

GENERAL NOTES

1. THIS PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS ALTERNATIVE COMPLIANCE(S) HAVE BEEN SUBMITTED AND APPROVED.
2. THE SUBJECT PROPERTY IS ZONED R-SC PER THE OCTOBER 6, 2013 COMPREHENSIVE ZONING PLAN.
3. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENTS NO. 35F1 AND 35FA WERE USED FOR THIS PROJECT.
4. TRACT BOUNDARY IS BASED ON A FIELD RUN BOUNDARY SURVEY PERFORMED BY BENCHMARK ENGINEERING, INC. ON OR ABOUT AUGUST, 2018.
5. THE EXISTING TOPOGRAPHY IS TAKEN FROM A FIELD SURVEY BY BENCHMARK ENGINEERING, INC. IN SEPTEMBER, 2018.
6. A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT AS IT DOES NOT MEET ANY OF THE REQUIREMENTS FOR A NOISE STUDY AS DEFINED IN SECTION 5.2.F.2 OF DESIGN MANUAL VOLUME III.
7. THE TRAFFIC STUDY WAS PREPARED BY MARS GROUP AND APPROVED UNDER THE SKETCH PLAN (S-19-006) ON 3-14-2019.
8. THE FOREST STAND DELINEATION AND WETLAND DELINEATION WAS PREPARED BY J. CHRIS OGLE ON NOVEMBER 30, 2018.
9. THE GEOTECHNICAL REPORT WAS PREPARED BY GEOTECHNICAL LABORATORIES, INC. ON DECEMBER 20, 2018.
10. THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT. THE WATER AND SEWER IS PUBLIC. THE WATER/SEWER UTILITIES HAVE BEEN APPROVED THROUGH AN ADVANCE DEPOSIT ORDER (ADO). THE DRAINAGE AREA IS THE MIDDLE PATRIKENT.
11. WATER AND SEWER SERVICE TO THESE LOTS WILL BE GRANTED UNDER THE PROVISIONS OF SECTION 18.1229 OF THE HOWARD COUNTY CODE. PUBLIC WATER AND PUBLIC SEWER ALLOCATIONS WILL BE GRANTED AT THE TIME OF THE ISSUANCE OF THE BUILDING PERMIT IF CAPACITY IS AVAILABLE AT THAT TIME.
12. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO CEMETERY LOCATIONS ON-SITE.
13. THERE ARE NO HISTORIC SITES/STRUCTURES LOCATED ON THIS SITE.
14. THERE ARE NO WETLANDS, WETLANDS BUFFERS, STREAMS, 100-YR FLOODPLAIN, OR STEEP SLOPES 25% AND GREATER THAT ARE MORE THAN 20,000 SF OF CONTIGUOUS AREA LOCATED ON THIS SITE.
15. DRIVEWAYS SHALL BE PROVIDED PRIOR TO RESIDENTIAL OCCUPANCY TO INSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
 - a) WIDTH - 12' (16' SERVING MORE THAN ONE RESIDENCE).
 - b) SURFACE - 6" OF COMPACT CRUSHER RUN BASE WITH TAR AND CHIP COATING (1-1/2" MIN).
 - c) GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE AND MINIMUM 45' TURNING RADIUS.
 - d) STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (W25 LOADING).
 - e) DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOODPLAIN WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY.
 - f) STRUCTURE CLEARANCES - MINIMUM 12 FEET.
 - g) MAINTENANCE - SUFFICIENT TO INSURE ALL WEATHER USE.
16. FOR FLAG OR PIPESTEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE ARE PROVIDED TO THE JUNCTION OF THE FLAG OR PIPESTEM AND ROAD RIGHT-OF-WAY LINE AND NOT ONTO THE PIPESTEM LOT DRIVEWAY.
17. THE PRIVATE USE-IN-COMMON MAINTENANCE ACCESS AGREEMENT FOR LOTS 1 thru 4 AND OPEN SPACE LOT 5 WAS RECORDED SIMULTANEOUSLY WITH THE RECORDDATION OF THE SUBDIVISION PLAT.
18. THE ARTICLES OF INCORPORATION FOR THE HOMEOWNERS ASSOCIATION WERE ACCEPTED BY THE STATE DEPARTMENT OF ASSESSMENTS AND TAXATION ON August 2, 2019. ID# D19044950
19. STORMWATER MANAGEMENT HAS BEEN PROVIDED IN ACCORDANCE WITH THE "MARYLAND DEPARTMENT OF THE ENVIRONMENT STORMWATER MANAGEMENT ACT OF 2007" AND THE "HOWARD COUNTY DESIGN MANUAL VOLUME I, CHAPTER 5" VIA ONE (M-5) MICRO BIO-RETENTION PRACTICE WHICH WAS CONSTRUCTED UNDER F-19-049, ONE AREA OF (N-2) DISCONNECTION OF NON-ROOFTOP RUNOFF FOR THE SIDEWALK ALONG HILLTOP LANE, AND EIGHT (M-5) DRY WELLS WHICH SHALL BE CONSTRUCTED UNDER THIS SITE DEVELOPMENT PLAN. THE MICRO BIO-RETENTION SHALL BE OWNED AND MAINTAINED BY THE HOMEOWNERS ASSOCIATION. THE DRY WELLS SHALL BE PRIVATELY OWNED AND MAINTAINED BY THE OWNER OF THE LOT ON WHICH THEY RESIDE.
20. LANDSCAPING IS PROVIDED WITH A CERTIFIED LANDSCAPE PLAN IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL. FINANCIAL SURETY IN THE AMOUNT OF \$5,100.00 FOR THE REQUIRED 15 PERIMETER SHADE TREES AND ADDITIONAL 2 SHADE TREES PER APPROVAL OF WP-19-050 WAS POSTED AS PART OF THE DEVELOPER'S AGREEMENT UNDER F-19-049.
21. THE FOREST CONSERVATION OBLIGATION WAS PREVIOUSLY ADDRESSED UNDER F-19-049 VIA A FEE-IN-LIEU PAYMENT IN THE AMOUNT OF \$6,534.00.
22. THE REQUIRED COMMUNITY MEETING FOR THIS PROJECT, PER SECTION 16.128 OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, WAS HELD ON DECEMBER 4, 2018.
23. THIS PROJECT IS SUBJECT TO SECTION 13.402 OF THE COUNTY CODE FOR MODERATE INCOME HOUSING UNITS (MIHU). PER SECTION 13.402C(6), THIS REQUIREMENT SHALL MET BY A FEE-IN-LIEU PAYMENT IN AN AMOUNT THAT IS TO BE CALCULATED BY THE DEPARTMENT OF INSPECTIONS LICENSES AND PERMITS AT THE TIME OF BUILDING PERMIT. THE FEE-IN-LIEU SHALL BE PAID FOR ALL LOTS/RESIDENTIAL UNITS WITHIN THIS SUBDIVISION AT TIME OF BUILDING PERMIT ISSUANCE.
24. A PRIVATE RANGE OF ADDRESS SIGN SHALL BE FABRICATED AND INSTALLED BY HOWARD COUNTY BUREAU OF HIGHWAYS AT THE DEVELOPERS/OWNERS EXPENSE. CONTACT HOWARD COUNTY TRAFFIC DIVISION AT 410-313-5752 FOR DETAILS AND COST ESTIMATES.
25. IN ACCORDANCE WITH SECTION 128.0 OF THE HOWARD COUNTY ZONING REGULATIONS, BAY WINDOWS, CHIMNEYS OR EXTERIOR STAIRWAYS NOT MORE THAN 16 FEET IN WIDTH MAY PROJECT NOT MORE THAN 4 FEET INTO ANY SETBACKS, PORCHES, OR DECKS, OPEN OR ENCLOSED MAY PROJECT NOT MORE THAN 10 FEET INTO THE FRONT OR REAR YARD SETBACK.
26. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410)-313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
27. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
28. WP-19-050, A REQUEST FOR AN ALTERNATIVE COMPLIANCE TO SECTION 16.1205(c)(7) WAS APPROVED ON JANUARY 4, 2019 SUBJECT TO THE FOLLOWING CONDITIONS:
 - 1) PROVIDE TWO (2) 3" MINIMUM CALIPER NATIVE TREES AS MITIGATION TO BE PROVIDED AS LANDSCAPING TREES ON THE FINAL PLAN.
 - 2) ADD THE ALTERNATIVE COMPLIANCE WP-19-050 AS A GENERAL NOTE STATING THE REQUEST, THE APPROVAL DATE AND CONDITIONS IN WHICH IT WAS APPROVED UNDER THE ECP AND ALL FUTURE PLANS.
29. PREVIOUS HOWARD COUNTY FILE REFERENCES: ECP-19-023, WP-19-050, S-19-006, F-19-049
30. ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE DEVELOPER'S EXPENSE.
31. EXISTING UTILITIES SHOWN ARE BASED ON A FIELD SURVEY BY BENCHMARK ENGINEERING, INC. IN SEPTEMBER, 2018, SIGNED CONSTRUCTION DRAWINGS, AND HOWARD COUNTY GIS.

HILLTOP LANDING II

LOTS 1 thru 4

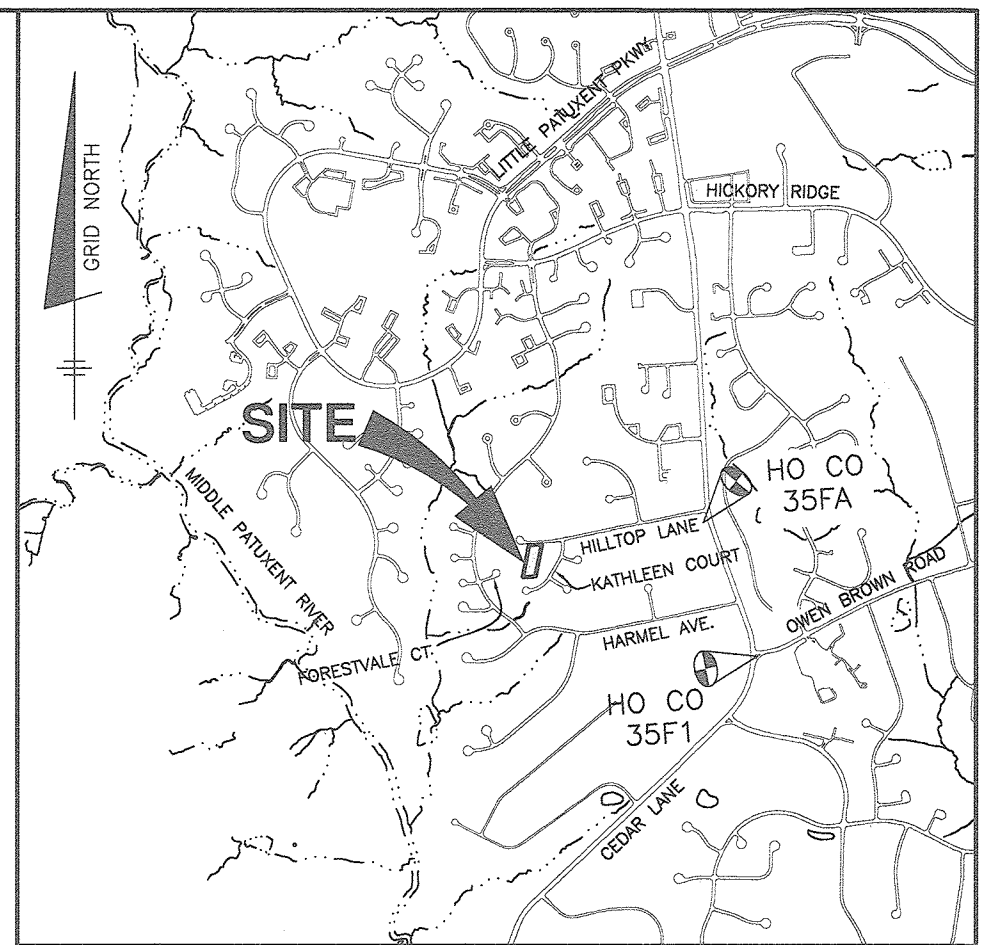
SITE DEVELOPMENT PLAN



BENCHMARK NAD'83 HORIZONTAL

HO. CO. #35FA
STAMPED BRASS DISK SET ON TOP OF
CONCRETE BASE.
N 559266.1334' E 1344682.6389'
ELEVATION: 410.329'

HO. CO. #35F1
STAMPED BRASS DISK SET ON TOP OF
CONCRETE BASE
N 557787.3788' E 1345217.2645'
ELEVATION: 400.439'



ADC MAP: 32 GRID: D2
VICINITY MAP
SCALE: 1" = 2000'

ADDRESS CHART		
LOT	STREET ADDRESS	
1	10949	HILLTOP LANE
2	10953	HILLTOP LANE
3	10957	HILLTOP LANE
4	10961	HILLTOP LANE

SITE ANALYSIS DATA CHART

- A.) TOTAL PROJECT AREA _____ 1.00 acres
- B.) AREA OF PLAN SUBMISSION _____ 0.92 acres
- C.) LIMIT OF DISTURBED AREA _____ 0.75 acres
- D.) PRESENT ZONING: _____ R-SC
- E.) PROPOSED USE OF SITE: _____ RESIDENTIAL
- F.) FLOOR SPACE ON EACH LEVEL OF BLDG PER USE _____ N/A
- G.) TOTAL NUMBER OF UNITS ALLOWED AS SHOWN ON FINAL PLAT(S) _____ 4
- H.) TOTAL NUMBER OF UNITS PROPOSED _____ 4
- I.) MAXIMUM NUMBER OF EMPLOYEES, TENANTS ON SITE PER USE _____ N/A
- J.) NUMBER OF PARKING SPACES REQUIRED BY HO. CO. ZONING REGS AND/OR FDP CRITERIA _____ N/A
- K.) NUMBER OF PARKING SPACES PROVIDED ONSITE (INCLUDES HANDICAPPED SPACES) _____ N/A
- L.) OPEN SPACE ON-SITE _____ N/A
- M.) AREA OF RECREATIONAL OPEN SPACE REQUIRED _____ N/A
- AREA OF RECREATIONAL OPEN SPACE PROVIDED _____ N/A
- N.) BUILDING COVERAGE OF SITE _____ N/A
- PERCENTAGE OF GROSS AREA _____ N/A
- O.) APPLICABLE DPZ FILE REFERENCES: _____ ECP-19-023, S-19-006, WP-19-050, F-19-049

MODERATE INCOME HOUSING UNIT (MIHU) APPLICATION EXEMPTIONS TRACKING	
Total Number of Lots/Units Proposed	4
Total Number of MIHUs Required	1
Number of MIHUs Provided Onsite (Exempt from APFO allocations)	0
Number of APFO Allocations Required (Remaining Lots/Units)	3
MIHU Fee-in-Lieu (Indicate Lot/Unit numbers)	1,3,4

* Previously existing house on proposed Lot 2 is exempt from APFO.

STORMWATER MANAGEMENT SUMMARY TABLE							
Total Site Pe (per F-19-049): 1.7							
Lot	Street Address	Practice	ESDv REQ:	ESDv Prov:	REV		Ownership
					Required (cf)	Provided (cf)	
Lot 1	10949 Hilltop Lane	(M-5) Drywell #1	135	138	307	provided in the micro bio-retention on Open Space Lot 5	Private
		(M-5) Drywell #2	135	138			Private
Lot 2	10953 Hilltop Lane	(M-5) Drywell #3	135	138			Private
		(M-5) Drywell #4	135	138			Private
Lot 3	10957 Hilltop Lane	(M-5) Drywell #5	135	138			Private
		(M-5) Drywell #6	135	138			Private
Lot 4	10961 Hilltop Lane	(M-5) Drywell #7	135	138			Private
		(M-5) Drywell #8	135	138			Private
Totals			1,077	1,104			

SHEET INDEX	
NO.	TITLE
1	COVER SHEET
2	SITE DEVELOPMENT AND GRADING PLAN
3	STORMWATER MANAGEMENT DETAILS: DRY WELLS AND SOIL BORING LOGS
4	LANDSCAPE PLAN
5	SEDIMENT AND EROSION CONTROL PLAN
6	SEDIMENT AND EROSION CONTROL NOTES AND DETAILS

PERMIT INFORMATION CHART				
SUBDIVISION NAME:	SECTION/AREA:	PARCEL:		
HILLTOP LANDING II	LOTS 1 thru 4 & OPEN SPACE LOT 5	284		
PLAT: 2521B	BLOCK No: 17	ZONE: R-SC	TAX MAP: 35	ELECTION DISTRICT: 5
		CENSUS TRACT: 605601		

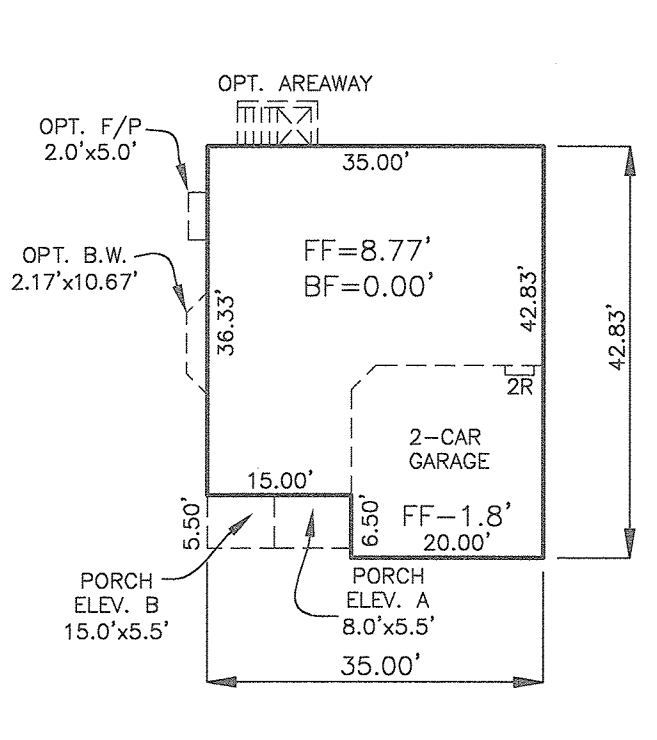
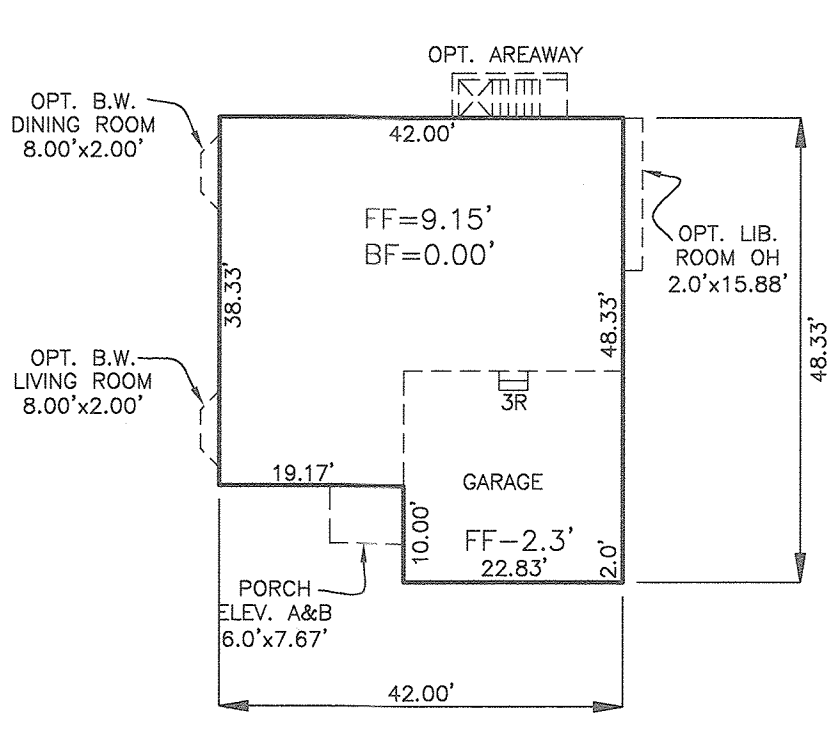
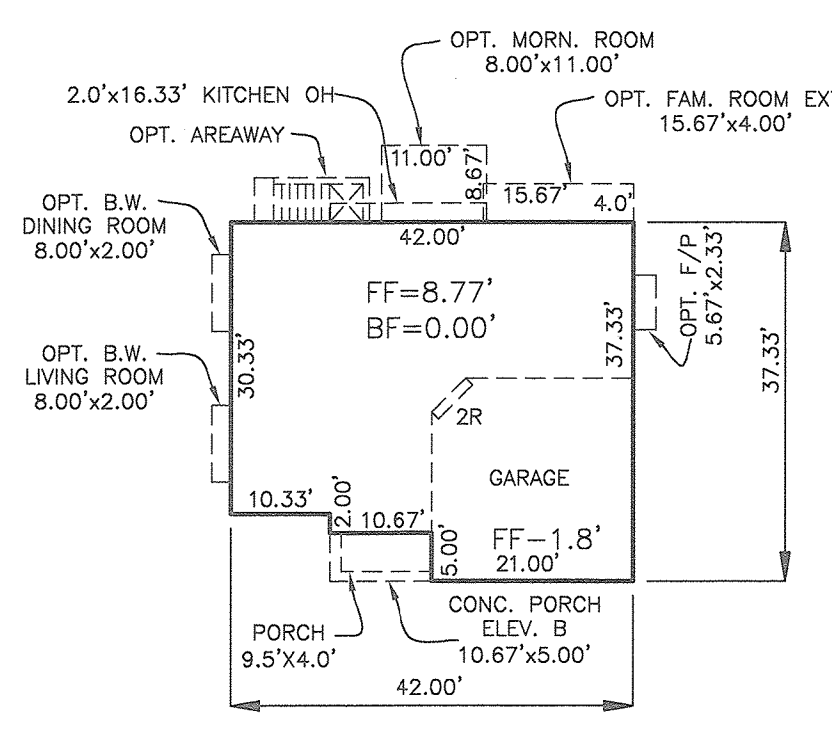
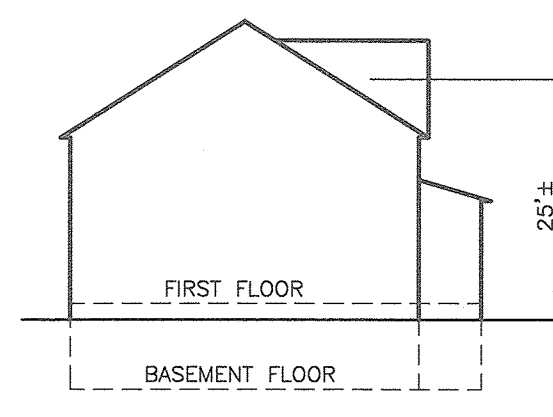
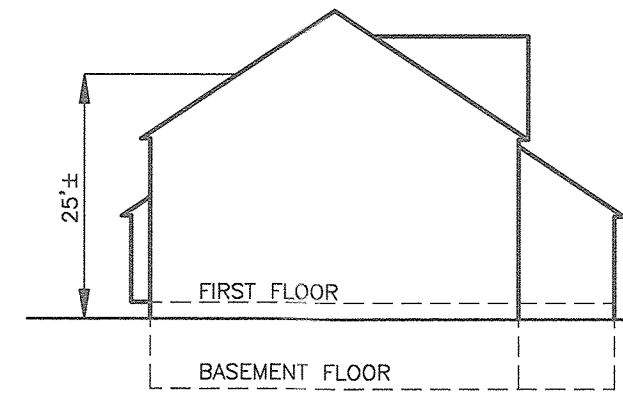
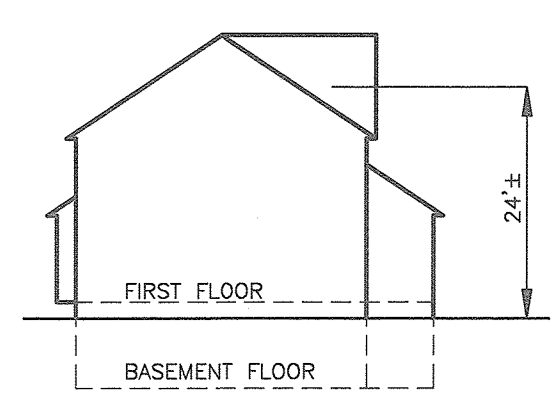
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 11-19 DATE

[Signature] 11-15-19 DATE

[Signature] 11-18-19 DATE

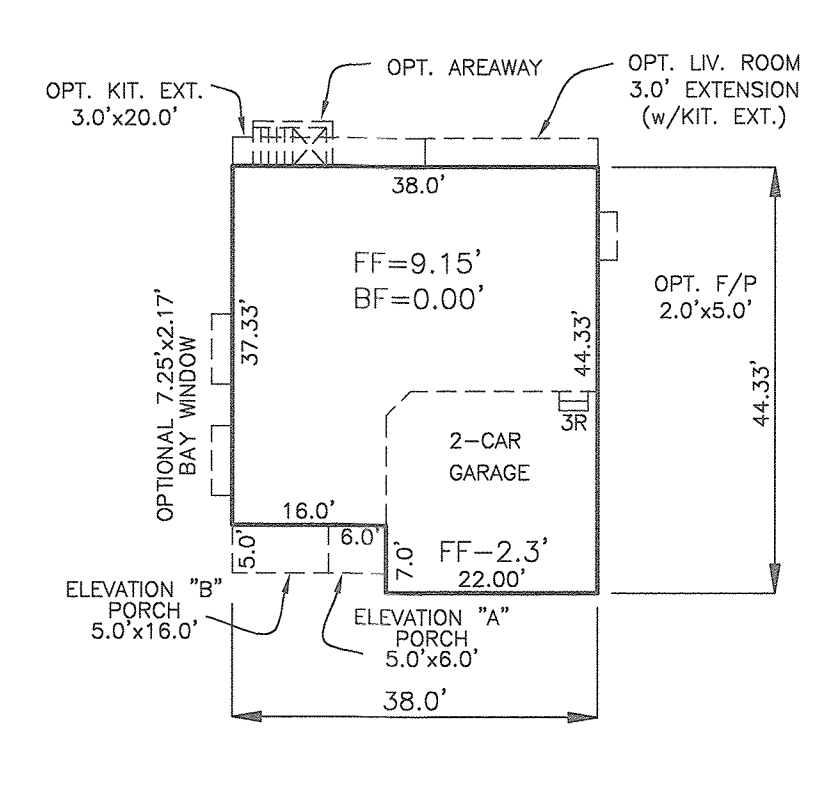
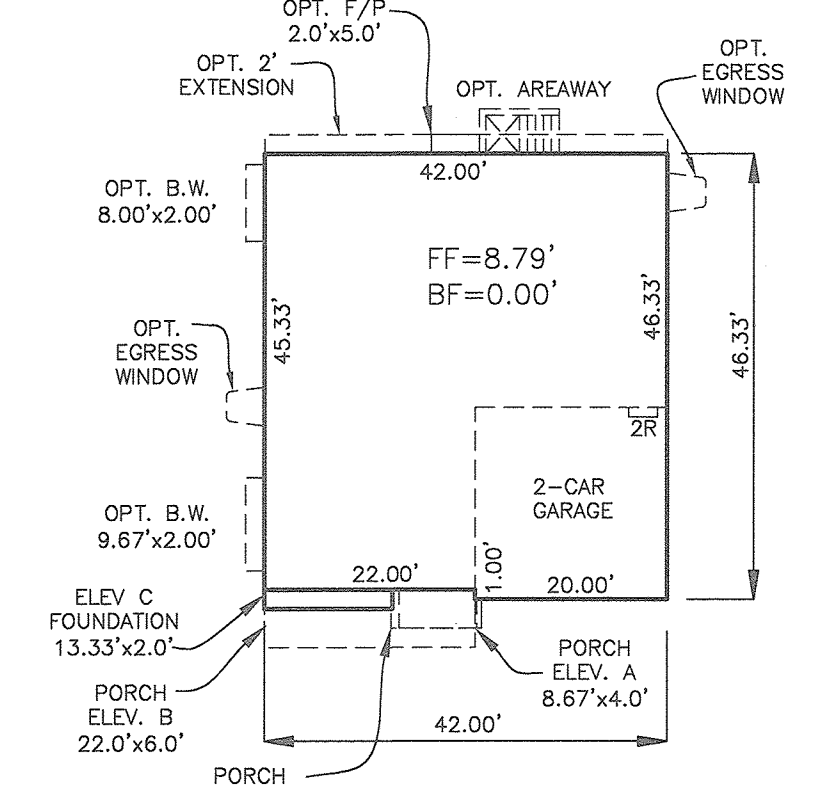
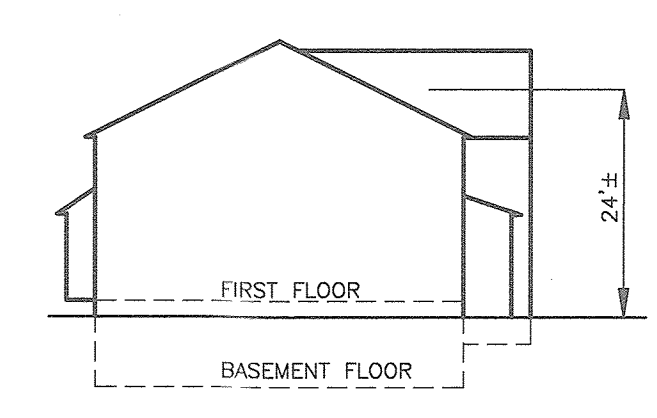
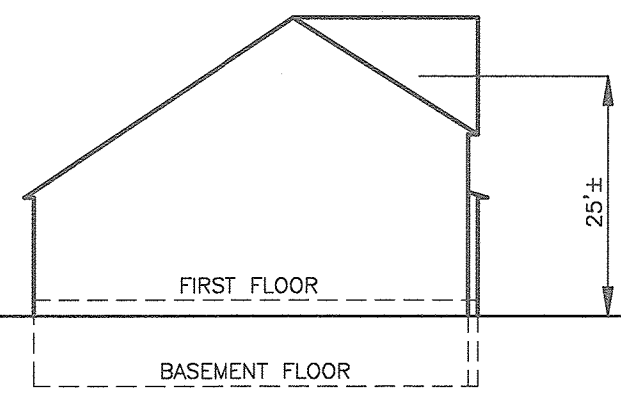
<p>NO. _____ DATE _____ REVISION _____</p>	
<p align="center">BENCHMARK ENGINEERING, INC.</p> <p>ENGINEERS & LAND SURVEYORS & PLANNERS</p> <p>8480 BALTIMORE NATIONAL PIKEA SUITE 315A ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644 WWW.BEI-CIVLENGINEERING.COM</p>	
<p>Professional Certification I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 21388, Expiration Date: 6-30-2021.</p> <p align="right"><i>[Signature]</i> 10-4-19</p>	
<p>OWNER:</p> <p>DEVELOPMENT PARTNERS LLC 9693 GERWIG LANE SUITE L COLUMBIA, MARYLAND 21046 410-792-2565</p>	<p>RESIDENTIAL - SINGLE FAMILY DETACHED</p> <p align="center">HILLTOP LANDING II LOTS 1 thru 4</p> <p>TAX MAP: 35 - GRID: 17 - PARCEL: 284 ZONED: R-SC ELECTION DISTRICT NO. 5 - HOWARD COUNTY, MARYLAND</p>
<p>BUILDER:</p> <p>DEVELOPMENT PARTNERS LLC 9693 GERWIG LANE SUITE L COLUMBIA, MARYLAND 21046 410-792-2565</p>	<p align="center">COVER SHEET</p> <p>DATE: SEPTEMBER 17, 2019 BEI PROJECT NO. 2921-SDP SHEET 1 OF 6</p>
<p>DESIGN: DBT DRAFT: DBT</p>	<p>SCALE: AS SHOWN</p>



CHARTLEY
RECEIVED: 5/16/17

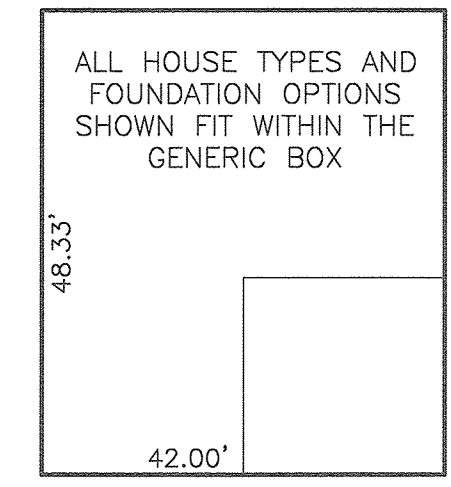
ABERDEEN
RECEIVED: 5/16/17

CLAREMONT
RECEIVED: 5/16/17



ANNAPOLIS
RECEIVED: 6.20.2019

PARKER
RECEIVED: 5/16/17



GENERIC BOX

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

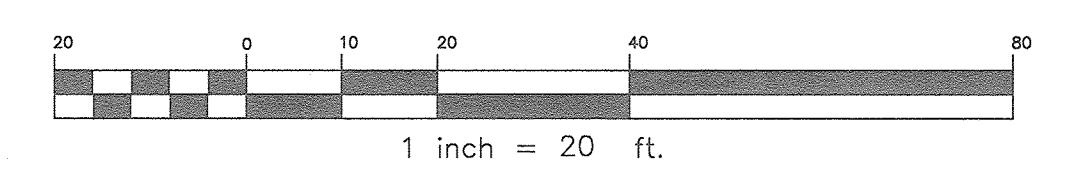
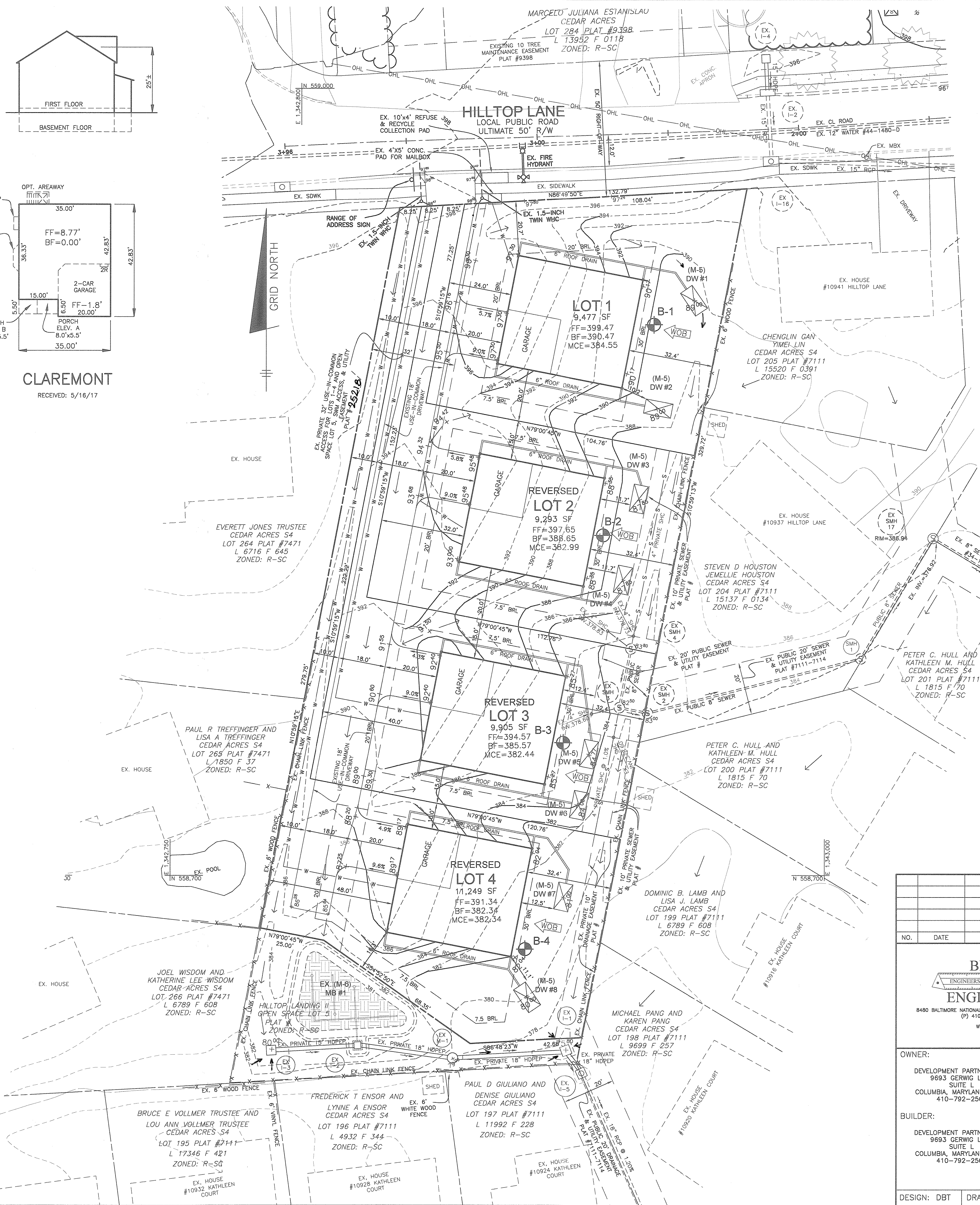
[Signature] 11-1-19
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 11-15-19
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 11-18-19
DIRECTOR DATE

LEGEND

- EXISTING CONTOURS
- EXISTING FENCELINE
- PROJECT BOUNDARY
- EXISTING STORM DRAIN
- EXISTING SEWER
- EX. WATER HOUSE CONNECTION
- EX. SEWER HOUSE CONNECTION
- PROPOSED DRYWELL
- INDICATES WALK-OUT BASEMENT
- FF=000.00 FIRST FLOOR ELEVATION
- BF=000.00 BASEMENT FLOOR ELEVATION
- MCE=000.00 MINIMUM CELLAR ELEVATION
- SOIL BORING LOCATION



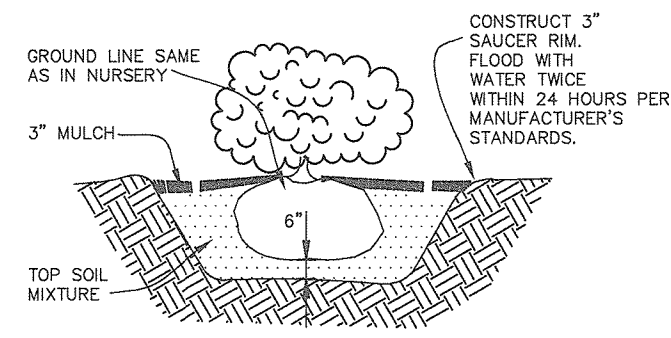
NO.	DATE	REVISION

BENCHMARK
ENGINEERS & LAND SURVEYORS & PLANNERS
ENGINEERING, INC.

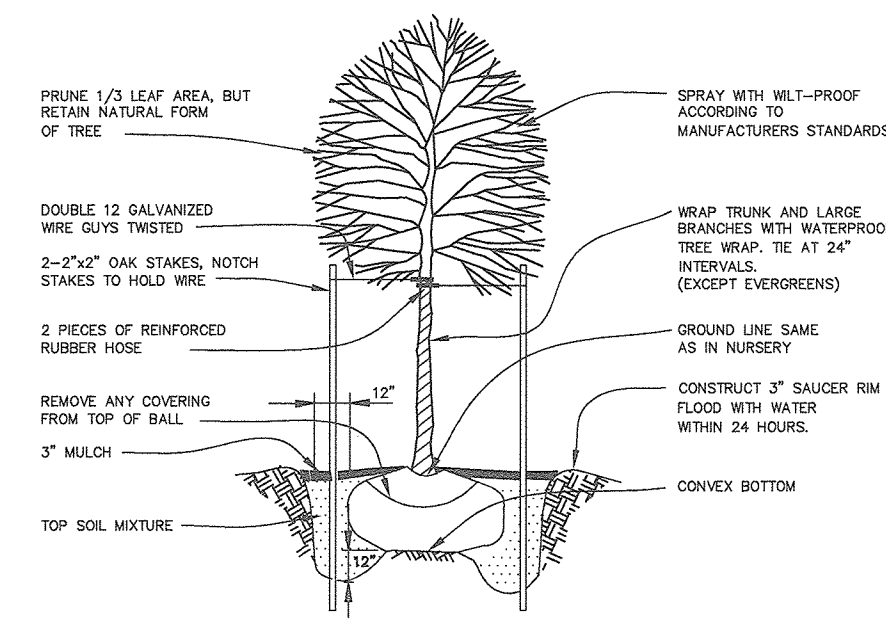
8480 BALTIMORE NATIONAL PIKE SUITE 3154 ELLICOTT CITY, MARYLAND 21043
(P) 410-465-6105 (F) 410-465-6644
WWW.BEI-CIVILENGINEERING.COM

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 22390. Expiration Date: 6-30-2021.

OWNER: DEVELOPMENT PARTNERS LLC 9693 GERWIC LANE SUITE L COLUMBIA, MARYLAND 21046 410-792-2565	HILLTOP LANDING II LOTS 1 thru 4
BUILDER: DEVELOPMENT PARTNERS LLC 9693 GERWIC LANE SUITE L COLUMBIA, MARYLAND 21046 410-792-2565	TAX MAP: 35 - GRID: 17 - PARCEL: 284 ZONED: R-SC ELECTION DISTRICT NO. 5 - HOWARD COUNTY, MARYLAND
DATE: SEPTEMBER 17, 2019	SITE DEVELOPMENT AND GRADING PLAN
DESIGN: DBT	DATE: SEPTEMBER 17, 2019 BEI PROJECT NO. 2921-SDP
DRAFT: DBT	SCALE: AS SHOWN SHEET 2 OF 6



SHRUB PLANTING DETAIL
NOT TO SCALE



TREE PLANTING DETAIL
NOT TO SCALE

LANDSCAPE NOTES:

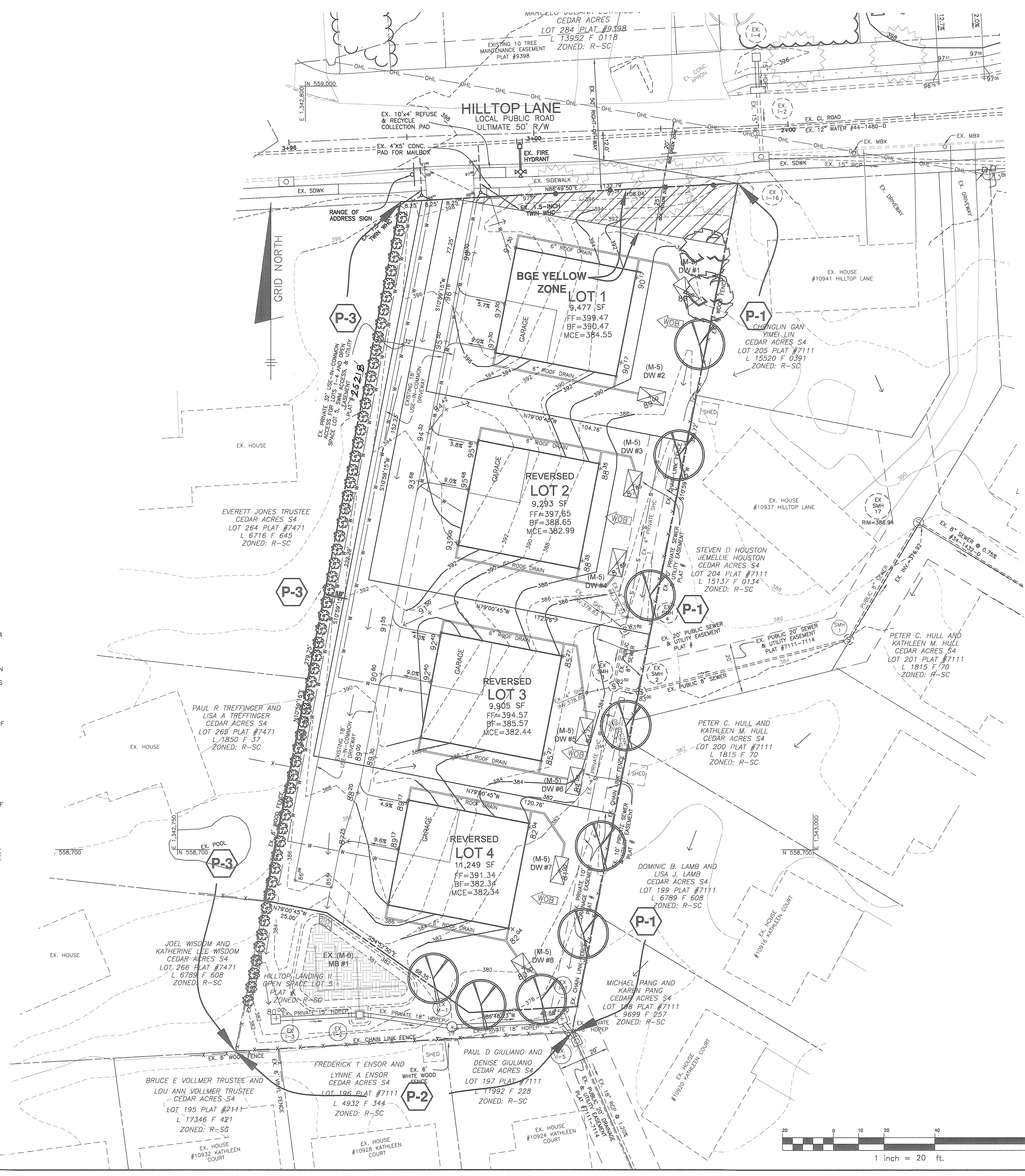
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL.
- STREET TREE LOCATIONS:
 - WHEN THE DISTANCE BETWEEN THE CURB AND SIDEWALK IS 6 FEET OR GREATER, THE TREES SHALL BE LOCATED WITHIN THE RIGHT-OF-WAY AND SHALL BE CENTERED BETWEEN THE CURB AND SIDEWALK.
 - WHEN THE DISTANCE BETWEEN THE CURB AND SIDEWALK IS LESS THAN 6 FEET, TREES MAY BE PLANTED 3 FEET FROM THE SIDEWALK IN THE DIRECTION AWAY FROM THE ROAD. A 10-FOOT WIDE TREE MAINTENANCE EASEMENT SHALL BE REQUIRED IF THE RIGHT-OF-WAY IS LIMITED.
 - TREES SHALL BE PLANTED 6 FEET BEHIND CURB WHEN THERE ARE NO SIDEWALKS.
 - TREES TO BE PLANTED MINIMUM 30 FEET FROM SIGNS AND INTERSECTIONS WHEN PLANTED BETWEEN SIDEWALK AND CURB. TREES MAY NOT BE PLANTED WITHIN 5 FEET OF A STORM DRAIN INLET, OPEN SPACE ACCESS STRIP, OR 10 FEET OF A DRIVEWAY.
- AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS HEREWITN LISTED AND APPROVED FOR THIS SITE, SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATION OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THIS APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO APPLICABLE PLANS AND CERTIFICATIONS.
- THE OWNER, TENANTS AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.
- FINANCIAL SURETY IN THE AMOUNT OF \$5,100.00 FOR THE REQUIRED 15 PERIMETER SHADE TREES AND 2 ADDITIONAL SHADE TREES WP-19-050 APPROVAL WAS POSTED AS PART OF THE DEVELOPERS AGREEMENT UNDER F-19-049

DEVELOPER'S/BUILDER'S CERTIFICATE

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY 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.

J.M. Boy 10/1/19
JUSTIN M. BOY DATE
DEVELOPMENT PARTNERS, LLC

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Chad Plummer 11-19
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE
Katherine Drosch 11-15-19
CHIEF, DIVISION OF LAND DEVELOPMENT DATE
J.G. 11-15-19
DIRECTOR DATE



SCHEDULE A PERIMETER LANDSCAPE EDGE				
CATEGORY	ADJACENT TO PERIMETER PROPERTY ①	ADJACENT TO PERIMETER PROPERTY ②	ADJACENT TO PERIMETER PROPERTY ③	TOTALS
LANDSCAPE TYPE	A - LIGHT 1:60 shade	A - LIGHT 1:60 shade	A - LIGHT 1:60 shade	
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	340 LF	133 LF	340 LF	
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO	NO	
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO	NO	
NUMBER OF PLANTS REQUIRED	340 LF	133 LF	340 LF	
SHADE TREES	6	3	6	15
EVERGREEN TREES	0	0	0	0
OTHER TREES (2:1 SUBSTITUTE)	0	0	0	0
SHRUBS	0	0	0	0
NUMBER OF PLANTS PROVIDED	8 ~	3	0	11
SHADE TREES	0	0	0	0
EVERGREEN TREES	0	0	0	0
OTHER TREES (2:1 SUBSTITUTE)	0	0	0	0
SHRUBS (10:1 SUBSTITUTE)	0	0	0	0

* SHRUBS HAVE BEEN SUBSTITUTED AT A 10:1 RATIO. ~ ADDITIONAL SHADE TREES ABOVE THE PERIMETER REQUIREMENT HAVE BEEN PROVIDED AS A CONDITION OF APPROVAL OF WP-19-050. (SEE PLAN VIEW FOR THESE LOCATIONS)

LANDSCAPE LEGEND				
SYMBOL	QUANTITY	NAME	REMARKS	DESCRIPTION
	9	TILIA CORDATA 'GREENSPIRE' (Greenspire Littleleaf Linden)	2.5" - 3" cal.	SHADE TREES ALONG PERIMETER EDGES TO BE PROVIDED BY THE BUILDER.
	2	QUERCUS PHELLOS (Willow Oak)	3" min. dbh	SHADE TREES AS REQUIRED BY THE APPROVAL OF WP-19-050
	4	ACER CAMPESTRE (Hedge/Field Maple)	2.5" - 3" cal.	EXISTING STREET TREES PLANTED UNDER F-19-049
	60	JUNIPERUS CHINENSIS (Pfitzerana Compacta) Compact Pfitzer Juniper	2' - 2.5' hgt.	NEEDLE EVERGREEN SHRUBS PLANTED AROUND REFUSE PAD AND USE-IN-COMMON DRIVE TO BE PROVIDED BY THE BUILDER.

NOTE: PLANTINGS FOR THE MICRO BIO-RETENTION ON OPEN SPACE LOT 5 WERE PROVIDED AND BONDED UNDER F-19-049

NO. DATE REVISION		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. 16328. Date: 6-30-2021.	
 8480 BALTIMORE NATIONAL PIKE SUITE 315A ELICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644 WWW.BEI-CIVILENGINEERING.COM		 ALAN J. LAMB PROFESSIONAL ENGINEER LICENSE NO. 16328 EXPIRES 6-30-2021	

Table B.1: Temporary Seeding for Site Stabilization

Plant Species	Seeding Rate 1/		Seeding Depth 2/ (inches)	Recommended Seeding Dates by Plant Hardiness Zone 3/		
	lb/ac	lb/1000 ft ²		5b and 6a	6b	7a and 7b
Cool-Season Grasses						
Annual Ryegrass (<i>Lolium perenne</i> ssp. <i>Mulatum</i>)	40	1.0	0.5	Mar 1 to May 15, Aug 1 to Oct 31		
Barley (<i>Hordeum vulgare</i>)	96	2.2	1.0	Mar 1 to May 15, Aug 1 to Oct 31		
Oats (<i>Avena sativa</i>)	72	1.7	1.0	Mar 1 to May 15, Aug 1 to Oct 31		
Wheat (<i>Triticum aestivum</i>)	120	2.8	1.0	Mar 1 to May 15, Aug 1 to Oct 31		
Cereal Rye (<i>Secale cereale</i>)	112	2.8	1.0	Mar 1 to May 15, Aug 1 to Nov 15		
Warm-Season Grasses						
Forstal Millet (<i>Seriataria italica</i>)	30	0.7	0.5	May 16 to Jul 31		
Pearl Millet (<i>Pennisetum glaucum</i>)	20	0.5	0.5	May 16 to Jul 31		

Notes:
 1/ Seeding rates for the warm season grasses are in pounds of Pure Live Seed (PLS). Actual planting rates shall be adjusted to reflect percent seed germination and purity, as tested. Adjustments are usually not needed for the cool-season grasses.
 2/ Seeding rates listed above are for temporary seedings, when planted alone. When planted as a nurse crop with permanent seed mixes, use 1/3 of the seeding rates listed above for barbs, oats, and wheat. For smaller seeded grasses (annual ryegrass, pearl millet, forstal millet) do not exceed more than 10% by weight of the overall permanent seeding mix. Cereal rye generally should not be used as a nurse crop, unless planting will occur very late fall beyond the seeding dates for other temporary seedings. Cereal rye has allelopathic properties that inhibit the germination and growth of other plants. If it must be used as a nurse crop, seed at 1/3 of the rate listed above.
 3/ For sandy soils, plant seeds at twice the depth listed above.
 4/ The planting dates listed are averages for each zone and may require adjustment to reflect local conditions, especially near the boundaries of the zone.

Permanent Seeding Summary

No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depth	N	Fertilizer Rate (10-20-20)		Lime Rate
						P205	K2O	
9	Fescue, Tall	60	Mar 1 to May 15 Aug 1 to Oct 15	1/4 - 1/2 in	45 pounds	90 lb/ac (120 lb)	210 lb (300 lb)	2 tons/ac (3000 lb)
	Bluegrass, Kentucky	40	Mar 1 to May 15 Aug 1 to Oct 15	1/4 - 1/2 in	per acre	90 lb/ac (120 lb)	210 lb (300 lb)	2 tons/ac (3000 lb)

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

C. Madigan 10/4/19
 ENGINEER DATE

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

J. M. Bay 10/1/19
 DEVELOPER DATE

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

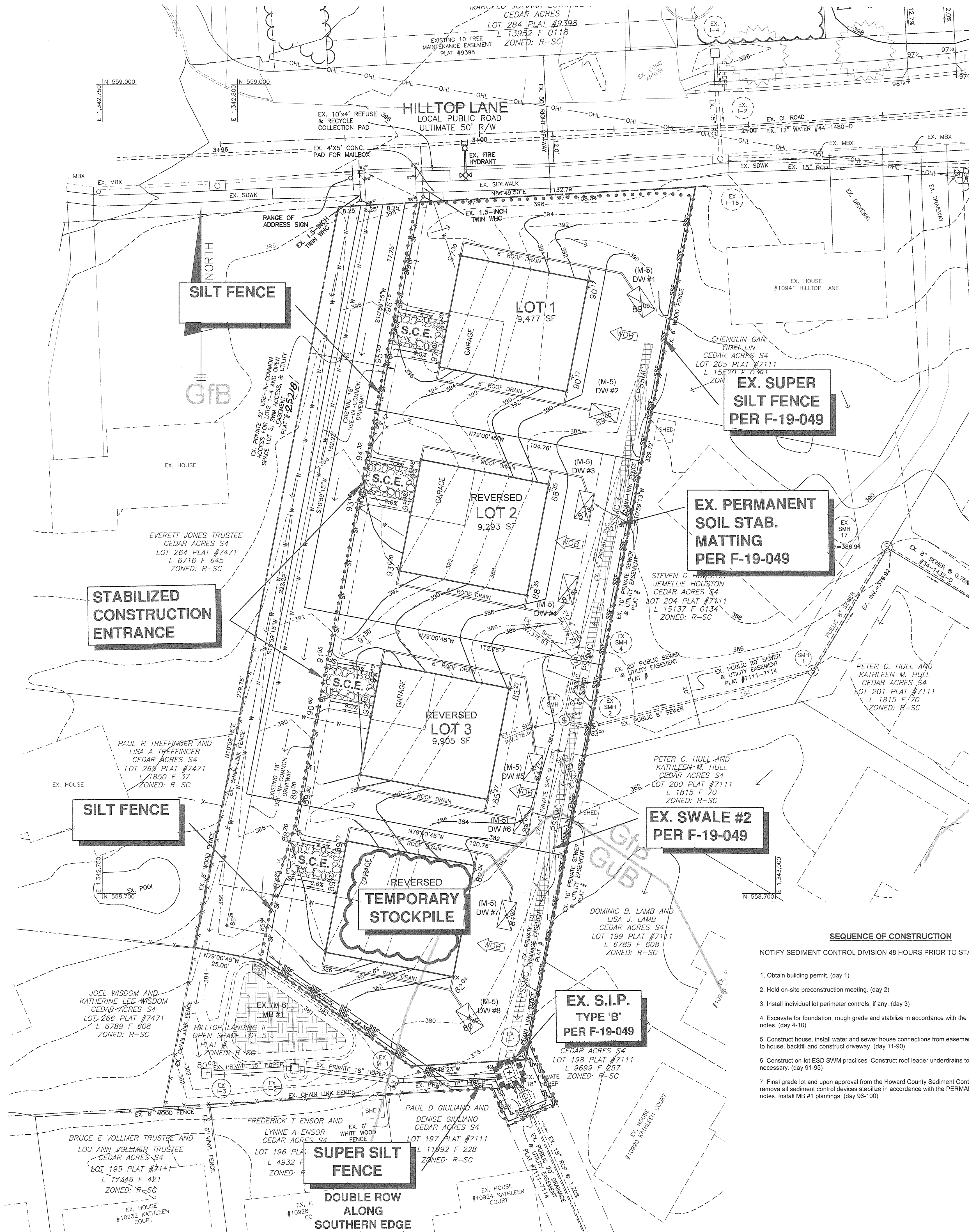
John K. Panton 10/15/19
 HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

John K. Panton 11-1-19
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

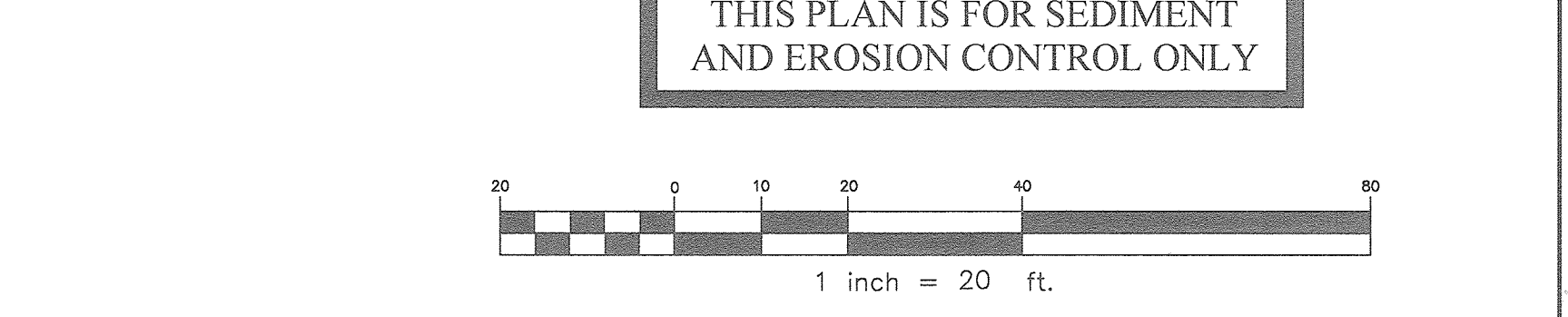
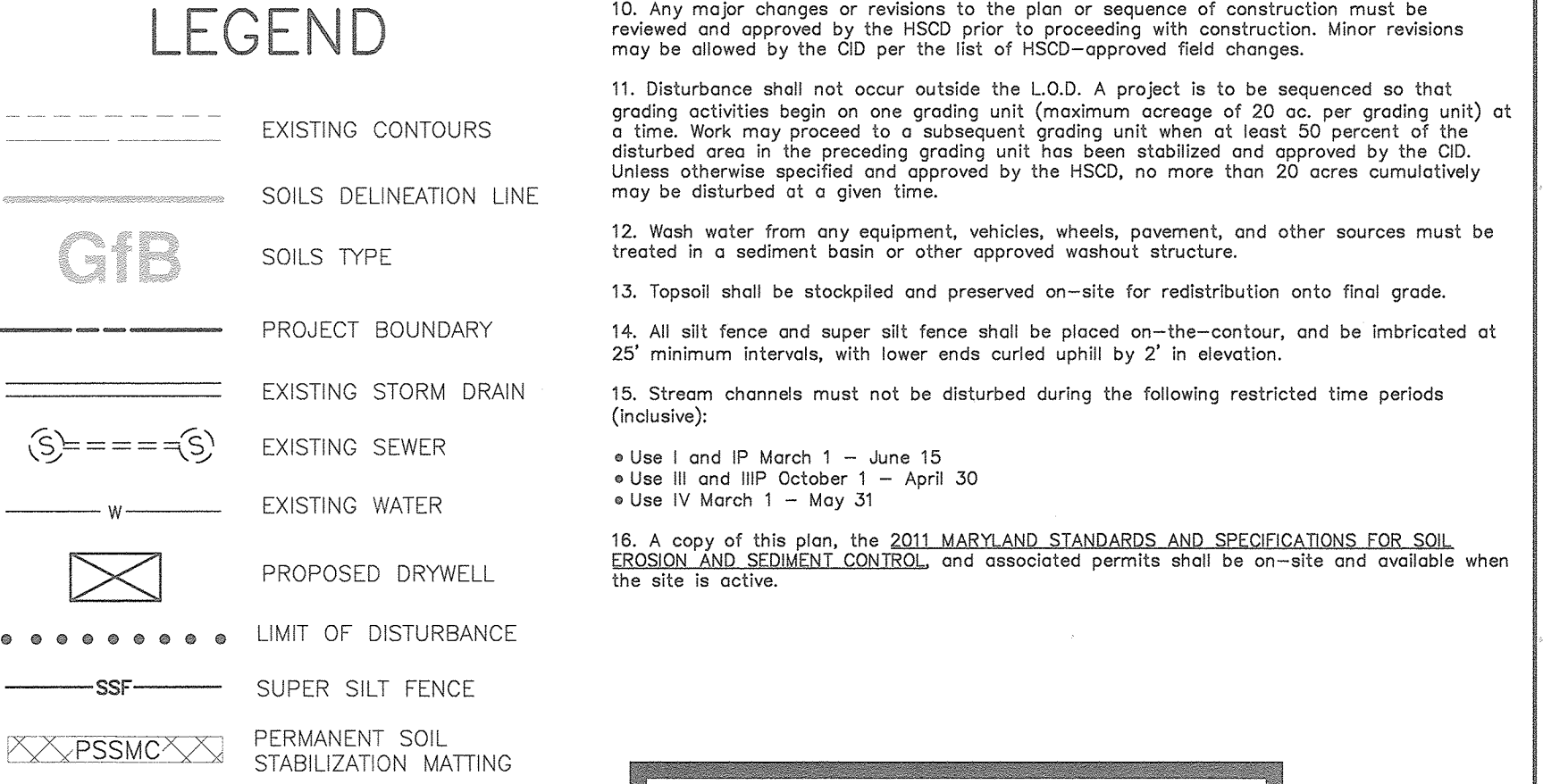
Kathleen M. Hull 11/15/19
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

A. G. 11-18-19
 DIRECTOR DATE



- HOWARD SOIL CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL NOTES**
- A pre-construction meeting must occur with the Howard County Department of Public Works, Construction Inspection Division (CID), 410-3133-1855 after the future LUD and protected areas are marked clearly in the field. A minimum of 48 hours notice to CID must be given at the following stages:
 - Prior to the start of earth disturbance.
 - Upon completion of the installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading.
 - Prior to the start of another phase of construction or opening of another grading unit.
 - Prior to the removal or modification of sediment control practices.
 - All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and revisions thereto.
 - Following initial soil disturbance or re-disturbance, permanent or temporary stabilization is required within three (3) calendar days as to the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes, and all slopes steeper than 3 horizontal to 1 vertical (3:1); and seven (7) calendar days as to all other disturbed areas on the project site except for those areas under active grading.
 - All disturbed areas must be stabilized within the time period specified above in accordance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for topsoil (Sec. B-4-2), permanent seeding (Sec. B-4-3), temporary seeding (Sec. B-4-4) and mulching (Sec. B-4-5). Temporary stabilization with mulch alone can only be applied between the fall and spring seeding dates if the ground is frozen. Incremental stabilization (Sec. B-4-1) specifications shall be enforced in areas with >15° of cut and/or fill. Stockpiles (Sec. B-4-8) in excess of 20 feet must be bermed with stable outlet. All concentrated flow, steep slope, and highly erodible areas shall receive soil stabilization matting (Sec. B-4-6).
 - All sediment control structures are to remain in place, and are to be maintained in operative condition until permission for their removal has been obtained from the CID.
 - Site Analysis:

Total Area of Site:	0.92 Acres	
Area Disturbed:	0.75 Acres	*CUT/FILL NUMBERS ARE ESTIMATES FOR SEDIMENT CONTROL PURPOSES ONLY. CONTRACTOR TO VERIFY.
Area to be roofed or paved:	0.22 Acres	
Area to be vegetatively stabilized:	0.53 Acres	
Total cut:	1,202 Cu Yds	
Total fill:	1,202 Cu Yds	
Off-site waste/borrow area location:	N/A	
 - Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
 - Additional sediment control must be provided, if deemed necessary by the CID. The site and all controls shall be inspected by the contractor weekly, and the next day after each rain event. A written report by the contractor, made available upon request, is part of every inspection and should include:
 - Inspection date
 - Inspection type (routine, pre-storm event, during rain event)
 - Name and title of inspector
 - Weather information (current conditions as well as time and amount of last recorded precipitation)
 - Brief description of project's status (e.g. percent complete) and/or current activities
 - Evidence of sediment discharges
 - Identification of plan deficiencies
 - Identification of sediment controls that require maintenance
 - Identification of missing or improperly installed sediment controls
 - Compliance status regarding the sequence of construction and stabilization requirements
 - Photographs
 - Monitoring/sampling
 - Maintenance and/or corrective action performed
 - Other inspection items as required by the General Permit for Stormwater Associated with Construction Activities (NPDES, MDE).
 - Trenches for the construction of utilities is limited to three pipe lengths or that which can and shall be back filled and stabilized by the end of each work day, whichever is shorter.
 - Any major changes or revisions to the plan or sequence of construction must be reviewed and approved by the HSCD prior to proceeding with construction. Minor revisions may be allowed by the CID per the list of HSCD-approved field changes.
 - 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. Unless otherwise specified and approved by the HSCD, no more than 20 acres cumulatively may be disturbed at a given time.
 - Wash water from any equipment, vehicles, wheels, pavement, and other sources must be treated in a sediment basin or other approved washout structure.
 - Topsoil shall be stockpiled and preserved on-site for redistribution onto final grade.
 - All silt fence and super silt fence shall be placed on-the-contour, and be implicated at 25' minimum intervals, with lower ends curled uphill by 2' in elevation.
 - Stream channels must not be disturbed during the following restricted time periods (inclusive):
 - Use I and IP March 1 - June 15
 - Use II and IIP October 1 - April 30
 - Use IV March 1 - May 31
 - A copy of this plan, the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and associated permits shall be on-site and available when the site is active.



SEQUENCE OF CONSTRUCTION

NOTIFY SEDIMENT CONTROL DIVISION 48 HOURS PRIOR TO START OF WORK

- Obtain building permit. (day 1)
- Hold on-site preconstruction meeting. (day 2)
- Install individual lot perimeter controls, if any. (day 3)
- Excavate for foundation, rough grade and stabilize in accordance with the temporary seeded notes. (day 4-10)
- Construct house, install water and sewer house connections from easement/right-of-way up to house, backfill and construct driveway. (day 11-90)
- Construct on-lot ESD SWM practices. Construct roof leader underdrains to the practice, if necessary. (day 91-95)
- Final grade lot and upon approval from the Howard County Sediment Control Inspector, remove all sediment control devices stabilize in accordance with the PERMANENT seeded notes. Install MB #1 plantings. (day 96-100)

NO.	DATE	REVISION

BENCHMARK ENGINEERING, INC.
 8480 BALTIMORE NATIONAL PIKE SUITE 315A ELLICOTT CITY, MARYLAND 21043
 (P) 410-485-6105 (F) 410-485-6664
 WWW.BEI-ONLINEENGINEERING.COM

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 22309, Expiration Date: 6-30-2021.

HILLTOP LANDING II
 LOTS 1 thru 4

TAX MAP: 35 - GRID: 17 - PARCEL: 284
 ZONED: R-SC
 ELECTION DISTRICT NO. 5 - HOWARD COUNTY, MARYLAND

SEDIMENT AND EROSION CONTROL PLAN

OWNER: DEVELOPMENT PARTNERS LLC 9593 GERWIG LANE SUITE L COLUMBIA, MARYLAND 21046 410-792-2565

BUILDER: DEVELOPMENT PARTNERS LLC 9593 GERWIG LANE SUITE L COLUMBIA, MARYLAND 21046 410-792-2565

DATE: SEPTEMBER 17, 2019 BEI PROJECT NO. 2921-SDP

DESIGN: DBT DRAFT: DBT SCALE: AS SHOWN SHEET 5 OF 6

B-4 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION
Definition: The process of preparing the soils to sustain adequate vegetative stabilization.
Purpose: To provide a suitable soil medium for vegetative growth to a depth of 3 to 5 inches.
Conditions Where Practice Applies: Where vegetative stabilization is to be established.

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

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. This practice also applies to stockpiles.

Criteria:
A. Incremental Stabilization - Cut Slopes
 1. Excavate and stabilize cut slopes in increments not to exceed 15 feet in height. Prepare seedbed and apply seed and mulch on all cut slopes as the work progresses.
 2. Construction sequence example (Refer to Figure B.1):
 a. Construct and stabilize all temporary swales or dikes that will be used to convey runoff around the excavation.
 b. Perform Phase 1 excavation, prepare seedbed, and stabilize.
 c. Perform Phase 2 excavation, prepare seedbed, and stabilize. Overseed Phase 1 areas as necessary.
 d. Perform final phase excavation, prepare seedbed, and stabilize. Overseed previously seeded areas as necessary.
 Note: Once excavation has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.
B. Incremental Stabilization - Fill Slopes
 1. Construct and stabilize fill slopes in increments not to exceed 15 feet in height. Prepare seedbed and apply seed and mulch on all fill slopes as the work progresses.
 2. Stabilize slopes immediately when the vertical height of a fill reaches 15 feet, or when the grading operation ceases as prescribed in the plans.
 3. At the end of each day, install temporary water conveyance practice(s), as necessary, to intercept surface runoff and convey it down the slope in a non-erosive manner.
 4. Construction sequence example (Refer to Figure B.2):
 a. Construct and stabilize all temporary swales or dikes that will be used to divert runoff around the fill. Construct fill face on low side of fill unless other methods shown on the plans address this area.
 b. At the end of each day, install temporary water conveyance practice(s), as necessary, to intercept surface runoff and convey it down the slope in a non-erosive manner.
 c. Place Phase 1 fill, prepare seedbed, and stabilize.
 d. Place Phase 2 fill, prepare seedbed, and stabilize.
 e. Place final phase fill, prepare seedbed, and stabilize. Overseed previously seeded areas as necessary.
 Note: Once the placement of fill has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.
 Figure B.

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 to a depth of 3 to 5 inches.
Conditions Where Practice Applies: Where vegetative stabilization is to be established.

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

B-4-3 STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING
Definition: The application of seed and mulch to establish vegetative cover.
Purpose: To protect disturbed soils from erosion during and at the end of construction.
Conditions Where Practice Applies: To the surface of all perimeter controls, slopes, and any disturbed area not under active grading.

Criteria:
A. Seeding
 1. Specifications
 a. All seed must meet the requirements of the Maryland State Seed Law. All seed must be subject to re-testing by a recognized seed laboratory. All seed used must have been tested within the 6 months immediately preceding the date of sowing such material on any project. Refer to Table B.4 regarding the quality of seed. Seed tags must be available upon request to the inspector to verify type of seed and seeding rate.
 b. Mulch alone may be applied between the fall and spring seeding dates only if the ground is frozen. The appropriate seeding mixture must be applied when the ground thaws.
 c. Inoculants for treating legume seed in the seed mixtures must be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Inoculants must not be used later than the date indicated on the container. Add fresh inoculants as directed on the package. Use four times the recommended rate when hydroseeding.
 Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less effective.
 d. Sod or seed must not be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phytotoxic materials.
 2. Application
 a. Dry Seeding. This includes use of conventional drop or broadcast spreaders.
 i. Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.1, Permanent Seeding Table B.3, or site-specific seeding summaries.
 ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seeded area with a weighted roller to provide good seed to soil contact.
 b. Drill or Cultipacker Seeding. Mechanized seeders that apply and cover seed with soil.
 i. Cultipacker seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting.
 ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction.
 c. Hydroseeding. Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer).
 i. If fertilizer is being applied at the time of seeding, the application rates should not exceed the following nitrogen, 100 pounds per acre total of soluble nitrogen; P2O5 (phosphorous), 200 pounds per acre; K2O (potassium), 200 pounds per acre.
 ii. Lime: Use only ground agricultural limestone (up to 3 tons per acre) may be applied by hydroseeding. Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use urea or hydrated lime when hydroseeding.
 iii. Mix seed and fertilizer on site and seed immediately and without interruption. When hydroseeding do not incorporate seed into the soil.
B. Mulching
 1. Mulch Materials (in order of preference)
 a. Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably bright in color. Straw is to be free of noxious weed seeds as specified in the Maryland Seed Law and not musty, moldy, caked, decayed, or excessively dusty.
 Note: Use only sterile straw mulch in areas where one species of grass is desired.
 b. Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into a uniform fibrous physical state.
 i. WCFM is to be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
 ii. WCFM, including dye, must contain no germination or growth inhibiting factors.
 iii. WCFM materials are to be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material must form a batter-like ground cover, on application, having moisture absorption and percolation properties and must cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
 iv. WCFM material must not contain elements or compounds at concentration levels that will be phytotoxic.
 v. WCFM must conform to the following physical requirements: fiber length of approximately 10 millimeters, diameter approximately 1 millimeter, pH range of 4.0 to 8.5, ash content of 1.6 percent maximum and water holding capacity of 90 percent minimum.
 2. Application
 a. Apply mulch to all seeded areas immediately after seeding.
 b. When straw mulch is used, spread it over all seeded areas at the rate of 2 tons per acre to a uniform loose depth of 1 to 2 inches. Apply mulch to achieve a uniform distribution and depth so that the soil surface is not exposed. When using a mulch anchoring tool, increase the application rate to 2.5 tons per acre.
 c. Wood cellulose fiber used as mulch must be applied at a net dry weight of 1500 pounds per acre. Mix the wood cellulose fiber with water to obtain a mixture with a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
 3. Anchoring
 a. Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water. This may be done by the following methods (listed by preference), depending upon the size of the area and erosion hazard:
 i. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of 2 inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should follow the contour.
 ii. Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at a net dry weight of 750 pounds per acre. Mix the wood cellulose fiber with water at a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
 iii. Synthetic binders such as Acrylic DLR (Agro-Tack), DCA-70, Petrosel, Terra Tax II, Terra Tack AR or other approved equal may be used. Follow application rates as specified by the manufacturer. Application of liquid binders needs to be heavier at the edges where wind catches mulch, such as in valleys and on crests of banks.
 iv. Use of asphalt binders is strictly prohibited.
 v. Lightweight plastic netting may be stapled over the mulch according to manufacturer recommendations. Netting is usually available in rolls 4 to 15 feet wide and 300 to 3,000 feet long.

B-4-4 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION
Definition: To stabilize disturbed soils with permanent vegetation.
Purpose: To use long-lived perennial grasses and legumes to establish permanent ground cover on disturbed soils.
Conditions Where Practice Applies: Exposed soils where ground cover is needed for 6 months or more.

Criteria:
A. Seed Mixtures
 1. General Use
 a. Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardiness Zone (from Figure B.3) and the based on the site condition or purpose found on Table B.2. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.
 b. Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guide, Section 342 - Critical Area Planting.
 c. For sites having disturbed areas over 5 acres, use and show the rates recommended by the soil testing agency.
 d. For areas receiving low maintenance, apply urea form fertilizer (46-0-0) at 3% by volume per 1000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary.
 2. Turfgrass Mixtures
 a. Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.
 b. Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.
 i. Kentucky Bluegrass: Full Sun Mixture: For use in areas that receive intensive management. Irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky Bluegrass Cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
 ii. Kentucky Bluegrass/Perennial Rye: Full Sun Mixture: For use in full sun areas where rapid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky Bluegrass Cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
 iii. Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium management in full sun to medium shade. Recommended mixture includes: Certified Tall Fescue Cultivars 95 to 100 percent, Certified Kentucky Bluegrass Cultivars 0 to 5 percent. Seeding Rate: 2 to 6 pounds per 1000 square feet. One or more cultivars may be blended.
 iv. Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use in areas with shade in Bluegrass lawns. For establishment in high quality, intensively managed turf area. Mixture includes Certified Kentucky Bluegrass Cultivars 30 to 40 percent and Certified Fine Fescue and 60 to 70 percent. Seeding Rate: 1 1/2 to 3 pounds per 1000 square feet.
 Notes: Select turfgrass varieties from those listed in the most current University of Maryland Publication, Agronomy Memo #77, "Turfgrass Cultural Recommendations for Maryland" Choose certified material. Certified material is the best guarantee of cultivar purity. The certification program of the Maryland Department of Agriculture, Turf and Seed Section, provides a reliable means of consumer protection and assures a pure genetic line.
 c. Ideal Times of Seeding for Turf Grass Mixtures
 Western MD: March 15 to June 1, August 1 to October 1 (Hardiness Zones: 5b, 6a)
 Central MD: March 1 to May 15, August 15 to October 15 (Hardiness Zones: 6b)
 Southern MD, Eastern Shore: March 1 to May 15, August 15 to October 15 (Hardiness Zones: 7a, 7b)
 d. Till areas to receive seed by disking or other approved methods to a depth of 2 to 4 inches, level and rake the areas to prepare a proper seedbed. Remove stones and debris over 1 1/2 inches in diameter. The resulting seedbed must be in such condition that future mowing of grasses will pose no difficulty.
 e. If soil moisture is deficient, supply new seedlings with adequate water for plant growth (1/2 to 1 inch every 3 to 4 days depending on soil texture) until they are firmly established. This is not especially true when seedlings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites.
B. Sod: To provide quick cover on disturbed areas (2:1 grade or flatter).

B-4-5 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. For longer duration of time, permanent stabilization practices are required.

Criteria:
 1. Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardiness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below along with application rates, seeding dates and seeding depths. If this Summary is not put on the plan and completed, then Table B.1 plus fertilizer and lime rates must be put on the plan.
 2. For sites having soil tests performed, use and show the recommended rates by the testing agency. Soil tests are not required for Temporary Seeding.
 3. When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section B-4.3.A.1 and maintain until the next seeding season.

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

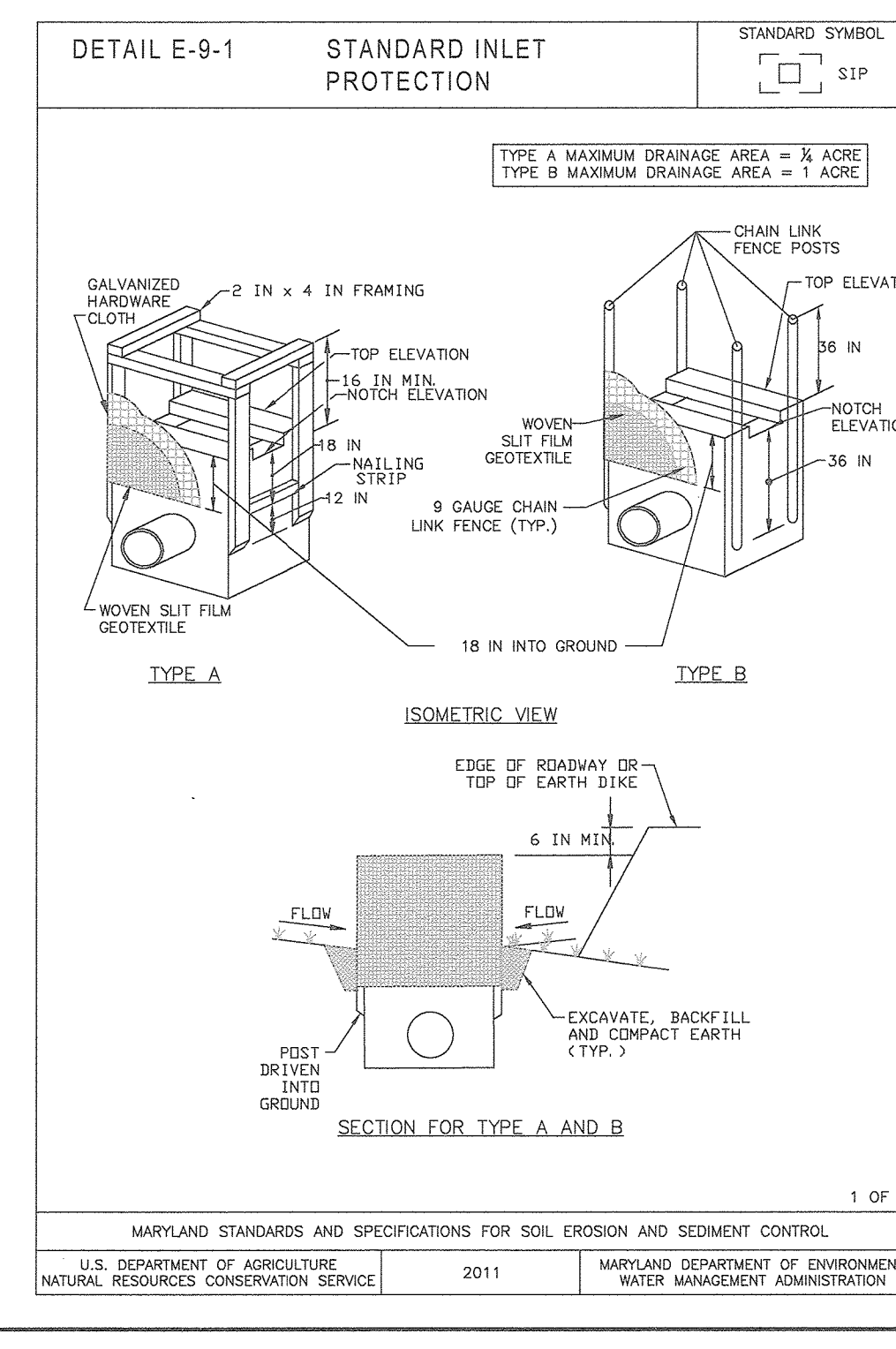
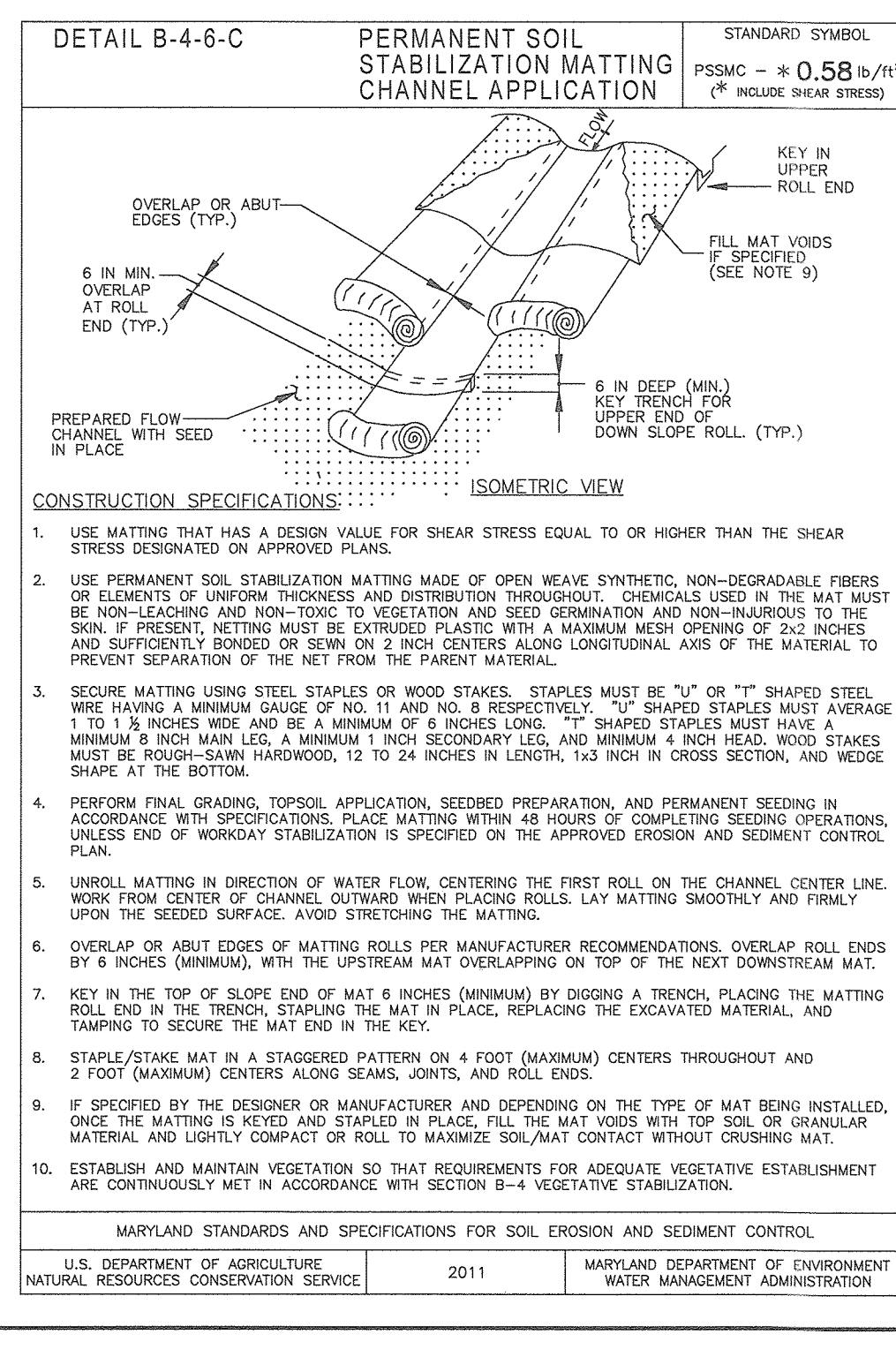
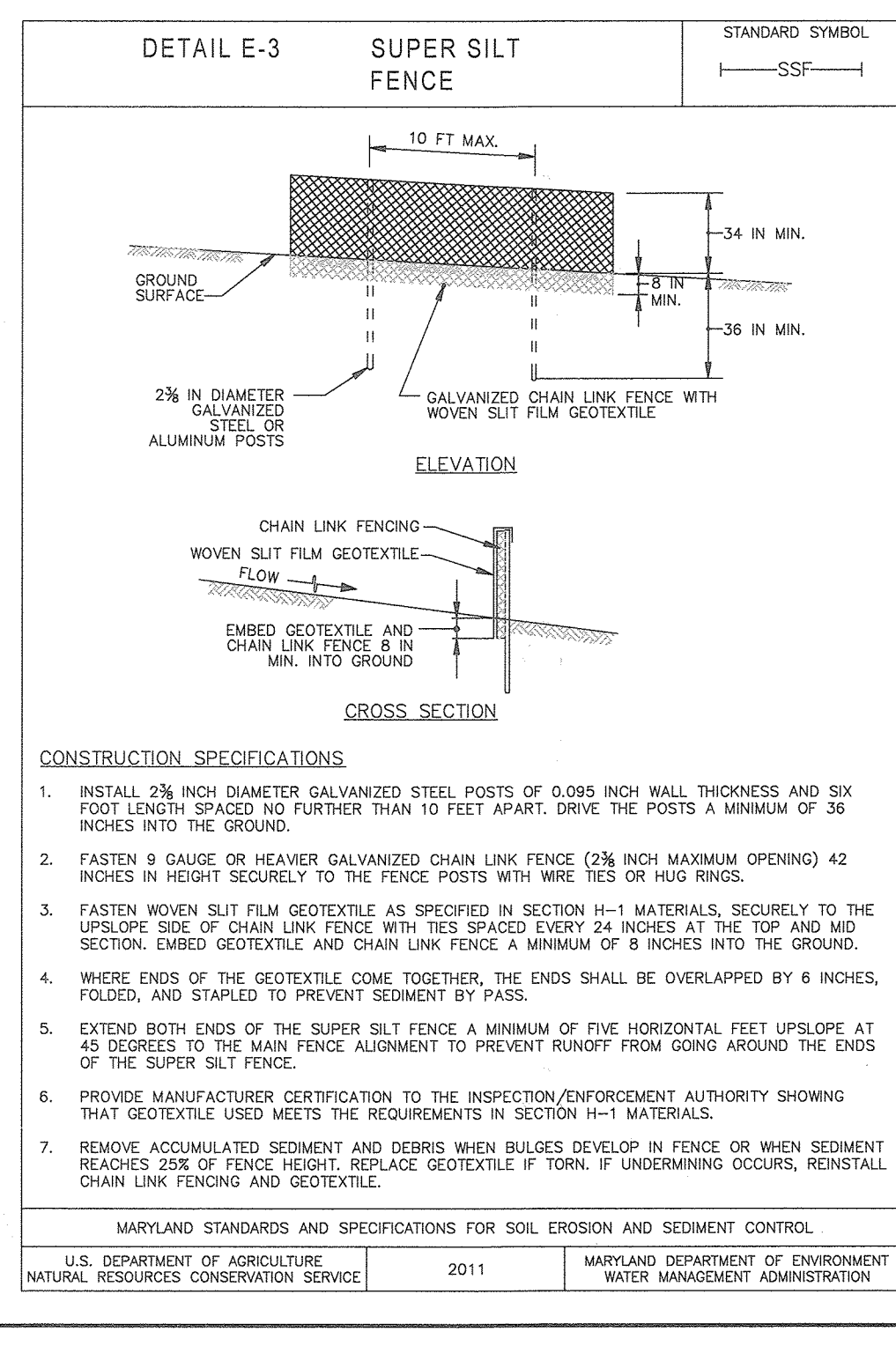
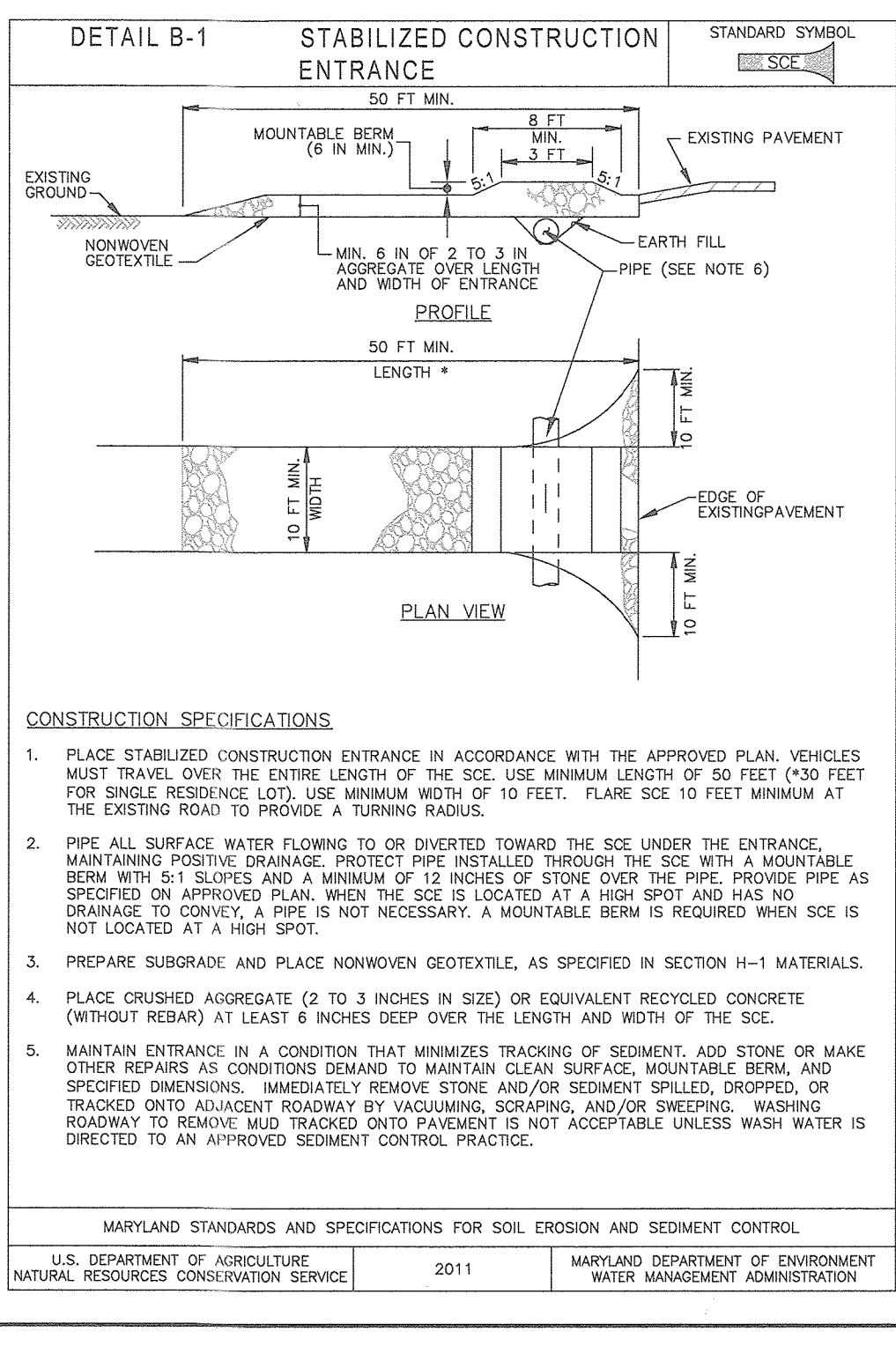
Cl. Malagari 10/4/19
 ENGINEER DATE

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

John M. By 10/1/19
 DEVELOPER DATE

John R. Platon 10/15/19
 HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division 11-1-19 DATE
 Chief, Division of Land Development 11/15/19 DATE
 Director 11-28-19 DATE



BENCHMARK ENGINEERING, INC.
 8480 BALTIMORE NATIONAL PIKE SUITE 315A ELLICOTT CITY, MARYLAND 21043
 (P) 410-465-8105 (F) 410-465-6644
 WWW.BE-CIVILENGINEERING.COM

Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 22369, Expiration Date: 6-30-2021.

HILLTOP LANDING II
 LOTS 1 thru 4
 TAX MAP: 35 - GR - RD: 17 - PARCEL: 284
 ZONED: R-SC
 ELECTION DISTRICT NO. 5 - HOWARD COUNTY, MARYLAND

SEDIMENT AND EROSION CONTROL NOTES AND DETAILS

OWNER: DEVELOPMENT PARTNERS LLC 9933 GERWIG LANE SUITE L COLUMBIA, MARYLAND 21046 410-792-2565
 DEVELOPMENT PARTNERS LLC 9933 GERWIG LANE SUITE L COLUMBIA, MARYLAND 21046 410-792-2565
 BUILDER: DEVELOPMENT PARTNERS LLC 9933 GERWIG LANE SUITE L COLUMBIA, MARYLAND 21046 410-792-2565
 DATE: SEPTEMBER 17, 2019
 BEI PROJECT NO. 2921-SDP
 SCALE: AS SHOWN
 SHEET 6 OF 6