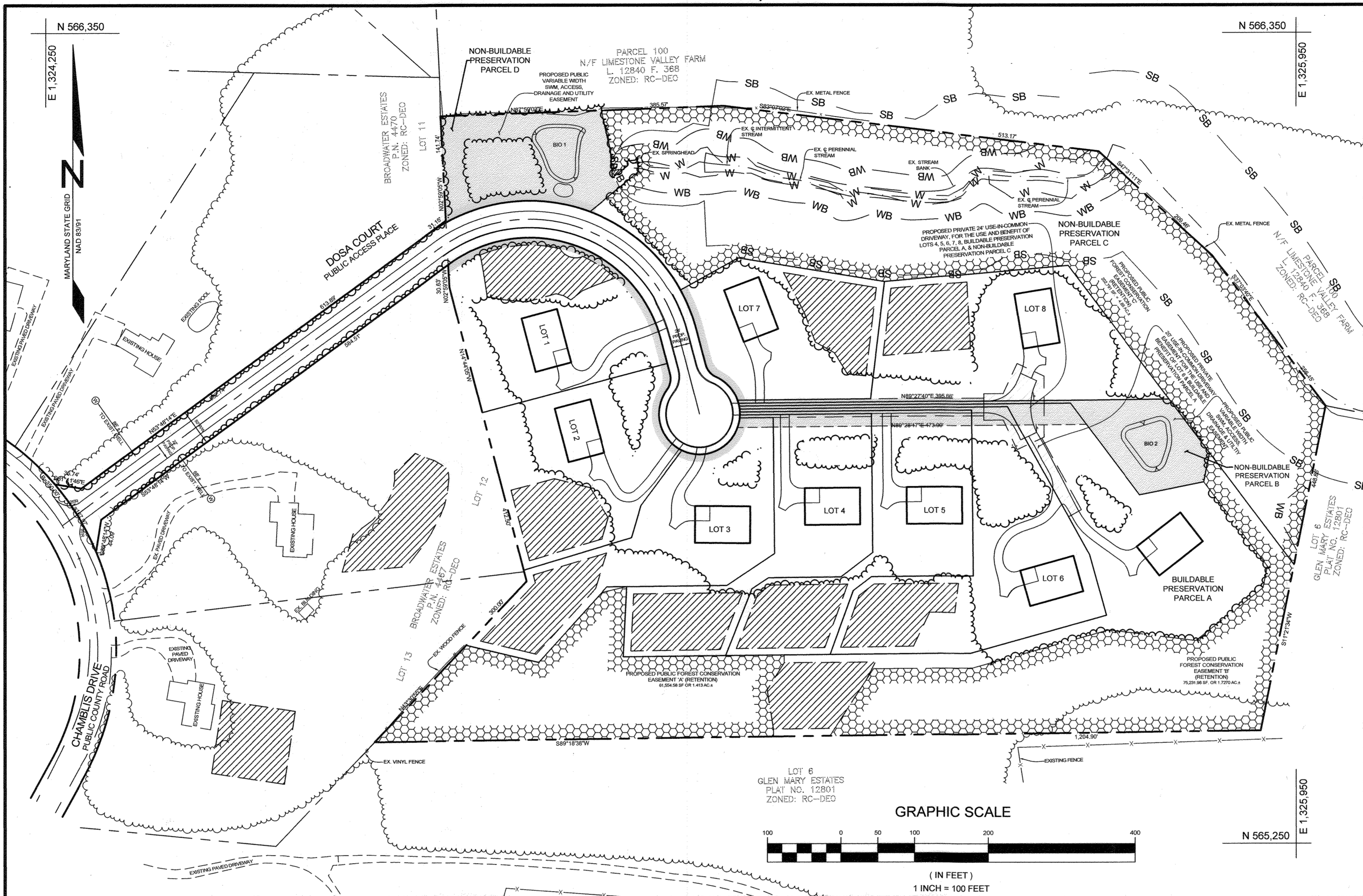
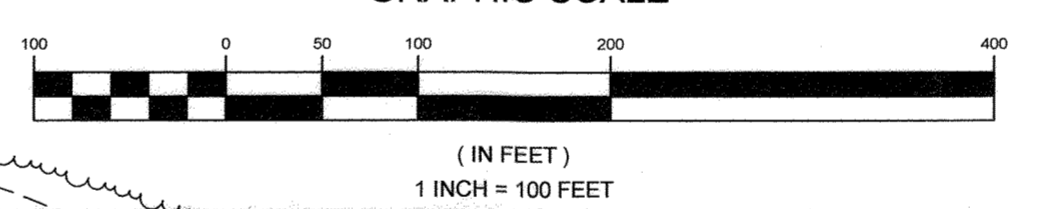


GENERAL NOTES

- SUBJECT PROPERTY ZONED RC-DEC PER 10/09/13 COMPREHENSIVE ZONING PLAN.
- PROPERTY ADDRESS: CHAMBLIS DRIVE, CLARKSVILLE 21029
- TOTAL AREA OF PROPERTY = 21.21 AC.±
- PROPOSED NUMBER OF LOTS = 8
- PROPOSED AREA OF LOTS = 15 AC.±
- PROPOSED NUMBER OF BUILDABLE PRESERVATION PARCEL = 1
- PROPOSED AREA OF BUILDABLE PRESERVATION PARCEL = 4.86 AC.±
- PROPOSED NUMBER OF NON-BUILDABLE PRESERVATION PARCELS = 3
- PROPOSED AREA OF NON-BUILDABLE PRESERVATION PARCEL = 6.38 AC.±
- AREA OF PROPOSED RIGHT OF WAY = 64,078 SF OR 1.47 ACRES.
- PRIVATE WATER AND PRIVATE SEWER WILL BE USED WITHIN THIS SITE.
- THIS AREA DESIGNATES A PRIVATE SEWAGE AREA OF AT LEAST 10,000 SF AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL (COMAR 26.04.03). IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWERAGE IS AVAILABLE. THESE AREAS 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.
- THE BOUNDARY SHOWN HEREON IS BASED ON A FIELD RUN BOUNDARY SURVEY PREPARED BY ADCOCK & ASSOCIATES, LLC ON SEPTEMBER 16, 2014.
- THE TOPOGRAPHY SHOWN HEREON HAS BEEN FIELD RUN BY ADCOCK & ASSOCIATES, LLC ON SEPTEMBER 16, 2014. THE EXISTING TOPOGRAPHY SHOWN OUTSIDE THE SITE IS BASED ON HOWARD COUNTY Aerial TOPOGRAPHY FLOWN IN 2004. REFERENCE: LIBER 16120, FOLIO 209, DATED MARCH 31, 2015.
- PREVIOUS HOWARD COUNTY FILE NUMBERS: RECORD PLAT NO. 5471, F-83-114, ECP-15-032, WP-16-017, WP-17-060, SP-16-008, PB 631 AND WP-16-127.
- THE SOILS SHOWN HAVE BEEN TAKEN FROM THE US DEPARTMENT OF AGRICULTURE, NATURAL RESOURCE CONSERVATION SERVICE, WEB SOIL SURVEY WEBSITE. HOWARD COUNTY SOILS GRID 12, SUB-GRID 205.
- A WETLAND AND STREAM STUDY HAS BEEN PREPARED BY ECO SCIENCE PROFESSIONALS INC. IN NOVEMBER 2014.
- THE LOTS SHOWN HEREON COMPLY WITH THE MINIMUM OWNERSHIP, WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT.
- ALL EXISTING WELLS, SEPTIC SYSTEMS AND SEWAGE DISPOSAL AREAS WITHIN 100 FEET OF THE PROPERTY BOUNDARIES AND ALL EXISTING AND PROPOSED WELLS THAT ARE LOCATED WITHIN 200 FEET DOWN-GRADE OF EXISTING OR PROPOSED SEPTIC SYSTEMS AND SEWAGE DISPOSAL AREAS HAVE BEEN FIELD LOCATED.
- EXISTING UTILITIES ARE LOCATED BY THE USE OF ANY OR ALL OF THE FOLLOWING: ROAD CONSTRUCTION PLANS, FIELD SURVEYS, PUBLIC WATER AND SEWER AVAILABLE RECORD DRAWINGS, APPROXIMATE LOCATIONS OF THE EXISTING UTILITIES ARE SHOWN FOR THE CONTRACTORS INFORMATION. CONTRACTOR SHALL LOCATE EXISTING UTILITIES WELL IN ADVANCE OF CONSTRUCTION ACTIVITIES AND TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO THE CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
- GEOTECHNICAL INFORMATION HAS BEEN TAKEN FROM THE US DEPARTMENT OF AGRICULTURE, NATURAL RESOURCE CONSERVATION SERVICE, WEB SOIL SURVEY WEBSITE AND FIELD INVESTIGATIONS. IF FUTURE INVESTIGATIONS SHOW UNSATISFACTORY SOIL CONDITIONS FOR ANY OF THE STORMWATER MANAGEMENT TREATMENTS SHOWN, EITHER UNDERDRAINS WILL BE PROVIDED OR A DIFFERENT PRACTICE WILL BE SUBSTITUTED.
- STORMWATER MANAGEMENT OBLIGATIONS FOR THIS SITE WILL BE MET BY TWO BIORETENTION FACILITIES (F-6) FOR THE LOTS OWNED AND MAINTAINED BY THE HOME OWNERS ASSOCIATION, AND DRYWELLS (M-5) AND MICRO BIORETENTION (M-6) ON ROADS THAT SHALL BE OWNED AND MAINTAINED BY THE OWNER.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL, WHICH IS BASED ON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NUMBERS 28HC AND 34BA WERE USED FOR THIS PROJECT.
- 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 ALTERNATIVE COMPLIANCE HAVE BEEN APPROVED OR ACTIVITIES HAVE BEEN DETERMINED ESSENTIAL BY THE DEPARTMENT OF PLANNING AND ZONING.
- FOREST CONSERVATION OBLIGATIONS WILL BE FULFILLED BY ON-SITE RETENTION OF 7.8 ACRES AND THE REMAINING OBLIGATION WILL BE FULFILLED BY OFF-SITE PLANTING OF 1.3 ACRE TO A FOREST MITIGATION BANK AT MILLERS MILL, SPD 18-052.
- ALL SWALES TO HAVE EROSION CONTROL MATTING.
- ANY VEGETATION WITHIN AND NEAR TO WELL ZONES OR SEWAGE DISPOSAL AREAS POTENTIALLY COULD BE DAMAGED OR DESTROYED DURING INSTALLATION OF WELLS OR SEPTIC SYSTEMS. ALL SPECIMEN TREES WITHIN OR NEAR SDA OR WELL ZONES HAVE BEEN DESIGNATED FOR REMOVAL AND APPROVED FOR REMOVAL UNDER SP-16-008 AND WP-17-060.
- FUTURE BIORETENTION FACILITIES 2, 3, 4, AND 8 RESPECTIVELY, ARE TO BE WRAPPED IN IMPERMEABLE LINERS.
- FOR FLAG OR PIPESTEM LOT, TUBES COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE ARE PROVIDED TO THE JUNCTION OF THE FLAG OR PIPESTEM AND ROAD RIGHTS-OF-WAY LINE AND NOT ON THE PIPESTEM LOT DRIVEWAY.
- AT LEAST 10% OF THE DWELLINGS SHALL BE MODERATE INCOME HOUSING UNITS OR A FEE-IN-LIEU PAYMENT OPTION IS REQUIRED.
- THE PRESERVATION PARCELS NO LONGER HAVE SUBDIVISION POTENTIAL.
- THIS MAJOR SUBDIVISION WAS BUT IS NO LONGER GRANDFATHERED TO SB-236, THE MARYLAND SUSTAINABLE GROWTH AND AGRICULTURAL PRESERVATION ACT OF 2012 AND IS LOCATED IN THE GROWTH TIER AREA III. THEREFORE, THIS PLAN HAS GONE BEFORE THE PLANNING BOARD AND WAS APPROVED ON OCTOBER 18, 2017, PB431.
- ON DECEMBER 02, 2015 A REQUEST TO WAIVE SECTION 16.120(b)(4)(ii)(B) TO ALLOW A FOREST CONSERVATION EASEMENT ON BUILDABLE PRESERVATION PARCEL 'A', SECTION 16.120(b) TO ALLOW THE WELL ON LOT 3 TO BE LOCATED TEN (10) FEET FROM AN AGRICULTURAL PRESERVATION EASEMENT, SECTION 16.1206(7) & (10) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, TO ALLOW FOR THE REMOVAL OF EIGHTEEN (18) SPECIMEN TREES, WAS APPROVED BY THE DIRECTOR OF PLANNING AND ZONING SUBJECT TO THE FOLLOWING CONDITIONS, REFER TO WAIVER PERMIT WP-16-017.
 - COMPLIANCE WITH THE SUBDIVISION REVIEW COMMITTEE COMMENTS.
 - THE WAIVER PETITION NUMBER AND CONDITIONS OF APPROVAL MUST BE ADDED TO ALL SUBDIVISION PLANS AND FINAL PLAT.
 - THE DEVELOPER SHALL PLANT EIGHTEEN (18) 3" MINIMUM CALIPER NATIVE SHADE TREES IN ADDITION TO THE REQUIRED PERIMETER LANDSCAPING TO MITIGATE THE REMOVAL OF SPECIMEN TREES. INCLUDE THE ADDITIONAL TREES ON THE PRELIMINARY EQUIVALENT SKETCH PLAN AND ALL SUBSEQUENT PLANS. THESE TREES WILL BE BONDED WITH THE DEVELOPER'S AGREEMENT UNDER THE FINAL SUBDIVISION PLAN.
 - THE HOUSE ON BUILDABLE PRESERVATION PARCEL 'A' MUST BE LOCATED 100 FEET FROM THE EDGE OF FOREST CONSERVATION EASEMENT.
 - PROTECTIVE MEASURES SHALL BE UTILIZED DURING CONSTRUCTION TO PROTECT THE SPECIMEN TREES THAT ARE PROPOSED TO REMAIN. INCLUDE DETAILS OF THE PROPOSED TREE PROTECTION MEASURES ON THE PRELIMINARY EQUIVALENT SKETCH PLAN AND ALL SUBSEQUENT PLANS.
 - THE REQUIRED FOREST CONSERVATION SIGNS MUST BE POSTED ALONG THE EDGE OF THE FOREST CONSERVATION EASEMENT BEFORE THE FIRST USE-IN-OCCUPANCY PERMIT IS ISSUED FOR A LOT OR PARCEL WITHIN THE SUBDIVISION.
 - THE FOREST RETENTION EASEMENT ON BUILDABLE PRESERVATION PARCEL 'A' MUST BE REVISED TO EXCLUDE A PORTION OF PROPOSED FOREST CONSERVATION AREA 'B' TO BE A MINIMUM OF 100 FEET FROM THE SIDE PROPERTY LINE OF LOT 3. (NOTE THIS WAS BASED ON AN EARLIER SITE DESIGN, AND TODAY'S SITE IS DIFFERENT.)
 - THE WAIVER APPROVAL APPLIES ONLY TO THE EIGHTEEN (18) SPECIMEN TREES TO BE REMOVED AS SHOWN ON THE WAIVER PLAN EXHIBIT. THE REMOVAL OF ANY OTHER SPECIMEN TREE ON THE PROPERTY IS NOT PERMITTED UNLESS IT CAN BE SUFFICIENTLY DEMONSTRATED BY THE APPLICANT TO BE JUSTIFIED.
 - A 35' SETBACK SHALL BE PROVIDED AND MAINTAINED FROM THE FOREST CONSERVATION EASEMENT LOCATED ON PRESERVATION PARCEL 'A'.
 - THE DEVELOPER SHALL BE ADVISED THAT FOREST CONSERVATION EASEMENTS THAT ARE EITHER ON OR ADJACENT TO RESIDENTIAL LOTS ARE OFTEN ENCROACHED UPON. THEREFORE, THIS OFFICE ADVISES THE DEVELOPER TO PROVIDE ADDITIONAL EDUCATION AND/OR BARRIERS SUCH AS SPLIT RAIL FENCING OR ADDITIONAL SIGNAGE AROUND THE FOREST CONSERVATION EASEMENT PERIMETER TO WARN FUTURE HOME OWNERS OF THE PROTECTION REQUIREMENT OF FOREST CONSERVATION AREA.
- ON FEBRUARY 1, 2017 A REQUEST TO WAIVE SECTION 16.1206(a)(7) & (10) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, TO ALLOW FOR THE REMOVAL OF NINE (9) SPECIMEN TREES, WAS APPROVED BY THE DIRECTOR OF PLANNING AND ZONING SUBJECT TO THE FOLLOWING CONDITIONS, REFER TO WAIVER PERMIT WP-17-060.
 - THE WAIVER PETITION NUMBER AND CONDITIONS OF APPROVAL MUST BE ADDED TO ALL SUBDIVISION PLANS AND FINAL PLAT.
 - THE DEVELOPER SHALL PLANT EIGHTEEN (18) 3" MINIMUM CALIPER NATIVE SHADE TREES IN ADDITION TO THE REQUIRED PERIMETER LANDSCAPING TO MITIGATE THE REMOVAL OF SPECIMEN TREES. INCLUDE THE ADDITIONAL TREES ON THE PRELIMINARY EQUIVALENT SKETCH PLAN AND ALL SUBSEQUENT PLANS. THESE TREES WILL BE BONDED WITH THE DEVELOPER'S AGREEMENT UNDER THE FINAL SUBDIVISION PLAN.
 - PROTECTIVE MEASURES SHALL BE UTILIZED DURING CONSTRUCTION TO PROTECT THE SPECIMEN TREES THAT ARE PROPOSED TO REMAIN. INCLUDE DETAILS OF THE PROPOSED TREE PROTECTION MEASURES ON THE PRELIMINARY EQUIVALENT SKETCH PLAN AND ALL SUBSEQUENT PLANS.
 - THE ALTERNATIVE COMPLIANCE APPROVAL APPLIES ONLY TO THE NINE (9) SPECIMEN TREES TO BE REMOVED AS SHOWN ON THE WAIVER PLAN EXHIBIT. THE REMOVAL OF ANY OTHER SPECIMEN TREE ON THE PROPERTY IS NOT PERMITTED UNLESS IT CAN BE SUFFICIENTLY DEMONSTRATED BY THE APPLICANT TO BE JUSTIFIED.



GRAPHIC SCALE

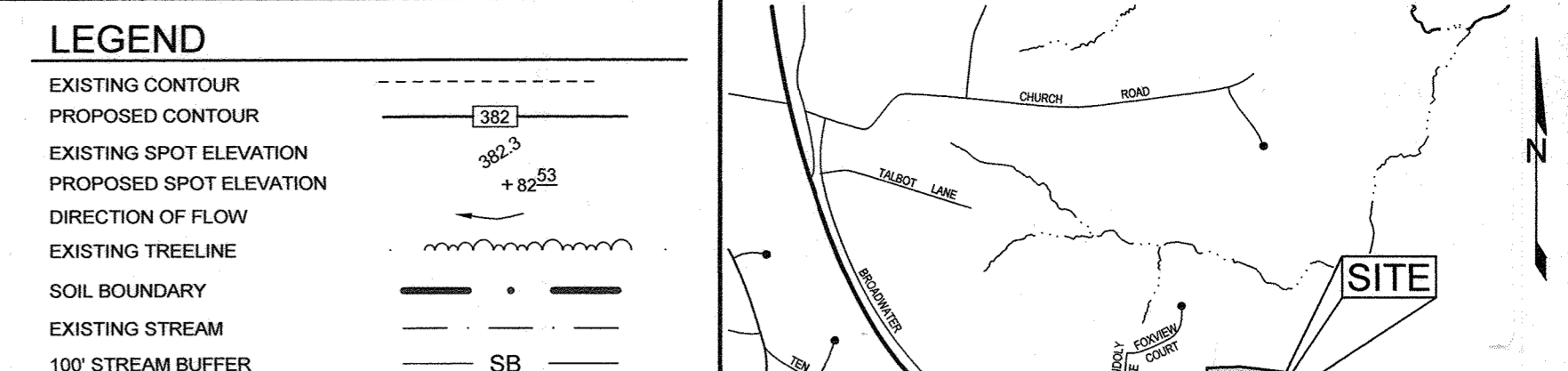


- GENERAL NOTES CONTINUED:**
- EXEMPTION WAS GRANTED BY THE MDE WATER SUPPLY PROGRAM ON JUNE 15, 2017.
 - DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING REQUIREMENTS:
 - WIDTH - 12 FEET (16 FEET SERVING MORE THAN ONE RESIDENCE)
 - SURFACE - SIX (6) INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING (1-1/2" MINIMUM)
 - GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE AND 45-FOOT TURNING RADIUS
 - STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 22 GROSS TONS (RS+LOADING)
 - DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE
 - MAINTENANCE - SUFFICIENT TO ENSURE ALL WEATHER USE
 - DRIVEWAY ENTRANCES TO BE PER HOWARD COUNTY STANDARD DETAIL R-8.05 FOR DRIVEWAY LOTS, 1, 2, AND THE USE IN COMMON DRIVEWAY FOR LOTS 3, 4, 5, 6, 7 AND 8, AND BUILDABLE PRESERVATION PARCEL A.
 - THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURVEY FOR THE REQUIRED LANDSCAPING WILL BE POSTED AS PART OF THE DPW DEVELOPERS AGREEMENT \$122,000.00 FOR THE REQUIRED FORTY-THREE (43) LANDSCAPING SHADE TREES.
 - INSTALLED WELLS SHALL BE PROTECTED BY TEMPORARY FENCE AT ALL TIMES DURING DEVELOPMENT. IT IS PREFERABLE THAT THE FENCE MATERIAL BE HIGHLY VISIBLE.
 - ON JUNE 13, 2018 A REQUEST FOR AN ALTERNATIVE COMPLIANCE TO WAIVE SECTION 16.1206(a)(7) & (10) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, TO ALLOW FOR THE REMOVAL OF THREE (3) SPECIMEN TREES, WAS APPROVED BY THE DIRECTOR OF THE DEPARTMENT OF PLANNING AND ZONING, SUBJECT TO THE FOLLOWING CONDITIONS, REFER TO WP-18-127.
 - THE ALTERNATIVE COMPLIANCE PETITION NUMBER (WP-18-127) AND ITS CONDITIONS OF APPROVAL MUST BE ADDED TO ALL SUBDIVISION PLANS AND FINAL PLAT.
 - THE DEVELOPER SHALL PLANT SIX (6) 3" MINIMUM CALIPER NATIVE SHADE TREES IN ADDITION TO THE REQUIRED PERIMETER LANDSCAPING TO MITIGATE THE REMOVAL OF THE SPECIMEN TREES. INCLUDE THE ADDITIONAL TREES ON THE FINAL PLAN. THESE TREES WILL BE BONDED WITH THE DEVELOPER'S AGREEMENT UNDER THE FINAL SUBDIVISION PLAN.
 - PROTECTIVE MEASURES SHALL BE UTILIZED DURING CONSTRUCTION TO PROTECT THE SPECIMEN TREES THAT ARE PROPOSED TO REMAIN. INCLUDE DETAILS OF THE PROPOSED TREE PROTECTION MEASURES ON THE FINAL PLAN.
 - THE ALTERNATIVE COMPLIANCE APPROVAL APPLIES ONLY TO THE 3 SPECIMEN TREES TO BE REMOVED AS SHOWN ON THE ALTERNATIVE COMPLIANCE EXHIBIT. THE REMOVAL OF ANY OTHER SPECIMEN TREE ON THE PROPERTY IS NOT PERMITTED UNLESS IT CAN BE SUFFICIENTLY DEMONSTRATED BY THE APPLICANT TO BE JUSTIFIED.
 - THE R1-1 ("STOP") SIGN AND THE STREET NAME SIGN (SNS) ASSEMBLY FOR THIS DEVELOPMENT MUST BE INSTALLED BEFORE THE BASE PAVING IS COMPLETED.
 - THE TRAFFIC CONTROL DEVICE LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND MUST BE FIELD APPROVED BY HOWARD COUNTY TRAFFIC DIVISION (410-313-2430) PRIOR TO THE INSTALLATION OF ANY OF THE TRAFFIC CONTROL DEVICES.
 - ALL TRAFFIC CONTROL DEVICES AND THEIR LOCATIONS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MDM/MTCU).
 - ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED ("QUICK PUNCH"), SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE) - 3" LONG. THE ANCHOR SHALL NOT EXTEND MORE THAN TWO ("QUICK PUNCH") HOLES ABOVE GROUND LEVEL. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
 - A PRIVATE RANGE OF ADDRESS SIGN ASSEMBLY SHALL BE FABRICATED AND INSTALLED BY HOWARD COUNTY BUREAU OF HIGHWAYS AT THE DEVELOPER'S/OWNER'S EXPENSE. CONTACT HOWARD COUNTY TRAFFIC DIVISION AT 410-313-2430 FOR DETAILS AND COST ESTIMATES.
 - ONE STORM DRAIN, AT ES-1, WILL DISCHARGE ONTO EXISTING SLOPES THAT AVERAGE 15% SLOPE. THIS HAS BEEN APPROVED AS AN ESSENTIAL DISTURBANCE BY HOWARD COUNTY DIVISION OF LAND DEVELOPMENT, BECAUSE THIS SLOPE IS GREATER THAN 10%, THE SOIL CONSERVATION DISTRICT OF HOWARD COUNTY IS REQUIRING THAT WE EXTEND THE RIP RAP DOWN TO THE EXISTING SWALE. THE EXISTING TOPOGRAPHY, (MODERATE AND STEEP SLOPES IN THE AREA OF THE OUTFALL) COUPLED WITH THE EXISTING PIPESTEM TO THIS PROPERTY, CAUSES THE ROADS LOW POINT TO BE LOCATED ONLY AT APPROXIMATELY CENTERLINE STATION 8+40 IN THE AREA OF THE MODERATE AND STEEP SLOPES. ADDITIONALLY, BECAUSE #01 HAS BEEN MOVED DOWNHILL IN CONSIDERATION OF, AND TO SAVE ST14 AND ST15, THESE FACTORS CAUSE THE OUTFALL AT ES1 TO BE LOCATED IN THE AREA OF MODERATE AND STEEP SLOPES. THEREFORE, REQUIRING US TO EXTEND THE RIP-RAP TO THE SWALE AND BE WITHIN THE STREAM BUFFERS AND WETLAND BUFFERS.
 - A HIGHLY VISIBLE TEMPORARY FENCE SHALL BE PLACED AROUND INSTALLED WELLS SO THAT THEIR LOCATIONS MAY EASILY BE OBSERVED DURING CONSTRUCTION ACTIVITIES.

AS-BUILT CERTIFICATION:
 I HEREBY CERTIFY, BY MY SEAL, THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF THE PLANS SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS AS-BUILT PLAN MEET THE APPROVED PLANS AND SPECIFICATIONS.
 PAUL M. SILL, PROFESSIONAL ENGINEER
 LICENSE NO. 32025 DATE: 08/14/2023

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING DATE: 11-30-18
 CHIEF, DIVISION OF LAND DEVELOPMENT
 APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS DATE: 11/27/18
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS DATE: 11/19/2018
 CHIEF, BUREAU OF HIGHWAYS

FINAL ROAD CONSTRUCTION PLANS THE WOODLANDS HOWARD COUNTY, MARYLAND



STORMWATER MANAGEMENT PRACTICES

LOT #	ADDRESS	DRY-WELL M-5 (NUMBER)	NON- ROOFTOP DISCONNECT 12-0 (Y/N)	MICRO-BIO M-6 (NUMBER)
1	DOSA COURT	2	N	1
2	DOSA COURT	2	N	1
3	DOSA COURT	1	Y	1
4	DOSA COURT	0	N	1
5	DOSA COURT	3	N	1
6	DOSA COURT	4	Y	0
7	DOSA COURT	0	Y	1
8	DOSA COURT	4	Y	0
BUILDABLE PARCEL A	DOSA COURT	4	Y	0

NOTES:
 • HOUSE SIZE IS BASED ON A 3,750 SF FOOTPRINT
 • DRIVEWAYS WILL BE TREATED BY NON-ROOFTOP DISCONNECTS WHERE POSSIBLE.

BENCHMARKS

NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
28HC	565,351.762	1,332,102.463	562.207	S SIDE OF ROUTE 32, 0.2 MILES W OF EXIT 20 SIGN, +/- 320' E OF GUARD RAIL
34BA	563,852.491	1,324,672.167	450.048	2.5' N OF EDGE OF PAVEMENT OF ROUTE 32, 13.3' SE OF EXIT 20 SIGN

ROAD CLASSIFICATION

ROAD NAME	CLASSIFICATION	PAVING TYPE	DESIGN SPEED	LIMITS OF CONSTRUCTION	R/W
DOSA COURT	LOCAL ROAD (ACCESS PLACE)	P-2	25	+0:00 TO 11'+53.90	55'

SHEET INDEX

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	FINAL ROAD PLAN AND PROFILE
3	FINAL GRADING PLAN
4	FINAL GRADING PLAN
5	FINAL SEDIMENT AND EROSION CONTROL PLAN
6	FINAL SEDIMENT AND EROSION CONTROL PLAN
7	SEDIMENT & EROSION CONTROL DRAINAGE AREA MAP
8	SEDIMENT & EROSION CONTROL NOTES, DETAILS & BORING LOGS
9	SEDIMENT & EROSION CONTROL NOTES & DETAILS
10	FINAL STORM DRAIN DRAINAGE AREA MAP
11	FINAL STORM DRAIN DRAINAGE AREA MAP
12	FINAL STORM DRAIN PROFILES
13	FINAL STORMWATER MANAGEMENT DRAINAGE AREA MAP
14	FINAL STORMWATER MANAGEMENT DRAINAGE AREA MAP
15	FINAL BIORETENTION PLAN, PROFILES & DETAILS
16	FINAL LANDSCAPE AND FOREST CONSERVATION PLAN
17	FINAL LANDSCAPE AND FOREST CONSERVATION PLAN
18	FINAL GRADING PLAN
19	FINAL GRADING PLAN

LOCATION MAP
SCALE: 1"=100'



WELL BOX AREA

LOT NUMBER	AREA
1	1,586.0 SF.
2	1,586.0 SF.
3	1,586.0 SF.
4	1,586.0 SF.
5	1,586.0 SF.
6	1,586.0 SF.
7	1,586.0 SF.
8	1,586.0 SF.

SITE ANALYSIS DATA SHEET

ENVIRONMENTAL AREA	SIZE OR USE
TOTAL PROJECT AREA	21.21 ACRES±
LIMIT OF DISTURBANCE	10.76 ACRES±
GREEN OPEN AREA (LAWN)	5.25 ACRES±
IMPERVIOUS AREA	2.45 ACRES±
PROPOSED SITE USES	RESIDENTIAL
WETLANDS	0.29 ACRES±
WETLAND BUFFERS	1.16 ACRES±
FLOODPLAINS	0.00 ACRES±
FLOODPLAIN BUFFERS	0.00 ACRES±
EXISTING FOREST	17.90 ACRES±
SLOPES GREATER THAN 15%*	4.76 ACRES±
HIGHLY ERODIBLE SOILS	5.70 ACRES± (1)

* LOT HAS THREE DISTINCT WELL LOCATIONS
 * NOTES:
 1) SOIL INFORMATION HAS BEEN TAKEN FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE, WEB SOIL SURVEY.
 2) HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR 'K' GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT.

DENSITY TABULATION CHART

TOTAL PARCEL COMPUTED ACREAGE	21.21 AC.
MAXIMUM DENSITY	21.21 AC./2 = 10 UNITS
TOTAL BASE DENSITY UNITS ALLOWED	21.21 AC./4.25 = 4 UNITS
TOTAL BUILDABLE LOTS/PARCELS	9
TOTAL CEO SENDING UNITS REQUIRED	5 UNITS
SENDING PARCEL INFORMATION	4 CEO UNITS FROM MILLERS MILL PROPERTY (F-18-075) TAX MAP 41, PLO PAR 22 & PAR 24 1 CEO UNIT FROM ROSHAN PROPERTY (RE-18-094) TAX MAP 15, PAR 18

MINIMUM LOT SIZE CHART

LOT NUMBER	GROSS AREA (AC)	PIPESTEM AREA (AC)	MINIMUM LOT SIZE
1	1,023.5 ±	0.0092 ±	1,023.5 AC (44,823.71 SF)
5	1,075.1 ±	0.0109 ±	1,075.1 AC (47,115.43 SF)
6	1,919.7 ±	0.0288 ±	1,919.7 AC (84,483.49 SF)
8	1,931.5 ±	0.0109 ±	1,931.5 AC (84,274.30 SF)
BUILD PRES. PARCEL A	4,823.0 ±	0.035 ±	4,823.0 AC (210,630.27 SF)

REVISIONS

NO.	DESCRIPTION	DATE
AS-BUILT PLAN BY SILL ENGINEERING GROUP		08/11/2023
ADDED SHEET 19 TO SHEET INDEX		05/11/2021

OWNER/DEVELOPER
 DOSA CLARKSVILLE LLC
 5600 WHALE BOAT DRIVE UNIT #2028
 CLARKSVILLE, MD 21029
 301.370.6866

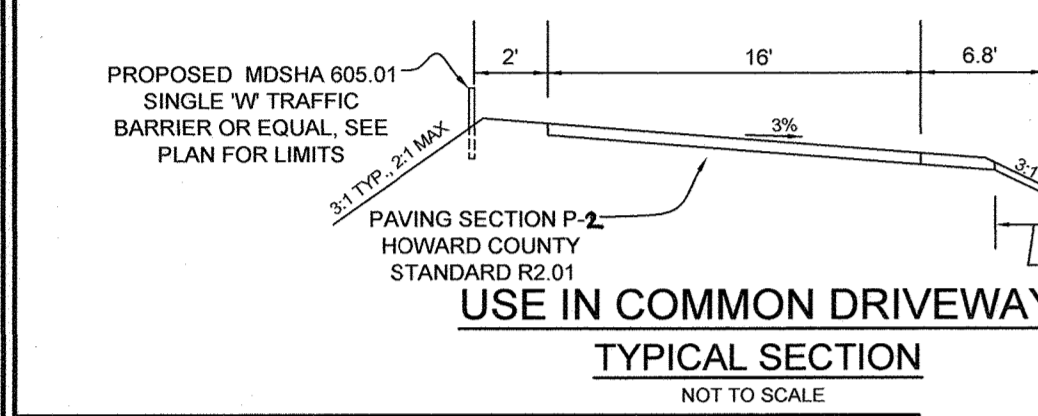
COVER SHEET
THE WOODLANDS
 LOTS 1 THRU 8, BUILDABLE PRESERVATION PARCEL A AND NON-BUILDABLE PRESERVATION PARCELS B, C, AND D (RE-SUBDIVISION OF LOT 2 OF GLEN MARY ESTATES)

TAX MAP 28 GRID 23 PARCEL 15
 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SILL ENGINEERING GROUP, LLC
 11130 Dovedale Court, Suite 200
 Marriottsville, Maryland 21104
 Phone: 443.325.9076
 Fax: 410.696.2022
 Email: info@sillengineering.com
 Civil Engineering for Land Development
 DESIGN BY: PS
 DRAWN BY: JCV
 CHECKED BY: PS
 SCALE: AS SHOWN
 DATE: NOVEMBER 1, 2018
 PROJECT #: 14-029
 SHEET # 1 OF 19

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 32025, EXPIRATION DATE: JUNE 20, 2019.

PAVING SECTIONS

SEC. NO.	ROAD AND STREET CLASSIFICATION	CALIFORNIA BEARING RATIO (CBR)	TO 10 TO 1	27	TO 10 TO 1	27
P-1	PARKING BAYS, RESIDENTIAL AND NON-RESIDENTIAL	HMA SUPERPAVE FINAL SURFACE (5.5 MM, PG 64-22, LEVEL 1 (ESAL))	1.5	1.5	1.5	1.5
		HMA SUPERPAVE INTERMEDIATE SURFACE (NA)	N/A	N/A	N/A	N/A
		HMA SUPERPAVE BASE (1.5 MM, PG 64-22, LEVEL 1 (ESAL))	2.0	2.0	2.0	2.0
P-2	PARKING DRIVEABLES, RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 10 HEAVY TRUCKS PER DAY	HMA SUPERPAVE FINAL SURFACE (5.5 MM, PG 64-22, LEVEL 1 (ESAL))	1.5	1.5	1.5	1.5
		HMA SUPERPAVE INTERMEDIATE SURFACE (NA)	N/A	N/A	N/A	N/A
		HMA SUPERPAVE BASE (1.5 MM, PG 64-22, LEVEL 1 (ESAL))	2.0	2.0	2.0	2.0
P-3	LOCAL ROAD, ACCESS PLACE, RESIDENTIAL	HMA SUPERPAVE FINAL SURFACE (5.5 MM, PG 64-22, LEVEL 1 (ESAL))	1.0	1.0	1.0	1.0
		HMA SUPERPAVE INTERMEDIATE SURFACE (NA)	N/A	N/A	N/A	N/A
		HMA SUPERPAVE BASE (1.5 MM, PG 64-22, LEVEL 1 (ESAL))	2.0	2.0	2.0	2.0



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

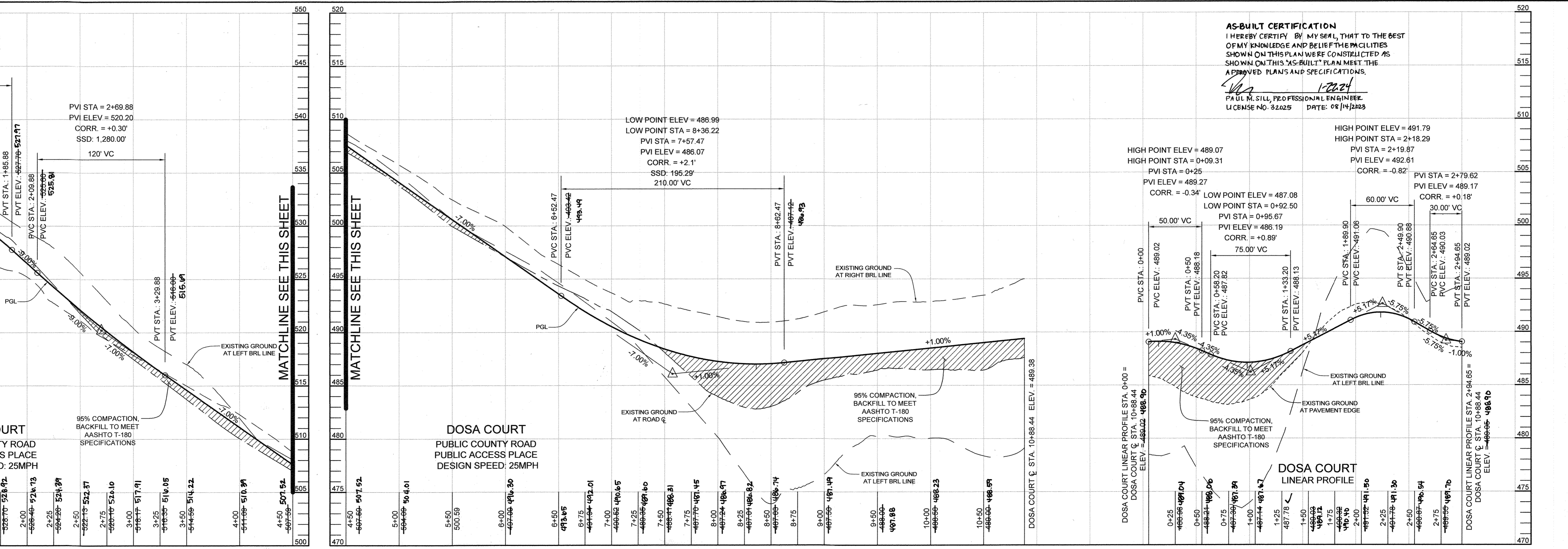
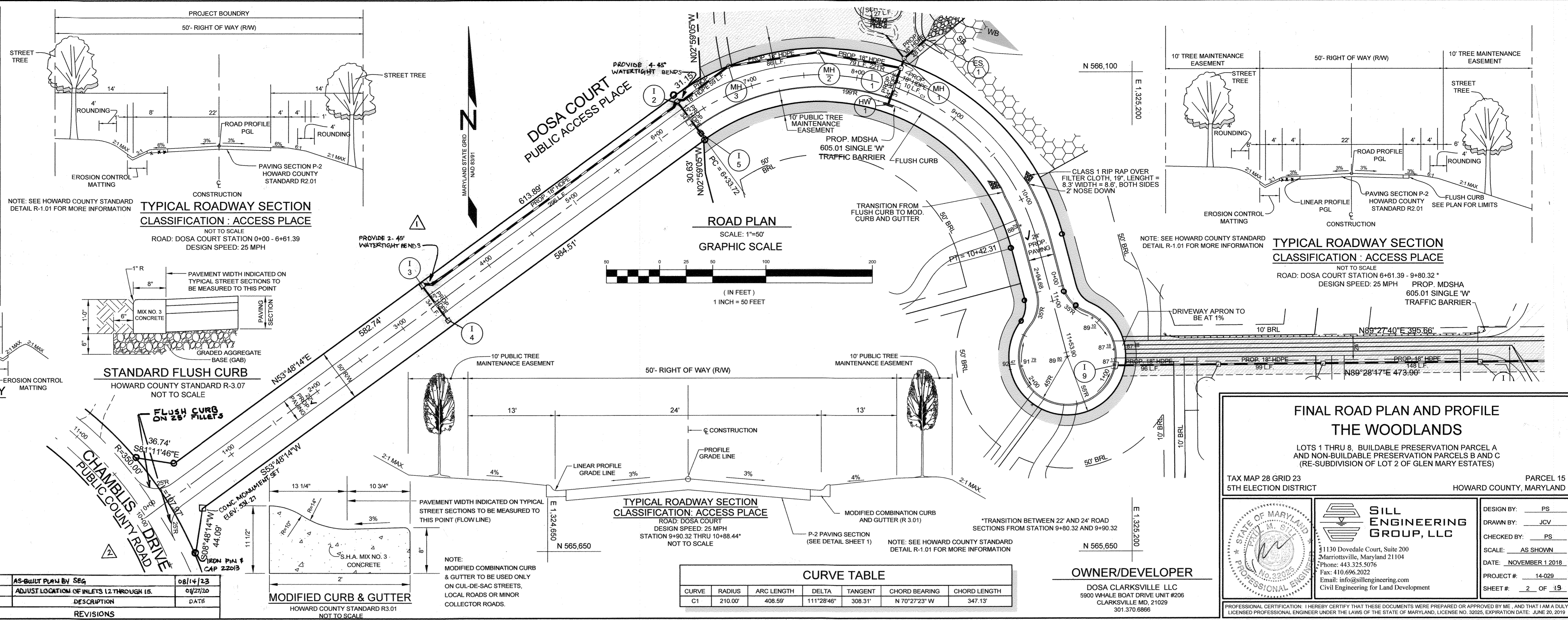
Yusef S. ... 11-30-18
CHIEF, DIVISION OF LAND DEVELOPMENT

Chad ... 11-27-18
CHIEF, DEVELOPMENT ENGINEERING DIVISION

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Paul ... 11/19/2018
CHIEF, BUREAU OF HIGHWAYS

NO.	DESCRIPTION	DATE
2	AS-BUILT PLAN BY SEG	08/14/23
1	ADJUST LOCATION OF INLETS 12 THROUGH 15.	04/27/20



CURVE TABLE

CURVE	RADIUS	ARC LENGTH	DELTA	TANGENT	CHORD BEARING	CHORD LENGTH
C1	210.00'	408.59'	111°28'48"	308.31'	N 70°27'23" W	347.13'

FINAL ROAD PLAN AND PROFILE THE WOODLANDS

LOTS 1 THRU 8, BUILDABLE PRESERVATION PARCEL A AND NON-BUILDABLE PRESERVATION PARCELS B AND C (RE-SUBDIVISION OF LOT 2 OF GLEN MARY ESTATES)

TAX MAP 28 GRID 23 5TH ELECTION DISTRICT PARCEL 15 HOWARD COUNTY, MARYLAND

SILL ENGINEERING GROUP, LLC

1130 Dovedale Court, Suite 200
Marriottsville, Maryland 21104
Phone: 443.325.5076
Fax: 410.696.2022
Email: info@sillengineering.com
Civil Engineering for Land Development

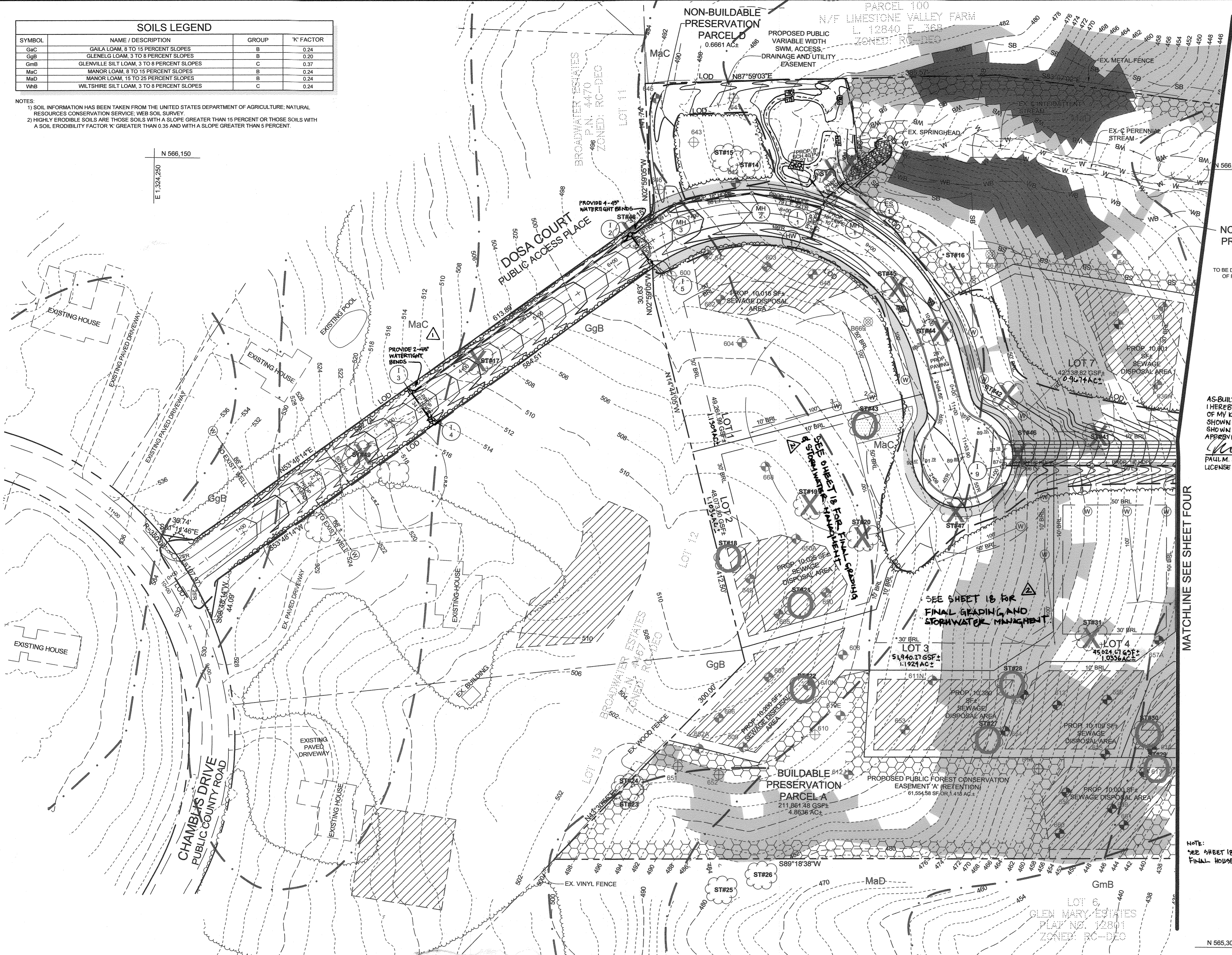
DESIGN BY: PS
DRAWN BY: JCV
CHECKED BY: PS
SCALE: AS SHOWN
DATE: NOVEMBER 1, 2018
PROJECT #: 14-029
SHEET #: 2 OF 19

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 32025, EXPIRATION DATE: JUNE 20, 2019

SOILS LEGEND			
SYMBOL	NAME / DESCRIPTION	GROUP	'K' FACTOR
GaC	GAILA LOAM, 8 TO 15 PERCENT SLOPES	B	0.24
GgB	GLENELG LOAM, 3 TO 8 PERCENT SLOPES	B	0.20
GmB	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	0.37
MaC	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	0.24
MaD	MANOR LOAM, 15 TO 25 PERCENT SLOPES	B	0.24
WmD	WILTSHIRE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	0.24

NOTES:
 1) SOIL INFORMATION HAS BEEN TAKEN FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE; NATURAL RESOURCES CONSERVATION SERVICE; WEB SOIL SURVEY
 2) HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR 'K' GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT.

N 566,150
 E 1,324,250

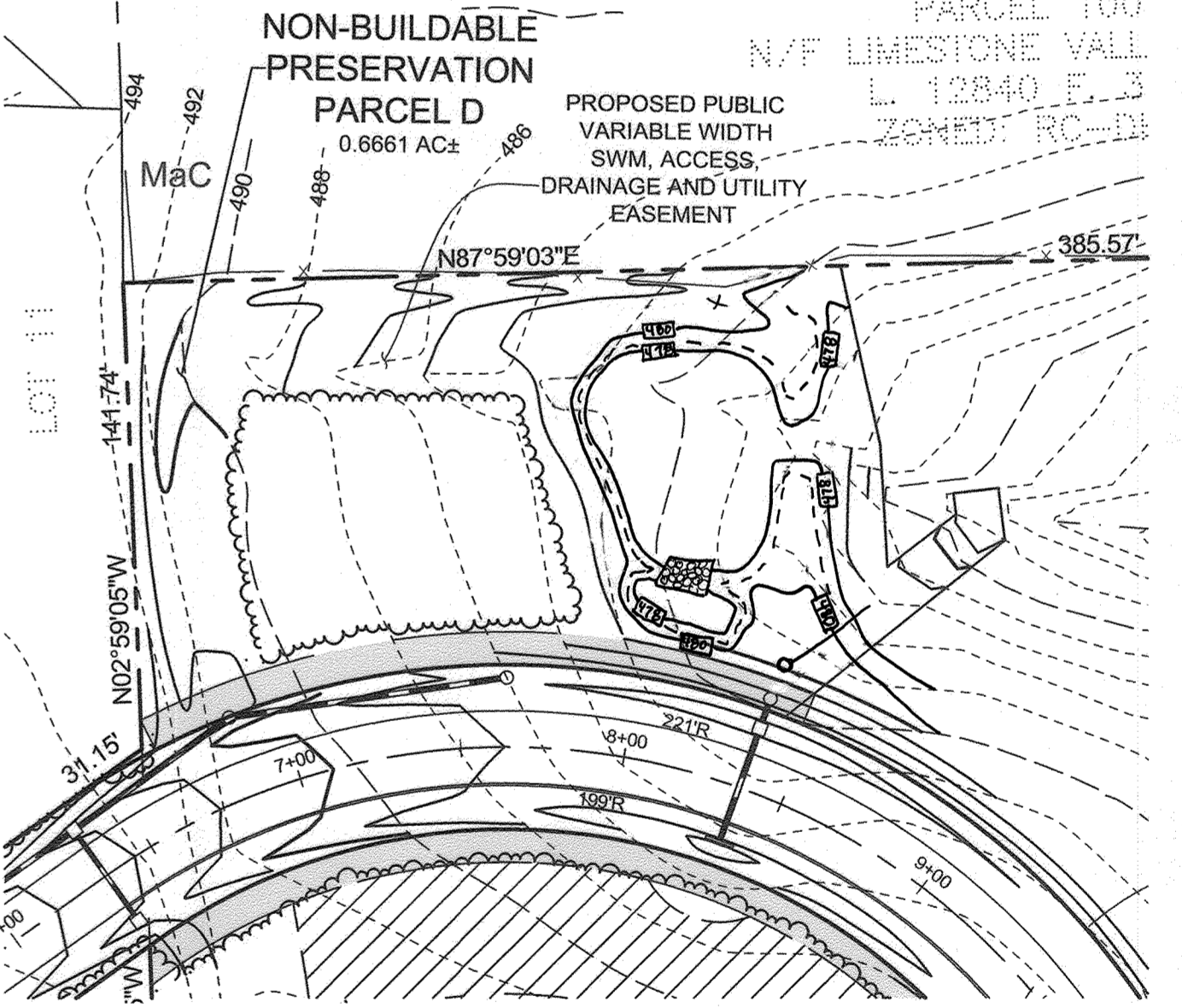


LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- DIRECTION OF FLOW
- EXISTING SPECIMEN TREE
- EXISTING SPECIMEN TREE TO BE REMOVED
- EXISTING SPECIMEN TREE APPROVED FOR REMOVAL PER WP-17-060 THE TREE MAY BE REMOVED WHENEVER HOWARD COUNTY HEALTH DEPARTMENT REQUIRES IT FOR SEWAGE DISPOSAL OR WELL CONSTRUCTION.
- EXISTING TREELINE
- PROPOSED TREELINE
- STABILIZED CONSTRUCTION ENTRANCE
- PROPOSED MICRO-BIORETENTION FACILITY (M-6)
- ROOF LEADERS
- CLEAN WATER EARTH DIKE A-1
- PERCOLATION TEST HOLE, PASSED
- PERCOLATION TEST HOLE, FAILED
- SWM TEST BORING
- HYDROLOGIC SOIL GROUP 'C'
- STEEP SLOPES 15% TO 25%
- STEEP SLOPES >25%
- FOREST CONSERVATION AREA
- PROPOSED PUBLIC TREE MAINTENANCE EASEMENT

AS-BUILT 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.

PAUL M. SILL, PROFESSIONAL ENGINEER
 LICENSE NO. 32025 DATE 08/14/2023



OWNER/DEVELOPER
 DOSA CLARKSVILLE, LLC
 5900 WHALE BOAT DRIVE UNIT #206
 CLARKSVILLE, MD, 21029
 301.370.8666

FINAL GRADING PLAN
THE WOODLANDS
 LOTS 1 THRU 8, BUILDABLE PRESERVATION PARCEL A AND NON-BUILDABLE PRESERVATION PARCELS B, C, AND D (RE-SUBDIVISION OF LOT 2 OF GLEN MARY ESTATES)

TAX MAP 28 GRID 23
 5TH ELECTION DISTRICT

PARCEL 15
 HOWARD COUNTY, MARYLAND

DESIGN BY: PS
 DRAWN BY: JCV
 CHECKED BY: PS
 SCALE: 1" = 50'
 DATE: NOVEMBER 1, 2018
 PROJECT #: 14-029
 SHEET #: 3 OF 19

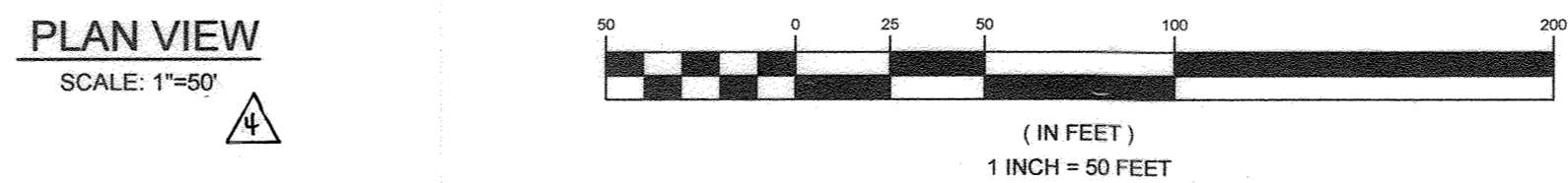
SILL ENGINEERING GROUP, LLC
 11130 Dovedale Court, Suite 200
 Marriottsville, Maryland 21104
 Phone: 443.325.5076
 Fax: 410.696.2022
 Email: info@sillengineering.com
 Civil Engineering for Land Development

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Karl Steinhilber (1-30-18) DATE
 CHIEF, DIVISION OF LAND DEVELOPMENT

Chad Chisholm (11-27-18) DATE
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

James (11/19/2018) DATE
 CHIEF, BUREAU OF HIGHWAYS



NO.	DESCRIPTION	DATE
4	AS-BUILT PLAN BY SEG	08/14/2023
3	ADDED SHEET 19 TO NOTE	05/11/2021
2	ADDED NOTE TO LOTS 2 & 3	08/11/2020
1	ADJUST LOCATION OF INLETS 12 THROUGH 18	01/27/2020

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 32025, EXPIRATION DATE: JUNE 20, 2019

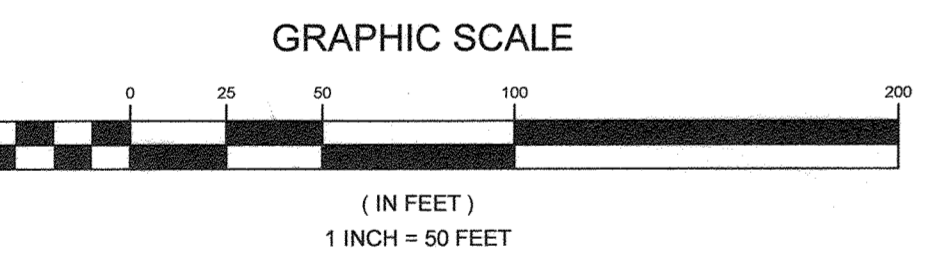
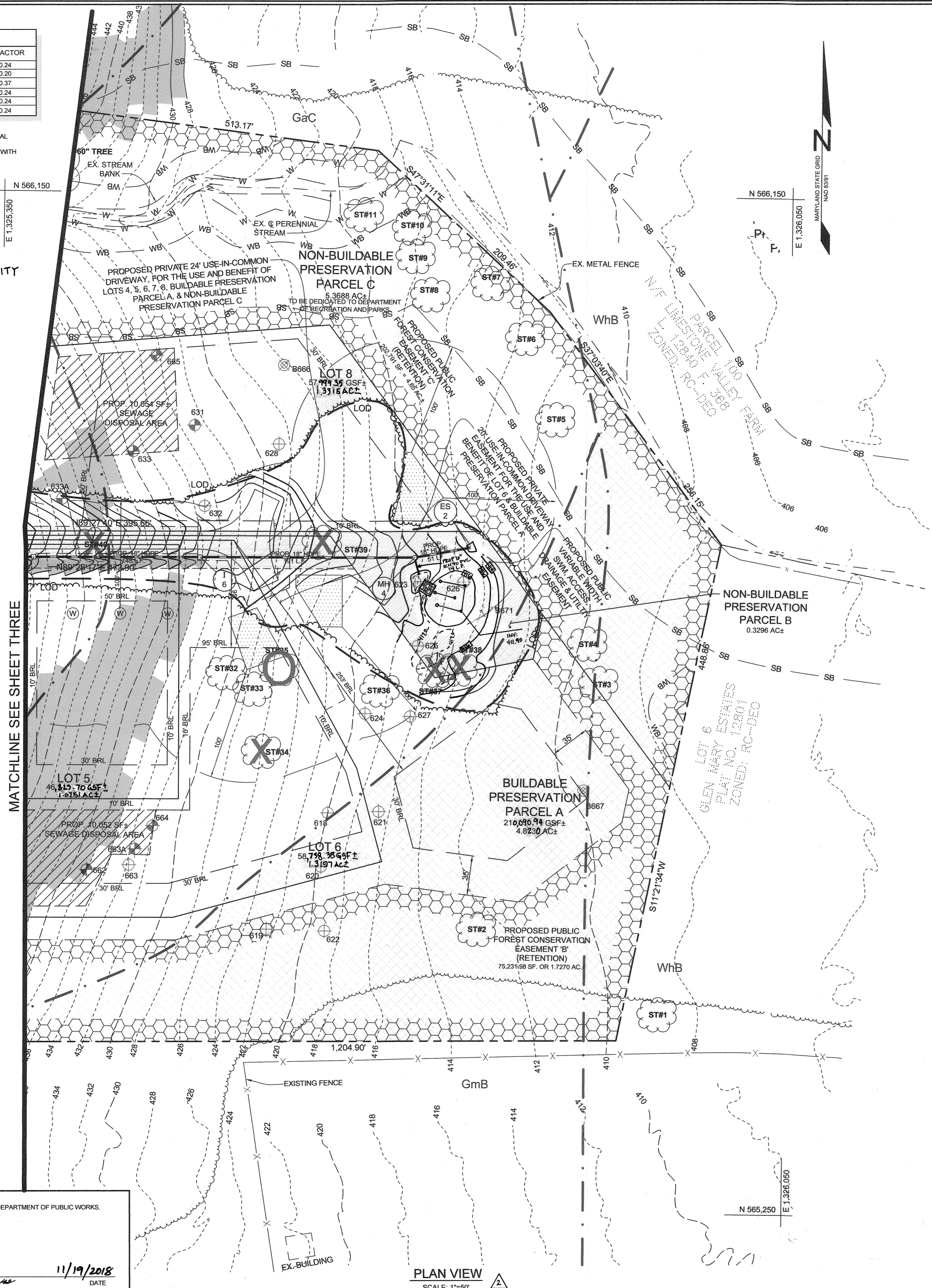
SOILS LEGEND			
SYMBOL	NAME / DESCRIPTION	GROUP	'K' FACTOR
GaC	GAILA LOAM, 8 TO 15 PERCENT SLOPES	B	0.24
GgB	GLENELG LOAM, 3 TO 8 PERCENT SLOPES	B	0.20
GmB	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	0.37
MaC	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	0.24
MaD	MANOR LOAM, 15 TO 25 PERCENT SLOPES	B	0.24
WhB	WILTSHIRE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	0.24

NOTES:
 1) SOIL INFORMATION HAS BEEN TAKEN FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE, WEB SOIL SURVEY.
 2) HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR 'K' GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT.

WELL BOX AREA	
LOT NUMBER	AREA
1	
2	1,596.0 SF.
3	1,501.0 SF.
4	1,520.0 SF.
5	1,500.0 SF.
6	1,503.0 SF.
7	1,501.0 SF.
8	

NOTE: COUNTY SHALL NOT BE LIABLE FOR PRIVATE USE IN COMMON DRIVEWAY DAMAGE DUE TO STORM WATER MANAGEMENT FACILITY MAINTENANCE.

* LOT HAS THREE DISCRETE WELL LOCATIONS



MATCHLINE SEE SHEET THREE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
 [Signatures and Dates: 11-30-18, 11-27-18, 11/19/2018]

PLAN VIEW
 SCALE: 1"=50'

AS-BUILT 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.

PAUL M. SILL, PROFESSIONAL ENGINEER
 LICENSE NO. 82025 DATE 08/14/2023

OWNER/DEVELOPER
 DOSA CLARKSVILLE LLC
 5900 WHALE BOAT DRIVE UNIT #206
 CLARKSVILLE, MD. 21029
 301.370.6866

NOTE: SEE SHEET 18-B FOR FINAL HOUSE GRADING.

FINAL GRADING PLAN
THE WOODLANDS
 LOTS 1 THRU 8, BUILDABLE PRESERVATION PARCEL A AND NON-BUILDABLE PRESERVATION PARCELS B, C, AND D (RE-SUBDIVISION OF LOT 2 OF GLEN MARY ESTATES)

TAX MAP 28 GRID 23 PARCEL 15
 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

DESIGN BY: PS
 DRAWN BY: JCV
 CHECKED BY: PS
 SCALE: AS SHOWN
 DATE: NOVEMBER 1, 2018
 PROJECT #: 14-029
 SHEET #: 4 of 19

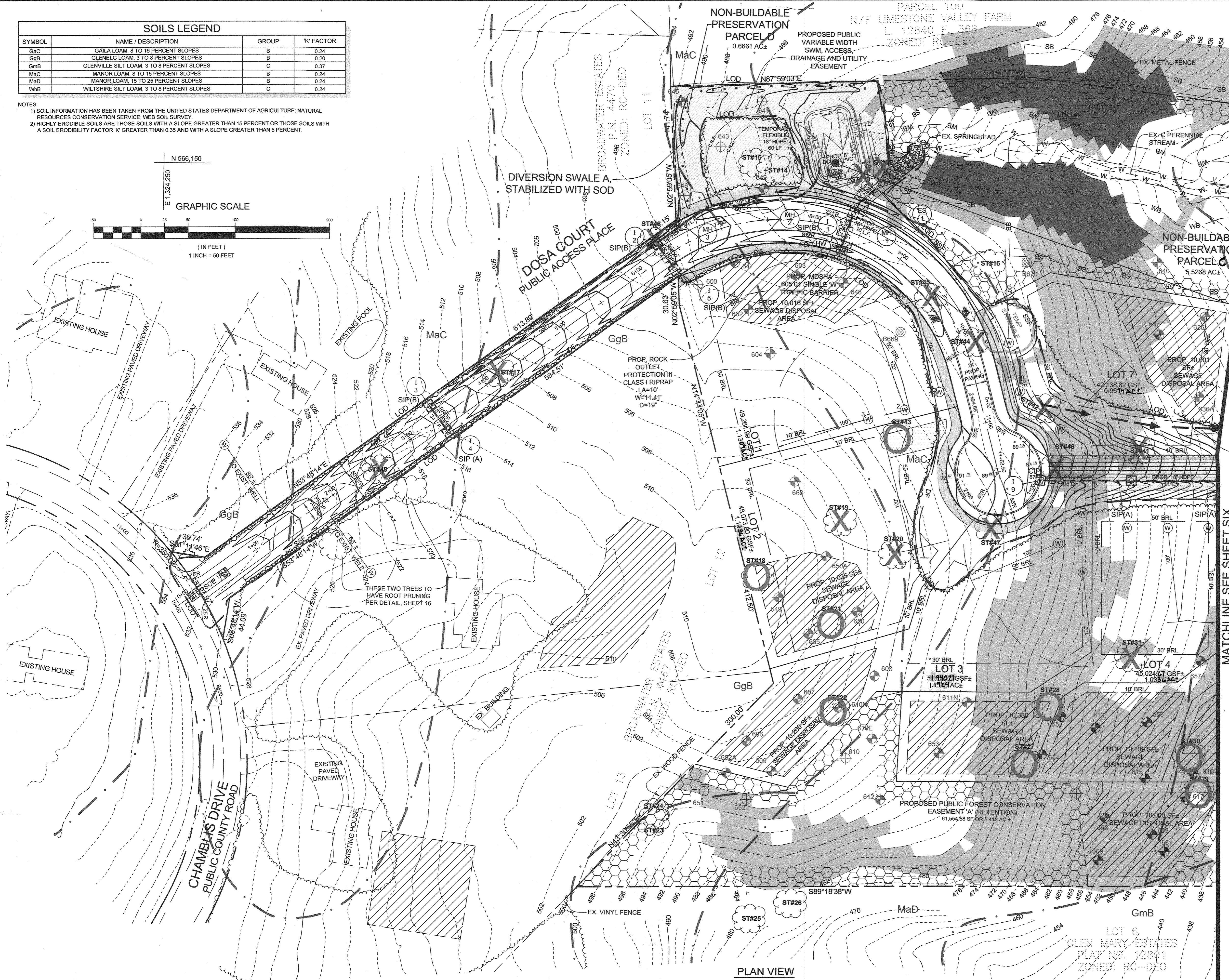
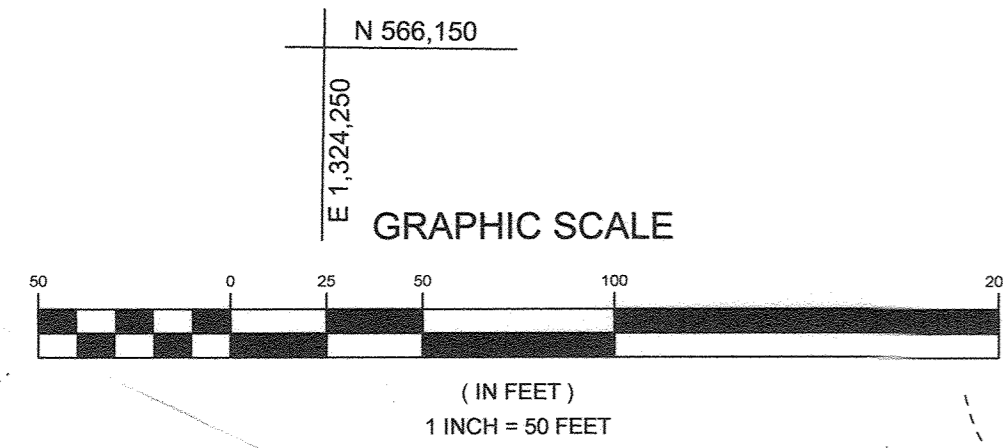
11130 Dovedale Court, Suite 200
 Marriottsville, Maryland 21104
 Phone: 443.325.5076
 Fax: 410.696.2022
 Email: info@sillengineering.com
 Civil Engineering for Land Development

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 82025, EXPIRATION DATE: JUNE 20, 2019.

NO.	DESCRIPTION	DATE
2	AS-BUILT PLAN BY SEG	08/14/2023
1	ADDED SHEET 18 TO NOTE	05/11/2021
	REVISIONS	

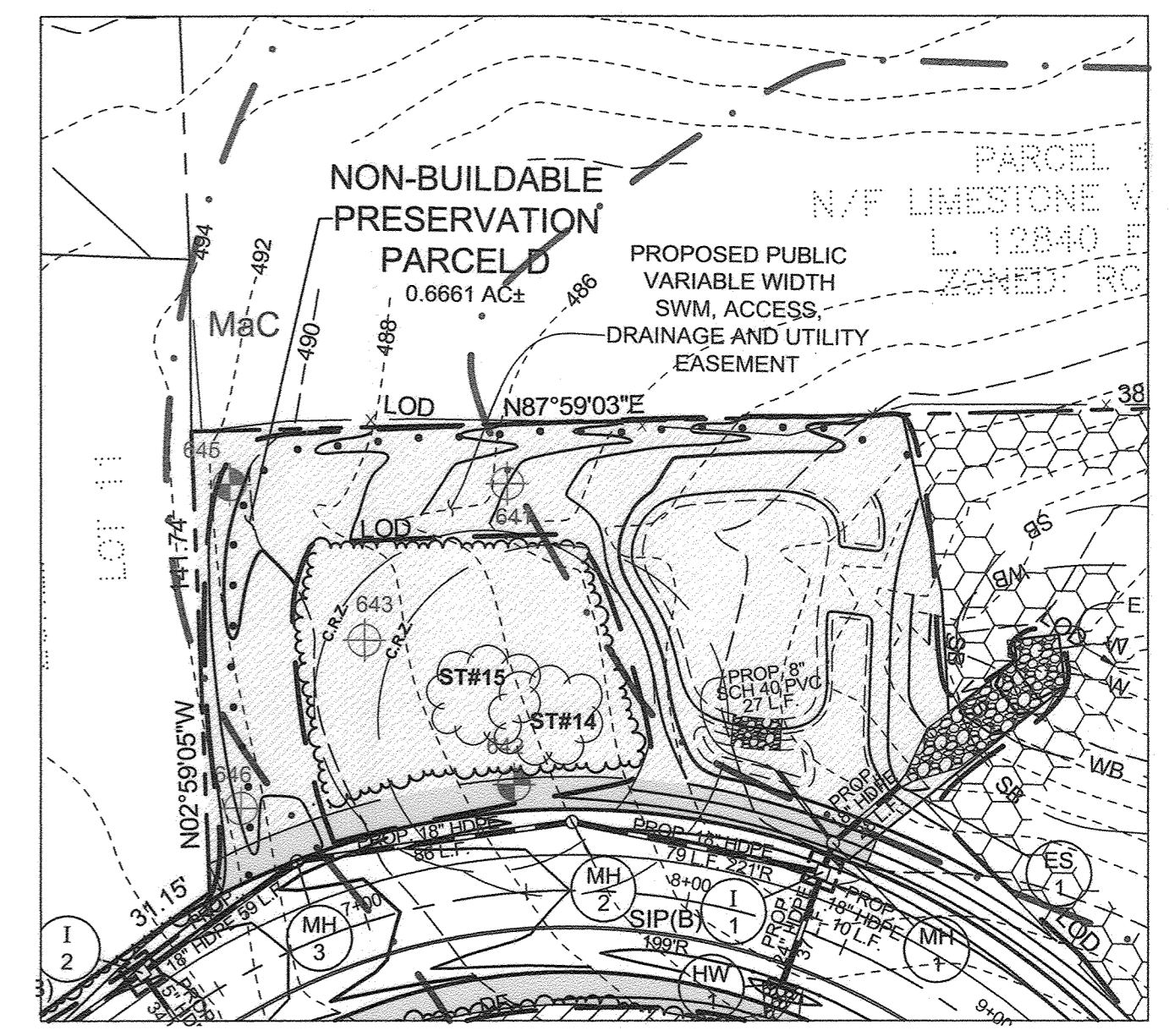
SOILS LEGEND			
SYMBOL	NAME / DESCRIPTION	GROUP	'K' FACTOR
GsC	GAILA LOAM, 8 TO 15 PERCENT SLOPES	B	0.24
GgB	GLENELG LOAM, 3 TO 8 PERCENT SLOPES	B	0.20
GmB	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	0.37
MaC	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	0.24
MaD	MANOR LOAM, 15 TO 25 PERCENT SLOPES	B	0.24
WmB	WILTSHIRE SILT LOAM, 3 TO 6 PERCENT SLOPES	C	0.24

NOTES:
 1) SOIL INFORMATION HAS BEEN TAKEN FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE, WEB SOIL SURVEY
 2) HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR 'K' GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT.



LEGEND	
EXISTING CONTOUR	---
PROPOSED CONTOUR	---
EXISTING SPOT ELEVATION	+
PROPOSED SPOT ELEVATION	+
DIRECTION OF FLOW	→
EXISTING SPECIMEN TREE	○
EXISTING TREELINE	~
PROPOSED TREELINE	~
STABILIZED CONSTRUCTION ENTRANCE	▭
SILT FENCE	— SF — SF —
SUPER SILT FENCE	— SSF — SSF —
LIMIT OF DISTURBANCE	LOD
WETLAND BUFFER	WB
STREAM BUFFER	SB
TREE PROTECTION FENCE	TP
SOIL BOUNDARY	—
STANDARD INLET PROTECTION	□
PROPOSED MICRO-BIORETENTION FACILITY (M-6)	○
ROOF LEADERS	→
CLEAN WATER EARTH DIKE A-1	→
PERCOLATION TEST HOLE, PASSED	⊕
PERCOLATION TEST HOLE, FAILED	⊕
SWM TEST BORING	⊗
HYDROLOGIC SOIL GROUP 'C'	□
STEEP SLOPES 15% TO 25%	▨
STEEP SLOPES >25%	▩
FOREST CONSERVATION AREA	▨
PROPOSED PUBLIC TREE MAINTENANCE EASEMENT	▨
PERMANENT SLOPE STABILIZATION MATTING	•••••

SEDIMENT TRAP #1 (ST-II)
 EXISTING DRAINAGE AREA: 1.51 AC±
 PROPOSED DRAINAGE AREA: 1.55 AC±
 TOTAL STORAGE REQUIRED: 7,200CF
 TOTAL STORAGE PROVIDED: 7,218CF
 WET STORAGE REQUIRED: 3,800CF
 WET STORAGE PROVIDED: 3,880CF
 DRY STORAGE REQUIRED: 3,600CF
 DRY STORAGE PROVIDED: 3,538CF
 EXISTING GROUND AT OUTLET: 476.00
 TRAP BOTTOM ELEVATION: 477.50
 TRAP BOTTOM DIMENSIONS: 64'x35.5'
 SIDE SLOPE: 2:1
 EMBANKMENT TOP WIDTH: 4.0'
 WEIR CREST ELEVATION: 480.10
 WEIR LENGTH: 8.0'
 OUTLET PROTECTION - LENGTH: 11.0'



ULTIMATE PLAN VIEW AT STORM-WATER MANAGEMENT BIO 1
 SCALE: 1"=50'

NOTE: FOR SLOPE STABILIZATION MATTING SEE SHEET 6
OWNER/DEVELOPER
 DOSA CLARKSVILLE, LLC
 5900 WHALE BOAT DRIVE UNIT #206
 CLARKSVILLE, MD, 21029
 301.370.6996

FINAL SEDIMENT AND EROSION CONTROL PLAN THE WOODLANDS
 LOTS 1 THRU 8, BUILDABLE PRESERVATION PARCEL A AND NON-BUILDABLE PRESERVATION PARCELS B, C, AND D (RE-SUBDIVISION OF LOT 2 OF GLEN MARY ESTATES)

TAX MAP 28 GRID 23
 5TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 K. K. ... 11-30-18
 CHIEF, DIVISION OF LAND DEVELOPMENT
 ... 11-27-18
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 ... 11/19/2018
 CHIEF, BUREAU OF HIGHWAYS

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT
 ... 11/9/18
 HOWARD SCD

DEVELOPER'S CERTIFICATE
 I CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC CONSTRUCTION INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.
 ... 11/1/18
 SIGNATURE OF DEVELOPER

ENGINEER'S CERTIFICATE
 I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
 ... 11/1/18
 SIGNATURE OF ENGINEER
 PAUL M. SILL, P.E.

NO.	DESCRIPTION	DATE
1	AS-BUILT PLAN BY SEG	01/14/2023

DESIGN BY:	DRAWN BY:	CHECKED BY:	SCALE:	DATE:	PROJECT #:	SHEET #:
PS	JCV	PS	1"=50'	NOVEMBER 1, 2018	14-029	5 of 19

SILL ENGINEERING GROUP, LLC
 1130 Dovedale Court, Suite 200
 Marriottsville, Maryland 21104
 Phone: 410.325.5076
 Fax: 410.696.2022
 Email: info@sillengineering.com
 Civil Engineering for Land Development

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 32025, EXPIRATION DATE: JUNE 20, 2019.

SEDIMENT TRAP #2 (ST-II)

EXISTING DRAINAGE AREA: 1.42 AC±
 PROPOSED DRAINAGE AREA: 1.42 AC±
 TOTAL STORAGE REQUIRED: 7,200CF
 TOTAL STORAGE PROVIDED: 7,218CF
 WET STORAGE REQUIRED: 3,600CF
 WET STORAGE PROVIDED: 3,680CF
 DRY STORAGE REQUIRED: 3,600CF
 DRY STORAGE PROVIDED: 3,538CF
 EXISTING GROUND AT OUTLET: 419.7
 TRAP BOTTOM DIMENSIONS: 6'4"x35.5'
 SIDE SLOPE: 2:1
 EMBANKMENT TOP WIDTH: 4.0'
 WEIR CREST ELEVATION: 423.40
 WEIR LENGTH: 8.0'
 OUTLET PROTECTION - LENGTH: 11.0'

- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- DIRECTION OF FLOW
- EXISTING SPECIMEN TREE
- EXISTING TREELINE
- PROPOSED TREELINE
- STABILIZED CONSTRUCTION ENTRANCE
- SILT FENCE
- SUPER SILT FENCE
- LIMIT OF DISTURBANCE
- WETLAND BUFFER
- STREAM BUFFER
- TREE PROTECTION FENCE
- SOIL BOUNDARY
- STANDARD INLET PROTECTION

LEGEND

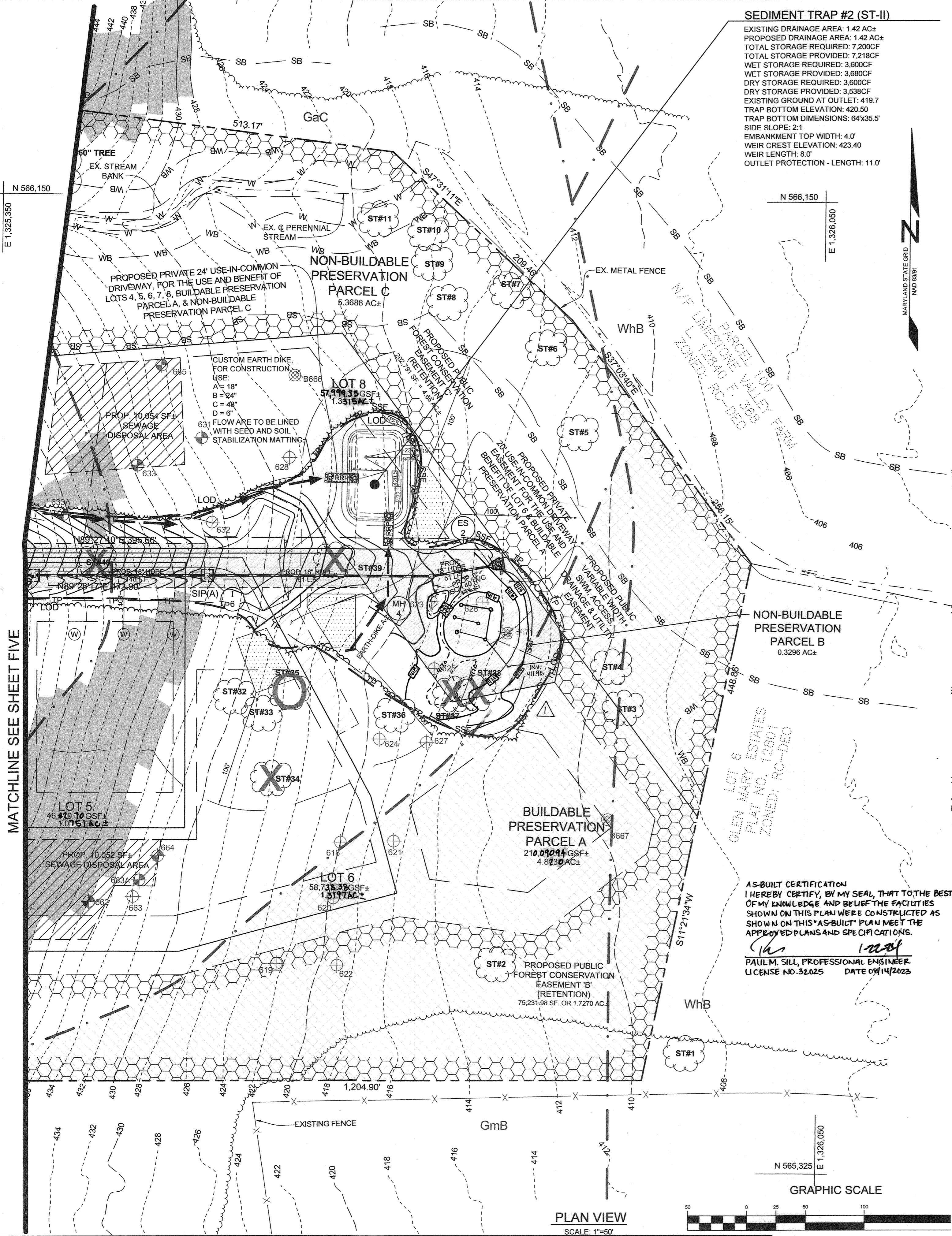
- PROPOSED MICRO-BIORETENTION FACILITY (M-B)
- ROOF LEADERS
- CLEAN WATER EARTH DIKE A-1
- PERCOLATION TEST HOLE, PASSED
- PERCOLATION TEST HOLE, FAILED
- SWM TEST BORING
- HYDROLOGIC SOIL GROUP 'C'
- STEEP SLOPES 15% TO 25%
- STEEP SLOPES >25%
- FOREST CONSERVATION AREA

- PROPOSED PUBLIC TREE MAINTENANCE EASEMENT
- TEMPORARY SLOPE STABILIZATION MATTING WITH DESIGN SHEAR STRESS ≥ 1.5 lb/ft²
- TEMPORARY SLOPE STABILIZATION MATTING WITH DESIGN SHEAR STRESS ≥ 1.75 lb/ft²
- TEMPORARY SLOPE STABILIZATION MATTING WITH DESIGN SHEAR STRESS ≥ 2.0 lb/ft²
- TEMPORARY SLOPE STABILIZATION MATTING WITH DESIGN SHEAR STRESS ≥ 2.25 lb/ft²
- PERMANENT CHANNEL STABILIZATION MATTING

SHEAR STRESS VALUES FOR SOIL STABILIZATION	
SWALE	SHEAR STRESS LB/FT²
A	1.8267
B	1.9860

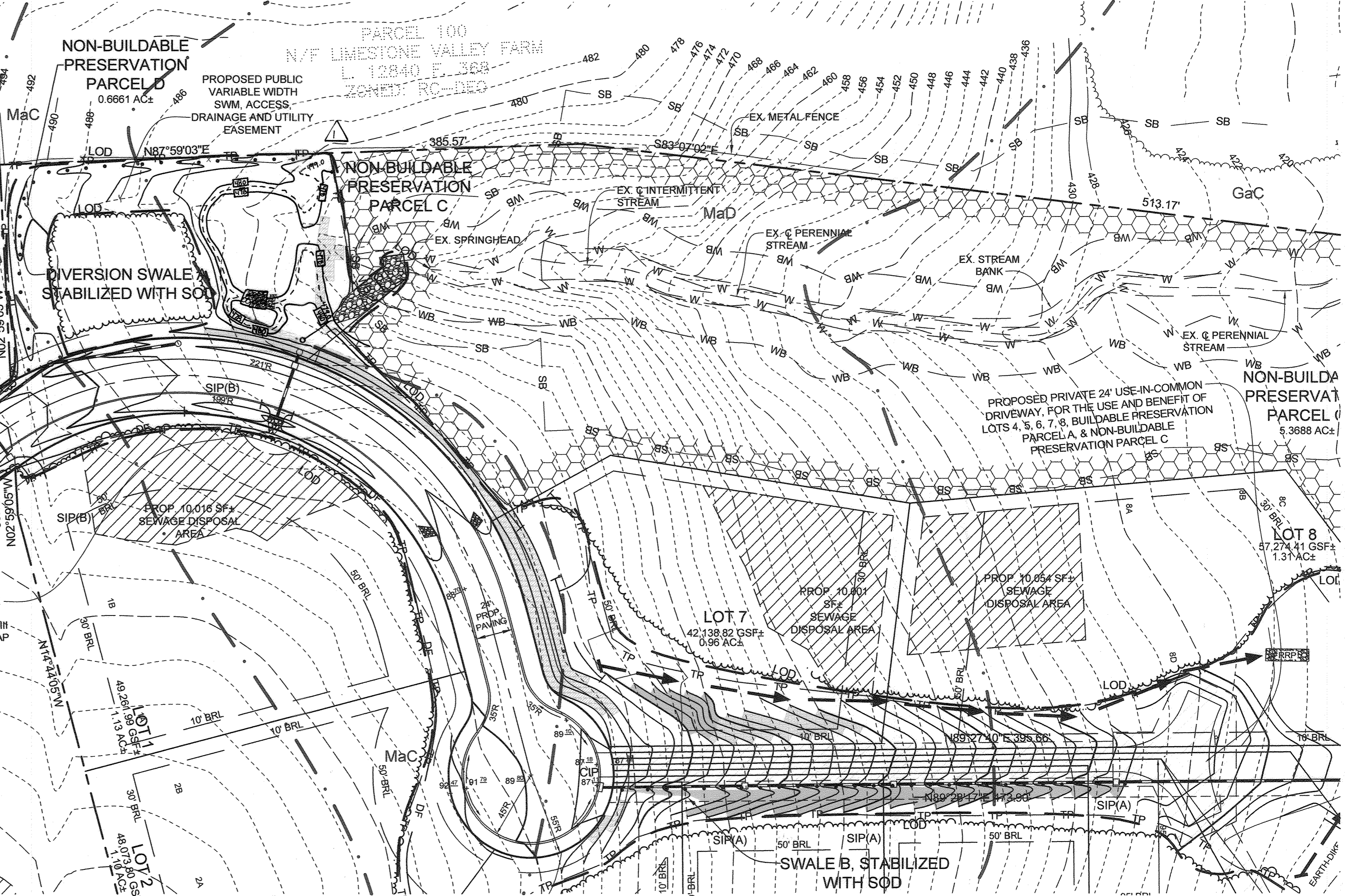
NOTES:
 1) SOIL INFORMATION HAS BEEN TAKEN FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE, WEB SOIL SURVEY.
 2) HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR 'K' GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT.

SOILS LEGEND			
SYMBOL	NAME / DESCRIPTION	GROUP	'K' FACTOR
GaC	GAILA LOAM, 8 TO 15 PERCENT SLOPES	B	0.24
GsB	GLENELG LOAM, 3 TO 8 PERCENT SLOPES	B	0.20
GmB	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	0.37
MaC	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	0.24
MaD	MANOR LOAM, 15 TO 25 PERCENT SLOPES	B	0.24
WbB	WILTSHIRE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	0.24



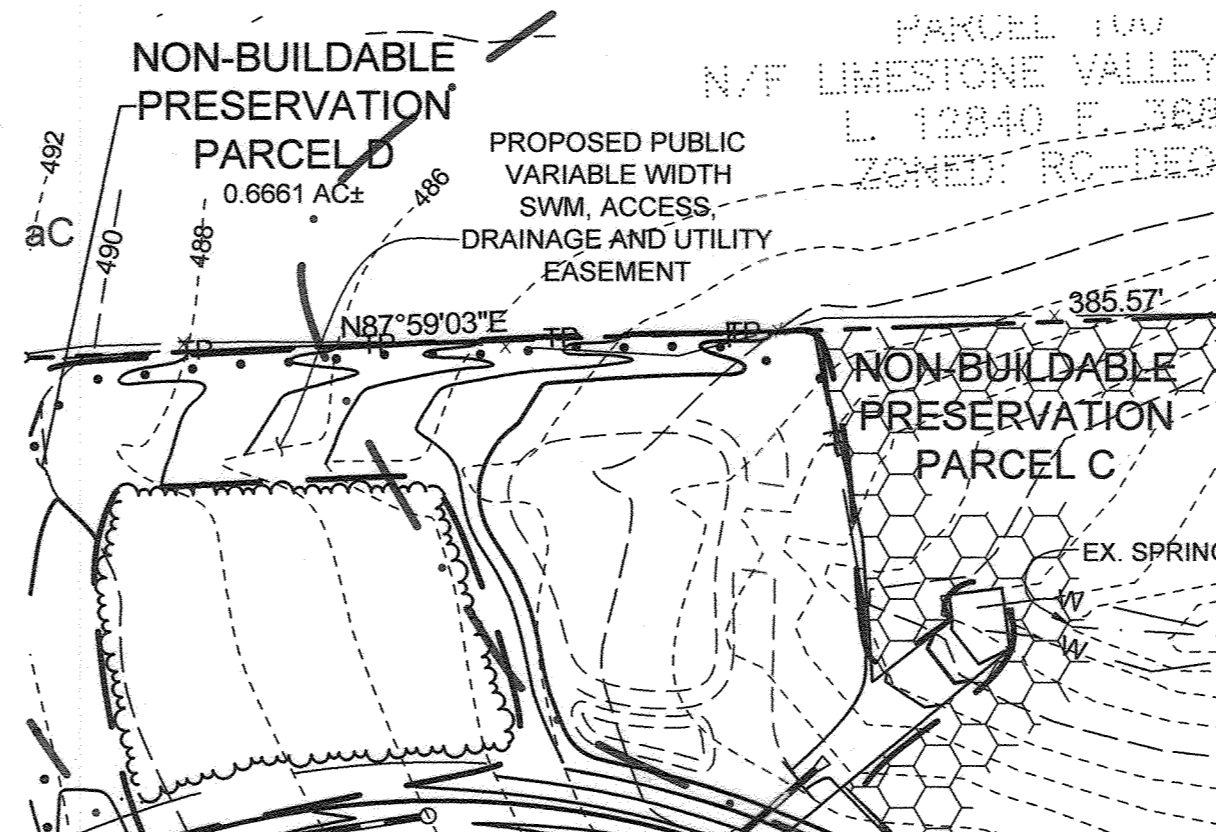
MATCHLINE SEE SHEET FIVE

AS-BUILT 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.
 PAUL M. SILL, PROFESSIONAL ENGINEER
 LICENSE NO. 32,025 DATE 09/14/2023



SOIL STABILIZATION DETAIL

SCALE: 1"=50'



PLAN VIEW PROPERTY BOUNDARY BETWEEN NON-BUILDABLE PARCEL'S C AND D
 SCALE: 1"=50'

ENGINEER'S CERTIFICATE
 I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
 SIGNATURE OF ENGINEER: [Signature] DATE: 11/1/18
 PAUL M. SILL, P.E.

DEVELOPER'S CERTIFICATE
 I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.
 SIGNATURE OF DEVELOPER: [Signature] DATE: 11/1/18

OWNER/DEVELOPER
 DOSA CLARKSVILLE LLC
 5900 VHAULE BOAT DRIVE UNIT #206
 CLARKSVILLE, MD 21029
 301.70.6886

FINAL SEDIMENT AND EROSION CONTROL PLAN THE WOODLANDS
 LOTS 1 THRU 8, BUILDABLE PRESERVATION PARCEL A AND NON-BUILDABLE PRESERVATION PARCELS B, C, AND D (RE-SUBDIVISION OF LOT 2 OF GLEN MARY ESTATES)

TAX MAP 28 GRID 23 PARCEL 15
 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SILL ENGINEERING GROUP, LLC
 1130 Dovedale Court, Suite 200
 Marriottsville, Maryland 21104
 Phone: 443.325.9076
 Fax: 410.696.2022
 Email: info@sillengineering.com
 Civil Engineering for Land Development

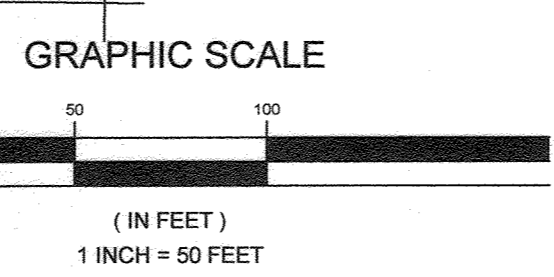
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 DRAWN BY: JCV
 CHECKED BY: PS
 SCALE: AS SHOWN
 DATE: NOVEMBER 1 2018
 PROJECT #: 14-029
 SHEET #: 8 OF 19

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 32025, EXPIRATION DATE: JUNE 20, 2019

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature] 11-30-18
 CHIEF, DIVISION OF LAND DEVELOPMENT
 [Signature] 11-27-18
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

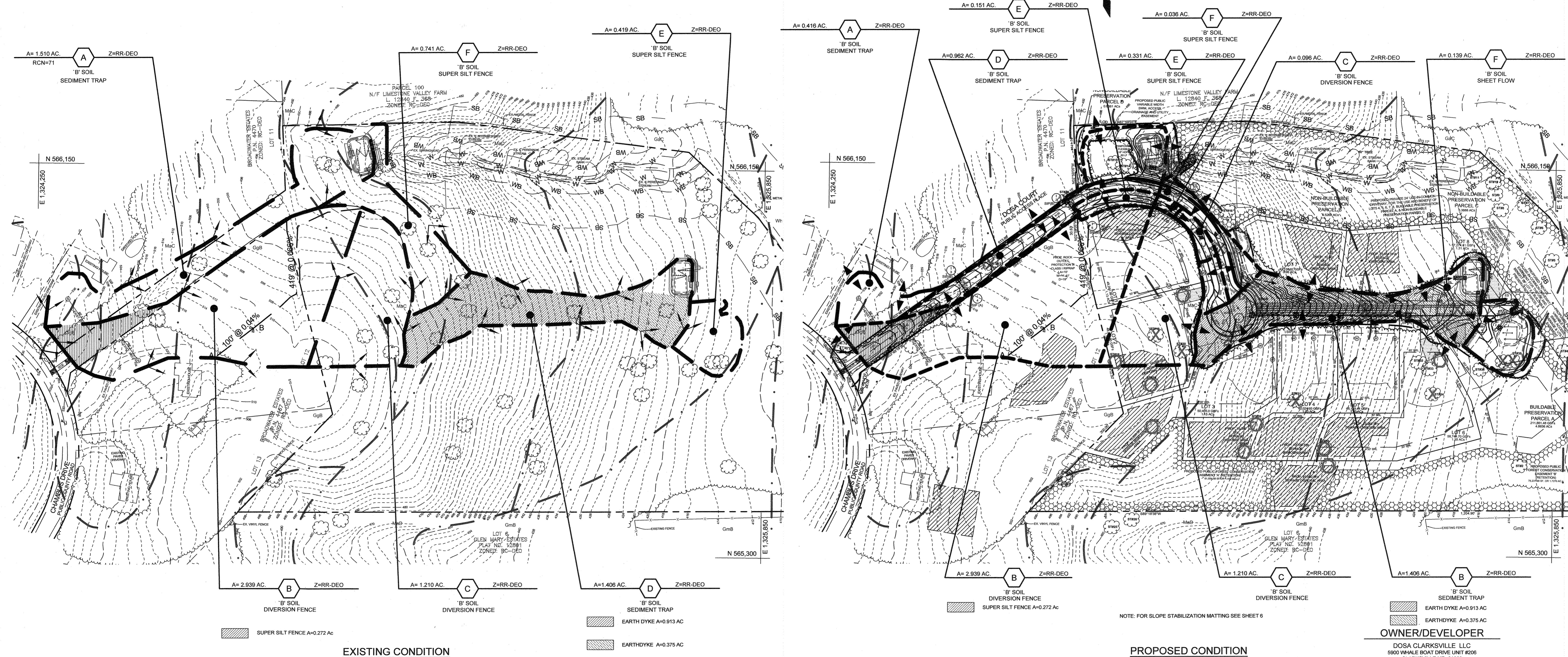
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 [Signature] 11/19/2018
 CHIEF, BUREAU OF HIGHWAYS

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT
 [Signature] 11/8/18
 HOWARD SCD



LEGEND

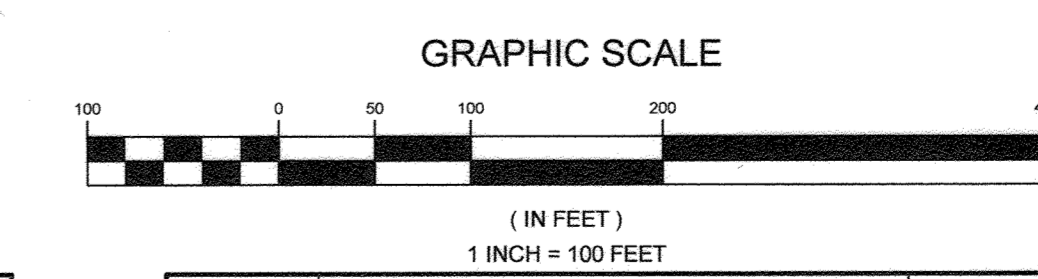
EXISTING SPECIMEN TREE		HYDROLOGIC SOIL GROUP 'C'	
EXISTING TREELINE		FOREST CONSERVATION AREA	
PROPOSED TREELINE		PROPOSED PUBLIC TREE MAINTENANCE EASEMENT	
STABILIZED CONSTRUCTION ENTRANCE		RIPRAP INFLOW PROTECTION	
DIVERSION FENCE	DF		
SUPER SILT FENCE	SSF		
LIMIT OF DISTURBANCE	LOD		
WETLAND BUFFER	WB		
STREAM BUFFER	SB		
TREE PROTECTION FENCE	TP		
SOIL BOUNDARY			



EXISTING CONDITION
SCALE: 1"=100'

PROPOSED CONDITION
SCALE: 1"=100'

NOTE: FOR SLOPE STABILIZATION MATING SEE SHEET 6



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Kate Lendroch 11-30-18
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE
Chad Clark 11-29-18
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
James 11/19/2018
 CHIEF, BUREAU OF HIGHWAYS DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT
John Robert 11/18/18
 HOWARD SCD DATE

DEVELOPER'S CERTIFICATE
 "I WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."
Ch 11/1/18
 SIGNATURE OF DEVELOPER DATE

ENGINEER'S CERTIFICATE
 "I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."
Paul M. Sill 11/1/18
 SIGNATURE OF ENGINEER DATE
 PAUL M. SILL, P.E.

NO.	DESCRIPTION	DATE
1	AS-BUILT PLAN BY SEG	06/14/23
REVISIONS		

FINAL SEDIMENT AND EROSION CONTROL DRAINAGE AREA PLAN THE WOODLANDS
 LOTS 1 THRU 8, BUILDABLE PRESERVATION PARCEL A AND NON-BUILDABLE PRESERVATION PARCELS B, C, AND D (RE-SUBDIVISION OF LOT 2 OF GLEN MARY ESTATES)

TAX MAP 28 GRID 23 PARCEL 15
 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

OWNER/DEVELOPER
 DOSA CLARKSVILLE LLC
 5900 WHALE BOAT DRIVE UNIT #206
 CLARKSVILLE, MD. 21029
 301.370.6866

DESIGN BY: PS
 DRAWN BY: JCV
 CHECKED BY: PS
 SCALE: 1" = 100'
 DATE: NOVEMBER 1, 2018
 PROJECT #: 14-029
 SHEET #: 7 of 19

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 32025, EXPIRATION DATE: JUNE 20, 2019.

SILL ENGINEERING GROUP, LLC
 11130 Dovedale Court, Suite 200
 Marriottsville, Maryland 21104
 Phone: 443.325.5076
 Fax: 410.696.2022
 Email: info@sillengineering.com
 Civil Engineering for Land Development

SEDIMENT CONTROL NOTES

- 1. A PRE-CONSTRUCTION MEETING MUST OCCUR WITH THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS... 2. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE...

Table with 2 columns: Description, Value. Rows include TOTAL AREA (21.21 ACRES), AREA DISTURBED (4.52 ACRES), AREA TO BE ROOFED OR PAVED (0.84 ACRES), etc.

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

STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

- TO STABILIZE DISTURBED SOILS WITH VEGETATION FOR UP TO 6 MONTHS... 1. SELECT ONE OR MORE OF THE SPECIES OR SEED MIXTURES LISTED IN TABLE B.3 FOR THE APPROPRIATE PLANT HARDINESS ZONE...

STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

- TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION... 1. GENERAL SPECIFICATIONS... 2. SOIL INSTALLATION... 3. SOD MAINTENANCE... 4. DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSOIL...

STANDARD STABILIZATION NOTE

FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN... 1. VERTICAL (V), AND... 2. FOR SLOPED AREAS... 3. WHEN STABILIZATION IS REQUIRED OUTSIDE OF A SEEDING SEASON...

STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

- DEFINITION: THE PROCESS OF PREPARING THE SOILS TO SUSTAIN ADEQUATE VEGETATIVE STABILIZATION... 1. TEMPORARY STABILIZATION... 2. PERMANENT STABILIZATION... 3. TOPSOILING... 4. SOIL AMENDMENTS...

SEQUENCE OF CONSTRUCTION

- 1. OBTAIN GRADING PERMIT... 2. NOTIFY HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS AT (410) 313-1880 AT LEAST 24 HOURS BEFORE STARTING ANY WORK... 3. INSTALL STABILIZED CONSTRUCTION ENTRANCE AND SUPER SILT FENCE... 4. INSTALL DIVERSION SWALE AND PERMANENTLY STABILIZE WITH SOD...

TABLE B.5: RECOMMENDED PLANTING DATES FOR PERMANENT COVER IN MARYLAND

Table with columns: TYPE OF PLANT MATERIAL, PLANT HARDINESS ZONES (5b & 6a, 6b, 7a & 7b), and planting dates for various grasses like SEEDS-COOL-SEASON GRASSES, SEEDS-WARM-SEASON COOL-SEASON GRASS MIXES, etc.

- NOTES: 1. THE PLANTING DATES LISTED ARE AVERAGES FOR EACH ZONE... 2. WHEN PLANTING DURING THE GROWING SEASON, MOST OF THESE MATERIALS MUST BE PURCHASED AND KEPT IN A DORMANT CONDITION UNTIL PLANTING... 4. ADDITIONAL PLANTING DATES FOR THE LOWER COASTAL PLAIN... 5. WARM-SEASON GRASSES NEED A SOIL TEMPERATURE OF AT LEAST 50 DEGREES F...

TABLE B.1: TEMPORARY SEEDING FOR SITE STABILIZATION

Table with columns: PLANT SPECIES, SEEDING RATE (LB/AC, LB/1000 FT^2), SEEDING DEPTH (INCHES), and RECOMMENDED SEEDING DATES BY PLANT HARDINESS ZONE (5b & 6a, 6b, 7a & 7b).

- FERTILIZER RATE (10-20-20): 436 LB/AC (10LB/1000SF) LIME RATE: 2 TONS/AC (90LB/1000SF) NOTES: 1. SEEDING RATES FOR THE WARM-SEASON GRASSES ARE IN POUNDS OF PURE LIVE SEED (PLS)...

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING... [Signature] 4/30/18... CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS... [Signature] 11/19/2018... CHIEF, BUREAU OF HIGHWAYS

DEVELOPER'S CERTIFICATE... [Signature] 11-19... SIGNATURE OF DEVELOPER

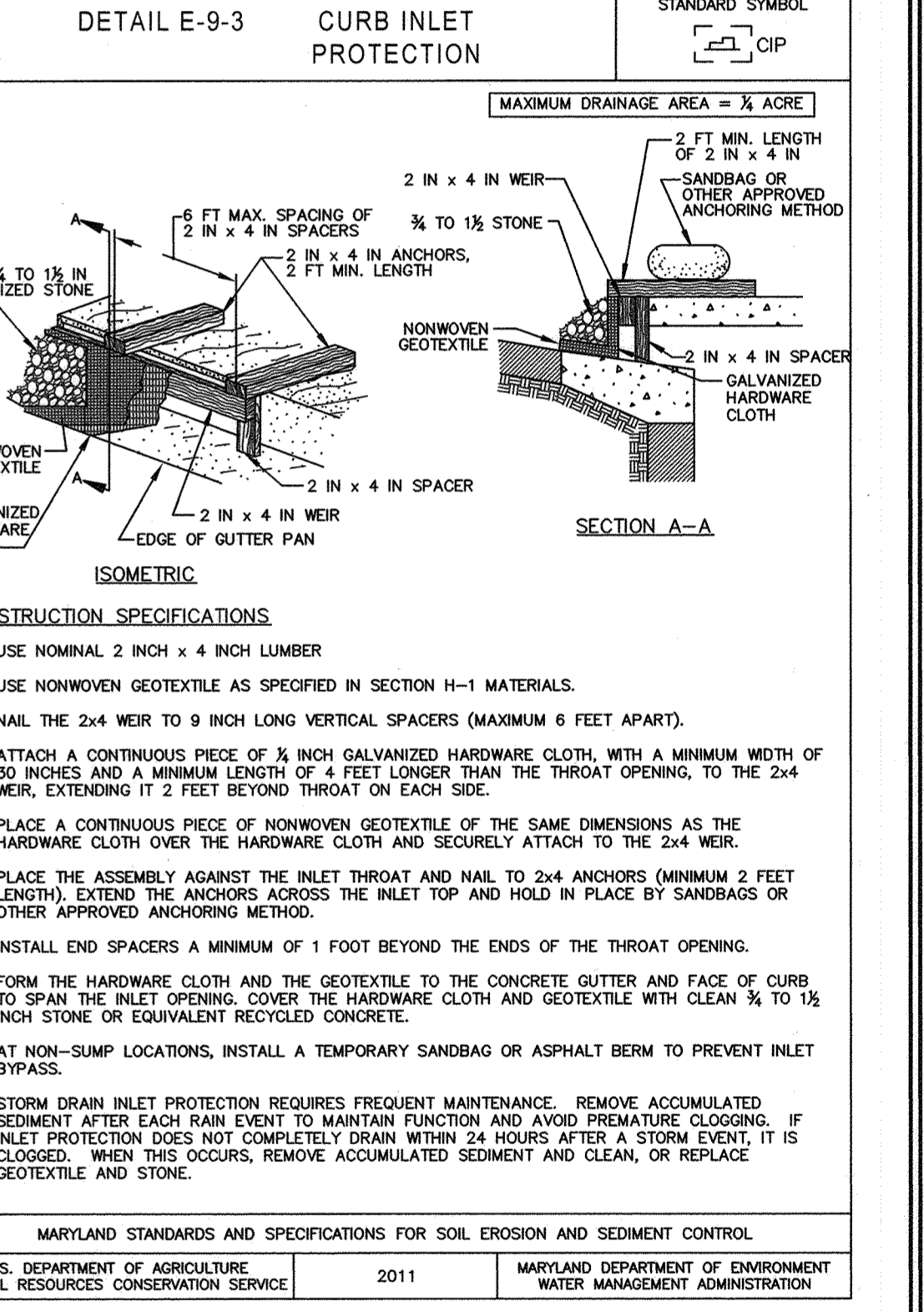
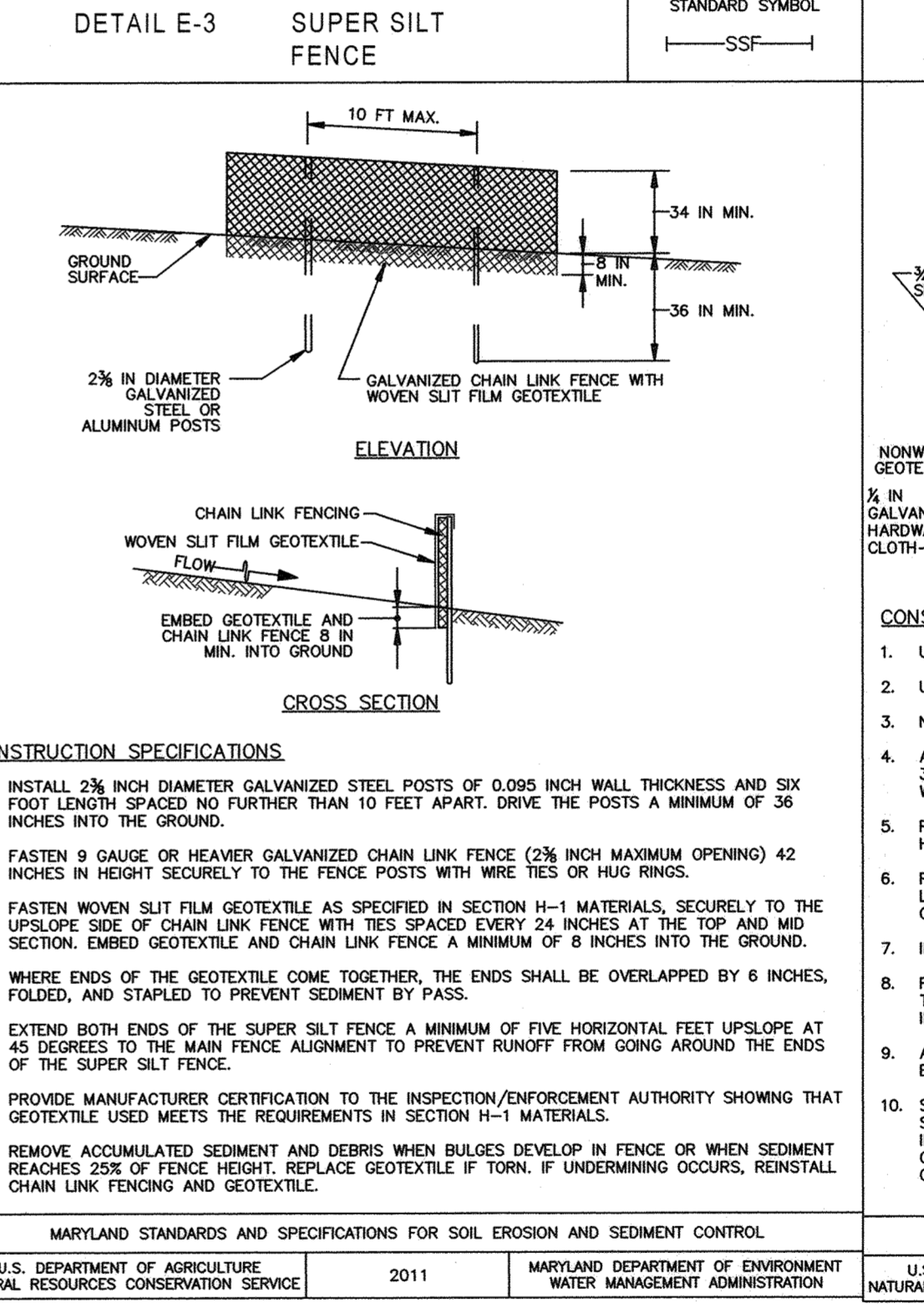
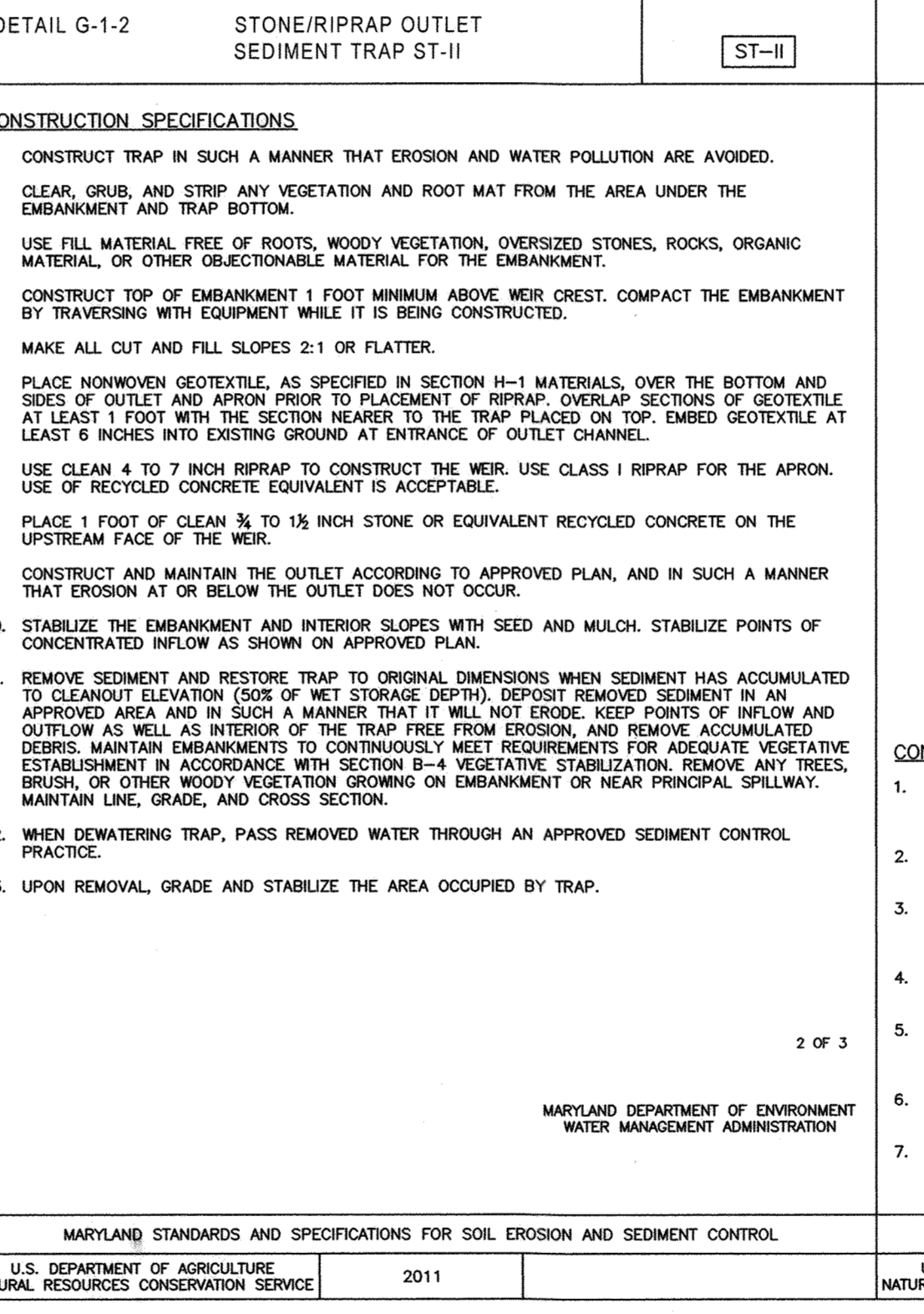
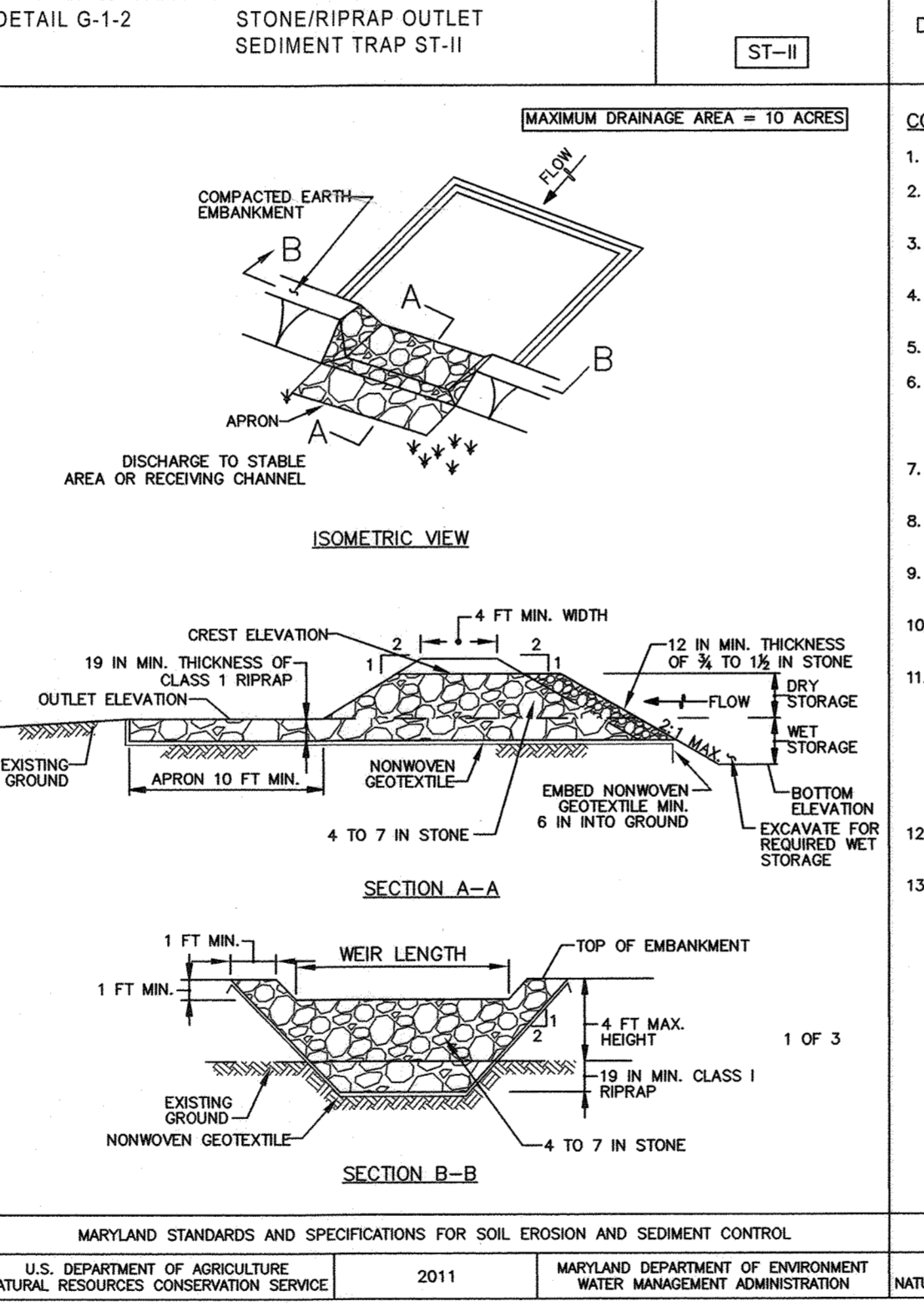
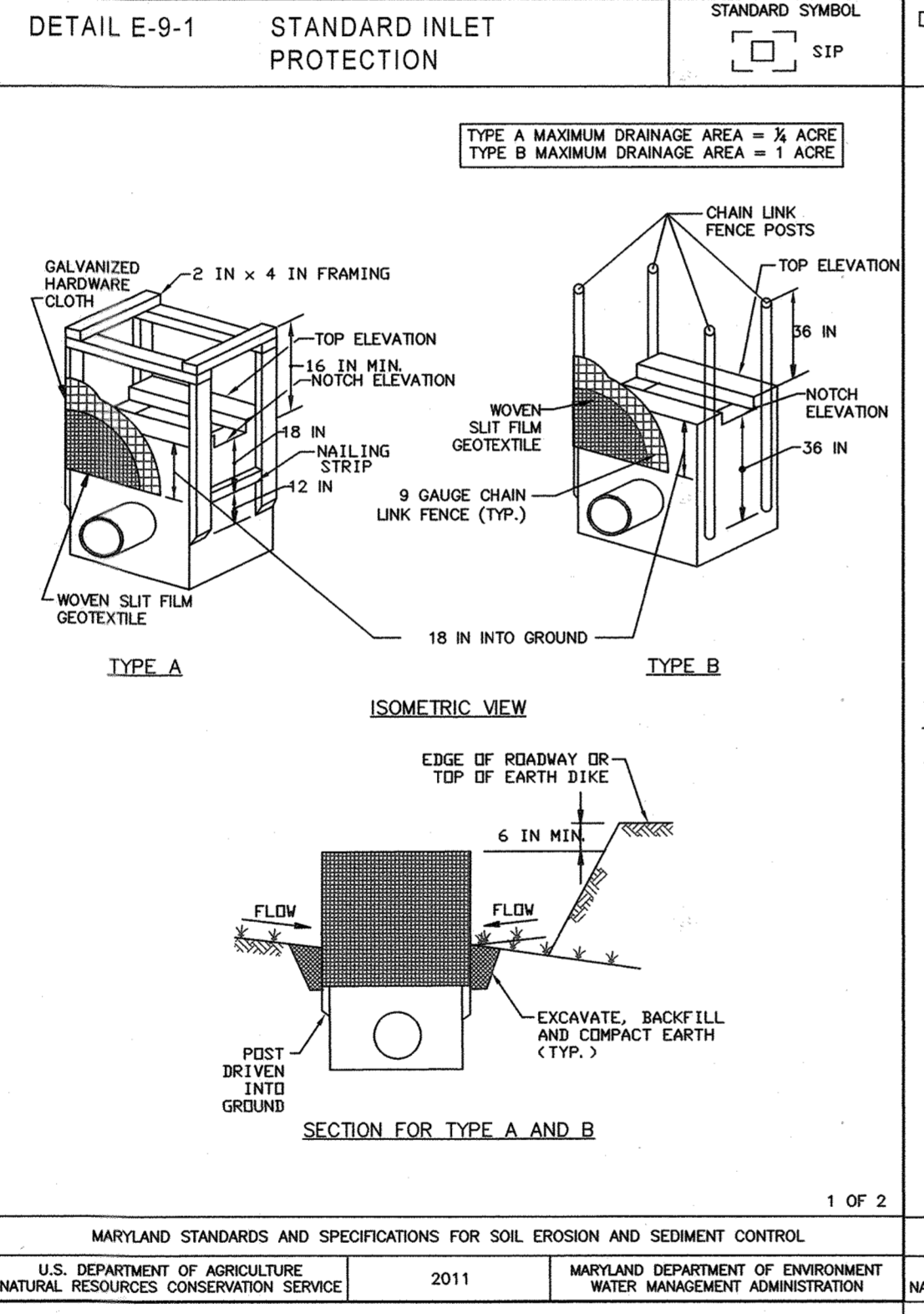
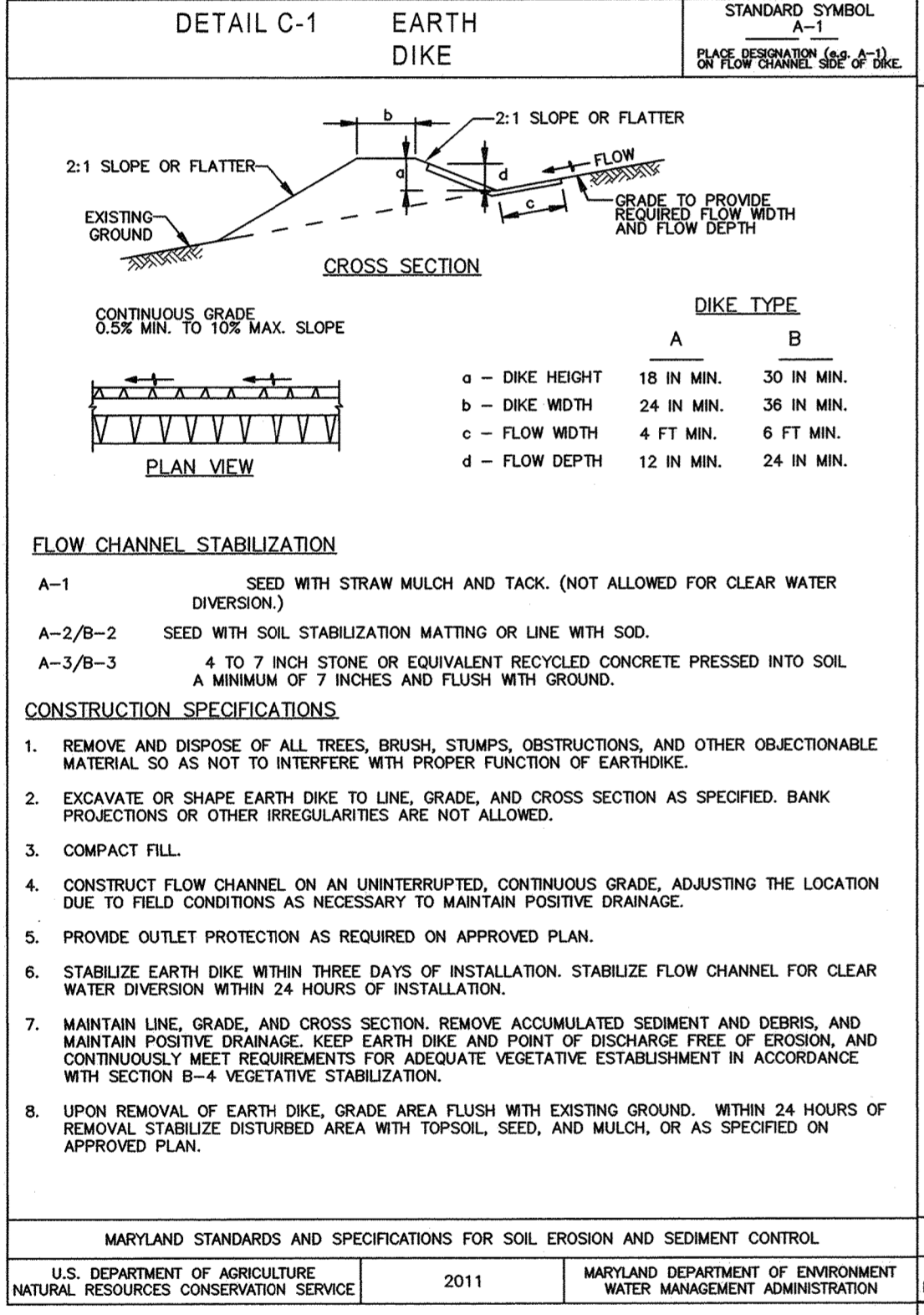
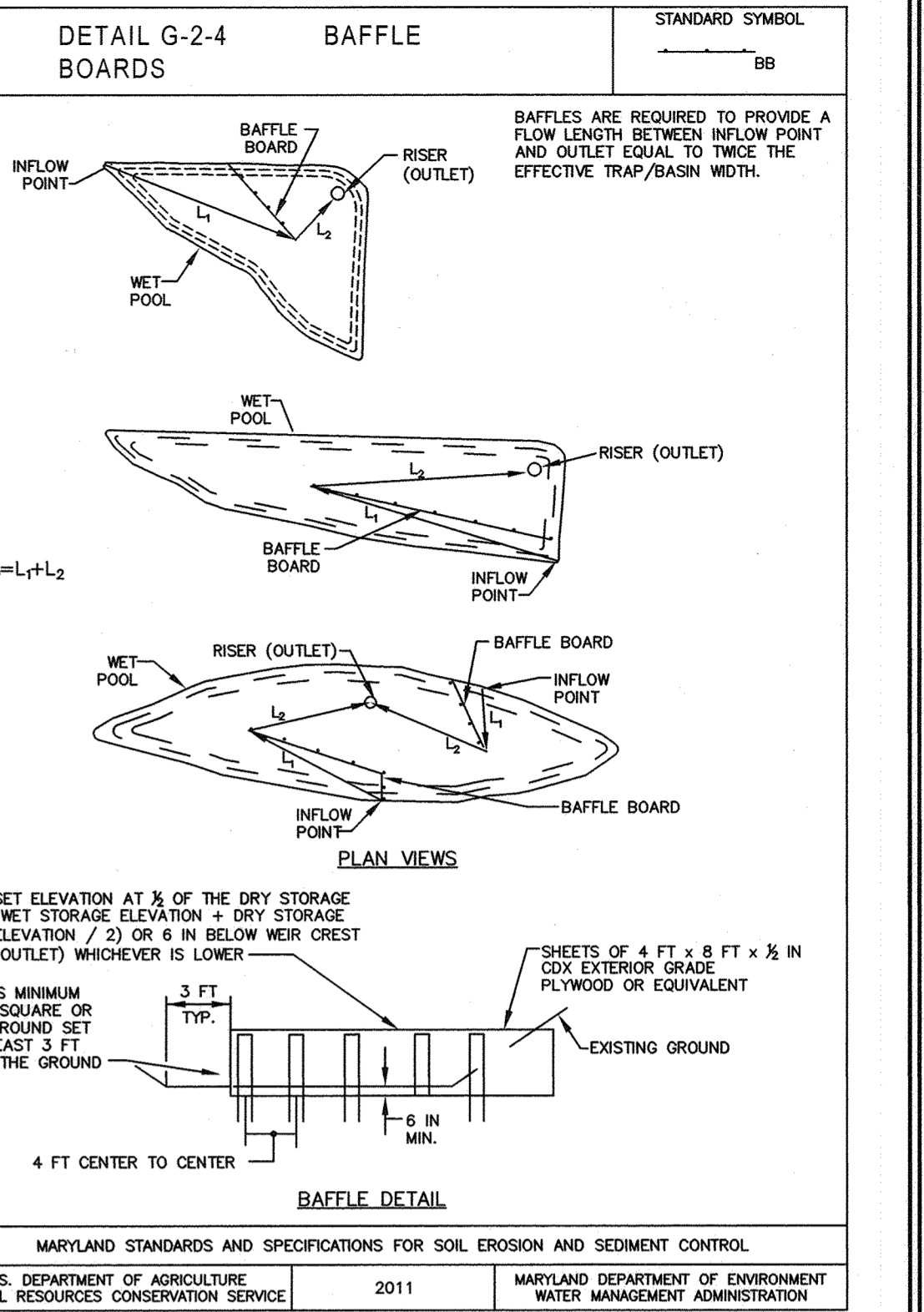
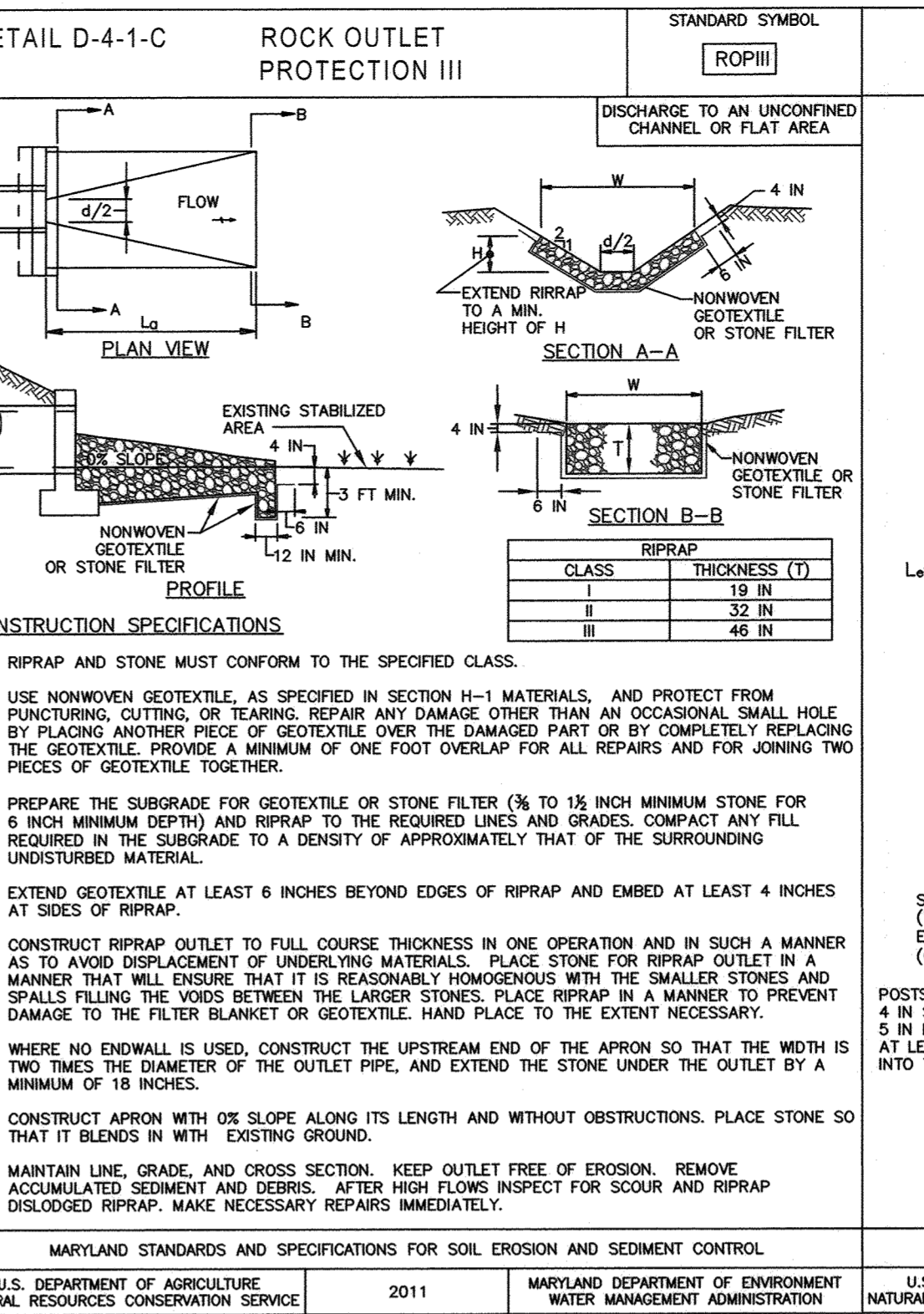
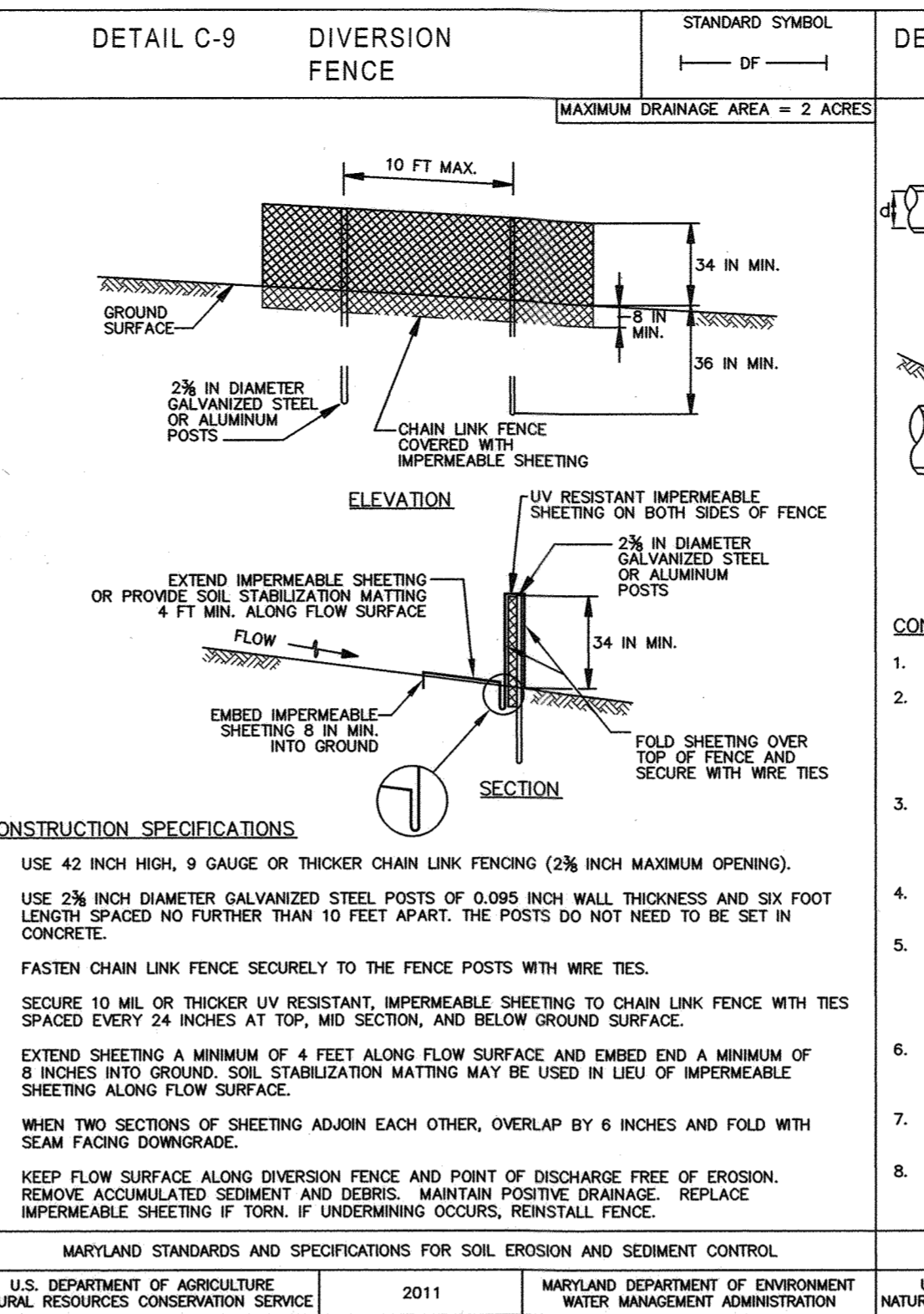
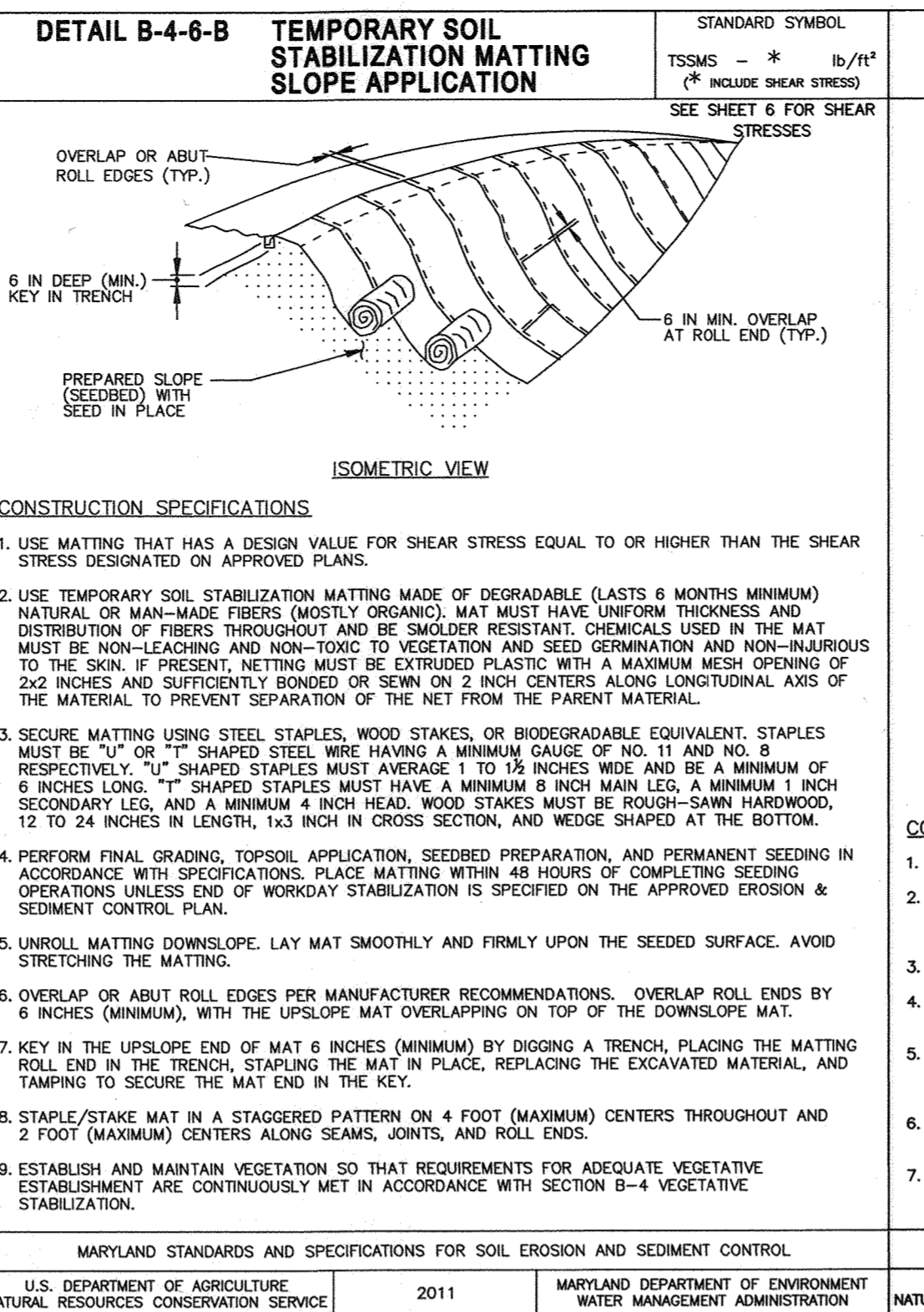
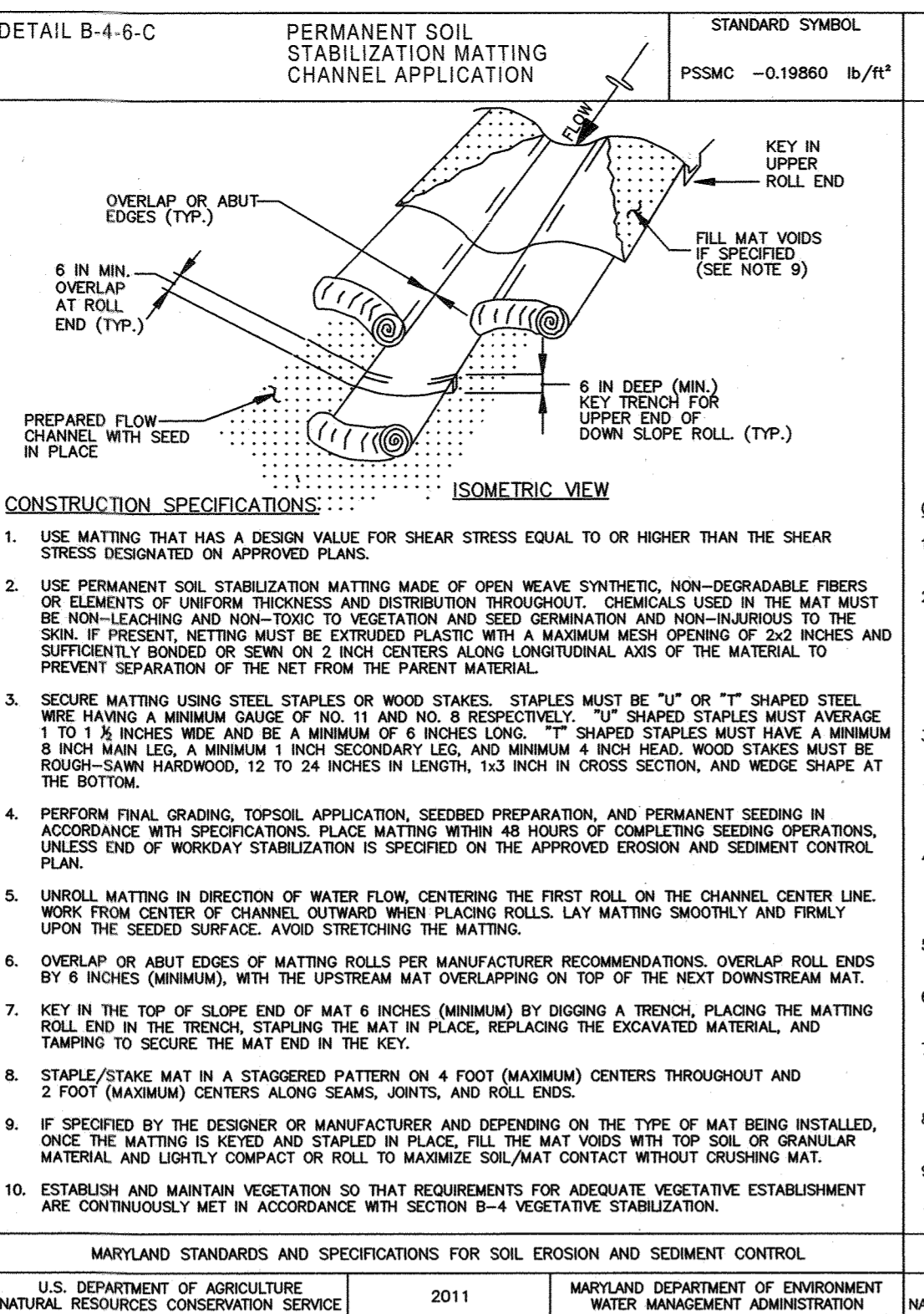
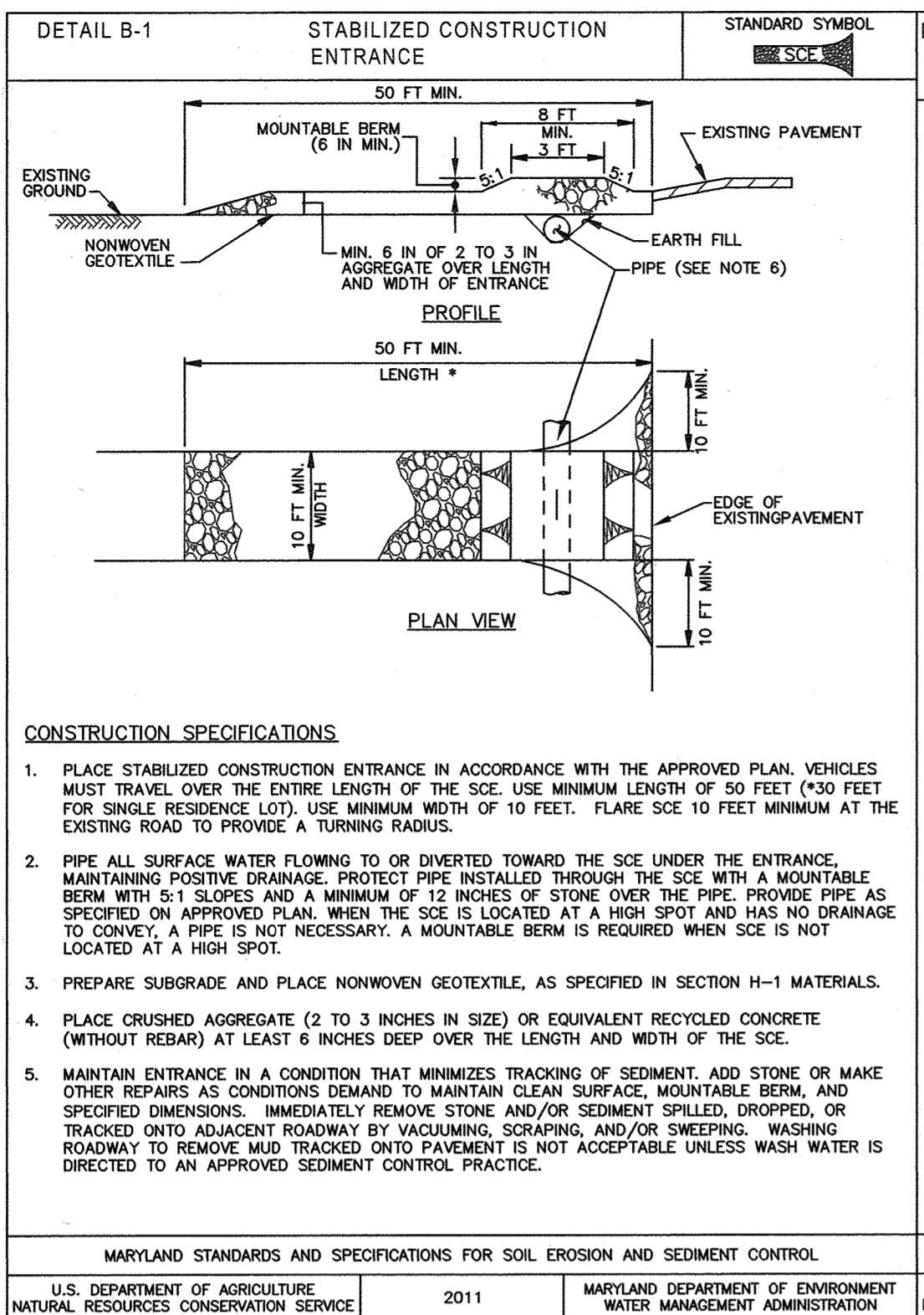
ENGINEER'S CERTIFICATE... [Signature] 11/18... SIGNATURE OF ENGINEER PAUL M. SILL, P.E.

OWNER/DEVELOPER: DOSA CLARKSVILLE LLC, 5900 WHALE BOAT DRIVE UNIT #206, CLARKSVILLE, MD, 21029... SILL ENGINEERING GROUP, LLC... 11330 Dovedale Court, Suite 200, Marriottsville, Maryland 21104...

SEDIMENT & EROSION CONTROL NOTES, DETAILS & BORING LOGS THE WOODLANDS

LOTS 1 THRU 8, BUILDABLE PRESERVATION PARCEL A AND NON-BUILDABLE PRESERVATION PARCELS B, C, AND D (RE-SUBDIVISION OF LOT 2 OF GLEN MARY ESTATES)

TAX MAP 28 GRID 23, 5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND... PARCEL 15... DESIGN BY: PS, DRAWN BY: JCV, CHECKED BY: PS, SCALED: AS SHOWN, DATE: NOVEMBER 1 2018, PROJECT #: 14-029, SHEET #: 8 of 19



BAFFLE BOARDS

TRAP	FLOW LENGTHS	BAFFLE ELEVATION
1	L1 = 36.06' L2 = 27.43' L3 = 22.86'	478.93
2	L1 = 26.42' L2 = 23.07' L3 = 33.20'	422.00

OWNER/DEVELOPER
DOSA CLARKSVILLE, LLC
5900 WHALE BOAT DRIVE UNIT #206
CLARKSVILLE, MD 21029
301.370.6899

AS-BUILT CERTIFICATION
THERE IS NO AS-BUILT INFORMATION ON THIS SHEET.

SEDIMENT & EROSION CONTROL NOTES & DETAILS
THE WOODLANDS
LOTS 1 THRU 8, BUILDABLE PRESERVATION PARCEL A AND NON-BUILDABLE PRESERVATION PARCELS B, C, AND D (RE-SUBDIVISION OF LOT 2 OF GLEN MARRY STATE)

NOTE: FOR TREE PROTECTION FENCE, SEE SHEET 17.

TAX MAP 28 GRD 23
5TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
PARCEL 15

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
DATE: 11-30-18
DATE: 11-27-18

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
DATE: 11/19/2018
DATE: 11/19/2018

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT
DATE: 4/3/18

DEVELOPER'S CERTIFICATE
"I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."
DATE: 11-1-18

ENGINEERS CERTIFICATE
"I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."
DATE: 11/1/18

NO.	DESCRIPTION	DATE
1	AS-BUILT PLAN BY SER	08/14/23
	REVISIONS	

SILL ENGINEERING GROUP, LLC
11130 Dovelade Court, Suite 200
Marriottsville, Maryland 21104
Phone: 410.325.5076
Fax: 410.696.2022
Email: info@sillengineering.com
Civil Engineering for Land Development

DESIGN BY: PS
DRAWN BY: JCV
CHECKED BY: PS
SCALE: AS SHOWN
DATE: NOVEMBER 1, 2018
PROJECT NO.: 14-029
SHEET NO.: 9 OF 19

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 33025, EXPIRATION DATE: JUNE 20, 2019

SOILS LEGEND			
SYMBOL	NAME / DESCRIPTION	GROUP	'K' FACTOR
GgC	GAILA LOAM, 5 TO 15 PERCENT SLOPES	B	0.24
GgB	GLENELG LOAM, 3 TO 8 PERCENT SLOPES	C	0.20
GmB	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	0.37
MaC	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	0.24
MaD	MANOR LOAM, 15 TO 25 PERCENT SLOPES	B	0.24
WbB	WILTSHIRE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	0.24

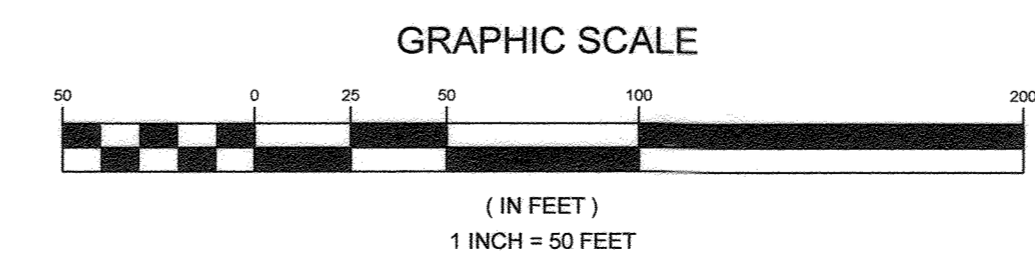
NOTES:
 1) SOIL INFORMATION HAS BEEN TAKEN FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE, WEB SOIL SURVEY.
 2) HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR 'K' GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT.



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature] 11-30-18
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 [Signature] 11-27-18
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

PLAN VIEW
 SCALE: 1"=50'



NO.	DESCRIPTION	DATE
1	AS-BUILT PLAN BY SEG	11/14/2018

LEGEND	
EXISTING CONTOUR	---
PROPOSED CONTOUR	---
EXISTING SPOT ELEVATION	382.3
PROPOSED SPOT ELEVATION	+82.52
DIRECTION OF FLOW	→
EXISTING SPECIMEN TREE	ST#6
EXISTING TREELINE	~~~~~
PROPOSED TREELINE	~~~~~
PROPOSED MICRO-BIORETENTION FACILITY (M-6)	BIO 2
ROOF LEADERS	↑
PROPOSED DRAINAGE DIVIDE	↑
SOIL BOUNDARY	---
HYDROLOGIC SOIL GROUP 'C'	□
FOREST CONSERVATION AREA	▨

MATCHLINE SEE SHEET ELEVEN

* OFFSITE DRAIN SHALL BY-PASS RUNOFF AROUND BIO 6.

AS-BUILT 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.

[Signature] 11/22/18
 PAUL M. SILL, PROFESSIONAL ENGINEER
 LICENSE NO. 32025 DATE 08/14/2023

OWNER/DEVELOPER
 DOSA CLARKSVILLE, LLC
 5900 WHALE BOAT DRIVE UNIT #205
 CLARKSVILLE MD, 21029
 301.370.6966

FINAL STORM DRAIN DRAINAGE AREA MAP THE WOODLANDS
 LOTS 1 THRU 8, BUILDABLE PRESERVATION PARCEL A AND NON-BUILDABLE PRESERVATION PARCELS B, C, AND D (RE-SUBDIVISION OF LOT 2 OF GLEN MARY ESTATES)

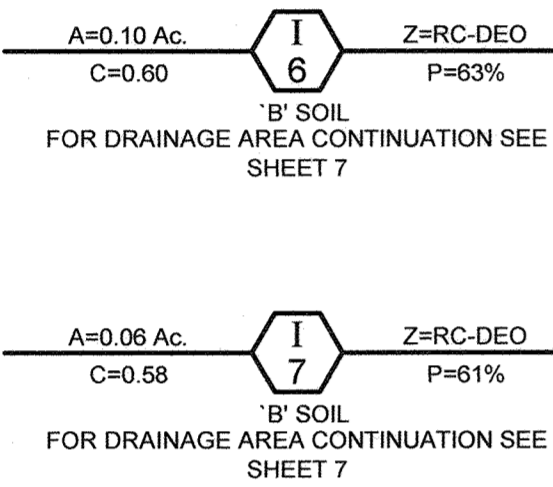
TAX MAP 28 GRID 23 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND PARCEL 15

DESIGN BY: PS
 DRAWN BY: JCV
 CHECKED BY: PS
 SCALE: 1" = 50'
 DATE: NOVEMBER 1, 2018
 PROJECT #: 14-029
 SHEET #: 10 of 19

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 32025, EXPIRATION DATE: JUNE 20, 2019.

SOILS LEGEND			
SYMBOL	NAME / DESCRIPTION	GROUP	'K' FACTOR
GaC	GAILA LOAM, 8 TO 15 PERCENT SLOPES	B	0.24
GpB	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	B	0.20
GmB	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	0.37
MaC	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	0.24
MaD	MANOR LOAM, 15 TO 25 PERCENT SLOPES	B	0.24
WhB	WILTSHIRE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	0.24

NOTES:
 1) SOIL INFORMATION HAS BEEN TAKEN FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE: NATURAL RESOURCES CONSERVATION SERVICE: WEB SOIL SURVEY.
 2) HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR 'K' GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT.



MATCHLINE SEE SHEET TEN

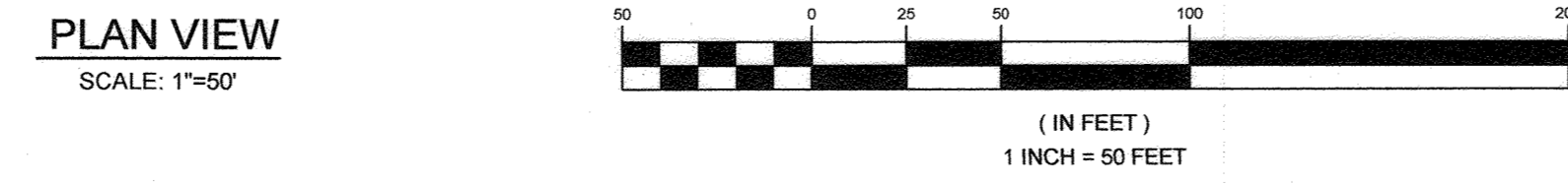
AS-BUILT CERTIFICATION
 I HEREBY CERTIFY, BY MY SEAL, THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS 'AS-BUILT' PLAN MEET THE APPROVED PLANS AND SPECIFICATIONS.
 PAUL M. SILL, PROFESSIONAL ENGINEER
 LICENSE NO. 32025 DATE 08/14/2023

OWNER/DEVELOPER
 DOSA CLARKSVILLE LLC
 5900 WHALE BOAT DRIVE UNIT #206
 CLARKSVILLE MD, 21029
 301.370.8866

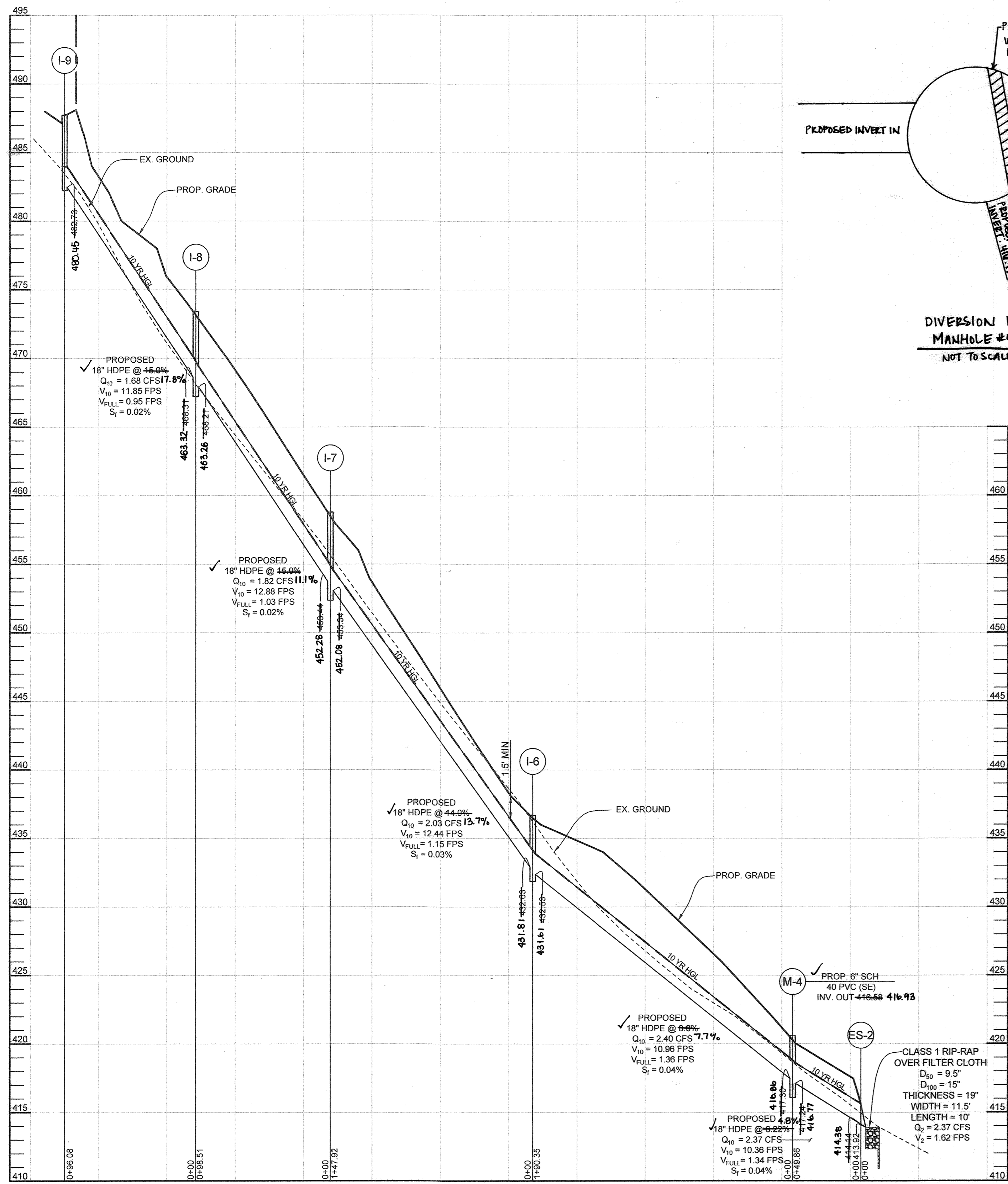
FINAL STORM DRAIN DRAINAGE AREA MAP THE WOODLANDS
 LOTS 1 THRU 8, BUILDABLE PRESERVATION PARCEL A AND NON-BUILDABLE PRESERVATION PARCELS B, C, AND D (RE-SUBDIVISION OF LOT 2 OF GLEN MARY ESTATES)
 TAX MAP 28 GRID 23 PARCEL 15
 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

		DESIGN BY: PS DRAWN BY: JCV CHECKED BY: PS SCALE: 1" = 50' DATE: NOVEMBER 1 2018 PROJECT #: 14-029 SHEET #: 11 of 19
	11130 Dovedale Court, Suite 200 Marriottsville, Maryland 21104 Phone: 443.325.5076 Fax: 410.696.2022 Email: info@sillengineering.com Civil Engineering for Land Development	PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 32025, EXPIRATION DATE: JUNE 20, 2019.

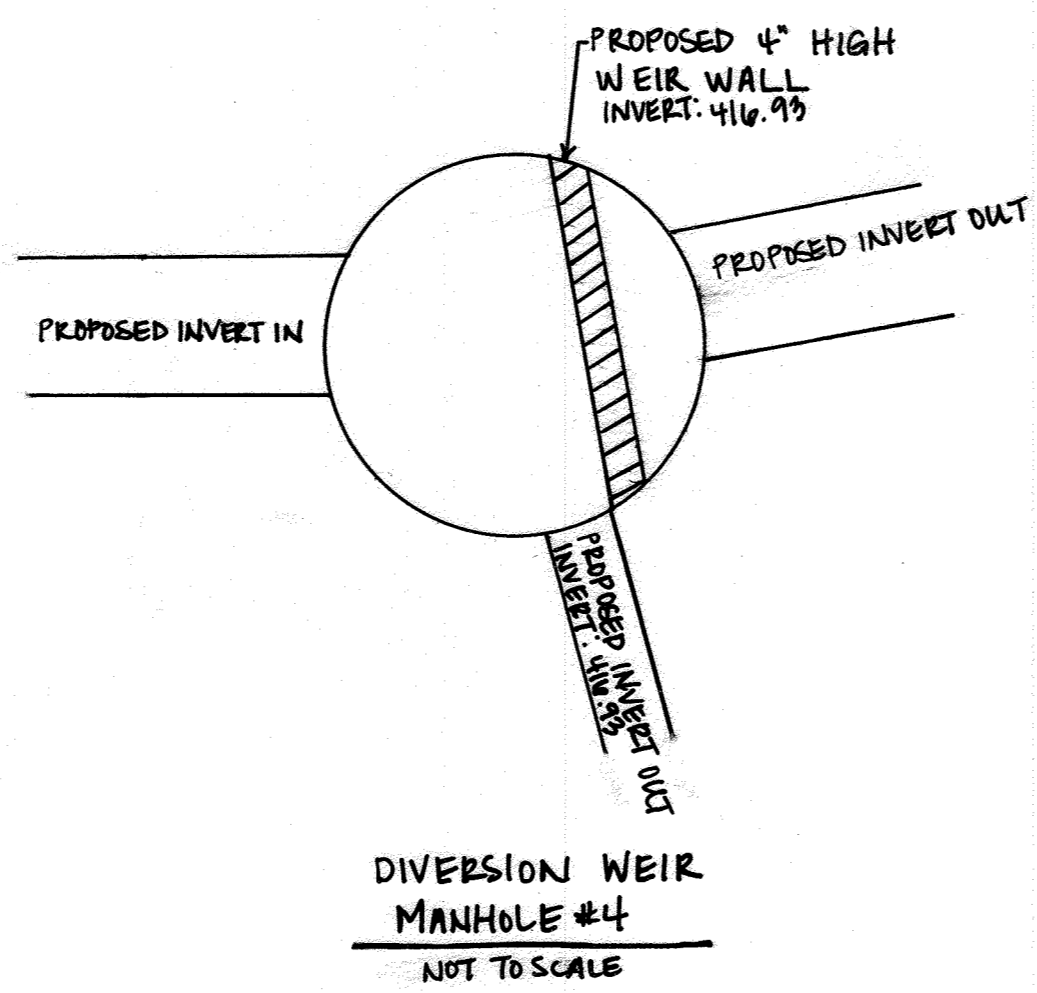
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING CHIEF, DIVISION OF LAND DEVELOPMENT DATE: 11-30-18	APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS CHIEF, BUREAU OF HIGHWAYS DATE: 11/19/2018
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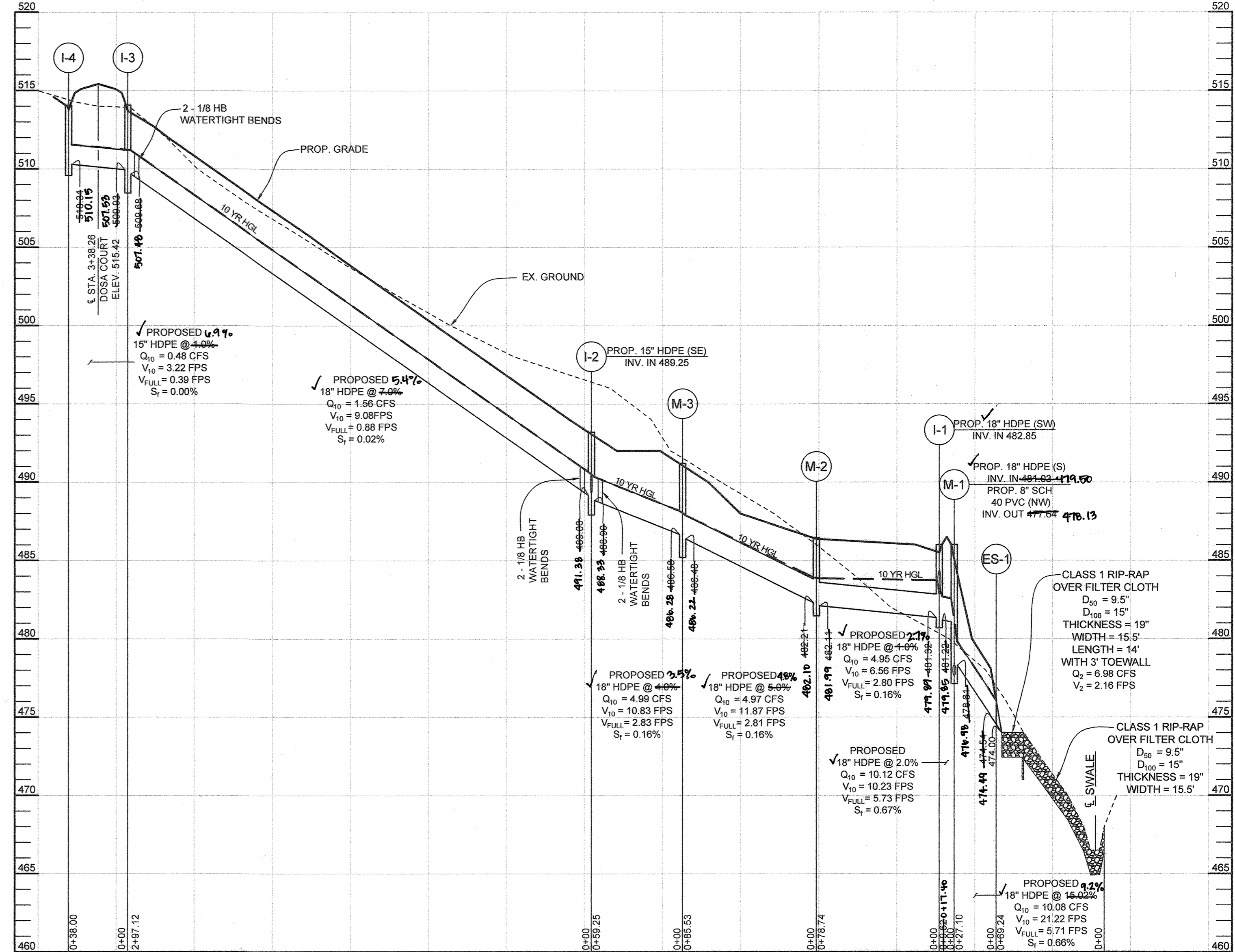
NO.	DESCRIPTION	DATE
1	AS-BUILT PLAN BY SEG	08/14/2023



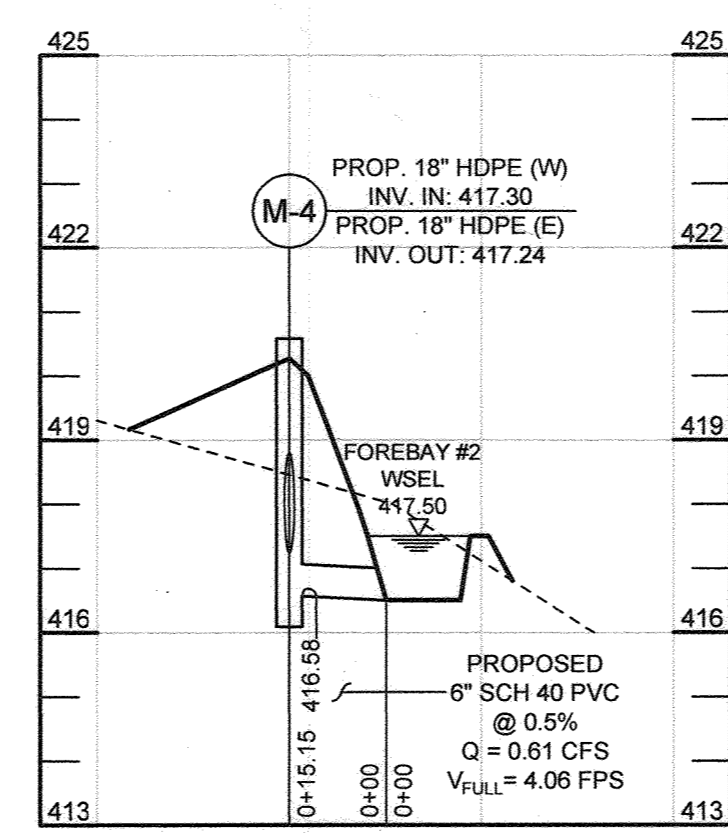
STORMDRAIN PROFILE I-9 TO ES-2
HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'



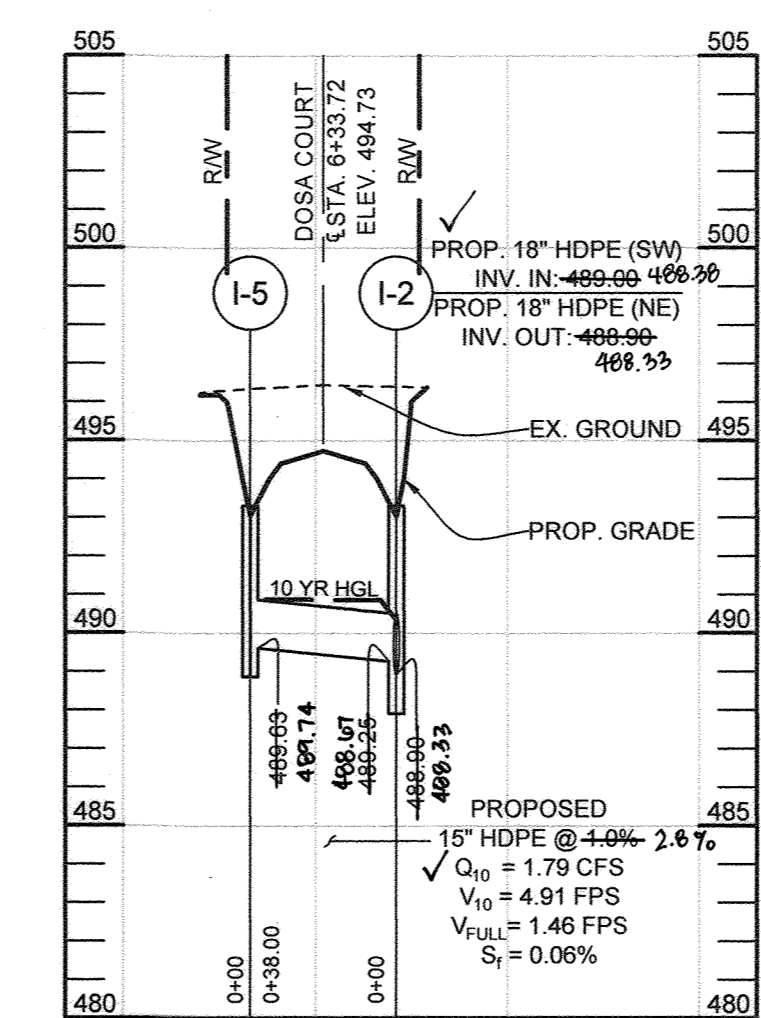
DIVERSION WEIR MANHOLE #4
NOT TO SCALE



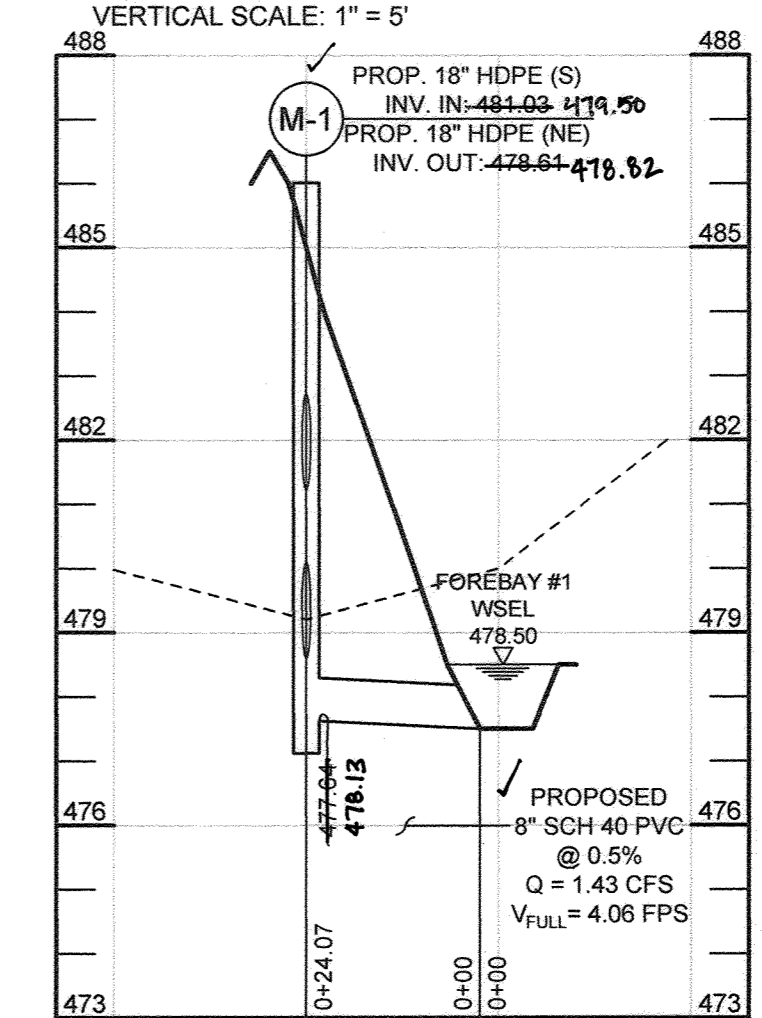
STORMDRAIN PROFILE I-4 TO ES-1
HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'



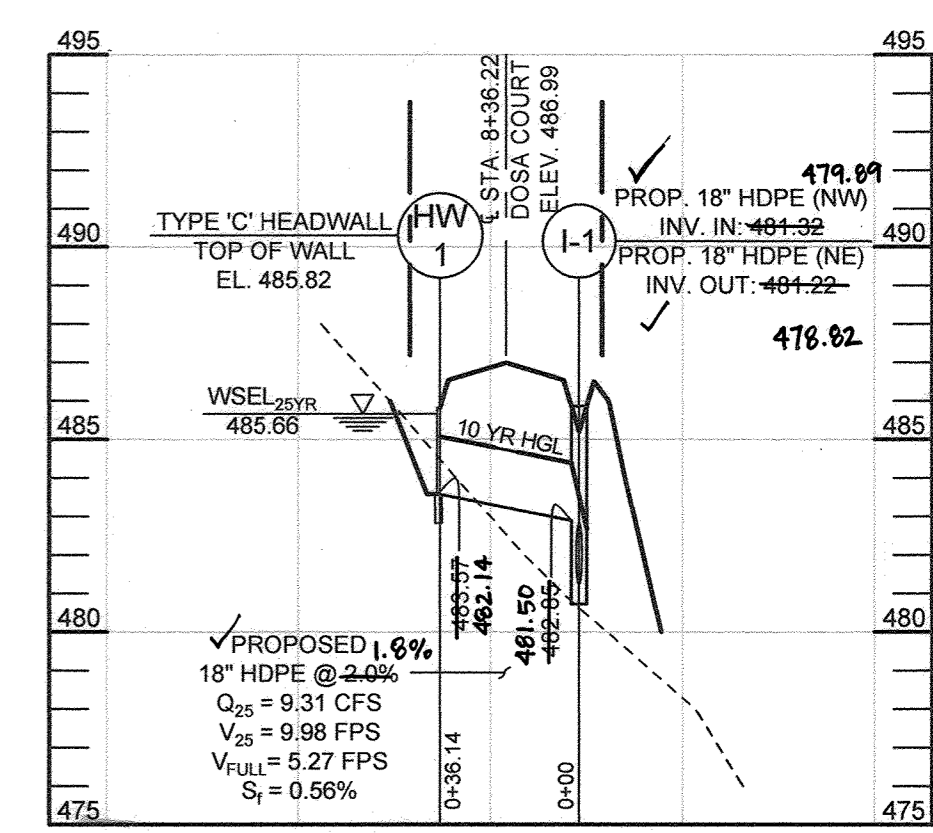
STORMDRAIN PROFILE M-4 TO FOREBAY #2
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 3'



STORMDRAIN PROFILE I-5 TO I-2
HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'



STORMDRAIN PROFILE M-1 TO FOREBAY #1
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 3'



STORMDRAIN PROFILE HW-1 TO I-1
HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'

- STORMDRAIN NOTES**
- COORDINATES FOR THE END SECTIONS ARE TO THE JUNCTION OF THE END SECTION WITH THE PIPING.
 - COORDINATES FOR THE TYPE 'C' END WALL IS AT THE INVERT OF THE PIPE AT THE FACE OF WALL.
 - TOP ELEVATIONS FOR PRECAST MANHOLES ARE TO THE CENTER TOP OF MANHOLE COVER.
 - TOP ELEVATION OF OPEN END GRATE INLETS ARE THE WEIR 4" BELOW GRATE TOP PER SECTION C-C OF HOWARD COUNTY STANDARD DETAIL D-4.36.
 - LOCATION COORDINATES FOR MANHOLES AND INLETS ARE CENTER OF STRUCTURE.
 - TOP SLOPE OF STRUCTURES TO CONFORM TO SLOPE OF PAVING/GROUND.
 - TOP ELEVATION FOR TYPE 'A' INLET IS AT FLOW LINE FACE OF CURB.

STRUCTURE SCHEDULE

NO.	TYPE & OWNERSHIP	LOCATION	TOP ELEV.	INV. IN	INV. OUT	REMARKS
ES-1	18" HDPE END SECTION PUBLIC	N 566,130.82 E 1,325,014.56	476.05	474.00	474.00	HANCOR OR EQUIVALENT
ES-2	18" HDPE END SECTION PUBLIC	N 565,836.16 E 1,325,708.81	415.64	414.24	413.92	HANCOR OR EQUIVALENT
HW-1	18" TYPE 'C' HEADWALL PUBLIC	SECTION B-36.24, 19'00" L	485.82	485.82	---	HO CO DTL D-5.21
I-1	OPEN END GRATE	SECTION B+36.24, 18.99' LV	485.21	482.85 (SW) 481.02 (NW)	481.22	HO CO DTL D-4.36
I-2	OPEN END GRATE	SECTION 3+37.72, 19.00' L	493.03	490.96 (SW) 490.26 (SE)	488.50	HO CO DTL D-4.36
I-3	OPEN END GRATE	SECTION 3+38.26, 19.00' L	513.51	509.92	509.88	HO CO DTL D-4.36
I-4	OPEN END GRATE	SECTION 3+38.26, 19.00' R	513.51	509.92	509.88	HO CO DTL D-4.36
I-5	OPEN END GRATE	SECTION 6+33.72, 19.00' R	493.03	489.63 (NW)	488.24	HO CO DTL D-4.36
I-6	OPEN END GRATE	N 565,827.51 E 1,325,527.43	436.67	432.63	432.59	HO CO DTL D-4.36
I-7	OPEN END GRATE	N 565,826.08 E 1,325,379.52	458.70	453.44	453.34	HO CO DTL D-4.36
I-8	OPEN END GRATE	N 565,825.16 E 1,325,281.02	473.42	468.31	468.21	HO CO DTL D-4.36
I-9	TYPE 'A-5' INLET PUBLIC	LP STATION 0+96.20	487.73	487.73	488.45	HO CO DTL D-4.36
M-1	PRECAST 4' MANHOLE (SPLITTER)	SECTION 7+04.03, 21'00" L	486.04	481.03	477.54 (NW) 479.04 (NE)	HO CO DTL G-5.12
M-2	PRECAST 4' MANHOLE	SECTION 7+04.03, 21'00" L	486.04	481.03	482.11	HO CO DTL G-5.12
M-3	PRECAST 4' MANHOLE	SECTION 7+04.03, 21'00" L	486.04	481.03	486.46	HO CO DTL G-5.12
M-4	PRECAST 4' MANHOLE (SPLITTER)	N 565,829.14 E 1,325,717.77	429.58	447.30 426.78	446.68 (SE) 447.24 (NE)	HO CO DTL G-5.12

PIPE SCHEDULE

SIZE	TYPE	LENGTH
6" PUBLIC	SCH 40 PVC	14 LF
8" PUBLIC	SCH 40 PVC	27 LF
15" PUBLIC	HDPE	68 LF
18" PUBLIC	HDPE	1180 LF

AS-BUILT 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.

[Signature]
PAUL M. SILL, PROFESSIONAL ENGINEER
LICENSE NO. 32025 DATE 08/14/2023

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
CHIEF, DIVISION OF LAND DEVELOPMENT
DATE: 2/24/2020

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
CHIEF, BUREAU OF HIGHWAYS
DATE: 2/10/2020

REVISED FINAL STORM DRAIN PROFILES

THE WOODLANDS
LOTS 1 THRU 8, BUILDABLE PRESERVATION PARCEL A AND NON-BUILDABLE PRESERVATION PARCELS B, C, AND D (RE-SUBDIVISION OF LOT 2 OF GLEN MARY ESTATES)

TAX MAP 28 GRID 23
5TH ELECTION DISTRICT

PARCEL 15
HOWARD COUNTY, MARYLAND

SILL ENGINEERING GROUP, LLC
11130 Dovedale Court, Suite 200
Marriottsville, Maryland 21104
Phone: 410.696.2022
Fax: 410.696.2022
Email: info@sillengineering.com
Civil Engineering for Land Development

DESIGN BY: PS
DRAWN BY: JCV
CHECKED BY: PS
SCALE: AS SHOWN
DATE: NOVEMBER 1 2018
PROJECT #: 14-029
SHEET #: 12 OF 13

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 32025, EXPIRATION DATE: JUNE 20, 2019.

SOILS LEGEND			
SYMBOL	NAME / DESCRIPTION	GROUP	'K' FACTOR
GgC	GAIL LOAM, 8 TO 15 PERCENT SLOPES	B	0.24
GgB	GLENELG LOAM, 3 TO 8 PERCENT SLOPES	B	0.20
GmB	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	0.37
MaC	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	0.24
MaD	MANOR LOAM, 15 TO 25 PERCENT SLOPES	B	0.24
WmB	WILTSHIRE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	0.24

NOTES:
 1) SOIL INFORMATION HAS BEEN TAKEN FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE, WEB SOIL SURVEY.
 2) HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR 'K' GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT.

LEGEND	
EXISTING CONTOUR	---
PROPOSED CONTOUR	---
EXISTING SPOT ELEVATION	822.5
PROPOSED SPOT ELEVATION	822.5
DIRECTION OF FLOW	→
EXISTING SPECIMEN TREE	ST#6
EXISTING TREELINE	---
PROPOSED TREELINE	---
STANDARD INLET PROTECTION	SIP
PROPOSED MICRO-BIORETENTION FACILITY (M-6)	BIO 2
HYDROLOGIC SOIL GROUP 'C'	---
STORM WATER MANAGEMENT-DISCONNECT	---
FOREST CONSERVATION AREA	---
ROOF LEADERS	---



MATCHLINE SEE SHEET FOURTEEN

AS-BUILT 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.

PAUL M. SILL, PROFESSIONAL ENGINEER
 LICENSE NO. 32025 DATE 08/14/2023

OWNER/DEVELOPER
 DOSA CLARKSVILLE LLC
 5900 WHALE BOAT DRIVE UNIT #206
 CLARKSVILLE MD, 21029
 301.370.6966

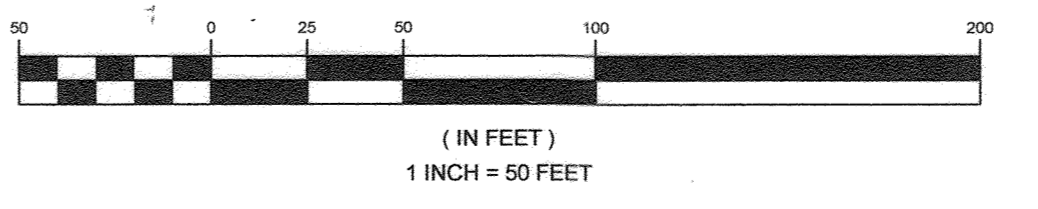
FINAL STORMWATER MANAGEMENT DRAINAGE AREA MAP THE WOODLANDS

LOTS 1 THRU 8, BUILDABLE PRESERVATION PARCELS B, C, AND D (RE-SUBDIVISION OF LOT 2 OF GLEN MARY ESTATES)

TAX MAP 28 GRID 23 5TH ELECTION DISTRICT PARCEL 15 HOWARD COUNTY, MARYLAND

PLAN VIEW
 SCALE: 1"=50'

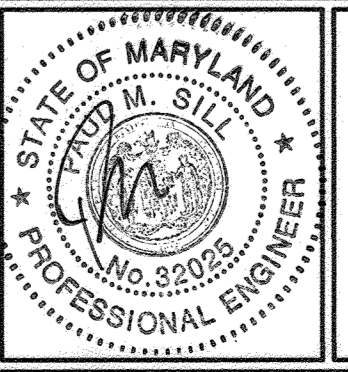
GRAPHIC SCALE



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature] 11-27-18
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 [Signature] 11/19/2018
 CHIEF, BUREAU OF HIGHWAYS DATE

NO.	DESCRIPTION	DATE
1	AS-BUILT PLAN BY SILL ENGINEERING GROUP, LLC	08/14/2023



SILL ENGINEERING GROUP, LLC
 11130 Devedale Court, Suite 200
 Marriottsville, Maryland 21104
 Phone: 443.235.5076
 Fax: 410.696.2022
 Email: info@sillengineering.com
 Civil Engineering for Land Development

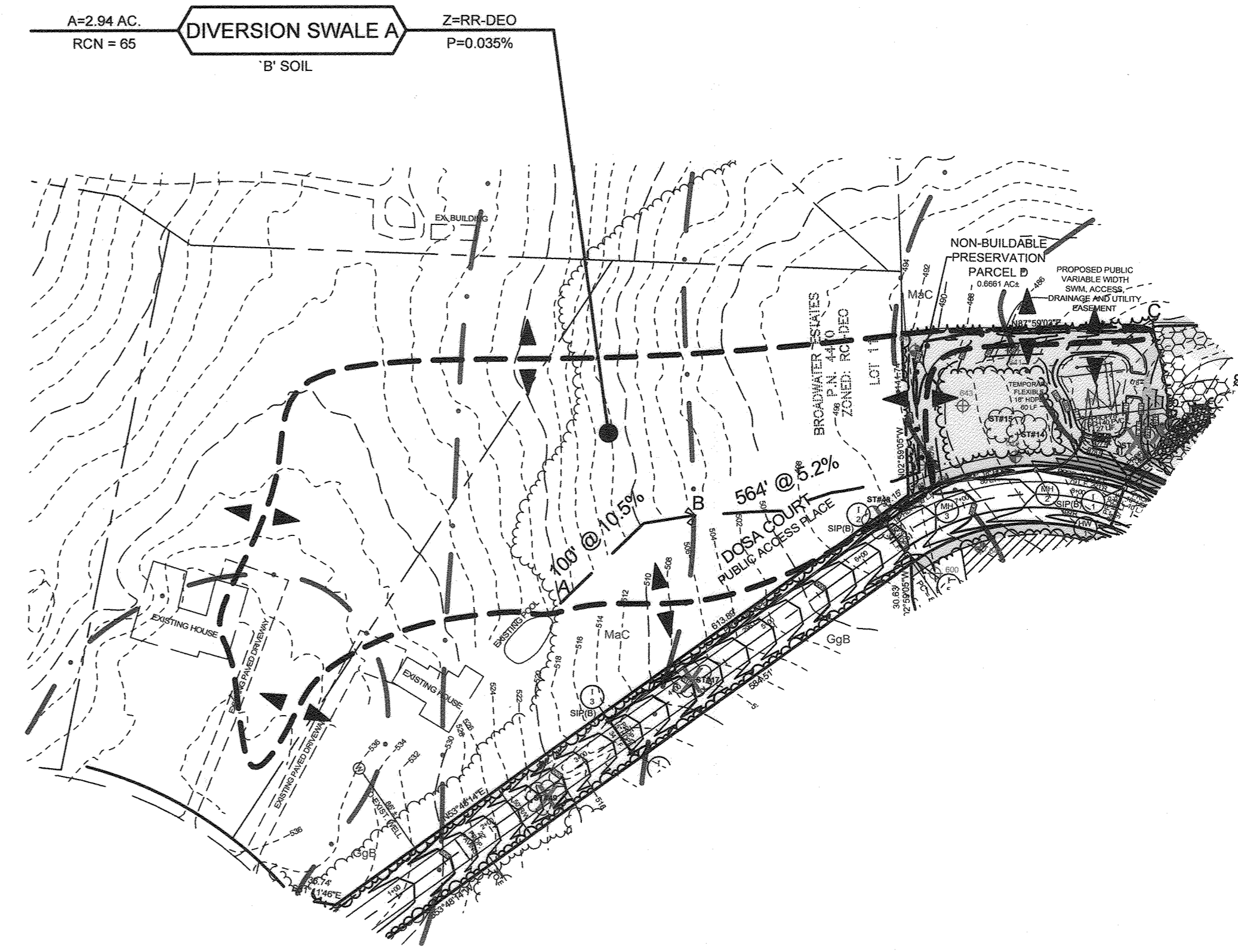
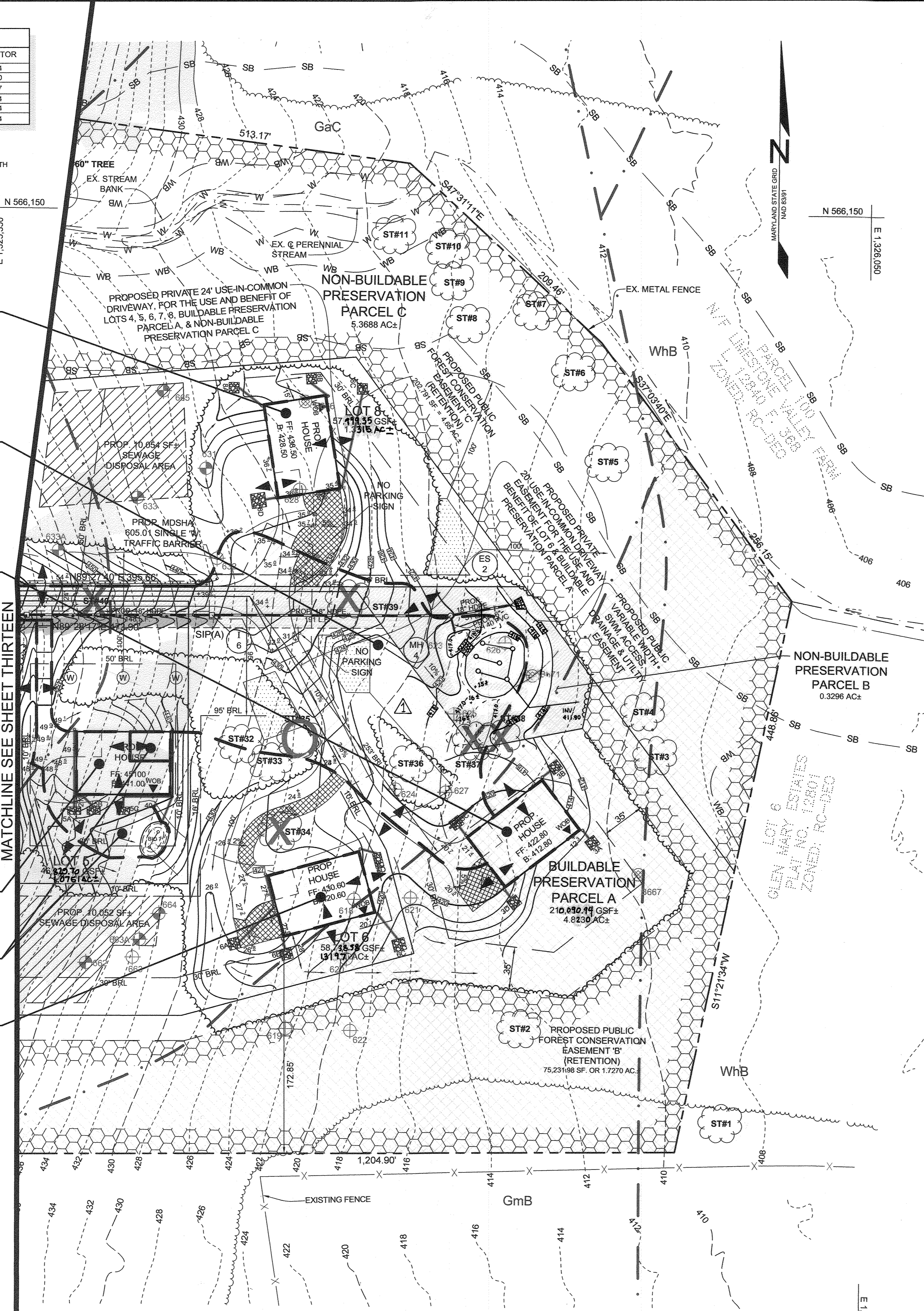
DESIGN BY: PS
 DRAWN BY: JCV
 CHECKED BY: PS
 SCALE: 1" = 50'
 DATE: NOVEMBER 1, 2018
 PROJECT #: 14-029
 SHEET #: 13 OF 19

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 32025, EXPIRATION DATE: JUNE 20, 2019.

SOILS LEGEND			
SYMBOL	NAME / DESCRIPTION	GROUP	'K' FACTOR
GaC	GAILA LOAM, 8 TO 15 PERCENT SLOPES	B	0.24
GpB	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	B	0.20
GmB	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	0.37
MaC	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	0.24
MaD	MANOR LOAM, 15 TO 25 PERCENT SLOPES	B	0.24
WhB	WILTSHIRE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	0.24

NOTES:
 1) SOIL INFORMATION HAS BEEN TAKEN FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE, WEB SOIL SURVEY.
 2) HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR 'K' GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT.

- A=0.086 Ac. Z=RR-DEO P=100%
 Pe = 1.6"
 'B' SOIL
 PROVIDE 4 DRY WELLS (M-5)
 ADDITIONAL VOLUME HAS BEEN INCLUDED IN THE DRY WELLS (M-5) TO PROVIDE EXTRA TREATMENT FOR THE NON-ROOFTOP DISCONNECT (N-2).
- A=1.855 Ac. Z=RR-DEO P=24%
 Pe = 1.6"
 'B' SOIL
 FOR DRAINAGE AREA CONTINUATION SEE SHEET 13.
- A=0.086 Ac. Z=RR-DEO P=100%
 Pe = 1.6"
 'B' SOIL
 PROVIDE 4 DRY WELLS (M-5)
- A=0.069 Ac. Z=RR-DEO P=100%
 Pe = 1.6"
 'B' SOIL
 PROVIDE 3 DRY WELLS (M-5)
- A=0.232 Ac. Z=RR-DEO P=26%
 Pe = 1.6"
 'B' SOIL
- A=0.086 Ac. Z=RR-DEO P=100%
 Pe = 1.6"
 'B' SOIL
 PROVIDE 4 DRY WELLS (M-5)
 ADDITIONAL VOLUME HAS BEEN INCLUDED IN THE DRY WELLS (M-5) TO PROVIDE EXTRA TREATMENT FOR THE NON-ROOFTOP DISCONNECT (N-2).

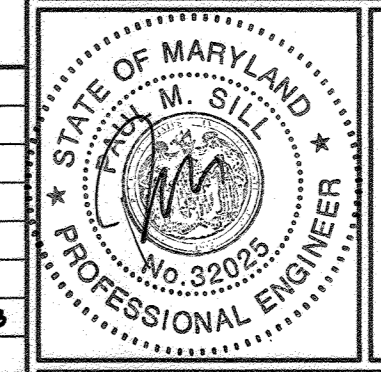


DRAINAGE AREA FOR DIVERSION SWALE A PLAN VIEW
 SCALE: 1"=100'

AS-BUILT 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.
 PAUL M. SILL, PROFESSIONAL ENGINEER
 LICENSE NO. 32025 DATE 08/14/2023

OWNER/DEVELOPER
 DOSA CLARKSVILLE LLC
 5800 WHALE BOAT DRIVE UNIT #206
 CLARKSVILLE, MD, 21029
 301.370.8866

FINAL STORMWATER MANAGEMENT DRAINAGE AREA MAP THE WOODLANDS
 LOTS 1 THRU 8, BUILDABLE PRESERVATION PARCEL A AND NON-BUILDABLE PRESERVATION PARCELS B, C, AND D (RE-SUBDIVISION OF LOT 2 OF GLEN MARY ESTATES)
 TAX MAP 28 GRID 23 PARCEL 15
 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

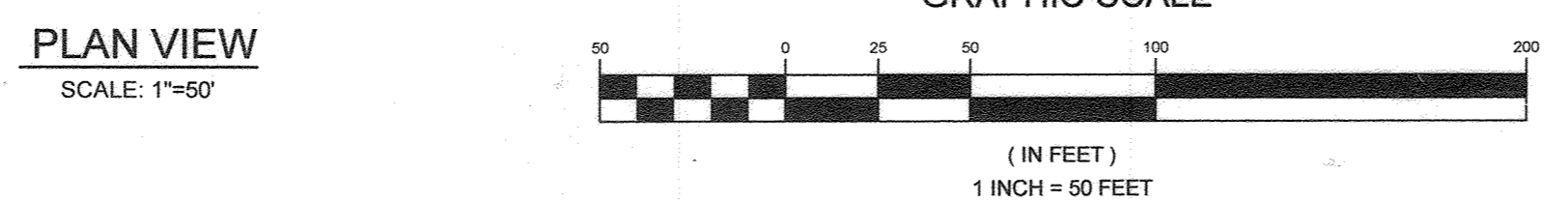


SILL ENGINEERING GROUP, LLC
 11130 Dovedale Court, Suite 200
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 Civil Engineering for Land Development

DESIGN BY: PS
 DRAWN BY: JCV
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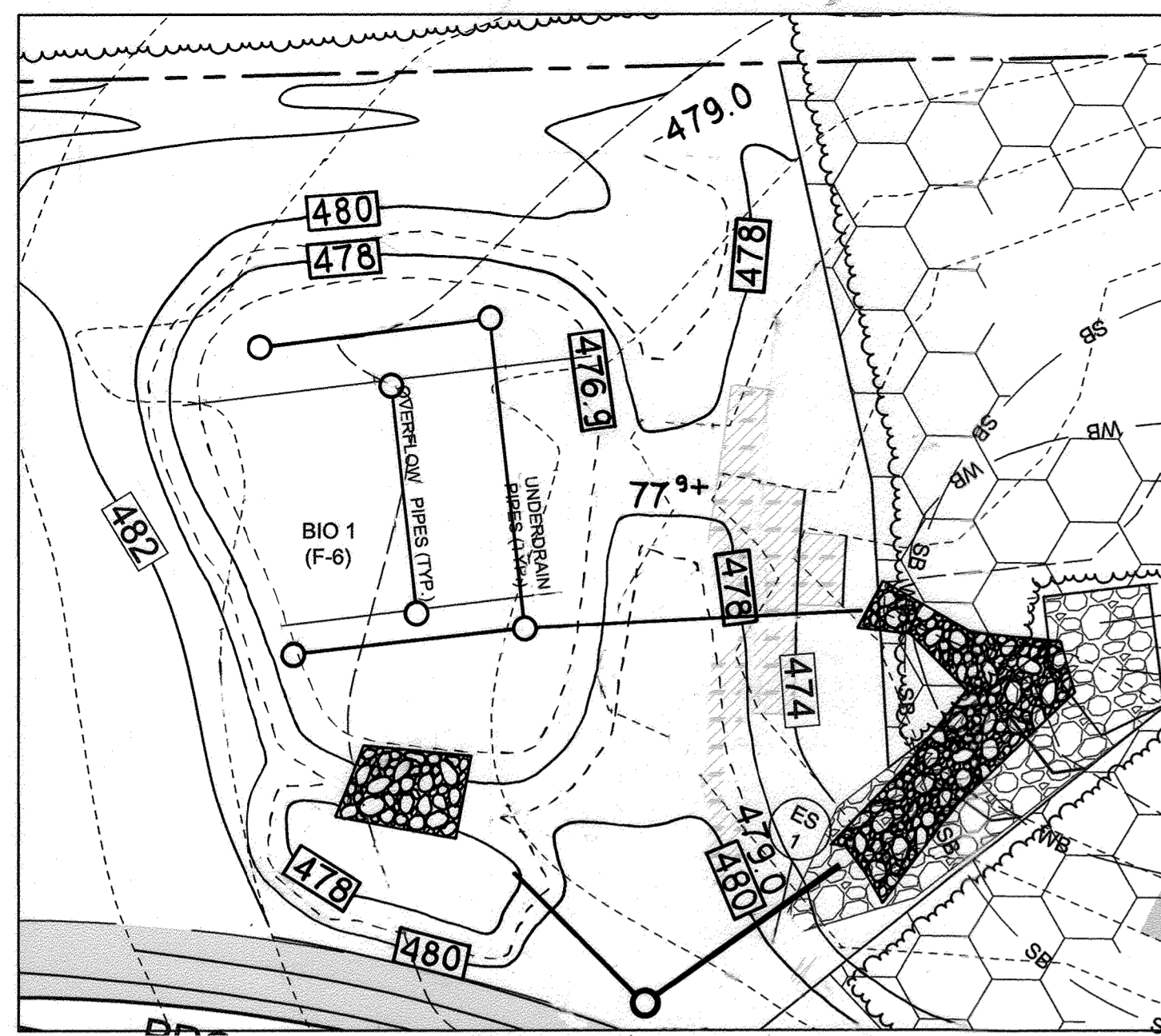
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature] 11-20-18
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 [Signature] 11/19/2018
 CHIEF, BUREAU OF HIGHWAYS DATE

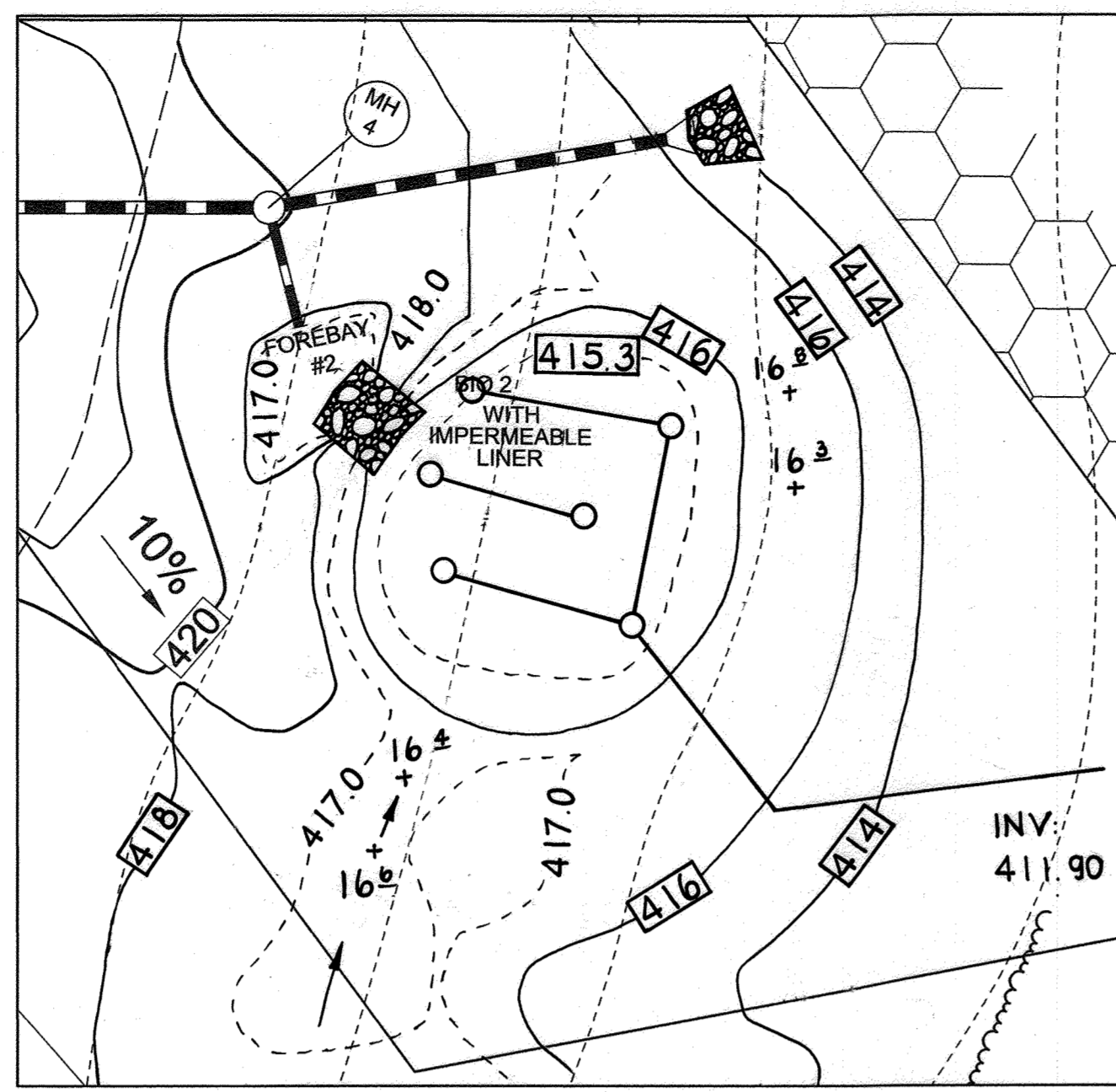


NO.	DESCRIPTION	DATE
1	AS-BUILT PLAN BY SILL ENGINEERING GROUP, LLC	8/14/2023

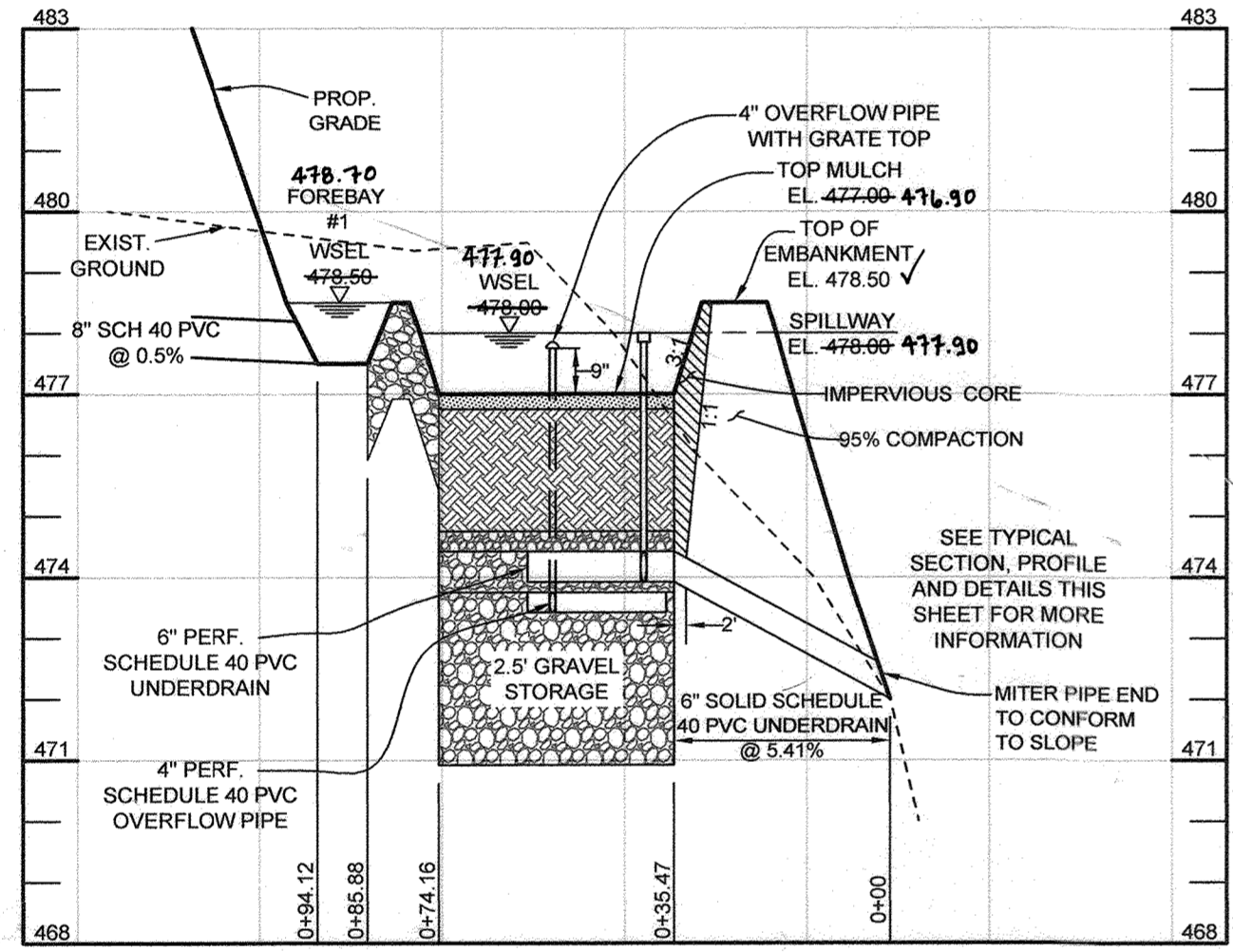
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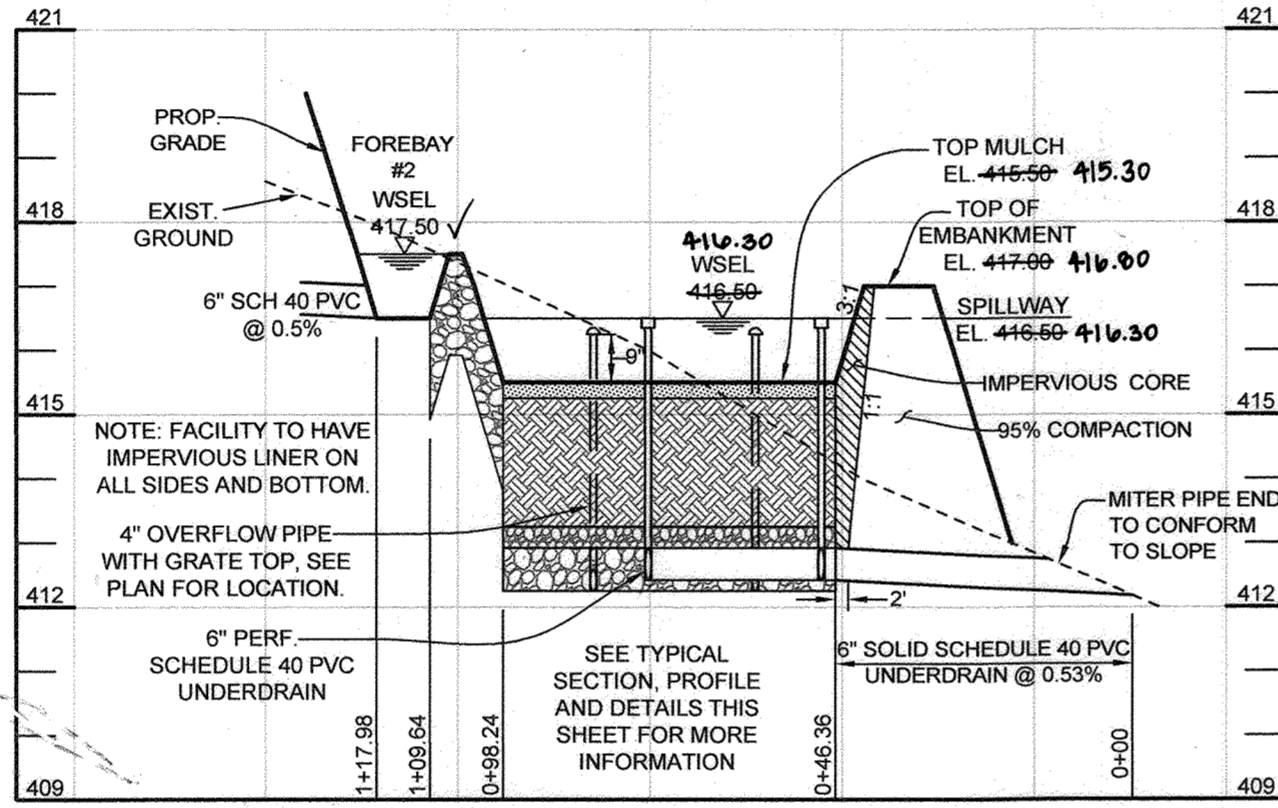
PLAN VIEW - BIORETENTION FACILITY #1 (F-6)
SCALE: 1"=20'



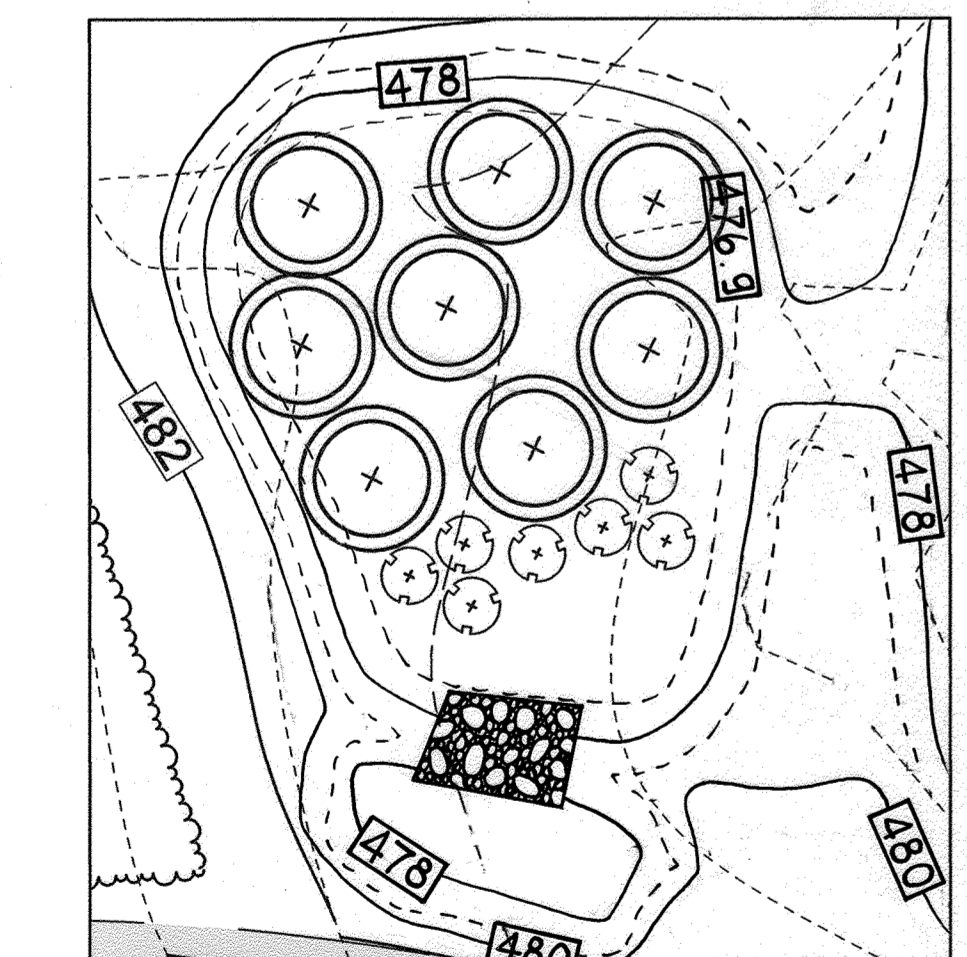
PLAN VIEW - BIORETENTION FACILITY #2 (F-6)
SCALE: 1"=20'



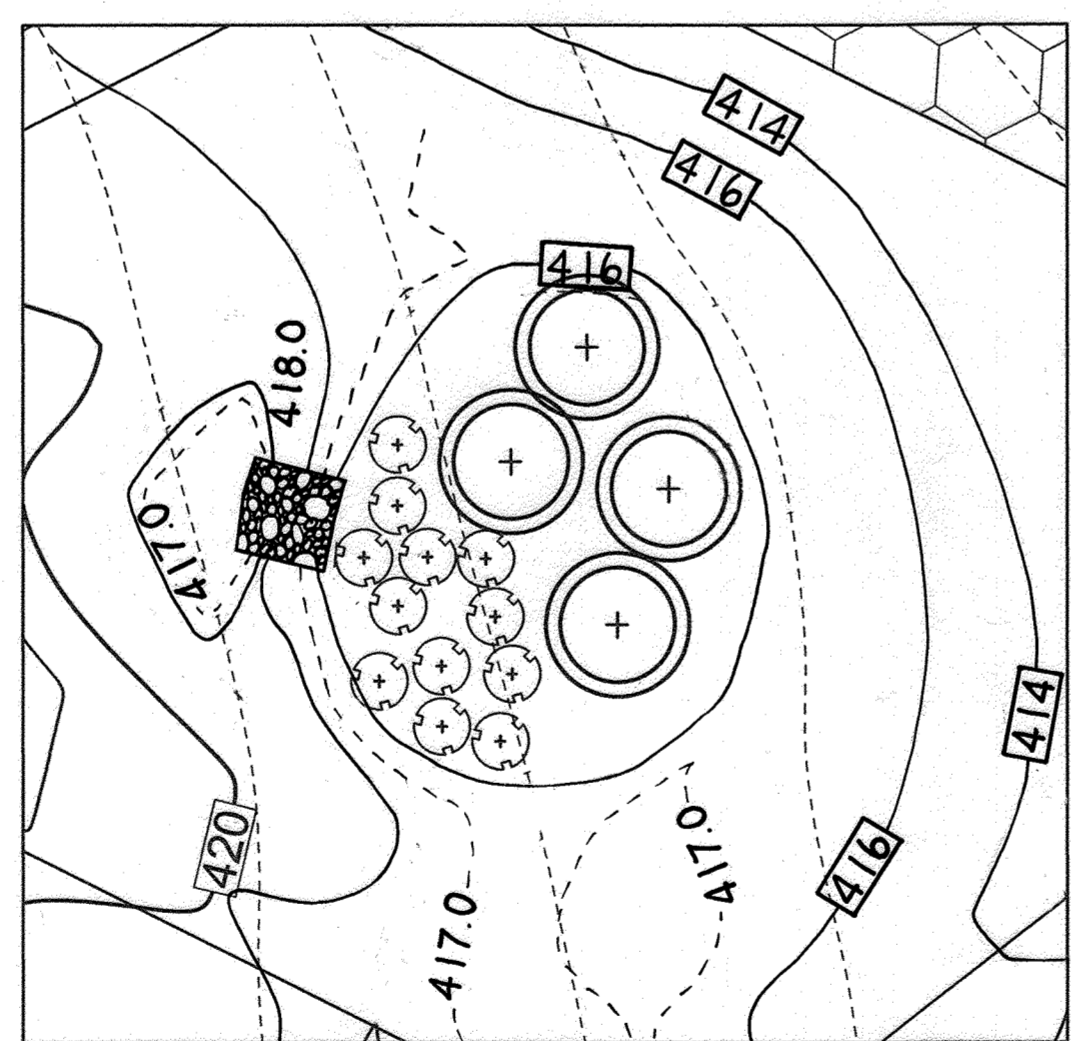
BIORETENTION FACILITY #1 (F-6) PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 3'



BIORETENTION FACILITY #2 (F-6) PROFILE
HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 3'



LANDSCAPE - BIORETENTION FACILITY #1
SCALE: 1"=20'



LANDSCAPE - BIORETENTION FACILITY #2
SCALE: 1"=20'

AS-BUILT 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.
PAUL M. SILL, PROFESSIONAL ENGINEER
LICENSE NO. 32025 DATE 08/14/2023

MATERIALS SPECIFICATIONS FOR BIORETENTION FACILITIES			
MATERIAL	SPECIFICATION	SIZE	NOTES
PLANTINGS	SEE PLANT LIST THIS SHEET	N/A	PLANTINGS ARE SITE-SPECIFIC. SEE PLANT LIST THIS SHEET
PLANTING SOIL (2'-4" DEEP)	LOAMY SAND (60% - 65%) & COMPOST (35%-40%) OR SANDY LOAM (30%), COARSE SAND (30%) & COMPOST (40%)	N/A	USDA SOIL TYPES LOAMY SAND OR SANDY LOAM; CLAY CONTENT < 9%
ORGANIC CONTENT	MIN. 10% BY DRY WEIGHT (ASTM-D-2974)		
MULCH	SHREDDED HARDWOOD		AGED 6 MONTHS, MINIMUM; NO PINE OR WOOD CHIPS
PEA GRAVEL DIAPHRAGM	PEA GRAVEL: ASTM-D-448	PEA GRAVEL: NO. 8 OR NO. 9 (1/8" TO 3/8")	
CURTAIN DRAIN (IF REQUIRED)	ORNAMENTAL STONE: WASHED COBBLES	STONE: 2" TO 5"	
GEOTEXTILE		N/A	PE TYPE 1 NONWOVEN
UNDERDRAIN GRAVEL	AASHTO M-43	NO. 57 OR NO. 6 AGGREGATE (3/8" TO 3/4")	
UNDERDRAIN PIPING	F 758, TYPE PS 28 OR AASHTO M-278	4" TO 6" RIGID SCHEDULE 40 PVC OR SDR35	SLOTTED OR PERFORATED PIPE, 3/8" PERFOR. @ 6" ON CENTER, 4 HOLES PER ROW, MINIMUM OF 3" OF GRAVEL OVER PIPES; NOT NECESSARY UNDERNEATH PIPES. PERFORATED PIPE SHALL BE WRAPPED WITH 14" GALVANIZED HARDWARE CLOTH.

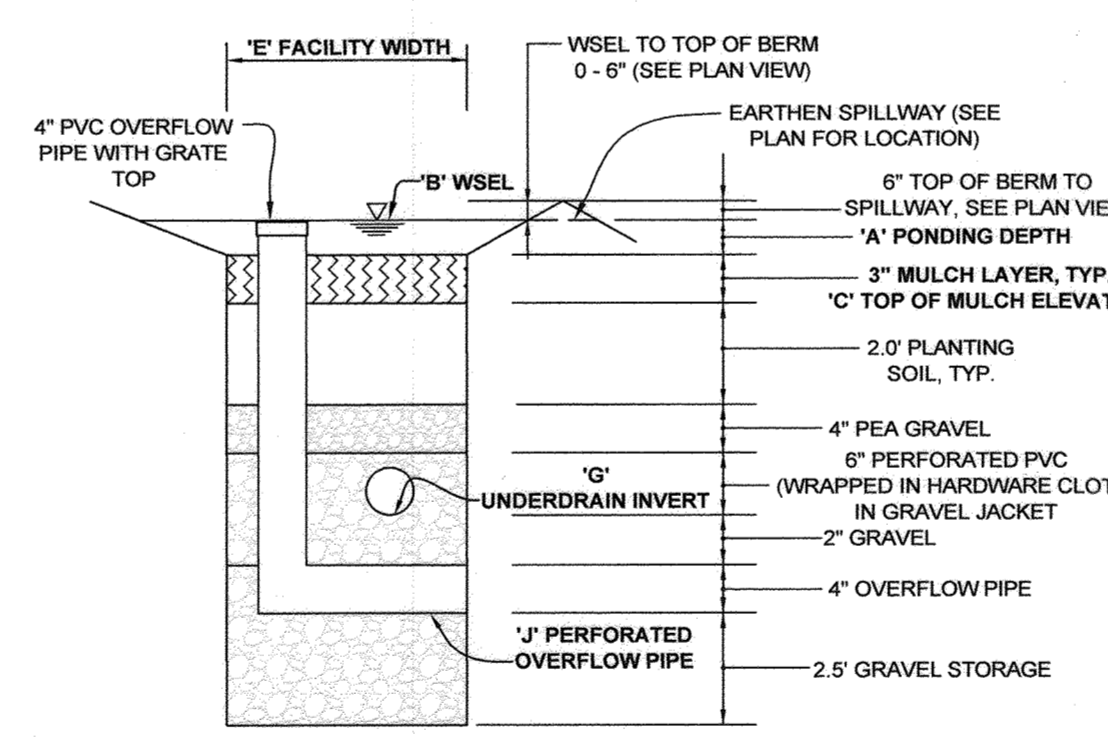
BIORETENTION PLANT LIST									
SYMBOL	SHRUBS	KEY	BOTANICAL NAME	COMMON NAME	SPACING	SIZE	QUANTITY BIO 1	QUANTITY BIO 2	NOTES
(+)	HA		HAMAMELIS X INTERMEDIA 'JELENA'	WITCH HAZEL 'JELENA'	AS SHOWN (MIN. 15' O.C.)	36"-48" HT.	8 ✓	4 ✓	
(+)	VDE		ILEX VERTICULATA	WINTERBERRY	AS SHOWN (MIN. 5' O.C.)	18"-24" HT.	7 ✓	12 ✓	ONE MALE SPECIES PER BIO

NOTE: PLANT MATERIAL MUST COVER 50% OF THE MULCH AREA AT MATURE GROWTH.
BIO 1 - BIORETENTION AREA = 3,001 S.F. OR 0.069 AC.
PROVIDED: 15 SHRUBS
BIO 2 - BIORETENTION AREA = 1,712 S.F. OR 0.04 AC.
PROVIDED: 16 SHRUBS

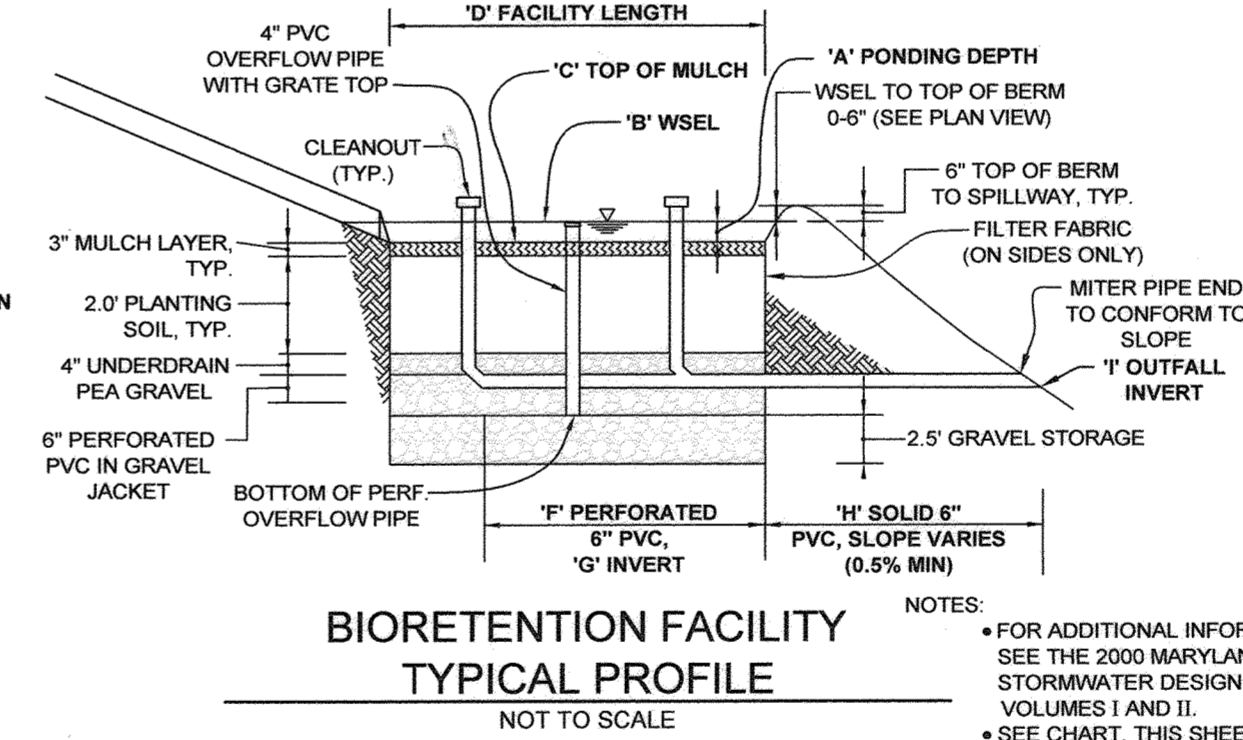
BIORETENTION ELEVATIONS AND DIMENSIONS				
DESCRIPTION	BIO 1	BIO 2	BIO 1	BIO 2
'A' PONDING DEPTH	1.0'	1.0'	1.0'	1.0'
'B' WSEL	478.00	416.50	477.90	416.30
'C' TOP OF MULCH	477.90	416.50	476.90	415.30
'D' FACILITY LENGTH	47.42	46.4	50.5'	54.78'
'E' FACILITY WIDTH	48.44	49.9	50.3'	45.90'
'F' PERF. UNDERDRAIN DIMENSION	48.4	49.4	50.33'	44.88'
'G' UNDERDRAIN INVERT	479.92	418.42	474.14	412.45
'H' SOLID UNDERDRAIN DIMENSION	48.47	49.69	43.71'	70.45'
'I' OUTFALL INVERT	472.00	418.10	473.00	411.90
'J' OVERFLOW PIPE	473.40	419.25	473.84	412.33

PIPE SCHEDULE		
SIZE	TYPE	LENGTH
4" PERFORATED	SCH 40 PVC	140 LF
6" PERFORATED	SCH 40 PVC	192 LF
6" SOLID	SCH 40 PVC	82 LF

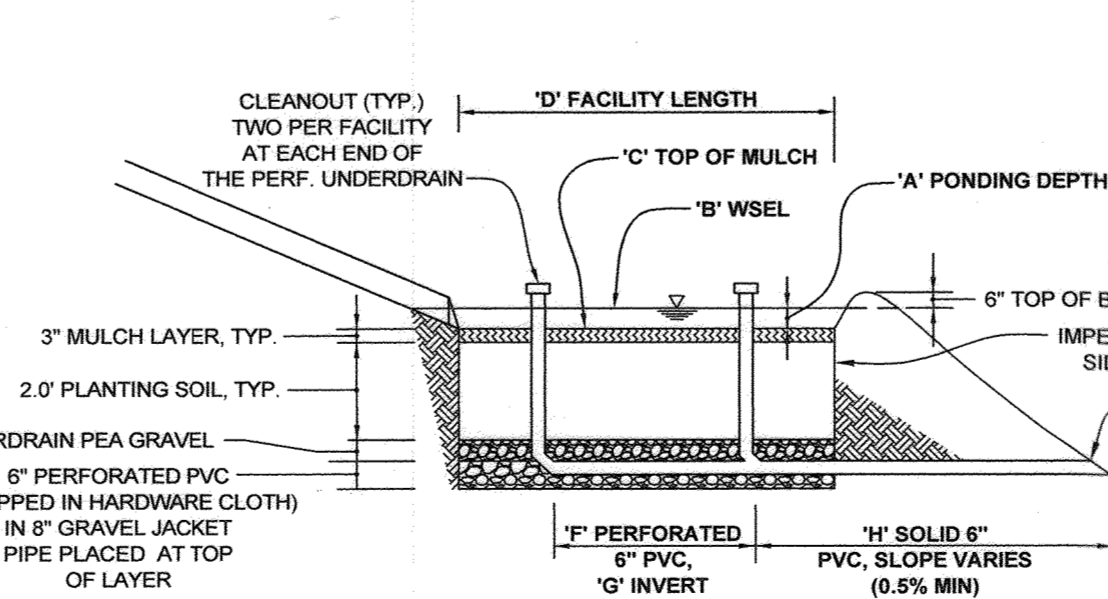
NOTE: FOR SWM BORING LOGS SEE SWM REPORT AND SHEET 8.



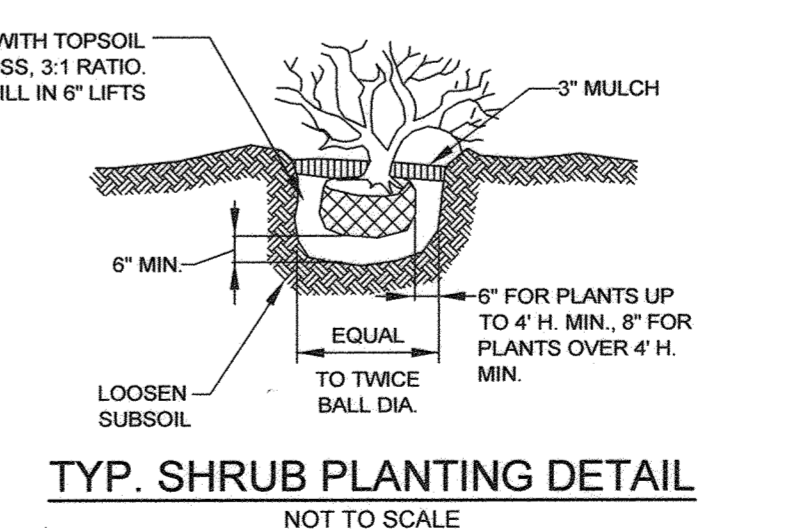
BIORETENTION FACILITY TYPICAL SECTION
NOT TO SCALE



BIORETENTION FACILITY TYPICAL PROFILE
NOT TO SCALE



BIORETENTION FACILITY WITH IMPERMEABLE LINER PROFILE
NOT TO SCALE



TYP. SHRUB PLANTING DETAIL
NOT TO SCALE

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

- MATERIAL SPECIFICATIONS
THE ALLOWABLE MATERIALS TO BE USED IN THESE PRACTICES ARE DETAILED IN TABLE B.4.1.
- FILTERING MEDIA OR PLANTING SOIL
THE SOIL SHALL BE A UNIFORM MIX OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR DUMPED WITHIN THE MICRO-BIORETENTION PRACTICE THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVIDE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE PLANTING SOIL SHALL BE FREE OF BERMUDA GRASS, QUACKGRASS, JOHNSON GRASS, OR OTHER NOXIOUS WEEDS AS SPECIFIED UNDER COMAR 15.08.01.05.

THE PLANTING SOIL SHALL BE TESTED AND SHALL MEET THE FOLLOWING CRITERIA:
 • SOIL COMPONENT - LOAMY SAND OR SANDY LOAM (USDA SOIL TEXTURAL CLASSIFICATION)
 • ORGANIC CONTENT - MINIMUM 10% BY DRY WEIGHT (ASTM D 2974). IN GENERAL, THIS CAN BE MET WITH A MIXTURE OF LOAMY SAND (60%-65%) AND COMPOST (35% TO 40%) OR SANDY LOAM (30%), COARSE SAND (30%), AND COMPOST (40%).
 • CLAY CONTENT - MEDIA SHALL HAVE A CLAY CONTENT OF LESS THAN 5%.
 • PH RANGE - SHOULD BE BETWEEN 5.5 - 7.0. AMENDMENTS (E.G., LIME, IRON SULFATE PLUS SULFUR) MAY BE MIXED INTO THE SOIL TO INCREASE OR DECREASE PH.

THERE SHALL BE AT LEAST ONE SOIL TEST PER PROJECT. EACH TEST SHALL CONSIST OF BOTH THE STANDARD SOIL TEST FOR PH, AND ADDITIONAL TESTS OF ORGANIC MATTER, AND SOLUBLE SALTS. A TEXTURAL ANALYSIS IS REQUIRED FROM THE SITE STOCKPILED TOPSOIL. IF TOPSOIL IS IMPORTED, THEN A TEXTURE ANALYSIS SHALL BE PERFORMED FOR EACH LOCATION WHERE THE TOPSOIL WAS EXCAVATED.

3. COMPACTION
IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF BIORETENTION PRACTICES AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE EXCAVATION HOES TO REMOVE ORIGINAL SOIL. IF PRACTICES ARE EXCAVATED USING A LOADER, THE CONTRACTOR SHOULD USE WIDE TRACK OR MARSH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TURF TIRE TREADS. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS, OR HIGH-PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION RESULTING IN REDUCED INFILTRATION RATES AND IS NOT ACCEPTABLE. COMPACTION WILL SIGNIFICANTLY CONTRIBUTE TO DESIGN FAILURE.

COMPACTION CAN BE ALLEVIATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS A CHISEL PLOW, RIPPER, OR SUBSOILER. THESE TILLING OPERATIONS ARE TO REFRACATURE THE SOIL PROFILE THROUGH THE 12 INCH COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE ENGINEER. ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT.

ROTOTILL 2 TO 3 INCHES OF SAND INTO THE BASE OF THE BIORETENTION FACILITY BEFORE BACKFILLING THE OPTIONAL SAND LAYER. PUMP ANY PONDED WATER BEFORE PREPARING (ROTOTILLING) BASE.

WHEN BACKFILLING THE TOPSOIL OVER THE SAND LAYER, FIRST PLACE 3 TO 4 INCHES OF TOPSOIL OVER THE SAND, THEN ROTOTILL THE SAND/TOPSOIL TO CREATE A GRADATION ZONE. BACKFILL THE REMAINDER OF THE TOPSOIL TO FINAL GRADE.

WHEN BACKFILLING THE BIORETENTION FACILITY, PLACE SOIL IN LIFTS 12" TO 18". DO NOT USE HEAVY EQUIPMENT WITHIN THE BIORETENTION BASIN. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOILS AND SAND. GRADE BIORETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MARSH TRACKS.

4. PLANT MATERIAL
RECOMMENDED PLANT MATERIAL FOR MICRO-BIORETENTION PRACTICES CAN BE FOUND IN APPENDIX A, SECTION A.2.3.

5. PLANT INSTALLATION
COMPOST IS A BETTER ORGANIC MATERIAL SOURCE, IS LESS LIKELY TO FLOAT, AND SHOULD BE PLACED IN THE INVERT AND OTHER LOW AREAS. MULCH SHOULD BE PLACED IN SURROUNDING TO A UNIFORM THICKNESS OF 2" TO 3". SHREDDED OR CHIPPED HARDWOOD MULCH IS THE ONLY ACCEPTED MULCH. PINE MULCH AND WOOD CHIPS WILL FLOAT AND MOVE TO THE PERIMETER OF THE BIORETENTION AREA DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDDED MULCH MUST BE WELL AGED (6 TO 12 MONTHS) FOR ACCEPTANCE.

ROOTSTOCK OF THE PLANT MATERIAL SHALL BE KEPT MOIST DURING TRANSPORT AND ON-SITE STORAGE. THE PLANT ROOT BALL SHOULD BE PLANTED SO 1/8TH OF THE BALL IS ABOVE FINAL GRADE SURFACE. THE DIAMETER OF THE PLANTING PIT SHALL BE AT LEAST SIX INCHES LARGER THAN THE DIAMETER OF THE PLANTING BALL. SET AND MAINTAIN THE PLANT STRAIGHT DURING THE ENTIRE PLANTING PROCESS. THOROUGHLY WATER GROUND BED COVER AFTER INSTALLATION.

TREES SHALL BE BRACED USING 2" BY 2" STAKES ONLY AS NECESSARY AND FOR THE FIRST GROWING SEASON ONLY. STAKES ARE TO BE EQUALLY SPACED ON THE OUTSIDE OF THE TREE BALL.

GRASSES AND LEGUME SEED SHOULD BE DRILLED INTO THE SOIL TO A DEPTH OF AT LEAST ONE INCH. GRASS AND LEGUME PLUGS SHALL BE PLANTED FOLLOWING THE NON-GRASS GROUND COVER PLANTING SPECIFICATIONS.

THE TOPSOIL SPECIFICATIONS PROVIDE ENOUGH ORGANIC MATERIAL TO ADEQUATELY SUPPLY NUTRIENTS FROM NATURAL CYCLING OF THE BIORETENTION STRUCTURE IS TO IMPROVE WATER QUALITY. ADDING FERTILIZERS DEFEATS, OR AT A MINIMUM, IMPEDES THIS GOAL. ONLY ADD FERTILIZER IF WOOD CHIPS OR MULCH ARE USED TO AMEND THE SOIL. ROTOTILL UREA FERTILIZER AT A RATE OF 2 POUNDS PER 1000 SQUARE FEET.

6. UNDERDRAINS
UNDERDRAINS SHOULD MEET THE FOLLOWING CRITERIA:
 • PIPE SHOULD BE 4" TO 6" DIAMETER. SLOTTED OR PERFORATED RIGID PLASTIC PIPE (ASTM F 758, TYPE PS28, OR AASHTO M-278) IN A GRAVEL LAYER. THE PREFERRED MATERIAL IS SLOTTED, 4" RIGID PIPE (E.G. PVC OR HDPE).
 • PERFORATIONS - IF PERFORATED PIPE IS USED, PERFORATIONS SHOULD BE 3/4" DIAMETER LOCATED 6" ON CENTER WITH A MINIMUM OF FOUR HOLES PER ROW. PIPE SHALL BE WRAPPED WITH 1/2" (NO. 4 OR 4X4) GALVANIZED HARDWARE CLOTH.
 • GRAVEL - THE GRAVEL LAYER (NO. 57 STONE PREFERRED) SHALL BE AT LEAST 3" THICK ABOVE AND BELOW THE UNDERDRAIN.
 • THE MAIN COLLECTOR PIPE SHALL BE AT A MINIMUM 0.5% SLOPE.
 • A RIGID, NON-PERFORATED OBSERVATION WELL MUST BE PROVIDED (ONE PER EVERY 1,000 SQUARE FEET) TO PROVIDE A CLEAN-OUT PORT AND MONITOR PERFORMANCE OF THE FILTER.
 • A 4" LAYER OF PEA GRAVEL (1/2" TO 3/4" STONE) SHALL BE LOCATED BETWEEN THE FILTER MEDIA AND UNDERDRAIN TO PREVENT MIGRATION OF FINES INTO THE UNDERDRAIN. THIS LAYER MAY BE CONSIDERED PART OF THE FILTER BED WHEN BED THICKNESS EXCEEDS 24".

THE MAIN COLLECTOR PIPE FOR UNDERDRAIN SYSTEMS SHALL BE CONSTRUCTED AT A MINIMUM SLOPE OF 0.5%. OBSERVATION WELLS AND/OR CLEAN-OUT PIPES MUST BE PROVIDED (ONE MINIMUM PER EVERY 1000 SQUARE FEET OF SURFACE AREA).

7. MISCELLANEOUS
THESE PRACTICES MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.

OWNER AND MAINTENANCE SCHEDULE FOR MICRO-BIORETENTION (F-6), FACILITIES 1 & 2

- THE HOA SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DISEASE AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUME II, TABLE A.4.1 AND 2.
- THE HOA SHALL PERFORM A PLANT INSPECTION IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE HOA SHALL REMOVE DEAD OR DISEASED VEGETATION CONSIDERED BEYOND TREATMENT. REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL. TREAT DISEASED TREES AND SHRUBS, AND REPLACE ALL DEFICIENT STAKES AND WIRES.
- THE HOA SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS. THE PREVIOUS MULCH LAYER SHALL BE REMOVED BEFORE THE NEW LAYER IS APPLIED.
- THE HOA SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.
- THE HOA SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF THE UNDERDRAINS WITHIN THE BIORETENTION LAYERS.
- HOWARD COUNTY SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL STORM DRAIN PIPES AND STRUCTURES WITHIN PUBLIC EASEMENTS. THE HOA SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL STORM DRAIN PIPES AND STRUCTURES WITHIN PRIVATE EASEMENTS.

OWNER/DEVELOPER

DOSA CLARKSVILLE, LLC
5900 WHALE BOAT DRIVE UNIT #206
CLARKSVILLE, MD 21029
301.370.6866

FINAL BIORETENTION PLAN, PROFILES & DETAILS

THE WOODLANDS

LOTS 1 THRU 8, BUILDABLE PRESERVATION PARCEL A AND NON-BUILDABLE PRESERVATION PARCELS B, C, AND D (RE-SUBDIVISION OF LOT 2 OF GLEN MARY ESTATES)

TAX MAP 28 GRID 23 PARCEL 15
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

DESIGN BY: PS	
DRAWN BY: JCV	
CHECKED BY: PS	
SCALE: AS SHOWN	
DATE: NOVEMBER 1, 2018	
PROJECT #: 14-029	
SHEET #: 15 OF 19	

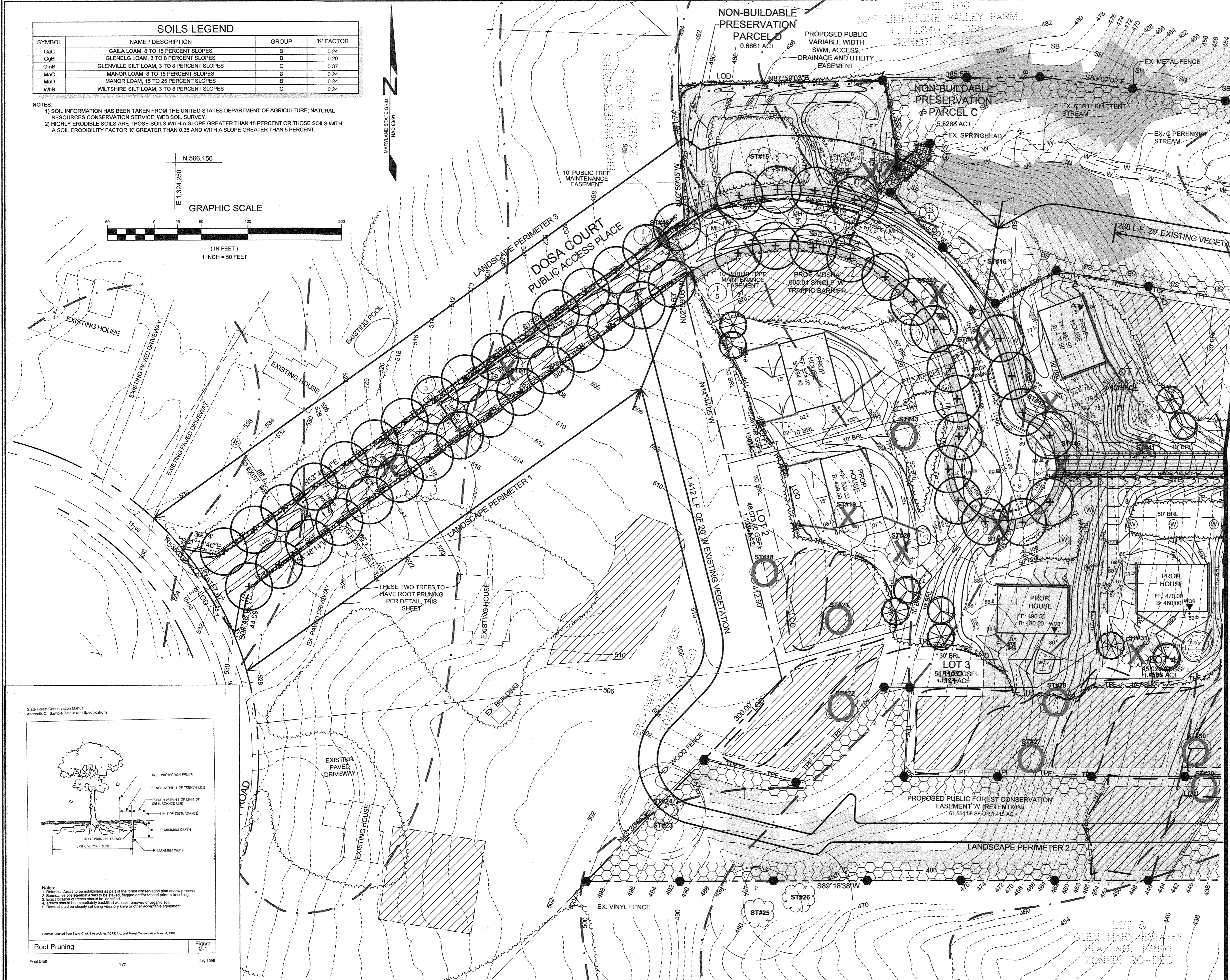
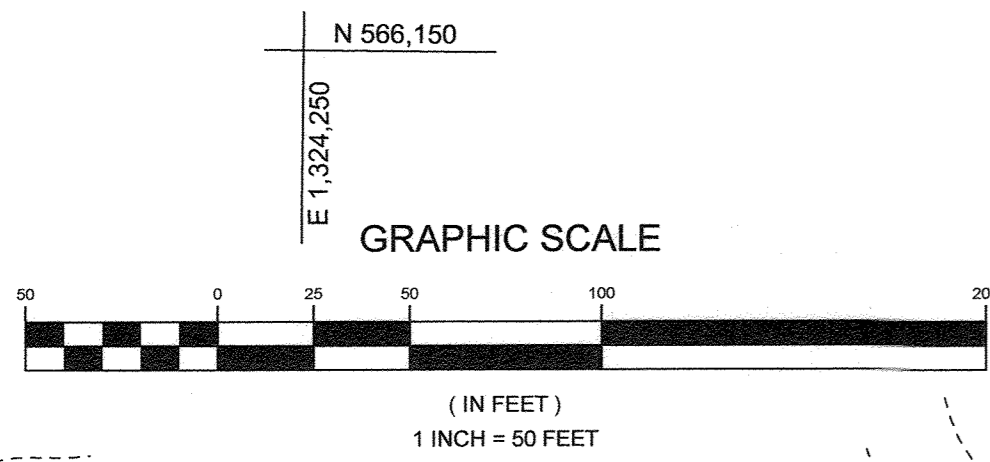
PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 32025, EXPIRATION DATE: JUNE 20, 2019.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING <i>[Signature]</i> CHIEF, DIVISION OF LAND DEVELOPMENT 11-30-18 DATE	APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS <i>[Signature]</i> CHIEF, BUREAU OF HIGHWAYS 11/19/2018 DATE
--	---

NO.	DESCRIPTION	DATE
1	AS-BUILT PLAN BY SILL ENGINEERING GROUP, LLC	08/14/2023
REVISIONS		

SOILS LEGEND			
SYMBOL	NAME / DESCRIPTION	GROUP	'K' FACTOR
GaC	GAILA LOAM, 8 TO 15 PERCENT SLOPES	B	0.24
GbB	GLENELG LOAM, 3 TO 8 PERCENT SLOPES	B	0.20
GmB	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	0.37
MaC	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	0.24
MaD	MANOR LOAM, 15 TO 25 PERCENT SLOPES	B	0.24
WmB	WILTSHIRE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	0.24

- NOTES:
 1) SOIL INFORMATION HAS BEEN TAKEN FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE, WEB SOIL SURVEY.
 2) HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR 'K' GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT.



LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- DIRECTION OF FLOW
- EXISTING SPECIMEN TREE
- EXISTING SPECIMEN TREE TO BE REMOVED
- EXISTING SPECIMEN TREE APPROVED FOR REMOVAL PER WP-17-060 THE TREE MAY BE REMOVED WHENEVER HOWARD COUNTY HEALTH DEPARTMENT REQUIRES IT FOR SEWAGE DISPOSAL OR WELL CONSTRUCTION.
- EXISTING TREELINE
- PROPOSED TREELINE
- SILT FENCE
- SUPER SILT FENCE
- LIMIT OF DISTURBANCE
- WETLAND BUFFER
- STREAM BUFFER
- TREE PROTECTION FENCE
- FUTURE TREE PROTECTION FENCE
- SOIL BOUNDARY
- PROPOSED MICRO-BIORETENTION FACILITY (M-6)
- ROOF LEADERS
- CLEAN WATER EARTH DIKE A-1
- FOREST CONSERVATION SIGN
- LANDSCAPE PERIMETER INDICATOR
- EXISTING VEGETATION INDICATOR
- HYDROLOGIC SOIL GROUP 'C'
- STEEP SLOPES 15% TO 25%
- STEEP SLOPES >25%
- FOREST CONSERVATION AREA

FOREST CONSERVATION SIGN DETAIL

NOT TO SCALE

11" MIN.
15" MIN.

DO NOT DISTURB
MACHINERY, DUMPING, OR STORAGE OF ANY MATERIALS IS PROHIBITED
VIOLATORS ARE SUBJECT TO FINES AS IMPOSED BY THE MARYLAND FOREST CONSERVATION ACT OF 1991

NOTES:
 1. BOTTOM OF SIGN TO BE HIGHER THAN TOP OF TREE PROTECTION FENCE.
 2. SIGNS TO BE PLACED APPROXIMATELY 50' - 100' APART. CONDITIONS ON SITE AFFECTING VISIBILITY MAY WARRANT PLACING SIGNS CLOSER OR FARTHER APART.
 3. ATTACHMENT OF SIGNS TO TREES IS PROHIBITED.
 4. SIGNAGE SHALL BE IN PLACE FOR PERPETUITY.

TYPICAL TREE PLANTING AND STAKING

NOT TO SCALE

LEADER MUST REMAIN INTACT. DO NOT HEAVILY PRUNE THE TREE AT PLANTING. PRUNE ONLY CROSSOVER LIMBS, CO-DOMINANT LEADERS, AND BROKEN OR DEAD BRANCHES. SOME INTERIOR TWIGS AND LATERAL BRANCHES MAY BE PRUNED HOWEVER DO NOT REMOVE THE TERMINAL BUDS OF BRANCHES THAT EXTEND TO THE EDGE OF THE CROWN.

2 STRANDS OF GALVANIZED WIRE TWISTED FOR SUPPORT.

UPRIGHT STAKES SET IN GROUND TO FIRM BEARING BEYOND EDGE OF ROOT BALL. RUBBER HOSE MIN. 5/8" CUT BURLAP, ROPE AND WIRE LOOPS FROM TOP HALF OF ROOT BALL AND FOLD ANY WIRE BASKET DOWN 6" MIN. 2" DEPTH MULCH @ 6".

4" EARTH GAUCER

FINISH GRADE

ROOT BALL SHALL BE FLUSH WITH ORIGINAL GRADE OR RAISED UP TO 2" MAX.

PLANTING MAX. SEE PLANTING NOTES

PLACE ROOT BALL ON UNEXCAVATED OR TAMPED SOIL.

PLANTING HOLE 2-3 TIMES ROOT BALL DIAMETER

Root Pruning

State Forest Conservation Manual Appendix C: Sample Details and Specifications

Notes:
 1. Retention Areas to be established as part of the forest conservation plan review process.
 2. Boundaries of Retention Areas to be staked, flagged and/or fenced prior to trenching.
 3. Locations of French drains to be staked.
 4. Trench should be immediately backfilled with soil removed or organic soil.
 5. Fences should be clearly cut using reflective tape or other acceptable equipment.

Source: Adapted from Steve Clark & Associates/PORT, Inc. and Forest Conservation Manual, 1991

Figure C-1
Final Draft 170 July 1995

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 DATE: 11-30-18
 CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 DATE: 11/19/2018
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 DATE: 11/19/2018
 CHIEF, DIVISION OF LAND DEVELOPMENT

MD DNR Qualified Professional
 USACOE Wetland Delineator
 Certification # WDCP93MD0610044B2
 Date: 11/1/18
 John P. Canoles

Eco-Science Professionals, Inc.
 Consulting Ecologists
 P.O. Box 5066 Glee Area, Maryland 21857
 Telephone (410) 832-2489 Fax (410) 832-3488

NO.	DESCRIPTION	DATE
1	AS-BUILT PLAN BY SEG	9/14/23

FINAL LANDSCAPE AND FOREST CONSERVATION PLAN THE WOODLANDS

LOTS 1 THRU 8, BUILDABLE PRESERVATION PARCEL A AND NON-BUILDABLE PRESERVATION PARCELS B, C, AND D (RE-SUBDIVISION OF LOT 2 OF GLEN MARY ESTATES)

TAX MAP 28 GRID 23
5TH ELECTION DISTRICT

PARCEL 15
HOWARD COUNTY, MARYLAND

DESIGN BY: PS
 DRAWN BY: JCV
 CHECKED BY: PS
 SCALE: 1" = 50'
 DATE: NOVEMBER 1, 2018
 PROJECT #: 14-029
 SHEET #: 18 of 19

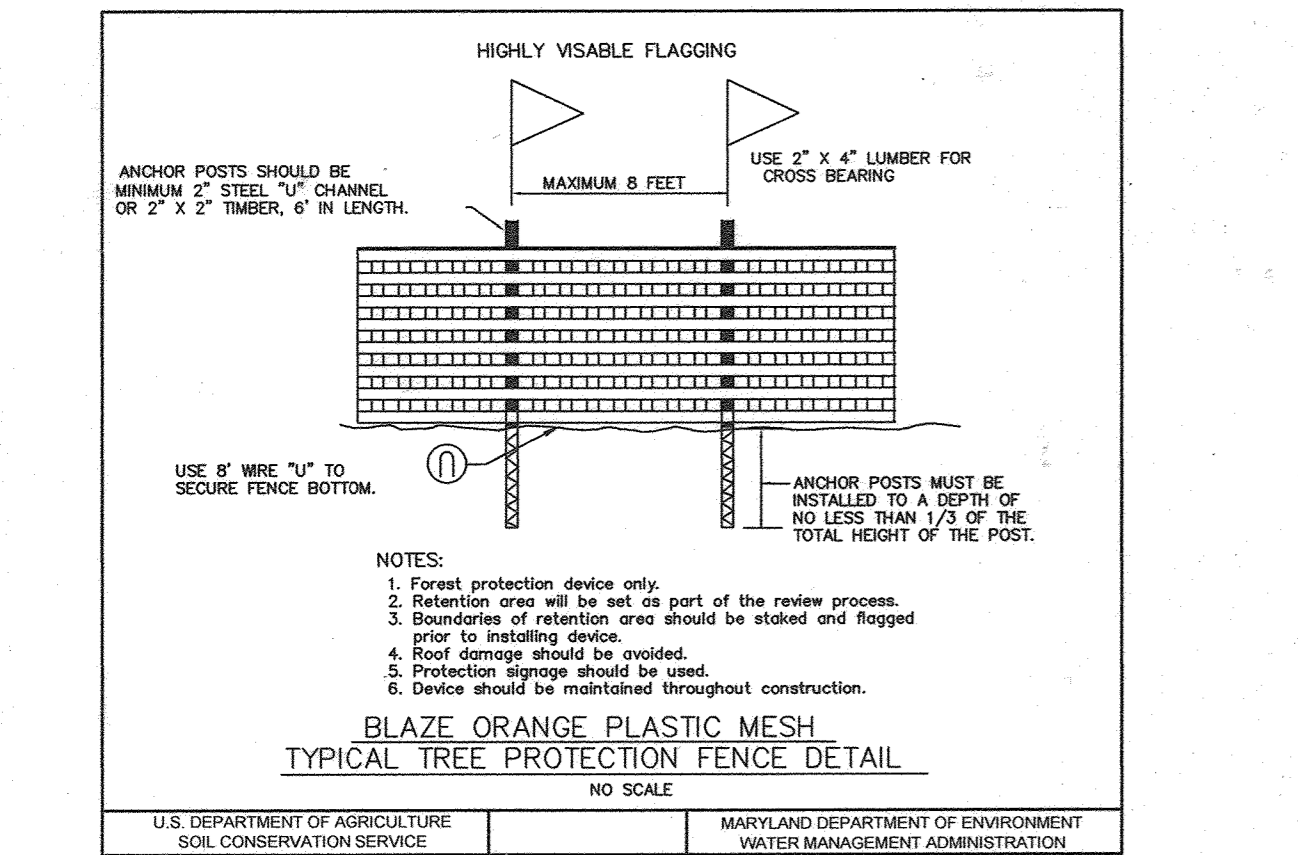
PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 33025 EXPIRATION DATE: JUNE 20, 2019

SOILS LEGEND				
SYMBOL	NAME / DESCRIPTION	GROUP	"K" FACTOR	
GaC	GAILA LOAM, 8 TO 15 PERCENT SLOPES	B	0.24	
GgB	GLENNELG LOAM, 3 TO 8 PERCENT SLOPES	B	0.20	
GmB	GLENNELLS SILT LOAM, 3 TO 8 PERCENT SLOPES	C	0.37	
MbC	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	0.24	
MdD	MANOR LOAM, 15 TO 25 PERCENT SLOPES	B	0.24	
WhB	WILTSHIRE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	0.24	

1) SOIL INFORMATION HAS BEEN TAKEN FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE; NATURAL RESOURCES CONSERVATION SERVICE; WEB SOIL SURVEY.
 2) HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR "K" GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT.

SPECIMEN TREE TABLE					
KEY	SIZE	CRZ	TYPE	CONDITION	REMARKS
ST-1	41'	61.5'	BLACK OAK	GOOD	-
ST-2	35'	52.5'	BLACK OAK	GOOD	-
ST-3	31'	46.5'	BLACK OAK	GOOD	-
ST-4	42'	63'	AMERICAN BEECH	GOOD	-
ST-5	33'	49.5'	PIGNUT HICKORY	FAIR	SOME DIEBACK
ST-6	42'	63'	TULIP POPLAR	GOOD	-
ST-7	40'	60'	TULIP POPLAR	GOOD	-
ST-8	34'	51'	TULIP POPLAR	GOOD	-
ST-9	35'	52.5'	TULIP POPLAR	GOOD	-
ST-10	41'	61.5'	BLACK OAK	POOR	DIEBACK
ST-11	38'	54'	BLACK OAK	POOR	-
ST-12	30'	45'	TULIP POPLAR	GOOD	TO BE REMOVED, WP-18-127
ST-13	31.5'	47.25'	TULIP POPLAR	GOOD	TO BE REMOVED, WP-18-127
ST-14	35'	54'	BLACK OAK	GOOD	SEE NOTE AND WP-18-127
ST-15	35'	52.5'	TULIP POPLAR	GOOD	SEE NOTE AND WP-18-127
ST-16	34.5'	51.75'	TULIP POPLAR	GOOD	SEE NOTE AND WP-18-127
ST-17	33'	49.5'	TULIP POPLAR	GOOD	TO BE REMOVED, WP-18-017
ST-18	34'	51'	TULIP POPLAR	GOOD	TBD TO BE REMOVED, WP 17-060
ST-19	31'	46'	TULIP POPLAR	GOOD	TO BE REMOVED, WP 16-017
ST-20	32'	48'	TULIP POPLAR	GOOD	TO BE REMOVED, WP 16-017
ST-21	31'	46.5'	BLACK OAK	GOOD	TBD TO BE REMOVED, WP 17-060
ST-22	45'	67.5'	TULIP POPLAR	GOOD	TBD TO BE REMOVED, WP 17-060
ST-23	31'	46.5'	TULIP POPLAR	GOOD	TO BE REMOVED, WP-18-127
ST-24	31'	46.5'	TULIP POPLAR	FAIR	TRUNK ROT
ST-25	33'	49.5'	BLACK OAK	GOOD	-
ST-26	39'	58.5'	TULIP POPLAR	GOOD	-
ST-27	32'	48'	TULIP POPLAR	GOOD	TBD TO BE REMOVED, WP 17-060
ST-28	31'	46.5'	TULIP POPLAR	GOOD	TBD TO BE REMOVED, WP 17-060
ST-29	35'	52.5'	TULIP POPLAR	GOOD	TBD TO BE REMOVED, WP 17-060
ST-30	32'	48'	TULIP POPLAR	GOOD	TBD TO BE REMOVED, WP 17-060
ST-31	31'	46.5'	TULIP POPLAR	GOOD	TO BE REMOVED, WP 16-017
ST-32	33'	49.5'	BLACK OAK	GOOD	SEE NOTE AND WP-18-127
ST-33	33'	49.5'	TULIP POPLAR	GOOD	TO BE REMOVED, WP-18-127
ST-34	34'	51'	TULIP POPLAR	GOOD	TO BE REMOVED, WP-18-127
ST-35	41'	61.5'	TULIP POPLAR	GOOD	TWIN ABOVE BH - TBD TO BE REMOVED WP 17-060
ST-36	41'	61.5'	TULIP POPLAR	GOOD	SEE NOTE AND WP-18-127
ST-37	30'	45'	TULIP POPLAR	GOOD	TO BE REMOVED, WP 16-017
ST-38	31'	46.5'	TULIP POPLAR	GOOD	TO BE REMOVED, WP 16-017
ST-39	31'	46.5'	TULIP POPLAR	GOOD	TO BE REMOVED, WP 16-017
ST-40	39.5'	59.25'	TULIP POPLAR	GOOD	TWIN ABOVE BH - TO BE REMOVED WP 16-017
ST-41	40'	55'	TULIP POPLAR	POOR	TWIN, ONE ROTTING - TO BE REMOVED WP 16-017
ST-42	31'	46.5'	TULIP POPLAR	GOOD	TO BE REMOVED WP 16-017
ST-43	35'	52.5'	TULIP POPLAR	GOOD	TBD TO BE REMOVED WP 17-060
ST-44	30'	45'	TULIP POPLAR	POOR	TRUNK ROT - TO BE REMOVED WP 16-017
ST-45	37'	55.5'	CHESTNUT OAK	FAIR	TRUNK WOUND - TO BE REMOVED WP 16-017
ST-46	31'	46.5'	TULIP POPLAR	GOOD	TO BE REMOVED WP 16-017
ST-47	30'	45'	TULIP POPLAR	POOR	SUBSTANTIAL DIEBACK - TO BE REMOVED WP 16-017
ST-48	37'	55.5'	TULIP POPLAR	POOR	MAJOR DIEBACK - TO BE REMOVED WP 16-017
ST-49	31'	46.5'	TULIP POPLAR	FAIR	LIMB DIEBACK - TO BE REMOVED WP 16-017

NOTE: SPECIMEN TREES 14, 15, 16, 32 AND 36 WERE SCHEDULED TO BE REMOVED PER WP-16-017 BUT THIS IS NO LONGER NECESSARY. SEE WP-18-127.



SCHEDULE A PERIMETER LANDSCAPE EDGE			
CATEGORY	ADJACENT TO PERIMETER PROPERTIES	1	2
PERIMETER/FRONTAGE DESIGNATION			
LANDSCAPE TYPE			
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER		629 (A)	2891 (A)
CREDIT FOR EXISTING VEGETATION (YES/NO LINEAR FEET)		YES (1)	YES (1)
REMAINING PERIMETER LENGTH (YES/NO LINEAR FEET)		1700 LF	614 LF
REMAINING PERIMETER LENGTH (NUMBER OF PLANTS REQUIRED)		1191 LF	267 LF
NUMBER OF PLANTS REQUIRED		NO	NO
EVERGREEN TREES		150+11	150+20
SHADE TREES		150+15	150+5
EVERGREEN TREES		NOTE 2	150+16
SHADE TREES		150+9	

1. CREDIT TAKEN FOR PROPOSED STREET TREES. SEE NOTE 4 OF LANDSCAPE NOTES.
 2. DUE TO LIMITED PERIMETER PLANTING AVAILABILITY AND DUE TO THE AC THAT ALLOWS FOR THE USE OF THE STREET TREES AS PERIMETER TREES (SEE NOTE 4 OF THE LANDSCAPING PLANS), CREDIT TAKEN FOR REMAINDER, FIFTEEN (15), OF STREET TREES FROM PERIMETERS 1 AND 3.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

11-30-18
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE

11-27-18
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE

11/19/2018
 CHIEF, BUREAU OF HIGHWAYS
 DATE

LANDSCAPE PLANT LIST				
KEY	QUANTITY	BOTANICAL/Common NAME	SIZE	NOTE
⊙	59	PLATANUS X ACERIFOLIA 'COLUMBIA'	2.5" - 3" CAL.	B & B
⊙	10	COLUMBIA LONDON PLANE	3" CAL.	B & B
⊙	18	ACER RUBRUM 'OCTOBER GLORY'	3" CAL.	B & B
⊙	9	OCTOBER GLORY RED MAPLE	3" CAL.	B & B
⊙	9	CERCIS CANDIDENSIS	3" CAL.	B & B
⊙	9	LIQUIDAMBER STRACIFLUA	3" CAL.	B & B
⊙	9	AMERICAN SWEETGUM	3" CAL.	B & B

STREET TREE SCHEDULE				
SYMBOL	STREET NAME	LF REQUIRED	TREES REQUIRED	TREES PROVIDED
⊙	DOSA DRIVE	2308	58	54*

NOTE: *SEE LANDSCAPE NOTE 6 THIS SHEET

LANDSCAPE NOTES

- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.104 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING WILL BE POSTED AS PART OF THE DPW DEVELOPERS AGREEMENT. \$12,600.00 FOR THE REQUIRED FORTY ONE (41) LANDSCAPING SHADE TREES.
- AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS HEREWITH LISTED AND APPROVED FOR THIS SITE, SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPING MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATIONS OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THIS APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO APPLICABLE PLANS AND CERTIFICATES.
- THE OWNER, TENANT, AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.
- PER SP-16-008 AN ALTERNATIVE COMPLIANCE TO THE HOWARD COUNTY LANDSCAPE DESIGN MANUAL WAS APPROVED FOR THE PLANTING REQUIREMENTS AT PERIMETERS 1 AND 3. WE ARE TO UTILIZE THE STREET TREES BEING PROVIDED AS THE PERIMETER LANDSCAPE (15 SHADE TREES ALONG PERIMETER 1 AND 15 SHADE TREES ALONG PERIMETER 3). WE ARE RESTRICTED BY THE PROPERTY BOUNDARY IN THESE LOCATIONS, AND DO NOT HAVE THE ADEQUATE DEPTH TO PROVIDE A DEEPER BUFFER. WE ARE TO PLANT THE TREES 40' O.C. RATHER THAN THE SUGGESTED 50' O.C. TO ALLOW SPACING FOR THE TREES AT MATURITY, BUT A MORE DENSE COVERAGE AT THE TIME OF PLANTING. THE ALLEY OF TREES WILL LINE THE ENTIRE LENGTH OF DOSA COURT.
- PER WP-16-017, EIGHTEEN (18) ADDITIONAL TREES HAVE BEEN ADDED TO THE SOUTHERN PROPERTY LINE OF BUILDABLE PRESERVATION PARCEL A.
- PER SP-16-008 AN ALTERNATIVE COMPLIANCE TO THE HOWARD COUNTY LANDSCAPE DESIGN MANUAL WAS APPROVED FOR THE REQUIRED STREET TREES ALONG THE NORTH SIDE OF DOSA COURT BETWEEN STATIONS 7+00 AND 10+00 DUE TO THE FOREST CONSERVATION AREAS AND THE PROPOSED PUBLIC ACCESS SWA, DRAINAGE AND UTILITY EASEMENT. THE PLANTINGS USED AT THE BIOCRETION AREA SATISFY THE REQUIREMENT FOR THE REMAINING FOUR STREET TREES.
- PER WP-17-060, THE DEVELOPER SHALL PLANT EIGHTEEN (18) 3" MINIMUM CALIPER NATIVE SHADE TREES IN ADDITION TO THE REQUIRED PERIMETER LANDSCAPING TO MITIGATE THE REMOVAL OF SPECIMEN TREES.
- PER WP-18-127, THE DEVELOPER SHALL PLANT SIX (6) 3" MINIMUM CALIPER NATIVE SHADE TREES.

FOREST CONSERVATION WORKSHEET		
NET TRACT AREA		
A	TOTAL TRACT AREA	22.1 AC
B	AREA WITHIN 100 YEAR FLOODPLAIN & UTILITY EASEMENT	0.0 AC
C	AREA TO REMAIN IN AGRICULTURAL PRODUCTION	0.0 AC
D	NET TRACT AREA	22.1 AC

LAND USE CATEGORY (FROM TABLE 3.2.1 PAGE 40, MANUAL)					
ARA	MDR	IDA	HDR	MPD	CIA
	X				

EXISTING FOREST COVER		
G	EXISTING FOREST COVER (EXCLUDING FLOODPLAIN)	22.1 AC
H	AREA OF FOREST ABOVE AFFORESTATION THRESHOLD	17.7 AC
I	AREA OF FOREST ABOVE CONSERVATION THRESHOLD	16.6 AC

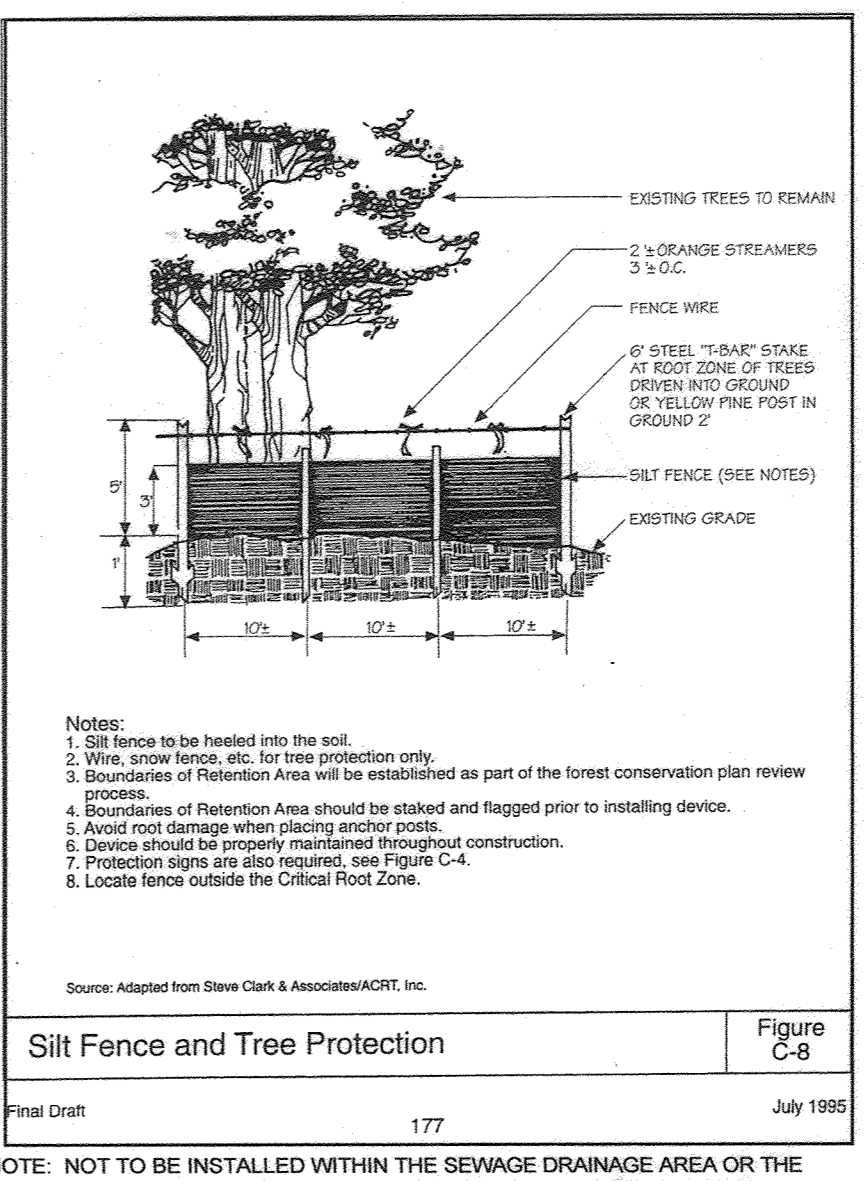
BREAK EVEN POINT		
J	FOREST RETENTION ABOVE THRESHOLD WITH NO MITIGATION	3.3 AC
K	NO HISTORIC ELEMENTS OR CEMETERIES ARE KNOWN TO OCCUR ON THE PROPERTY.	8.8 AC
L	CLEARING PERMITTED WITHOUT MITIGATION	13.3 AC

PROPOSED FOREST CLEARING		
M	TOTAL AREA OF FOREST TO BE CLEARED OR RETAINED OUTSIDE FCE	14.3 AC
N	TOTAL AREA OF FOREST TO BE RETAINED IN FCE	7.8 AC

PLANTING REQUIREMENTS		
O	REFORESTATION FOR CLEARING ABOVE CONSERVATION THRESHOLD	3.6 AC
P	REFORESTATION FOR CLEARING BELOW CONSERVATION THRESHOLD	0.0 AC
Q	CREDIT FOR RETENTION ABOVE CONSERVATION THRESHOLD	2.3 AC
R	TOTAL REFORESTATION REQUIRED	1.3 AC
S	TOTAL AFFORESTATION REQUIRED	0.0 AC
T	TOTAL REFORESTATION AND AFFORESTATION REQUIRED	1.3 AC

FOREST CONSERVATION NOTE

- THIS PLAN COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION BY THE ON-SITE RETENTION OF 7.8 ACRES OF FOREST AND 1.3 ACRES OF REFORESTATION. THE REFORESTATION MITIGATION WILL BE ADDRESSED THROUGH THE PURCHASE OF CREDIT IN AN APPROVED FOREST MITIGATION BANK AT MILLERS MILL SDP-18-052.
- NO RARE, THREATENED OR ENDANGERED SPECIES, OR THEIR HABITATS, WERE OBSERVED ON THE PROPERTY.
- SURROUNDING LAND USE IS PRIMARILY MEDIUM DENSITY RESIDENTIAL DEVELOPMENT.
- APPROXIMATELY 8 ACRES OF FOREST IS PRESENT WITHIN 100 FEET OF THE SUBJECT PROPERTY.
- THE SITE IS LOCATED WITHIN THE MIDDLE PATUXENT WATERSHED (02-13-11).
- NO HISTORIC ELEMENTS OR CEMETERIES ARE KNOWN TO OCCUR ON THE PROPERTY.
- NO 100 YEAR FLOODPLAIN IS PRESENT ON THE PROPERTY.
- 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 ALTERNATIVE COMPLIANCE HAS BEEN APPROVED OR ACTIVITIES HAVE BEEN DETERMINED ESSENTIAL BY THE DEPARTMENT OF PLANNING AND ZONING.
- CONSTRUCTION OR DISTURBANCE OF VEGETATION WITH AREAS DEFINED AS FOREST CONSERVATION EASEMENTS.
- NO TOOKOPILES, PARKING AREAS, EQUIPMENT CLEANING AREAS, ETC. SHALL OCCUR WITHIN AREAS DESIGNATED AS NON-DISTURBANCE AREAS.
- TEMPORARY FENCING, SUPER SILT FENCE, SHALL BE USED TO PROTECT FOREST RESOURCES DURING CONSTRUCTION. SUPER SILT FENCE SHALL BE INSTALLED ALONG LIMITS OF DISTURBANCE WITHIN 50 FEET OF THE PROPOSED FOREST RETENTION LIMITS. PERMANENT SIGNAGE SHALL BE INSTALLED ALONG THE FOREST CONSERVATION EASEMENT BOUNDARY TO PREVENT FUTURE ENCROACHMENT INTO THE AREA. SIGNAGE SHALL BE PLACED AT 50-100 FOOT INTERVALS ALONG THE BOUNDARY.



FOREST PROTECTION GENERAL NOTES

- ALL FOREST RETENTION AREAS SHALL BE TEMPORARILY PROTECTED BY WELL ANCHORED BLAZE ORANGE PLASTIC MESH FENCING AND SIGNAGE AS INDICATED ON THE PLANS. THE DEVICES SHALL BE INSTALLED ALONG THE FOREST RETENTION BOUNDARY PRIOR TO ANY DEMOLITION, LAND CLEARING, GRUBBING, OR GRADING ACTIVITIES.
- THE FOREST PROTECTION DEVICES SHALL BE INSTALLED SUCH THAT THE CRITICAL ROOT ZONES OF ALL TREES WITHIN THE RETENTION AREA NOT OTHERWISE PROTECTED WILL BE WITHIN FOREST PROTECTION DEVICES.
- ALL PROTECTION DEVICES SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION, INCLUDING SILT FENCING BEING USED AS PROTECTIVE FENCING. ALL DEVICES SHALL REMAIN IN PLACE UNTIL ALL CONSTRUCTION HAS CEASED IN THE IMMEDIATE VICINITY.
- ATTACHMENT OF SIGNS, OR ANY OTHER OBJECTS TO TREES IS PROHIBITED. NO EQUIPMENT, MACHINERY, VEHICLES, MATERIALS OR EXCESSIVE PEDESTRIAN TRAFFIC SHALL BE ALLOWED WITHIN THESE PROTECTED AREAS.
- INSTALLATION AND MAINTENANCE OF PROTECTIVE FENCING AND SIGNAGE SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. THE GENERAL CONTRACTOR SHALL TAKE THE UTMOST CARE TO PROTECT TREE ROOT SYSTEMS DURING ALL CONSTRUCTION ACTIVITIES. TREE ROOT SYSTEMS SHALL BE PROTECTED FROM SMOTHERING, FLOODING, EXCESSIVE WETTING FROM DE-WATERING OPERATIONS, OFF-SITE RUN OFF, SPILLAGE AND DRAINING OF MATERIALS THAT MAY BE HARMFUL TO TREES.
- THE GENERAL CONTRACTOR SHALL PREVENT PARKING OF CONSTRUCTION VEHICLES AND EQUIPMENT, AND THE STORING OF BUILDING SUPPLIES OR STOCKPILING OF EARTH WITHIN FOREST CONSERVATION EASEMENTS.
- REMOVAL OF TOPSOIL OR ROOT MAT WITHIN THE TREE PRESERVATION AREA SHALL BE PROHIBITED.
- THE GENERAL CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY TREES DAMAGED OR DESTROYED WITHIN THE FOREST CONSERVATION EASEMENTS.
- ROOF PRUNING SHALL BE LIMITED TO THE LIMIT OF DISTURBANCE LIMIT OF GRADING, OR TREE PROTECTIVE FENCING WITHIN AND ADJACENT TO ALL SPECIMEN TREES AND EASEMENT AREAS TO BE PRESERVED, AS NECESSARY.
- ALL POSSIBLE PRECAUTIONS SHALL BE TAKEN TO AVOID DAMAGE TO ROOTS ADJACENT TO DEMOLITION AREAS WHEN BUILDING WALLS OR FOUNDATIONS ARE BEING REMOVED, AND ESPECIALLY WITH PAVEMENT REMOVAL WHERE ROOTS LIKELY EXIST WITHIN SUBBASE GRAVEL.

AS-BUILT CERTIFICATION
 THERE IS NO AS-BUILT INFORMATION ON THIS SHEET.

OWNER/DEVELOPER
 DOSA CLARKSVILLE, LLC
 5900 WHALE BEAT DRIVE UNIT #206
 CLARKSVILLE, MD 21029
 301.370.8866

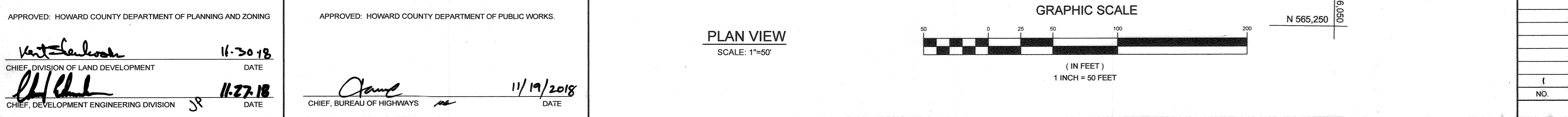
FINAL LANDSCAPE AND FOREST CONSERVATION PLAN THE WOODLANDS

LOTS 1 THRU 8, BUILDABLE PRESERVATION PARCEL A AND NON-BUILDABLE PRESERVATION PARCELS B, C, AND D (RE-SUBDIVISION OF LOT 2 OF GLEN MARY ESTATES)

TAX MAP 28 GRID 23 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

DESIGN BY: PS
 DRAWN BY: JCV
 CHECKED BY: PS
 SCALE: 1" = 50'
 DATE: NOVEMBER 1, 2018
 PROJECT #: 14-029
 SHEET #: 17 OF 19

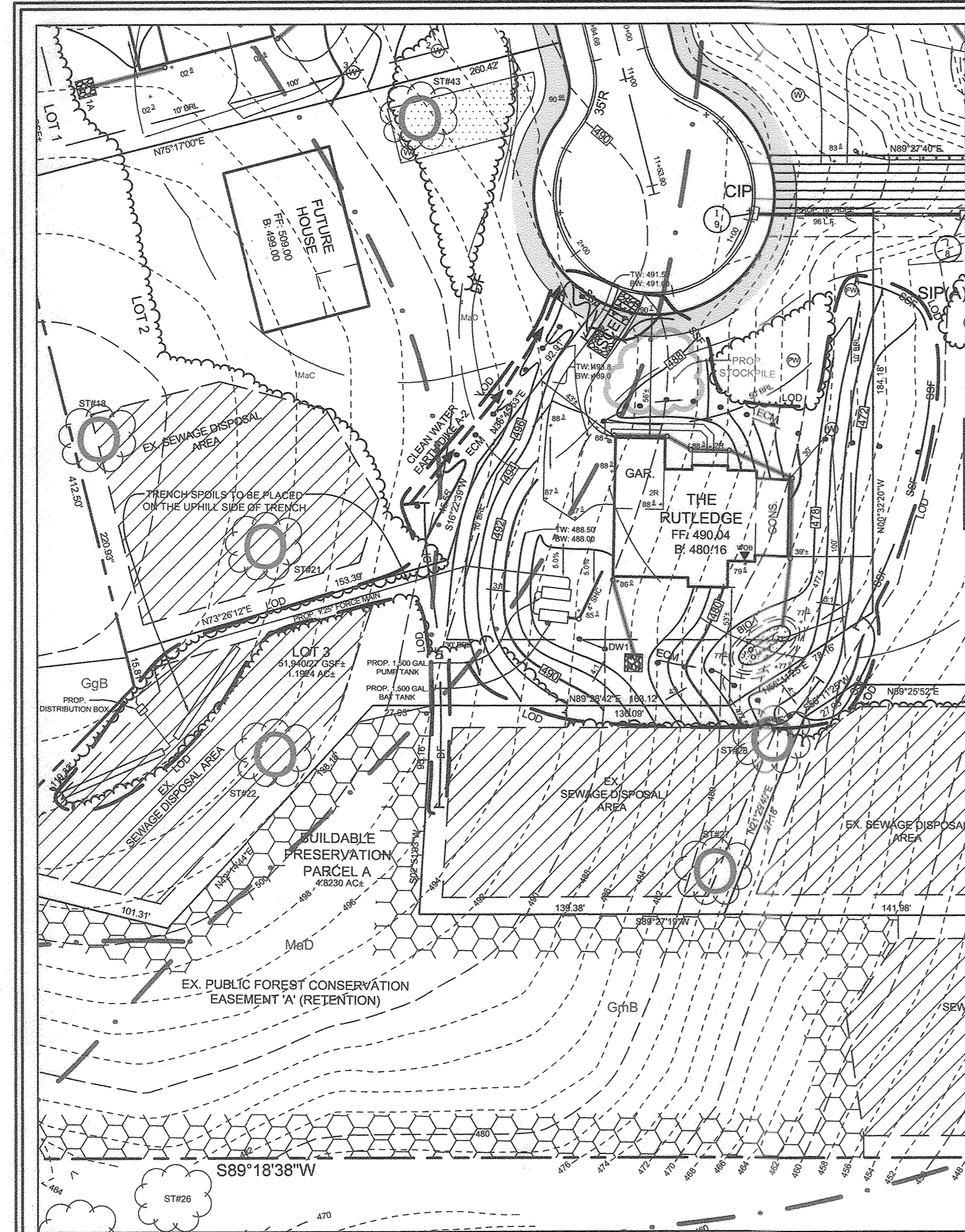
PROFESSIONAL ENGINEER
 SILL ENGINEERING GROUP, LLC
 11130 Dovecot Court, Suite 200
 Marriottsville, Maryland 21104
 Phone: 443.325.5076
 Fax: 410.696.2022
 Email: info@sillengineering.com
 Civil Engineering for Land Development



MD DNR Qualified Professional
 USAC06 Wetland Delineator
 Certification # WD093MD0610044B2

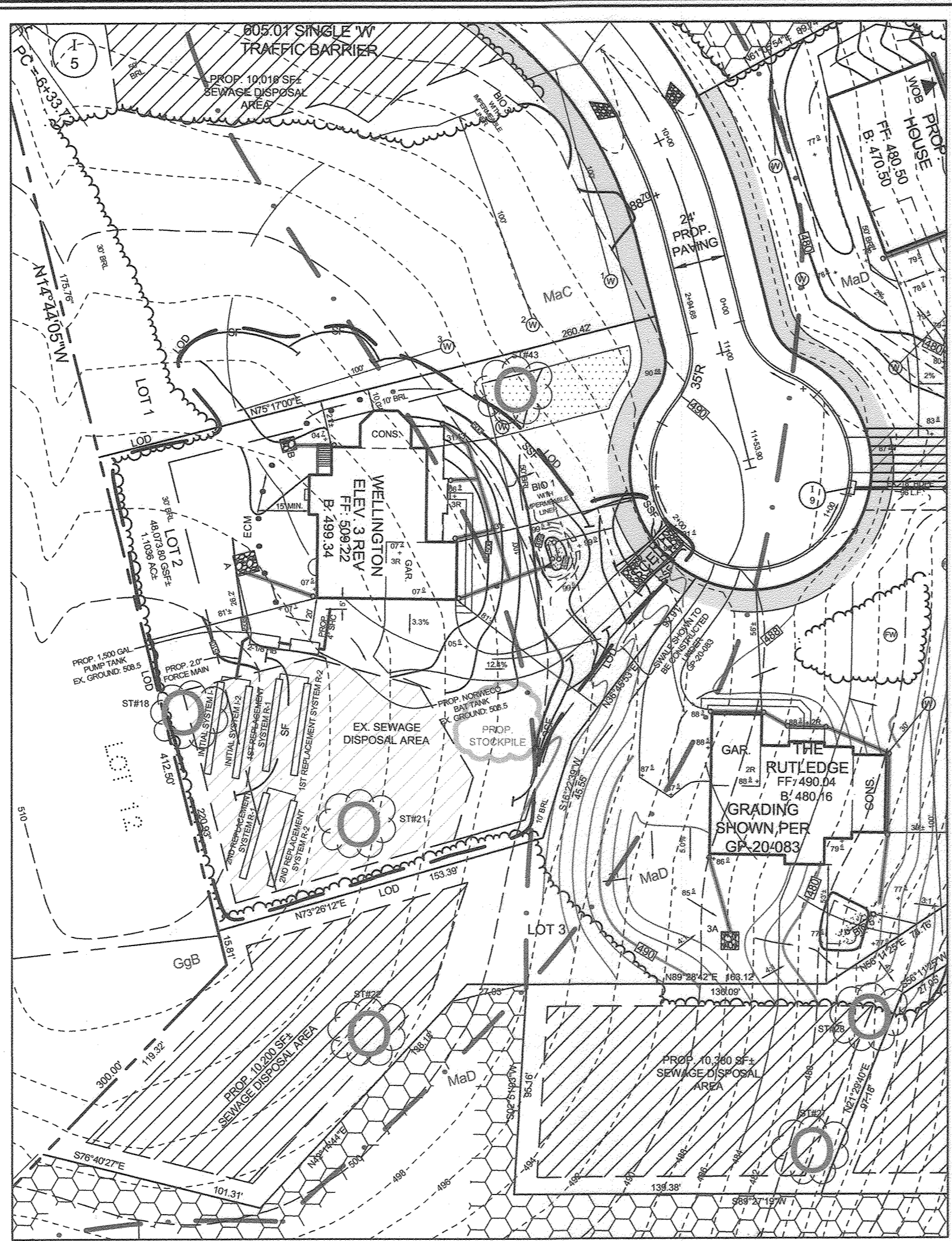
John P. Canoles
 Date: 11/18

REVISIONS		
NO.	DESCRIPTION	DATE
1	AS-BUILT PLAN BY SEG	08/14/23



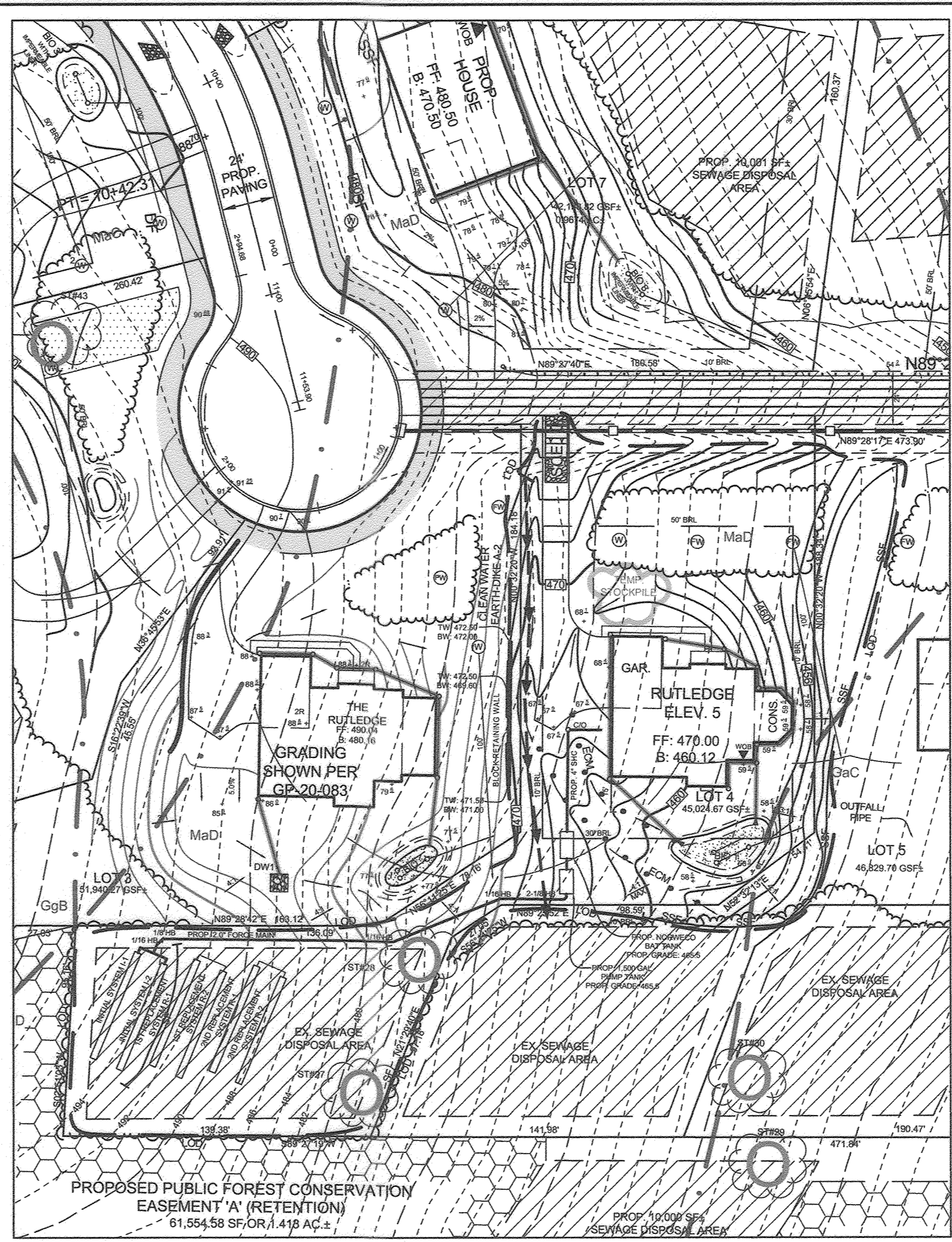
PLAN VIEW LOT 3
SCALE: 1"=50'

NOTE:
• SEDIMENT AND EROSION CONTROLS APPROVED BY THE SOIL CONSERVATION DISTRICT UNDER GP-20-083.
• SEE GP-20-083 FOR STORM WATER MANAGEMENT DESIGN.



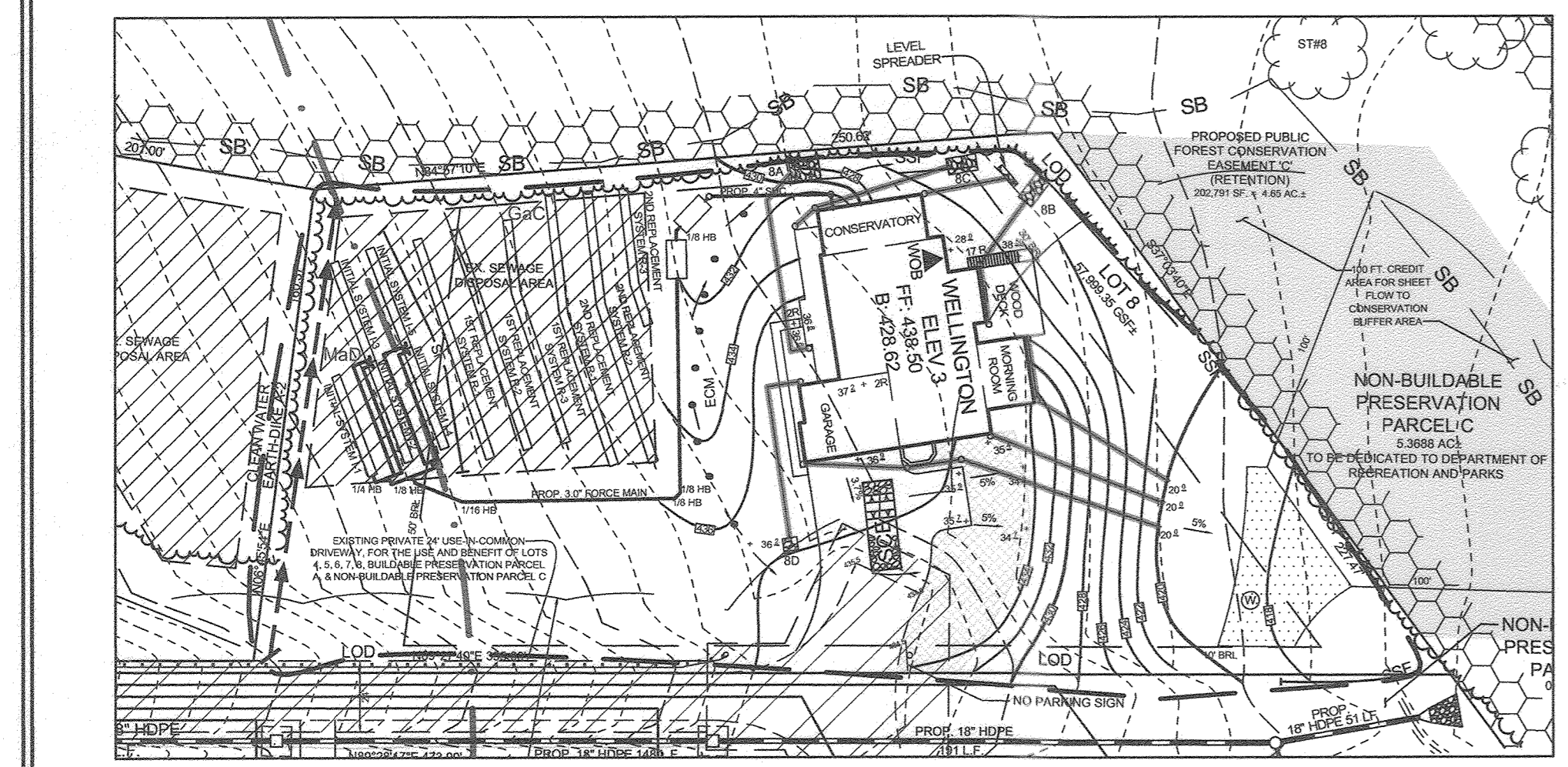
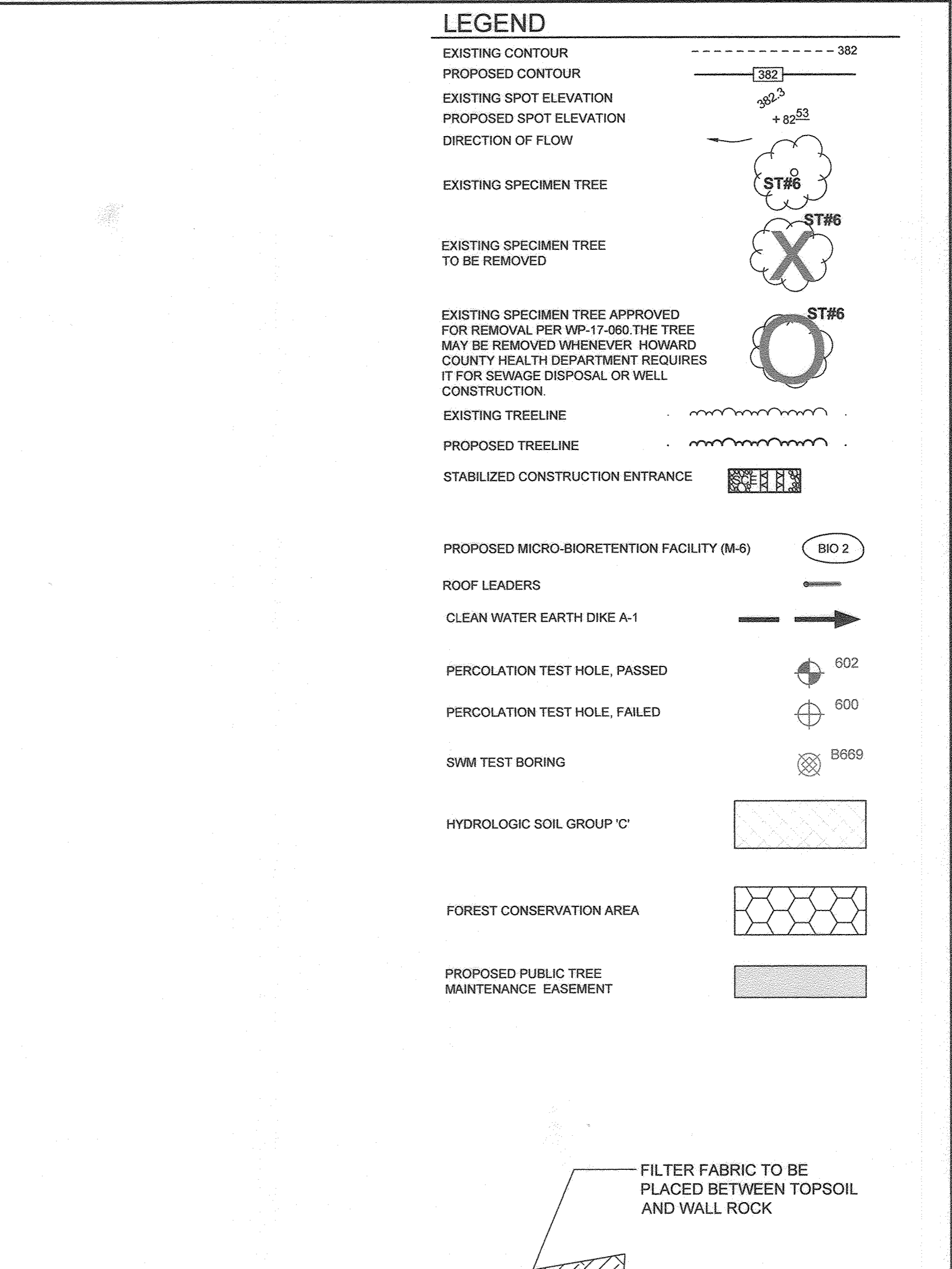
PLAN VIEW LOT 2
SCALE: 1"=50'

NOTE:
• SEDIMENT AND EROSION CONTROLS APPROVED BY THE SOIL CONSERVATION DISTRICT UNDER GP-20-103.
• SEE GP-20-103 FOR STORM WATER MANAGEMENT DESIGN.
• MICRO BIO IS LISTED AS BIO 1 HERE, AND BIO 4 ON THE OVERALL F PLAN.



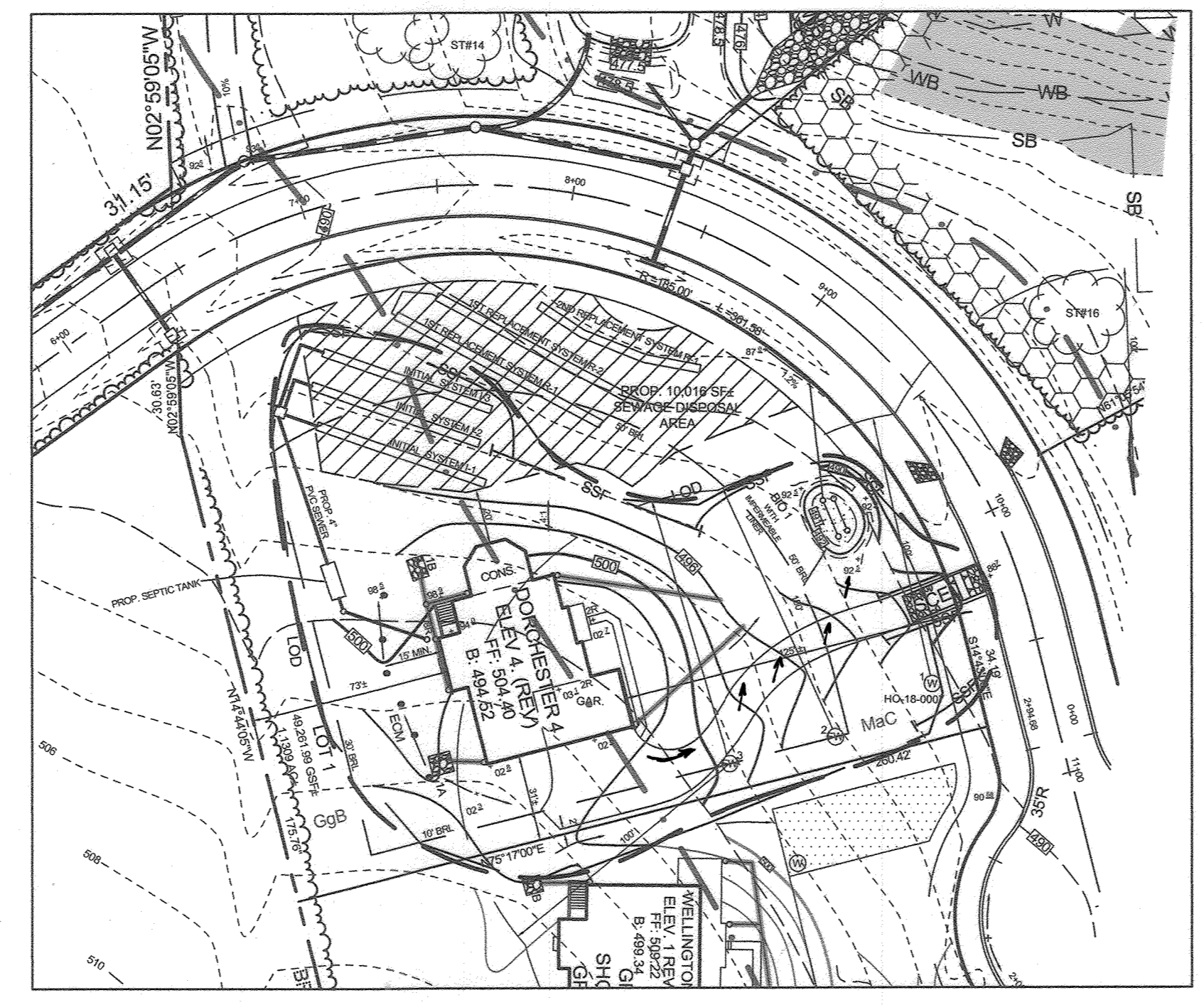
PLAN VIEW LOT 4
SCALE: 1"=50'

NOTE:
• SEDIMENT AND EROSION CONTROLS APPROVED BY THE SOIL CONSERVATION DISTRICT UNDER GP-21-017.
• SEE GP-21-017 FOR STORM WATER MANAGEMENT DESIGN.
• MICRO BIO IS LISTED AS BIO 1 HERE, AND BIO 6 ON THE OVERALL F PLAN.
• WILLIAMSBURG HOMES, THE BUILDER, CONTROLS BOTH LOTS 4 AND 5 AND ALLOWS GRADING BETWEEN THEM.



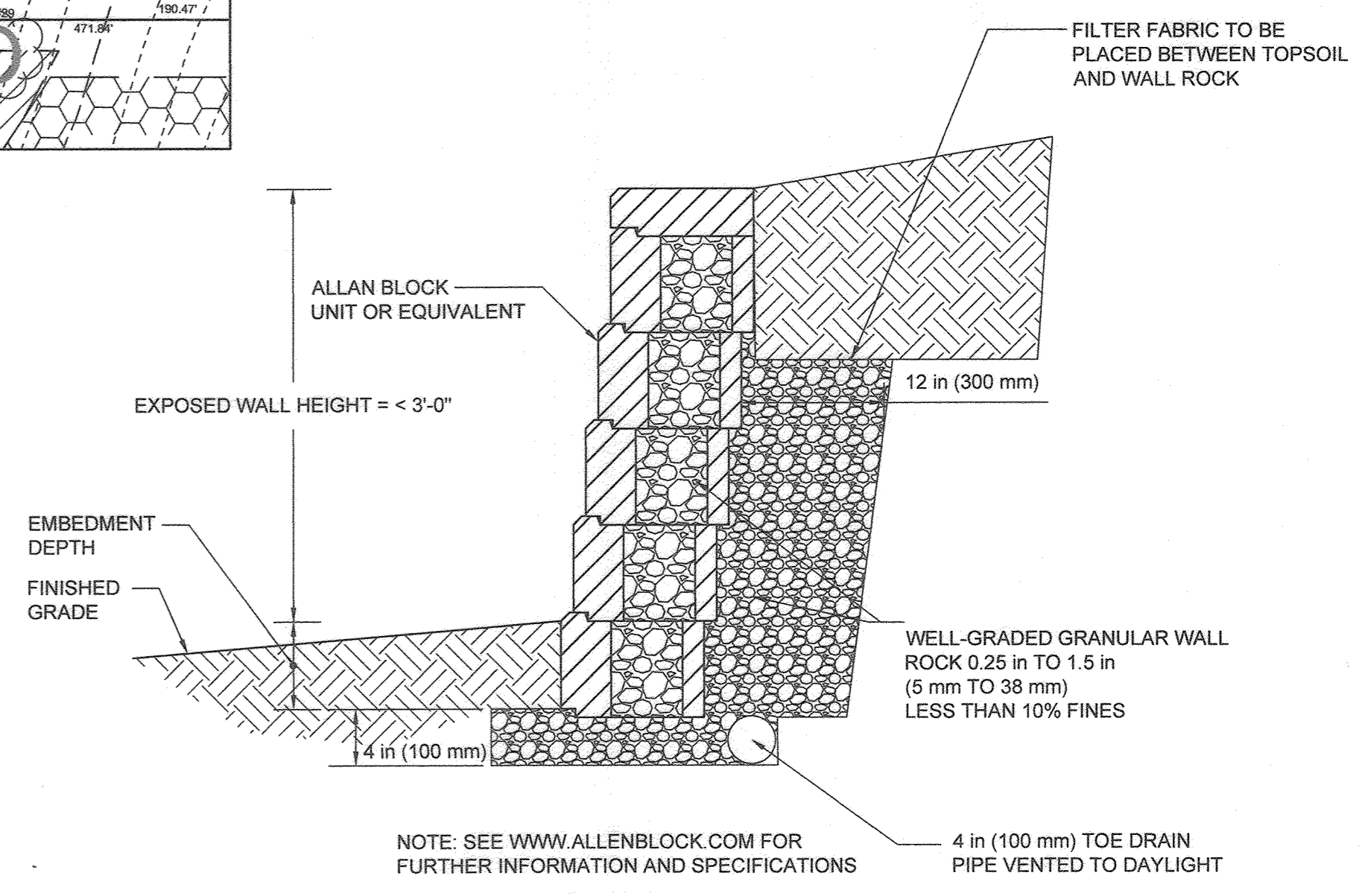
PLAN VIEW LOT 8
SCALE: 1"=50'

NOTE:
• SEDIMENT AND EROSION CONTROLS APPROVED BY THE SOIL CONSERVATION DISTRICT UNDER GP-21-21.
• SEE GP-21-21 FOR STORM WATER MANAGEMENT DESIGN.
• WILLIAMSBURG HOMES, THE BUILDER, CONTROLS ALL LOTS AND ALLOWS GRADING BETWEEN THEM.



PLAN VIEW LOT 1
SCALE: 1"=50'

NOTE:
• SEDIMENT AND EROSION CONTROLS APPROVED BY THE SOIL CONSERVATION DISTRICT UNDER GP-21-062.
• SEE GP-21-062 FOR STORM WATER MANAGEMENT DESIGN.
• WILLIAMSBURG HOMES, THE BUILDER, CONTROLS ALL LOTS AND ALLOWS GRADING BETWEEN THEM.



TYPICAL RETAINING WALL SECTION
NOT TO SCALE

AS-BUILT CERTIFICATION
THERE IS NO AS-BUILT INFORMATION THIS SHEET.

OWNER/DEVELOPER
DOSA CLARKSVILLE LLC
5900 WHALE BOAT DRIVE UNIT #206
CLARKSVILLE MD, 21029
301.370.6866

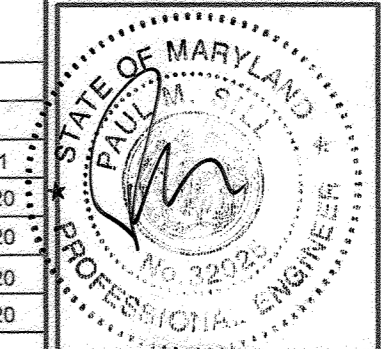
THE PURPOSE OF THIS SHEET IS TO SHOW FINAL GRADING CONDITIONS FOR LOTS 1-4 AND 8.

NO.	DESCRIPTION	DATE
6	AS-BUILT PLANS BY SILL ENGINEERING	9/14/23
5	ADDED LOT 1 GRADING AND HOUSE SITE	11/12/2021
4	ADDED LOT 8 GRADING AND HOUSE SITE	12/15/2020
3	ADDED LOT 4 GRADING AND HOUSE SITE	09/30/2020
2	ADDED LOT 2 GRADING AND HOUSE SITE	08/10/2020
1	ADDED LOT 3 GRADING AND HOUSE SITE	05/28/2020

FINAL GRADING PLAN
THE WOODLANDS

LOTS 1 THRU 8, BUILDABLE PRESERVATION PARCEL A AND NON-BUILDABLE PRESERVATION PARCELS B, C, AND D (RE-SUBDIVISION OF LOT 2 OF GLEN MARY ESTATES)

TAX MAP 28 GRID 23 5TH ELECTION DISTRICT PARCEL 15 HOWARD COUNTY, MARYLAND



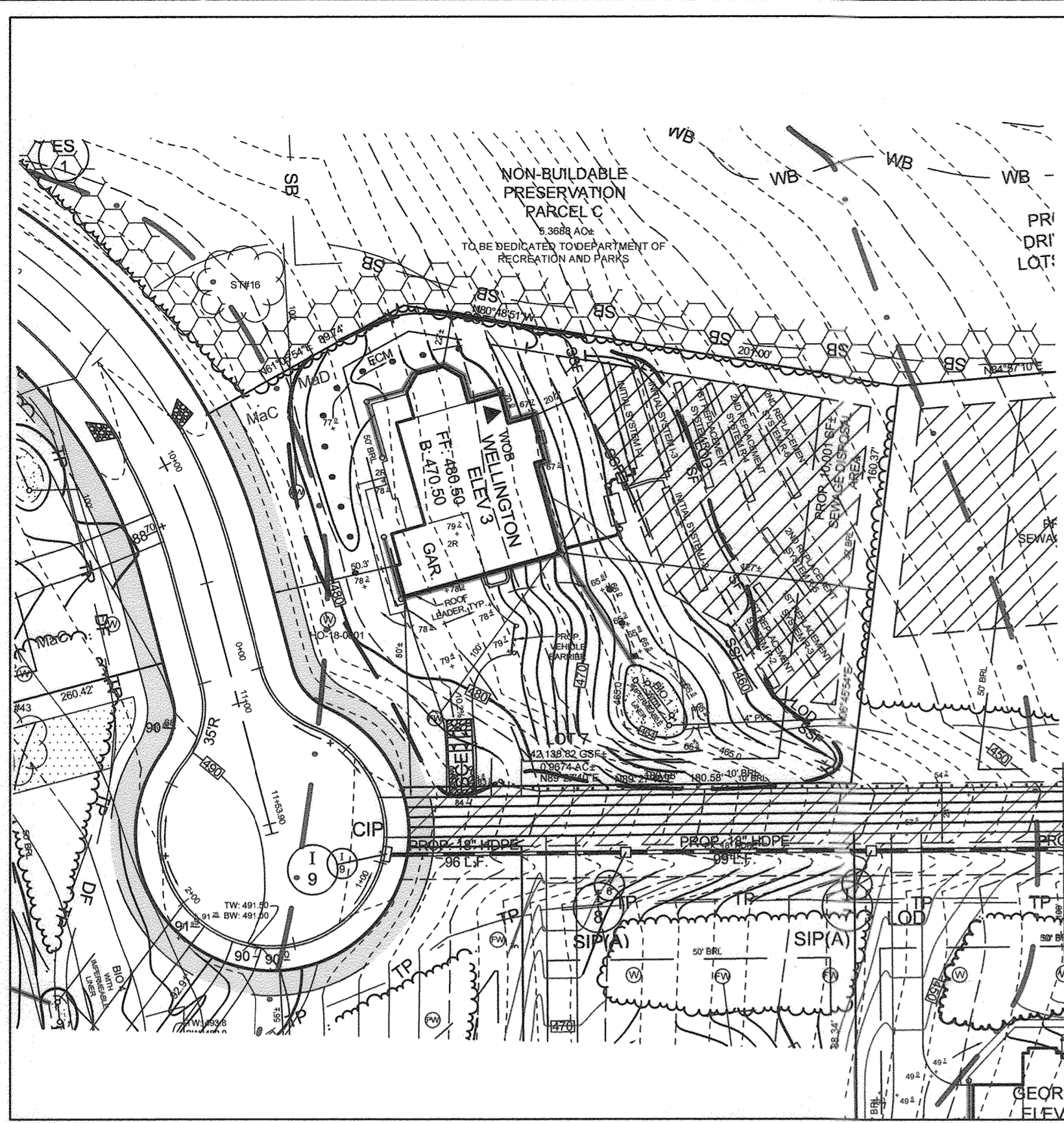
SILL ENGINEERING GROUP, LLC
16005 Frederick Rd., 2nd Floor
Woodbine, Maryland 21797
Phone: 443.325.5076
Fax: 410.696.3029
Email: info@sillengineering.com
Civil Engineering for Land Development

DESIGN BY: PS
DRAWN BY: JC
CHECKED BY: PS
SCALE: 1" = 50'
DATE: JANUARY 12, 2021
PROJECT #: 14-029
SHEET #: 18 OF 19

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 30209, EXPIRATION DATE: JUNE 30, 2021.

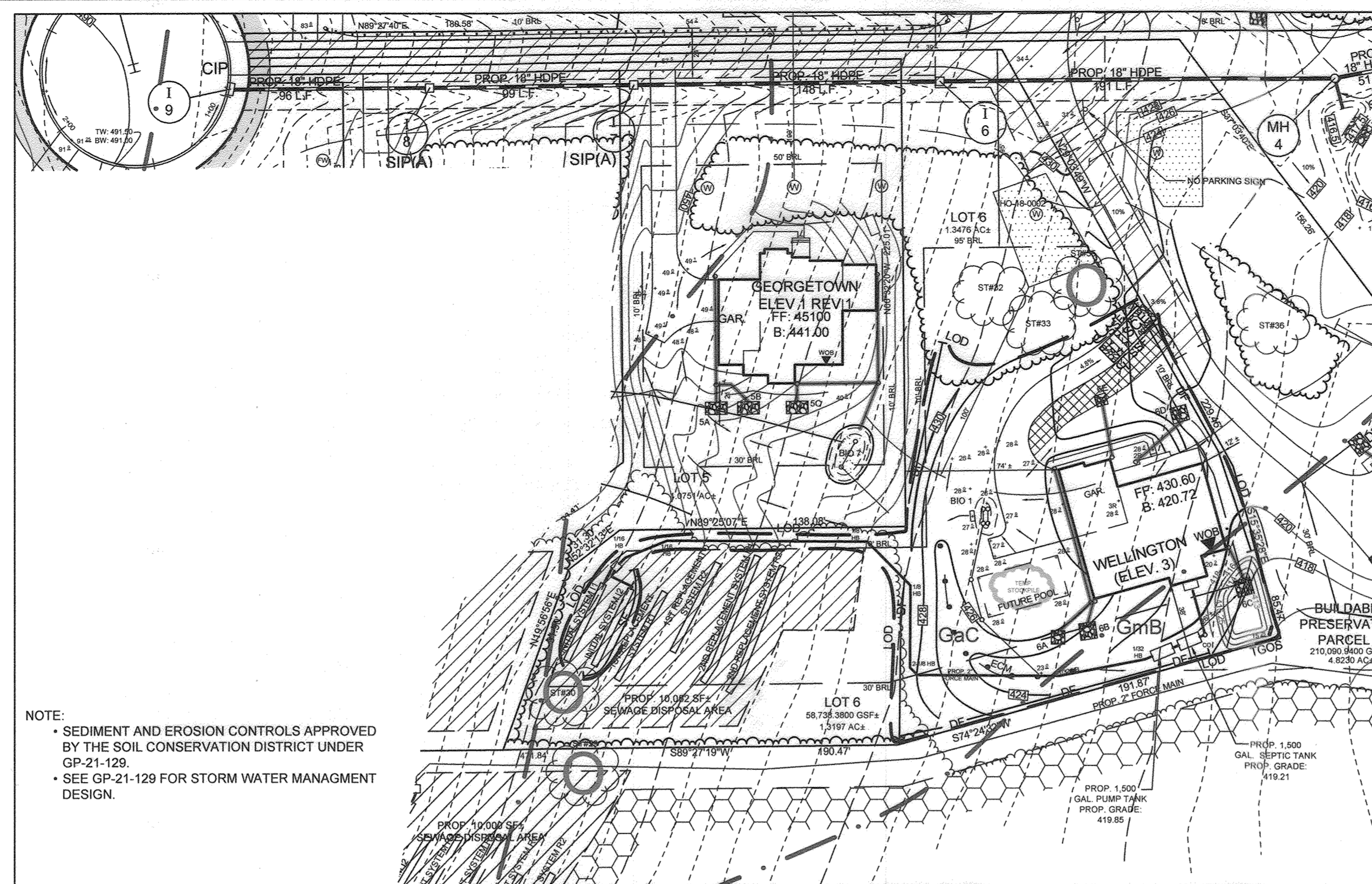
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
2/10/21
DATE
1-27-21
DATE

AS-BUILT DRAWING AND CERTIFICATION FOR ON-LOT SWM FACILITIES (DRYWELLS, MICRO-BIORETENTION DISCONNECTION AREAS) WAS PROVIDED BY NTT ASSOCIATES, INC. DURING FINAL GRADING INSPECTION FOR EACH BUILDING PERMIT.



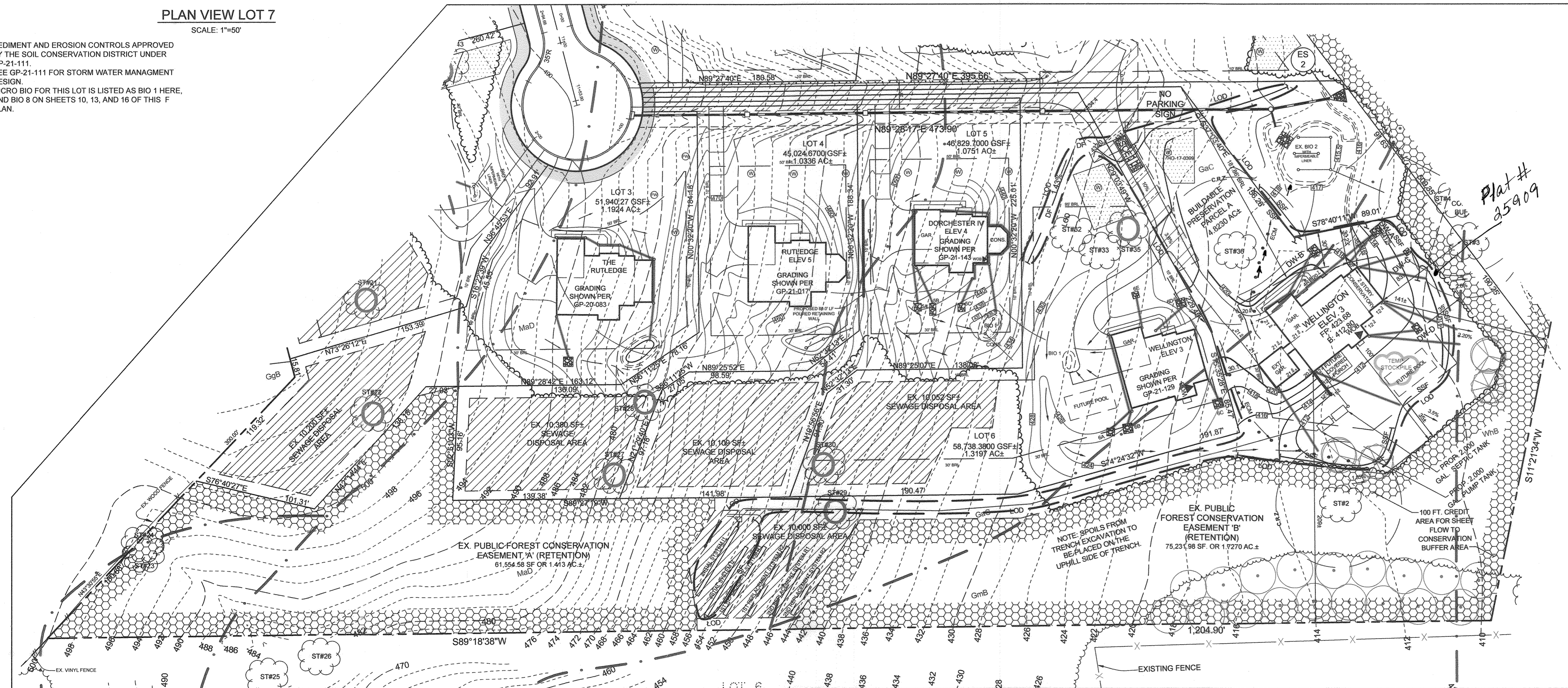
PLAN VIEW LOT 7
SCALE: 1"=50'

NOTE:
 • SEDIMENT AND EROSION CONTROLS APPROVED BY THE SOIL CONSERVATION DISTRICT UNDER GP-21-111.
 • SEE GP-21-111 FOR STORM WATER MANAGEMENT DESIGN.
 • MICRO BIO FOR THIS LOT IS LISTED AS BIO 1 HERE, AND BIO 8 ON SHEETS 10, 13, AND 16 OF THIS F PLAN.



PLAN VIEW LOT 6
SCALE: 1"=50'

NOTE:
 • SEDIMENT AND EROSION CONTROLS APPROVED BY THE SOIL CONSERVATION DISTRICT UNDER GP-21-129.
 • SEE GP-21-129 FOR STORM WATER MANAGEMENT DESIGN.



PLAN VIEW PARCEL A
SCALE: 1"=50'

NOTE:
 • SEDIMENT AND EROSION CONTROLS APPROVED BY THE SOIL CONSERVATION DISTRICT UNDER GP-21-123.
 • SEE GP-21-123 FOR STORM WATER MANAGEMENT DESIGN.

THE PURPOSE OF THIS SHEET IS TO SHOW FINAL GRADING CONDITIONS FOR LOTS 1-8 AND BUILDABLE PRESERVATION PARCEL A.

LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- DIRECTION OF FLOW
- EXISTING SPECIMEN TREE
- EXISTING SPECIMEN TREE TO BE REMOVED
- EXISTING SPECIMEN TREE APPROVED FOR REMOVAL PER WP-17-060 THE TREE MAY BE REMOVED WHENEVER HOWARD COUNTY HEALTH DEPARTMENT REQUIRES IT FOR SEWAGE DISPOSAL OR WELL CONSTRUCTION.
- EXISTING TREELINE
- PROPOSED TREELINE
- STABILIZED CONSTRUCTION ENTRANCE
- PROPOSED MICRO-BIORETENTION FACILITY (M-B)
- ROOF LEADERS
- CLEAN WATER EARTH DIKE A-1
- PERCOLATION TEST HOLE, PASSED
- PERCOLATION TEST HOLE, FAILED
- SWM TEST BORING
- HYDROLOGIC SOIL GROUP 'C'
- FOREST CONSERVATION AREA
- PROPOSED PUBLIC TREE MAINTENANCE EASEMENT

AS-BUILT CERTIFICATION
 THERE IS NO AS-BUILT
 INFORMATION ON THIS SHEET.

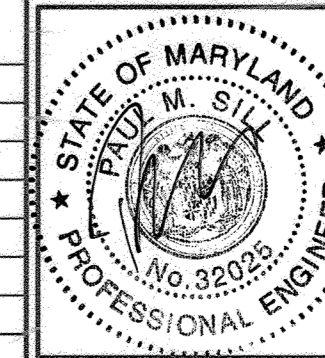
OWNER/DEVELOPER

DOSA CLARKSVILLE LLC
 5600 WHALE BOAT DRIVE UNIT #206
 CLARKSVILLE MD, 21029
 301.370.6866

**FINAL GRADING PLAN
 THE WOODLANDS**

LOTS 1 THRU 8, BUILDABLE PRESERVATION PARCEL A AND
 NON-BUILDABLE PRESERVATION PARCELS B, C, AND D
 (RE-SUBDIVISION OF LOT 2 OF GLEN MARY ESTATES)

TAX MAP 28 DRD 23 5TH ELECTION DISTRICT PARCEL 15 HOWARD COUNTY, MARYLAND



SILL ENGINEERING GROUP, LLC

16005 Frederick Rd., 2nd Floor
 Woodbine, Maryland 21797
 Phone: 443.325.5076
 Fax: 410.696.2022
 Email: info@sillengineering.com
 Civil Engineering for Land Development

DESIGN BY: PS
 DRAWN BY: JC
 CHECKED BY: PS
 SCALE: 1"=50'
 DATE: NOVEMBER 1, 2021
 PROJECT #: 14-029
 SHEET #: 19 OF 19

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 92025, EXPIRATION DATE: JUNE 30, 2025

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 11/22/21
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 11/22/21

AS-BUILT DRAWING AND CERTIFICATION FOR ON-LOT SWM FACILITIES (DRYWELLS, MICRO-BIORETENTION, DISCONNECTION AREAS) WAS PROVIDED BY NTT ASSO CIATBS, INC. DURING FINAL GRADING INSPECTION FOR EACH BUILDING PERMIT.

NO.	DESCRIPTION	DATE
4	AS-BUILT PLAN BY SEG	8/14/23
3	ADDED BUILDABLE PRES. PARCEL A HOUSE SITE	10/07/2021
2	ADDED LOT 6 GRADING & HOUSE SITE	07/22/2021
1	ADDED THIS SHEET AND LOT 7 GRADING & HOUSE SITE	04/13/2021

REVISIONS