODE.
  - IMPLEMENTATION OF THIS PLAN MUST BE PERFORMED BY A CONTRACTOR THAT IS KNOWLEDGEABLE AND EXPERIENCED IN AFFORESTATION/REFORESTATION TECHNIQUES AND PRACTICES.
  - THE OWNER IS RESPONSIBLE FOR A 2-YEAR (MIN.) POST-CONSTRUCTION MAINTENANCE PERIOD WHICH INVOLVES ACTIVITIES NECESSARY TO ENSURE SURVIVAL AND GROWTH OF THE CONSERVATION AREA. TWO INSPECTIONS PER YEAR BY A QUALIFIED PROFESSIONAL AT BEGINNING AND END OF THE GROWING SEASON, ARE RECOMMENDED IN ORDER TO TAKE NECESSARY STEPS AS NECESSARY. IF, AFTER ONE YEAR, THE POSSIBILITY EXISTS THAT THE ORIGINAL PLANTING (IF APPLICABLE) WILL NOT MEET SURVIVAL RATE STANDARDS, THE APPLICANT MAY CHOOSE TO ESTABLISH REINFORCEMENT PLANTINGS.
  - AT THE END OF THE POST-CONSTRUCTION MANAGEMENT AND PROTECTION PERIOD, CERTIFICATION BY A QUALIFIED CONSULTANT WILL BE REQUIRED BEFORE THE OWNER CAN BE RELEASED FROM HIS/HER FOREST CONSERVATION OBLIGATION TO THE ADMINISTRATOR OF THE HOWARD COUNTY FOREST CONSERVATION PROGRAM.
  - THE DEVELOPER/BUILDER SHALL (IN WRITING) NOTIFY ALL LOT OWNERS OF THIS DEVELOPMENT OF THE EXISTENCE OF FOREST CONSERVATION AREAS AND THAT DISTURBANCE TO THE FOREST CONSERVATION AREAS OR THE REMOVAL OF FOREST CONSERVATION SIGNS IS PROHIBITED.
  - REFORESTATION/AFFORESTATION TREE PLANTINGS, IF APPLICABLE, SHOULD BE INSTALLED IN A CURVING PATTERN TO FACILITATE MAINTENANCE BUT AVOID A GRID APPEARANCE. EACH SPECIES OF TREE SHALL BE DISTRIBUTED EVENLY WITHIN EACH FOREST CONSERVATION EASEMENT AREA.
  - THE FOREST CONSERVATION EASEMENT SHALL BE RECORDED (ON THE CORRESPONDING PLAT FOR F-17-077) TO FULFILL THE REQUIREMENTS OF SECTION 16.200 OF THE HOWARD COUNTY CODE AND THE FOREST CONSERVATION MANUAL. 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 PROPOSED DEVELOPMENT OF SITE ANTICIPATES CLEARING WELL BELOW THE REFORESTATION THRESHOLD IN ORDER TO MAXIMIZE THE CREDITED FOREST RETENTION ACREAGE WELL ABOVE THE BREAK EVEN POINT TO CREATE A FOREST BANK. NO FORESTATION PLANTING IS REQUIRED AS THERE IS EXCESS CREDITED FOREST RETENTION.

### FOREST CONSERVATION OBLIGATION SUMMARY

THE FOREST CONSERVATION REQUIREMENTS OF SECTION 16.200 OF THE HOWARD COUNTY CODE AND THE FOREST CONSERVATION MANUAL FOR THIS SUBDIVISION (ESTATES AT SCHOOLEY MILL) ARE MET BY THE CREATION OF ONE (1) FOREST CONSERVATION EASEMENT THAT CONTAINS MORE THAN THE BREAK-EVEN POINT MINIMUM ACREAGE FOR CREDITED RETENTION.

THE MAXIMUM CLEARING AREA AT THE BREAK-EVEN POINT IS 12,434 ACRES AND THE PROPOSED CLEARING AREA FOR THIS DEVELOPMENT IS LESS THAN THAT AMOUNT. THE MINIMUM CREDITED RETENTION AREA AT THE BREAK-EVEN POINT IS 13,183 ACRES AND THE PROPOSED CREDITED RETENTION AREA WITHIN THE FCE IS MORE THAN 20 ACRES. THEREFORE, AN EXCESS OF CREDITED RETENTION ACREAGE IS AVAILABLE FOR BANKING.

### FOREST BANK TRACKING CHART

DPZ File No.	PROJECT NAME	DEBIT TO CONSERVATION BANK AREA		REMAINING AREA in
		Amount Used	At Project Name & DPZ File No.	
F-17-077	Estates at Schooley Mill	n/a	n/a	6,864 Ac.
OPP-21-092B	Enclave at Hines Farm	1.00 ac	65M (F-17-077, this plan)	5,864 Ac.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Michael B. Tran* 8/22/2017  
 Chief, Bureau of Highways

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
*Kathleen* 9-15-17  
 Chief, Division of Land Development

*Phil* 9-11-17  
 Chief, Development Engineering Division

**GLWGUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
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 BURTNSVILLE, MARYLAND 20866  
 TEL: 301-421-4024 FAX: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

NOTE: HOUSES & DRIVEWAYS SHOWN ARE FOR CONCEPTUAL PURPOSES ONLY AND CANNOT BE CONSTRUCTED PER THIS PLAN. SET, FUTURE PLOT PLANS AND GRADING PLANS ARE REQUIRED FOR HOUSE CONSTRUCTION.

DATE	REVISION	BY	APP'R
4-2011	Revise Forest Bank tracking chart to debit opp-21-092B	kjp	

OWNER: THE WILBUR AND EVELYN HINKLE FAMILY LIMITED PARTNERSHIP  
 3067 SHORECREST BAY DR MURRELLS INLET, SC 29576  
 ATTN: BARBARA DAWSON

DEVELOPER: WILLIAMSBURG GROUP, LLC  
 5485 HARRERS FARM RD SUITE 200 COLUMBIA, MD 21044  
 ATTN: BOB CORBETT 410-997-8800

STATE OF MARYLAND  
**Michael B. Tran**  
 ARCHITECT  
 833 LINDSCAPE ARCHITECT  
 8-3-17

### FOREST CONSERVATION ACREAGE TABULATION

Forest Conservation Easement No.	Credited Forest Retention (Acreage outside the 100-yr floodplain)	Non-credited Forest Retention Acreage (Within the 100-yr floodplain and irregular pockets of natural regeneration between a straight FCE line segment and a sinuous forest retention edge)	Reforestation Planting	Total Acreage of Conservation Easement
1	20,047	3,070 (in floodplain) 0.323 (Nat. Regen.)	0.00	23,440
<b>TOTAL PROVIDED</b>	<b>20,047</b>	<b>3,070</b>	<b>0.00</b>	<b>23,440</b>
<b>TOTAL REQUIRED</b>	<b>13,183 (at Break-even Point)</b>	n/a	<b>0.00</b>	<b>0.00</b>
<b>EXCESS AVAILABLE (to be banked)</b>	<b>6,864</b>	n/a	<b>0.00</b>	<b>0.00</b>

### FOREST CONSERVATION OVERVIEW

**ESTATES AT SCHOOLEY MILL**  
 LOTS 1-9, Buildable Preservation Parcel 'A', & Non-Buildable Preservation Parcels 'B' & 'C' and FOREST CONSERVATION BANK  
 TAX PARCEL 93 LIBER 4637 FOLIO 68

SCALE: 1"=100' ZONING: RR-DEO G. L. W. FILE No.: 14067  
 DATE: AUG, 2017 TAX MAP - GRID: 40 -11 SHEET: 17 OF 20  
 ELECTION DISTRICT No. 5 HOWARD COUNTY, MARYLAND

### NARRATIVE

THIS PROPOSED SUBDIVISION IS FOR 9 LOTS AND A BUILDABLE PRESERVATION PARCEL 'A'. THE TEN (10) BUILDABLE PROPERTIES ARE LOCATED PREDOMINATELY IN THE PART OF THE SITE THAT'S NOT FORESTED. FOREST CLEARING IS ABOVE THE REFORESTATION THRESHOLD IN ORDER TO MAXIMIZE (WELL ABOVE THE BREAK-EVEN POINT) THE FOREST RETENTION AREA WHICH CONTAINS ALL THE HIGH PRIORITY AREAS (A FLOODPLAIN, STREAM, WETLANDS AND THEIR BUFFERS). A FOREST BANK IS CREATED FOR THE EXCESS CREDITED FOREST RETENTION ACREAGE ON PRESERVATION PARCEL 'B'. NO FORESTATION PLANTING IS REQUIRED.



**FOREST RETENTION:**  
 3.070 Ac. (Non-credited portion within the floodplain)  
 20.047 Ac. (Credited Net Tract Portion, outside the floodplain)  
 23.117 Ac. Total

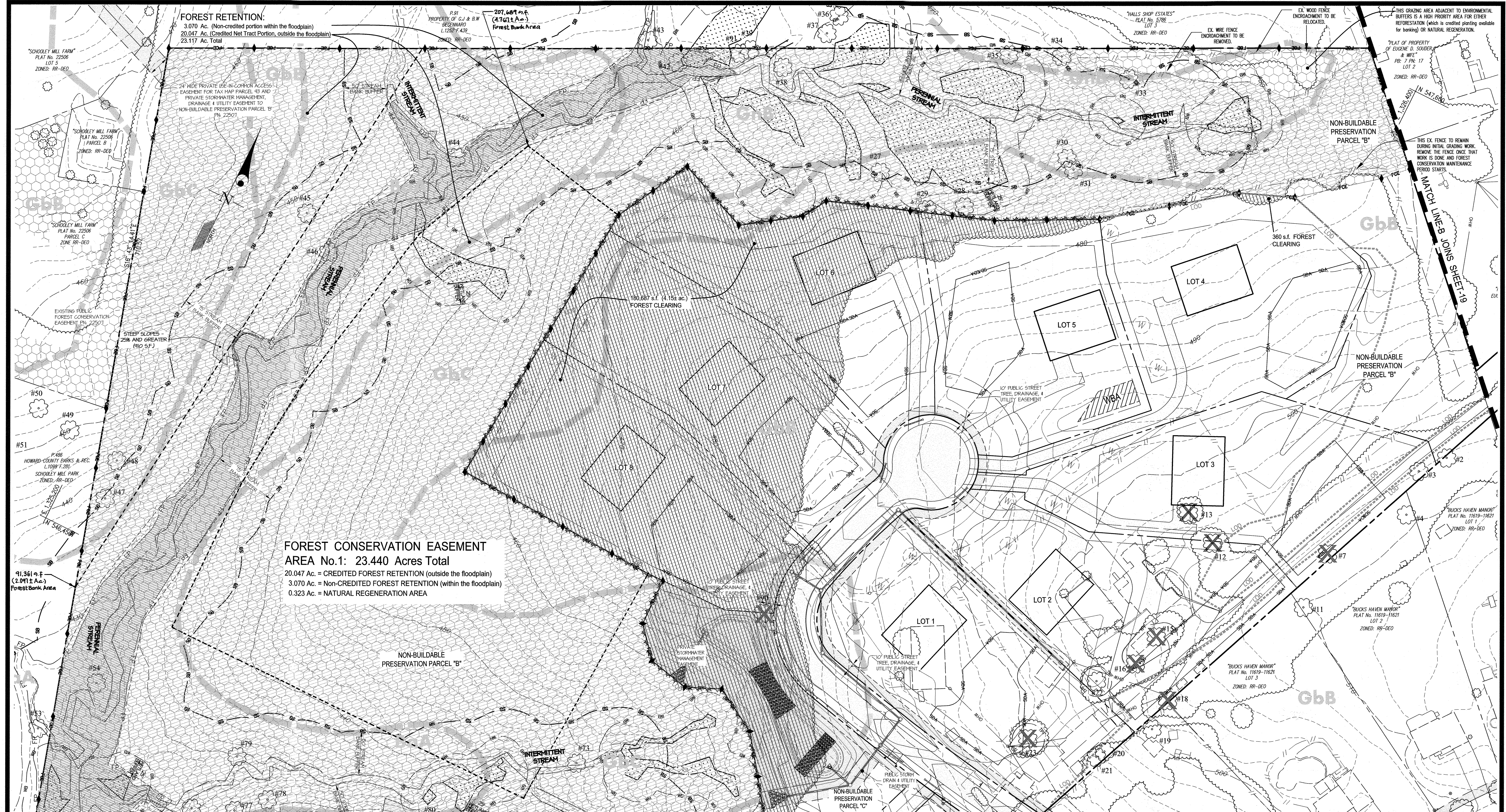
24' WIDE PRIVATE USE-IN-COMMON ACCESS EASEMENT FOR TAX MAP PARCEL 43 AND PRIVATE OVERWATER MANAGEMENT, DRAINAGE & UTILITY EASEMENT TO NON-BUILDABLE PRESERVATION PARCEL 'B' P.N. 22507

**FOREST CONSERVATION EASEMENT AREA No.1: 23.440 Acres Total**  
 20.047 Ac. = CREDITED FOREST RETENTION (outside the floodplain)  
 3.070 Ac. = Non-CREDITED FOREST RETENTION (within the floodplain)  
 0.323 Ac. = NATURAL REGENERATION AREA

NON-BUILDABLE PRESERVATION PARCEL 'B'

STEEP SLOPES 25% AND GREATER (1/40 S.F.)

GRAPHIC SCALE



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 Chief, Bureau of Highways  
 Date: 9-15-17

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
 Chief, Division of Land Development  
 Date: 9-11-17

NOTE: HOUSES & DRIVEWAYS SHOWN ARE FOR CONCEPTUAL PURPOSES ONLY AND CANNOT BE CONSTRUCTED FOR THIS PLAN SET. FUTURE PLOT PLANS AND GRADING PLANS ARE REQUIRED FOR HOUSE CONSTRUCTION.

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DATE	REVISION	BY	APP'R.

**OWNER:**  
 THE WILBUR AND EVELYN HINKLE FAMILY LIMITED PARTNERSHIP  
 3067 SHORECREST BAY DR MURRELLS INLET, SC 29576  
 ATTN: BARBARA DAWSON

**DEVELOPER:**  
 WILLIAMSBURG GROUP, LLC  
 5485 HARRERS FARM RD SUITE 200  
 COLUMBIA, MD 21044  
 ATTN: BOB CORBETT  
 410-997-8800

**FOREST CONSERVATION PLAN**  
**ESTATES AT SCHOOLEY MILL**  
**LOTS 1-9, Buildable Preservation Parcel 'A', & Non-Buildable Preservation Parcels 'B' & 'C' and FOREST CONSERVATION BANK**  
 TAX PARCEL 93  
 LIBER 4637 FOLIO 68

SCALE: 1"=50'  
 ZONING: RR-DEO  
 G. L. W. FILE No. 14067  
 DATE: AUG, 2017  
 TAX MAP - GRID: 40-11  
 SHEET: 18 OF 20

STATE OF MARYLAND  
 Michael B. Tran  
 933  
 JUDGE OF THE COURT

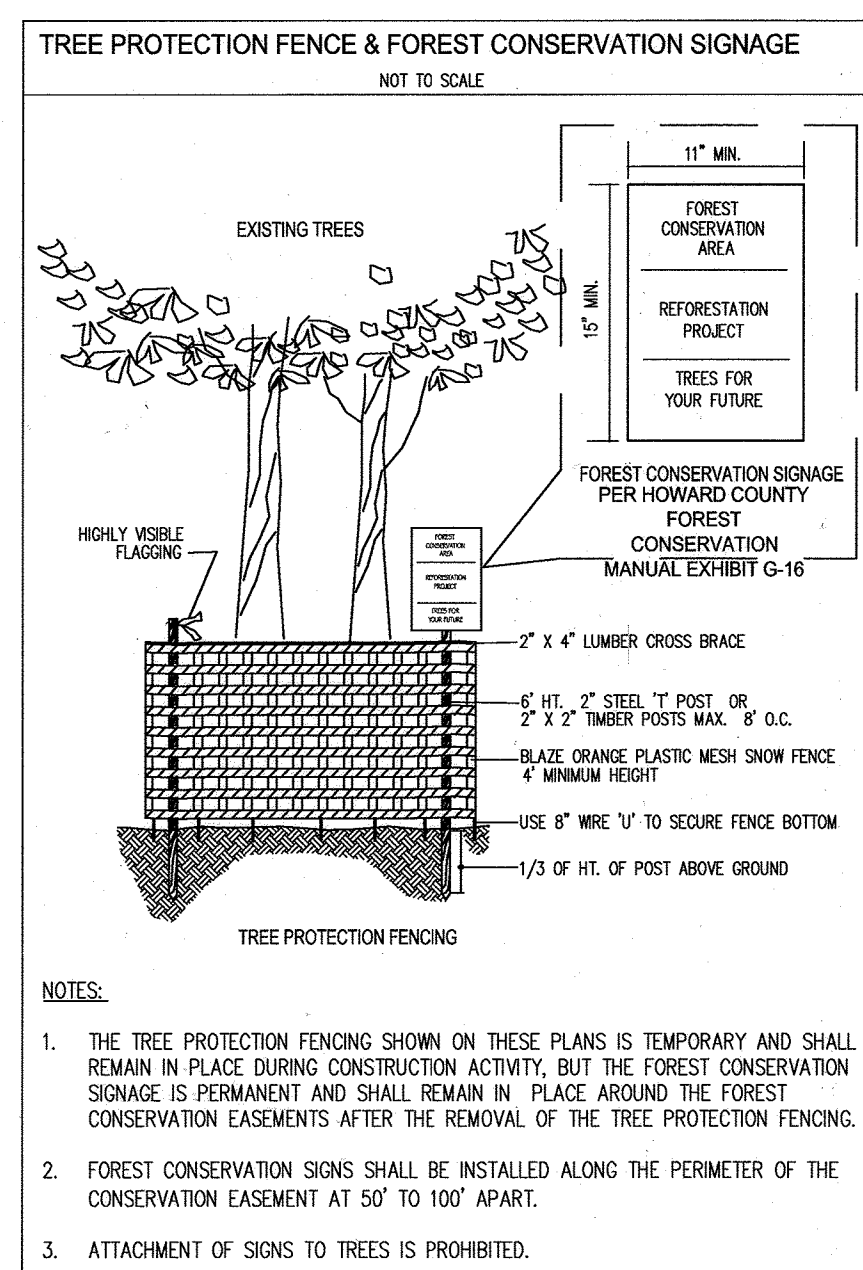






FOREST STAND ANALYSIS TABLE  
Project Name: Highland Meadows

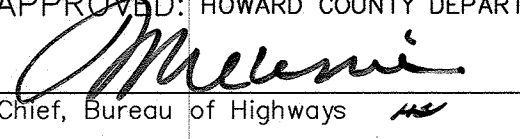
KEY	(A) TYPE OF COMMUNITY	(B) AREA*	(C) SOIL TYPES		(D) EXISTING VEGETATION (Dominant Species and Approx. %)	(E) STAND CHARACTERISTICS			(F) FOREST AREA IN SENSITIVE ENVIRONMENTS* (Acres)
			1. Soil Types	2. Typical forest cover for soil type		1. Size (DIA)	2. Age	3. General Conditions	
F1	Tulip Poplar Red Oak	15.48 acres	BoA Co GBC GB MoD	[This information is not available with the updated soil survey]	[This information is not available with the updated soil survey]	[This information is not available with the updated soil survey]	Canopy: Tulip Poplar (40%) Red Maple (20%) Oak (20%) Understory: Red Maple (20%) American Beech (20%) Herbaceous: Wild Onion (10%) English Ivy (10%) Japanese honeysuckle (40%) Greenbriar (20%) Stilt Grass (5%)	18'-40" 40-60 yrs Good -some invasive species -several fallen trees and limbs	steep slopes: 0.13 ac. wetlands: 0.12 ac. wetland buffers: 0.24 ac. 100-yr floodplain: 2.41 ac. stream buffers: 10.14 ac.
F2	Tulip Poplar Red Maple American Beech	11.27 acres	BoA GBC GB	[This information is not available with the updated soil survey]	[This information is not available with the updated soil survey]	[This information is not available with the updated soil survey]	Canopy: Tulip Poplar (50%) American Beech (40%) Understory: Red Maple (30%) Spikebush (10%) Black Cherry (10%) American Holly (5%) Herbaceous: Wild Onion (20%) Blackberry (5%) Japanese honeysuckle (25%) Greenbriar (20%) Stilt Grass (5%)	2'-12" 0-20 yrs Good -several fallen trees and limbs -dominated by early successional species	steep slopes: 0.00 ac. wetlands: 0.10 ac. wetland buffers: 0.22 ac. 100-yr floodplain: 0.41 ac. stream buffers: 3.34 ac.
F3	Tulip Poplar White Pine	2.05 acres	BoA Co GBC MoD	[This information is not available with the updated soil survey]	[This information is not available with the updated soil survey]	[This information is not available with the updated soil survey]	Canopy: Tulip Poplar (50%) Red Maple (30%) Understory: Spikebush (5%) Herbaceous: Whiteberry (5%) Blackberry (5%) Japanese honeysuckle (5%) Greenbriar (5%) Stilt Grass (40%)	12'-30" 25 - 40 yrs Fair -Some invasive species -dominated by early successional species	steep slopes: 0.13 ac. wetlands: 0.10 ac. wetland buffers: 0.24 ac. 100-yr floodplain: 0.13 ac. stream buffers: 1.43 ac.

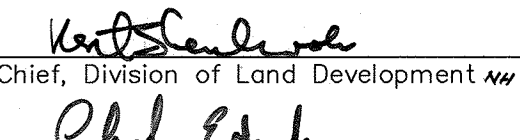



SIGNIFICANT SPECIMEN TREE LIST

No.	Common Name	Species Name	DIA (in)	Condition
2	Red Oak	Quercus rubra	32	Good - TO BE SAVED
3	Red Oak	Quercus rubra	35	Good - TO BE SAVED
4	Tulip Poplar	Liriodendron tulipifera	30	Good - TO BE SAVED
7	Red Oak	Quercus rubra	31	Poor - TO BE REMOVED
11	Tulip Poplar	Liriodendron tulipifera	31	Good - TO BE SAVED
12	Black Walnut	Juglans nigra	30	Good - TO BE SAVED
13	Black Walnut	Juglans nigra	36	Good - TO BE SAVED
15	Norway Spruce	Acacia pycnantha	36	Good - TO BE SAVED
16	White Pine	Pinus strobus	32	Good - TO BE SAVED
18	Red Oak	Quercus rubra	30	Good - TO BE SAVED
19	Red Oak	Quercus rubra	36	Good - TO BE SAVED
20	Red Oak	Quercus rubra	34	Good - TO BE SAVED
21	Hickory	Carya tomentosa	31	Good - TO BE SAVED
22	Black Walnut	Juglans nigra	31	Good - TO BE SAVED
23	Black Walnut	Juglans nigra	42	Good - TO BE REMOVED
25	Pin Oak	Quercus palustris	31	Good - TO BE REMOVED
26	Tulip Poplar	Liriodendron tulipifera	36, 30, 18	Poor - TO BE REMOVED
27	Tulip Poplar	Liriodendron tulipifera	31	Good - TO BE SAVED
29	Tulip Poplar	Liriodendron tulipifera	34	Good - TO BE SAVED
30	Tulip Poplar	Liriodendron tulipifera	31	Good - TO BE SAVED
31	Tulip Poplar	Liriodendron tulipifera	32	Good - TO BE SAVED
33	Tulip Poplar	Liriodendron tulipifera	35	Good - TO BE SAVED
34	Tulip Poplar	Liriodendron tulipifera	46	Good - TO BE SAVED
35	Tulip Poplar	Liriodendron tulipifera	34	Good - TO BE SAVED
36	Tulip Poplar	Liriodendron tulipifera	38	Good - TO BE SAVED
37	Red Maple	Acer rubrum	32	Good - TO BE SAVED
38	Tulip Poplar	Liriodendron tulipifera	34	Good - TO BE SAVED
39	Tulip Poplar	Liriodendron tulipifera	30	Good - TO BE SAVED
40	Tulip Poplar	Liriodendron tulipifera	36	Good - TO BE SAVED
41	Red Oak	Quercus rubra	31	Good - TO BE SAVED
42	Tulip Poplar	Liriodendron tulipifera	42	Good - TO BE SAVED
43	Tulip Poplar	Liriodendron tulipifera	36	Good - TO BE SAVED
44	Tulip Poplar	Liriodendron tulipifera	43	Fair
45	Tulip Poplar	Liriodendron tulipifera	42	Good - TO BE SAVED
46	Tulip Poplar	Liriodendron tulipifera	42	Good - TO BE SAVED
47	Tulip Poplar	Liriodendron tulipifera	41	Good - TO BE SAVED
48	Tulip Poplar	Liriodendron tulipifera	30	Good - TO BE SAVED
49	Tulip Poplar	Liriodendron tulipifera	44	Good - TO BE SAVED
50	Red Oak	Quercus rubra	32	Fair - Crown damage
51	Tulip Poplar	Liriodendron tulipifera	41	Good - TO BE SAVED
52	Tulip Poplar	Liriodendron tulipifera	30	Good - TO BE SAVED
53	Red Oak	Quercus rubra	30	Fair - Crown damage
54	Tulip Poplar	Liriodendron tulipifera	30	Good - TO BE SAVED
55	Tulip Poplar	Liriodendron tulipifera	34	Good - TO BE SAVED
56	Tulip Poplar	Liriodendron tulipifera	31	Good - TO BE SAVED
57	Tulip Poplar	Liriodendron tulipifera	31	Good - TO BE SAVED
58	Tulip Poplar	Liriodendron tulipifera	33	Good - TO BE SAVED
59	Tulip Poplar	Liriodendron tulipifera	33	Good - TO BE SAVED
60	White Pine	Pinus strobus	33	Good - TO BE SAVED
61	White Pine	Pinus strobus	32	Good - TO BE SAVED
62	Tulip Poplar	Liriodendron tulipifera	34	Good - TO BE SAVED
63	Southern Red Oak	Quercus falcata	49	Good - TO BE SAVED
64	Tulip Poplar	Liriodendron tulipifera	31	Good - TO BE REMOVED
65	Red Maple	Acer rubrum	30	Good - TO BE SAVED
66	Red Maple	Acer rubrum	36	Good - TO BE SAVED
67	Tulip Poplar	Liriodendron tulipifera	30	Good - TO BE SAVED
68	Tulip Poplar	Liriodendron tulipifera	30	Good - TO BE SAVED
69	American Beech	Fagus grandifolia	34	Good - TO BE SAVED
70	Pin Oak	Quercus palustris	30	Good - TO BE SAVED
71	Pin Oak	Quercus palustris	31	Good - TO BE SAVED
72	Tulip Poplar	Liriodendron tulipifera	31	Good - TO BE SAVED
73	Tulip Poplar	Liriodendron tulipifera	43	Good - TO BE SAVED
74	Tulip Poplar	Liriodendron tulipifera	34	Good - TO BE SAVED
75	Tulip Poplar	Liriodendron tulipifera	31	Good - TO BE SAVED
76	Tulip Poplar	Liriodendron tulipifera	31	Good - TO BE SAVED
77	Tulip Poplar	Liriodendron tulipifera	31	Good - TO BE SAVED
78	Tulip Poplar	Liriodendron tulipifera	31	Good - TO BE SAVED
79	Tulip Poplar	Liriodendron tulipifera	31	Good - TO BE SAVED
80	Tulip Poplar	Liriodendron tulipifera	43	Good - TO BE SAVED
81	Tulip Poplar	Liriodendron tulipifera	34	Good - TO BE SAVED
82	Tulip Poplar	Liriodendron tulipifera	31	Good - TO BE SAVED
83	Tulip Poplar	Liriodendron tulipifera	32	Good - TO BE SAVED
84	Tulip Poplar	Liriodendron tulipifera	37	Good - TO BE SAVED
85	Tulip Poplar	Liriodendron tulipifera	39	Good - TO BE SAVED
86	Tulip Poplar	Liriodendron tulipifera	46	Good - TO BE SAVED
87	Tulip Poplar	Liriodendron tulipifera	46	Good - TO BE SAVED
88	Tulip Poplar	Liriodendron tulipifera	33	Good - TO BE SAVED
89	Tulip Poplar	Liriodendron tulipifera	32	Good - TO BE SAVED
90	Tulip Poplar	Liriodendron tulipifera	36	Good - TO BE SAVED
91	Tulip Poplar	Liriodendron tulipifera	32	Good - TO BE SAVED

SEE WP-16-127 AND WP-17-123 FOR THE REMOVAL OF THE TWELVE (12) TREES IN THE ABOVE LIST.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 8/22/2017  
 Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
 9-16-17  
 Chief, Division of Land Development Date

 9-11-17  
 Chief, Development Engineering Division Date

**GLWGUTSCHICK LITTLE & WEBER, P.A.**  
 CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS  
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L:\CAD\DRAWINGS\4067\PLANS BY GLW\Final\4067 - FDP.dwg DES. mbt DRN. kip CHK.

DATE	REVISION	BY	APP'R.

OWNER: THE WILBUR AND EVELYN HINKLE FAMILY LIMITED PARTNERSHIP 3067 SHORECREST BAY DR MURRELLS INLET, SC 29576 ATTN: BARBARA DAWSON

DEVELOPER: WILLIAMSBURG GROUP, LLC 5485 HARRERS FARM RD SUITE 200 COLUMBIA, MD 21044 ATTN: BOB CORBETT 410-997-8800

FOREST CONSERVATION CHARTS, NOTES & DETAILS		
SCALE 1"=50'	ZONING RR-DEO	G. L. W. FILE No. 14067
DATE AUG, 2017	TAX MAP - GRID 40 -11	SHEET 20 OF 20
ESTATES AT SCHOOLEY PEARL LOTS 1-9, Buildable Preservation Parcel 'A', & Non-Buildable Preservation Parcels 'B' & 'C' and FOREST CONSERVATION BANK TAX PARCEL 93 LIBER 4637 FOLIO 68		
ELECTION DISTRICT No. 5		

FOREST CONSERVATION PROGRAM SEQUENCE

- OBTAIN ALL NECESSARY PERMITS.
- STAKEOUT LIMITS OF DISTURBANCE.
- FIELD MEETING TO REVIEW AND VERIFY LIMIT OF DISTURBANCE FOR THE SITE GRADING AND CONSTRUCTION.
- INSTALL FOREST CONSERVATION SIGNS AND FOREST PROTECTION DEVICES (FENCES) ALONG THE PORTION OF THE LIMIT OF DISTURBANCE (THAT INVOLVES CLEARING AND/OR RETENTION OF TREES).
- COMMENCE SITE CONSTRUCTION.
- PREPARE SITE SOIL BY MULCHING AND REMOVAL OF TRASH AND WEEDS INCLUDING AN APPLICATION OF HERBICIDES TO CONTROL NOXIOUS WEEDS AND INVASIVE SPECIES.
- INSTALL FOREST PLANTING (WHERE APPLICABLE) AND THE REMAINDER OF THE CONSERVATION SIGNS ALONG THE EDGE OF THE CONSERVATION EASEMENT. MOVE CONSERVATION SIGNS INSTALLED IN #4 (ABOVE) TO THE EDGE OF THE CONSERVATION EASEMENT.
- INSPECTION AND CERTIFICATION FOR THE RELEASE OF THE CONSTRUCTION PERIOD OBLIGATIONS; START OF POST-CONSTRUCTION MANAGEMENT PERIOD.
- POST-CONSTRUCTION MANAGEMENT FOR A PERIOD OF 2 YEARS (MIN.).
- FINAL INSPECTION AND CERTIFICATION FOR THE RELEASE OF THE OWNER'S FOREST CONSERVATION SURETY.

CONSTRUCTION PERIOD PROTECTION PROGRAM

- THE LIMIT OF FOREST RETENTION SHALL BE STAKED AND FLAGGED.
- A PRE-CONSTRUCTION MEETING AT THE SITE SHOULD BE HELD TO CONFIRM THE LIMITS OF CLEARING SPECIFIED. THE MEETING SHOULD INCLUDE THE OWNER OR THE OWNER'S REPRESENTATIVE, THE ON-SITE FOREMAN IN CHARGE OF LAND DISTURBANCE, THE ENVIRONMENTAL CONSULTANT AND THE APPROPRIATE HOWARD COUNTY INSPECTORS.
- FOREST PROTECTION DEVICES AND SIGNS (SEE DETAILS) SHALL BE INSTALLED PRIOR TO ANY CLEARING OR GRADING. THE PROTECTION DEVICES AND SIGNS SHALL BE MAINTAINED DURING THE ENTIRE CONSTRUCTION PERIOD. NONE OF THE DEVICES SHALL BE ANCHORED OR ATTACHED IN ANY WAY TO THE TREES TO BE SAVED.
- EQUIPMENT, VEHICLES AND BUILDING MATERIALS SHALL NOT BE WITHIN THE PROTECTED AREA. ACTIVITIES STRICTLY TO IMPLEMENT ANY REFORESTATION PLANTING AND MAINTENANCE (I.E. WATERING, FERTILIZING, TRIMMING, PRUNING, REMOVAL OF DEAD AND DISEASED TREES WHERE NECESSARY, ETC.) OF THE CONSERVATION AREA ARE PERMITTED. CLEARING FOR THE PURPOSE OF SOILING OR PLANTING GRASS IS NOT PERMITTED WITHIN THE FOREST CONSERVATION AREAS ONCE THEY'RE ESTABLISHED.
- AT THE END OF THE CONSTRUCTION PERIOD, THE DESIGNATED QUALIFIED PROFESSIONAL SHALL CONVEY TO THE ADMINISTRATOR OF THE HOWARD COUNTY FOREST CONSERVATION PROGRAM CERTIFICATION THAT ALL FOREST RETENTION AREAS HAVE BEEN PRESERVED, ALL REFORESTATION AND/OR AFForestation PLANTINGS (IF APPLICABLE) HAVE BEEN INSTALLED AS REQUIRED BY THE FOREST CONSERVATION PLAN, AND THAT ALL PROTECTION MEASURES REQUIRED FOR THE POST-CONSTRUCTION PERIOD HAVE BEEN INSTALLED. UPON REVIEW OF THE FINAL CERTIFICATION DOCUMENT FOR COMPLETENESS AND ACCURACY, THE PROGRAM COORDINATOR WILL NOTIFY THE OWNER OF RELEASE FROM THE CONSTRUCTION PERIOD OBLIGATIONS. THE 2-YEAR (MIN.) POST-CONSTRUCTION MANAGEMENT AND PROTECTION PERIOD THEN COMMENCES.

FOREST CONSERVATION POST-CONSTRUCTION MANAGEMENT PRACTICES

MANY OF THE PROTECTION AND MANAGEMENT PRACTICES FOR THE CONSTRUCTION PERIOD MUST BE CONTINUED FOR AT LEAST 2 GROWING SEASONS FOLLOWING OFFICIAL NOTIFICATION OF COMPLETION OF THE DEVELOPMENT (OR A SPECIFIC PHASE OF THE OVERALL DEVELOPMENT IF PHASING HAS BEEN APPROVED). THE RESPONSIBILITY TO MEET THE SURVIVAL STANDARDS REQUIRES ADEQUATE WATERING, REPLANTING, THINNING OR OTHER APPROPRIATE MEASURES. ALSO, INAPPROPRIATE USES OR INTERFERENCES MUST NOT OCCUR. A RESPONSIBILITY THAT REQUIRES THE KNOWLEDGE AND COOPERATION OF THE NEW OCCUPANTS OF THE DEVELOPMENT.

MINIMUM TWO GROWING SEASON POST-CONSTRUCTION MANAGEMENT PROGRAM

A POST-CONSTRUCTION MANAGEMENT PROGRAM MUST BE APPROVED AS PART OF THE ORIGINAL FOREST CONSERVATION PLAN AND REMAIN IN EFFECT FOR A MINIMUM OF TWO GROWING SEASONS. A LONGER PERIOD MAY BE REQUIRED FOR SPECIFIC SITUATIONS (E.G. NATURAL REGENERATION NEAR HIGH USE AREAS WHOSE LONG-TERM VIABILITY MAY TAKE LONGER TO CONFIRM).

IMPLEMENTATION OF THE POST-CONSTRUCTION MANAGEMENT PROGRAM MUST BE SUPERVISED BY A QUALIFIED PROFESSIONAL WHO SHOULD INSPECT THE STATUS OF ALL FOREST RETENTION, REFORESTATION AND AFForestation AREAS AT SPECIFIC INTERVALS DURING THE LIFE OF THE POST-CONSTRUCTION AGREEMENT AND WHO MUST CERTIFY THAT THE REQUIRED SURVIVAL RATES HAVE BEEN ACHIEVED IN ACCORDANCE WITH THE AGREEMENT PRIOR TO RELEASE OF BONDS.

THERE ARE FIVE PRIMARY COMPONENTS OF THE POST-CONSTRUCTION PROGRAM: INSPECTION, MANAGEMENT OF RETAINED OR NEW PLANTINGS, REPLACEMENT OF DEAD OR DAMAGED MATERIAL WHEN NECESSARY, EDUCATION OF NEW OCCUPANTS OF THE DEVELOPMENT AND FINAL INSPECTION AND RELEASE OF DEVELOPER FROM ADDITIONAL RESPONSIBILITIES.

INSPECTION

INSPECTIONS SHOULD BE CARRIED OUT AT THE BEGINNING AND END OF THE GROWING SEASON TO PINPOINT ANY PROBLEMS, MONITOR SURVIVAL RATES, AND SPECIFY REMEDIAL ACTIONS NEEDED TO CORRECT EXISTING PROBLEMS. APPENDIX J HAS AN EXAMPLE OF AN INSPECTION REPORT CHECKLIST.

MANAGEMENT OF FOREST CONSERVATION AREAS

POST CONSTRUCTION MANAGEMENT INCLUDES: MAINTENANCE OF ALL FENCES, SIGNS OR OTHER DEVICES DELINEATING FOREST CONSERVATION AREAS AND OTHER MEASURES. SUCH OTHER MEASURES INCLUDE: NEEDED WATERING; REMOVAL OF DEAD OR DAMAGED MATERIAL AND CONTROL OF UNDESIRABLE COMPETING SPECIES; TRIMMING OR PRUNING TO ENCOURAGE PROPER GROWTH; FERTILIZING, IF NECESSARY; AND CONTROL OF PESTS. SPECIFIC PRACTICES WILL DEPEND ON THE WEATHER PREVAILING DURING THE POST CONSTRUCTION PERIOD, THE TYPES OF PLANT MATERIAL AND PLANTING METHODS USED, AND SPECIFIC SITE CONDITIONS SUCH AS PROXIMITY TO HIGH USE AREAS. IT IS THE RESPONSIBILITY OF THE POST-CONSTRUCTION PLAN SUPERVISOR TO TAKE APPROPRIATE ACTIONS AS NEEDED. THIS MANUAL THEREFORE DOES NOT GIVE REQUIRED MEASURES. SURVIVAL SUCCESS, NOT FULFILLMENT OF A GIVEN SERIES OF ACTIONS, WILL BE THE MEASURE OF CONFORMANCE TO THE NEEDS OF THE POST-CONSTRUCTION PROGRAM.

NEWLY PLANTED TREES, WHETHER THEY ARE SEEDLINGS OR 4" CALIPER TRANSPLANTS, HAVE BASIC NEEDS. SOME OF THESE NEEDS CAN BE MET BY NATURE ALONE; OTHERS MAY REQUIRE HUMAN INTERVENTION (THE THREE MOST LIKELY CAUSES OF DEATH FOR NEWLY PLANTED TREES ARE DROUGHT, COMPETING VEGETATION AND BEER). THE BASIC MAINTENANCE REGIME SHOULD BE DETERMINED BY ON-SITE ENVIRONMENTAL CONDITIONS, STRUCTURE AND NUTRIENT CONTENT OF SOIL, AND RAINFALL. UNDERSTANDING THESE FACTORS AND THE SPECIFIC NEEDS OF THE SPECIES AND SIZE OF PLANTS USED WILL RESULT IN A HEALTHY FORESTED AREA AT THE END OF THE MAINTENANCE PERIOD. APPENDIX H CONTAINS GUIDELINE SPECIFICATIONS FOR MAINTENANCE OF FOREST CONSERVATION AREAS AND FOCUSES ON THE FOLLOWING CRITICAL NEEDS:

- WATERING
- FERTILIZING
- CONTROL OF COMPETING VEGETATION
- PROTECTION FROM PESTS, DISEASES AND MECHANICAL INJURY.

REPLACEMENT OF PLANT MATERIAL

AN INSPECTION SHALL TAKE PLACE AT THE END OF YEAR ONE OR BEFORE THE SECOND GROWING SEASON TO EVALUATE SURVIVAL RATES WITH REFERENCE TO THE SURVIVAL REQUIRED AT THE END OF THE TWO YEAR PERIOD. THIS IS AN OPPORTUNITY TO AVOID THE PENALTY FOR VIOLATING SURVIVAL RATE STANDARDS. THIS INSPECTION SHOULD ESTIMATE SURVIVAL POTENTIAL BASED ON THE FOLLOWING: MORTALITY AND THREAT OF COMPETING VEGETATION (I.E. IF SEEDLINGS ARE FREE TO GROW)

- STRUCTURE
- GROWTH
- CROWN DEVELOPMENT
- TRUNK HEALTH

IF, AFTER ONE YEAR, THE POSSIBILITY EXISTS THAT THE ORIGINAL PLANTING WILL NOT MEET SURVIVAL STANDARDS, THE APPLICANT MAY CHOOSE TO ESTABLISH REINFORCEMENT PLANTINGS. IF PLANT MORTALITY OF REFORESTATION OR AFForestation EXCEEDS 10% OF PLANTED MATERIAL AT THE END OF THE FIRST GROWING SEASON, SUCH MATERIAL SHOULD BE REPLACED TO BRING THE TOTAL NUMBER OF TREES TO 90% OF THE ORIGINAL TOTAL. SUCH MATERIAL SHALL BE INSTALLED BY THE BEGINNING OF THE SECOND GROWING SEASON. IF AT THE END OF THE SECOND GROWING SEASON, SURVIVAL RATE DROPS BELOW 75%, SUCH MATERIAL IS NEEDED TO GUARANTEE AN 75% SURVIVAL RATE BY THE END OF THE THIRD GROWING SEASON SHALL BE INSTALLED.

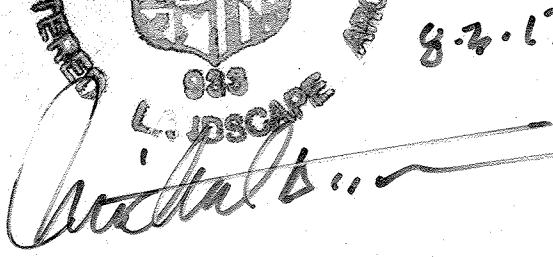
EDUCATION OF NEW OCCUPANTS

THE OCCUPANTS OF A NEW DEVELOPMENT, WHETHER OWNERS OR TENANTS, MUST AVOID ACTIVITIES THAT DESTROY OR DEGRADE PROTECTED FOREST RESOURCES. THE POST-CONSTRUCTION MANAGEMENT PROGRAM MUST THEREFORE INCLUDE STEPS TO EDUCATE THE NEW OCCUPANTS ABOUT THE PROPER USE OF FOREST CONSERVATION AREAS, ABOUT THE NEED FOR THE DEVELOPER TO CARRY OUT THE POSTCONSTRUCTION MANAGEMENT PROGRAM, AND THE EVENTUAL TRANSFER OF LONG-TERM RESPONSIBILITIES TO THE OWNERS OR OCCUPANTS. SUCH EDUCATIONAL MATERIAL SHOULD INCLUDE A PLAN LOCATING ALL PROTECTED AREAS ON THE SITE AND A DESCRIPTION OF PERMITTED AND PROHIBITED ACTIVITIES WITHIN OR AFFECTING SUCH AREAS. THE FORMAT AND METHOD OF CONVEYING SUCH INFORMATION IS LEFT TO THE DISCRETION OF THE DEVELOPER.

FINAL INSPECTION AND RELEASE OF OBLIGATIONS

AT THE END OF THE POST-CONSTRUCTION MANAGEMENT AND PROTECTION PERIOD, THE DESIGNATED RESPONSIBLE PROFESSIONAL SHALL CONVEY TO THE DEPARTMENT OF PLANNING AND ZONING CERTIFICATION THAT ALL FOREST CONSERVATION AREAS HAVE REMAINED INTACT OR HAVE BEEN RESTORED TO THE APPROPRIATE CONDITION, THAT THE STIPULATED SURVIVAL RATES HAVE BEEN ACHIEVED, AND THAT ANY PERMANENT PROTECTION MEASURES REQUIRED BY THE PLAN ARE IN PLACE. APPENDIX J CONTAINS A SAMPLE FORMAT FOR SUCH CERTIFICATION.

UPON REVIEW OF THE FINAL CERTIFICATION DOCUMENT FOR COMPLETENESS AND ACCURACY, THE COUNTY WILL NOTIFY THE DEVELOPER OF RELEASE OF SURETY AND ALL FUTURE OBLIGATIONS. THE DEVELOPER'S LAST OFFICIAL RESPONSIBILITY WILL BE TO TRANSMIT A COPY OF THIS NOTIFICATION TO THE OWNER(S) OF THE PROPERTY(IES). SUCH TRANSMITTAL WILL SERVE AS OFFICIAL NOTICE TO OWNERS OF THEIR ASSUMPTION OF FULL RESPONSIBILITY FOR ALL FUTURE FOREST CONSERVATION OBLIGATIONS.

STATE OF MARYLAND  
 METROD B. TRAN  
 8-2-17

NO ASBUILT INFORMATION  
 7/20/21