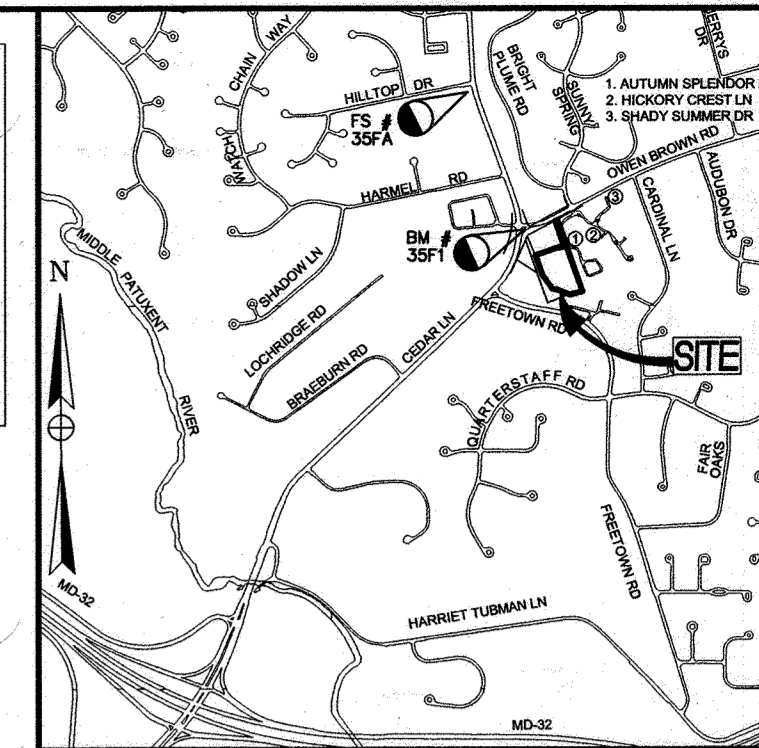


FINAL ROAD CONSTRUCTION PLANS

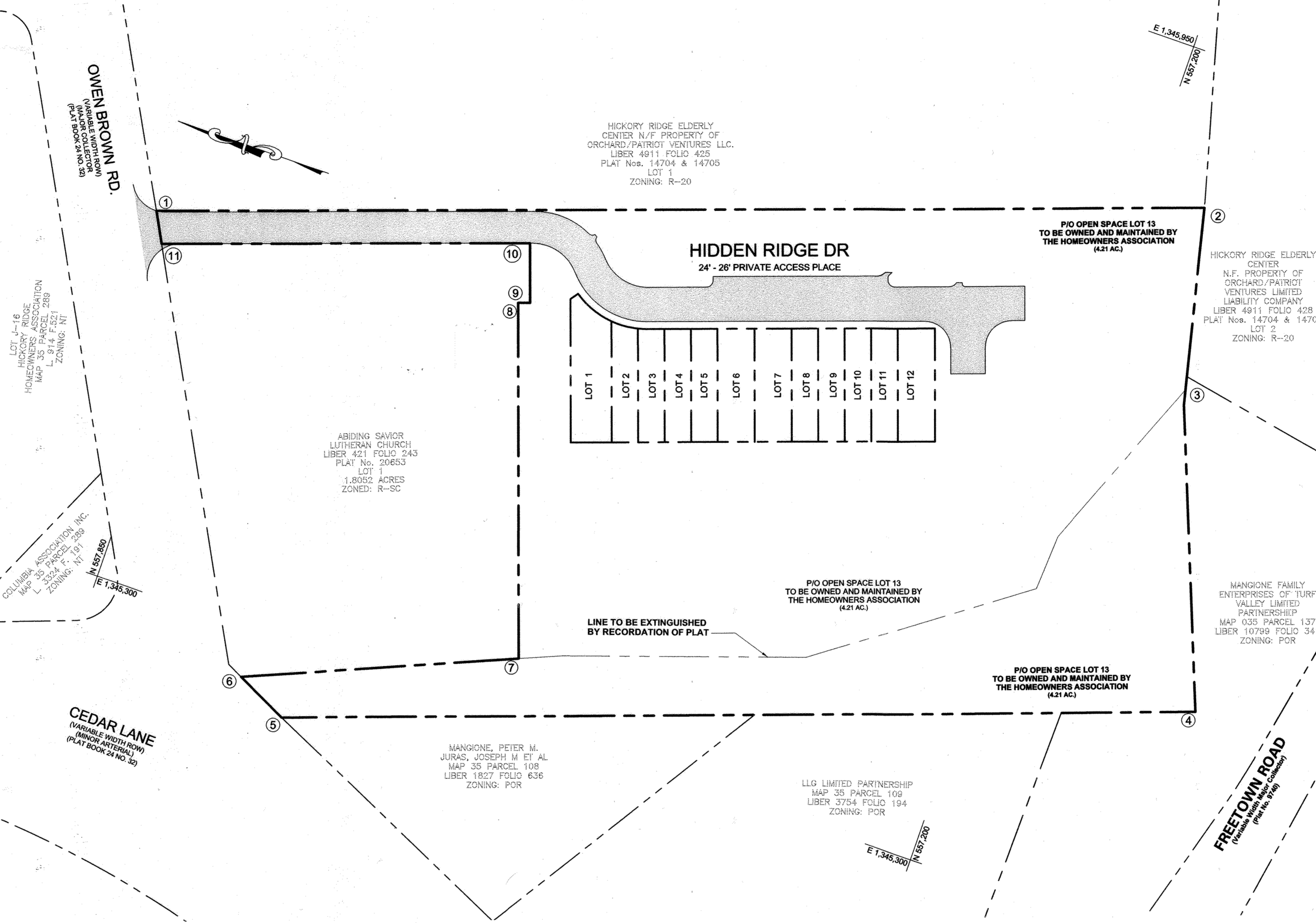
LOTS 1-12 & OPEN SPACE LOT 13 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND HIDDEN RIDGE

POINT No.	NORTHING	EASTING
1	557898.8131	1345675.5788
2	557152.1700	1345837.8100
3	557120.3071	1345703.1574
4	557033.0497	1345475.6591
5	557683.4880	1345245.1600
6	557720.6833	1345263.1676
7	557528.9359	1345346.0042
8	557618.0182	1345599.9372
9	557609.5256	1345602.9163
10	557624.4222	1345645.3824
11	557896.8285	1345553.4890

HO. CO. 35FA	ELEV. 410.395
N 559,266.1141	E 1,344,682.6937
HO. CO. 35F1	ELEV. 400.452
N 557,787.369	E 1,346,217.326



- GENERAL NOTES:**
- THE SUBJECT PROPERTY IS ZONED R-3C PER THE 106/13 ZONING REGULATIONS.
 - DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO INSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
 - A. WIDTH - 12' (SERVING MORE THAN ONE RESIDENCE)
 - B. SURFACE - 4" OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING (1.5" MIN)
 - C. GEOMETRY - MAX 15% GRADE, MAX 10% GRADE CHANGE AND MIN 45' TURNING RADIUS
 - D. DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100-YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE
 - E. STRUCTURE CLEARANCE - MINIMUM 12 FEET
 - F. MAINTENANCE - SUFFICIENT TO INSURE ALL WEATHER USE
 - NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF WETLANDS, STREAM(S), OR THEIR REQUIRED BUFFERS, FLOODPLAIN AND FOREST CONSERVATION EASEMENT AREAS.
 - FLAG AND PIPESTEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE ARE PROVIDED TO THE JUNCTION OF THE FLAG OR PIPESTEM AND ROAD RIGHT-OF-WAY LINE AND NOT ONTO THE PIPESTEM LOT DRIVEWAY.
 - THIS SUBDIVISION IS SUBJECT TO SECTION 18.122B OF THE HOWARD COUNTY CODE. PUBLIC WATER AND/OR SEWER SERVICE HAS BEEN GRANTED UNDER THE TERMS AND PROVISIONS, THEREOF, EFFECTIVE 3/22/19, ON WHICH DATE DEVELOPER AGREEMENT #24-5055-5 (FILED AND ACCEPTED).
 - THE FOREST CONSERVATION EASEMENT HAS BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTIONS 18.1220 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION ACT. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT, HOWEVER FOREST MANAGEMENT PRACTICE AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.
 - RESERVATION OF PUBLIC UTILITY AND FOREST CONSERVATION EASEMENTS. DEVELOPER RESERVES UNTO ITSELF, ITS SUCCESSORS AND ASSIGNS, ALL EASEMENTS SHOWN ON THIS PLAN FOR WATER, SEWER, STORM DRAINAGE OTHER PUBLIC UTILITIES AND FOREST CONSERVATION (DESIGNATED AS "FOREST CONSERVATION AREA") LOCATED IN, OVER AND THROUGH LOTS/PARCELS, ANY CONVEYANCES OF THE AFORESAID LOTS/PARCELS SHALL BE SUBJECT TO THE EASEMENTS HEREIN RESERVED, WHETHER OR NOT EXPRESSLY STATED IN THE DEED(S) CONVEYING SAID LOTS/PARCELS. DEVELOPER SHALL EXECUTE AND DELIVER DEEDS FOR THE EASEMENTS HEREIN RESERVED TO HOWARD COUNTY. UPON COMPLETION OF THE PUBLIC UTILITIES AND THEIR ACCEPTANCE BY HOWARD COUNTY, AND IN THE CASE OF THE FOREST CONSERVATION EASEMENT(S), UPON COMPLETION OF THE DEVELOPER'S OBLIGATIONS UNDER THE FOREST CONSERVATION INSTALLATION AND MAINTENANCE AGREEMENT EXECUTED BY THE DEVELOPER AND THE COUNTY, AND THE RELEASE OF DEVELOPER'S SURETY POSTED WITH SAID AGREEMENT, THE COUNTY SHALL ACCEPT THE EASEMENTS AND RECORD THE DEED(S) OF EASEMENT IN THE LAND RECORDS OF HOWARD COUNTY.
 - LANDSCAPING IS PROVIDED BY A CERTIFIED LANDSCAPE PLAN AS PART OF THIS PLAN SET IN ACCORDANCE WITH SECTION 16.124 OF HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY IN THE AMOUNT \$12,850 (\$5,400 FOR 18 SHADE TREES, \$4,050 FOR 27 EVERGREENS TREES, \$2,800 FOR 280' OF FENCING AND \$600 FOR THE MITIGATION OF TWO (2) TREES) SHALL BE POSTED AS PART OF THE DPW DEVELOPERS AGREEMENT.
 - THE 65 DBA NOISE CONTOUR LINE DRAWN ON THIS SUBDIVISION PLAN IS ADVISORY AS REQUIRED BY THE HOWARD COUNTY DESIGN MANUAL, CHAPTER 5, REVISED FEBRUARY, 1982 AND CANNOT BE CONSIDERED TO EXACTLY LOCATE THE 65 DBA NOISE EXPOSURE. THE 65 DBA NOISE LINE ESTABLISHED BY HOWARD COUNTY TO ALERT DEVELOPERS, BUILDER AND FUTURE RESIDENTS THAT AREA BEYOND THIS THRESHOLD MAY EXCEED GENERALLY ACCEPTED NOISE LEVELS ESTABLISHED BY THE U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT.
 - THE GEOTECHNICAL REPORT FOR THIS PROJECT WAS PREPARED BY MAFI & ASSOCIATES, INC., DATED DECEMBER 19, 2015 AND APPROVED ON JANUARY 19, 2018 AND APPROVED ON JANUARY 19, 2018.
 - THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD RUN SURVEY WITH A MAXIMUM TWO FOOT CONTOUR INTERVALS PREPARED BY: MID-ATLANTIC PROFESSIONAL SURVEYS, DATED, DECEMBER 3, 2015. OFF-SITE AREAS HAVE BEEN SUPPLEMENTED WITH HO. CO. GIS TOPOGRAPHICAL INFORMATION.
 - THE COORDINATES SHOWN ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL, WHICH IS BASED UPON THE MARYLAND STATE PLAN COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. BM #35FA AND BM #35F1 WERE USED FOR THIS PROJECT.
 - THIS SITE IS WITHIN THE METROPOLITAN DISTRICT. WATER IS PUBLIC PER CONTRACT NO. 24-0708-D SEWER IS PUBLIC PER CONTRACT NO. 24-3781-D
 - PROPOSED STORMWATER MANAGEMENT CONTROLS: M-6 MICRO-BIOTENTION, N-3 SHEET FLOW TO CONSERVATION AREA, M-5 DRY WELLS. OWNERSHIP AND MAINTENANCE RESPONSIBILITY FALL UNDER HIDDEN RIDGE HOA.
 - EXISTING UTILITIES SHOWN HAVE BEEN TAKEN FROM APPROVED CONTRACT DRAWINGS AND FIELD SURVEYED LOCATIONS. IF NECESSARY, THE CONTRACTOR SHALL ADJUST ANY OR ALL STRUCTURE TOP ELEVATIONS TO MATCH PROPOSED GRADES.
 - THE FLOODPLAIN STUDY FOR THIS PROJECT WAS PREPARED BY MASER CONSULTING P.A., DATED JANUARY 5, 2017 AND APPROVED ON JANUARY 19, 2018.
 - THE WETLAND DELINEATION STUDY FOR THIS PROJECT WAS PREPARED BY CHRISTOPHER CONSULTANTS PER THE APPROVED PLAT # 20653 (F-08-123) DATED, JULY 02, 2009, REPORT DATED AUGUST 30, 2006. A RE-EVALUATION WAS PERFORMED BY TNT ENVIRONMENTAL INC. ON NOVEMBER 14, 2017 AND APPROVED ON JANUARY 19, 2018.
 - THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY LEHART TRAFFIC CONSULTING, INC., DATED JANUARY 5, 2017 AND APPROVED ON JANUARY 19, 2018.
 - THE NOISE STUDY FOR THIS PROJECT WAS PREPARED BY STRAUGHAN ENVIRONMENTAL, INC., DATED JANUARY, 2017 AND APPROVED ON JANUARY 19, 2018.
 - THE GEOTECHNICAL REPORT FOR THIS PROJECT WAS PREPARED BY MAFI & ASSOCIATES, INC., DATED DECEMBER 19, 2015 AND APPROVED ON JANUARY 19, 2018.
 - WP-17-099, A REQUEST TO WAIVE SECTIONS 16.120(C)(4), 16.120(B)(6)(VI), 16.134(A)(1), 16.125(A)(7), 16.134(d)(1) AND 110.0(D)(1)(3) OF THE HOWARD COUNTY SUBDIVISION REGULATIONS WAS APPROVED ON NOVEMBER 27, 2017 WITH THE FOLLOWING CONDITIONS:
 - 21.1. THE PRIVATE ROAD SHALL BE OWNED AND MAINTAINED BY THE HOA FOR THE COMMUNITY AND A COMMON ACCESS EASEMENT SHALL BE RECORDED ON D.
 - 21.2. AN ADEQUATE TURNAROUND OR SIMILAR DESIGN AS APPROVED BY DEP. DPW, DPFS SHALL BE LOCATED AT THE END OF THE PRIVATE ROAD FOR EMERGENCY VEHICLES, TRASH HAULING SERVICES AND OTHER LARGE VEHICLES THAT NEED TURNAROUND SPACE. THE TURNAROUND SPACE SHALL BE SIGNED TO NOT ALLOW PARKING BY RESIDENTS IN THIS AREA.
 - 21.3. THE DEVELOPER SHALL WORK WITH THE AUTUMN SPLENDOR COMMUNITY TO PLANT LANDSCAPING ON THEIR PROPERTY ADJACENT TO THE NEW PRIVATE ROAD TO FURTHER SCREEN THE ROAD.
 - 21.4. THE DEVELOPER SHALL WORK WITH ABIDING SAVIOR CHURCH TO PROVIDE LANDSCAPING ON ITS PROPERTY TO BUFFER THE NEW PRIVATE ROAD.
 - 21.5. THE SPECIMEN TREE TO BE REMOVED SHALL BE REPLACED WITH THE PLANTING OF TWO NEW RED OAK TREES ON THE PROPERTY AS MITIGATION.
 - 21.6. ANY FENCE TO THE NORTH OF THE PRIVATE ROAD WILL REQUIRE A MAINTENANCE EASEMENT ON THE ADJACENT PROPERTY.
 - ON APRIL 4, 2017 THE CHIEF OF DEVELOPMENT ENGINEERING DIVISION APPROVED A DESIGN MANUAL W/AVER, VOLUME III, APPENDIX A, NOTE #5. APPROVED, DATED MARCH 17, 2017, REDUCTION IN PAVEMENT WIDTH FROM 28' TO 24' SUBJECT TO THE FOLLOWING CONDITIONS:
 - a. 24' WIDTH FOR THE ACCESS ROAD FROM OWEN BROWN ROAD TO THE END OF THE PIPESTEM PORTION OF THE PROPERTY (APPROXIMATELY 280') WHERE THE DRIVEWAY SHALL BE TRANSITIONED TO 26' FOR THE REMAINING PART OF THE DEVELOPMENT DUE TO THE 25' WIDTH OF THE PIPESTEM.
 - b. THE PROPOSED CURVES FROM THE PIPESTEM SHALL MEET THE MINIMUM 45' RADIUS FOR EMERGENCY VEHICLE ACCESS.
 - c. A TURNAROUND SHALL BE PROVIDED AT THE END OF THE ROAD. THE ENTIRE ROAD SHALL HAVE CURB AND GUTTER ALONG BOTH SIDES. FOR THE SIDES WITH GARAGE UNITS, THE CURB AND GUTTER CAN BE THE MODIFIED COMBINATION CURB AND GUTTER (R-3.01).
 - d. THE ENTRANCE CURB, WHERE THE PROPOSED ROAD MEETS OWEN BROWN ROAD, SHALL MEET CURRENT RADI REQUIREMENTS. IF THE CURB AND GUTTER ENCROACHES ONTO THE ADJACENT PROPERTIES, THE APPROPRIATE PRIVATE ACCESS EASEMENTS SHALL BE OBTAINED PRIOR TO THE APPROVAL OF THE SITE DEVELOPMENT PLAN.
 - e. THE ON-SITE ROAD SHALL BE PRIVATELY OWNED AND MAINTAINED BY THE HOA. NO PUBLIC MAINTENANCE SHALL BE PROVIDED FOR THE ROAD IN THIS DEVELOPMENT.
 - WP-17-132, A REQUEST TO WAIVE SECTIONS 16.104(b)(1), 16.144(d)(2), 16.144(d)(3) OF THE HOWARD COUNTY SUBDIVISION REGULATIONS WAS APPROVED ON AUGUST 15, 2017 WITH THE FOLLOWING CONDITIONS:
 - a. THE REVISION PRELIMINARY EQUIVALENT SKETCH PLAN MUST BE SUBMITTED (90 DAYS FROM THE ORIGINAL SUBMITTAL DATE OF JUNE 30, 2017) ON OR BEFORE SEPTEMBER 28, 2017.
 - b. THE NEW INFORMATION REQUESTED FOR THE ALTERNATIVE COMPLIANCE REQUEST WP-17-099 MUST BE SUBMITTED 90 DAYS FROM THE RESUBMISSION DEADLINE OF JUNE 23, 2017 TO SEPTEMBER 21, 2017. CORRESPONDENCE OF EXTENSION MUST BE INCLUDED WITH RESUBMISSION MATERIAL.
 - c. INCLUDE ALTERNATIVE COMPLIANCE REQUEST NUMBER, DESCRIPTION, AND DECISION ON ALL ASSOCIATED AND FUTURE PLANS.
 - TRAFFIC CONTROL DEVICES:
 - a. THE R-1-1 ("STOP") SIGN AND THE TRAFFIC NAME SIGN (SNS) ASSEMBLY FOR THIS DEVELOPMENT MUST BE INSTALLED BEFORE THE BASE PAVING IS COMPLETED.
 - b. 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 STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
 - c. ALL TRAFFIC CONTROL DEVICES AND THEIR LOCATIONS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MDMUTCD).
 - d. ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED ("POUCH PUNCH"), SQUARE TUBE POST (1 1/2" GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (1 1/2" 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.
 - THE MODERATE INCOME HOUSING UNIT REQUIREMENT (COUNCIL BILL 35-2013) SHALL BE FULFILLED. 12 TOWNHOUSE UNITS X 10% = 1.2 UNITS. THE DEVELOPER WILL PROVIDE 2 UNITS TO FULFILL THE REQUIREMENT.
 - PER SECTION 120.0.D.1.a. THE MAXIMUM HEIGHT LIMITATIONS SHALL APPLY:
 - (1) PRINCIPLE STRUCTURE...34 FT (HOWEVER, THE MAXIMUM HEIGHT FOR SINGLE FAMILY ATTACHED DWELLINGS WITH GABLE, HIP OR GAMBREL ROOFS SHALL BE 40 FEET.
 - (2) ACCESSORY STRUCTURES...15 FEET.
 - APPLICABLE DPZ FILE NUMBERS: SDP-08-067, F-08-123, ECP-16-043, SP-17-008, WP-17-099, WP-17-132, F-19-084.
 - A PRE-SUBMISSION COMMUNITY MEETING WAS HELD ON FEBRUARY 8, 2017 IN COMPLIANCE WITH SECTION 16.128 OF THE AMENDED 5TH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.
 - FOREST CONSERVATION REQUIREMENTS HAS BEEN FULFILLED ON-SITE THRU AN EXISTING FOREST CONSERVATION EASEMENT RECORDED UNDER PLAT 20655.



Lot #	Lot Area (SF)	Lot Coverage
1	3,151	26.8%
2	1,761	48.0%
3	1,710	49.5%
4	1,709	49.5%
5	1,709	49.5%
6	2,391	35.4%
7	2,391	35.4%
8	1,709	49.5%
9	1,709	49.5%
10	1,709	49.5%
11	1,709	49.5%
12	2,391	35.4%

LOT No.	ADDRESS	MICRO-BIO RETENTION (M-6)	DRY WELLS (M-5)
1*	10700 HIDDEN RIDGE DRIVE	0	2
2*	10702 HIDDEN RIDGE DRIVE	0	1
3*	10704 HIDDEN RIDGE DRIVE	0	1
4*	10706 HIDDEN RIDGE DRIVE	0	1
5*	10708 HIDDEN RIDGE DRIVE	0	1
6*	10710 HIDDEN RIDGE DRIVE	0	1
7*	10712 HIDDEN RIDGE DRIVE	0	1
8*	10714 HIDDEN RIDGE DRIVE	0	1
9*	10716 HIDDEN RIDGE DRIVE	0	1
10*	10718 HIDDEN RIDGE DRIVE	0	1
11*	10720 HIDDEN RIDGE DRIVE	0	1
12*	10722 HIDDEN RIDGE DRIVE	0	0

SINGLE FAMILY ATTACHED TOWNHOUSES	
Zoned: R-3C MEDIUM DENSITY RESIDENTIAL	1.652 ac.
Gross Area - Existing Use: Vacant	4.769 ac.
100 yr. Floodplain	0.049 ac.
Steep Slopes 25%	0.000 ac.
Highway Widening	0.000 ac.
Net Area	3.068 ac.
Number of lots allowed 4 D.U. per Net Ac.	12 du.
Number of SFA units proposed	12 du.
Total proposed lots area	0.58 ac.
Total proposed road area	0.42 ac.
Total impervious area (within boundary)	0.85 ac.
Total forest area	2.47 ac.
Area of public right-of-way	0.00 ac.
Area of Open Space Required (25% of Gross)	1.19 ac.
Area of Open Space Provided (Credited)	4.00 ac.
Area of Open Space Provided (Total)	4.21 ac.
Recreational Open Space Required 400 sf/unit	4800 sf
Recreation Open Space Provided	4800 sf
PARKING SPACE DISTRIBUTION	
Parking Space Required: 2 Spaces per townhouse	24 sp
Visitor Parking Required: 0.5 space per townhouse	6 sp
Total Parking Spaces Provided	42 sp

NO.	DESCRIPTION
1	COVER SHEET
2	ROAD PLAN & PROFILE
3	ROAD PLAN DETAILS
4	GRADING, SEDIMENT AND EROSION CONTROL PLAN & SOILS MAP
5	SEDIMENT AND EROSION CONTROL NOTES
6	SEDIMENT AND EROSION CONTROL DETAILS
7	LANDSCAPE PLAN
8	LANDSCAPE NOTES & DETAILS
9	STORM DRAIN DRAINAGE AREA MAP
10	STORM DRAIN PROFILES & DETAILS
11	STORMWATER MANAGEMENT DRAINAGE AREA MAP
12	STORMWATER MANAGEMENT SECTIONS
13	STORMWATER MANAGEMENT NOTES & DETAIL
14	SOIL BORING LOGS

LOT No.	ADDRESS	MICRO-BIO RETENTION (M-6)	DRY WELLS (M-5)
1*	10700 HIDDEN RIDGE DRIVE	0	2
2*	10702 HIDDEN RIDGE DRIVE	0	1
3*	10704 HIDDEN RIDGE DRIVE	0	1
4*	10706 HIDDEN RIDGE DRIVE	0	1
5*	10708 HIDDEN RIDGE DRIVE	0	1
6*	10710 HIDDEN RIDGE DRIVE	0	1
7*	10712 HIDDEN RIDGE DRIVE	0	1
8*	10714 HIDDEN RIDGE DRIVE	0	1
9*	10716 HIDDEN RIDGE DRIVE	0	1
10*	10718 HIDDEN RIDGE DRIVE	0	1
11*	10720 HIDDEN RIDGE DRIVE	0	1
12*	10722 HIDDEN RIDGE DRIVE	0	0

STORMWATER MANAGEMENT PRACTICES
** TO BE OWNED AND MAINTAINED BY THE HOA

LOT No.	ADDRESS	MICRO-BIO RETENTION (M-6)	SHEET FLOW TO CONSERV. (N-3)
OS 13*	N/A	2	2

STATE OF MARYLAND
DEPARTMENT OF PUBLIC SAFETY
FIRE & POLICE DIVISION
BUILT CERTIFICATION FOR PSWM

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND COMPLIES WITH THE APPROVED PLANS AND SPECIFICATIONS. I HAVE VERIFIED THAT THE CONTRIBUTING DRAINAGE AREA IS SUFFICIENTLY STABILIZED TO PREVENT CLOGGING OF THE UNDERGROUND SWM FACILITY.

NAME: F.F.#: 16193 DATE: 3/4/22

PLAN
SCALE: 1" = 60'

NO AS-BUILT INFORMATION ON THIS SHEET

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410)-313-1880 AT LEAST (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III (1993) N/A AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS" (JUNE 1993). A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREETLIGHT AND ANY TREE.
- A PRIVATE RANGE OF ADDRESS SIGN AND ASSEMBLY SHALL BE FABRICATED BY HOWARD COUNTY BUREAU OF HIGHWAYS AT THE DRIVEWAY ACCESS POINT ONTO OWEN BROWN ROAD AT THE DEVELOPERS/OWNERS EXPENSE. CONTACT HOWARD COUNTY TRAFFIC DIVISION AT 410-313-5752 FOR DETAILS AND COST ESTIMATES.
- THE DEVELOPER WILL WORK WITH ABIDING SAVIOR CHURCH TO HELP ALLEVIATE COMMUNITY CONCERNS REGARDING THE LOSS OF CHURCH PARKING DUE TO THE BY-RIGHT PRIVATE ROAD CONSTRUCTION FOR LOT 2.
- AS OF JUNE 6, 2019, THE DEPARTMENT OF PLANNING AND ZONING APPROVES THE REQUEST FOR THE 100-YEAR FLOODPLAIN DISTURBANCE AS ESSENTIAL OR NECESSARY DISTURBANCE, IN ACCORDANCE WITH SECTION 16.116(C) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. THE NECESSARY ENVIRONMENTAL DISTURBANCE IS SUBJECT TO THE FOLLOWING MITIGATION METHODS:
 - a. THE APPLICANT SHALL OBTAIN ANY REQUIRED PERMITS FOR THE PUBLIC SEWER LINE CONNECTION.
 - b. DURING CONSTRUCTION, THE PROPOSED WORK AREA WITHIN THE FLOODPLAIN SHALL BE ADEQUATELY PROTECTED BY A DOUBLE SILT FENCE TO CONTROL STORMWATER RUNOFF.
 - c. THE 100-YEAR FLOODPLAIN AREA DISTURBED SHALL BE STABILIZED AND RE-VEGETATED UPON COMPLETION OF THE SEWER LINE INSTALLATION BACK TO ITS ORIGINAL PRE-CONSTRUCTION CONDITION.

Practice	#	Facility	DA to practice	Imp Area to practice	0.68 inches		ESDv		0.40 inches		Rev (R)	Ownership
					Required	Provided	Required	Provided	Required	Provided		
(M-6) MicroBiotention	#1	21,996	18,390	440	1739	PASS	2245	2051	1.6	577	Private	
(M-6) MicroBiotention	#2	19,355	10,806	1516	1425	PASS	1515	1463	1.6	391	Private	
(N-3) Sheet Flow to Conservation Area	#1	1,023	1,023	n/a	n/a	n/a	n/a	77	0.9	77	Private	
(N-3) Sheet Flow to Conservation Area	#2	3,008	3,008	n/a	n/a	n/a	n/a	226	0.9	226	Private	
(M-5) Drywell	1a	430	430	n/a	n/a	n/a	58	59	1.7	59	Private	
(M-5) Drywell	1b	420	420	n/a	n/a	n/a	57	59	1.8	59	Private	
(M-5) Drywell	2	420	420	n/a	n/a	n/a	57	59	1.8	59	Private	
(M-5) Drywell	3	421	421	n/a	n/a	n/a	57	57	1.7	57	Private	
(M-5) Drywell	4	420	420	n/a	n/a	n/a	57	57	1.7	57	Private	
(M-5) Drywell	5	421	421	n/a	n/a	n/a	57	57	1.7	57	Private	
(M-5) Drywell	6	424	424	n/a	n/a	n/a	57	57	1.8	59	Private	
(M-5) Drywell	7	423	423	n/a	n/a	n/a	57	57	1.7	57	Private	
(M-5) Drywell	8	421	421	n/a	n/a	n/a	57	57	1.7	57	Private	
(M-5) Drywell	9	420	420	n/a	n/a	n/a	57	57	1.7	57	Private	
(M-5) Drywell	10	421	421	n/a	n/a	n/a	57	59	1.8	59	Private	
(M-5) Drywell	11	420	420	n/a	n/a	n/a	57	50	1.5	50	Private	
Total Treated			50,023	36,289	1,955	3,164		5,502	5,672	1.9	836	1905
Site Total				11,496								

APPROVED: DEPARTMENT OF PUBLIC WORKS
7/15/2019
CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING & ZONING
7/26/19
CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: DEPARTMENT OF PLANNING & ZONING
7/17/19
CHIEF, DEVELOPMENT ENGINEERING DIVISION

OWNERS:
NON-BUILDABLE BULK PARCEL 'A'
ABIDING SAVIOR LUTHERAN CHURCH
10889 OWEN BROWN ROAD
COLUMBIA, MARYLAND 21044
410-997-8770

DEVELOPER:
KB COMPANIES, INC.
7 OLD CISTERN COURT
CATONSVILLE, MD 21228
PHONE: 703-566-9699
ATTN: PATRICK BYRNE

ENGINEER:
PHOENIX ENGINEERING
21132 Old York Road
Parkton, MD 21120
410.323.1150
www.phoenix-eng.com

DESIGN: NAF KPM
DRAFT: NAF KPM
CHK: KMW

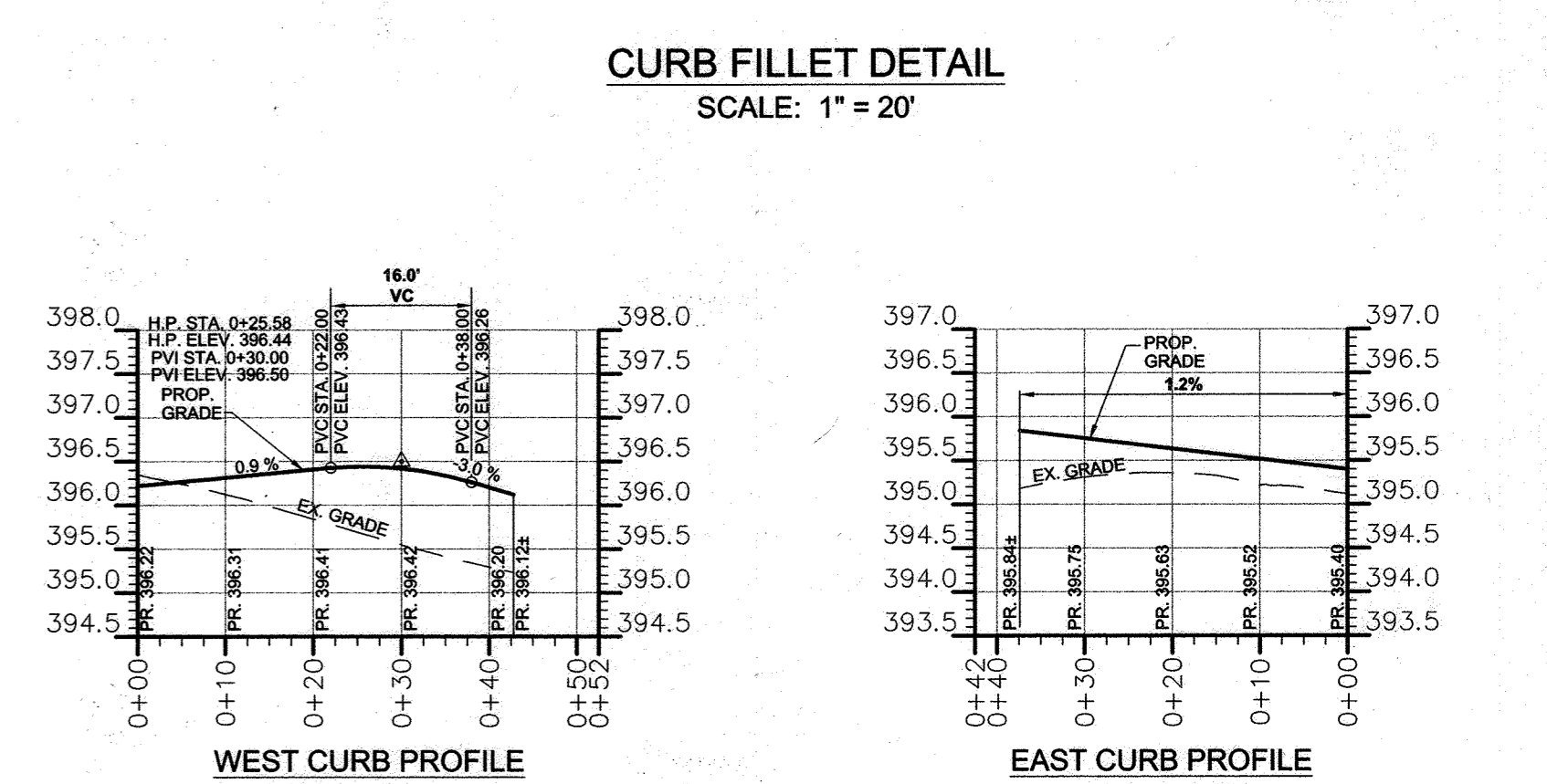
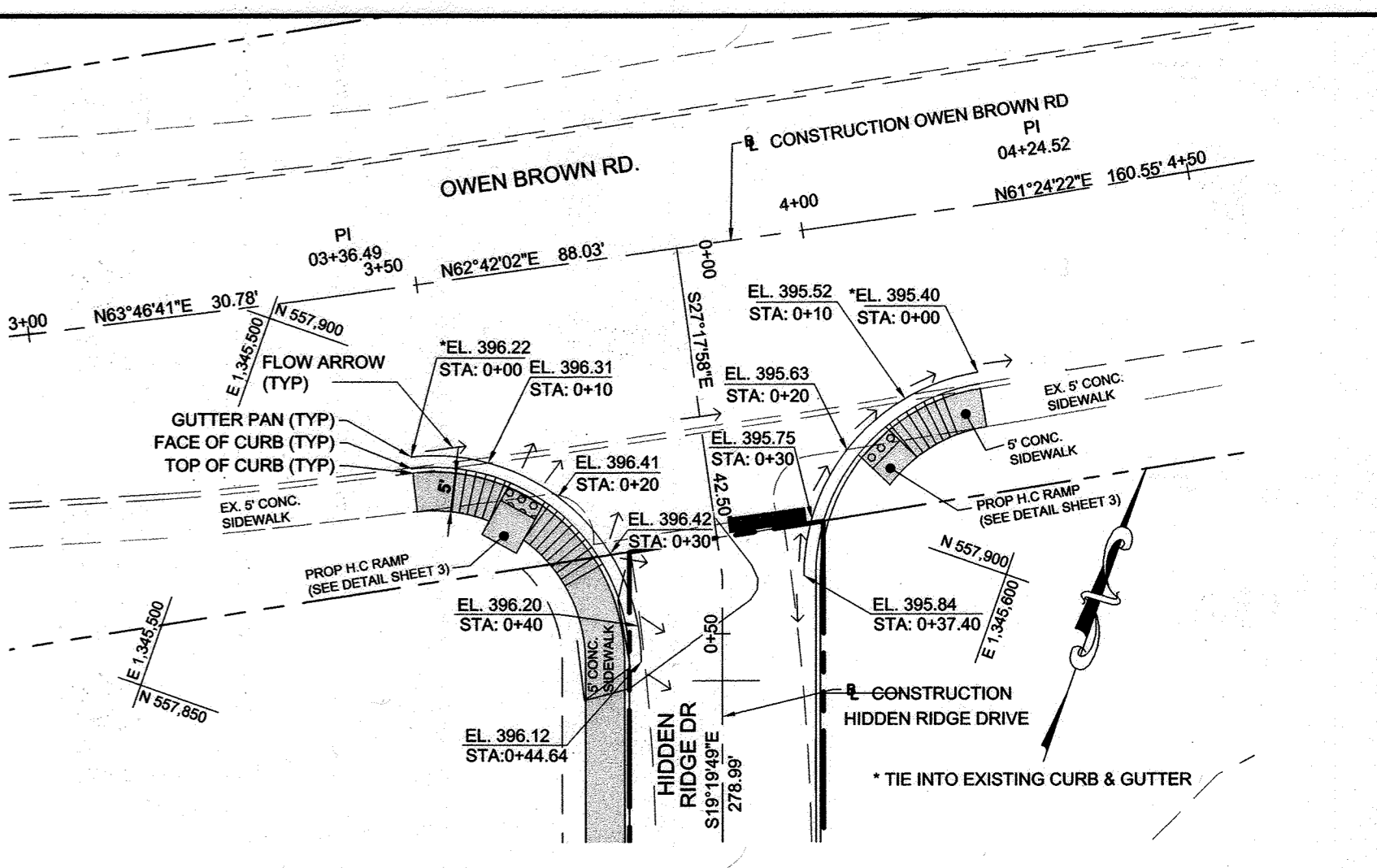
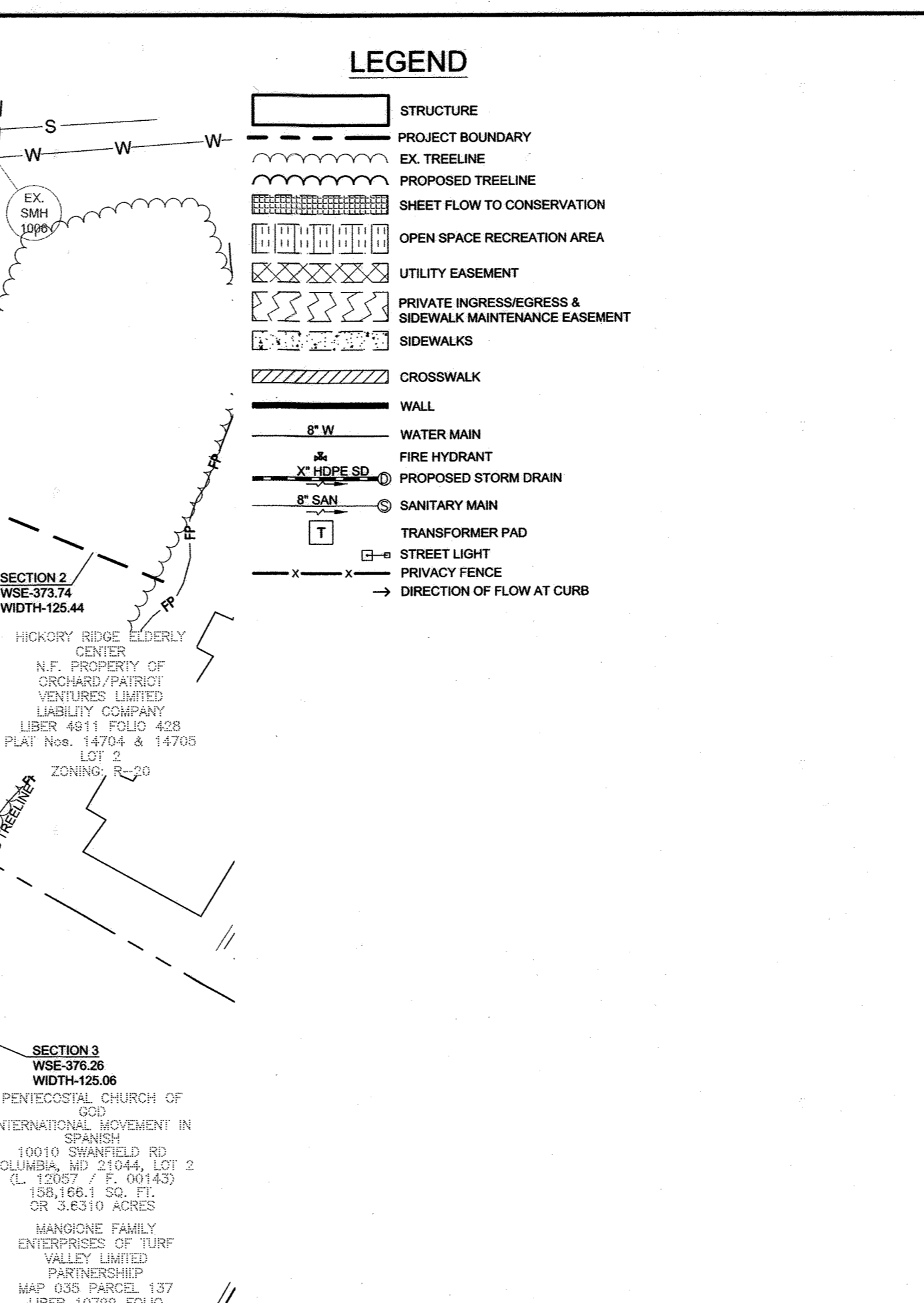
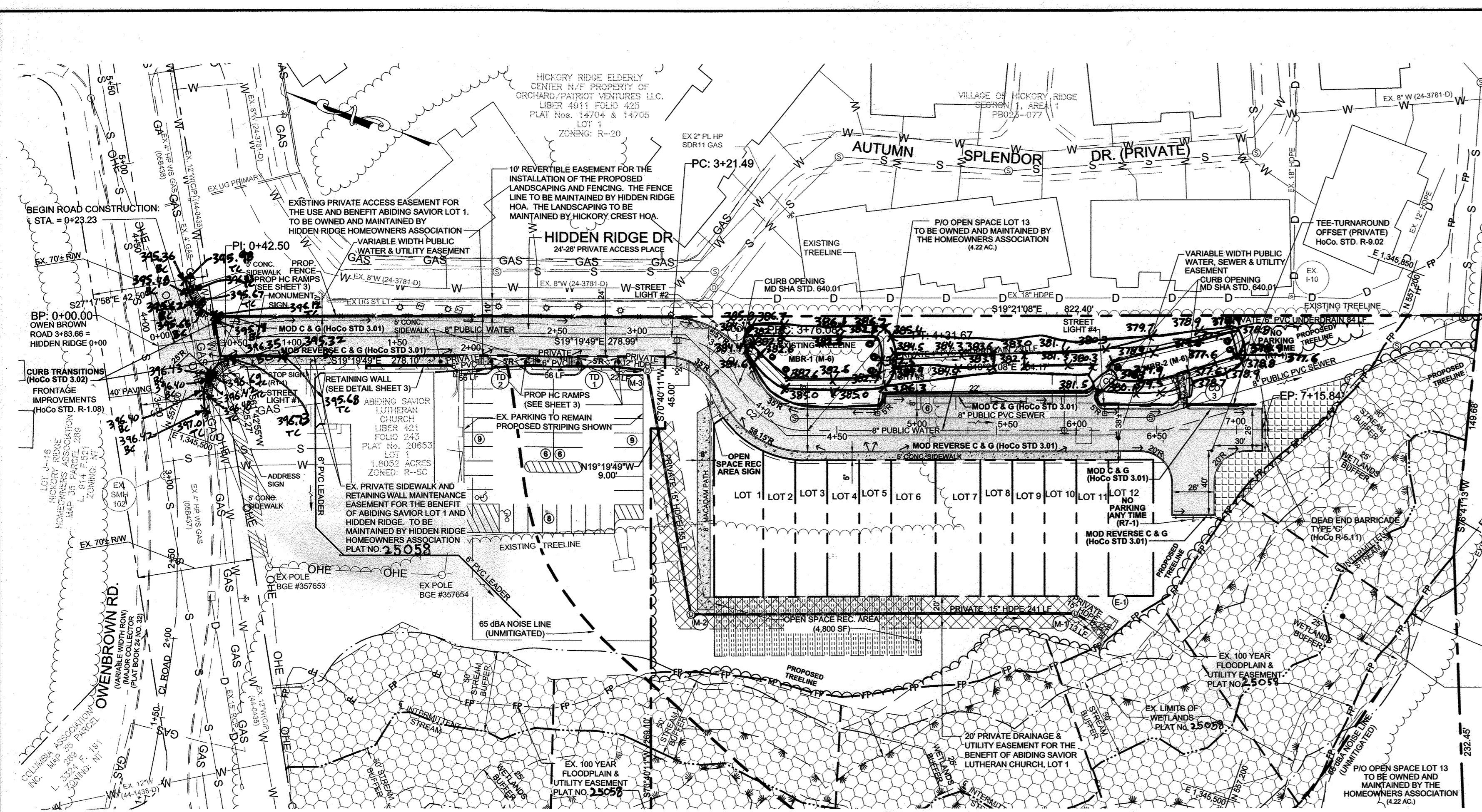
BY	NO.	DESCRIPTION	DATE

HIDDEN RIDGE
LOTS 1-12 & OPEN SPACE LOT 13
A RESUBDIVISION OF PLAT
ABIDING SAVIOR LUTHERAN CHURCH
LOT 2 & NON-BUILDABLE PARCEL 'A'
PLAT #20652-53 / 25058-59

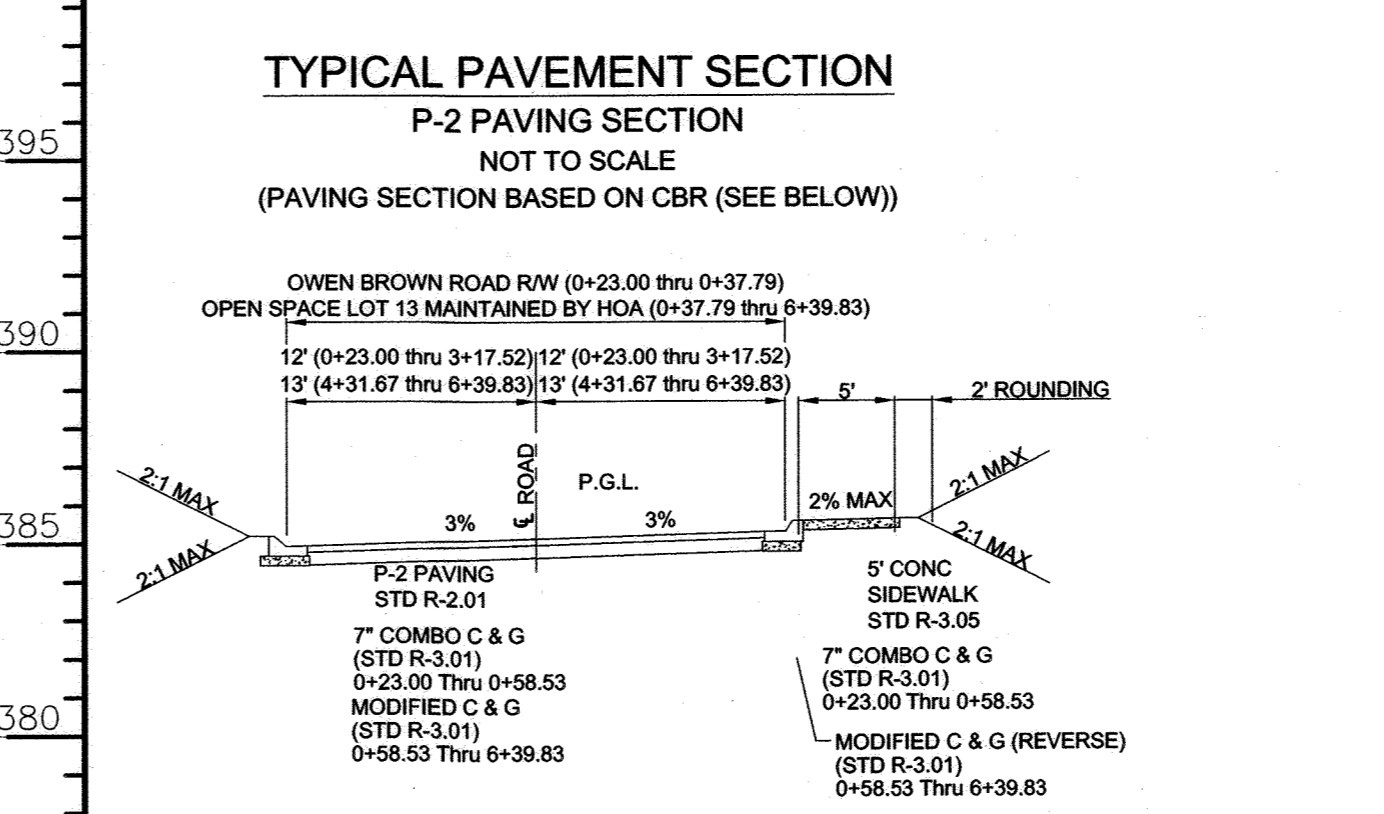
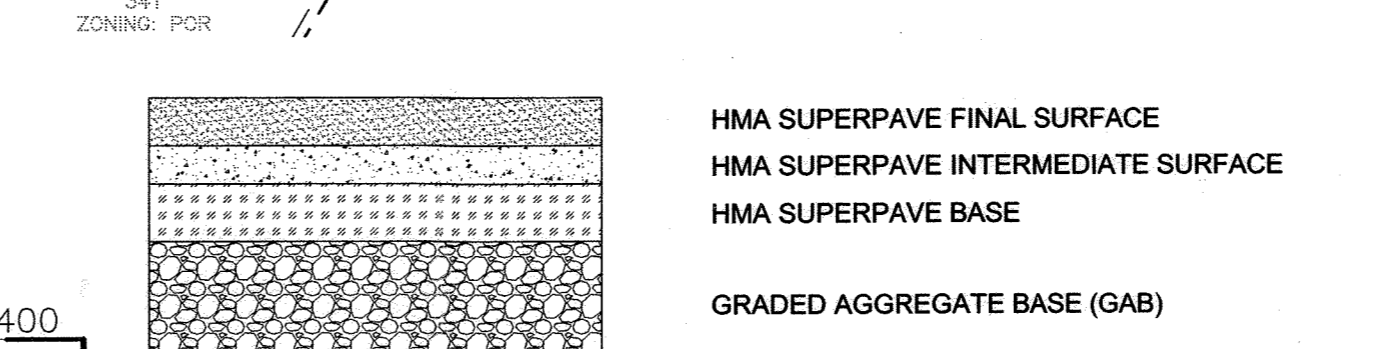
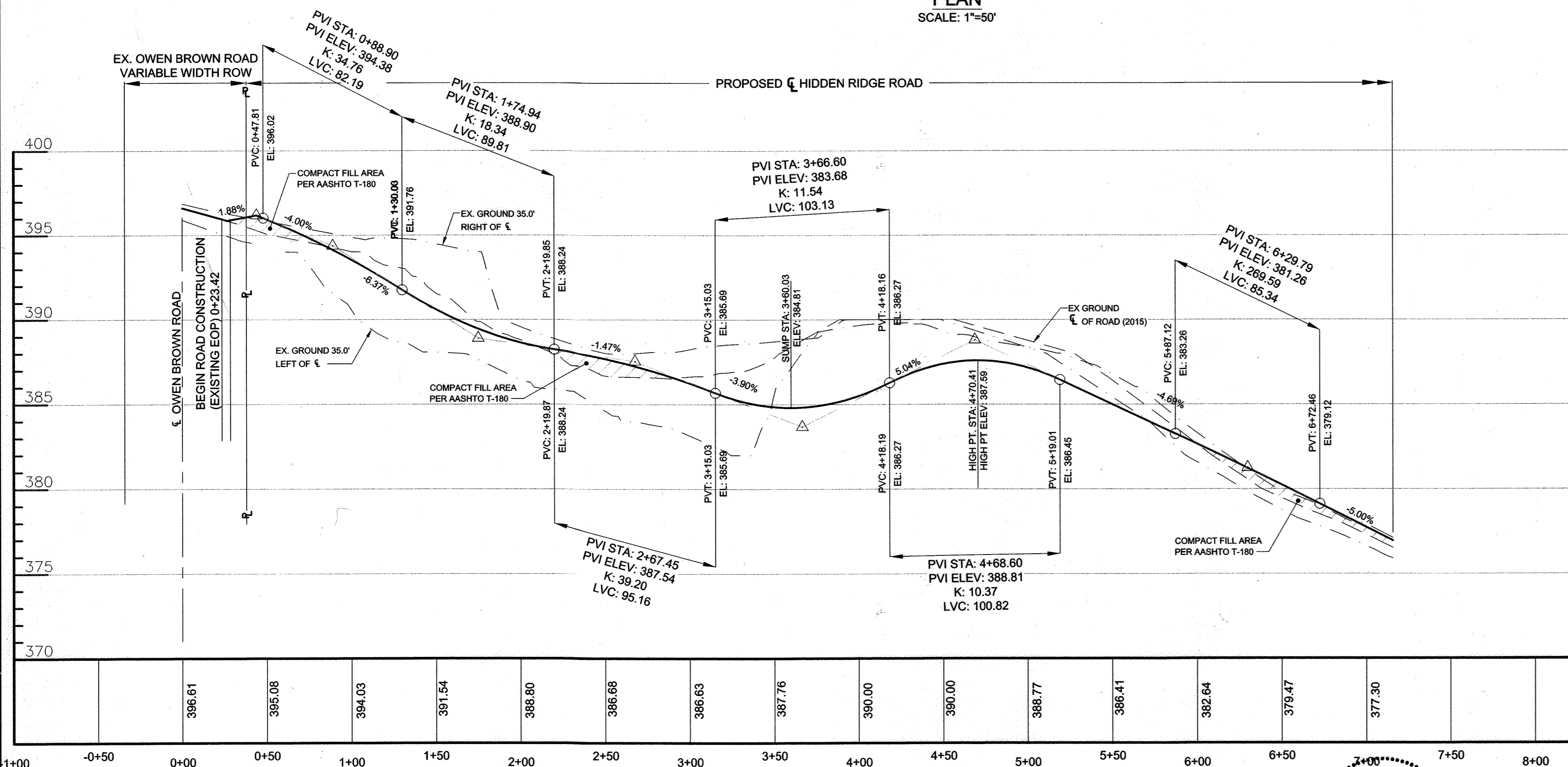
ZONING: R-3C MEDIUM DENSITY RESIDENTIAL
MAP 35 GRID 18 PARCEL 238 DISTRICT 05
ACCOUNT # 464549 LIBER: 12057/FOLIO: 143 PLAT: 20652-53
CENSUS TRACT: 606902 CENSUS BLOCK: 3

SCALE: 1" = 50'

DRAWING NO. 1 OF 14
PROJ: 14-035 DATE: 03/04/2019



NOTES:
1. ALL ELEVATIONS ARE TAKEN AT EDGE OF GUTTER PAN



GENERAL NOTE:
1. AS OF JUNE 6, 2019, THE DEPARTMENT OF PLANNING AND ZONING APPROVES THE REQUEST FOR THE 100-YEAR FLOODPLAIN DISTURBANCE AS ESSENTIAL OR NECESSARY DISTURBANCE, IN ACCORDANCE WITH SECTION 16.116(C) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. THE NECESSARY ENVIRONMENTAL DISTURBANCE IS SUBJECT TO THE FOLLOWING MITIGATION METHODS:
a. THE APPLICANT SHALL OBTAIN ANY REQUIRED PERMITS FOR THE PUBLIC SEWER LINE CONNECTION.
b. DURING CONSTRUCTION, THE PROPOSED WORK AREA WITHIN THE FLOODPLAIN SHALL BE ADEQUATELY PROTECTED BY A DOUBLE SILT FENCE TO CONTROL STORMWATER RUNOFF.
c. THE 100-YEAR FLOODPLAIN AREA DISTURBED SHALL BE STABILIZED AND RE-VEGETATED UPON COMPLETION OF THE SEWER LINE INSTALLATION BACK TO ITS ORIGINAL PRE-CONSTRUCTION CONDITION.
2. THE DEVELOPER WILL WORK WITH ABIDING SAVIOR CHURCH TO HELP ALLEVIATE COMMUNITY CONCERNS REGARDING THE LOSS OF CHURCH PARKING DUE TO THE BY-RIGHT PRIVATE ROAD CONSTRUCTION FOR LOT 2.

SECTION NUMBER	ROAD AND STREET CLASSIFICATION	CALIFORNIA BEARING RATIO (CBR)			3 TO <5			5 TO <7			>7		
		PAVEMENT MATERIAL (INCHES)	MIN HMA WITH GAB	HMA WITH CONSTANT GAB	MIN HMA WITH GAB	HMA WITH CONSTANT GAB	MIN HMA WITH GAB	HMA WITH CONSTANT GAB	MIN HMA WITH GAB	HMA WITH CONSTANT GAB	MIN HMA WITH GAB	HMA WITH CONSTANT GAB	
P-2	PARKING DRIVE AISLES: RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 10 HEAVY TRUCKS PER DAY LOCAL ROADS: ACCESS PLACE, ACCESS STREET CUL-DE-SAC: RESIDENTIAL	HMA SUPERPAVE FINAL SURFACE 9.5 MM PG 64-22, LEVEL 1 (LOW ESAL)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
		HMA SUPERPAVE INTERMEDIATE SURFACE 9.5 MM PG 64-22, LEVEL 1 (LOW ESAL)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
		HMA SUPERPAVE BASE 9.5 MM PG 64-22, LEVEL 1 (LOW ESAL)	2.0	2.0	2.0	3.5	2.0	2.0	2.0	2.0	2.0	2.0	2.0
		GRADED AGGREGATE BASE (GAB)	8.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	

STREET LIGHT SCHEDULE		
SYMBOL	LOCATION	DESCRIPTION
CL	CL STA. 0+44.02, OFFSET RIGHT CL STA. 3+42.65, OFFSET LEFT CL STA. 4+75.58, OFFSET LEFT CL STA. 6+17.59, OFFSET LEFT	LED-100 COLONIAL POST-TOP FIXTURE MOUNTED ON A 14" BLACK FIBERGLASS POLE

CENTERLINE CURVE DATA									
CURVE	ALIGNMENT	STATION	RADIUS	ARC	DELTA	TANGENT	CHORD DIRECTION	CHORD LENGTH	
C1	HIDDEN RIDGE	54.59 TO 7+15.84	45.00'	54.59'	69°30'08"	31.22'	S15°25'15"W	51.30'	
C2	HIDDEN RIDGE	55.59 TO 7+15.84	45.03'	55.59'	70°43'58"	31.96'	S14°47'48"W	52.12'	

APPROVED: DEPARTMENT OF PUBLIC WORKS
7/15/2019
CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING & ZONING
7/26/19
CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: DEPARTMENT OF ENGINEERING & ZONING
7/19/19
CHIEF, DEVELOPMENT ENGINEERING DIVISION

OWNERS:
NON-BUILDABLE BULK PARCEL 'A'
ABIDING SAVIOR LUTHERAN CHURCH
10589 OWEN BROWN ROAD
COLUMBIA, MARYLAND 21044
410-997-8770

DEVELOPER:
KB COMPANIES, INC.
7 OLD CISTERN COURT
CATONSVILLE, MD 21028
PHONE: 703-566-9699
ATTN: PATRICK BYRNE

LOT 2
PENTECOSTAL CHURCH OF GOD
10010 SWANFIELD RD
COLUMBIA, MD 21044
410-997-5675

AS-BUILT CERTIFICATION FOR PAVIM
I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND COMPLIES WITH THE APPROVED PLANS AND SPECIFICATIONS. I HAVE VERIFIED THAT THE CONTRIBUTING DRAINAGE AREA IS SUFFICIENTLY STABILIZED TO PREVENT CLOGGING OF THIS UNDERGROUND SWM FACILITY.

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. 36065.
Exp. Date: 6-26-2020

PHOENIX ENGINEERING
21132 Old York Road
Pantons, MD 21120
410.323.1150
www.phoenix-eng.com

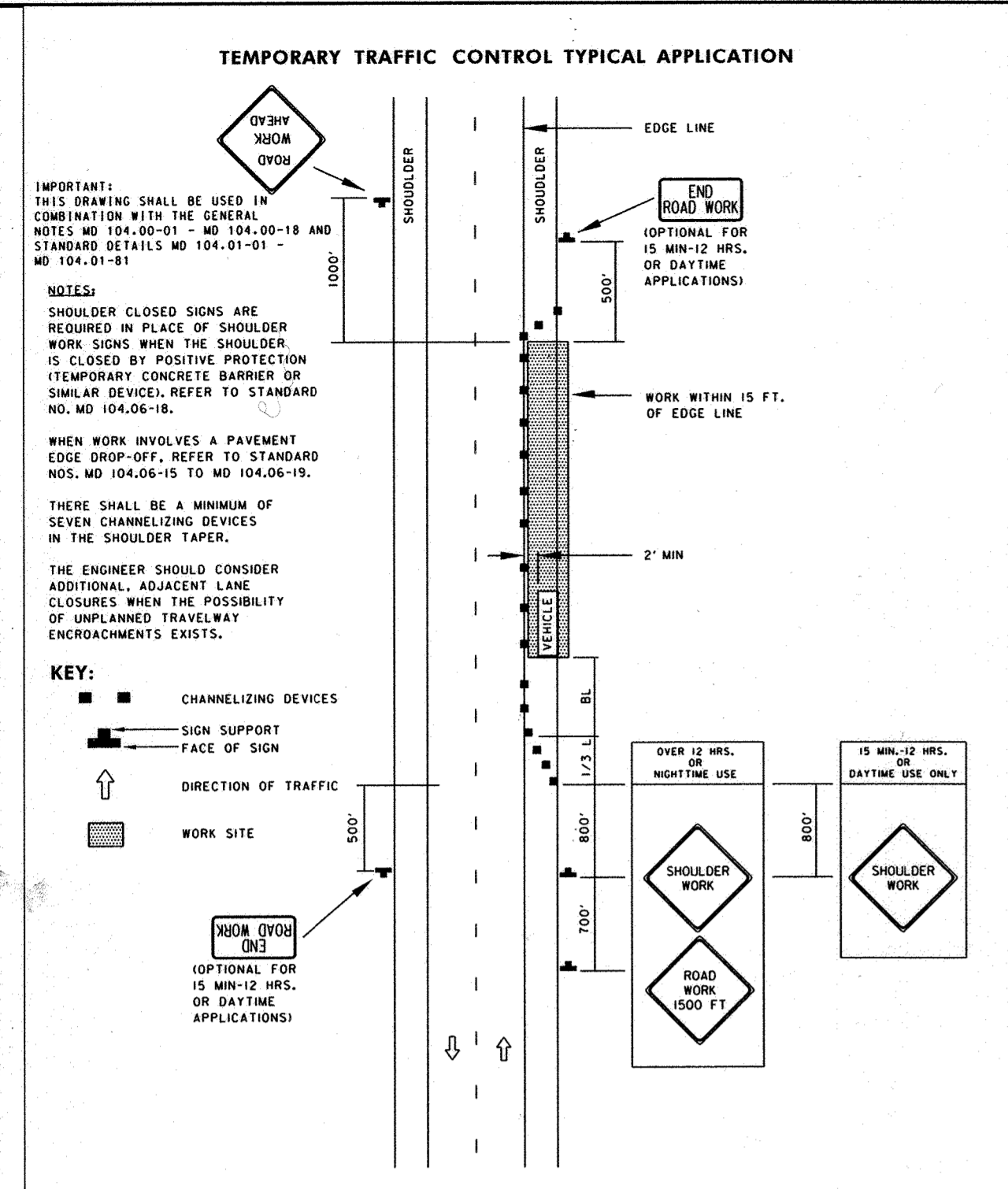
BY	NO.	DESCRIPTION	DATE

ROAD PLAN & PROFILE
600' SCALE MAP NO. 35 GRID NO. 18

HIDDEN RIDGE
LOTS 1-12 & OPEN SPACE LOT 13
A RESUBDIVISION OF PLAT
ABIDING SAVIOR LUTHERAN CHURCH
LOT 2 & NON-BUILDABLE PARCEL 'A'
PLAT #20652-53/#25053-59

ZONING: R-SC-MEDIUM DENSITY RESIDENTIAL
TAX MAP: 35 GRID: 18 PARCEL: 238 DISTRICT: 65
ACCOUNT # 45469 LIBER: 100767 FOLIO: 143 PLAT: 20652-53
CENSUS TRACT: 605602 CENSUS BLOCK: 3

SCALE: 1" = 50'
DRAWING NO. 2 OF 14
PROJ: 14-035 DATE: 03/04/2019

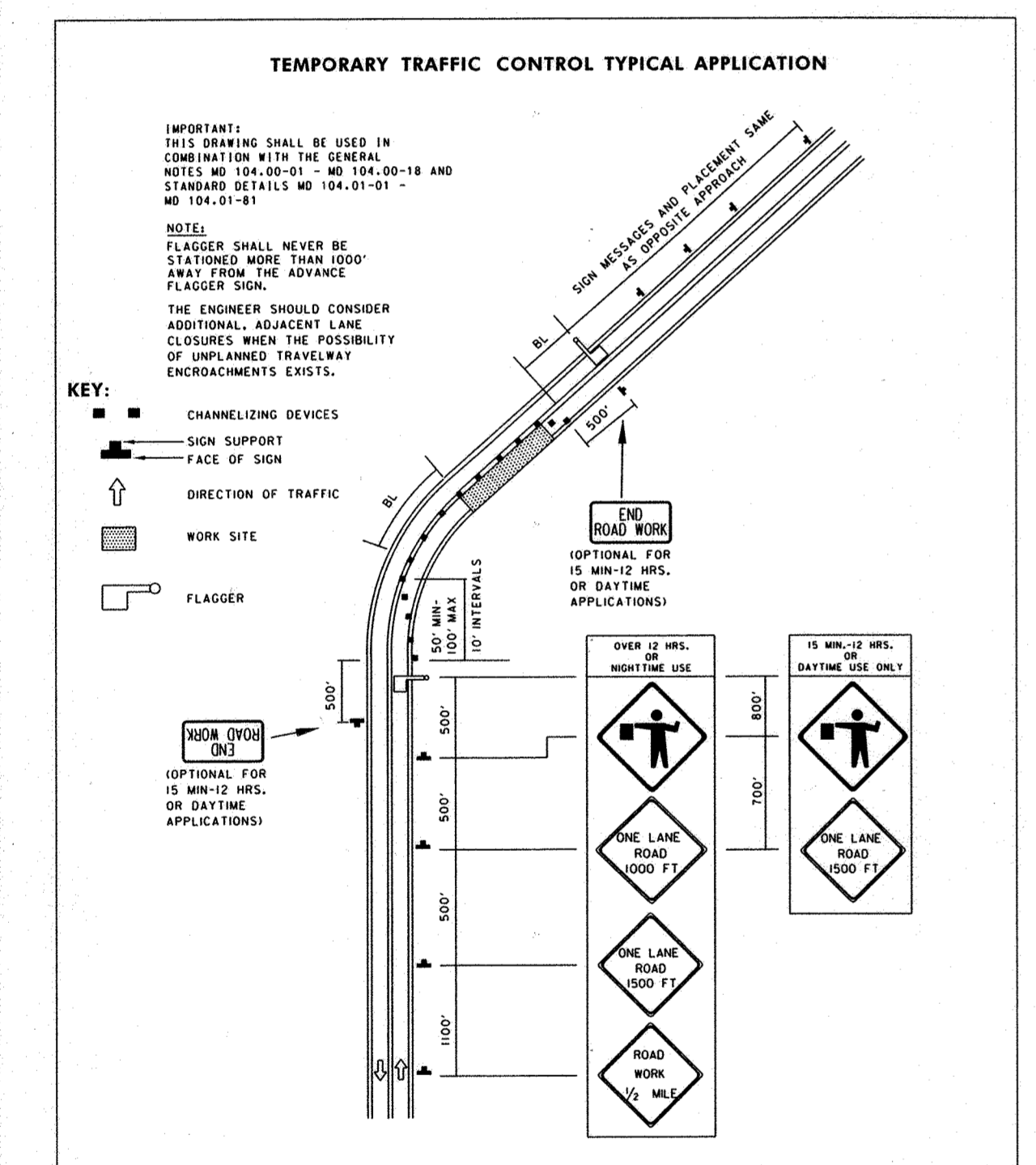


SPECIFICATION 104 CATEGORY CODE ITEMS

**Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION**
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES

**SHOULDER WORK-2-LANE, 2-WAY
EQL/LESS THAN 40 MPH**

STANDARD NO. MD 104.02-02

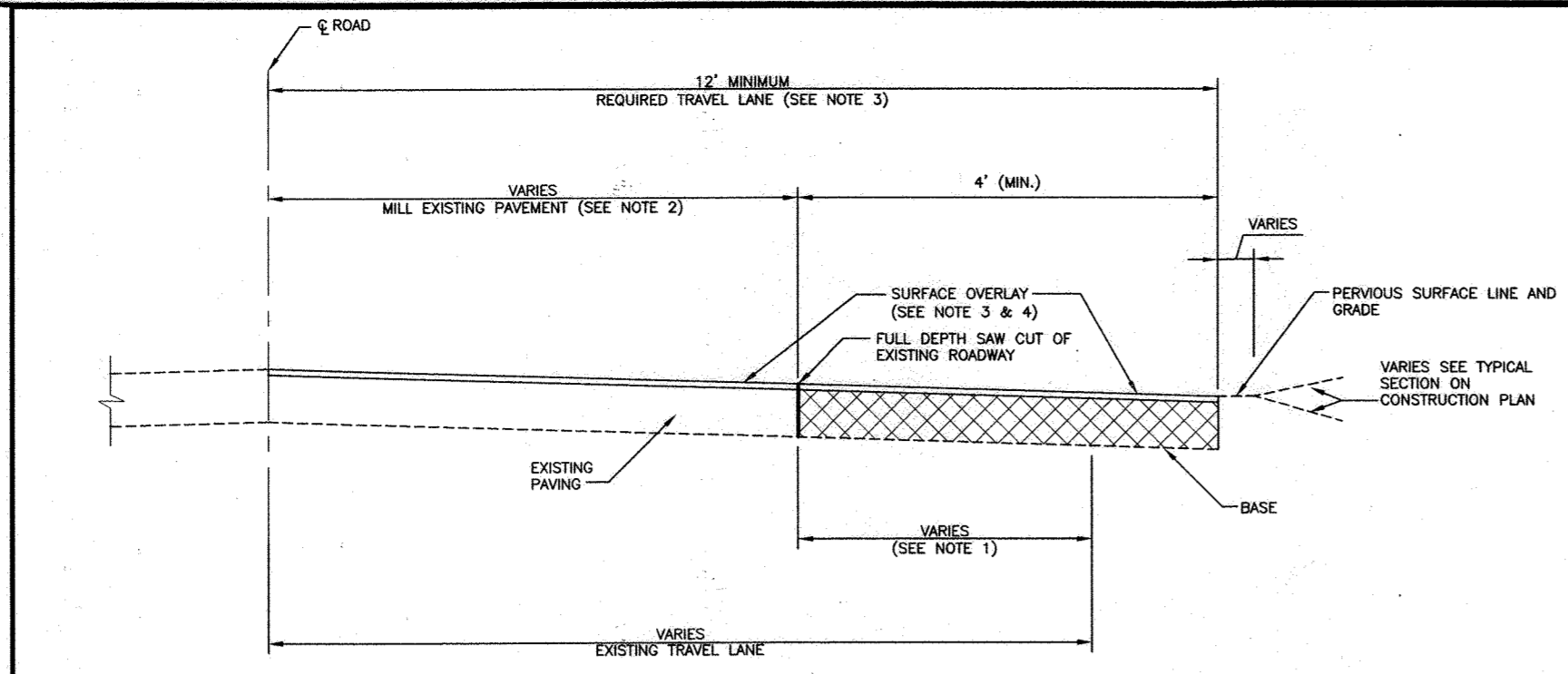


SPECIFICATION 104 CATEGORY CODE ITEMS

**Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION**
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES

**FLAGGING OPERATION-2-LANE, 2-WAY
EQL/LESS THAN 40 MPH**

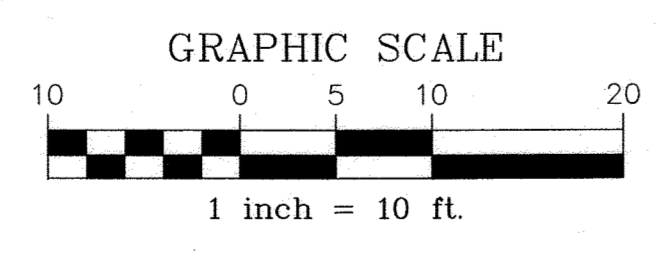
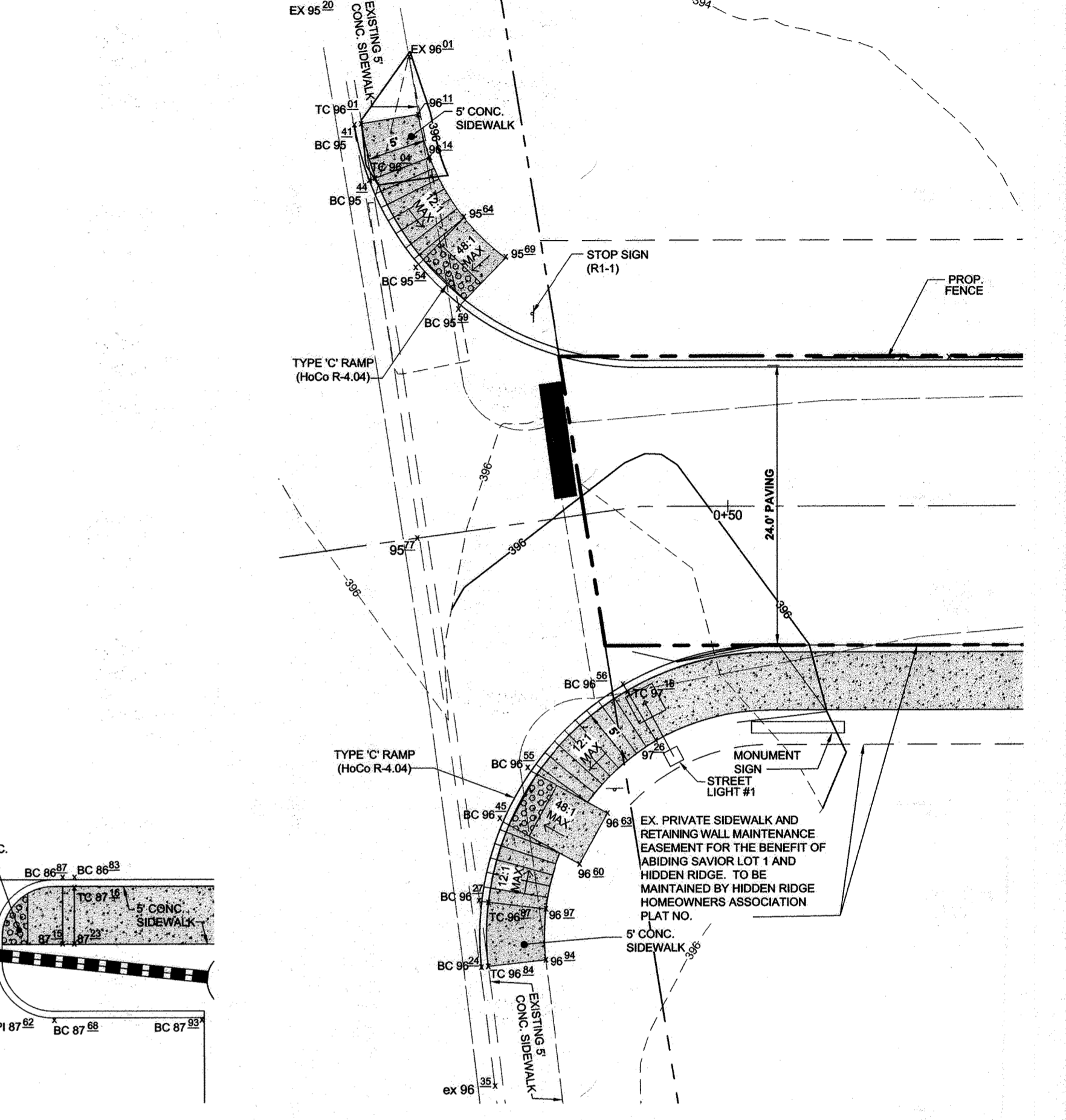
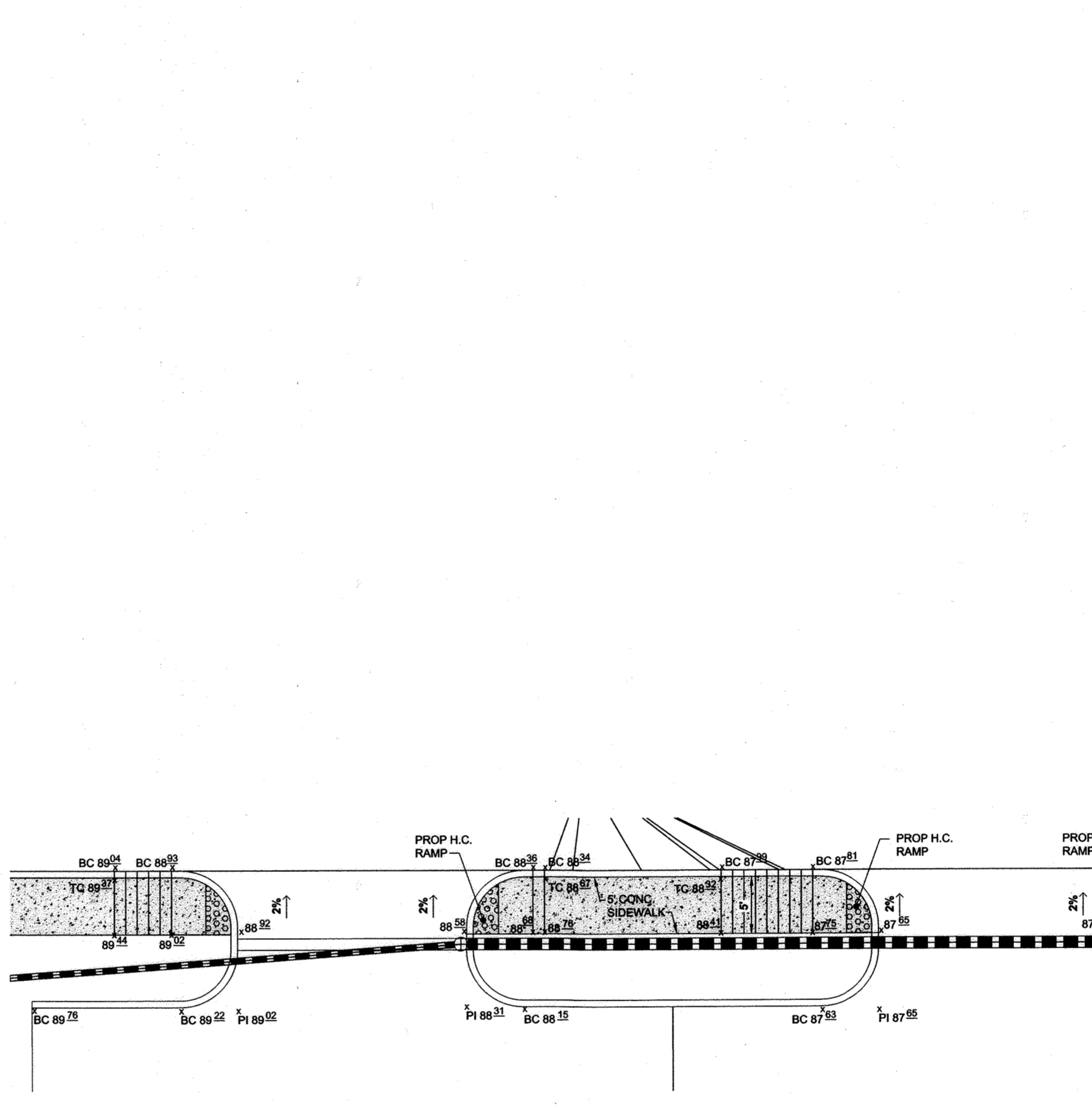
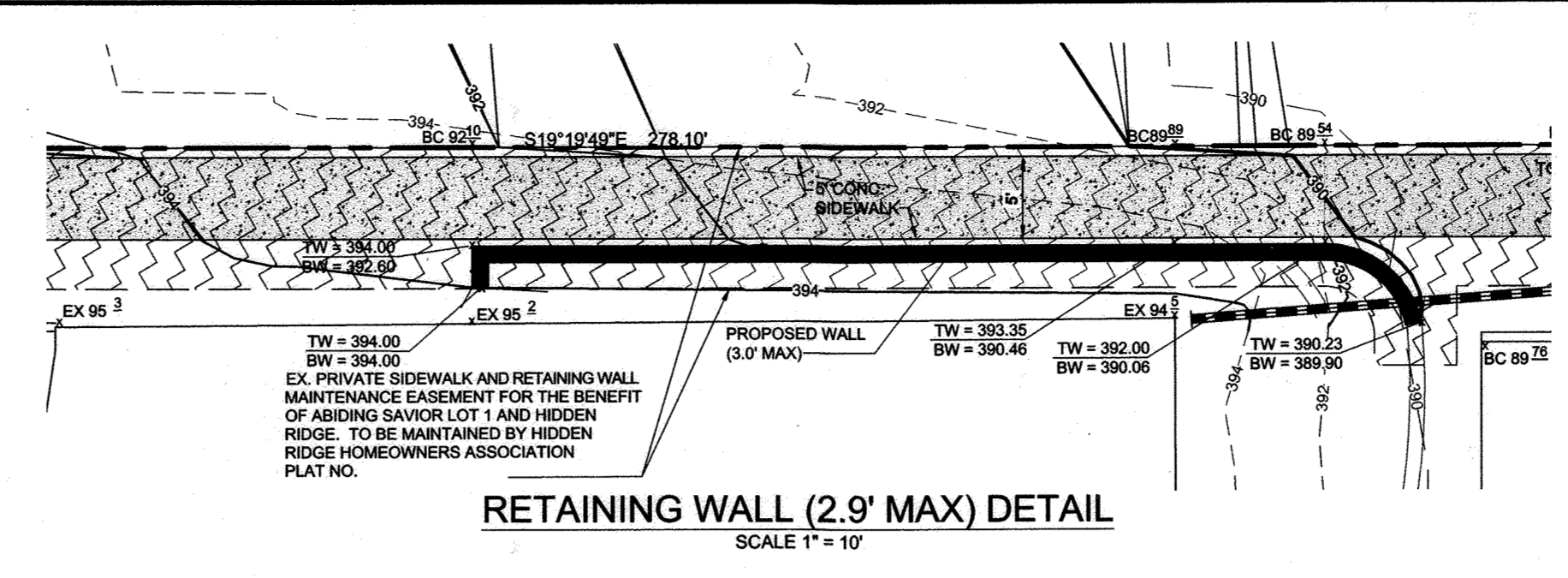
STANDARD NO. MD 104.02-10



NOTES:
 1. WHEN EXISTING TRAVEL LANE IS LESS THAN THE REQUIRED 12' LANE CONTRACTOR SHALL REMOVE A MINIMUM OF 1" FULL DEPTH OF THE EXISTING ROADWAY. IF CURB AND GUTTER IS INSTALLED, PROVIDE A MINIMUM OF 4" OF WIDENING FROM FACE OF GUTTER PAN.
 2. THE EXISTING PAVEMENT TO BE RESURFACED SHALL BE MILLED AT DEPTH OF 1 1/2" (MINIMUM).
 3. THE RESURFACING SHALL BE PLACED TO THE CENTERLINE OF THE ROADWAY.
 4. RESURFACING COURSE TO BE EQUAL TO THE SURFACE COURSE OF THE TYPICAL PAVEMENT SECTION.

**Howard County, Maryland
Department of Public Works**
 Approved: [Signature]
 Chd. Bureau of Engineering

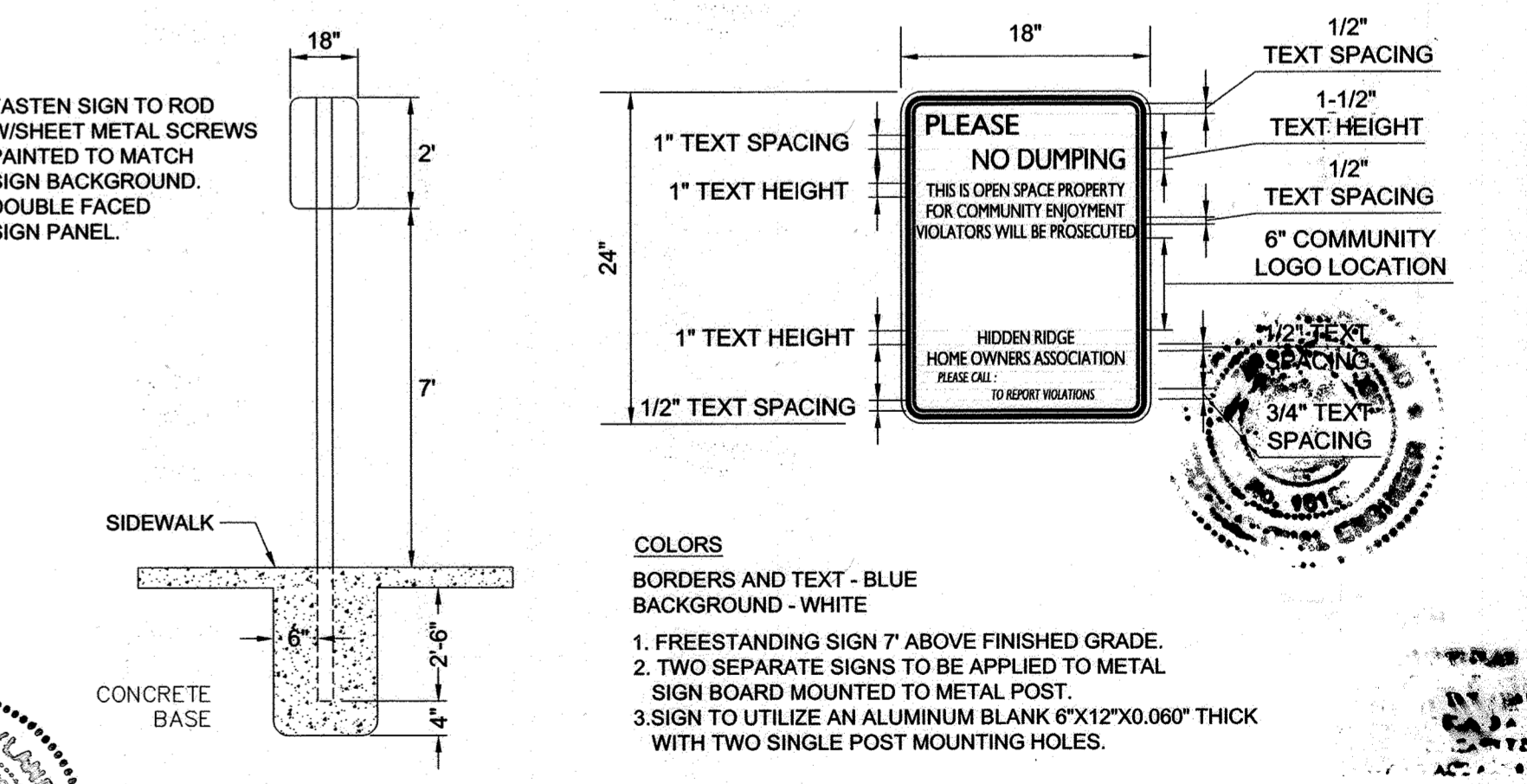
Detail R-1.08



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. 36065
 Exp. Date: 6-26-2020

AS-BUILT CERTIFICATION FOR PSWM
 I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND COMPLIES WITH THE APPROVED PLANS AND SPECIFICATIONS. I HAVE VERIFIED THAT THE CONTRIBUTING DRAINAGE AREA IS SUFFICIENTLY STABILIZED TO PREVENT CLOSURES OF THE UNDERGROUND SWM FACILITY.

[Signature] 10/23/22
 P.E. NAME P.E. # DATE



APPROVED: DEPARTMENT OF PUBLIC WORKS
 [Signature] 7/15/2019
 CHIEF, BUREAU OF HIGHWAYS

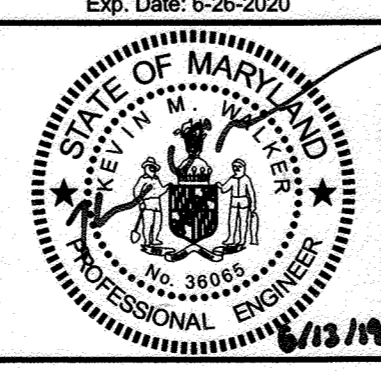
APPROVED: DEPARTMENT OF PLANNING & ZONING
 [Signature] 7/26/19
 CHIEF, DIVISION OF LAND DEVELOPMENT

CHIEF, DEVELOPMENT ENGINEERING DIVISION
 [Signature] 7/15/19

OWNERS:
 NON-BUILDABLE BULK PARCEL 'A'
 ABIDING SAVIOR LUTHERAN CHURCH
 10889 OWEN BROWN ROAD
 COLUMBIA, MARYLAND 21044
 410-997-8770

LOT 2
 PENTECOSTAL CHURCH OF GOD
 10015 SWANFIELD RD
 COLUMBIA, MD 21044
 410-997-5675

DEVELOPER:
 KB COMPANIES, INC.
 7 OLD CISTERN COURT
 CATONSVILLE, MD 21228
 PHONE: 703-556-6689
 ATTN: PATRICK BYRNE



Phoenix Engineering
 21132 Old York Road
 Parkton, MD 21120
 410.328.1150
 www.phoenix-eng.com

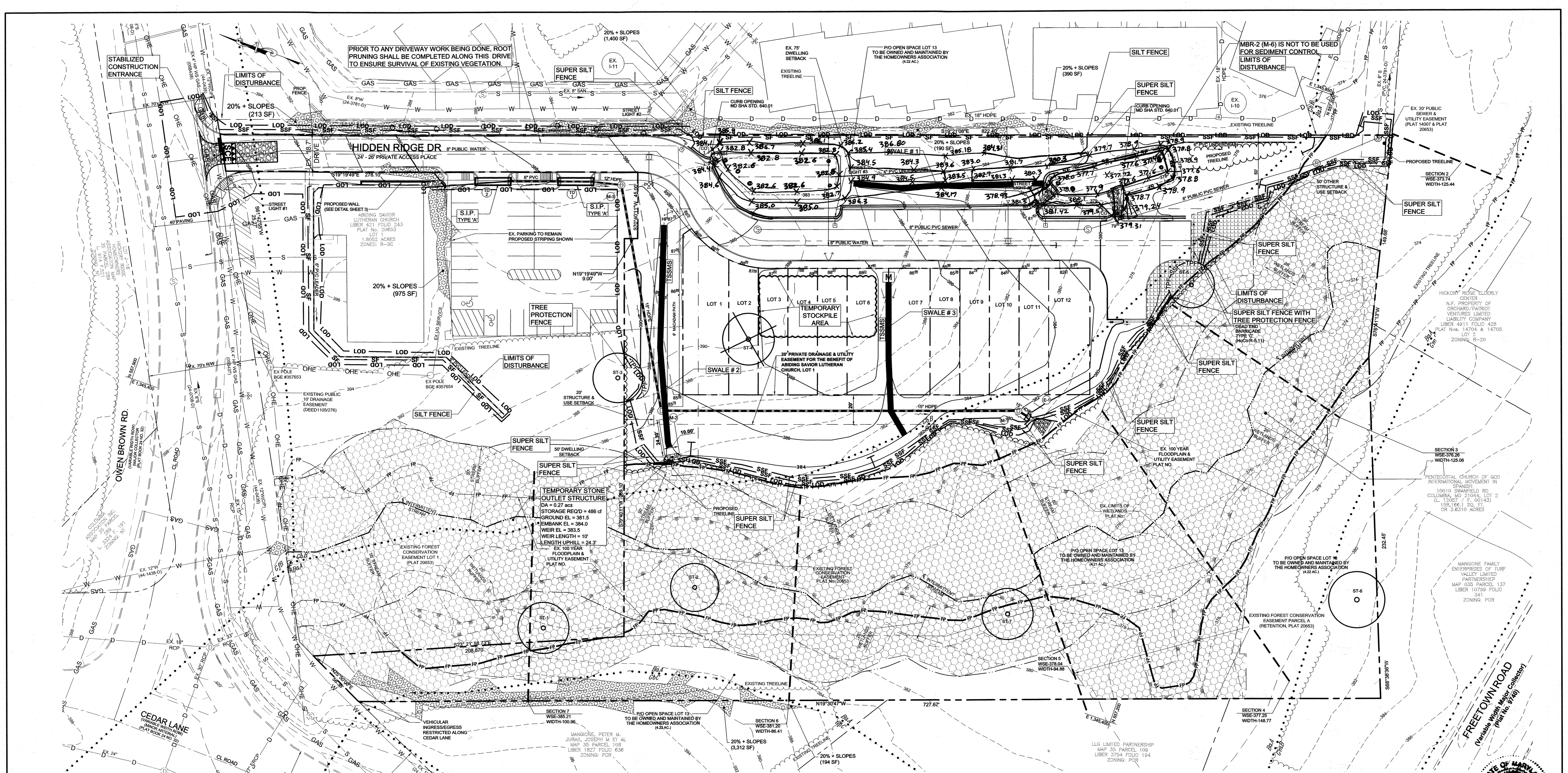
DESIGN:	ENGINEER:		
NAF KPM			
DRAFT:			
NAF KPM			
CHK:			
KMW			
BY	NO.	DESCRIPTION	DATE

ROAD DETAILS
 600' SCALE MAP NO. 35 GRID NO. 18

HIDDEN RIDGE
 LOTS 1-12 & OPEN SPACE LOT 13
 A RESUBDIVISION OF PLAT
 ABIDING SAVIOR LUTHERAN CHURCH
 LOT 2 & NON-BUILDABLE PARCEL 'A'
 PLAT #20652-53/#25058-59

ZONING: R-SC MEDIUM DENSITY RESIDENTIAL
 TAX MAP: 35 GRID: 18 PARCEL: 238 DISTRICT: 05
 ACCOUNT #: 454549 LIBER: 100710/102.143 PLAT: 20652-53
 CENSUS TRACT: 605602 CENSUS BLOCK: 3

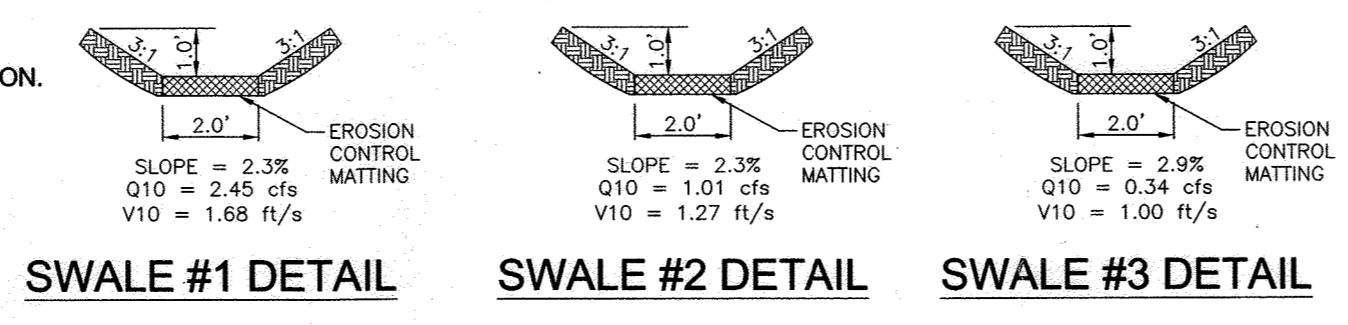
SCALE: 1" = 50'
 DRAWING NO. 3 OF 14
 PROJ: 14-035 DATE: 03/04/2019



GENERAL NOTE:
 1. AS OF JUNE 6, 2019, THE DEPARTMENT OF PLANNING AND ZONING APPROVES THE REQUEST FOR THE 100-YEAR FLOODPLAIN DISTURBANCE AS ESSENTIAL OR NECESSARY DISTURBANCE, IN ACCORDANCE WITH SECTION 16.116(C) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. THE NECESSARY ENVIRONMENTAL DISTURBANCE IS SUBJECT TO THE FOLLOWING MITIGATION METHODS:
 a. THE APPLICANT SHALL OBTAIN ANY REQUIRED PERMITS FOR THE PUBLIC SEWER LINE CONNECTION.
 b. DURING CONSTRUCTION, THE PROPOSED WORK AREA WITHIN THE FLOODPLAIN SHALL BE ADEQUATELY PROTECTED BY A DOUBLE SILT FENCE TO CONTROL STORMWATER RUNOFF.
 c. THE 100-YEAR FLOODPLAIN AREA DISTURBED SHALL BE STABILIZED AND RE-VEGETATED UPON COMPLETION OF THE SEWER LINE INSTALLATION BACK TO ITS ORIGINAL PRE-CONSTRUCTION CONDITION.

GRADING, EROSION & SEDIMENT CONTROL, AND SOILS MAP

SCALE: 1"=30'



LEGEND

--- (dashed line)	PROJECT BOUNDARY	--- (dashed line)	LOD	LIMIT OF DISTURBANCE (EFFECTIVE AREA)
--- (dotted line)	EX TOPOGRAPHY (DEC, 2015)	--- (dashed line)	SF	SILT FENCE
--- (solid line)	PROP. TOPOGRAPHY	--- (dashed line)	SSF	SUPER SILT FENCE
--- (dotted line)	EX TREELINE	--- (dashed line)	TPF	TREE PROTECTION FENCING
--- (dotted line)	SOILS DELINEATION	--- (dashed line)	EM	EROSION CONTROL MATTING
--- (dotted line)	SOIL SYMBOL	--- (dashed line)	TSO	TEMPORARY STONE OUTLET STRUCTURE
--- (dotted line)	PRIVACY FENCE	--- (dashed line)	SC	STABILIZED CONSTRUCTION ENTRANCE WITH MOUNTABLE BERM
--- (dotted line)	FLOW ARROW	--- (dashed line)	MB	MOUNTABLE BERM
--- (dotted line)	SPOT ELEVATION	--- (dashed line)	TS	TEMPORARY STOCKPILE AREA
--- (dotted line)	SLOPES 20% OR GREATER	--- (dashed line)	ST-#	EX. SPECIMEN TREE TO BE REMOVED
--- (dotted line)	NON-ROOFTOP DISCONNECT	--- (dashed line)	ST-X	EX. SPECIMEN TREE TO BE RETAINED

NRCS SOILS CHART - HoCo Soils Map No. 27

SYMBOL	HSG	Kw	HYDRIC	MAP UNIT NAME
BaA	D	.32	YES	BAILE SILT LOAM, 0 - 3%
GbB	B	.20		GLADSTONE LOAM, 3% - 8%
GbC	B	.20		GLADSTONE LOAM, 8% - 15%
GfB	B	.20		GLADSTONE LOAM, URBAN LAND COMPLEX 8% - 15%
GmB	C	.37	YES	GLENNVILLE SILT LOAM, 3% - 8%

PLEASE NOTE: HIGHLY ERODIBLE, K<0.35, AND/OR 15% OR GREATER SLOPES TAKEN FROM THE NRCS WEB SOIL SURVEY.

DEVELOPERS 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."
 Patrick Byrne 6/13/19
 DEVELOPER DATE
 THIS PLAN IS APPROVED FOR SOIL & EROSION CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 Howard Soil Conservation District
 APPROVED: DEPARTMENT OF PUBLIC WORKS
 6/26/19
 DATE
 APPROVED: DEPARTMENT OF PLANNING & ZONING
 7/26/19
 DATE
 APPROVED: DEPARTMENT OF ENGINEERING
 7/15/19
 DATE

ENGINEERS CERTIFICATE
 I HEREBY CERTIFY THAT THIS PLAN FOR SEDIMENT & 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.
 7/15/19
 DATE
 ENGINEER DATE

OWNERS:
 NON-BUILDABLE BULK PARCEL 'A'
 ABIDING SAVIOR LUTHERAN CHURCH
 10690 OWEN BROWN ROAD
 COLUMBIA, MARYLAND 21044
 410-997-8770
 LOT 2
 PENTECOSTAL CHURCH OF GOD
 10010 SWANFIELD RD
 COLUMBIA, MD 21044
 410-997-5675

DEVELOPER:
 KB COMPANIES, INC.
 CATONSVILLE, MD 21228
 PHONE: 703-559-6929
 ATTN: PATRICK BYRNE
 ENGINEER:
 PHOENIX ENGINEERING
 21132 Old York Road
 Parkton, MD 21120
 410.329.1150
 www.phoenix-eng.com

DESIGN: NAF, KPM
DRAFT: NAF, KPM
CHK: KMW
 BY NO. DESCRIPTION DATE

GRAPHIC SCALE
 1 inch = 30 ft.
 0 15 30 60
 30' 15' 0' 30'

GRADING, EROSION & SEDIMENT CONTROL, AND SOILS MAP
 600' SCALE MAP NO. 35 GRID NO. 18

HIDDEN RIDGE
 LOTS 1-12 & OPEN SPACE LOT 13
 A RESUBDIVISION OF PLAT
 ABIDING SAVIOR LUTHERAN CHURCH
 LOT 2 & NON-BUILDABLE PARCEL 'A'
 PLAT #20652-53 #25058-59
 ZONING: R-3C-MEDIUM DENSITY RESIDENTIAL
 TAX MAP: 35 GRID: 18 PARCEL: 238 DISTRICT: 06
 ACCOUNT #: 454549 LIBER: 1005FOLIO 143 PLAT: 20662-63
 CENSUS TRACT: 605002 CENSUS BLOCK: 3
 SCALE: 1" = 30'
 DRAWING NO. 4 OF 14
 PROJ: 14-035 DATE: 03/04/2019

AS-BUILT, JULY 2021 F-18-087

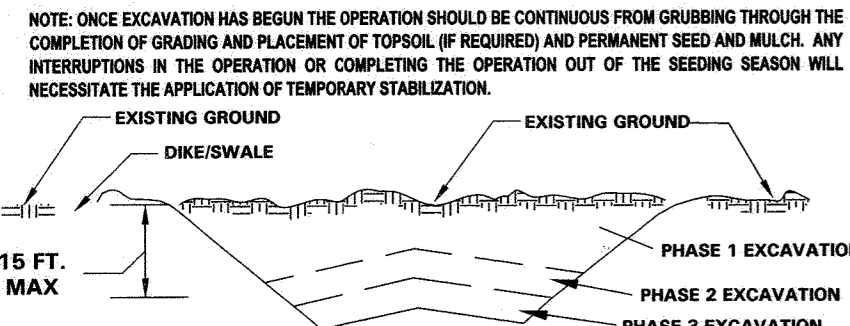
B-4 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

DEFINITION: USING VEGETATION AS A COVER TO PROTECT EXPOSED SOIL FROM EROSION.
PURPOSE: TO PROMOTE THE ESTABLISHMENT OF VEGETATION ON EXPOSED SOIL.
CONDITIONS WHERE PRACTICE APPLIES: ON ALL DISTURBED AREAS NOT STABILIZED BY OTHER METHODS...

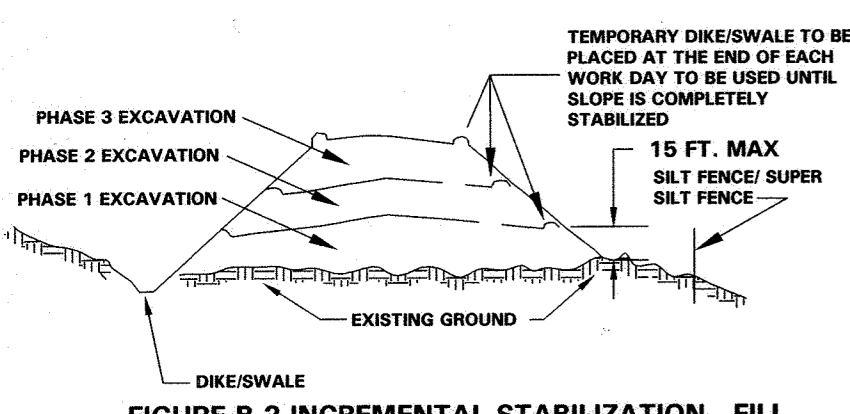
DEFINITION: USING VEGETATION AS A COVER TO PROTECT EXPOSED SOIL FROM EROSION.
PURPOSE: TO PROMOTE THE ESTABLISHMENT OF VEGETATION ON EXPOSED SOIL.
CONDITIONS WHERE PRACTICE APPLIES: ON ALL DISTURBED AREAS NOT STABILIZED BY OTHER METHODS...

B-4-1 STANDARDS AND SPECIFICATIONS FOR INCREMENTAL STABILIZATION

DEFINITION: ESTABLISHMENT OF VEGETATIVE COVER ON CUT AND FILL SLOPES.
PURPOSE: TO PROVIDE TIMELY VEGETATIVE COVER ON CUT AND FILL SLOPES AS WORK PROGRESSES.
CONDITIONS WHERE PRACTICE APPLIES: ANY CUT OR FILL SLOPE GREATER THAN 15 FEET IN HEIGHT...



1. EXCAVATE AND STABILIZE CUT SLOPES IN INCREMENTS NOT TO EXCEED 15 FEET IN HEIGHT.
2. CONSTRUCTION SEQUENCE EXAMPLE (REFER TO FIGURE B.1)
a. CONSTRUCT AND STABILIZE ALL TEMPORARY SLOPES OR Dikes THAT WILL BE USED TO CONVEY RUNOFF AROUND THE EXCAVATION.



1. CONSTRUCT AND STABILIZE FILL SLOPES IN INCREMENTS NOT TO EXCEED 15 FEET IN HEIGHT.
2. CONSTRUCTION SEQUENCE EXAMPLE (REFER TO FIGURE B.2)
a. CONSTRUCT AND STABILIZE ALL TEMPORARY SLOPES OR Dikes THAT WILL BE USED TO DIVERT RUNOFF AROUND THE FILL. CONSTRUCT SILT FENCE ON LOW SIDE OF FILL UNLESS OTHER METHODS SHOWN ON THIS PLAN.

ENGINEERS CERTIFICATE
I HEREBY CERTIFY THAT THIS PLAN FOR SEDIMENT & 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: 6/13/19

DEVELOPERS CERTIFICATE
I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL.
Date: 6/25/19

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

DEFINITION: THE PROCESS OF PREPARING THE SOILS TO SUSTAIN ADEQUATE VEGETATIVE STABILIZATION.
PURPOSE: TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.
CONDITIONS WHERE PRACTICE APPLIES: WHERE VEGETATIVE STABILIZATION IS TO BE ESTABLISHED.

1. SOIL PREPARATION
a. SEEDING PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SURFACE AGRICULTURE OR CONSTRUCTION EQUIPMENT...
b. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUBTLE METHODS.

2. TOPSOILING
a. TOPSOILING IS PLACED OVER PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION...
b. TOPSOILING MUST BE APPLIED TO A MINIMUM THICKNESS OF 4 INCHES...
c. TOPSOILING MUST BE APPLIED TO A MINIMUM THICKNESS OF 4 INCHES...

3. SOIL AMENDMENTS (FERTILIZER AND LIME)
a. SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATES AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER...
b. FERTILIZER MUST BE APPLIED TO A MINIMUM THICKNESS OF 4 INCHES...
c. FERTILIZER MUST BE APPLIED TO A MINIMUM THICKNESS OF 4 INCHES...

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

DEFINITION: THE APPLICATION OF SEED AND MULCH TO ESTABLISH VEGETATIVE COVER.
PURPOSE: TO PROTECT DISTURBED SOILS FROM EROSION DURING AND AT THE END OF CONSTRUCTION.
CONDITIONS WHERE PRACTICE APPLIES: TO THE SURFACE OF ALL PERMETER CONTROLS, SLOPES, AND ANY DISTURBED AREA NOT UNDER ACTIVE CONSTRUCTION.

1. SEEDING
a. ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW...
b. MULCH ALONE MAY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES ONLY IF THE GROUND IS PROTECTED...
c. INCULCATION: THE INCULCATOR FOR TREATING LEGUME SEED IN THE SEED MIXTURES MUST BE A PURE CULTURE OF NITROGEN FIXING BACTERIA...

B-4-4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

DEFINITION: TO STABILIZE DISTURBED SOILS WITH VEGETATION FOR UP TO 6 MONTHS.
PURPOSE: TO USE FAST GROWING VEGETATION THAT PROVIDES COVER ON DISTURBED SOILS.
CONDITIONS WHERE PRACTICE APPLIES: EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR A PERIOD OF 6 MONTHS OR LESS.

1. SELECT ONE OR MORE OF THE SPECIES OR SEED MIXTURES LISTED IN TABLE B.1 FOR THE APPROPRIATE PLANT HARDNESS ZONE...
2. FOR SITES SUBJECT TO EROSION FROM WIND OR OTHER WEATHER CONDITIONS...
3. WHEN STABILIZATION IS REQUIRED OUTSIDE OF A SEEDING SEASON...

B-4-5 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

DEFINITION: TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION.
PURPOSE: TO USE LONG-LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND COVER ON DISTURBED SOILS.
CONDITIONS WHERE PRACTICE APPLIES: EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR 6 MONTHS OR MORE.

1. GENERAL USE
a. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE B.3 FOR THE APPROPRIATE PLANT HARDNESS ZONE...
b. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES...
c. CHEMICAL TREATMENT: USE OF CHEMICAL TREATMENTS REQUIRES APPROVAL BY THE APPROPRIATE PLAN REVIEW AUTHORITY.

B-4-6 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

DEFINITION: TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION.
PURPOSE: TO USE LONG-LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND COVER ON DISTURBED SOILS.
CONDITIONS WHERE PRACTICE APPLIES: EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR 6 MONTHS OR MORE.

1. GENERAL USE
a. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE B.3 FOR THE APPROPRIATE PLANT HARDNESS ZONE...
b. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES...
c. CHEMICAL TREATMENT: USE OF CHEMICAL TREATMENTS REQUIRES APPROVAL BY THE APPROPRIATE PLAN REVIEW AUTHORITY.

B-4-7 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

DEFINITION: TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION.
PURPOSE: TO USE LONG-LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND COVER ON DISTURBED SOILS.
CONDITIONS WHERE PRACTICE APPLIES: EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR 6 MONTHS OR MORE.

1. GENERAL USE
a. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE B.3 FOR THE APPROPRIATE PLANT HARDNESS ZONE...
b. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES...
c. CHEMICAL TREATMENT: USE OF CHEMICAL TREATMENTS REQUIRES APPROVAL BY THE APPROPRIATE PLAN REVIEW AUTHORITY.

B-4-8 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA

DEFINITION: A MOUND OR PILE OF SOIL PROTECTED BY APPROPRIATELY DESIGNED EROSION AND SEDIMENT CONTROL MEASURES.
PURPOSE: TO PROVIDE A DESIGNATED LOCATION FOR THE TEMPORARY STORAGE OF SOIL THAT CONTROLS THE POTENTIAL FOR EROSION AND SEDIMENTATION.
CONDITIONS WHERE PRACTICE APPLIES: STOCKPILE AREAS ARE UTILIZED WHEN IT IS NECESSARY TO SALVAGE AND STORE SOIL FOR LATER USE.

1. THE STOCKPILE LOCATION AND ALL RELATED SEDIMENT CONTROL PRACTICES MUST BE INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN...
2. THE FOOTPRINT OF THE STOCKPILE MUST BE SIZED TO ACCOMMODATE THE ANTICIPATED VOLUME OF MATERIAL AND BASED ON A SIDE SLOPE RATIO NO STEEPER THAN 2:1...
3. WHEN STABILIZATION IS REQUIRED OUTSIDE OF A SEEDING SEASON...

B-4-9 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA

DEFINITION: A MOUND OR PILE OF SOIL PROTECTED BY APPROPRIATELY DESIGNED EROSION AND SEDIMENT CONTROL MEASURES.
PURPOSE: TO PROVIDE A DESIGNATED LOCATION FOR THE TEMPORARY STORAGE OF SOIL THAT CONTROLS THE POTENTIAL FOR EROSION AND SEDIMENTATION.
CONDITIONS WHERE PRACTICE APPLIES: STOCKPILE AREAS ARE UTILIZED WHEN IT IS NECESSARY TO SALVAGE AND STORE SOIL FOR LATER USE.

1. THE STOCKPILE LOCATION AND ALL RELATED SEDIMENT CONTROL PRACTICES MUST BE INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN...
2. THE FOOTPRINT OF THE STOCKPILE MUST BE SIZED TO ACCOMMODATE THE ANTICIPATED VOLUME OF MATERIAL AND BASED ON A SIDE SLOPE RATIO NO STEEPER THAN 2:1...

B-4-10 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA

DEFINITION: A MOUND OR PILE OF SOIL PROTECTED BY APPROPRIATELY DESIGNED EROSION AND SEDIMENT CONTROL MEASURES.
PURPOSE: TO PROVIDE A DESIGNATED LOCATION FOR THE TEMPORARY STORAGE OF SOIL THAT CONTROLS THE POTENTIAL FOR EROSION AND SEDIMENTATION.
CONDITIONS WHERE PRACTICE APPLIES: STOCKPILE AREAS ARE UTILIZED WHEN IT IS NECESSARY TO SALVAGE AND STORE SOIL FOR LATER USE.

1. THE STOCKPILE LOCATION AND ALL RELATED SEDIMENT CONTROL PRACTICES MUST BE INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN...
2. THE FOOTPRINT OF THE STOCKPILE MUST BE SIZED TO ACCOMMODATE THE ANTICIPATED VOLUME OF MATERIAL AND BASED ON A SIDE SLOPE RATIO NO STEEPER THAN 2:1...

B-4-11 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA

DEFINITION: A MOUND OR PILE OF SOIL PROTECTED BY APPROPRIATELY DESIGNED EROSION AND SEDIMENT CONTROL MEASURES.
PURPOSE: TO PROVIDE A DESIGNATED LOCATION FOR THE TEMPORARY STORAGE OF SOIL THAT CONTROLS THE POTENTIAL FOR EROSION AND SEDIMENTATION.
CONDITIONS WHERE PRACTICE APPLIES: STOCKPILE AREAS ARE UTILIZED WHEN IT IS NECESSARY TO SALVAGE AND STORE SOIL FOR LATER USE.

1. THE STOCKPILE LOCATION AND ALL RELATED SEDIMENT CONTROL PRACTICES MUST BE INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN...
2. THE FOOTPRINT OF THE STOCKPILE MUST BE SIZED TO ACCOMMODATE THE ANTICIPATED VOLUME OF MATERIAL AND BASED ON A SIDE SLOPE RATIO NO STEEPER THAN 2:1...

B-4-12 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA

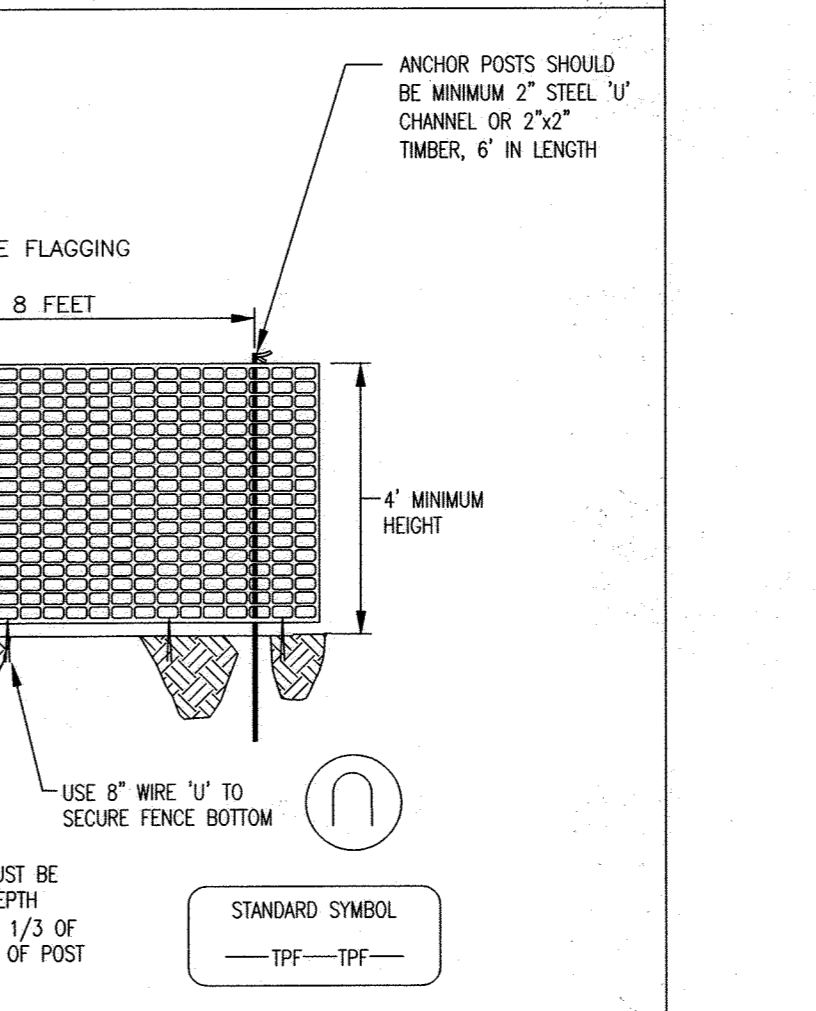
DEFINITION: A MOUND OR PILE OF SOIL PROTECTED BY APPROPRIATELY DESIGNED EROSION AND SEDIMENT CONTROL MEASURES.
PURPOSE: TO PROVIDE A DESIGNATED LOCATION FOR THE TEMPORARY STORAGE OF SOIL THAT CONTROLS THE POTENTIAL FOR EROSION AND SEDIMENTATION.
CONDITIONS WHERE PRACTICE APPLIES: STOCKPILE AREAS ARE UTILIZED WHEN IT IS NECESSARY TO SALVAGE AND STORE SOIL FOR LATER USE.

1. THE STOCKPILE LOCATION AND ALL RELATED SEDIMENT CONTROL PRACTICES MUST BE INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN...
2. THE FOOTPRINT OF THE STOCKPILE MUST BE SIZED TO ACCOMMODATE THE ANTICIPATED VOLUME OF MATERIAL AND BASED ON A SIDE SLOPE RATIO NO STEEPER THAN 2:1...

SEQUENCE OF CONSTRUCTION:

- 1. OBTAIN A GRADING PERMIT (DAY 1).
2. CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE (SCE). INSTALL PERIMETER SEDIMENT CONTROL FEATURES AND TREE PROTECTION FENCING; CLEAR AND REMOVE TOP SOIL WITH L.O.D. WHERE NECESSARY. UTILIZE NEW SEDIMENT CONTROL FEATURES SHOWN ON THIS PLAN FOR PERIMETER CONTROLS. (DAY 2-7)
3. UPON APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, BRING ROAD SEEDS TO SUBGRADE AND COMMENCE MASS GRADING. STABILIZE SLOPES IN ACCORDANCE WITH TEMPORARY SEEDBED NOTES. UTILIZE DUST CONTROL METHODS. (DAY 8-60)
4. TREE ROOT PRUNING ALONG ENTRY DRIVEWAY. (DAY 60-61)
5. INSTALL STORM DRAINS, WATER AND SEWER MAINS. (DAY 61-100)
6. INSTALL CURB & GUTTER AND BASE PAVING. (DAY 101-120)
7. STABILIZE ALL AREAS IN ACCORDANCE WITH THE TEMPORARY SEEDBED NOTES. (DAY 121-125)
8. CONSTRUCT SWM FACILITIES THAT TREAT PUBLIC IMPROVEMENTS COMPLETE WITH UNDER/OVERDRAIN PIPES. THE ON-LOT SWM FACILITIES WILL BE CONSTRUCTED BY THE HOMEOWNER AT THE TIME OF HOUSE CONSTRUCTION. (DAY 126-155)
9. STABILIZE WITH THE PERMANENT SEEDBED NOTES. (DAY 156-158)
10. UPON APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE ALL REMAINING SEDIMENT CONTROL DEVICES AND STABILIZE ANY REMAINING AREAS IN ACCORDANCE WITH THE PERMANENT SEEDBED NOTES. (DAY 159)

BLAZE ORANGE TREE PROTECTION FENCING DETAIL



1. BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
2. ROOT DAMAGE SHOULD BE AVOIDED.
3. FENCING SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
4. PRACTICE MAY BE COMBINED WITH SEDIMENT CONTROL FENCING.
5. LOCATION AND LIMITS OF FENCING SHOULD BE COORDINATED IN FIELD WITH ARBORIST.

H-5 STANDARDS AND SPECIFICATIONS FOR DUST CONTROL

DEFINITION: CONTROLLING THE SUSPENSION OF DUST PARTICLES FROM CONSTRUCTION ACTIVITIES.
PURPOSE: TO PREVENT BLOWING AND MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES TO REDUCE ON AND OFF-SITE DAMAGE INCLUDING HEALTH AND TRAFFIC HAZARDS.
CONDITIONS WHERE PRACTICE APPLIES: AREAS SUBJECT TO DUST BLOWING AND MOVEMENT WHERE ON AND OFF-SITE DAMAGE IS LIKELY WITHOUT TREATMENT.

Table B.1: TEMPORARY SEEDING FOR SITE STABILIZATION. Columns: PLANT SPECIES, SEEDING RATES (LB/AC, LBS/1000 FT²), SEEDING DEPTH (INCHES), RECOMMENDED SEEDING DATES BY PLANT HARDNESS ZONE.

SEEDING RATES LISTED ABOVE ARE FOR TEMPORARY SEEDINGS, WHEN PLANTED ALONE. WHEN PLANTED AS A NURSE CROP WITH PERMANENT SEED MIXTURES, USE 1/3 OF THE SEEDING RATE LISTED ABOVE FOR BARLEY, OATS, AND WHEAT.
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PERMANENT SEEDING SUMMARY

Table with columns: NO., SPECIES, APPLICATION RATE (LB/AC), SEEDING DATES, SEEDING DEPTHS, FERTILIZER RATE (N, P2O5, K2O), LIME RATE.

HOWARD SOIL CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL NOTES

- 1. A pre-construction meeting must occur with the Howard County Department of Public Works, Construction Inspection Division (CID), 410-315-1855 after the future L.O.D and protected areas are marked clearly in the field.
2. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and revisions thereto.
3. Following initial soil disturbance or re-disturbance, permanent or temporary stabilization is required within three (3) calendar days as to the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes, and slopes steeper than 3 horizontal to 1 vertical (3:1), and seven (7) calendar days as to all other disturbed areas on the project site except for those areas under active grading.

Table with columns: Site/Total Area, Area Disturbed, Area to be roofed or paved, Area to be vegetatively stabilized, Total Fill, Offsite waste/borrow area location. Includes values for 4.8 Acres Total Area, 0.9 Acres Area Disturbed, etc.

- 7. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
8. Additional sediment control must be provided, if deemed necessary by the CID. The site and all controls shall be inspected by the contractor weekly; and in areas with 15' of cut and/or fill. Stockpiles (Sec. B-4-8) in excess of 20 ft. must be bench with stable outlet. All concentrated flow, steep slope, and highly erodible areas shall receive soil stabilization matting (Sec. B-4-6).
9. Trenches for the construction of utilities is limited to three pipe lengths and that which can and shall be back-filled and stabilized by the end of each workday, whichever is shorter.

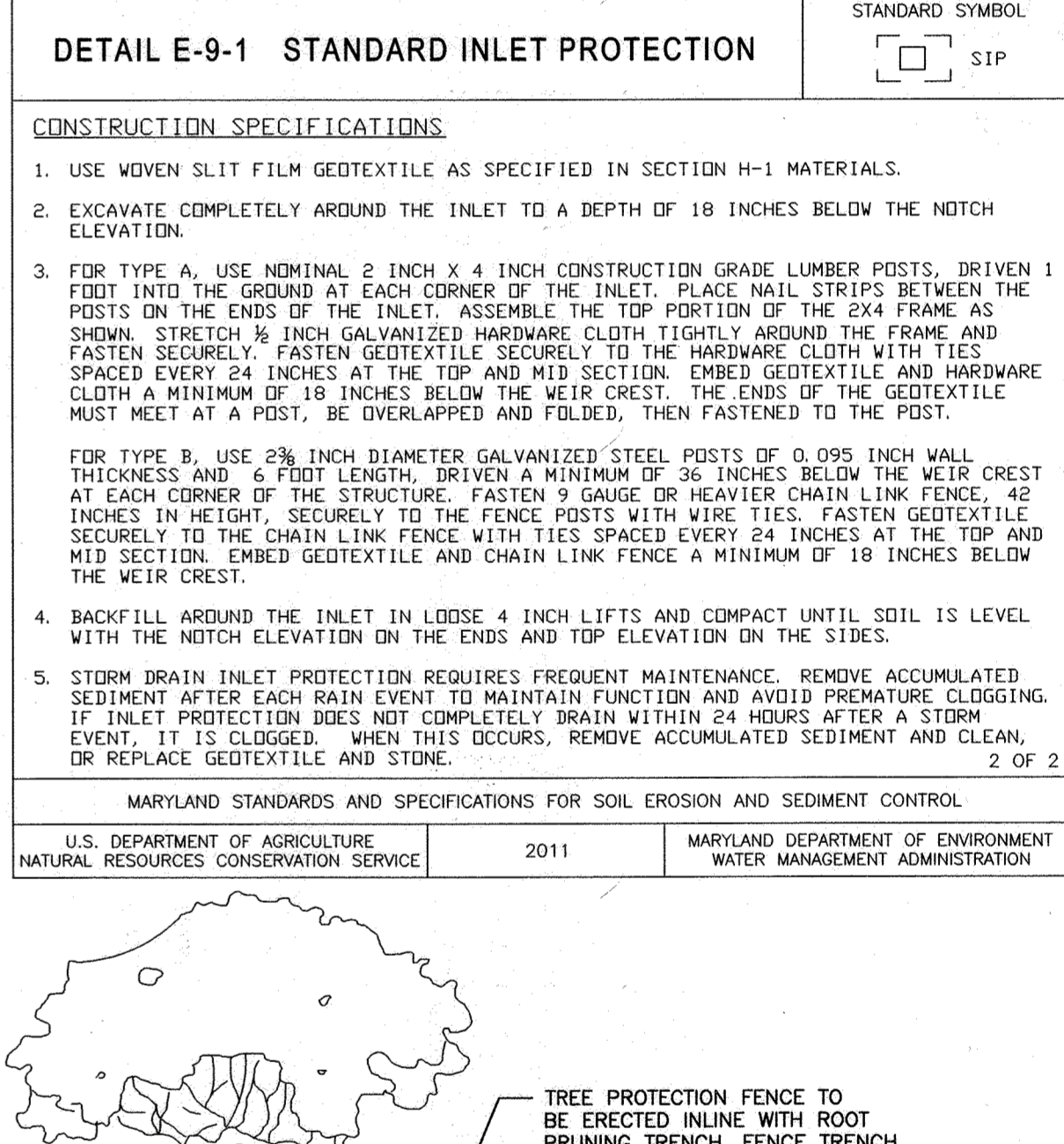
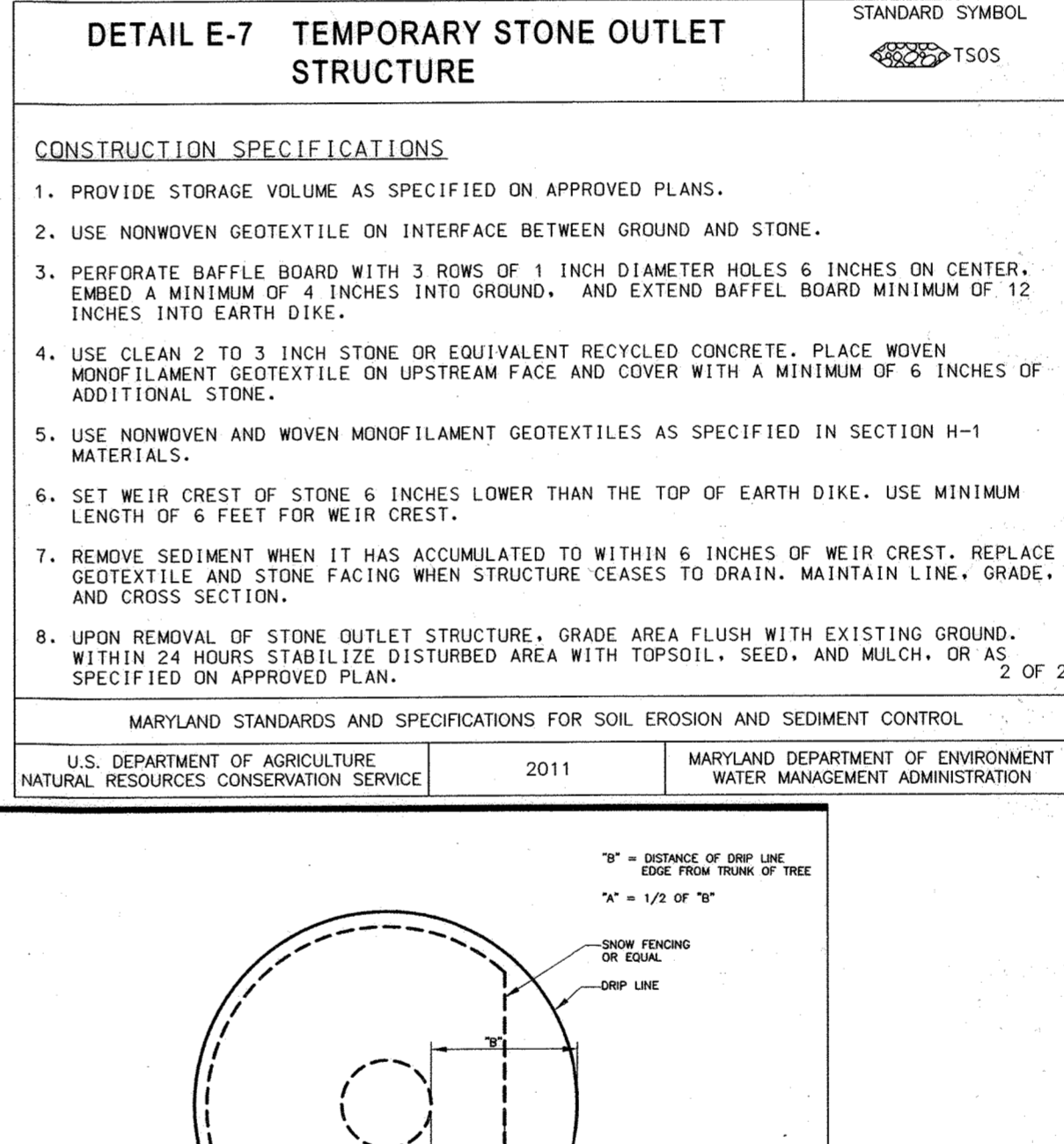
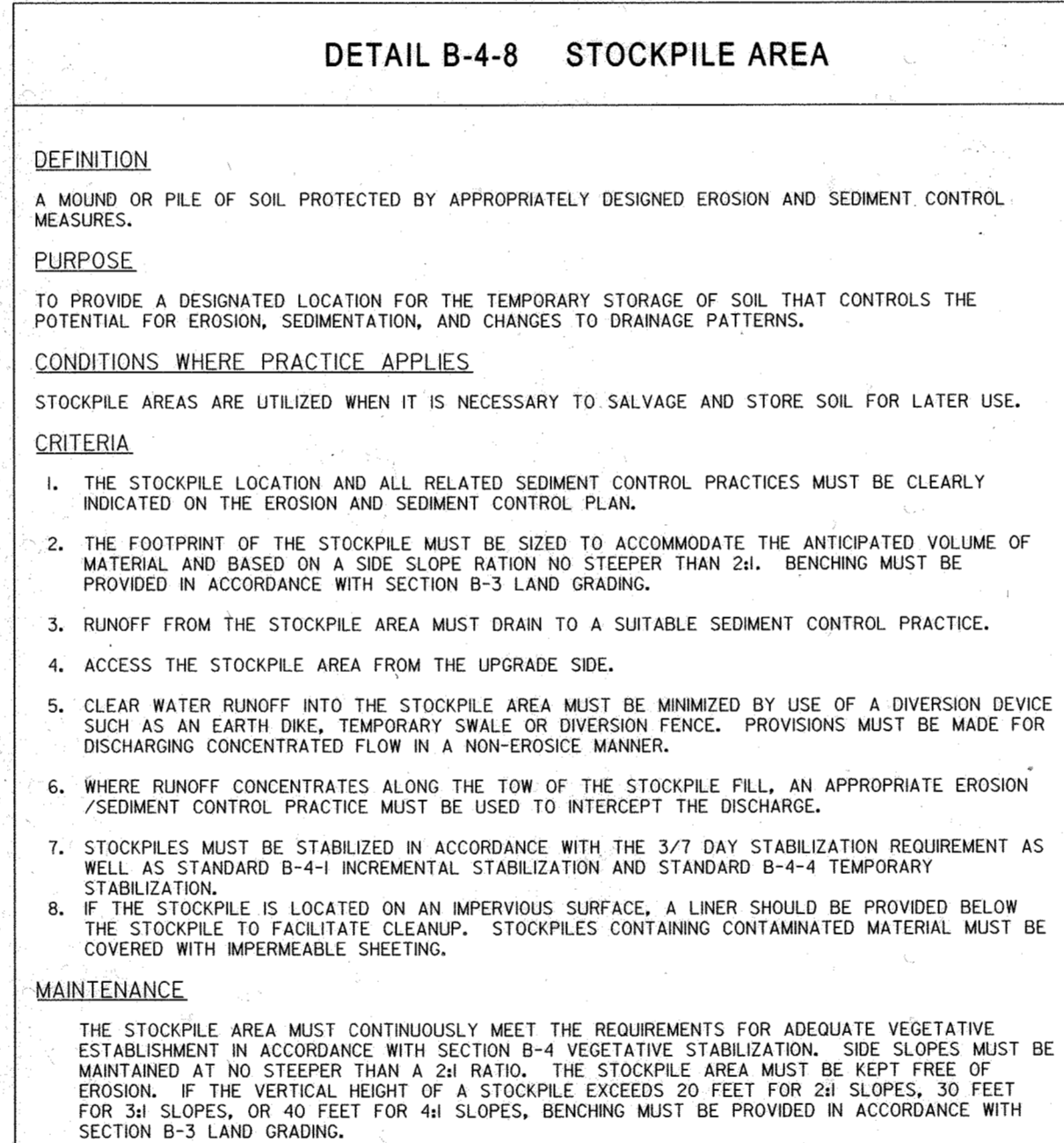
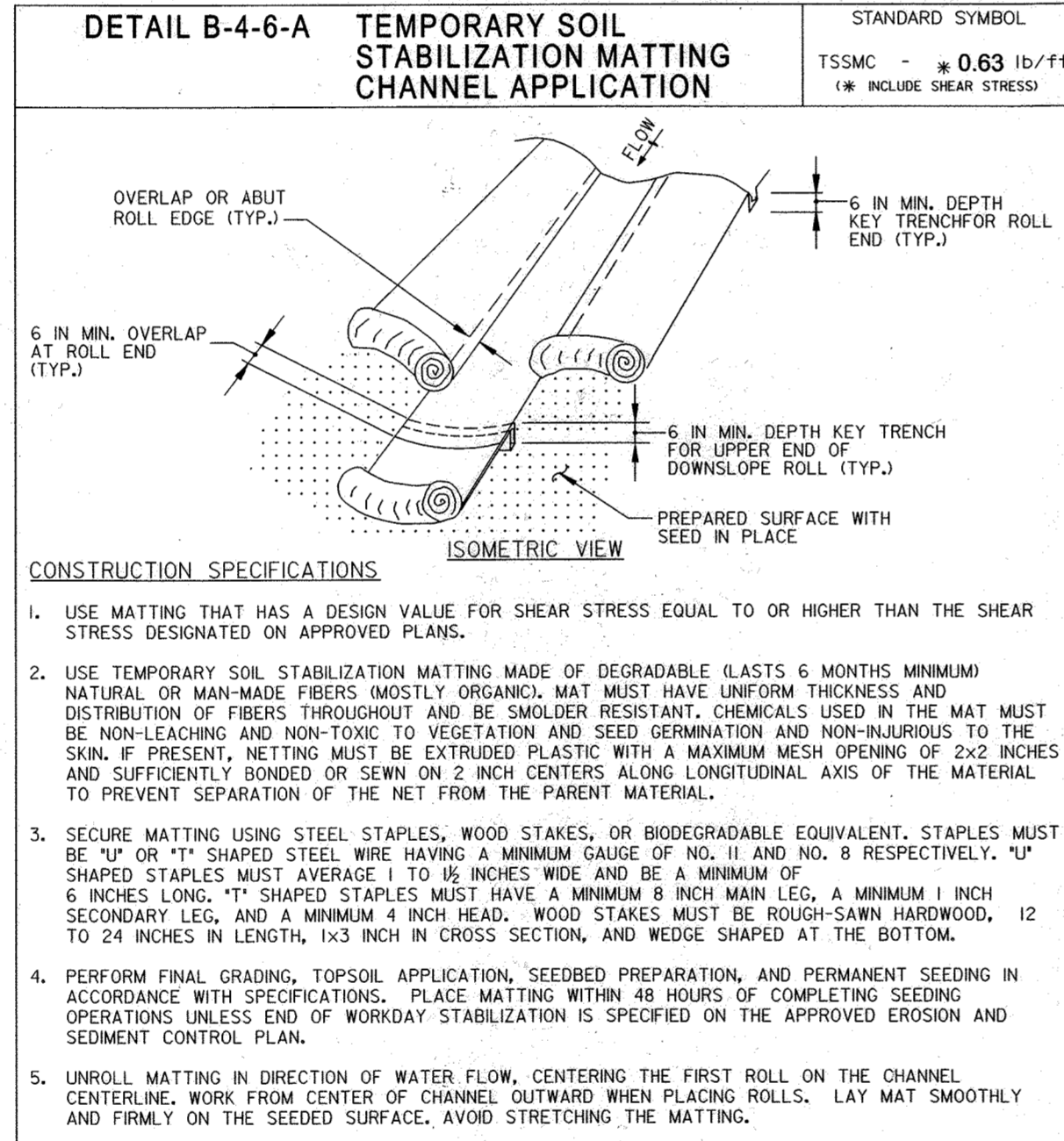
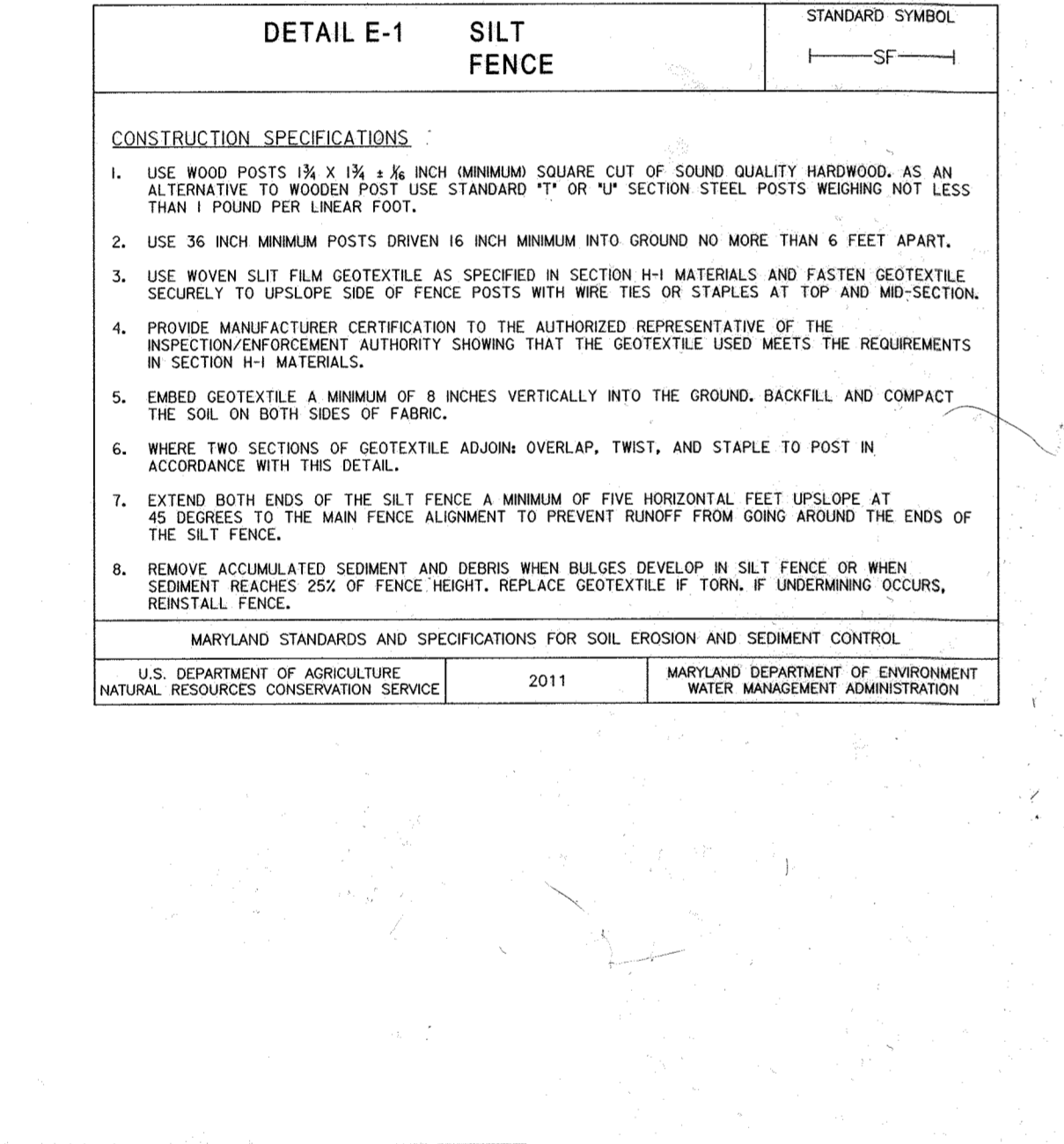
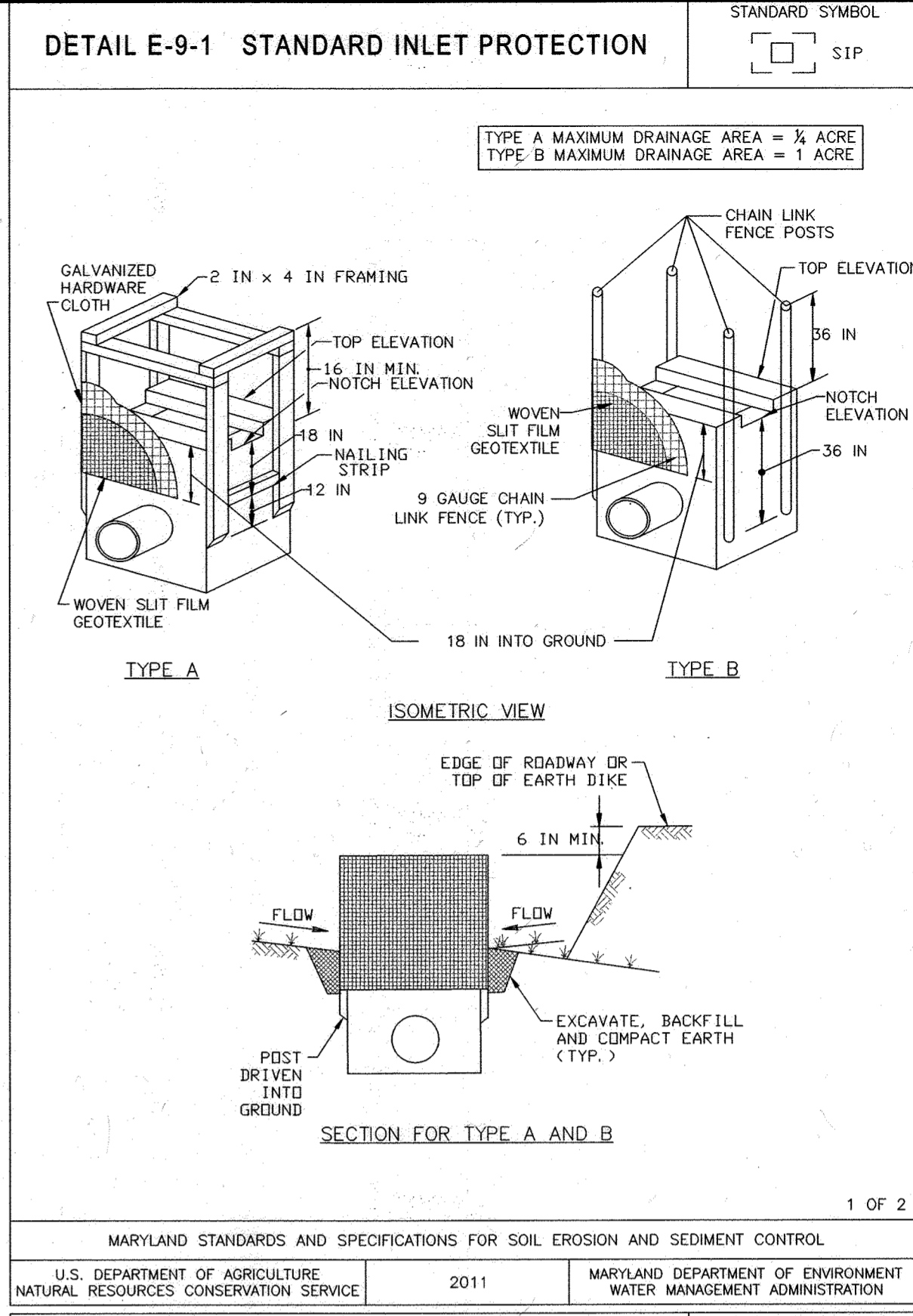
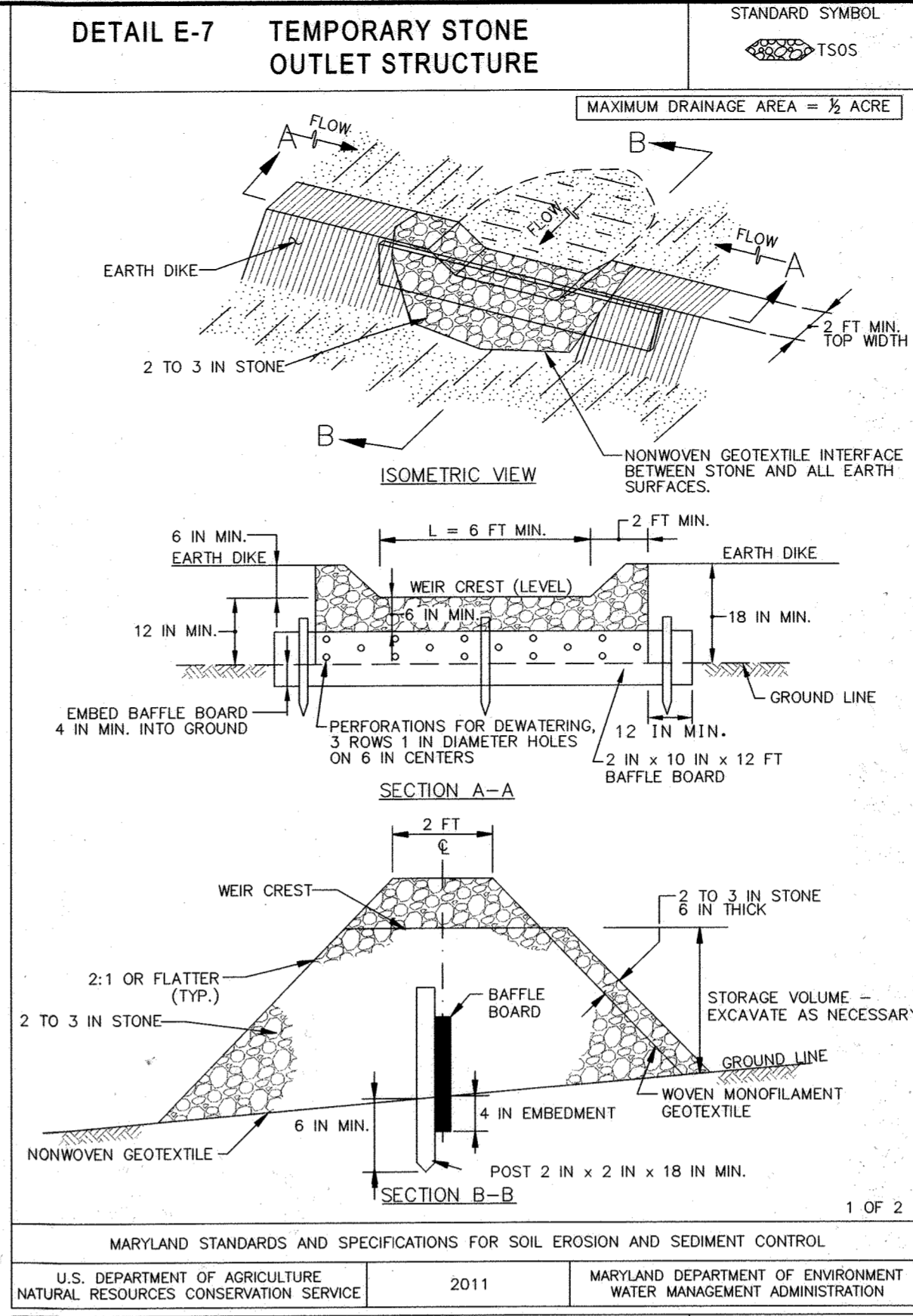
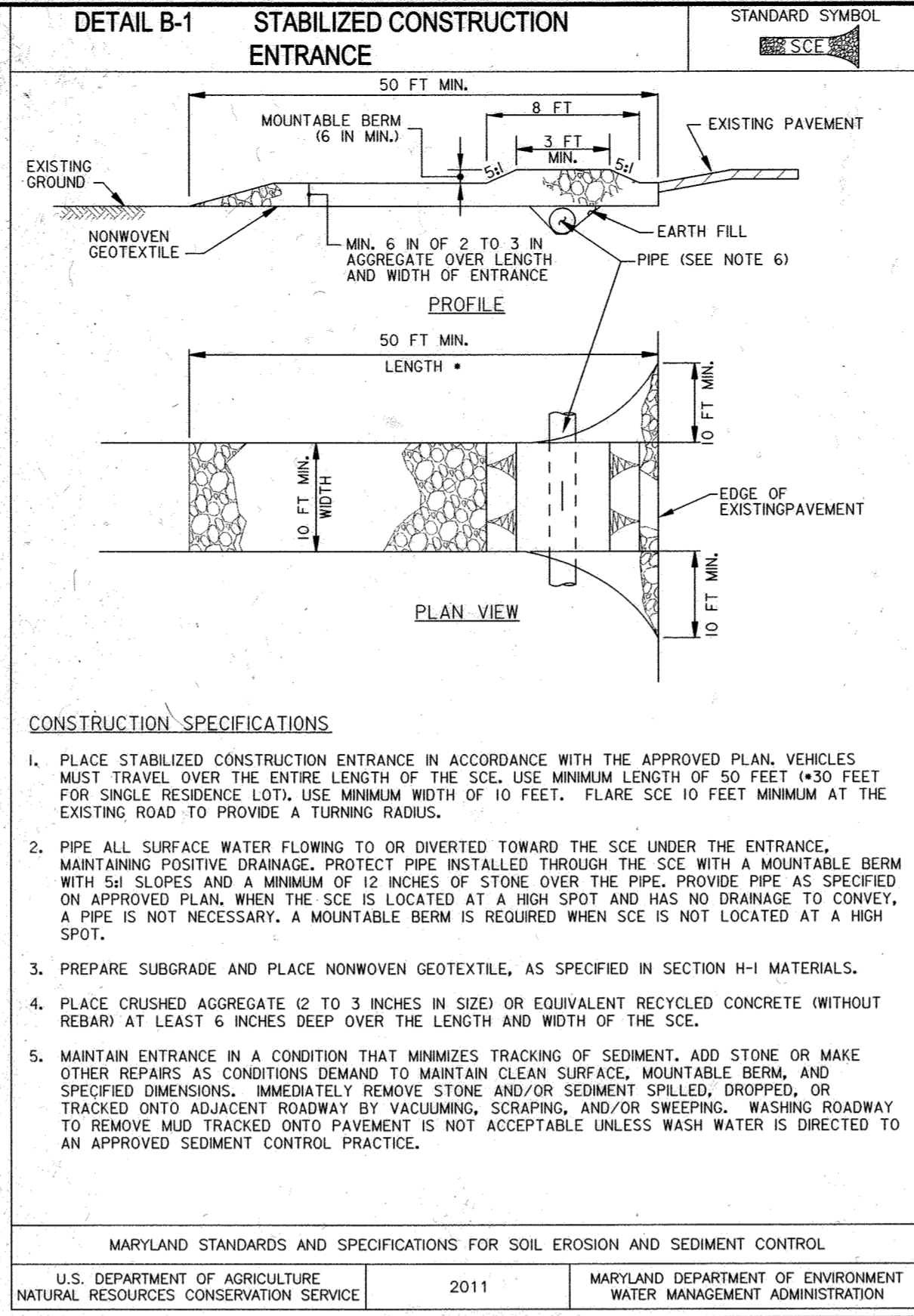
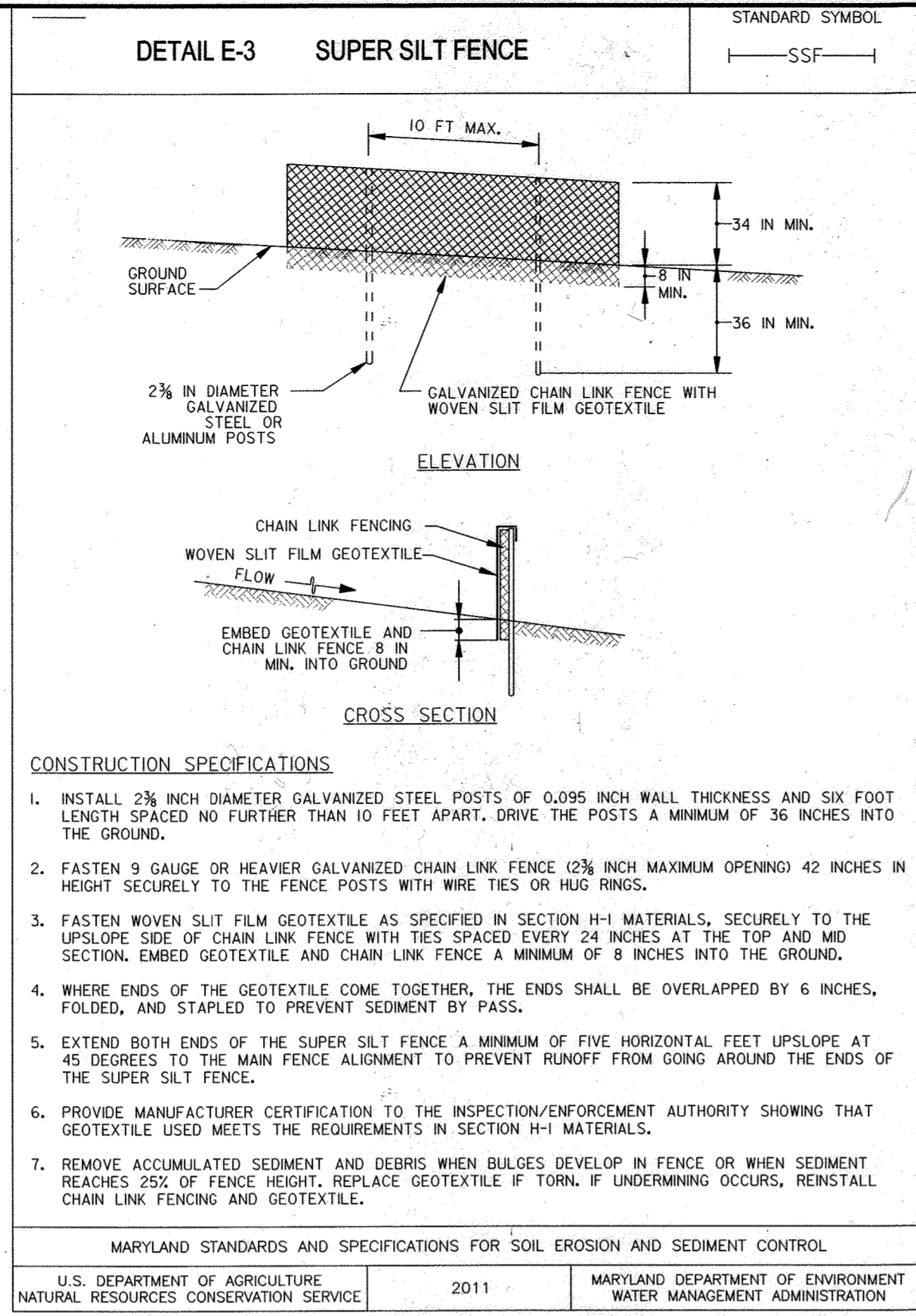
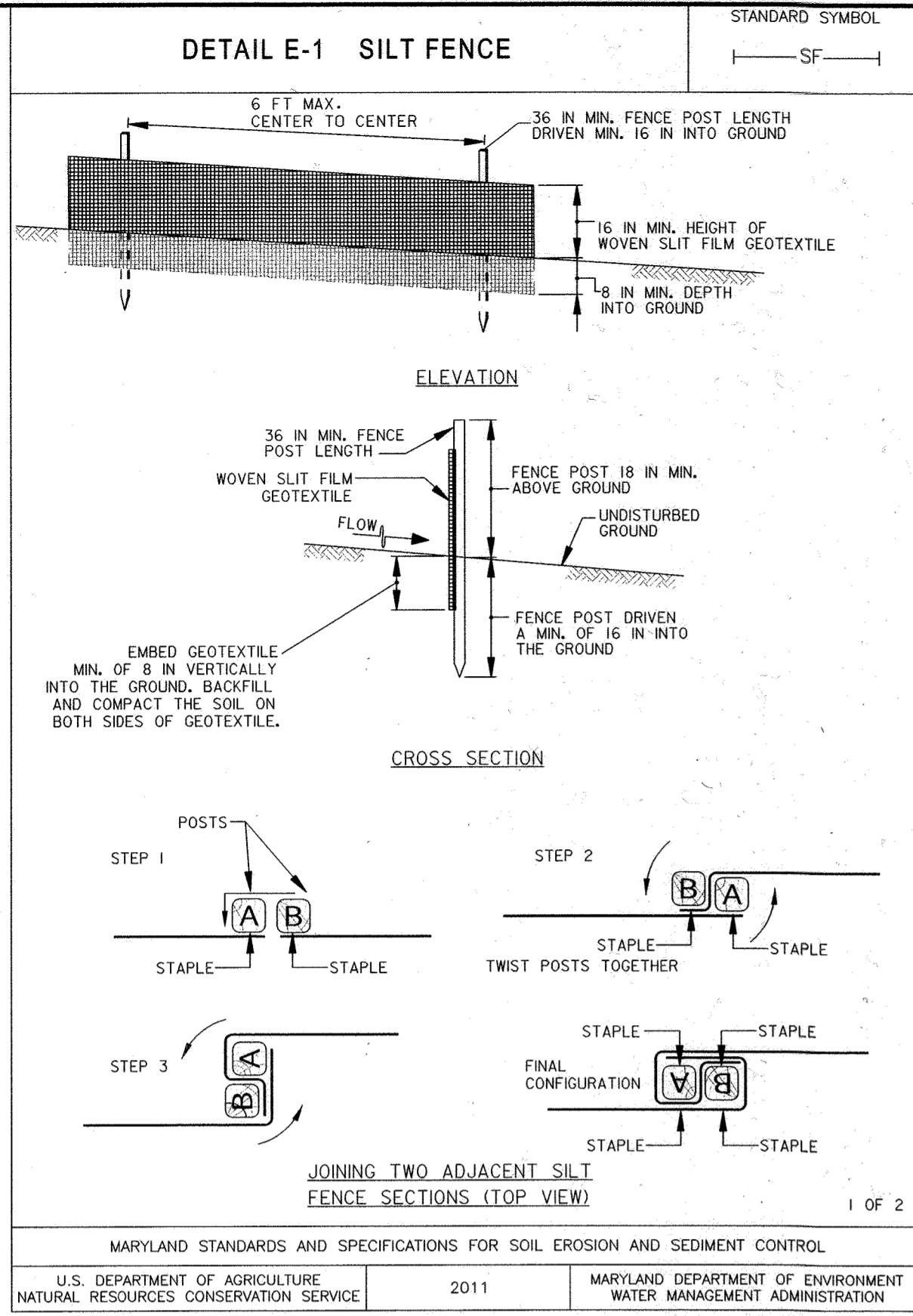
- 11. Disturbance shall not occur outside the L.O.D. A project is to be sequenced so that grading activities begin on one grading unit (maximum acreage of 20 ac. per grading unit) at a time. Work may proceed to a subsequent grading unit when at least 50 percent of the disturbed area in the preceding grading unit has been stabilized and approved by the CID.
12. Wash water from any equipment, vehicles, wheels, pavement, and other sources must be treated in a sediment basin or other approved washout structure.
13. Topsoil shall be stockpiled and preserved on-site for redistribution into final grade.

AS-BUILT CERTIFICATION FOR PSMV
I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE AS-BUILT PLANS AND SPECIFICATIONS. I HAVE VERIFIED THAT THE CONTRIBUTING DRAINAGE AREA IS SUFFICIENTLY STABILIZED TO PREVENT CLOGGING OF THE UNDERGROUND SWM FACILITY.
Date: 7/1/22

NO AS-BUILT INFORMATION ON THIS SHEET
HIDDEN RIDGE
LOTS 1-12 & OPEN SPACE LOT 13
A RESUBDIVISION OF PLAT
ABIDING SAVIOR LUTHERAN CHURCH
LOT 2 & NON-BUILDABLE PARCEL 'A'
PLAT #20652-53/2-5058-59
ZONING: R-SC-MEDIUM DENSITY RESIDENTIAL
TAX MAP: 36 GRID 18 PARCEL: 238 DISTRICT: 06
ACCURACY: 1/8" PER 1" HORIZONTAL SCALE; 1/16" PER 1" VERTICAL SCALE
CENSUS TRACT: 805022 CENSUS BLOCK: 3

APPROVED: DEPARTMENT OF PLANNING & ZONING
Date: 7/24/19
APPROVED: DEPARTMENT OF PUBLIC WORKS
Date: 7/15/2019
PHENIX ENGINEERING
21132 Old York Road
Parkton, MD 21120
1010 SWANFIELD RD
COLUMBIA, MARYLAND 21044
www.phoenix-eng.com

Professional Engineer Seal for Phoenix Engineering, Inc. License No. 36965. Includes drawing title 'EROSION AND SEDIMENT CONTROL NOTES', scale '600' SCALE MAP NO. 35 GRID NO. 18', and drawing number 'DRAWING NO. 5 OF 14'. Date: 03/04/2019.



ENGINEERS CERTIFICATE

I HEREBY CERTIFY THAT THIS PLAN FOR SEDIMENT & 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] 6/13/19
ENGINEER DATE

DEVELOPERS 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."

[Signature] 6/13/19
DEVELOPER DATE

THIS PLAN IS APPROVED FOR SOIL & EROSION CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

[Signature] 6/25/19
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS

[Signature] 7/15/2019
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING

[Signature] 7/26/19
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 7/15/19
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

OWNERS:

NON-BUILDABLE BULK PARCEL 'A'
ABIDING SAVIOR LUTHERAN CHURCH
10899 OWEN BROWN ROAD
COLUMBIA, MARYLAND 21044
410-997-8770

DEVELOPER:

KB COMPANIES, INC.
CATERVILLE, MD 21228
PHONE: 703-599-0997
ATTN: PATRICK BYRNE

ENGINEER:

PHOENIX ENGINEERING
21132 Old York Road
Parkton, MD 21120
410.329.1150
www.phoenix-eng.com

DESIGN: NAF, KPM

DRAFT: NAF, KPM

CHK: KMW

BY NO. DESCRIPTION DATE

600' SCALE MAP NO. 35 GRID NO. 18

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. 36065

Exp. Date: 6-26-2020

[Signature] 6/13/19
DATE

AS-BUILT CERTIFICATION FOR P25WM

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE AS-BUILT PLAN AND SPECIFICATIONS. I HAVE VERIFIED THAT THE CONTRIBUTING DRAINAGE AREA IS SUFFICIENTLY STABILIZED TO PREVENT CLOGGING OF THE UNDERGROUND SWIM FACILITY.

[Signature] 6/13/19
DATE

STATE OF MARYLAND
JAMES HARRIS
PROFESSIONAL ENGINEER
NO. 18195
EXPIRES 6/26/2020

TEMPORARY TREE PROTECTION (PLAN)

NOTES:
1. TREE TO BE PROTECTED
2. SHOW FENCING OR EQUAL
3. DRAIN LINE
4. TRENCH EXCAVATION

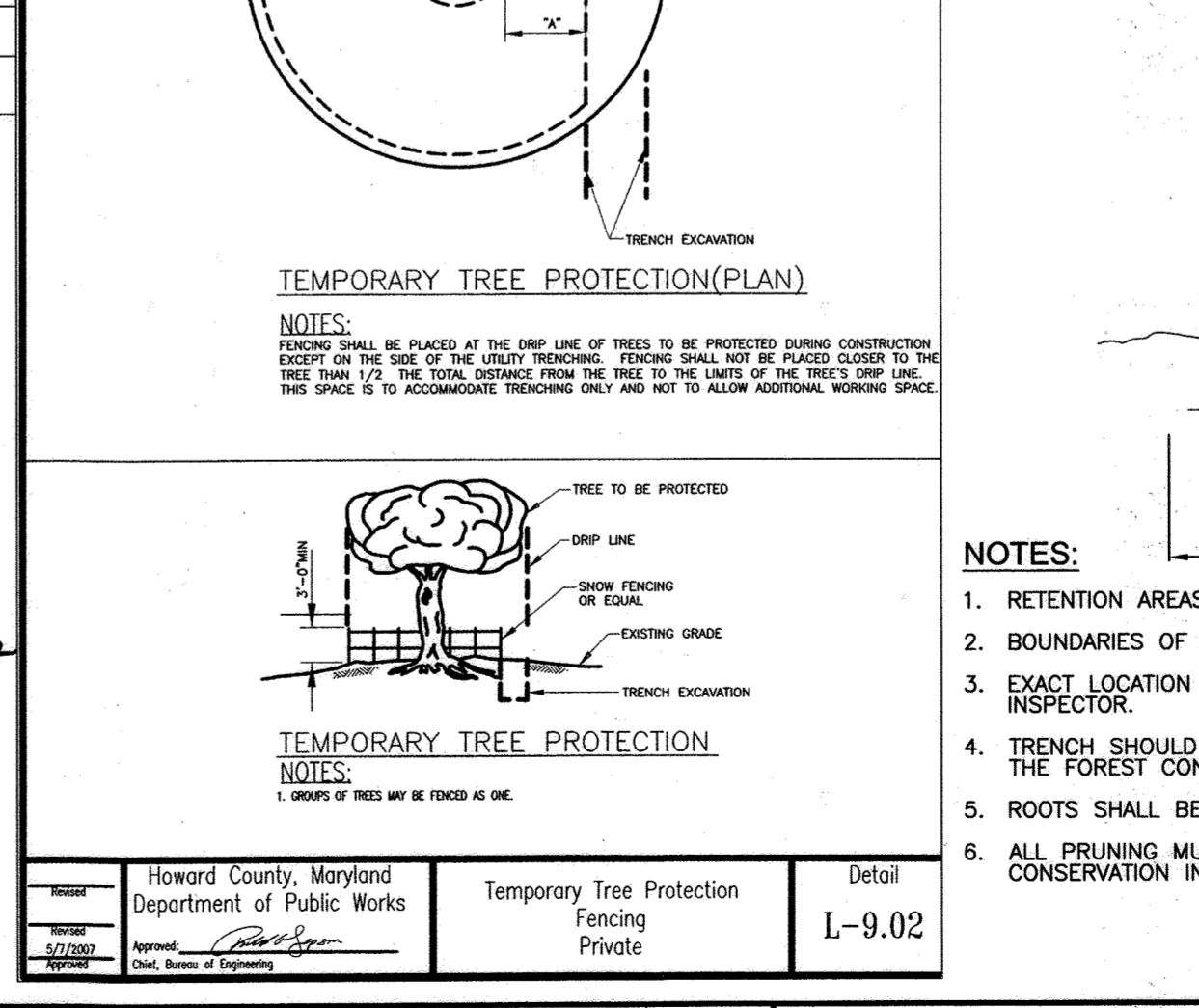
TEMPORARY TREE PROTECTION

NOTES:
1. GROUPS OF TREES MAY BE FENCED AS ONE.

ROOT PRUNING DETAIL

NOT TO SCALE

NO AS-BUILT INFORMATION ON THIS SHEET



NOTES:

- RETENTION AREAS WILL BE SET AS PART OF THE REVIEW PROCESS AND PRE-CONSTRUCTION MEETING.
- BOUNDARIES OF RETENTION AREAS MUST BE STAKED AT THE PRE-CONSTRUCTION MEETING AND FLAGGED PRIOR TO TRENCHING.
- EXACT LOCATION OF TRENCH SHALL BE DETERMINED IN THE FIELD IN COORDINATION WITH THE FOREST CONSERVATION INSPECTOR.
- TRENCH SHOULD BE IMMEDIATELY BACKFILLED WITH EXCAVATED SOIL OR OTHER ORGANIC SOIL AS SPECIFIED PER PLAN OR BY THE FOREST CONSERVATION INSPECTOR.
- ROOTS SHALL BE CLEANLY CUT USING VIBRATORY KNIFE OR OTHER ACCEPTABLE EQUIPMENT.
- ALL PRUNING MUST BE EXECUTED WITH L.O.D. SHOWN ON THE PLANS OR AS AUTHORIZED IN WRITING BY THE FOREST CONSERVATION INSPECTOR.

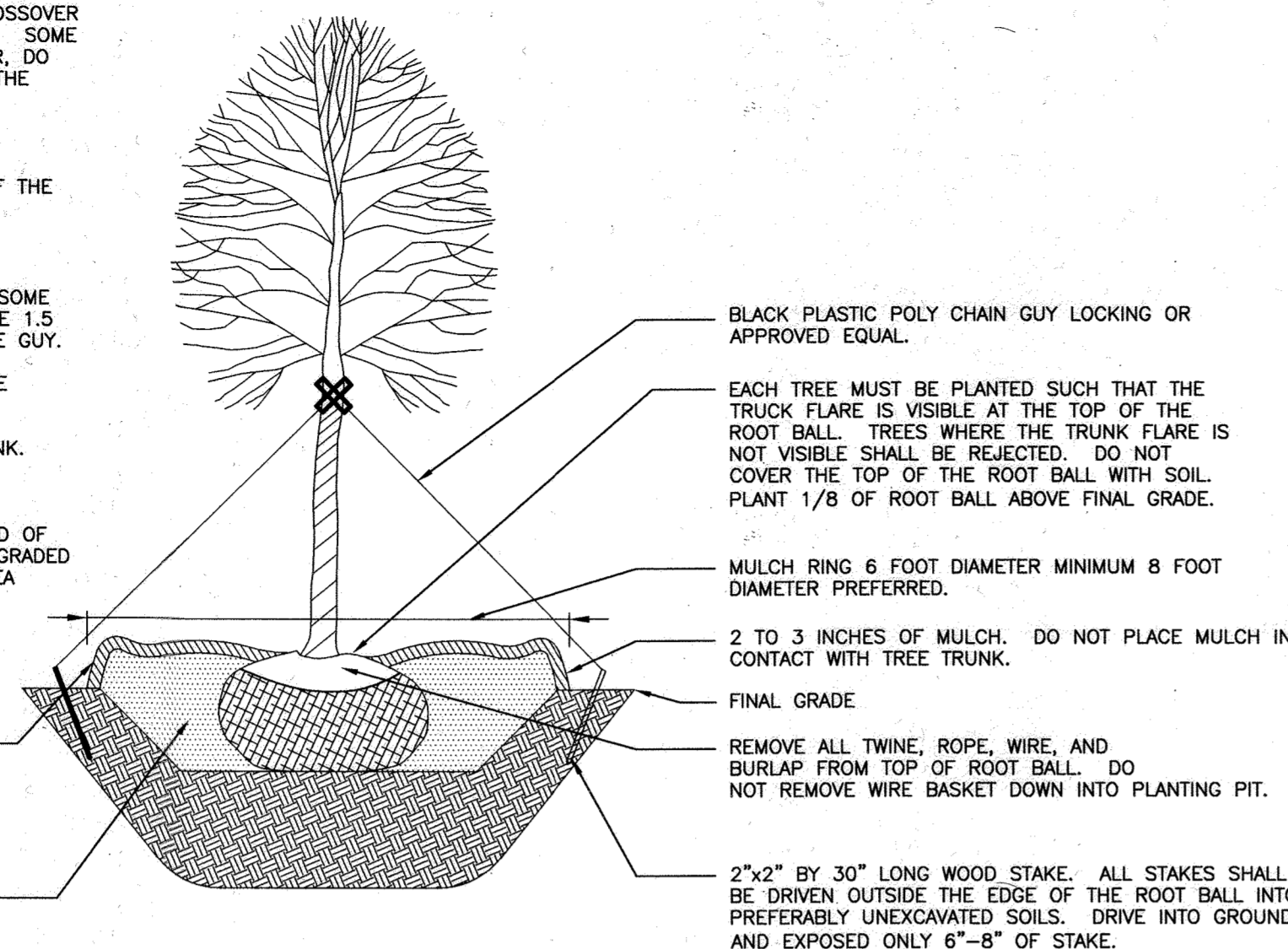
ROOT PRUNING DETAIL

NOT TO SCALE

NO AS-BUILT INFORMATION ON THIS SHEET

NOTES:

- 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.
- STAKE TREES AS SHOWN.
- DIG PLANTING PIT TWICE AS WIDE AS THE DIAMETER OF THE TOP OF THE ROOT BALL WITH A MINIMUM PLANTING PIT DIAMETER OF 5'.
- PLACE ROOT BALL ON UNEXCAVATED OR COMPACTED SOIL.
- TIGHTEN GUY ONLY ENOUGH TO KEEP FROM SLIPPING. ALLOW FOR SOME TRUNK MOVEMENT. GUY SHALL BE LONG ENOUGH TO ACCOMMODATE 1.5 IN. OF GROWTH AND ALL BRANCHES SHALL BE BUFFERED FROM THE GUY.
- TUCK ANY LOOSE ENDS OF THE GUY SO THAT NO LOOSE ENDS ARE EXPOSED.
- INSTALL THREE GUYS PER TREE, SPACED EVENLY AROUND THE TRUNK.
- REMOVE STAKES AFTER ONE YEAR.
- CONTRACTOR TO REMOVE AND GRADE OUT PLANTING SAUCER AT END OF ONE YEAR MAINTENANCE PERIOD. AREA AROUND TREES SHALL BE GRADED SMOOTH TO ELIMINATE MOUNDING. CONTRACTOR TO RE-MULCH AREA AROUND TREE WHEN GRADING IS COMPLETE.

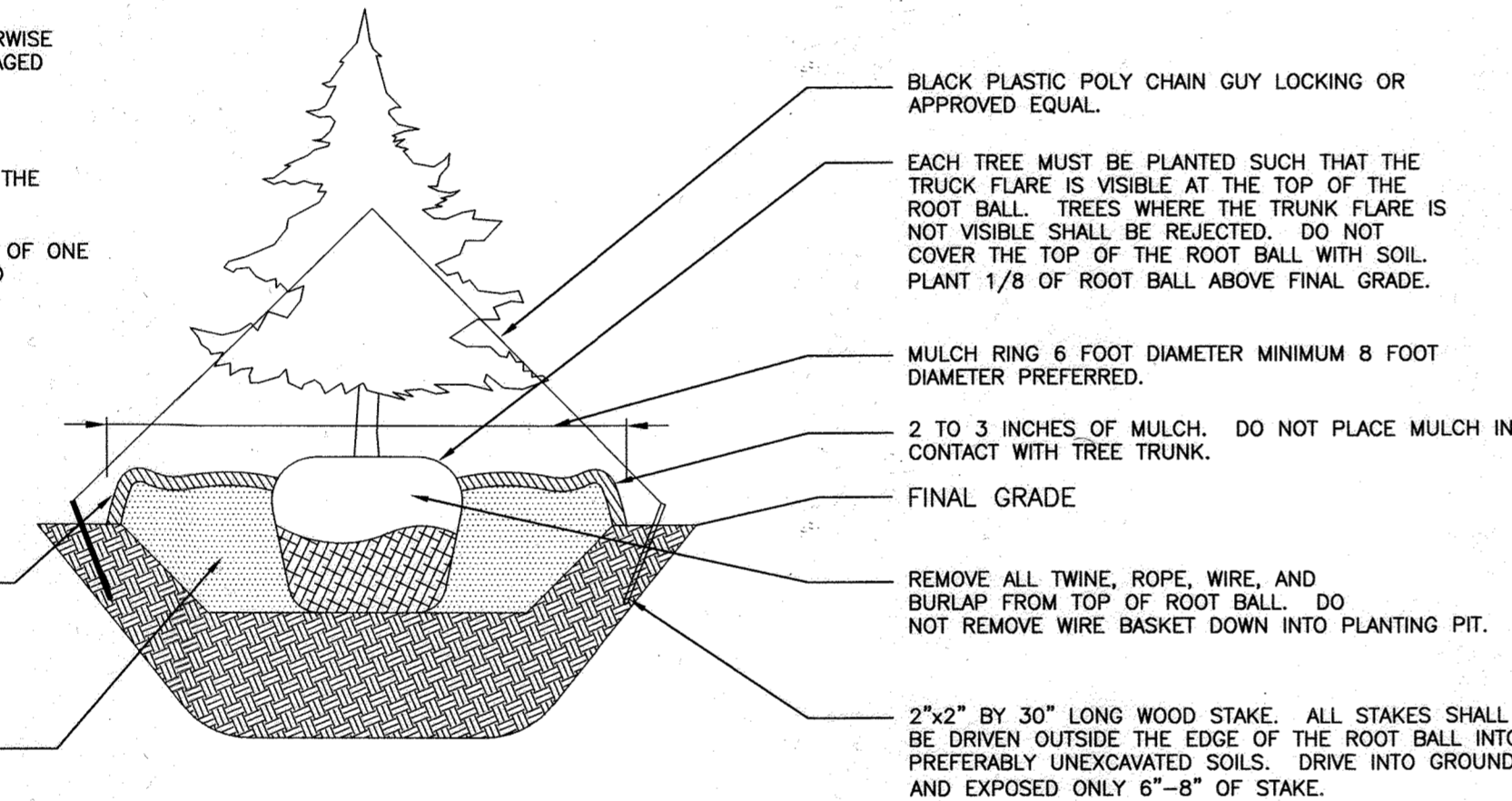


DECIDUOUS B&B TREE PLANTING DETAIL

NOT TO SCALE

NOTES:

- SELECT ONLY NURSERY STOCK WITH A SINGLE LEADER UNLESS OTHERWISE SPECIFIED ON PLAN. PLANTS WITH CO-DOMINANT, MISSING, OR DAMAGED LEADERS SHALL BE REJECTED.
- STAKE TREES AS SHOWN.
- DIG PLANTING PIT TWICE AS WIDE AS THE DIAMETER OF THE TOP OF THE ROOT BALL WITH A MINIMUM PLANTING PIT DIAMETER OF 5'.
- CONTRACTOR TO REMOVE AND GRADE OUT PLANTING SAUCER AT END OF ONE YEAR MAINTENANCE PERIOD. AREA AROUND TREES SHALL BE GRADED SMOOTH TO ELIMINATE MOUNDING. CONTRACTOR TO RE-MULCH AREA AROUND TREE WHEN GRADING IS COMPLETE.

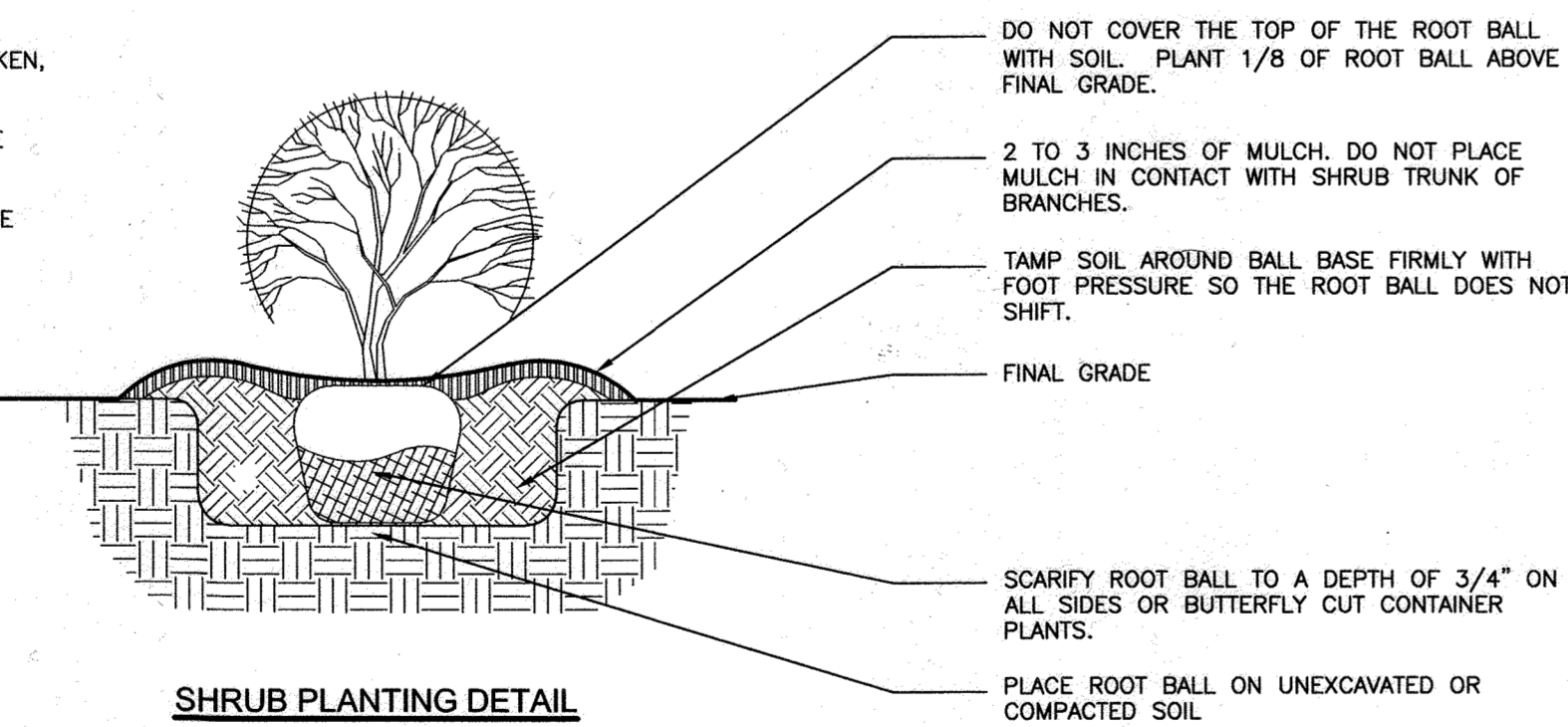


EVERGREEN TREE PLANTING DETAIL

NOT TO SCALE

NOTES:

- SEE PLANTING SPECIFICATIONS FOR PREPARATION OF PLANTING BED.
- DO NOT HEAVILY PRUNE THE SHRUB AT PLANTING. PRUNE ONLY BROKEN, DAMAGED, OR DISEASED BRANCHES.
- DIG PLANTING PIT 12" WIDER THAN THE DIAMETER OF THE TOP OF THE ROOT BALL WITH A MINIMUM PLANTING PIT DIAMETER OF 18".
- FOR B&B SHRUBS: REMOVE ALL TWINE, ROPE, AND BURLAP FROM THE TOP OF ROOT BALL.
- ALL CONTAINERS SHALL BE REMOVED BEFORE INSTALLATION.

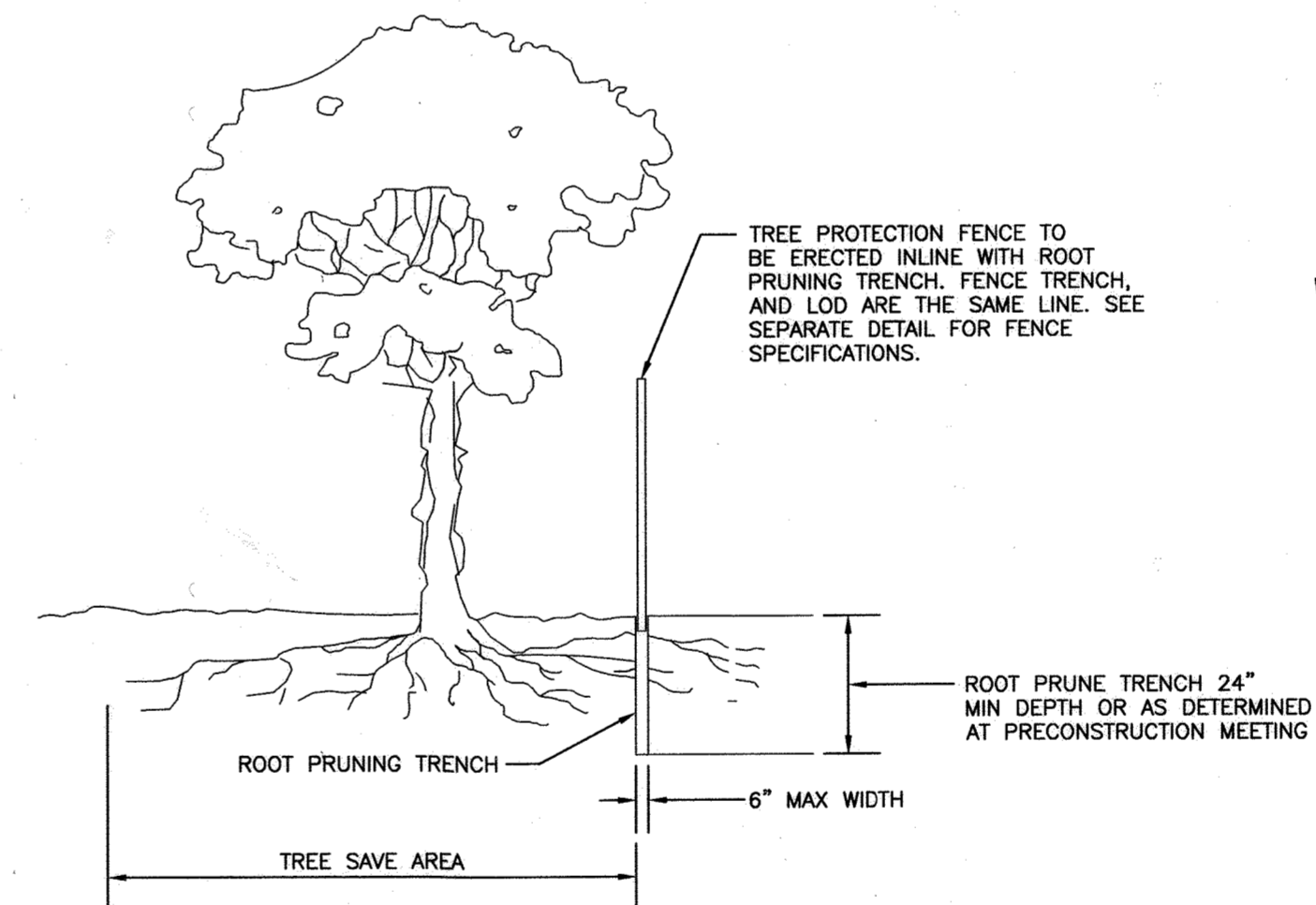


SHRUB PLANTING DETAIL

NOT TO SCALE

LANDSCAPE NOTES:

- ALL PLANT MATERIAL SHALL BE NURSERY GROWN AND SHALL COMPLY WITH THE 'AMERICAN STANDARD FOR NURSERY STOCK', LATEST EDITION, AND ALL ADDENDA PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
- TREES AND SHRUBS SHALL BE TYPICAL OF THEIR SPECIES AND VARIETY, HAVE NORMAL GROWTH HABITS, WELL DEVELOPED, DENSELY FOLIATED BRANCHES, AND VIGOROUS, FIBROUS ROOT SYSTEM.
- TREES AND SHRUBS SHALL BE FRESHLY DUG AND NURSERY GROWN. THEY SHALL HAVE BEEN GROWN UNDER CLIMATIC CONDITIONS SIMILAR TO THOSE IN THE LOCALITY OF THE PROJECT OR PROPERLY ACCLIMATED TO CONDITIONS OF THE LOCALITY OF THE PROJECT.
- TREES AND SHRUBS SHALL BE FREE FROM DEFECTS AND INJURIES AND CERTIFIED BY APPROPRIATE FEDERAL AND STATE AUTHORITIES TO BE FREE OF DISEASES AND INFESTATIONS.
- THE LANDSCAPE CONTRACTOR SHALL WARRANT ALL PLANT MATERIAL FOR A PERIOD OF ONE (1) FULL YEAR AFTER THE DATE OF SUBSTANTIAL COMPLETION AGAINST DEFECTS, UNSATISFACTORY GROWTH, DISEASE OR DEATH. UNSATISFACTORY, UNHEALTHY DYING OR DEAD. PLANT MATERIAL (IN THE OPINION OF THE LANDSCAPE ARCHITECT) SHALL BE REPLACED WITH THE SAME SIZE AND SPECIES.
- IT SHALL BE THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR TO ADEQUATELY AND PROPERLY MAINTAIN THE LANDSCAPED AREAS, WHICH SHALL INCLUDE WATERING, CLEANING OF WEEDS AND DEBRIS, PRUNING AND TRIMMING, REPLACEMENT OF DEAD OR DISEASED PLANTINGS, AND FERTILIZING TO MAINTAIN HEALTHY GROWTH FOR THE WARRANTY PERIOD.
- ALL PLANT SAUCERS AND PANT BEDS SHALL BE MULCHED AND DOUBLE SHREDDED HARDWOOD MULCH, A MINIMUM OF 3" IN DEPTH.
- NO SUBSTITUTIONS OF PLANT MATERIAL SHALL BE PERMITTED WITHOUT WRITTEN AUTHORIZATION OF THE LANDSCAPE ARCHITECT OR HIS REPRESENTATIVE. THIS SHALL APPLY TO SUBSTITUTIONS OF SPECIES, LOCATION, SIZE, AND QUANTITY.
- THE LANDSCAPE CONTRACTOR SHALL INSTALL SHREDDED HARDWOOD BARK MULCH TO A DEPTH OF 3" UNDER AND SURROUNDING ALL NEW LANDSCAPE MASS PLANTING AREAS TO PROVIDE A UNIFORM AND CONTINUOUS SURFACE AND APPEARANCE BETWEEN AND AROUND ALL PLANT MATERIAL, BUILDING LINES AND PAVED AREAS. IN GENERAL, THIS PERTAINS TO ALL PLANT MATERIAL THAT IS PLANTED CLOSER THAN SIX (6) FEET CENTER TO CENTER. IT IS THE INTENT OF THIS CONTRACT TO INSTALL LANDSCAPE MAT UNDER THE ENTIRE AREA OF SHREDDED BARK MULCH.
- ALL CONTAINER GROWN MATERIAL SHALL BE HEALTHY, VIGOROUS, WELL-ROOTED PLANTS AND ESTABLISHED IN THE CONTAINER IN WHICH THEY ARE SOLD. THE PLANTS SHALL HAVE TOPS WHICH ARE GOOD QUALITY AND ARE IN A HEALTHY GROWING CONDITIONS.
- LANDSCAPE CONTRACTOR SHALL SLIGHTLY ADJUST PLANT LOCATIONS IN THE FIELD AS NECESSARY TO BE CLEAR OR DRAINAGE SWALES AND UTILITIES. FINISHED PLANTING BEDS SHALL BE GRADED SO AS NOT TO IMPEDED DRAINAGE AWAY FROM BUILDINGS. LANDSCAPE CONTRACTOR TO VERIFY LOCATION OF UTILITIES WITH OWNERS BEFORE PLANTING.
- TREE STAKING AND GUYING SHALL BE DONE PER DETAILS. CONTRACTOR SHALL ENSURE THAT TREES REMAIN PLUMB AND UPRIGHT FOR THE DURATION OF THE GUARANTEE PERIOD.
- ALL TREES PITS, SHRUB BEDS, AND PREPARED PLANTING BEDS ARE TO BE COMPLETELY EXCAVATED IN ACCORDANCE WITH THE PLANTING DETAILS.
- CROWN OF ROOT BALL SHALL BE HIGHER (AFTER SETTING) THAN ADJACENT SOIL.
- SHADE TREE: HEIGHT SHALL BE MEASURED FROM THE CROWN OF THE ROOT BALL TO THE TOP OF MATURE GROWTH. SPREAD SHALL BE MEASURED TO THE END OF BRANCHING EQUALLY AROUND THE CROWN FROM THE CENTER OF THE TRUNK. MEASUREMENTS ARE NOT TO INCLUDE ANY TERMINAL GROWTH. SINGLE TRUNK TREES SHALL BE FREE OF "V" CROTCHES THAT COULD BE POINTS OF WEAK LIMB STRUCTURES OF DISEASE INFESTATION.
- CONTRACTOR MUST CONTACT THE OWNER AT LEAST TEN WORKING DAYS IN ADVANCE TO SCHEDULE ACCEPTANCE INSPECTION(S). CONTRACTOR MUST REPLACE ALL DEAD OR UNACCEPTABLE PLANTS DURING THE FOLLOWING RECOMMENDED PLANTING SEASON.
- TREES SHALL BE PLANTED DURING ACCEPTABLE PLANTING SEASONS: BETWEEN MARCH 15 AND MAY 15 AND BETWEEN AUGUST 15 AND NOVEMBER 15 OR AS APPROVED BY OWNER REPRESENTATIVE.
- ALL TREE STAKING AND GUYING SHALL BE REMOVED BY THE CONTRACTOR AFTER THE TREES ARE ESTABLISHED.
- SEEDED AREAS THAT WASH OUT MUST BE FILLED AND GRADED AS NECESSARY AND THEN RESEEDED, SOME TYPE OF ANCHORING METHOD SHOULD THEN BE USED TO HOLD SEED AND MULCH IN PLACE; THIS IS ESPECIALLY IMPORTANT AROUND WATER COURSES, IN SWALES AND AREAS OF CONCENTRATED FLOW, AND ON SLOPES.
- IN THE EVENT OF VARIATION BETWEEN QUANTITIES SHOWN ON THE PLANT LIST AND THE PLANS, THE PLANS SHALL CONTROL. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL PLANT QUANTITIES PRIOR TO THE COMMENCEMENT OF WORK. ALL DISCREPANCIES SHALL BE REPORTED TO THE LANDSCAPE ARCHITECT FOR CLARIFICATION PRIOR TO BIDDING. THE CONTRACTOR SHALL FURNISH PLANT MATERIAL IN SIZES AS SPECIFIED IN THE PLANT LIST.

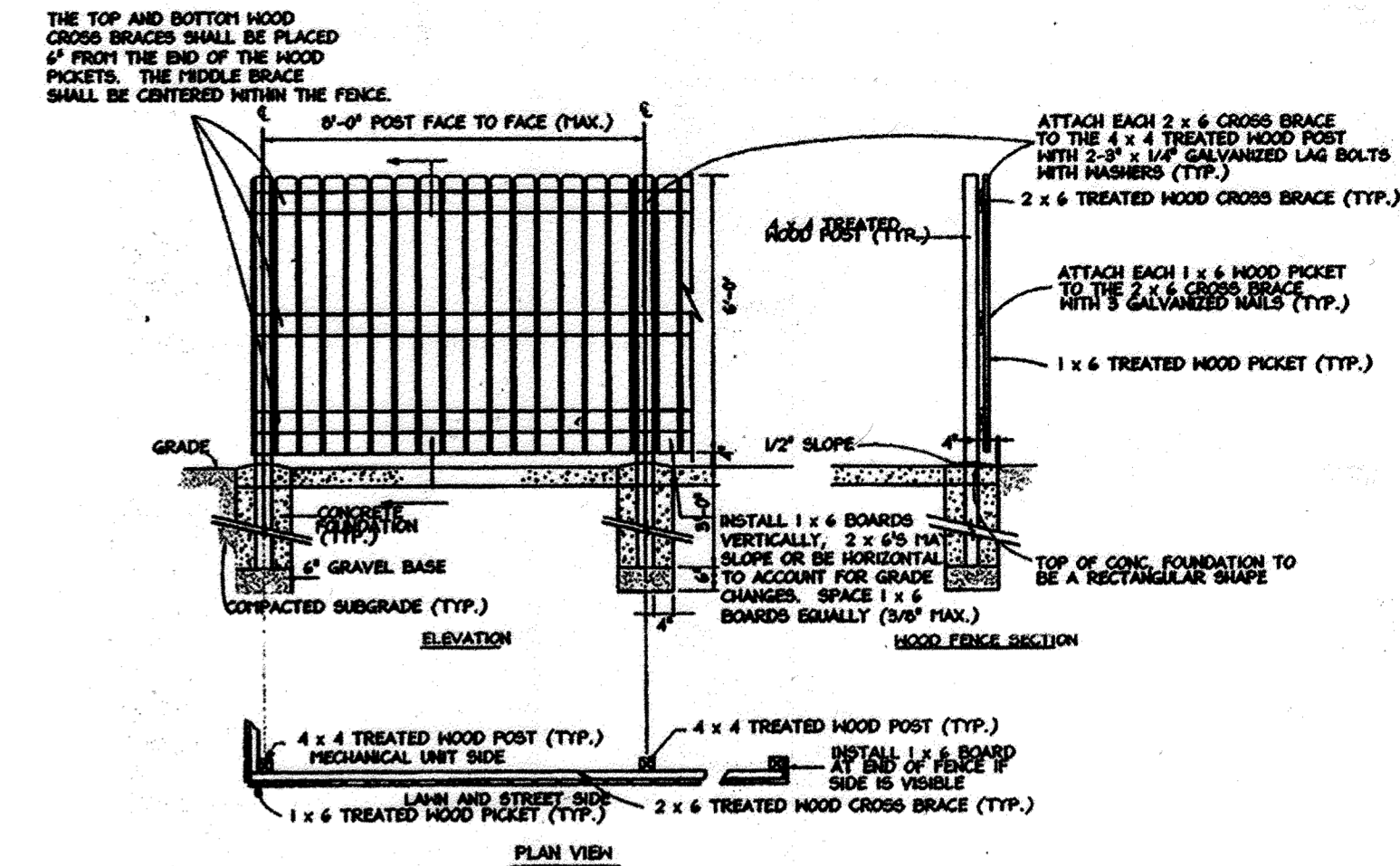


ROOT PRUNING DETAIL

NOT TO SCALE

NOTES:

- RETENTION AREAS WILL BE SET AS PART OF THE REVIEW PROCESS AND PRE-CONSTRUCTION MEETING.
- BOUNDARIES OF RETENTION AREAS MUST BE STAKED AT THE PRE-CONSTRUCTION MEETING AND FLAGGED PRIOR TO TRENCHING.
- EXACT LOCATION OF TRENCH SHALL BE DETERMINED IN THE FIELD IN COORDINATION WITH THE FOREST CONSERVATION INSPECTOR.
- TRENCH SHOULD BE IMMEDIATELY BACKFILLED WITH EXCAVATED SOIL OR OTHER ORGANIC SOIL AS SPECIFIED PER PLAN OR BY THE FOREST CONSERVATION INSPECTOR.
- ROOTS SHALL BE CLEANLY CUT USING VIBRATORY KNIFE OR OTHER ACCEPTABLE EQUIPMENT.
- ALL PRUNING MUST BE EXECUTED WITH L.O.D. SHOWN ON THE PLANS OR AS AUTHORIZED IN WRITING BY THE FOREST CONSERVATION INSPECTOR.



FENCE DETAIL

NOT TO SCALE

NOTES:

- ALL EXTERIOR LIGHT FIXTURES SHALL BE ORIENTED TO DIRECT LIGHT INWARDS AND DOWNWARDS ON-SITE AWAY FROM ALL ADJOINING RESIDENTIAL USE PROPERTIES AND PUBLIC ROADS AND BE IN COMPLIANCE WITH THE LIGHT TRESPASS REQUIREMENTS IN ACCORDANCE WITH SECTION 134 OF THE HOWARD COUNTY ZONING REGULATIONS.
- DEVELOPMENT HOA WILL BE RESPONSIBLE FOR PEDESTRIAN STREET LIGHT MAINTENANCE.
- STREET LIGHT PLACEMENT AND TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III (1993) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (JUNE 1993)". A MINIMUM SPACING OF 20 FEET SHALL BE MAINTAINED BETWEEN ANY STREETLIGHT AND ANY TREE.
- ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE)- 3' LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.

LUMINAIRE SCHEDULE						
SYMBOL	QTY	ARRANGEMENT	DESCRIPTION	LLF	LUMENS/LAMP	ARR. LUM. LUMENS/ARR. WATTS
9-E	4	SINGLE	PTHS-F1-175-MH-F-HSS-14'MH	0.720	12800	6182 291

LIGHTING DETAIL

NOT TO SCALE

DEVELOPERS CERTIFICATE

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

Patrick Byrne 4/1/19
DEVELOPER DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS
[Signature] 7/15/2019
CHIEF, BUREAU OF HIGHWAYS MK DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING
[Signature] 7/26/19
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 7/13/19
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

OWNERS:
NON-BUILDABLE BULK PARCEL 'A'
ABIDING SAVIOR LUTHERAN CHURCH
10888 OWEN BROWN ROAD
COLUMBIA, MARYLAND 21044
410-997-8770

LOT 2
PENTECOSTAL CHURCH OF GOD
10010 SWANFIELD RD
COLUMBIA, MD 21044
410-997-8675

DEVELOPER:
KB COMPANIES, INC.
7 OLD CISTERN COURT
CATONSVILLE, MD 21228
PHONE: 703-559-6969
ATTN: PATRICK BYRNE

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. 36065
Exp. Date: 6-26-2020

ENGINEER:
[Signature]

Phoenix Engineering
21132 Old York Road
Parkton, MD 21120
410.329.1150
www.phoenix-eng.com

DESIGN:	NAF	KPM	
DRAFT:	NAF	KPM	
CHK:	KMW		
BY	NO.	DESCRIPTION	DATE

LANDSCAPE PLAN
NOTES AND DETAILS

600' SCALE MAP NO. 35 GRID NO. 18

HIDDEN RIDGE
LOTS 1-12 & OPEN SPACE LOT 13
A RESUBDIVISION OF PLAT
ABIDING SAVIOR LUTHERAN CHURCH
LOT 2 & NON-BUILDABLE PARCEL 'A'
PLAT #20652-53
ZONING: R-SC-MEDIUM DENSITY RESIDENTIAL
TAX MAP: 35 GRID: 18 PARCEL: 238 DISTRICT: 05
ACCOUNT #: 454548 LIBER: 1205FOLIO: 143 PLAT: 20652-53
CENSUS TRACT: 865602 CENSUS BLOCK: 3

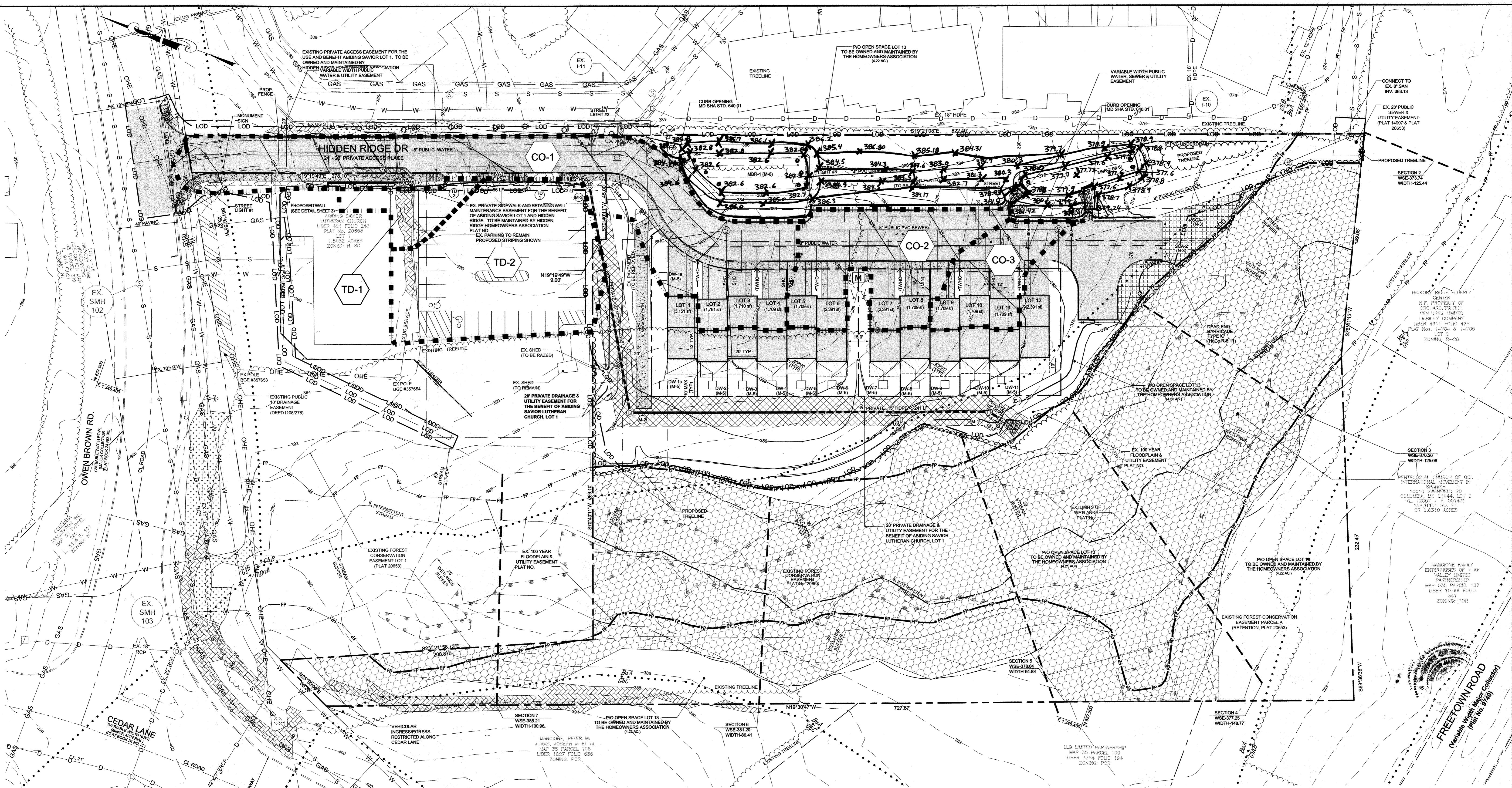
SCALE: 1" = 30'

DRAWING NO. 8 OF 14

PROJ: 14-035 DATE: 03/04/2019

AS-BUILT, JULY 2021 F-18-087

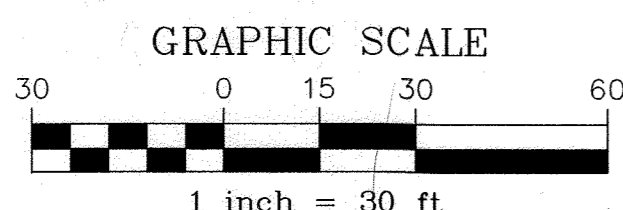




STORM DRAIN DRAINAGE AREA MAP

SCALE: 1"=30'

- LEGEND**
- PROJECT BOUNDARY
 - - - EX. TREELINE
 - - - PROP. TREELINE
 - SOILS DELINEATION
 - SOIL SYMBOL
 - EX. TOPOGRAPHY (DEC. 2015)
 - PROP. TOPOGRAPHY
 - OVERALL DRAINAGE AREA
 - INLET DRAINAGE DIVIDE
 - X' HDPE SD
 - FLOW ARROW
 - SLOPES 15-25%
 - SLOPES 25% OR GREATER



AS-BUILT CERTIFICATION FOR PSM

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND COMPLIES WITH THE APPROVED PLANS AND SPECIFICATIONS. I HAVE VERIFIED THAT THE CONSTRUCTION OF DRAINAGE AREA B IS SUFFICIENTLY STABILIZED TO PREVENT CLOGGING OF THE UNDERGROUND SWM FACILITY.

DATE: 7/31/2018
 P.E. # 15193
 DATE: 7/31/18



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. 35065
 Exp. Date: 6-28-2020

AREA & "C" FACTOR TABULATION

JOB NAME: Hidden Ridge DATE: 7/31/2018
 DPZ NO.: F-18-0

INLET#	ZONING (Z)	SUBAREA (B)	AREA (ac) (A)	"C" FACTOR (C) <25	"C" FACTOR (C) >25	% IMPERVIOUS (P)
T-2	R-SC		0.0498	0.62	0.70	66
T-1	R-SC		0.2619	0.80	0.90	91
CO-1	R-SC		0.4392	0.77	0.86	87
CO-2	R-SC		0.1882	0.82	0.92	94
CO-3	R-SC		0.0907	0.82	0.92	94

NRCS SOILS CHART - HoCo Soils Map No. 27

SYMBOL	HSG	Kw	HYDRIC	MAP UNIT NAME
BaA	D	.32	YES	BAILE SILT LOAM, 0 - 3%
GbB	B	.28		GLADSTONE LOAM, 3% - 8%
GbC	B	.28		GLADSTONE LOAM, 8% - 15%
GfB	B	.28		GLADSTONE LOAM, URBAN LAND COMPLEX 8% - 15%

PLEASE NOTE: HIGHLY ERODIBLE, K<0.35, AND/OR 15% OR GREATER SLOPES TAKEN FROM THE NRCS WEB SOIL SURVEY.

APPROVED: DEPARTMENT OF PUBLIC WORKS
 [Signature] 7/15/2019
 CHIEF, BUREAU OF HIGHWAYS

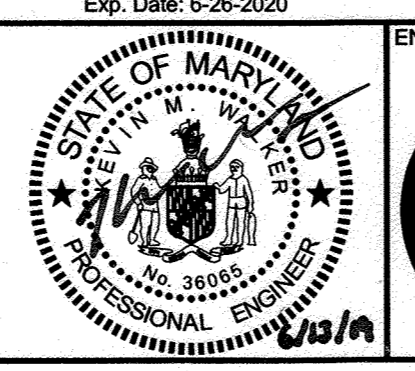
APPROVED: DEPARTMENT OF PLANNING & ZONING
 [Signature] 7/24/19
 CHIEF, DIVISION OF LAND DEVELOPMENT

CHIEF, DEVELOPMENT ENGINEERING DIVISION 7/15/19

OWNERS:
 NON-BUILDABLE BULK PARCEL 'A'
 ABIDING SAVIOR LUTHERAN CHURCH
 10889 OWEN BROWN ROAD
 COLUMBIA, MARYLAND 21044
 410-997-8770

LOT 2
 PENTECOSTAL CHURCH OF GOD
 10010 SWANFIELD RD
 COLUMBIA, MD 21044
 410-997-5675

DEVELOPER:
 KB COMPANIES, INC.
 OLD CISTERN COURT
 CATONSVILLE, MD 21228
 PHONE: 703-656-6987
 ATTN: PATRICK BYRNE



ENGINEER:

Phoenix Engineering
 21132 Old York Road
 Parkton, MD 21120
 410.329.1150
 www.phoenix-eng.com

DESIGN:	DRAFT:	CHK:	BY	NO.	DESCRIPTION	DATE
NAF KPM	NAF KPM	KMW				

STORM DRAIN DRAINAGE AREA MAP

600' SCALE MAP NO. 35 GRID NO. 18

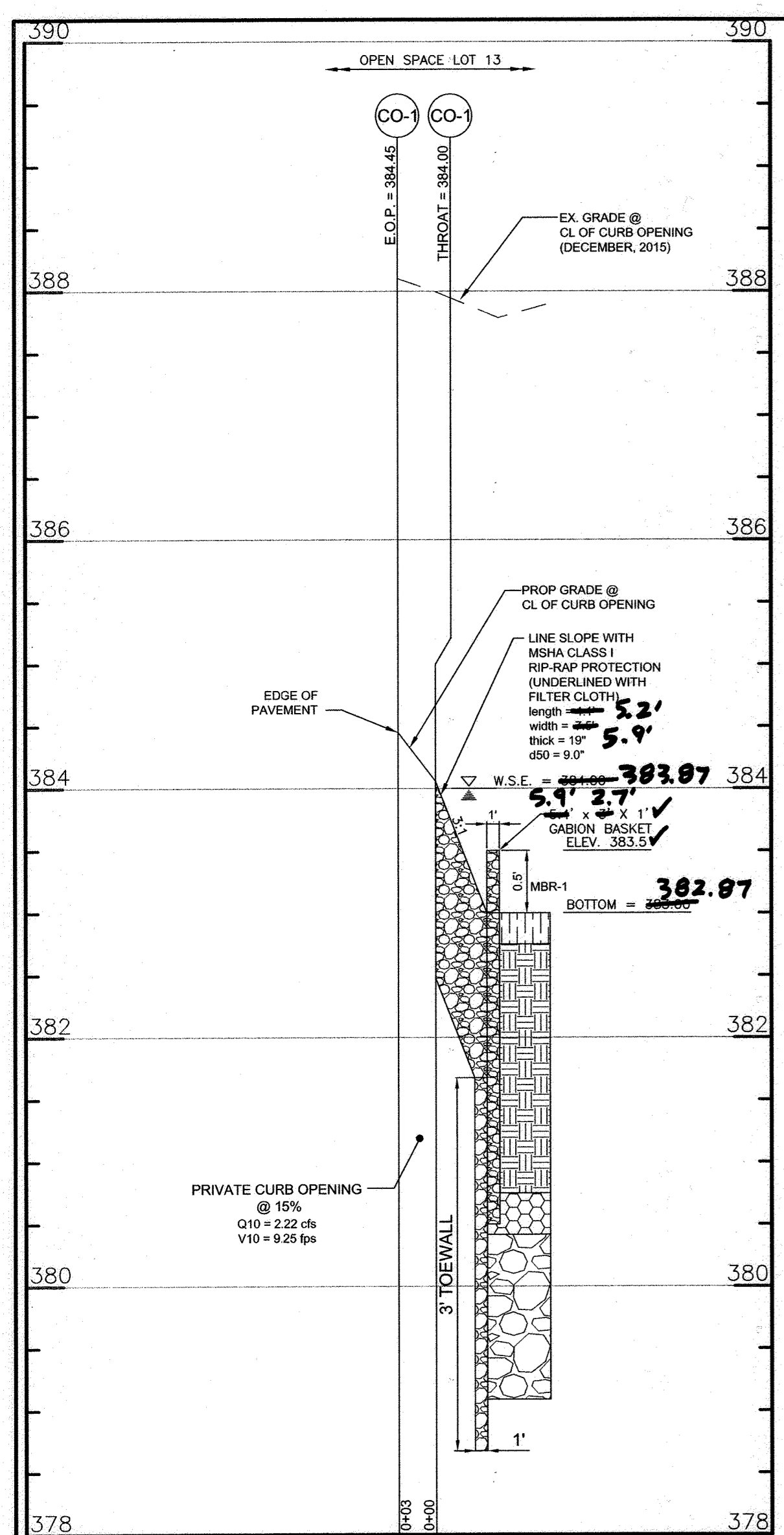
HIDDEN RIDGE
 LOTS 1-12 & OPEN SPACE LOT 13
 A RESUBDIVISION OF PLAT
 ABIDING SAVIOR LUTHERAN CHURCH
 LOT 2 & NON-BUILDABLE PARCEL 'A'
 PLAT #20652-53 #25053-59

ZONING: R-SC-MEDIUM DENSITY RESIDENTIAL
 TAX MAP 35 GRID 18 PARCEL 238 DISTRICT 05
 ACCOUNT # 454548 LIBER 1205FOLIO 143 PLAT 20652-53
 CENSUS TRACT: 805602 CENSUS BLOCK: 3

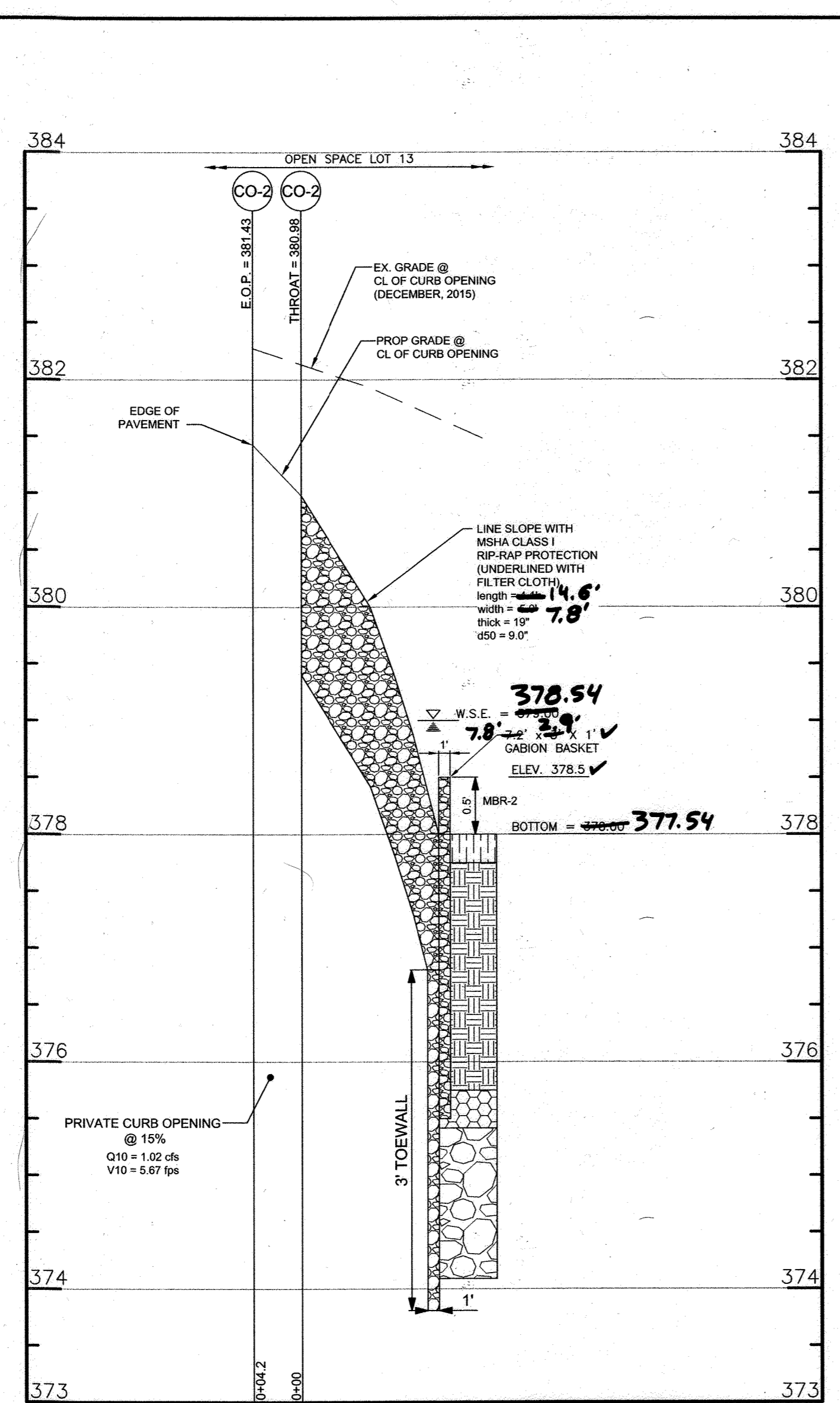
SCALE: 1" = 30'
 DRAWING NO. 9 OF 14
 PROJ:14-035 DATE: 03/04/2019

AS-BUILT, JULY 2021 F-18-087

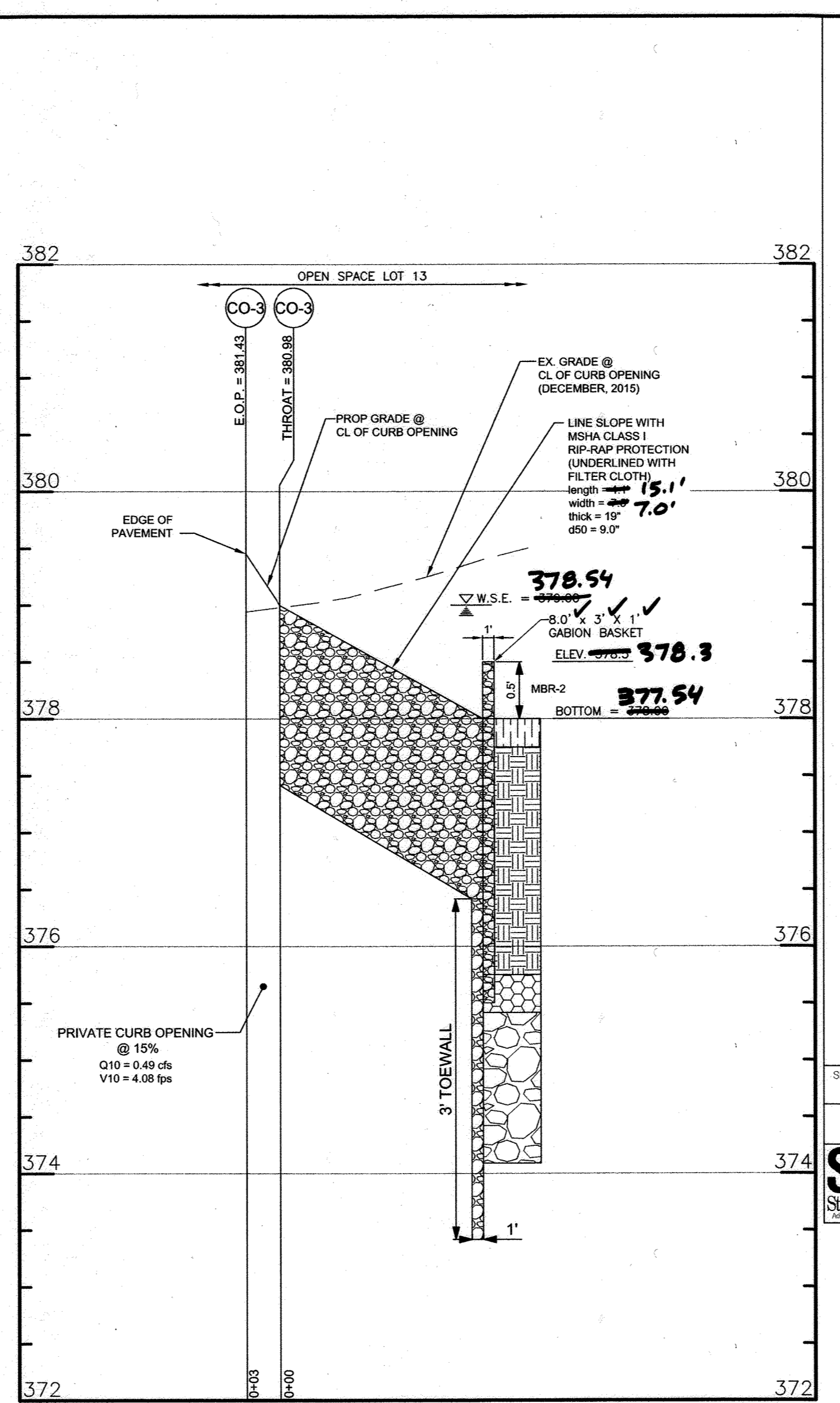
PATH: C:\11-14-2018\Kibby - 05888 Owen Brown Rd - Hidden Ridge\Plans\05-Storm Drain DA Map_14-035.dwg



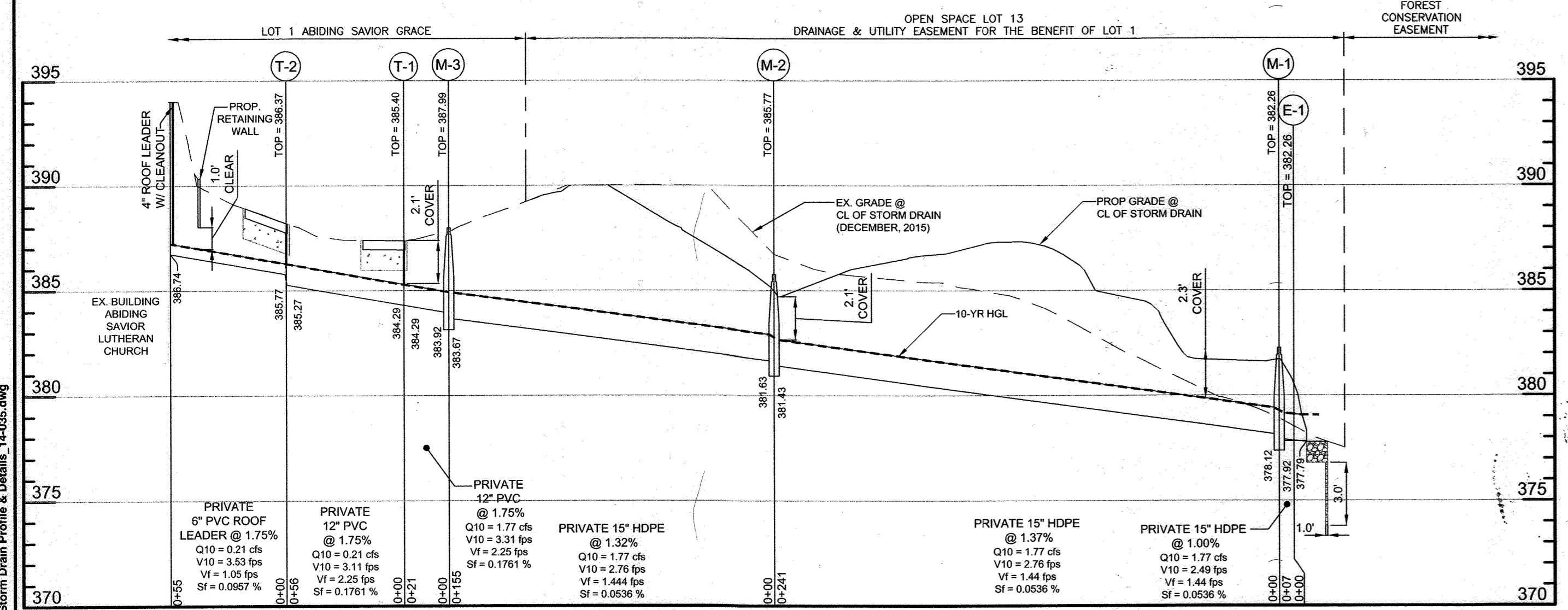
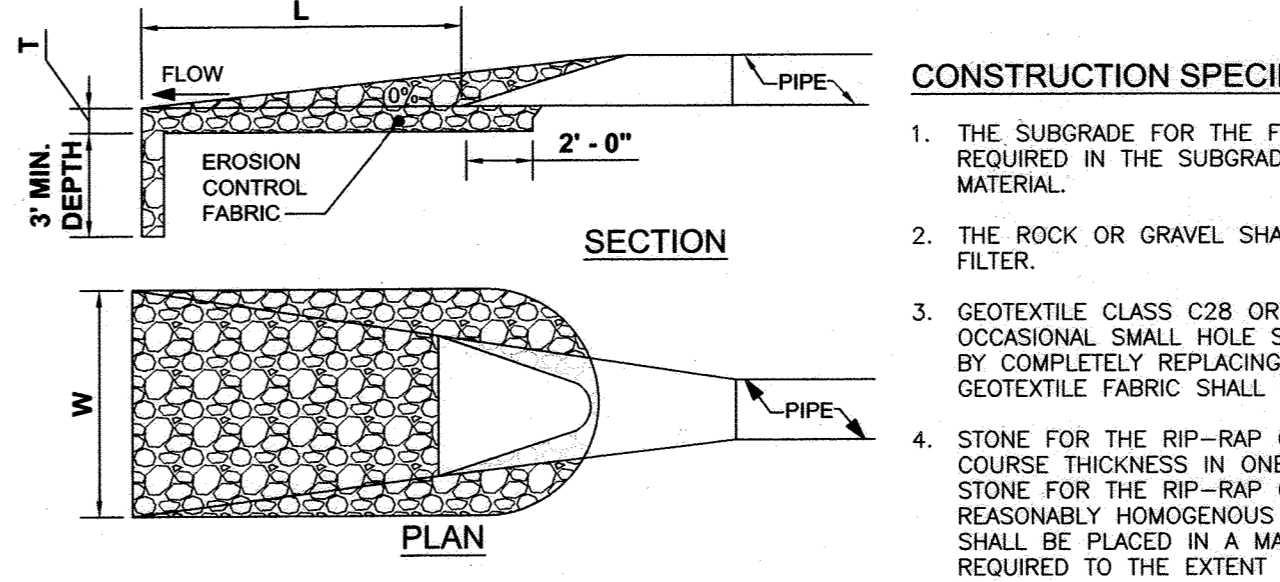
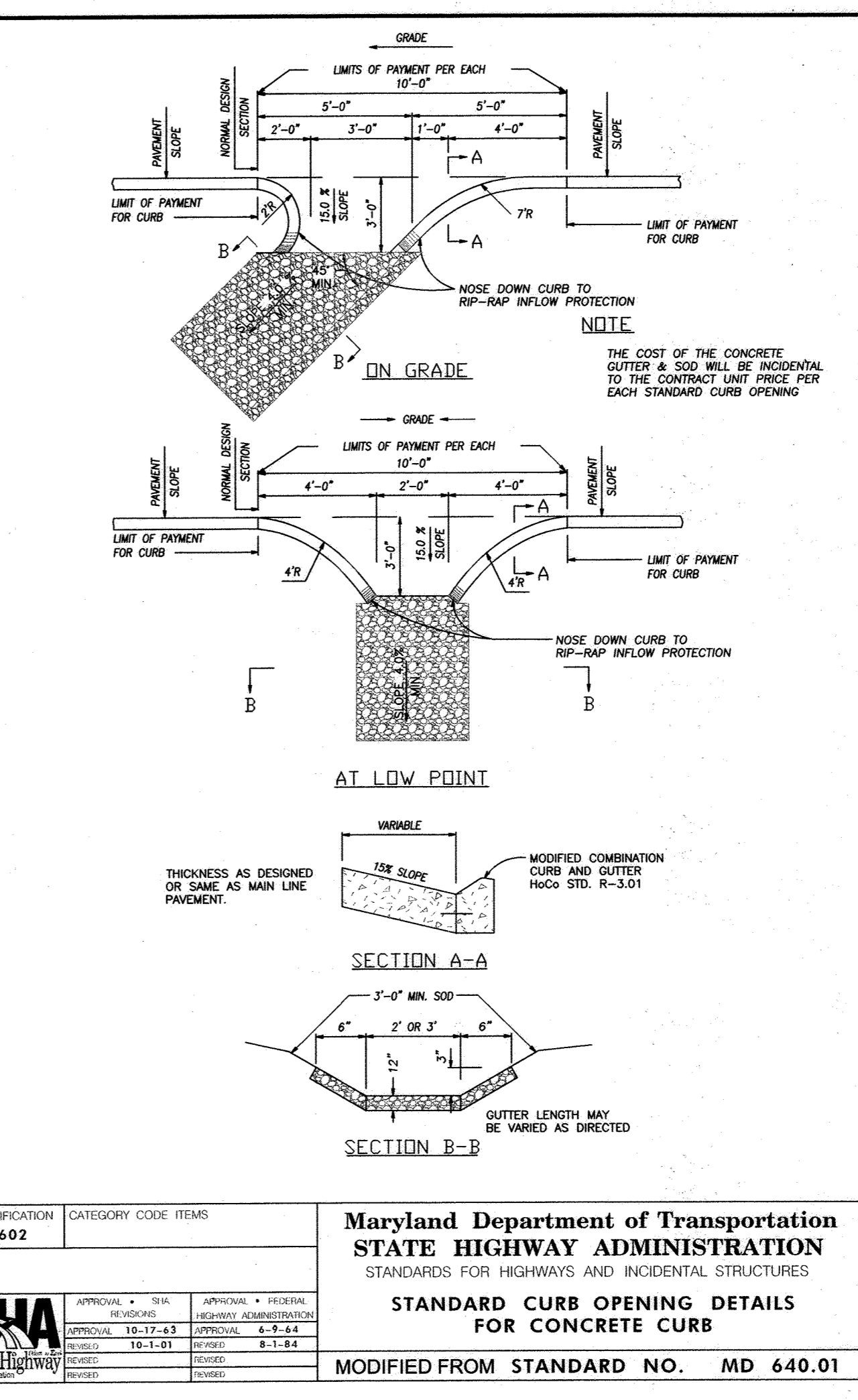
PRIVATE CURB OPENING 1
SCALE: H:1"=10'
V:1"=1'



PRIVATE CURB OPENING 2
SCALE: H:1"=10'
V:1"=1'



PRIVATE CURB OPENING 3
SCALE: H:1"=10'
V:1"=1'



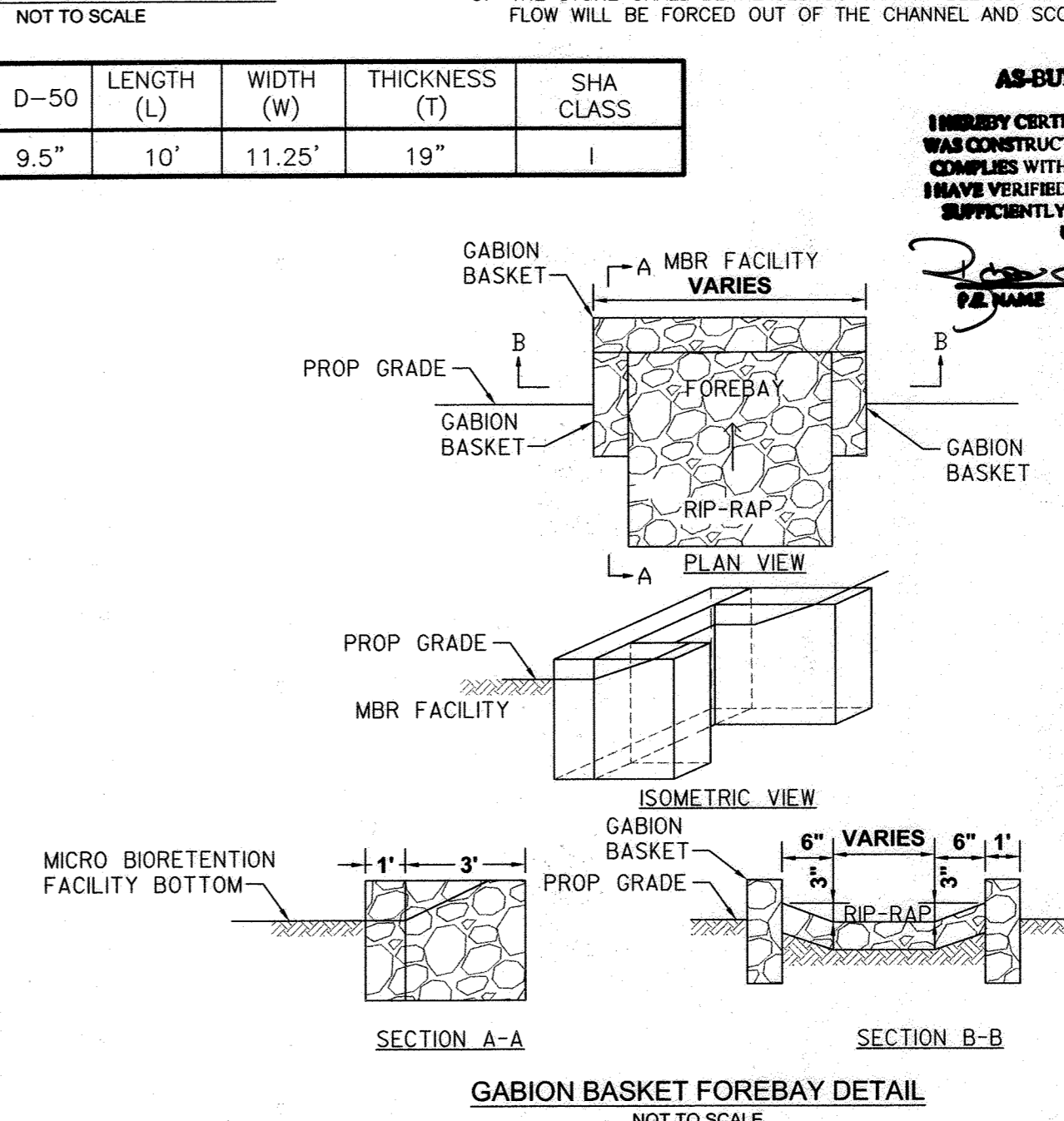
PRIVATE STORM DRAIN PROFILE
SCALE: H:1"=50'
V:1"=5'

SIZE	MATERIAL	LENGTH	MAINTENANCE
6"	PVC	57'	PRIVATE
8"	HDPE	56'	PRIVATE
12"	HDPE	22'	PRIVATE
15"	HDPE	470'	PRIVATE

STRUCT NO.	TYPE	STD. DETAIL	NORTHING	EASTING	INVERT IN	INVERT OUT	TOP ELEV.	OWNER
M-1	4' DIAM PRE-CAST	G-5.12	557,328.62	1,345,578.28	378.12 (15')	377.92 (15')	382.26	PRIVATE
M-2	4' DIAM PRE-CAST	G-5.12	557,555.88	1,345,498.44	381.63 (15')	381.43 (15')	385.77	PRIVATE
M-3	4' DIAM PRE-CAST	G-5.12	557,631.98	1,345,633.51	383.92 (12')	383.67 (15')	387.99	PRIVATE

STRUCT NO.	TYPE	STD. DETAIL	NORTHING	EASTING	INVERT IN	INVERT OUT	TOP ELEV.	OWNER
E-1	15" HDPE	N/A	557,321.79	1,345,576.73	377.85 (15')	377.79	379.17	PRIVATE

STRUCT NO.	TYPE	STD. DETAIL	HIDDEN RIDGE ROAD STATION, OFFSET	INVERT IN	INVERT OUT	TOP ELEV.	OWNER
T-1	ACO TRENCH DRAIN	N/A	2+85.23, OFFSET 18.45' (R)	384.29 (12')	384.29 (12')	385.40	PRIVATE
T-2	ACO TRENCH DRAIN	N/A	2+29.23, OFFSET 18.47' (R)	385.77 (6')	385.27 (12')	386.37	PRIVATE
CO-1	MD SHA 640.01 CURB OPENING	N/A	3+60.85, OFFSET 12.00' (L)	384.45	384.00	N/A	PRIVATE
CO-2	MD SHA 640.01 CURB OPENING	N/A	6+11.35, OFFSET 21.00' (L)	381.47	381.40	N/A	PRIVATE
CO-3	MD SHA 640.01 CURB OPENING	N/A	6+66.67, OFFSET 13.00' (L)	379.45	379.00	N/A	PRIVATE



AS-BUILT CERTIFICATION FOR PSWM

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND SPECIFICATIONS. I HAVE VERIFIED THAT THE CONTRIBUTING DRAINAGE AREA IS SUFFICIENTLY STABILIZED TO PREVENT CLOSING OF THE UNDERGROUND SWM FACILITY.

DATE: 7/15/2021
P.E. NAME: [Signature]
P.E. NO.: 1693

CONSTRUCTION SPECIFICATIONS

- PROVIDE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, UNDER THE BOTTOM AND ALONG SIDES OF ALL GABION BASKETS.
- USE BASKETS MADE OF MINIMUM II GAUGE WIRE.
- CONSTRUCT GABION BASKET FOREBAY BY ARRANGING 3 OR 9 X 3 X 1 FOOT GABION BASKETS TO FORM A FOREBAY WITH A VARYING BOTTOM WIDTHS, 2.5 FOOT MINIMUM DEPTH BELOW GRADE (0.5 FT ABOVE BOTTOM OF FACILITY), AND 2.5 FOOT SIDE WALLS (0.5 FT ABOVE BOTTOM OF FACILITY).
- FILL GABION BASKETS WITH 4 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE WITHOUT REBAR OR WEIR MESH.
- INSTALL RIP RAP PER DETAIL AND AS SHOWN ON THE PROFILE.
- INSTALL GABIONS IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.
- BLEND GABIONS INTO EXISTING GROUND.
- MAINTAIN LINE, GRADE, AND CROSS SECTION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. KEEP POINTS OF INFLOW AND OUTFLOW FREE OF EROSION.

APPROVED: DEPARTMENT OF PUBLIC WORKS
[Signature] 7/15/2021
CHIEF, BUREAU OF HIGHWAYS

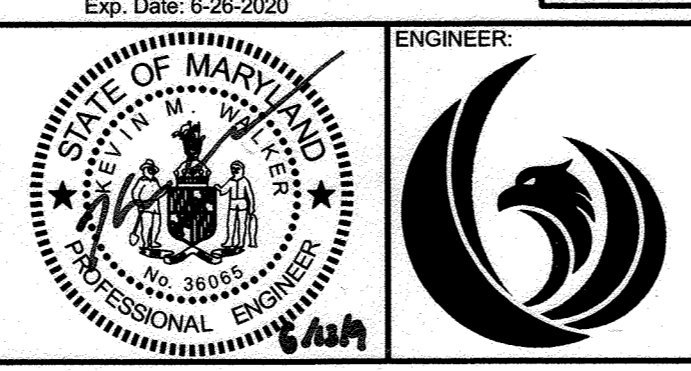
APPROVED: DEPARTMENT OF PLANNING & ZONING
[Signature] 7/26/19
CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: [Signature] 7/19/19
CHIEF, DEVELOPMENT ENGINEERING DIVISION

OWNERS:
NON-BUILDABLE BULK PARCEL 'A'
ABIDING SAVIOR LUTHERAN CHURCH
10688 OWEN BROWN ROAD
COLUMBIA, MARYLAND 21044
410-997-8770

LOT 2
PENTECOSTAL CHURCH OF GOD
10010 SWANFIELD RD
COLUMBIA, MD 21044
410-997-5675

DEVELOPER:
KB COMPANIES, INC.
1100 GIBBYN COURT
CATONSVILLE, MD 21228
PHONE: 703-559-6661
ATTN: PATRICK BYRNE



Phoenix Engineering
21132 Old York Road
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410.329.1150
www.phoenix-eng.com

ENGINEER:
DESIGN: NAF, KPM
DRAWING: NAF, KPM
CHECK: KMW

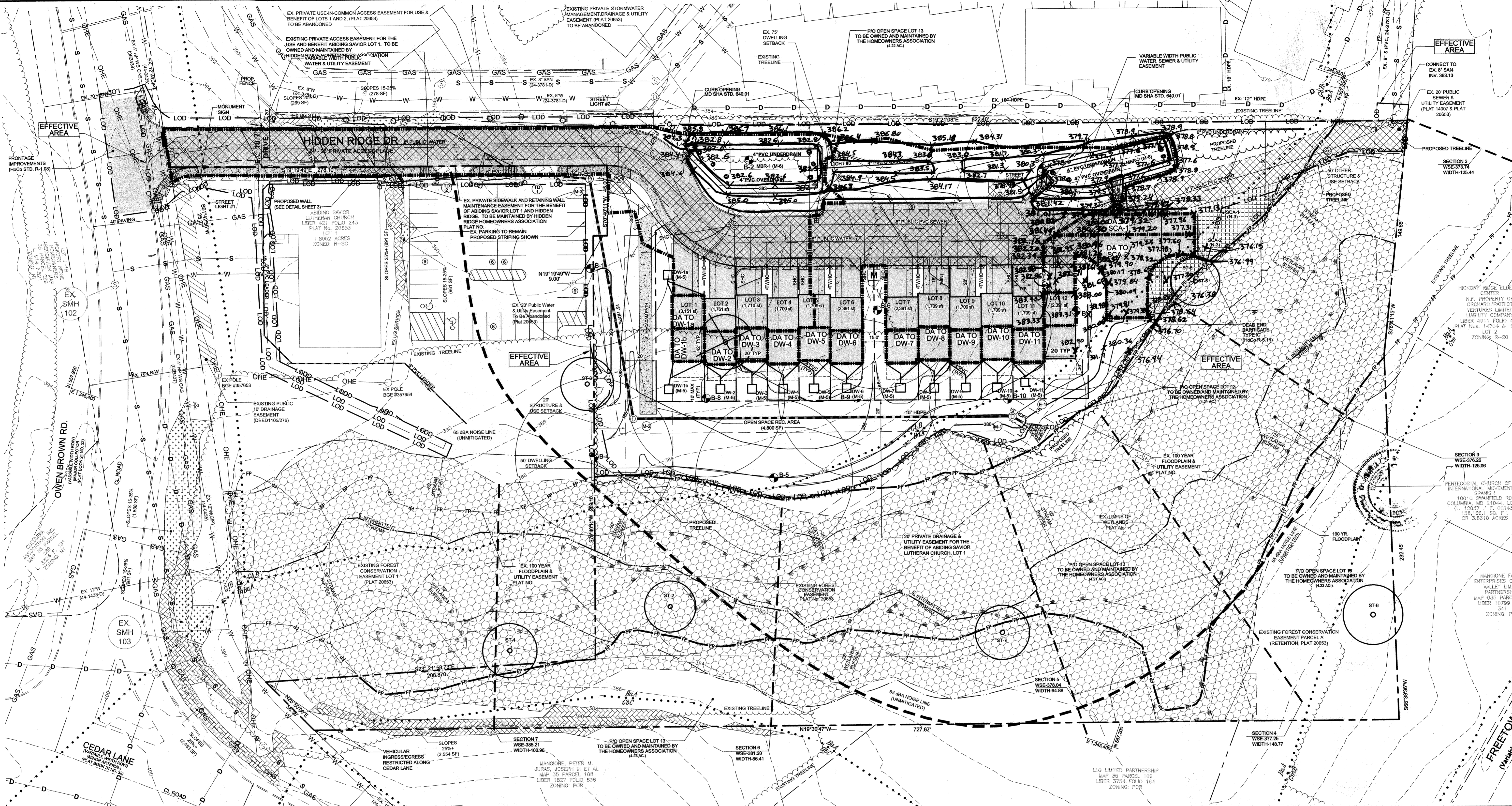
BY	NO.	DESCRIPTION	DATE

HIDDEN RIDGE
LOTS 1-12 & OPEN SPACE LOT 13
A RESUBDIVISION OF PLAT
ABIDING SAVIOR LUTHERAN CHURCH
LOT 2 & NON-BUILDABLE PARCEL 'A'
PLAT #20652-53/25058-59

ZONING: R-SC-MEDIUM DENSITY RESIDENTIAL
TAX MAP: 35 GRID: 18 PARCEL: 238 DISTRICT: 06
ACCOUNT #: 454048 LIBER: 1207POLIC: 143 PLAT: 08652-53
CENSUS TRACT: 060502 CENSUS BLOCK: 3

DRAWING NO. 10 OF 14
DATE: 03/04/2019

AS-BUILT, JULY 2021 F-18-087



LEGEND

[Symbol]	EX. STRUCTURE	[Symbol]	SOILS DELINEATION
[Symbol]	PROJECT BOUNDARY	[Symbol]	SOIL SYMBOL
[Symbol]	RIGHT OF WAY	[Symbol]	WETLANDS BUFFER
[Symbol]	LOT BOUNDARY	[Symbol]	EX. TREELINE
[Symbol]	CENTER LINE OF ROAD	[Symbol]	PROP. TREELINE
[Symbol]	EX. TOPOGRAPHY (DEC. 2015)	[Symbol]	DWELLING UNIT WITH DECK
[Symbol]	SETBACK (BRL)	[Symbol]	IMPERVIOUS SURFACE
[Symbol]	PROP. TOPOGRAPHY	[Symbol]	WETLAND
[Symbol]	SETBACK (BRL)	[Symbol]	SLOPES 25% OR GREATER
[Symbol]	CENTERLINE OF STREAM	[Symbol]	SLOPES 15-25%
[Symbol]	STREAM BUFFER	[Symbol]	FOREST CONSERVATION
[Symbol]	100 YR. FLOODPLAIN	[Symbol]	

STORMWATER MANAGEMENT PLAN

[Symbol]	ST-# EX. SPECIMEN TREE	[Symbol]	OPEN SPACE RECREATION AREA
[Symbol]	ST-# EX. SPECIMEN TREE TO BE REMOVED	[Symbol]	UTILITY EASEMENT
[Symbol]	B-# SOIL BORING	[Symbol]	PRIVATE INGRESS/EGRESS & SIDEWALK MAINTENANCE EASEMENT
[Symbol]	AS-BUILT CERTIFICATION FOR TREE	[Symbol]	SIDEWALKS
[Symbol]		[Symbol]	CROSSWALK
[Symbol]		[Symbol]	WATER WATER
[Symbol]		[Symbol]	TWIN WATER HOUSE CONNECTION
[Symbol]		[Symbol]	STORM DRAIN
[Symbol]		[Symbol]	PROPOSED SEWER
[Symbol]		[Symbol]	SANITARY HOUSE CONNECTION
[Symbol]		[Symbol]	PRIVACY FENCE
[Symbol]		[Symbol]	STREET LIGHT
[Symbol]		[Symbol]	DRY WELL (DW-#)

STATE OF MARYLAND
PHOENIX ENGINEERING
 I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLAN AND COMPLIES WITH THE APPROVED PLANS AND SPECIFICATIONS. I HAVE VERIFIED THAT THE CONTRIBUTING DRAINAGE AREA IS SUFFICIENTLY STABILIZED TO PREVENT EROSION OF THE UNDERGROUND SWM FACILITY.
 MANGIONE, PEIER M. JURAS, JOSEPH M ET AL
 1847 25 PARCEL 108
 LIBER 1827 FOLIO 636
 ZONING: POR
 P.E.# 1673
 DATE: 7/19/2019

NRCS SOILS CHART - HoCo Soils Map No. 27

SYMBOL	HSG	Kw	HYDRIC	MAP UNIT NAME
BaA	D	.32	YES	BAILE SILT LOAM, 0 - 3%
GbB	B	.20		GLADSTONE LOAM, 3% - 8%
GbC	B	.20		GLADSTONE LOAM, 8% - 15%
GfB	B	.20		GLADSTONE LOAM, URBAN LAND COMPLEX 8% - 15%
GmB	C	.37	YES	GLENNVILLE SILT LOAM, 3% - 8%

PLEASE NOTE: HIGHLY ERODIBLE, K<0.35, AND/OR 15% OR GREATER SLOPES TAKEN FROM THE NRCS WEB SOIL SURVEY.

ESD PRACTICE LEGEND

DW - # = DRYWELL (M-5)
 MBR - # = MICRO-BIOTENTION (M-6)
 SFA - # = SHEETFLOW TO CONSERVATION AREA (N-3)

GRAPHIC SCALE
 1 inch = 30 ft.

ESD STORMWATER MANAGEMENT SUMMARY TABLE

Practice	Facility	DA to practice	Imp Area to practice	Required	Provided	2% DA?	Required	Provided	Pe Provided	Required	Provided	Ownership
(M-6) MicroBiotention	#1	21,998	16,390	440	1739	PASS	2246	2051	1.6			577 Private
(M-6) MicroBiotention	#2	19,355	10,806	1515	1425	PASS	1515	1463	1.6			391 Private
(N-3) Sheet Flow to Conservation Area	#1	1,023	1,023	n/a	n/a	n/a	n/a	77	0.9			226 Private
(N-3) Sheet Flow to Conservation Area	#2	3,008	3,008	n/a	n/a	n/a	n/a	58	1.7			59 Private
(M-5) Drywell	1a	430	430	n/a	n/a	n/a	n/a	57	59	1.8		59 Private
(M-5) Drywell	1b	420	420	n/a	n/a	n/a	n/a	57	59	1.8		59 Private
(M-5) Drywell	2	420	420	n/a	n/a	n/a	n/a	57	59	1.8		59 Private
(M-5) Drywell	3	421	421	n/a	n/a	n/a	n/a	57	57	1.7		57 Private
(M-5) Drywell	4	420	420	n/a	n/a	n/a	n/a	57	57	1.7		57 Private
(M-5) Drywell	5	421	421	n/a	n/a	n/a	n/a	57	57	1.7		57 Private
(M-5) Drywell	6	424	424	n/a	n/a	n/a	n/a	57	59	1.8		59 Private
(M-5) Drywell	7	423	423	n/a	n/a	n/a	n/a	57	57	1.7		57 Private
(M-5) Drywell	8	421	421	n/a	n/a	n/a	n/a	57	57	1.7		57 Private
(M-5) Drywell	9	420	420	n/a	n/a	n/a	n/a	57	57	1.7		57 Private
(M-5) Drywell	10	421	421	n/a	n/a	n/a	n/a	57	59	1.8		59 Private
(M-5) Drywell	11	420	420	n/a	n/a	n/a	n/a	57	50	1.5		50 Private
Total Treated				50,023	36,289	1,955	3,164	5,502	5,672	1.9		836 1905
Site Total				11,496	37,720							

APPROVED: DEPARTMENT OF PUBLIC WORKS
 [Signature] 7/19/2019
 CHIEF, BUREAU OF HIGHWAYS MK DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING
 [Signature] 7/26/19
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

APPROVED: CHIEF, DEVELOPMENT ENGINEERING DIVISION
 [Signature] 7/19/19
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

OWNERS:
 NON-BUILDABLE BULK PARCEL 7X
 ABIDING SAVIOR LUTHERAN CHURCH
 10689 OWEN BROWN ROAD
 COLUMBIA, MARYLAND 21044
 410-997-8770

DEVELOPER:
 KB COMPANIES, INC.
 7 OLD GUSTON COURT
 CATONSVILLE, MD 21228
 PHONE: 703-586-6996
 ATTN: PATRICK BYRNE

ENGINEER:
 PHOENIX ENGINEERING
 21132 Old York Road
 Parkton, MD 21120
 410.329.1150
 www.phoenix-eng.com

DESIGN: NAF KPM
DRAFT: NAF KPM
CHK: KMW

BY NO. DESCRIPTION DATE

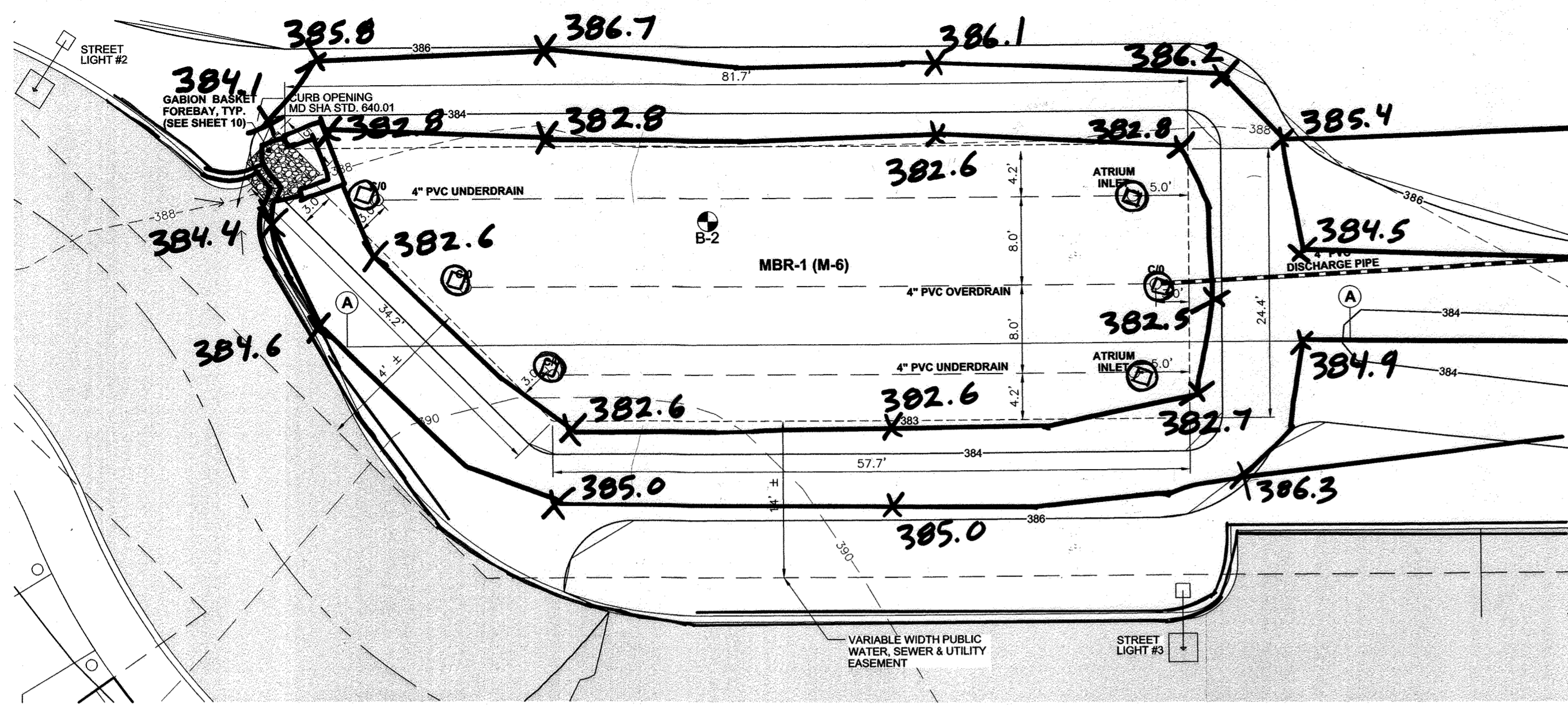
PHOENIX ENGINEERING
 21132 Old York Road
 Parkton, MD 21120
 410.329.1150
 www.phoenix-eng.com

STORMWATER MANAGEMENT DRAINAGE AREA MAP
 60' SCALE MAP NO. 35 GRID NO. 18

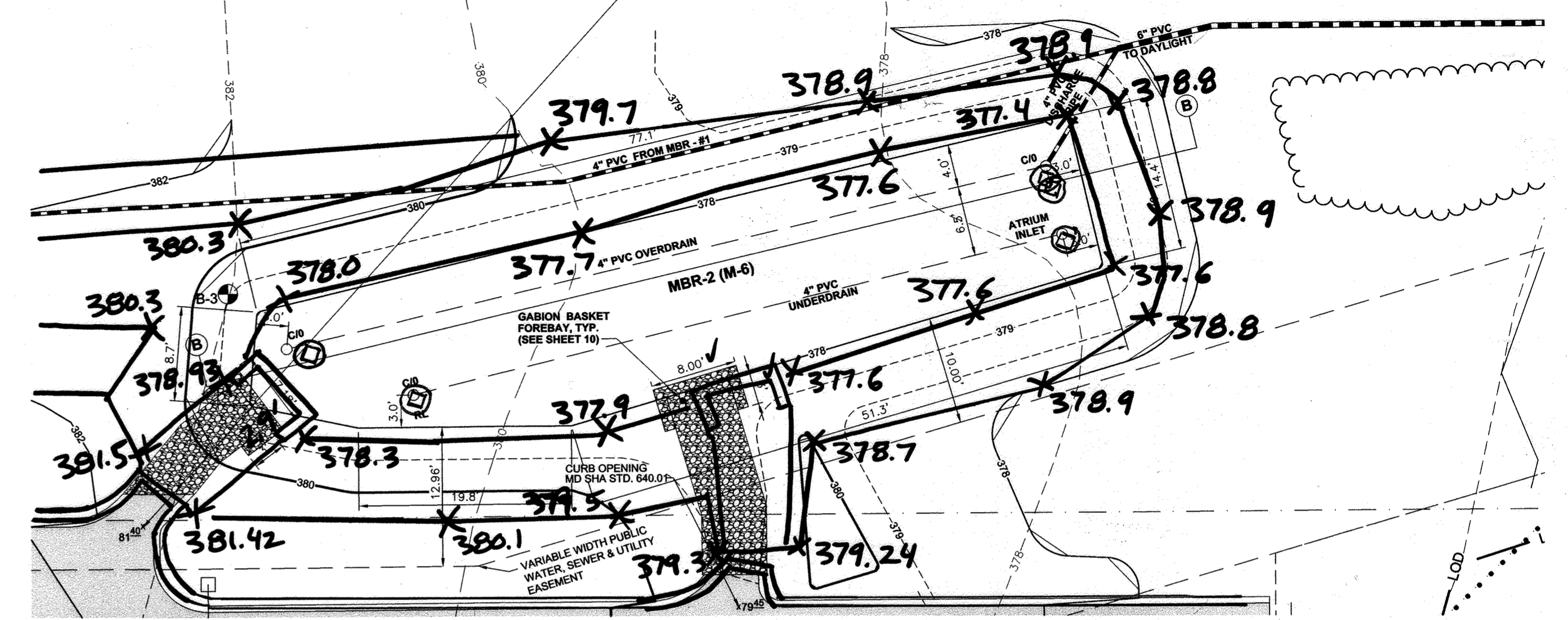
HIDDEN RIDGE
 LOTS 1-12 & OPEN SPACE LOT 13
 A RESUBDIVISION OF LOT
 ABIDING SAVIOR LUTHERAN CHURCH
 LOT 2 & NON-BUILDABLE PARCEL 'A'
 PLAT #20652-53 / #26058-59
 ZONING: R-SC-MEDIUM DENSITY RESIDENTIAL
 TAX MAP: 35 GRID: 18 PARCEL: 238 DISTRICT: 05
 ACCOUNT #: 464549 LIBER: 12057/FOLIO: 143 PLAT: 20652-53
 CENSUS TRACT: 605002 CENSUS BLOCK: 3

DRAWING NO. 11 OF 14
 PROJ: 14-035 DATE: 03/04/2019

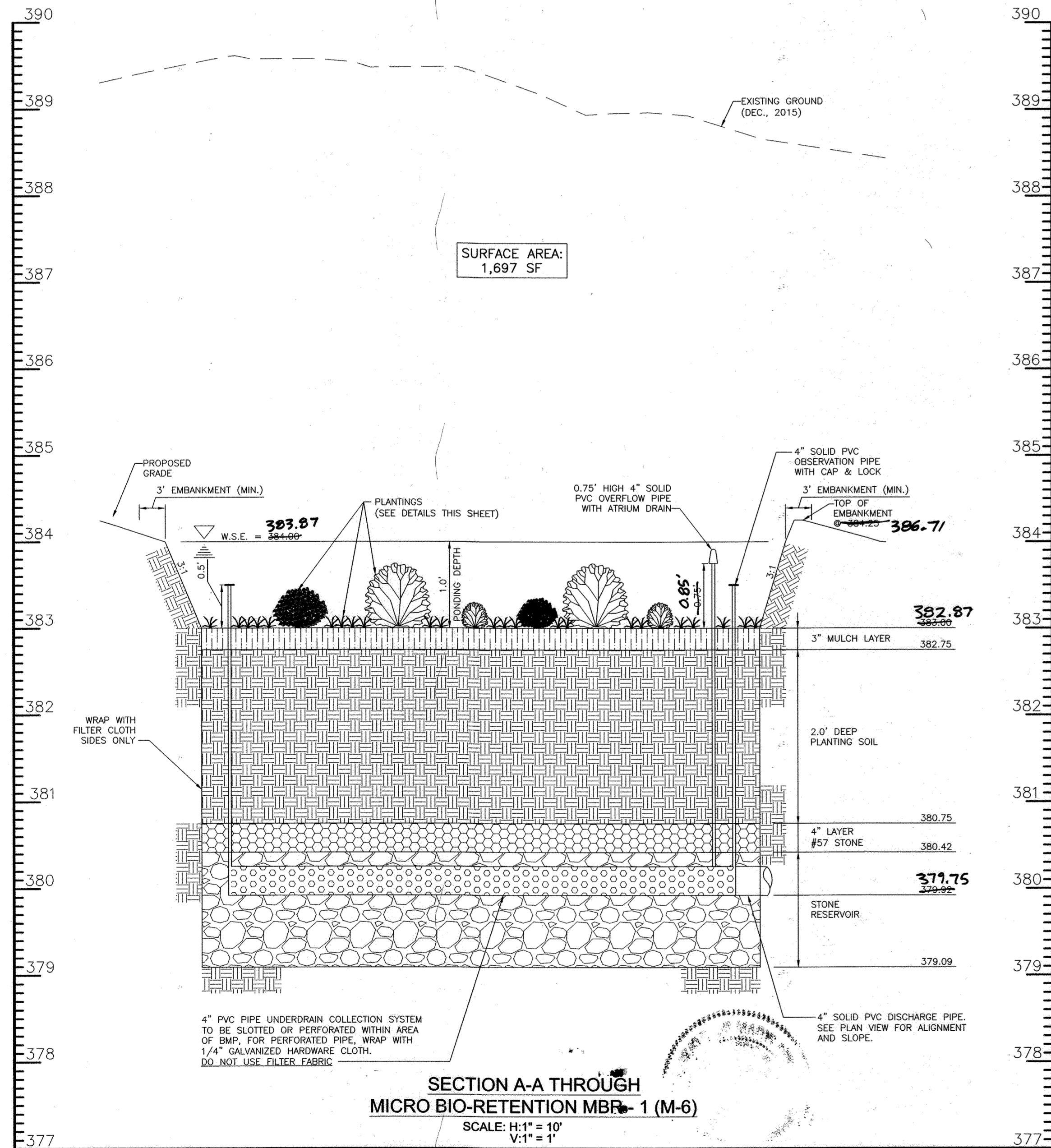
AS-BUILT, JULY 2021 F-18-087



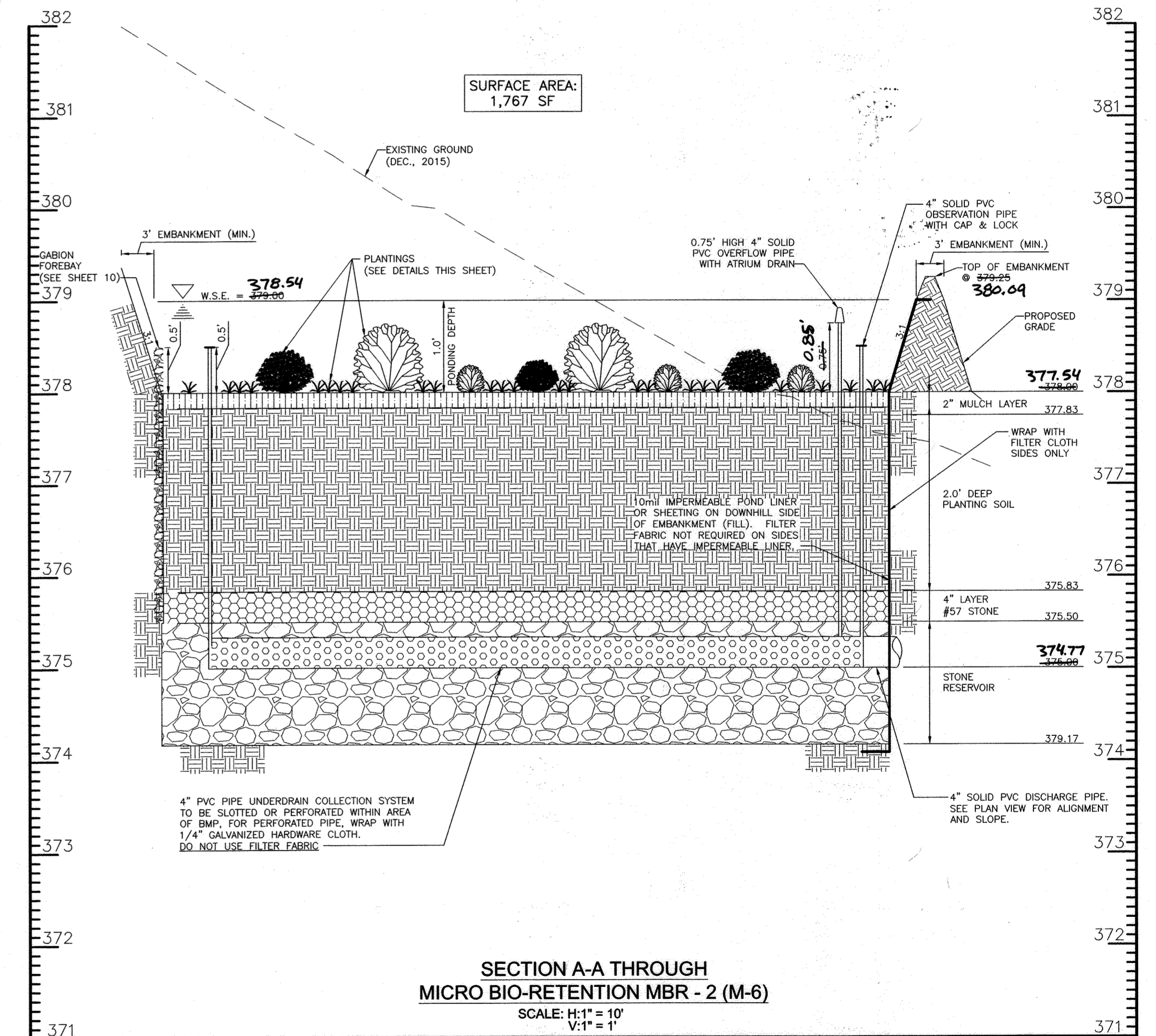
MICRO BIO-RETENTION #1 (M-6)
SCALE: 1"=10'



MICRO BIO-RETENTION #2 (M-6)
SCALE: 1"=10'



SECTION A-A THROUGH MICRO BIO-RETENTION MBR-1 (M-6)
SCALE: H:1"=10' V:1"=1'



SECTION A-A THROUGH MICRO BIO-RETENTION MBR-2 (M-6)
SCALE: H:1"=10' V:1"=1'

APPROVED: DEPARTMENT OF PUBLIC WORKS
 [Signature] 7/15/2019
 CHIEF, BUREAU OF HIGHWAYS MK DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING
 [Signature] 7/26/19
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

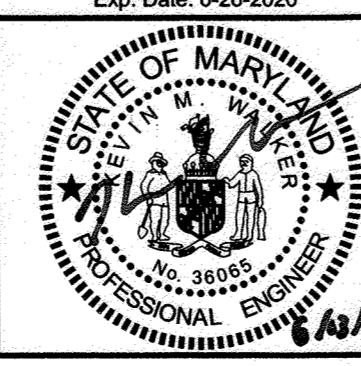
[Signature] 7/15/19
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

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. 36065
 Exp. Date: 6-26-2020

OWNERS:
 NON-BUILDABLE BULK PARCEL 'A'
 ABIDING SAVIOR LUTHERAN CHURCH
 10889 OWEN BROWN ROAD
 COLUMBIA, MARYLAND 21044
 410-997-8770

LOT 2
 PENTECOSTAL CHURCH OF GOD
 10019 SWANFIELD RD
 COLUMBIA, MD 21044
 410-997-8675

DEVELOPER:
 KB COMPANIES, INC.
 7 OLD CISTERN COURT
 CATONSVILLE, MD 21228
 PHONE: 703-556-9699
 ATTN: PATRICK BYRNE



Phoenix Engineering
 21132 Old York Road
 Parkton, MD 21120
 410.328.1150
 www.phoenix-eng.com

DESIGN:	NAF				
	KPM				
DRAFT:	NAF				
	KPM				
CHK:	KMW				
		BY	NO.	DESCRIPTION	DATE

STORMWATER MANAGEMENT DETAILS

600' SCALE MAP NO. 35 GRID NO. 18

AS-BUILT CERTIFICATION FOR PSWM
 I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND COMPLIES WITH THE APPROVED PLANS AND SPECIFICATIONS. I HAVE VERIFIED THAT THE CONTRIBUTING DRAINAGE AREAS SUFFICIENTLY STABILIZED TO PREVENT CLOSURE OF THE UNDERGROUND SWM FACILITY.
 [Signature] 7/15/19
 P.E. NAME DATE



HIDDEN RIDGE
 LOTS 1-12 & OPEN SPACE LOT 13
 A RESUBDIVISION OF PLAT
 ABIDING SAVIOR LUTHERAN CHURCH
 LOT 2 & NON-BUILDABLE PARCEL 'A'
 PLAT #20652-53/*25052-59
 ZONING: R-SC MEDIUM DENSITY RESIDENTIAL
 TAX MAP: 35 GRID: 18 PARCEL: 238 DISTRICT: 05
 ACCOUNT #: 45649 LIBERS: 10076102.143 PLAT: 20652-53
 CENSUS TRACT: 605602 CENSUS BLOCK: 3

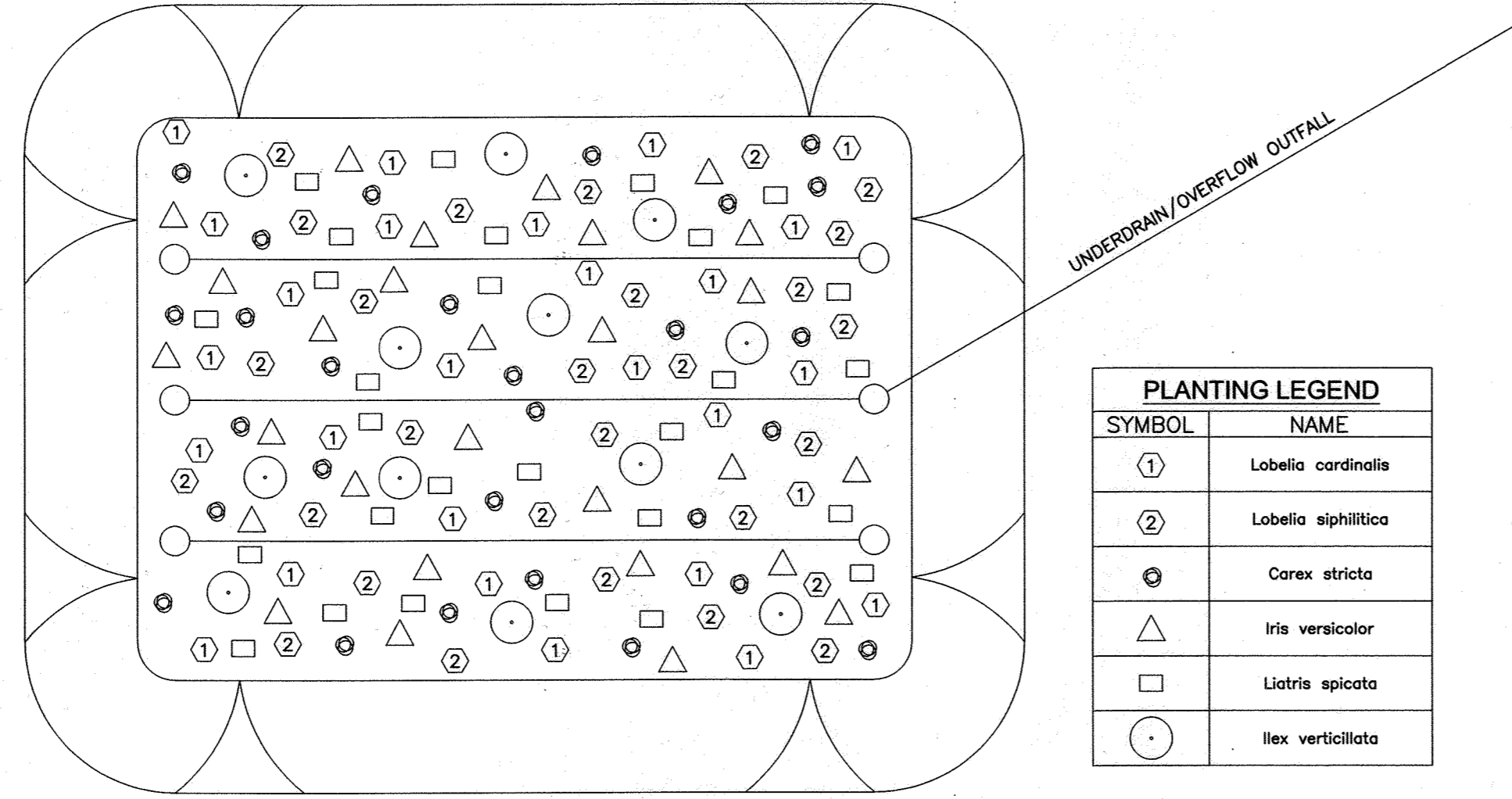
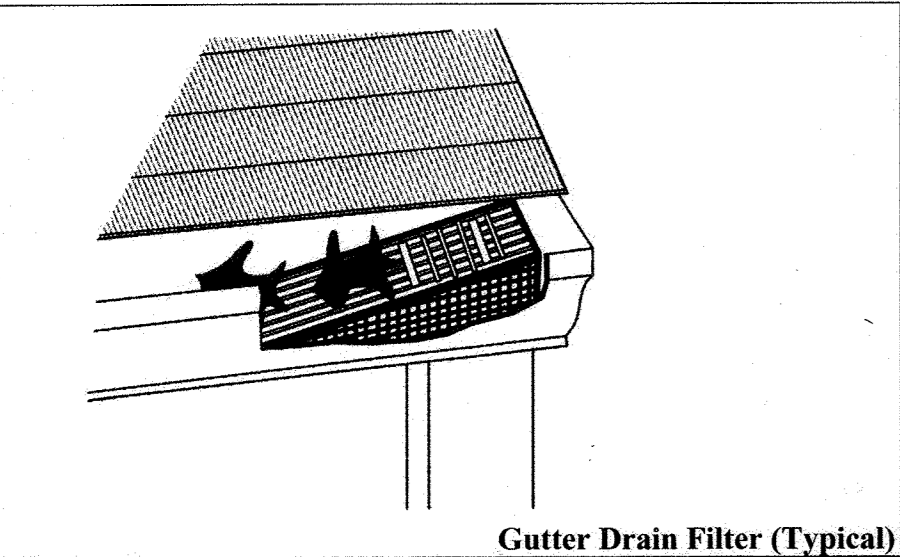
DRAWING NO. 12 OF 14
 PROJ: 14-035 DATE: 03/04/2019

AS-BUILT, JULY 2021 F-18-087

DRY WELL (M-5)

OPERATION AND MAINTENANCE FOR PRIVATELY OWNED FACILITIES

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



PLANTING LEGEND

SYMBOL	NAME
①	Lobelia cardinalis
②	Lobelia siphilitica
③	Carex stricta
△	Iris versicolor
□	Liatris spicata
○	Ilex verticillata

MATERIALS AND SPECIFICATIONS FOR (M-6) MICRO-BIORETENTION

MATERIAL	SPECIFICATION	SIZE	NOTES:
PLANTING (IF REQUIRED)	SEE APPENDIX A; TABLE A.4	N/A	PLANTINGS ARE SITE SPECIFIC
PLANTING SOIL (2.0' TO 4.0' DEEP)	LOAMY SAND (60-65%) & COMPOST (35-40%) OR LOAMY SAND (30%) COARSE SAND (30%) & COMPOST (35-40%)	N/A	USDA SOIL TYPES: LOAMY SAND, SANDY LOAM; CLAY CONTENT <5%
ORGANIC CONTENT	MIN. 10% BY DRY WEIGHT (ASTM D2974)	N/A	
MULCH	SHREDDED HARDWOOD	N/A	AGED 6 MONTHS, MINIMUM
PEA GRAVEL DIAPHRAGM	PEA GRAVEL ASTM D-448	#8 OR #9 (1/8" TO 3/8")	
GEOTEXTILE	AASHTO M-43	#57 OR #6 AGGREGATE (3/8" TO 3/4")	PE TYPE 1 - NONWOVEN #8 STONE
UNDERDRAIN (UNDERDRAINS & BERMS)	F758, TYPE PS28 OR AASHTO M-278	4" TO 6" RIGID SCH 40 PVC OR SDR 35	SLOTTED OR PERFORATED: 3/8" PERFS. @ 6" O/C. 4 HOLES PER ROW; MINIMUM OF 3" OF GRAVEL OVER PIPES, NOT NECESSARY UNDERNEATH PIPES. PERFORATED PIPE SHALL BE WRAPPED WITH 1/4" GALVANIZED HARDWARE CLOTH.
POURED-IN-PLACE CONC. (IF REQUIRED)	MSHA MIX NO.3; f'c=3500 psi @ 28 DAYS, NORMAL WEIGHT, AIR ENTRAINED; REINFORCING TO MEET ASTM 615-60	N/A	ON-SITE TESTING OF POURED-IN-PLACE CONC. REQUIRED; 28 DAY STRENGTH TEST AND SLUMP TEST; ALL CONC. DESIGN (CAST-IN-PLACE OR PRE-CAST) NOT USING PREVIOUSLY APPROVED STATE OR LOCAL STANDARDS REQUIRES DESIGN DRAWINGS SEALED AND APPROVED BY A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE STATE OF MARYLAND - DESIGN TO INCLUDE MEETING ACI CODE 350R/89; VERTICAL LOADING (H-10 OR H-20) ALLOWABLE HORIZONTAL LOADING (BASED ON SOIL PRESSURES); AND ANALYSIS OF POTENTIAL CRACKING.
SAND (1.0' DEEP)	AASHTO M-6 OR ASTM C-33	0.02" TO 0.04"	SAND SUBSTITUTIONS SUCH AS DIBASE AND GRAYSTONE (ASHTO) #10 ARE NOT ACCEPTABLE. NO CALCIUM CARBONATE OR DOLOMITIC SAND SUBSTITUTIONS ARE ACCEPTABLE. NO "ROCK DUST" CAN BE USED FOR SAND.

B.4.C Specifications for Micro-Bioretenion, Rain Gardens, Landscape Infiltration & Infiltration Berms

- 1. Material Specifications**
- The allowable materials to be used in these practices are detailed in Table B.4.1.
- 2. Filtering Media or Planting Soil**
- The soil shall be a uniform mix, free 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-bioretenion practice that may be harmful to plant growth, or prove 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 textual 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 hoists to remove original soil. If practices are

OPERATION AND MAINTENANCE SCHEDULE FOR MICRO-BIORETENTION (M-6)

- THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREA OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL VOLUME II, TABLE A.4.1 AND 2.
- THE OWNER SHALL PERFORM A PLANT IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL, TREAT DISEASED TREES AND SHRUBS, AND REPLACE ALL DEFICIENT STAKES AND WIRES.
- THE OWNER 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 OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

Appendix B.4. Construction Specifications for Environmental Site Design Practices

excavated using a loader, the contractor should use wide track or marsh track equipment, or light equipment with turf type tires. 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 restructure 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-bioretenion 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. Fine 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 1/8" 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.

Appendix B.4. Construction Specifications for Environmental Site Design Practices

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. The primary function 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

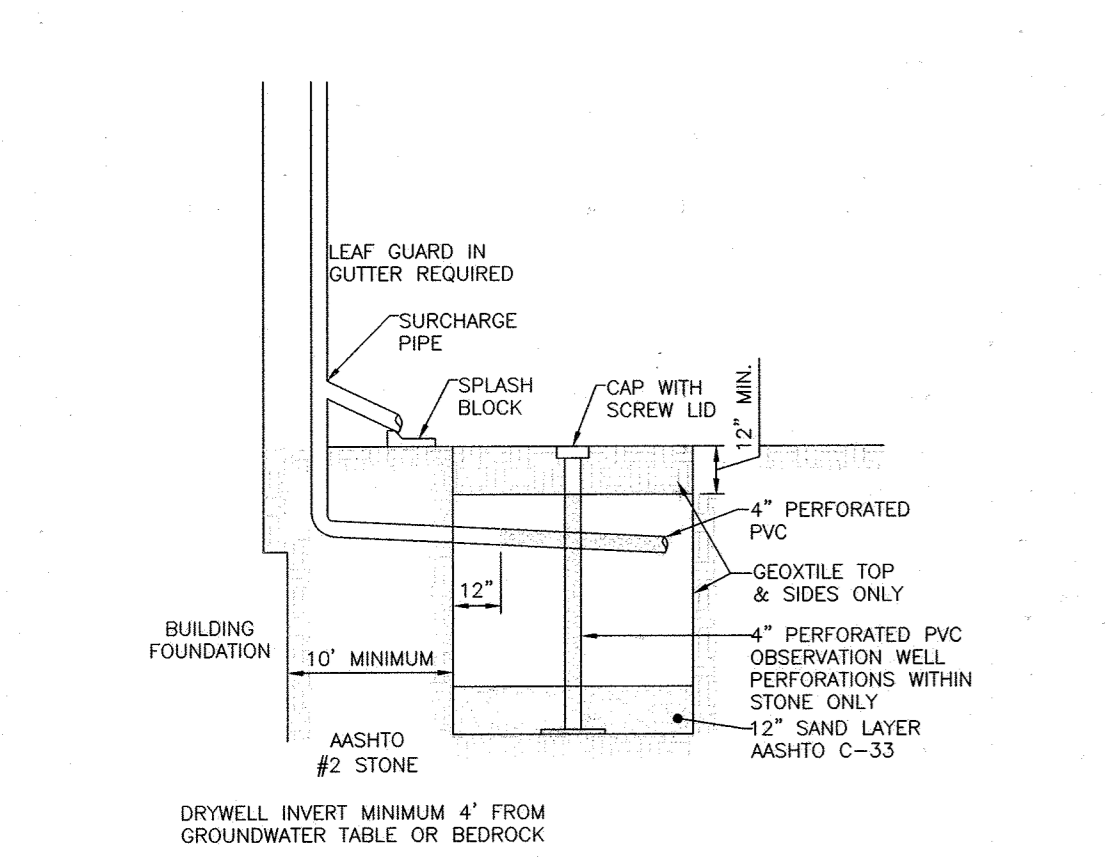
Underdrains should meet the following criteria:

- Pipe- Should be 4" to 6" diameter, slotted or perforated rigid plastic pipe (ASTM F 758, Type PS 28, 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 3/8" diameter located 6" on center with a minimum of four holes per row. Pipe shall be wrapped with a 3/4" (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 (3/8" 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

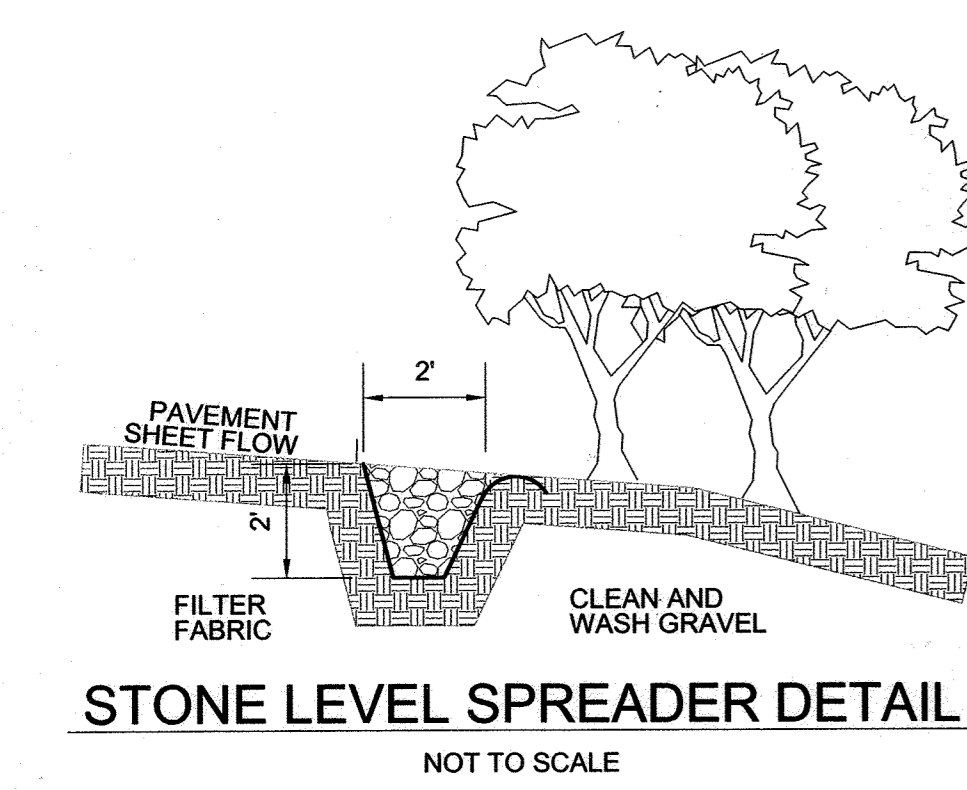
These practices may not be constructed until all contributing drainage area has been stabilized.



TYPICAL (M-5) DRYWELL DETAILS
NOT TO SCALE

DRYWELLS

DRYWELL No.	LOT No.	STREET ADDRESS	DRAINAGE AREA	IMPERVIOUS AREA	ESDv REQUIRED	LENGTH	WIDTH	HEIGHT	ESDv PROVIDED
1a	1	10700 Hidden Ridge Drive	430	430	57.9	5.42	5.42	5.00	58.7
1b	1	10700 Hidden Ridge Drive	420	420	56.5	5.42	5.42	5.00	58.8
2	2	10702 Hidden Ridge Drive	420	420	56.3	5.33	5.33	5.00	58.8
3	3	10704 Hidden Ridge Drive	421	421	56.7	5.33	5.33	5.00	58.8
4	4	10706 Hidden Ridge Drive	420	420	56.5	5.33	5.33	5.00	58.8
5	5	10708 Hidden Ridge Drive	421	421	56.7	5.33	5.33	5.00	58.8
6	6	10710 Hidden Ridge Drive	424	424	57.0	5.42	5.42	5.00	58.8
7	7	10712 Hidden Ridge Drive	423	423	56.9	5.33	5.33	5.00	58.8
8	8	10714 Hidden Ridge Drive	421	421	56.7	5.33	5.33	5.00	58.8
9	9	10716 Hidden Ridge Drive	420	420	56.5	5.33	5.33	5.00	58.8
10	10	10718 Hidden Ridge Drive	421	421	56.7	5.42	5.42	5.00	58.8
11	11	10720 Hidden Ridge Drive	420	420	56.5	5.00	5.00	5.00	50.0



APPROVED: DEPARTMENT OF PUBLIC WORKS
 [Signature] 7/15/2019
 CHIEF, BUREAU OF HIGHWAYS MKK DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING
 [Signature] 7/26/19
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

APPROVED: CHIEF, DEVELOPMENT ENGINEERING DIVISION
 [Signature] 7/15/19
 DATE

AS-BUILT CERTIFICATION FOR PSWM

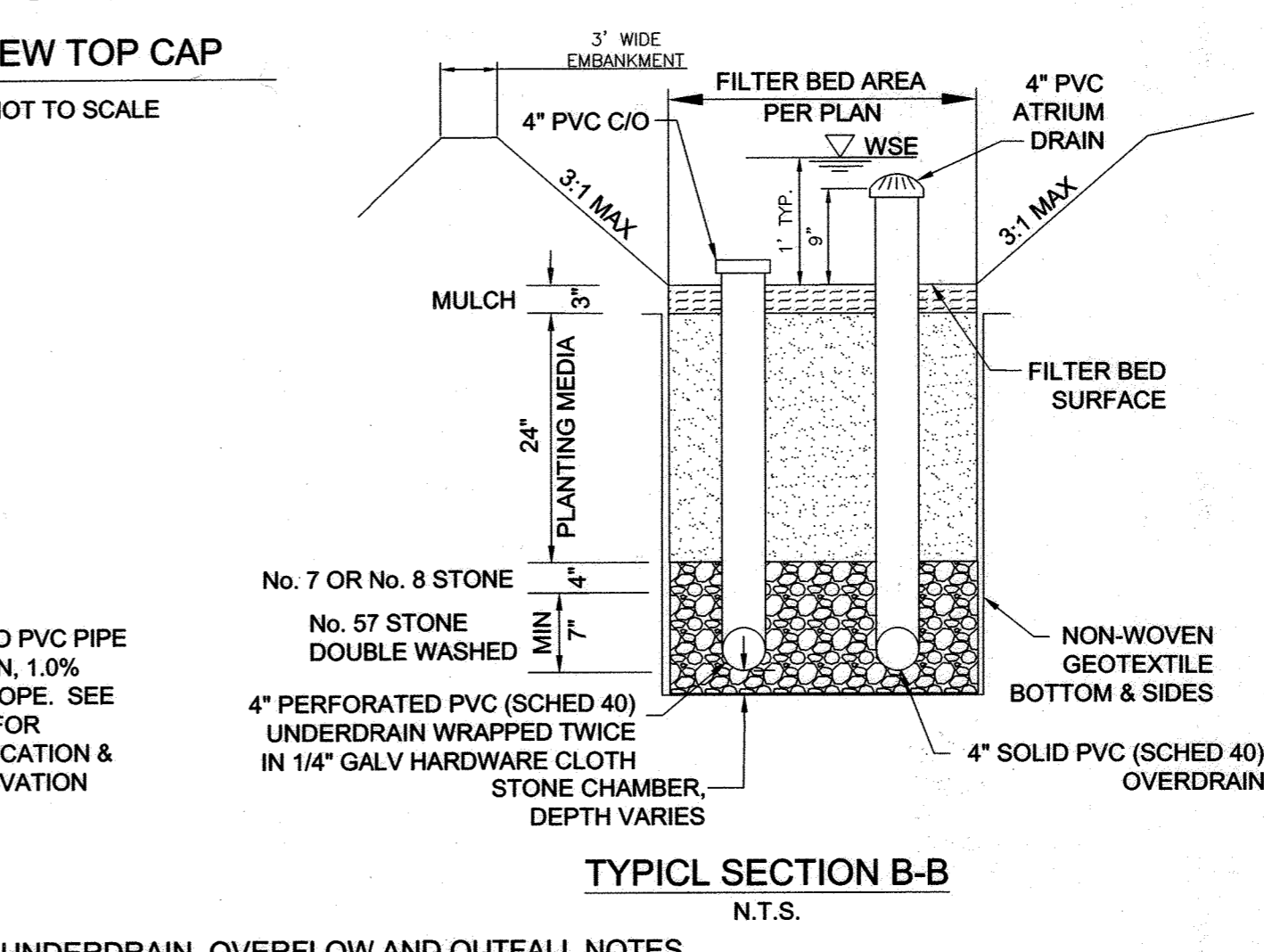
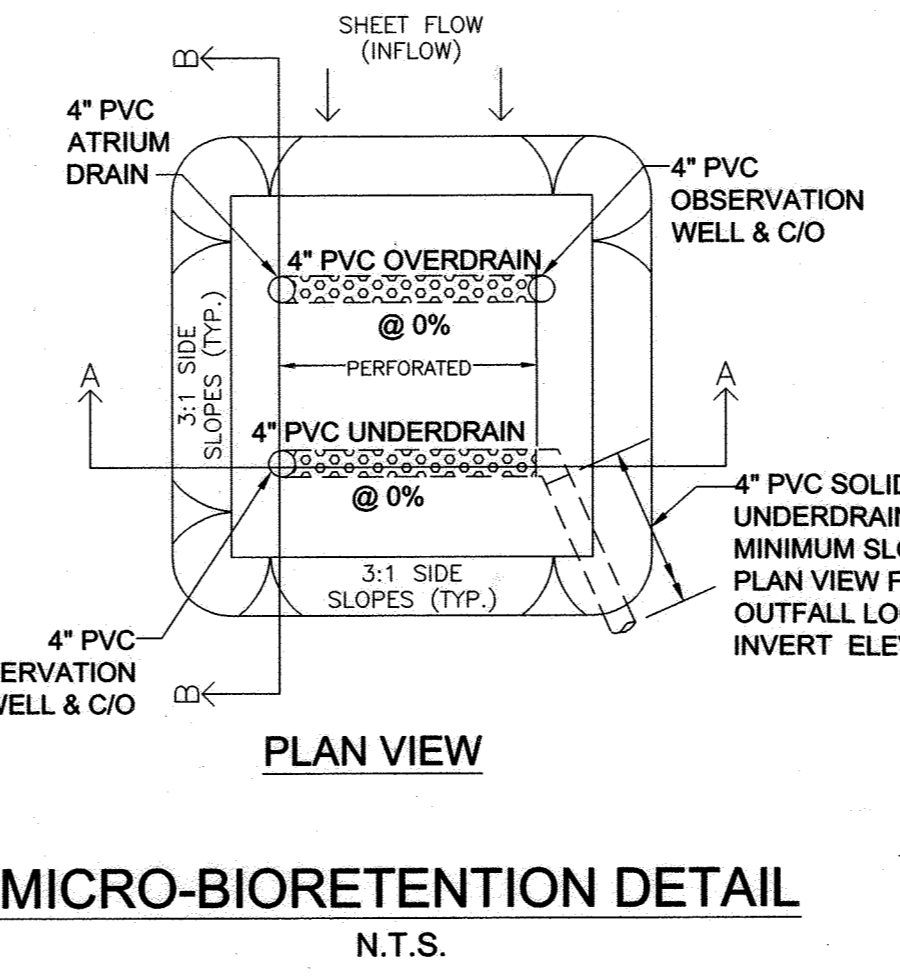
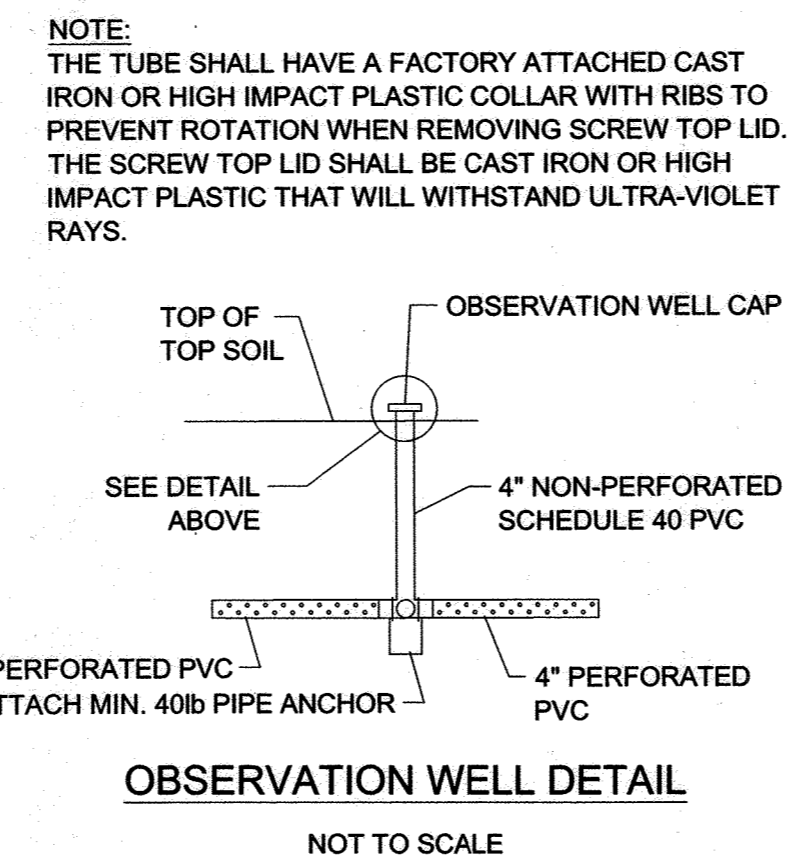
I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND COMPLIES WITH THE APPROVED PLANS AND SPECIFICATIONS. I HAVE VERIFIED THAT THE CONTRIBUTING DRAINAGE AREA IS SUFFICIENTLY STABILIZED TO PREVENT CLOGGING OF THE UNDERGROUND PSWM FACILITY.

[Signature] P.E. # [Number] DATE



TYPICAL SECTION A-A
N.T.S.

4" PVC C/O
 3:1 MAX
 FILTER BED AREA PER PLAN WSE
 1" TYP. POI.D. DEPTH
 3:1 MAX
 MULCH
 24"
 PLANTING MEDIA
 7" MIN
 No. 7 OR No. 8 STONE
 NO. 57 STONE DOUBLE WASHED
 4" PERFORATED PVC UNDERDRAIN WRAPPED TWICE IN 1/4" GALV. HARDWARE CLOTH
 4" PERFORATED PVC ATTACH MIN. 40lb PIPE ANCHOR
 4" PVC SOLID PVC PIPE UNDERDRAIN, 1.0% MINIMUM SLOPE. SEE PLAN VIEW FOR OUTFALL LOCATION & INVERT ELEVATION
 4" PVC SOLID PVC PIPE UNDERDRAIN, 1.0% MINIMUM SLOPE. SEE PLAN VIEW FOR OUTFALL LOCATION & INVERT ELEVATION
 4" PVC OBSERVATION WELL & C/O



UNDERDRAIN, OVERFLOW AND OUTFALL NOTES

1. THE LAST CLEAN-OUT LOCATION WITHIN EACH MICRO-BIORETENTION FACILITY SHALL BE FITTED WITH A NON-CLOGGING SURFACE DRAIN (FOR EXAMPLE: 4" ADS ROOF DRAIN W/CAST ALUMINUM DOME) AT THE POND SURFACE ELEVATION INDICATED IN THE CORRESPONDING TABLE ELEV. 2.
2. THE PVC WITHIN THE FACILITY SHALL BE PERFORATED.
3. THE UNDER-DRAIN AND PIPE TO OUTFALL SHALL BE INSTALLED TO MINIMUM DEPTH OF 2' BELOW FINISHED GRADE AND SHALL MAINTAIN A MINIMUM 1% SLOPE AND MAINTAIN A MINIMUM OF 1' OF SEPARATION AT ALL CROSSINGS

NO AS-BUILT INFORMATION ON THIS SHEET

<p>OWNERS: NON-BUILDABLE BULK PARCEL 'A' ABIDING SAVIOR LUTHERAN CHURCH 10689 OWEN BROWN ROAD COLUMBIA, MARYLAND 21044 410-997-8770</p>	<p>DEVELOPER: KB COMPANIES, INC. 7 OLD GIBBY COURT CATONSVILLE, MD 21228 PHONE: 703-506-9690 ATTN: PATRICK BYRNE</p>	<p>ENGINEER: Phoenix Engineering 21132 Old York Road Parkton, MD 21120 410-323-1150 www.phoenix-eng.com</p>	<p>DESIGN: NAF, KPM DRAFT: NAF, KPM CHK: KMW</p>	<p>HIDDEN RIDGE LOTS 1-12 & OPEN SPACE LOT 13 A RESUBDIVISION OF PLAT ABIDING SAVIOR LUTHERAN CHURCH LOT 2 & NON-BUILDABLE PARCEL 'A' PLAT #20652-53/25056-54 ZONING: R-SC-MEDIUM DENSITY RESIDENTIAL TAX MAP: 35 GRID: 18 PARCEL: 238 DISTRICT: 05 ACCOUNT # 46449 LIBER: 2005103145 PLAT: 20652-53 CENSUS TRACT: 605602 CENSUS BLOCK: 3</p>	<p>STORMWATER MANAGEMENT NOTES AND DETAILS</p> <p>600' SCALE MAP NO. 35 GRID NO. 18</p>	<p>DRAWING NO. 13 OF 14 PROJ: 14-035 DATE: 03/04/2019</p>
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MAFI ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION

Project Name: Hidden Ridge Subdivision
Contract No.: 120815

Coordination: N/A Boring Location: SB-1 Building Lot# N/A
Surface Elev: 390.0 Water Table: Not encountered during or after drilling Checked By: ZM
Date Started: 12/7/2015 Date Finished: 12/7/2015 Job No.: 120815

SAMPLE No.	SOIL DESCRIPTION	STRATA	DEPTH	SAMPLE	SAMPLE DCP	LEGEND
	Organic topsoil					
S-1	Brown sandy silt, moist, medium dense, moisture content 13.6%, "ML"	4'-5"	2.5' D		5-6-8	
S-2	Same as soil sample S-1, moisture content 12.6%, "ML"	5'-13"	5.0' D		6-6-8	
S-3	Brown silty sand, moist medium dense, moisture content 11.8%, "SM"		7.5' D		5-7-8	
S-4	Same as soil sample S-3, moisture content 10.9%, "SM"		10.0' D		4-6-9	
S-5	Same as soil sample S-3, moisture content 11.4%, "SM"		12.5' D		6-6-9	
END OF SOIL BORING AT 13 FEET						

MAFI ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION

Project Name: Hidden Ridge Subdivision
Contract No.: 120815

Coordination: N/A Boring Location: SB-3 Building Lot# N/A
Surface Elev: 383.0 Water Table: Not encountered during or after drilling Checked By: ZM
Date Started: 12/7/2015 Date Finished: 12/7/2015 Job No.: 120815

SAMPLE No.	SOIL DESCRIPTION	STRATA	DEPTH	SAMPLE	SAMPLE DCP	LEGEND
	Organic topsoil					
S-1	Brown sandy silt, moist, medium dense, moisture content 14.1%, "ML"	4'-5"	2.5' D		4-5-6	
S-2	Same as soil sample S-1, moisture content 13.1%, "ML"	5'-13"	5.0' D		4-5-5	
S-3	Brown silty sand, moist medium dense, moisture content 12.6%, "SM"		7.5' D		6-7-9	
S-4	Same as soil sample S-3, moisture content 11.6%, "SM"		10.0' D		6-6-10	
S-5	Same as soil sample S-3, moisture content 11.1%, "SM"		12.5' D		5-7-11	
END OF SOIL BORING AT 13 FEET						

MAFI ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION

Project Name: Hidden Ridge Subdivision
Contract No.: 120815

Coordination: N/A Boring Location: SB-3 Building Lot# N/A
Surface Elev: 380.0 Water Table: Not encountered during or after drilling Checked By: ZM
Date Started: 12/7/2015 Date Finished: 12/7/2015 Job No.: 120815

SAMPLE No.	SOIL DESCRIPTION	STRATA	DEPTH	SAMPLE	SAMPLE DCP	LEGEND
	Organic topsoil					
S-1	Brown sandy silt, moist, medium dense, moisture content 14.1%, "ML"	3'-4.5"	2.5' D		4-4-6	
S-2	Brown silty sand, moist, medium dense, moisture content 12.9%, "SM"	4.5'-13"	5.0' D		4-5-5	
S-3	Same as soil sample S-2, moisture content 11.7%, "SM"		7.5' D		5-6-8	
S-4	Same as soil sample S-2, moisture content 11.3%, "SM"		10.0' D		6-6-8	
S-5	Same as soil sample S-2, moisture content 11.9%, "SM"		12.5' D		5-7-9	
END OF SOIL BORING AT 13 FEET						

MAFI ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION

Project Name: Hidden Ridge Subdivision
Contract No.: 120815

Coordination: N/A Boring Location: SB-4 Building Lot# N/A
Surface Elev: 388.0 Water Table: Not encountered during or after drilling Checked By: ZM
Date Started: 12/7/2015 Date Finished: 12/7/2015 Job No.: 120815

SAMPLE No.	SOIL DESCRIPTION	STRATA	DEPTH	SAMPLE	SAMPLE DCP	LEGEND
	Organic topsoil					
S-1	Brown sandy silt, moist, medium dense, moisture content 14.1%, "ML"	4'-6"	2.5' D		4-5-7	
S-2	Same as soil sample S-1, moisture content 14.7%, "ML"		5.0' D		5-6-8	
S-3	Brown silty sand, moist, medium dense, moisture content 13.1%, "SM"		6-13"		6-6-7	
S-4	Same as soil sample S-3, moisture content 12.5%, "SM"		10.0' D		4-6-8	
S-5	Same as soil sample S-3, moisture content 10.2%, "SM"		12.5' D		5-5-9	
END OF SOIL BORING AT 13 FEET						

MAFI ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION

Project Name: Hidden Ridge Subdivision
Contract No.: 120815

Coordination: N/A Boring Location: SB-5 Building Lot# N/A
Surface Elev: 386.0 Water Table: Not encountered during or after drilling Checked By: ZM
Date Started: 12/7/2015 Date Finished: 12/7/2015 Job No.: 120815

SAMPLE No.	SOIL DESCRIPTION	STRATA	DEPTH	SAMPLE	SAMPLE DCP	LEGEND
	Organic topsoil					
S-1	Brown sandy silt, moist, medium dense, moisture content 12.4%, "ML"	4'-7"	2.5' D		5-5-8	
S-2	Same as soil sample S-1, moisture content 13.5%, "ML"		5.0' D		6-6-7	
S-3	Brown silty sand, moist, medium dense, moisture content 12.1%, "SM"		7-13"		5-6-8	
S-4	Same as soil sample S-3, moisture content 13.0%, "SM"		10.0' D		6-6-6	
S-5	Same as soil sample S-3, moisture content 11.3%, "SM"		12.5' D		5-6-9	
END OF SOIL BORING AT 13 FEET						

MAFI ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION

Project Name: Hidden Ridge Subdivision
Contract No.: 120815

Coordination: N/A Boring Location: SB-6 Building Lot# N/A
Surface Elev: 386.0 Water Table: Not encountered during or after drilling Checked By: ZM
Date Started: 12/7/2015 Date Finished: 12/7/2015 Job No.: 120815

SAMPLE No.	SOIL DESCRIPTION	STRATA	DEPTH	SAMPLE	SAMPLE DCP	LEGEND
	Organic topsoil					
S-1	Brown sandy silt, moist, medium dense, moisture content 13.8%, "ML"	4'-6"	2.5' D		4-4-6	
S-2	Same as soil sample S-1, moisture content 14.2%, "ML"		5.0' D		5-7-8	
S-3	Brown silty sand, moist, medium dense, moisture content 12.9%, "SM"		6-13"		5-5-6	
S-4	Same as soil sample S-3, moisture content 13.7%, "SM"		10.0' D		5-7-9	
S-5	Same as soil sample S-3, moisture content 12.8%, "SM"		12.5' D		5-7-7	
END OF SOIL BORING AT 13 FEET						

MAFI ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION

Project Name: Hidden Ridge Subdivision
Contract No.: 120815

Coordination: N/A Boring Location: SB-7 Building Lot# N/A
Surface Elev: 382.0 Water Table: Not encountered during or after drilling Checked By: ZM
Date Started: 12/7/2015 Date Finished: 12/7/2015 Job No.: 120815

SAMPLE No.	SOIL DESCRIPTION	STRATA	DEPTH	SAMPLE	SAMPLE DCP	LEGEND
	Organic topsoil					
S-1	Brown sandy silt, moist, medium dense, moisture content 13.0%, "ML"	4'-6"	2.5' D		4-4-7	
S-2	Same as soil sample S-1, moisture content 14.8%, "ML"		5.0' D		4-5-6	
S-3	Brown silty sand, moist, medium dense, moisture content 13.8%, "SM"		6-13"		5-6-7	
S-4	Same as soil sample S-3, moisture content 13.0%, "SM"		10.0' D		5-6-8	
S-5	Same as soil sample S-3, moisture content 13.9%, "SM"		12.5' D		6-6-9	
END OF SOIL BORING AT 13 FEET						

MAFI ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION

Project Name: Hidden Ridge
Contract No.: 101118

Coordination: N/A Boring Location: SWMP Building Lot# B-8
Surface Elev: N/A Water Table: 11 feet below existing ground surface elevation Checked By: ZM
Date Started: 1/10/2018 Date Finished: 1/10/2018 Job No.: 101118

SAMPLE No.	SOIL DESCRIPTION	STRATA	DEPTH	SAMPLE	SAMPLE DCP	LEGEND
	Organic topsoil					
S-1	Light brownish gray sandy silt, moist, medium dense, "ML"	4'-13"	2.5' D			
S-2	Same as soil sample S-1, "ML"		5.0' D			
S-3	Same as soil sample S-1, "ML"		7.5' D			
S-4	Same as soil sample S-1, "ML"		10.0' D			
S-5	Light brownish gray sandy silt, wet, loose, "ML"		12.5' D			
END OF SOIL BORING AT 13 FEET						

MAFI ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION

Project Name: Hidden Ridge
Contract No.: 101118

Coordination: N/A Boring Location: SWMP Building Lot# B-9
Surface Elev: N/A Water Table: 11 feet below existing ground surface elevation Checked By: ZM
Date Started: 1/10/2018 Date Finished: 1/10/2018 Job No.: 101118

SAMPLE No.	SOIL DESCRIPTION	STRATA	DEPTH	SAMPLE	SAMPLE DCP	LEGEND
	Organic topsoil					
S-1	Light brownish gray sandy silt, moist, medium dense, "ML"	5'-8"	2.5' D			
S-2	Same as soil sample S-1, "ML"		5.0' D			
S-3	Same as soil sample S-1, "ML"		7.5' D			
S-4	Light brownish gray silty sand, moist, medium dense, "SM"		8-13"			
S-5	Light brownish gray silty sandM"		12.5' D			
END OF SOIL BORING AT 13 FEET						

MAFI ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION

Project Name: Hidden Ridge
Contract No.: 101118

Coordination: N/A Boring Location: SWMP Building Lot# B-10
Surface Elev: N/A Water Table: 10 feet below existing ground surface elevation Checked By: ZM
Date Started: 1/10/2018 Date Finished: 1/10/2018 Job No.: 101118

SAMPLE No.	SOIL DESCRIPTION	STRATA	DEPTH	SAMPLE	SAMPLE DCP	LEGEND
	Organic topsoil					
S-1	Light brownish gray sandy silt, moist, medium dense, "ML"	5'-9"	2.5' D			
S-2	Same as soil sample S-1, "ML"		5.0' D			
S-3	Same as soil sample S-1, "ML"		7.5' D			
S-4	Light brownish gray silty sand, moist, medium dense, "SM"		9-13"			
S-5	Light brownish gray silty sandM"		12.5' D			
END OF SOIL BORING AT 13 FEET						

APPROVED: DEPARTMENT OF PUBLIC WORKS
James 7/15/2019
CHIEF, BUREAU OF HIGHWAYS MK DATE

APPROVED: DEPARTMENT OF PLANNING & ZONING
Keith 7/26/19
CHIEF, DIVISION OF LAND DEVELOPMENT gmm DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION # DATE
7/19/19

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. 36065
Exp. Date: 6-26-2020

OWNERS:
NON-BUILDABLE BULK PARCEL 'A'
ABIDING SAVIOR LUTHERAN CHURCH
10889 OWEN BROWN ROAD
COLUMBIA, MARYLAND 21044
410-997-8770

DEVELOPER:
KB COMPANIES, INC.
7 OLD CISTERN COURT
CATONSVILLE, MD 21228
PHONE: 703-559-0900
ATTN: PATRICK BYRNE

ENGINEER:
PHOENIX ENGINEERING
21132 Old York Road
Parkton, MD 21120
410-329-1150
www.phoenix-eng.com

BY	NO.	DESCRIPTION	DATE

AS-BUILT CERTIFICATION FOR PSWMP
I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND COMPLIES WITH THE APPROVED PLANS AND SPECIFICATIONS. I HAVE VERIFIED THAT THE CONTRIBUTING DRAINAGE AREA(S) SUFFICIENTLY STABILIZED TO PREVENT CLOGGING OF THE UNDERGROUND SWM FACILITY.

James 10/19/19 3/1/22
P.E. # 12488

STATE OF MARYLAND
ROBERT HARRIS
PROFESSIONAL ENGINEER
NO. 18195

NO AS-BUILT INFORMATION ON THIS SHEET

HIDDEN RIDGE
LOTS 1-12 & OPEN SPACE LOT 13
A RESUBDIVISION OF PLAT
ABIDING SAVIOR LUTHERAN CHURCH
LOT 2 & NON-BUILDABLE PARCEL 'A'
PLAT #20652-53 / #25058-59
ZONING: R-SC MEDIUM DENSITY RESIDENTIAL
TAX MAP: 35 GRID: 18 PARCEL: 238 DISTRICT: 06
ACCOUNT # 454648 LIBER: 1007POLIG: 143 PLAT: 20652-53
CENSUS TRACT: 805602 CENSUS BLOCK: 3

SCALE: 1" = 30'
DRAWING NO. 14 OF 14
PROJ: 14-035 DATE: 03/04/2019

AS-BUILT, JULY 2021 F-18-087