

**GENERAL NOTES**

- THIS PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS ALTERNATIVE COMPLIANCE(S) HAVE BEEN SUBMITTED AND APPROVED.
- THE SUBJECT PROPERTY IS ZONED R-SC PER THE OCTOBER 6, 2013 COMPREHENSIVE ZONING PLAN.
- 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.
- TRACT BOUNDARY IS BASED ON A FIELD RUN BOUNDARY SURVEY PERFORMED BY BENCHMARK ENGINEERING, INC. ON OR ABOUT SEPTEMBER, 2014.
- THE EXISTING TOPOGRAPHY IS TAKEN FROM A FIELD SURVEY BY BENCHMARK ENGINEERING, INC. IN SEPTEMBER, 2014. EXISTING UTILITIES SHOWN ARE BASED ON A FIELD SURVEY BY BENCHMARK ENGINEERING, INC. IN SEPTEMBER, 2014.
- 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 DMV III.
- THE TRAFFIC STUDY WAS PREPARED BY MARS GROUP, INC. IN FEBRUARY, 2015 AND APPROVED UNDER S-15-005 ON JUNE 4, 2015.
- THE FOREST STAND DELINEATION AND WETLAND DELINEATION WAS PERFORMED BY ECO-SCIENCE PROFESSIONALS, INC. IN SEPTEMBER, 2014.
- THE GEOTECHNICAL REPORT WAS PREPARED BY GEOTECHNICAL LABORATORIES, INC. IN NOVEMBER, 2014.
- THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT. THE WATER AND SEWER IS PUBLIC. THE CONTRACT NUMBER IS 24-4902-D. THE DRAINAGE AREA IS THE MIDDLE PATUXENT.
- 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 DATE TO BE DETERMINED, ON WHICH DATE, DEVELOPERS AGREEMENT NUMBER F-17-037/24-4902 WAS FILED AND ACCEPTED.
- TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO CEMETERY LOCATIONS ON-SITE.
- THERE ARE NO HISTORIC SITES/STRUCTURES LOCATED ON THIS SITE.
- THERE ARE NO WETLANDS, WETLANDS BUFFERS, STREAMS, 100YR FLOODPLAIN, OR STEEP SLOPES 25% AND GREATER THAT ARE MORE THAN 20,000 SF OF CONTIGUOUS AREA LOCATED ON THIS SITE.
- DRIVEWAYS SHALL BE PROVIDED PRIOR TO RESIDENTIAL OCCUPANCY TO INSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
  - WIDTH - 12' (16' SERVING MORE THAN ONE RESIDENCE).
  - SURFACE - 6" OF COMPACT CRUSHER RUN BASE WITH TAR AND CHIP COATING (1-1/2" MIN).
  - GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE AND MINIMUM 45' TURNING RADIUS.
  - STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING).
  - DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOODPLAIN WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY.
  - STRUCTURE CLEARANCES - MINIMUM 12 FEET.
  - MAINTENANCE - SUFFICIENT TO INSURE ALL WEATHER USE.
- 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.
- THE PRIVATE USE-IN-COMMON MAINTENANCE ACCESS AGREEMENT FOR LOTS 2 thru 7 SHALL BE RECORDED SIMULTANEOUSLY WITH THE RECORDATION OF THE SUBDIVISION PLAT.
- THE PURPOSE OF OPEN SPACE LOT 8 IS FOR THE PROTECTION OF EXISTING FOREST AND TO BUFFER THE PROPOSED SUBDIVISION FROM THE EXISTING HOMES WITHIN THE ADJACENT EXISTING SUBDIVISION. IT SHALL BE DEDICATED TO AND MAINTAINED BY THE HOMEOWNERS ASSOCIATION.
- THE ARTICLES OF INCORPORATION FOR THE HOMEOWNERS ASSOCIATION WILL BE ACCEPTED BY THE STATE DEPARTMENT OF ASSESSMENTS AND TAXATION PRIOR TO RECORDATION OF THE PLAT.
- THE RECREATIONAL OPEN SPACE REQUIREMENT FOR THIS PROJECT IS NOT REQUIRED SINCE THERE ARE LESS THAN 10 LOTS.
- STORMWATER MANAGEMENT ENVIRONMENTAL SITE DESIGN (ESD) 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" TO THE MAXIMUM EXTENT PRACTICABLE (MEP) VIA ONE (M-6) MICRO BIO-RETENTION PRACTICE, THREE (M-3) LANDSCAPE INFILTRATION PRACTICES AND EIGHT (M-5) DRY WELLS. MICRO BIO-RETENTION #1 AND LANDSCAPE INFILTRATION FACILITY #1 SHALL BE OWNED AND MAINTAINED BY THE HOMEOWNERS ASSOCIATION. ALL OTHER PRACTICES SHALL BE PRIVATELY OWNED AND MAINTAINED BY THE OWNER OF THE LOT ON WHICH THEY RESIDE.
- 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 \$7,200.00 FOR THE REQUIRED PERIMETER LANDSCAPING AND ADDITIONAL TREES PER WP-16-148 APPROVAL SHALL BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT.
- THE FOREST CONSERVATION OBLIGATION AMOUNT OF 1.07 ACRES SHALL BE MET BY UTILIZING 0.095 ACRES WITHIN THE FOREST MITIGATION BANK ESTABLISHED ON PHELPS PROPERTY, SDP-04-026FC, AND BY A FEE-IN-LIEU PAYMENT IN THE AMOUNT OF \$31,854.00 FOR THE REMAINING 0.975 ACRE OBLIGATION.
- THE REQUIRED COMMUNITY MEETING FOR THIS PROJECT, PER SECTION 16.128 OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, WAS HELD ON SEPTEMBER 4, 2014.
- THIS PROJECT IS SUBJECT TO SECTION 13.402 OF THE COUNTY CODE FOR MODERATE INCOME HOUSING UNITS (MIHU). THIS REQUIREMENT SHALL BE FULFILLED BY PAYMENT OF A FEE-IN-LIEU 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.
- WP-16-148, A REQUEST FOR AN ALTERNATIVE COMPLIANCE TO SECTION 16.146 AND SECTION 16.1205(c)(7) WAS APPROVED ON AUGUST 22, 2016 SUBJECT TO THE FOLLOWING CONDITIONS:
  - THE REMOVAL OF THE TWO (2) SPECIMEN TREES WILL REQUIRE REPLACEMENT MITIGATION AT A RATIO OF TWO (2) LARGER CALIPER TREES AT LEAST 3 INCHES DBH FOR EACH SPECIMEN TREE REMOVED (4 TREES TOTAL).
  - SPECIMEN TREE #1 AND #3 MUST BE PROTECTED DURING CONSTRUCTION
  - SUBMISSION OF A FINAL PLAN APPLICATION, INCLUDING A FINAL SUBDIVISION PLAT AND A SUPPLEMENTAL PLAN.
  - THE PROPOSED DRIVEWAY TO SERVE LOTS 2 thru 7 SHALL COMPLY WITH SECTION 16.120(b)(6)(v) OF THE HOWARD COUNTY SUBDIVISION REGULATIONS.
- THE EXISTING WELL MUST BE PROPERLY ABANDONED BY A LICENSED WELL DRILLER. THE ABANDONMENT REPORT SHALL BE SUBMITTED TO THE HEALTH DEPARTMENT PRIOR TO HEALTH DEPARTMENT SIGNATURE OF THE RECORD PLAT.
- 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.
- UTILIZE HO. CO. STD. R-6.03 FOR DRIVEWAY APRONS.
- PREVIOUS HOWARD COUNTY FILE REFERENCES: ECP-15-021, S-15-005, WP-16-148
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410)-313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNAGE SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE) - 3' LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.

**AS-BUILT CERTIFICATION**  
I hereby certify, by my seal, that to the best of my knowledge and belief the facilities shown on this "AS-BUILT" Plan meet the Approved Plans and Specifications

Donald Mason, P.E.  
Date: *Nealeco*

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. *21443*, Expiration Date: *12/31/20*

# HILLTOP LANDING

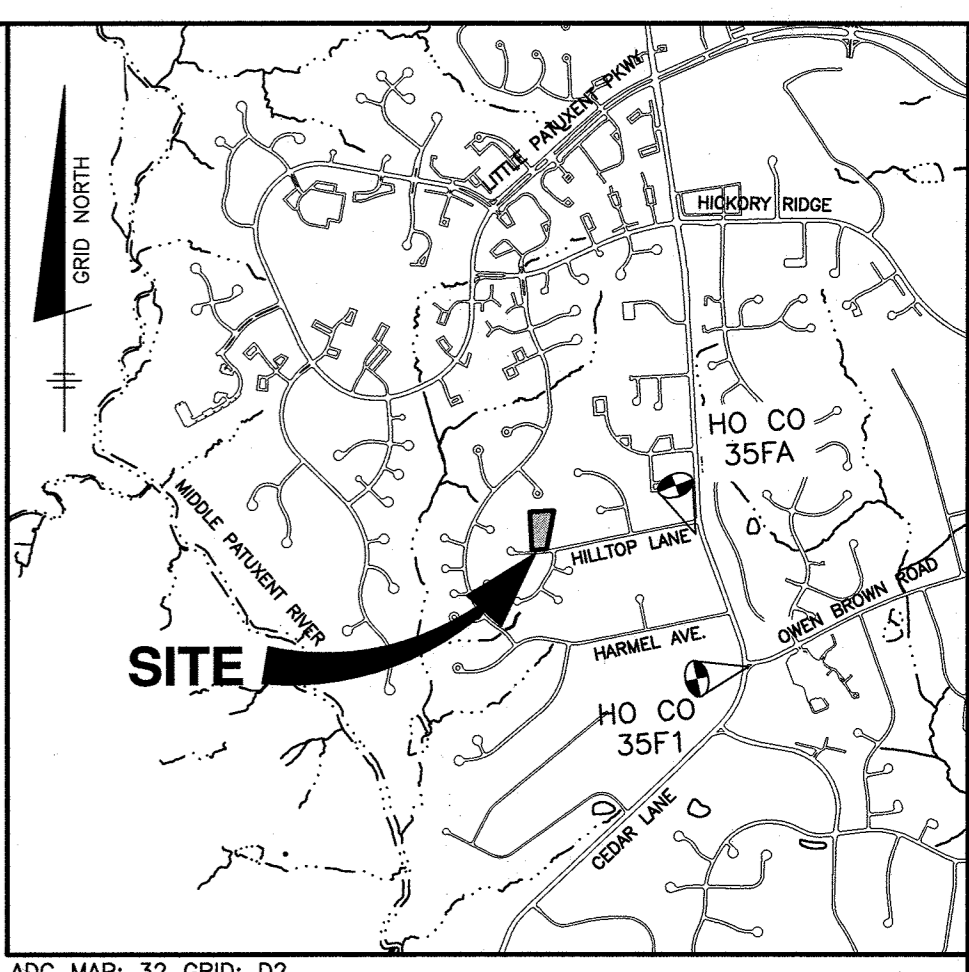
## LOTS 1 thru 7 and OPEN SPACE LOT 8

### A RESUBDIVISION OF CEDAR ACRES BLOCK A, LOT 12 PLAT BOOK 4, FOLIO 11, 10932 HILLTOP LANE

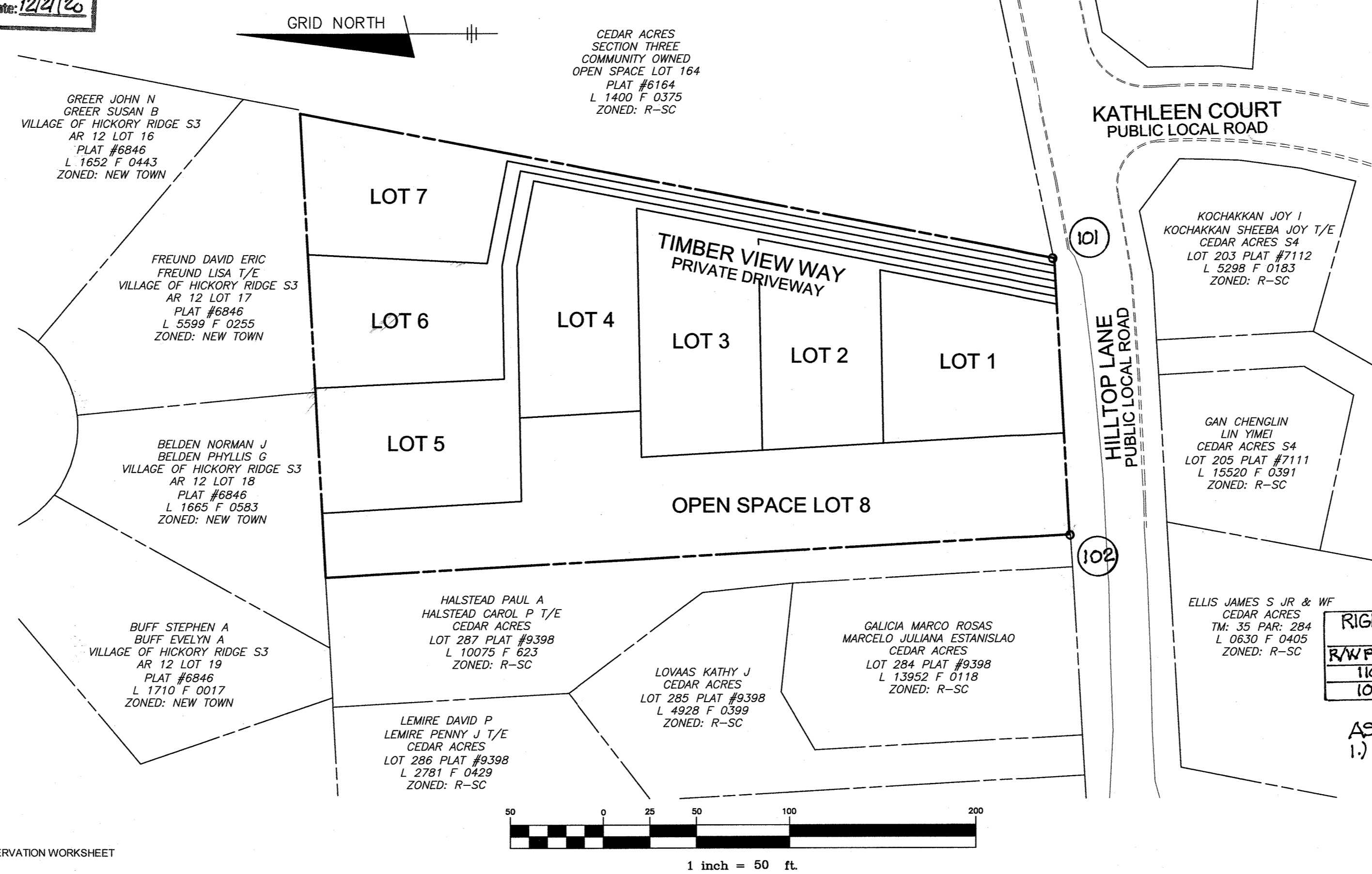
# SUPPLEMENTAL PLANS

**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'



LOT	STREET ADDRESS
1	10940 HILLTOP LANE
2	10807 TIMBER VIEW WAY
3	10811 TIMBER VIEW WAY
4	10815 TIMBER VIEW WAY
5	10819 TIMBER VIEW WAY
6	10823 TIMBER VIEW WAY
7	10827 TIMBER VIEW WAY



LOT	GROSS AREA	PIPESTEM AREA	MINIMUM LOT SIZE
2	7,258	385	6,873
3	8,854	651	8,203
4	8,585	916	7,669
5	9,291	2,038	7,253
6	8,485	1,617	6,868
7	8,286	1,195	7,091

MINIMUM LOT SIZE ALLOWED PER ZONING (SECTION 110.D.2): 6,000 SF

NO.	TITLE
1	TITLE SHEET
2	SITE GRADING, UTILITY, AND ROAD IMPROVEMENT PLAN
3	STORMWATER MANAGEMENT DETAILS
4	STORMWATER MANAGEMENT DETAILS
5	ESD TO THE MEP STORMWATER MANAGEMENT DA MAP
6	STORM DRAIN DRAINAGE MAP, PROFILES, & DETAILS AND SOILS MAP
7	LANDSCAPE PLAN
8	SOIL BORING LOGS AND TRAFFIC CONTROL DETAILS

R/W PT NO	DESCRIPTION	ELEVATION
110	REBAR & CAP	397.93
102	REBAR & CAP	396.63

**AS-BUILT NOTES:**

- HORIZONTAL DATUM FOR THIS AS-BUILT IS BASED ON THE MARYLAND STATE REFERENCE SYSTEM NAD 83/ADJ 07 AS PROJECTED FROM HO. CO. GEODETIC CONTROL STATIONS 35F1 AND 35F1. VERTICAL DATUM FOR THIS AS-BUILT IS NORTH AMERICAN VERTICAL DATUM NVD 88 AS PROJECTED FROM THE ABOVE MENTIONED HOWARD COUNTY GEODETIC CONTROL STATIONS.
- THE INSTRUMENTS USED IN PERFORMING THE AS-BUILT WERE A B\* TOTAL STATION AND PRISM AND RTK GPS.
- THIS AS-BUILT WAS PERFORMED BY BENCHMARK ENGINEERING, INC.

Zoning	R-SC
Gross Area	1.84 ac
100yr Floodplain	0.00 ac
Steep Slopes 25% or greater (outside floodplain)	0.00 ac
Net Area	1.84 ac
Number of lots/units allowed (4 d.u. per net acre)	7
Number of lots/units proposed	7
Area of Buildable Lots	1.35 ac
Area of Open Space Lots	0.49 ac
Area of Proposed Right-of-way Dedication	0.00 ac
Open Space Calculations	
Area of Open Space Required (25% of net)	0.46 ac
Area of Open Space Provided	0.49 ac
Area of Non-Credited Open Space	0.00 ac
Area of Credited Open Space	0.49 ac
Recreational Open Space Required	NA*
Recreational Open Space Provided	NA

\* Recreational open space is not required since there are less than 10 lots/units proposed (Section 16.121(a)(4)(i))

**THIS SHEET REPLACES PREVIOUS SHEET DATED MAY 2, 2017**

**NOTE:**  
THIS PLAN CANNOT BE USED FOR A GRADING PERMIT FOR LOT GRADING, SEDIMENT AND EROSION CONTROL TO BE PROVIDED AT THE SITE DEVELOPMENT PLAN STAGE.

A. Total tract area	1.84
B. Land dedication areas (parks, county facility, etc.)	0.00
C. Land dedication for roads or utilities (not being constructed by this pl.)	0.00
D. Area to remain in commercial agricultural production use	0.00
E. Other deductions (specify): FLOODPLAIN	0.00
F. Net Tract Area	1.84

Input the number "1" under the appropriate land use, limit to only one entry.	ARA	MDR	IDA	HDR	MPD	CIA
	0	0	0	1	0	0

G. Afforestation Threshold	15%	x F =	0.28
H. Conservation Threshold	20%	x F =	0.37

35.) WP-17-069, A REQUEST FOR AN ALTERNATE COMPLIANCE TO SECTION 16.1205(c)(7) WAS APPROVED ON FEBRUARY 28, 2017 SUBJECT TO THE FOLLOWING CONDITIONS:

- THE REMOVAL OF THE SPECIMEN TREE (SPECIMEN TREE #3) WILL REQUIRE REPLACEMENT MITIGATION AT A RATIO OF TWO (2) LARGER CALIPER TREES (AT LEAST 3 INCHES DBH) FOR EACH ADDITIONAL SPECIMEN TREE REMOVED (6 TREES TOTAL INCLUDING THE PREVIOUSLY APPROVED ALTERNATE COMPLIANCE REQUEST WP-16-148). THE MITIGATION PLANTING CAN BE PROVIDED AS PART OF THE REQUIRED PERIMETER LANDSCAPING FOR THIS PROJECT.
- SPECIMEN TREE #1 MUST BE PROTECTED DURING CONSTRUCTION. A REGISTERED ARBORIST MUST INSPECT THE TREE AND IMPLEMENT RECOMMENDATIONS FOR THE PROFESSIONAL PRUNING OF ROOTS AND FOLIAGE. ALL PRUNING MUST BE PERFORMED BY A MARYLAND LICENSED TREE EXPERT. TREE PROTECTION FENCING MUST BE INSTALLED TO THE GREATEST EXTENT POSSIBLE AROUND SPECIMEN TREE #1 TO PREVENT ROOT AND FOLIAGE DAMAGE DURING CONSTRUCTION. ALTERNATIVE DESIGNS OF THE SITE MUST BE CONDUCTED BY THE CONSULTANT IN ORDER TO MINIMIZE ROOT DAMAGE.

KEY	SPECIES	SIZE (IN. DBH)	CRZ (FT. RADII)	COMMENTS
1	WHITE OAK	33	49.5	GOOD CONDITION -- TO REMAIN -- OFF SITE
2	TULIP POPLAR	32.5	48.75	GOOD CONDITION -- TO BE REMOVED
3	TULIP POPLAR	35	52.5	GOOD CONDITION -- TO BE REMOVED
4	TULIP POPLAR	30.5	45.75	GOOD CONDITION -- TO BE REMOVED

(SEE SHEET 2 FOR LOCATIONS)

Lot	Street Address	Practice	DA (sf)	Imp Area (sf)	% Imp	Rv	Pe required	Required		Provided		ESDv (cf)	Pe Provided	Ownership	Maintenance Responsibility	
								Required	Provided	2% DA?	Provided					
Open Space Lot 4	N/A	(M-6) Micro-Bioretenion	#1	19,013	8,907	47%	0.47	1.8	380	380	PASS	1345	1.8	Private	HOA	
Lot 1	10940 Hilltop Lane	(M-3) Landscape Infiltration	#1	4,785	2,555	53%	0.53	1.8	96	96	PASS	381	400	1.9	Private	HOA
Lot 2	10807 Timber View Way	(M-3) Landscape Infiltration	#2	9,128	2,701	30%	0.32	1.8	183	196	PASS	433	627	2.6	Private	Lot 2 owner
Lot 3	10811 Timber View Way	(M-3) Landscape Infiltration	#3	9,998	3,685	37%	0.38	1.8	200	200	PASS	572	637	2.0	Private	Lot 3 owner
Lot 1	10940 Hilltop Lane	(M-5) Drywell	#1	356	356	100%	0.95	1.8				51	52	1.8	Private	Lot 1 owner
Lot 1	10940 Hilltop Lane	(M-5) Drywell	#2	427	427	100%	0.95	1.8				61	64	1.9	Private	Lot 1 owner
Lot 5	10819 Timber View Way	(M-5) Drywell	#3	904	904	100%	0.95	1.8				129	144	2.0	Private	Lot 5 owner
Lot 5	10819 Timber View Way	(M-5) Drywell	#4	904	904	100%	0.95	1.8				129	144	2.0	Private	Lot 5 owner
Lot 6	10823 Timber View Way	(M-5) Drywell	#5	955	955	100%	0.95	1.8				136	144	1.9	Private	Lot 6 owner
Lot 6	10823 Timber View Way	(M-5) Drywell	#6	955	955	100%	0.95	1.8				136	144	1.9	Private	Lot 6 owner
Lot 7	10827 Timber View Way	(M-5) Drywell	#7	1,038	1,038	100%	0.95	1.8				148	156	1.9	Private	Lot 7 owner
Lot 7	10827 Timber View Way	(M-5) Drywell	#8	1,038	1,038	100%	0.95	1.8				148	156	1.9	Private	Lot 7 owner
Totals per individual Drainage Area				49,501	24,425	50%	0.50					3669	4020			
Totals per Overall Site				56,567	24,047.3	45%	0.46	1.8				3861				

Notes:  
1. - The Pe required column is based on total site Pe calculation. The Rv is based on individual drainage area percent impervious (per DEP).  
2. - The ESDv Required for the (M-6) practices is based on 75% of ESDv.  
3. - There is approximately 1,983 sq ft of impervious area not treated via ESD for the driveway of Lot 1 and portion of use-in-common drive below the Landscape Infiltration. See justification in report.

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*Melvin* 5/10/2018  
CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Kevin D. O'Neil* 5-24-18  
CHIEF, DIVISION OF LAND DEVELOPMENT

*Chad* 5-3-18  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

**Eco-Science Professionals, Inc.**  
CONSULTING ECOLOGISTS

MD DNR Qualified Professional  
USACE Wetland Delimitator  
Certification # 193793 MD06100433

P.O. Box 5006 Glen Arm, MD 21057 (410) 592-6752

**BENCHMARK ENGINEERING, INC.**  
8480 BALTIMORE NATIONAL PIKE & SUITE 315 & ELLICOTT CITY, MARYLAND 21043  
(P) 410-485-8105 (F) 410-485-8644  
WWW.BE-CIVILENGINEERING.COM

**HILLTOP LANDING**  
LOTS 1-7 AND OPEN SPACE LOT 8  
A RESUBDIVISION OF CEDAR ACRES BLOCK A, LOT 12 PLAT BOOK 4, FOLIO 11, 10932 HILLTOP LANE

OWNER: DEVELOPMENT PARTNERS LLC  
9693 GERWIG LANE, SUITE L COLUMBIA, MD 21046 410-792-2565

DEVELOPER: DEVELOPMENT PARTNERS LLC  
9693 GERWIG LANE, SUITE L COLUMBIA, MD 21046 410-792-2565

TAX MAP: 35 - GRID: 11 - PARCEL: 41  
ZONED: R-SC  
ELECTION DISTRICT NO. 5 - HOWARD COUNTY, MARYLAND

**SUPPLEMENTAL PLAN**  
TITLE SHEET

DATE: APRIL 16, 2018 BEI PROJECT NO. 2615  
SCALE: AS SHOWN SHEET 1 OF 8



**LEGEND**

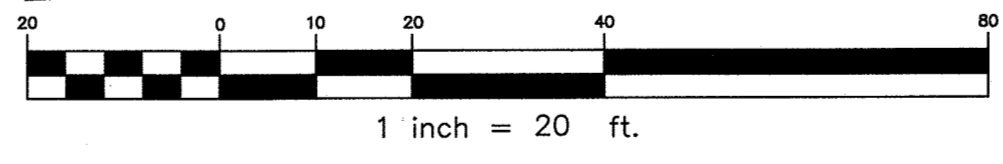
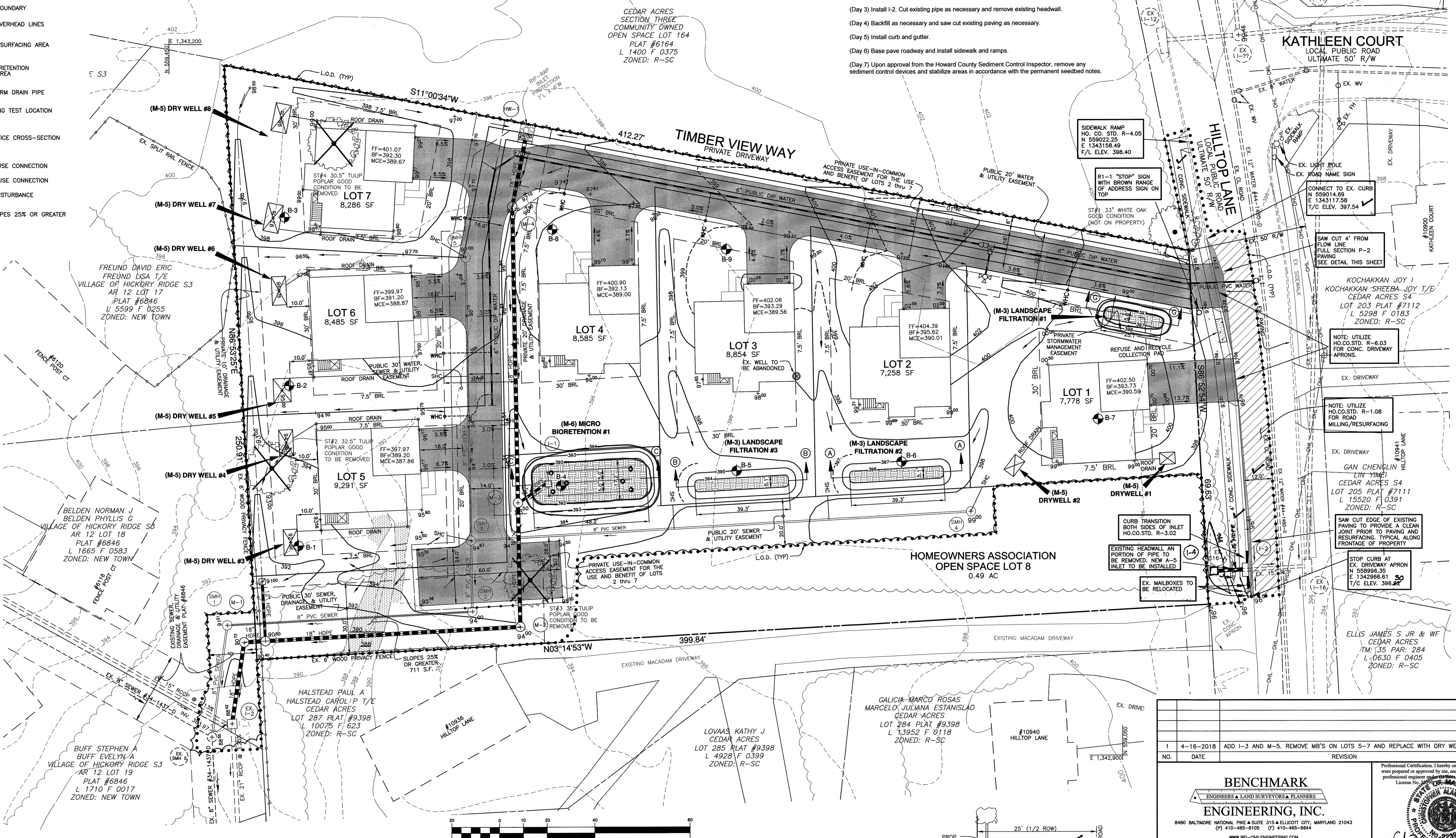
- EXISTING CONTOURS
- EXISTING TREELINE
- EXISTING FENCELINE
- PROJECT BOUNDARY
- EXISTING OVERHEAD LINES
- MILLING/RESURFACING AREA
- MICRO-BIORETENTION SURFACE AREA
- PROP. STORM DRAIN PIPE
- SOIL BORING TEST LOCATION
- ESD PRACTICE CROSS-SECTION
- WATER HOUSE CONNECTION
- SEWER HOUSE CONNECTION
- LIMIT OF DISTURBANCE
- STEEP SLOPES 25% OR GREATER



**SEQUENCE OF CONSTRUCTION For PUBLIC ROAD IMPROVEMENTS**

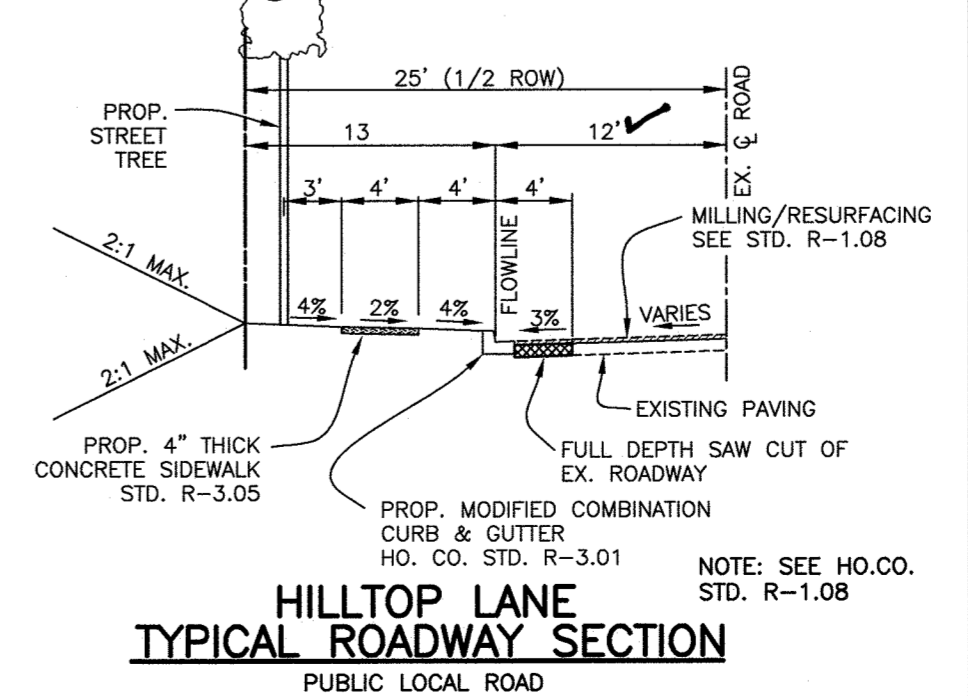
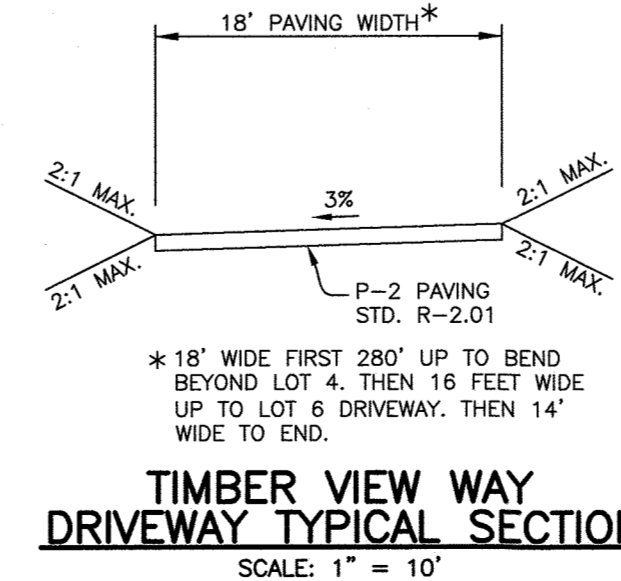
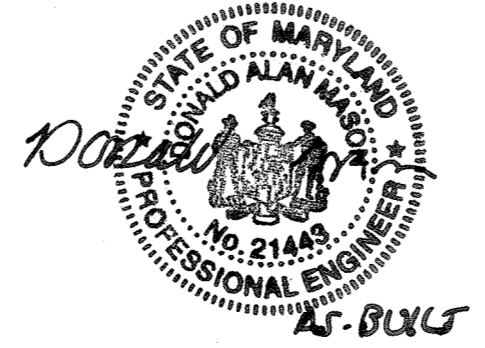
- NOTIFY SEDIMENT CONTROL DIVISION 48 HOURS PRIOR TO START OF WORK
- (Day 1) Obtain standard sediment and erosion control permit.
  - (Day 2) Hold on-site pre-construction meeting.
  - (Day 3) Install I-2. Cut existing pipe as necessary and remove existing headwall.
  - (Day 4) Backfill as necessary and saw cut existing paving as necessary.
  - (Day 5) Install curb and gutter.
  - (Day 6) Base pave roadway and install sidewalk and ramps.
  - (Day 7) Upon approval from the Howard County Sediment Control Inspector, remove any sediment control devices and stabilize areas in accordance with the permanent seedbed notes.

**NOTE: SEE SHEET 8 FOR FLAGGING AND SHOULDER WORK TRAFFIC CONTROL DETAILS**



**AS-BUILT CERTIFICATION**  
 I hereby certify, by my seal, that to the best of my knowledge and belief the facilities shown on this "AS-BUILT" Plan meet the Approved Plans and Specifications  
 Donald Mason, P.E. Date: 7/29/2020

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
 License No. 21443, Expiration Date: 12/31/20



APPROVED: DEPARTMENT OF PUBLIC WORKS  
 [Signature] 5/10/2018  
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 [Signature] 5-24-18  
 CHIEF, DIVISION OF LAND DEVELOPMENT

[Signature] 5-3-18  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

**THIS SHEET REPLACES PREVIOUS SHEET DATED MAY 2, 2017**

NO.	DATE	REVISION
1	4-16-2018	ADD I-3 AND M-5. REMOVE MB'S ON LOTS 5-7 AND REPLACE WITH DRY WELLS

**BENCHMARK ENGINEERING, INC.**  
 ENGINEERS & LAND SURVEYORS & PLANNERS  
 8490 BALTIMORE NATIONAL PIKE & SUITE 315 & ELLICOTT CITY, MARYLAND 21043  
 (P) 410-485-8105 (F) 410-485-8644  
 WWW.BEI-CVLENGINEERING.COM

**HILLTOP LANDING**  
 LOTS 1-7 AND OPEN SPACE LOT 8  
 A RESUBDIVISION OF CEDAR ACRES BLOCK A, LOT 12  
 PLAT BOOK 4, FOLIO 11, 10932 HILLTOP LANE

OWNER: DEVELOPMENT PARTNERS LLC, 9893 GERWIG LANE, SUITE L COLUMBIA, MD 21046, 410-792-2565

DEVELOPER: DEVELOPMENT PARTNERS LLC, 9893 GERWIG LANE, SUITE L COLUMBIA, MD 21046, 410-792-2565

TAX MAP: 35 - GRID: 11 - PARCEL: 41  
 ZONED: R-SC  
 ELECTION DISTRICT NO. 5 - HOWARD COUNTY, MARYLAND

**SITE GRADING, UTILITY, AND ROAD IMPROVEMENT PLAN**

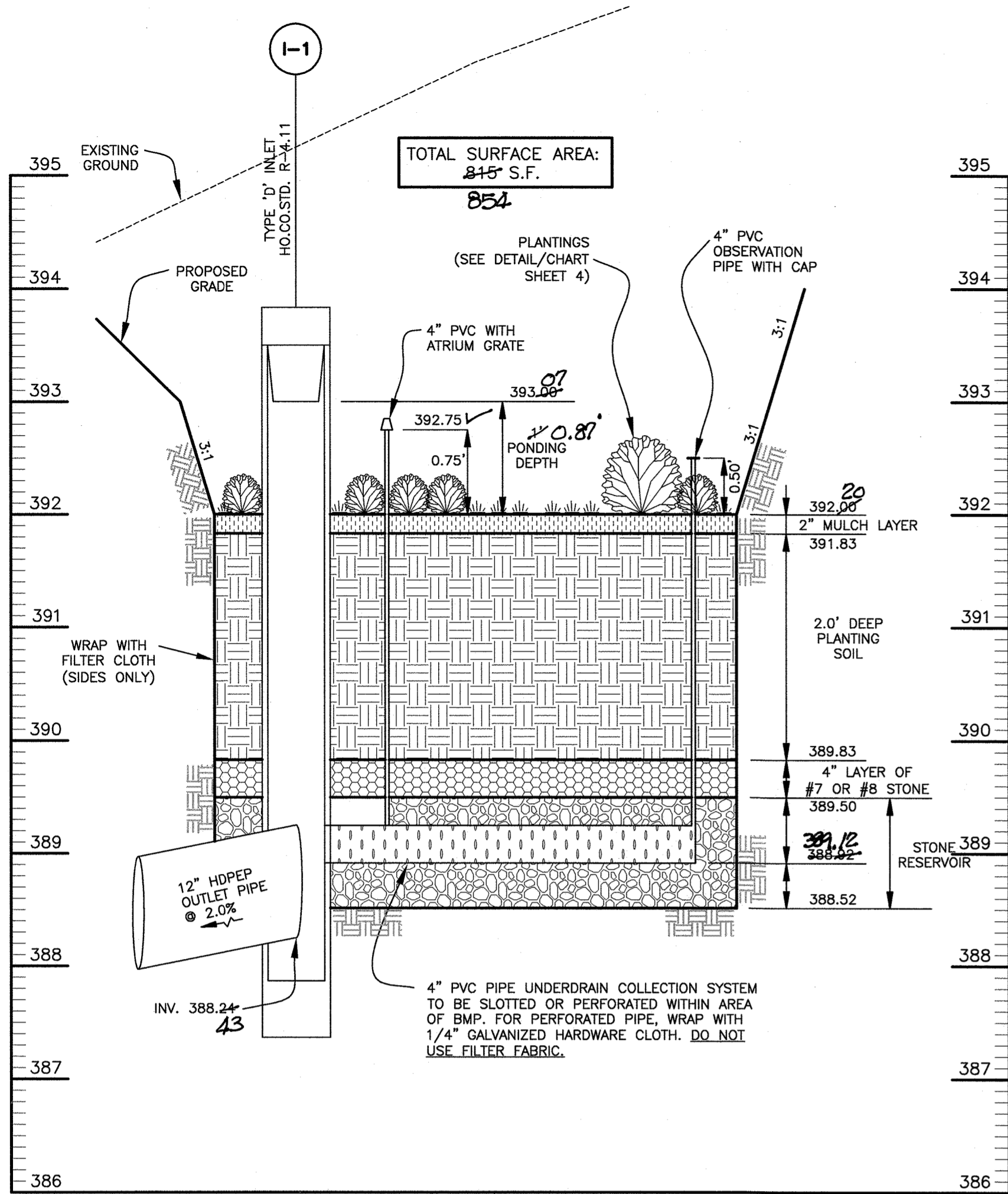
DATE: APRIL 16, 2018 BEI PROJECT NO. 2615  
 DESIGN: DBT DRAFT: DBT SCALE: AS SHOWN SHEET 2 OF 8



AS-BUILT CERTIFICATION  
 I hereby certify, by my seal, that to the best of my knowledge  
 and belief the facilities shown on this "AS-BUILT"  
 Plan meet the Approved Plans and Specifications  
 Donald Mason, P.E. Date: 7/28/2020

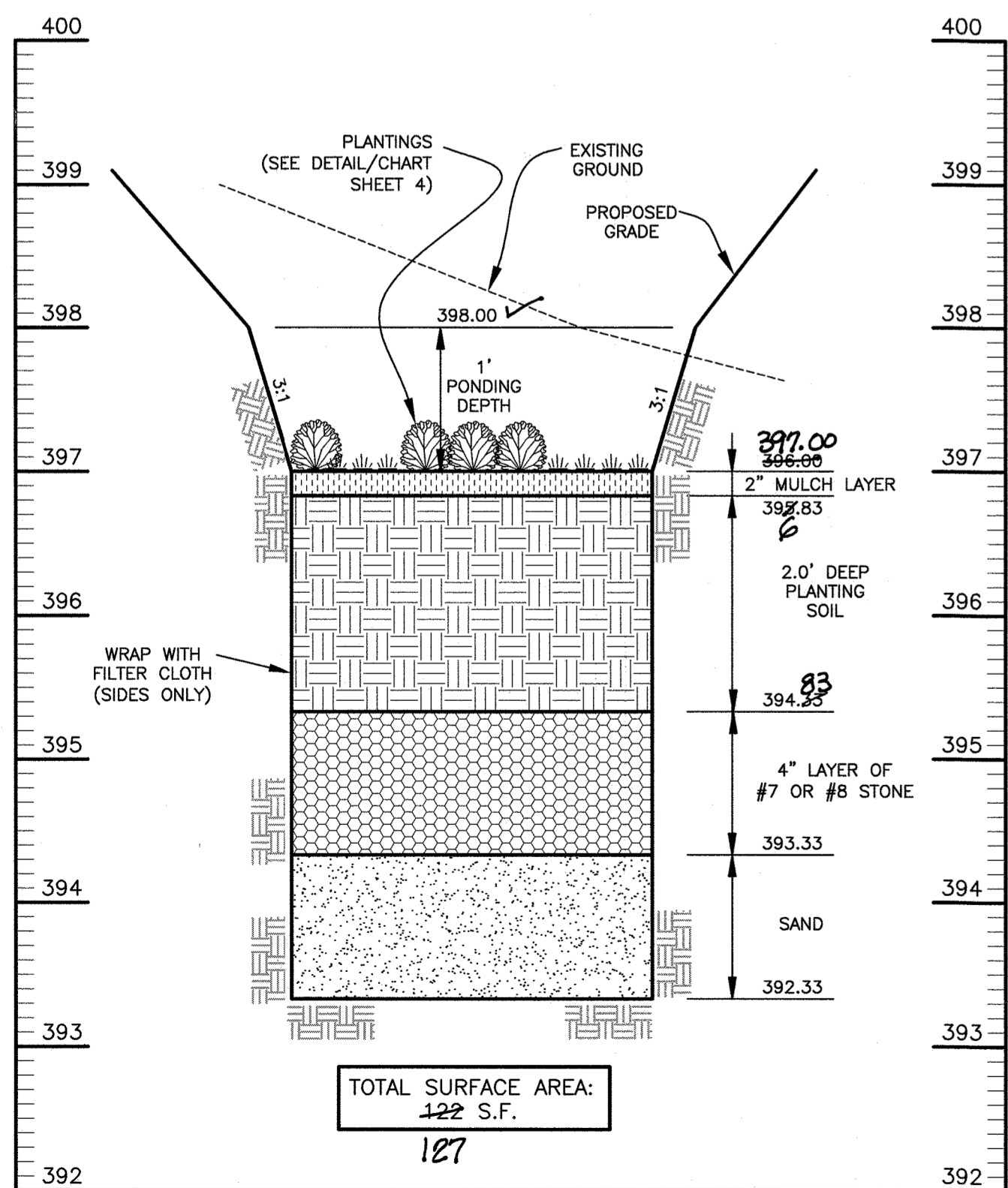


Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
 License No. 21443, Expiration Date: 12-21-20

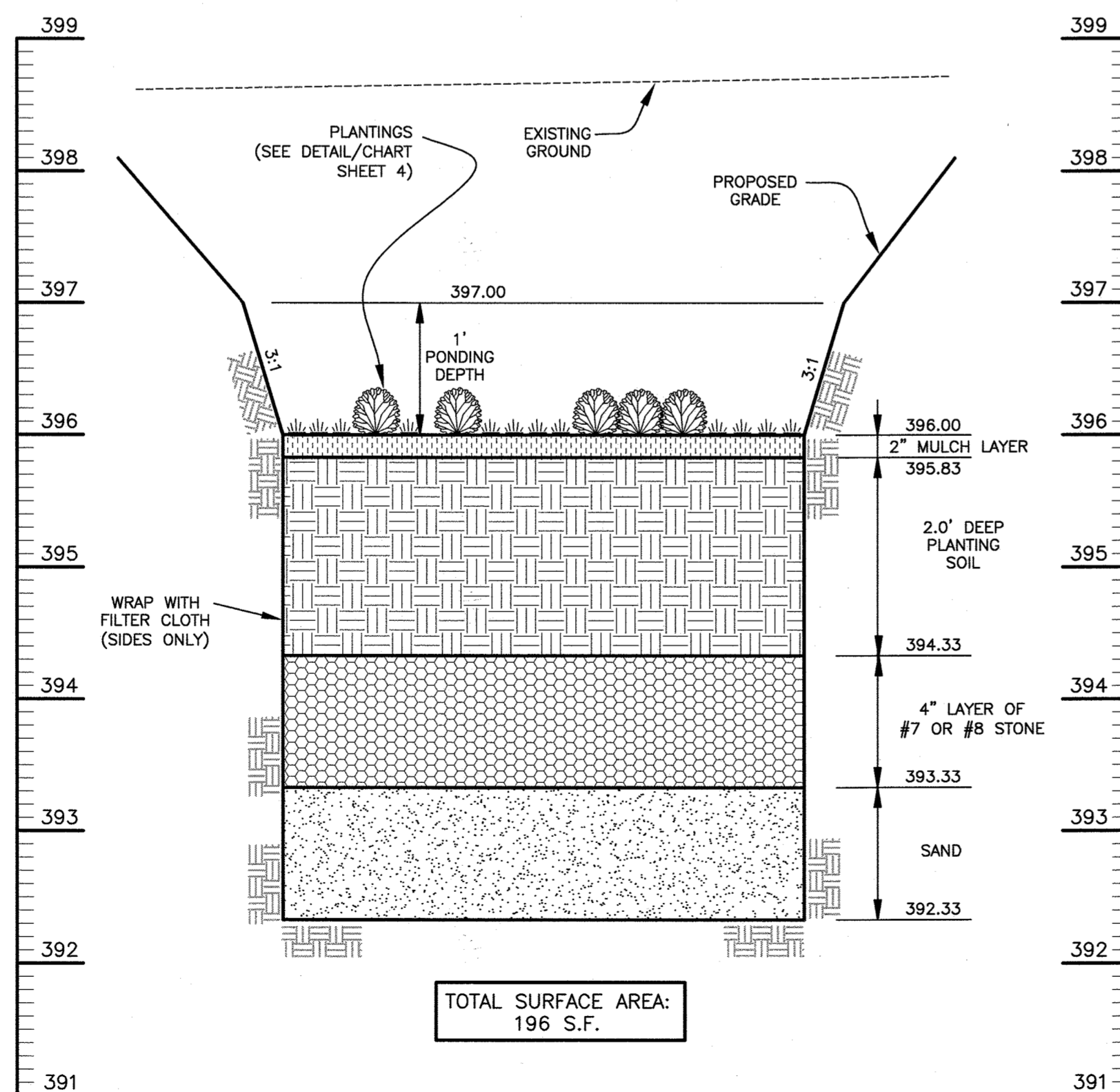


CROSS-SECTION C-C  
 (M-6) MICRO BIO-RETENTION #1  
 H.O.A. MAINTAINED  
 SCALE: 1"=10' HORZ., 1"=1' VERT.

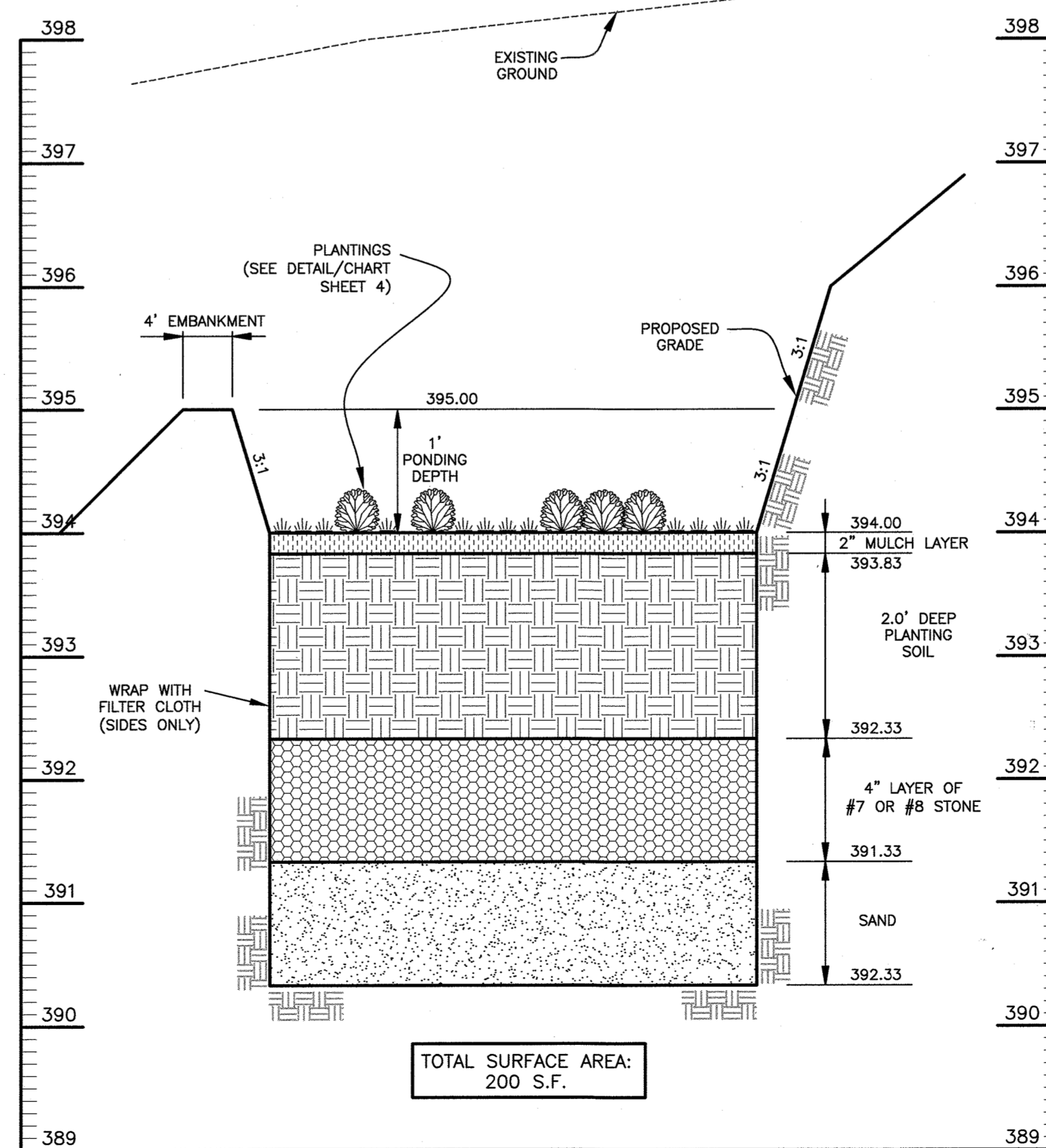
"ON LOT SWMF'S WERE AS-BUILT"  
 AS PART OF THE INDIVIDUAL  
 GRADE CERTIFICATIONS FOR THOSE LOTS



CROSS-SECTION G-G  
 (M-3) LANDSCAPE INFILTRATION #1  
 H.O.A. MAINTAINED  
 SCALE: 1"=10' HORZ., 1"=1' VERT.



CROSS-SECTION A-A  
 (M-3) LANDSCAPE INFILTRATION #2  
 LOT 2 OWNER MAINTAINED  
 SCALE: 1"=10' HORZ., 1"=1' VERT.



CROSS-SECTION B-B  
 (M-3) LANDSCAPE INFILTRATION #3  
 LOT 3 OWNER MAINTAINED  
 SCALE: 1"=10' HORZ., 1"=1' VERT.

NOTE: SEE SHEET 2 FOR  
 SURFACE AREA DIMENSIONS

THIS SHEET REPLACES  
 PREVIOUS SHEET  
 DATED MAY 2, 2017

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 [Signature] 5-24-18 DATE  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 [Signature] 5-18-18 DATE  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

NO.	DATE	REVISION
1	4-16-2018	DELETE CROSS SECTIONS OF MB #2, #3, AND #4

<b>BENCHMARK</b> ENGINEERS & LAND SURVEYORS & PLANNERS <b>ENGINEERING, INC.</b> 8480 BALTIMORE NATIONAL PIKE & SUITE 315 • ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644 WWW.BEI-CVLENGINEERING.COM	
DEVELOPER: DEVELOPMENT PARTNERS LLC 9693 GERWIG LANE, SUITE L COLUMBIA, MD 21046 410-792-2565	<b>HILLTOP LANDING</b> LOTS 1-7 AND OPEN SPACE LOT 8 A RESUBDIVISION OF CEDAR ACRES BLOCK A, LOT 12 PLAT BOOK 4, FOLIO 11, 10932 HILLTOP LANE TAX MAP: 35 - GRID: 11 - PARCEL: 41 ZONED: R-SC ELECTION DISTRICT NO. 5 - HOWARD COUNTY, MARYLAND
<b>STORMWATER MANAGEMENT DETAILS</b>	
DESIGN: DBT DRAFT: DBT	DATE: APRIL 16, 2018 SCALE: AS SHOWN
SHEET 3 OF 8	BEI PROJECT NO. 2615



**CONSTRUCTION SPECIFICATIONS**

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

**1. Material Specifications:**

The following 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-bioretenation 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 textural analysis is required from the site stockpiled topsoil. If topsoil is imported, then a texture analysis shall be performed for each location where the topsoil was excavated.

**3. Compaction:**

It is very important to minimize compaction of both the base of bioretention practices and the required backfill. When possible, use excavation hoses to remove original soil. If practices are excavated using a loader, the contractor should use wide track or marsh track equipment, or light equipment with turf 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 refracture 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-bioretenation practices can be found in Appendix A, Section A.2.3.

**5. Plant Installation:**

Compost is a better organic material source, is less likely to float, and should be placed in the invert and other low areas. Mulch should be placed in surrounding to a uniform thickness of 2" to 3". Shredded or chipped hardwood mulch is the only accepted mulch. Pine mulch and wood chips will float and move to the perimeter of the bioretention area during a storm event and are not acceptable. Shredded mulch must be well aged (6 to 12 months) for acceptance.

Rootstock of the plant material shall be kept moist during transport and on-site storage. The plant root ball should be planted so 1/2th of the ball is above final grade surface. The diameter of the planting pit shall be at least six inches larger than the diameter of the planting ball. Set and maintain the plant straight during the entire planting process. Thoroughly water ground bed cover after installation.

Trees shall be braced using 2" by 2" stakes only as necessary and for the first growing season only. Stakes are to be equally spaced on the outside of the tree ball.

Grasses and legume seed should be drilled into the soil to a depth of at least one inch. Grass and legume plugs shall be planted following the non-grass ground cover planting specifications.

The topsoil specifications provide enough organic material to adequately supply nutrients from natural cycling. 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 3/4" diameter located 6" on center with a minimum of four holes per row. Pipe shall be wrapped with a 1/4" (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 (1/4" to 3/8" 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

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

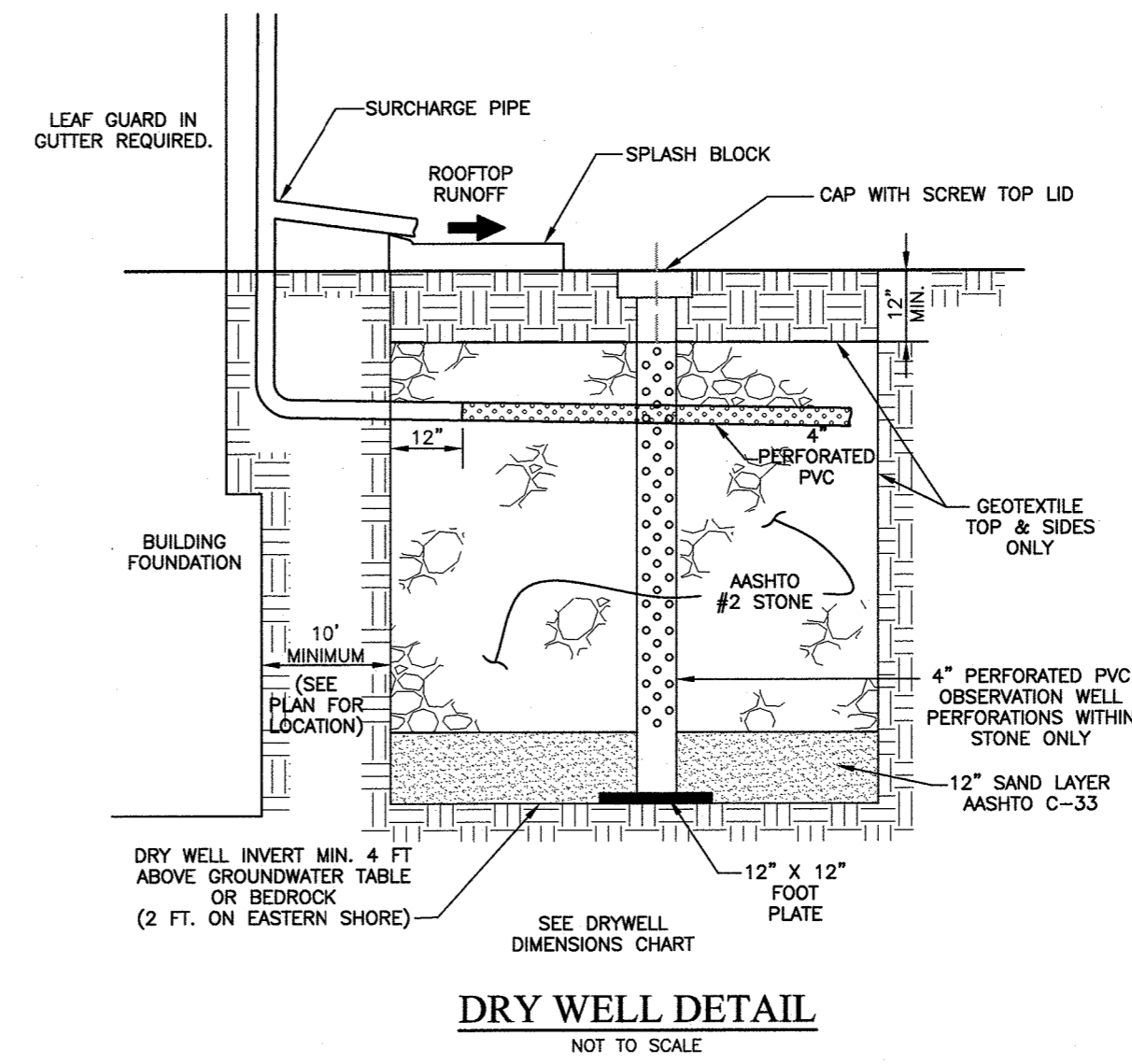
**Table B.4.1 Materials Specifications for Micro-Bioretenation, Rain Gardens & Landscape Infiltration-**

Material	Specification	Size	Notes
Plantings	see Appendix A, Table A.4	n/a	plantings are site-specific
Planting soil [2" to 4" deep]	loamy sand (60 - 65%) & compost (35 - 40%) or sandy loam (30%), coarse sand (30%) & compost (40%)	n/a	USDA soil types loamy sand or sandy loam; clay content < 5%
Organic content	Min. 10% by dry weight (ASTM D 2974)		
Mulch	shredded hardwood		aged 6 months, minimum; no pine or wood chips
Pea gravel diaphragm	pea gravel: ASTM-D-448	NO. 8 OR NO. 9 (1/8" TO 3/8")	
Curtain drain	ornamental stone: washed cobbles	stone: 2" to 5"	
Geotextile		n/a	PE Type 1 nonwoven
Gravel (underdrains and infiltration berms)	AASHTO M-43	NO. 57 OR NO. 6 AGGREGATE (3/8" to 3/4")	
Underdrain piping	F 758, Type PS 28 or AASHTO M-278	4" to 6" rigid schedule 40 PVC or SDR35	Slotted or perforated pipe; 3/8" perf. @ 6" on center, 4 holes per row; minimum of 3" of gravel over pipes; not necessary underneath pipes. Perforated pipe shall be wrapped with 1/4-inch galvanized hardware cloth
Poured in place concrete (if required)	MSHA Mix No. 3; F <sub>c</sub> = 3500 psi @ 28 days, normal weight, air-entrained; reinforcing to meet ASTM-615-60	n/a	on-site testing of poured-in-place concrete required; 28 day strength and slump test; all concrete 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 350.R.89; vertical loading [H-10 or H-20]; allowable horizontal loading (based on soil pressures); and analysis of potential cracking Sand substitutions such as Diabase and Gneissstone (AASHTO) #10 are not acceptable. No calcium carbonated or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.
Sand	AASHTO-M-6 or ASTM-C-33	0.02" to 0.04"	

B.4.7 Supp. 1

**Dry Well Dimension Chart**

Dry Well	Lot	Length (ft)	Width (ft)	Depth of Stone (ft)	Bottom of Stone Elevation	Bottom of Sand Elevation
#1	Lot 1	6.5	5.0	4.0	395.00	394.00
#2	Lot 2	8.0	5.0	4.0	395.00	394.00
#3	Lot 5	12.0	6.0	5.0	387.50	386.50
#4	Lot 5	12.0	6.0	5.0	389.25	388.25
#5	Lot 6	10.0	7.2	5.0	390.00	389.00
#6	Lot 6	12.0	6.0	5.0	391.75	390.75
#7	Lot 7	12.0	6.5	5.0	392.75	391.75
#8	Lot 7	12.0	6.5	5.0	393.75	392.75



DRY WELL DETAIL NOT TO SCALE

**OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED (M-3) LANDSCAPE INFILTRATION (M-6) MICRO-BIORETENTION**

- The Owner shall maintain the plant material, mulch layer and soil layer annually. Maintenance of mulch and soil is limited to correcting areas of erosion or wash out. Any mulch replacement shall be done in the spring. Plant material shall be checked for disease and insect infestation and maintenance will address 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 inspection in the spring and in the fall of each year. During the inspection, the Owner shall remove dead and diseased vegetation considered beyond treatment, replace dead plant material with acceptable replacement plant material, treat diseased trees and shrubs, and replace all deficient stakes and wires.
- The Owner shall inspect the mulch each spring. The mulch shall be replaced every two to three years. The previous mulch layer shall be removed 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.

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

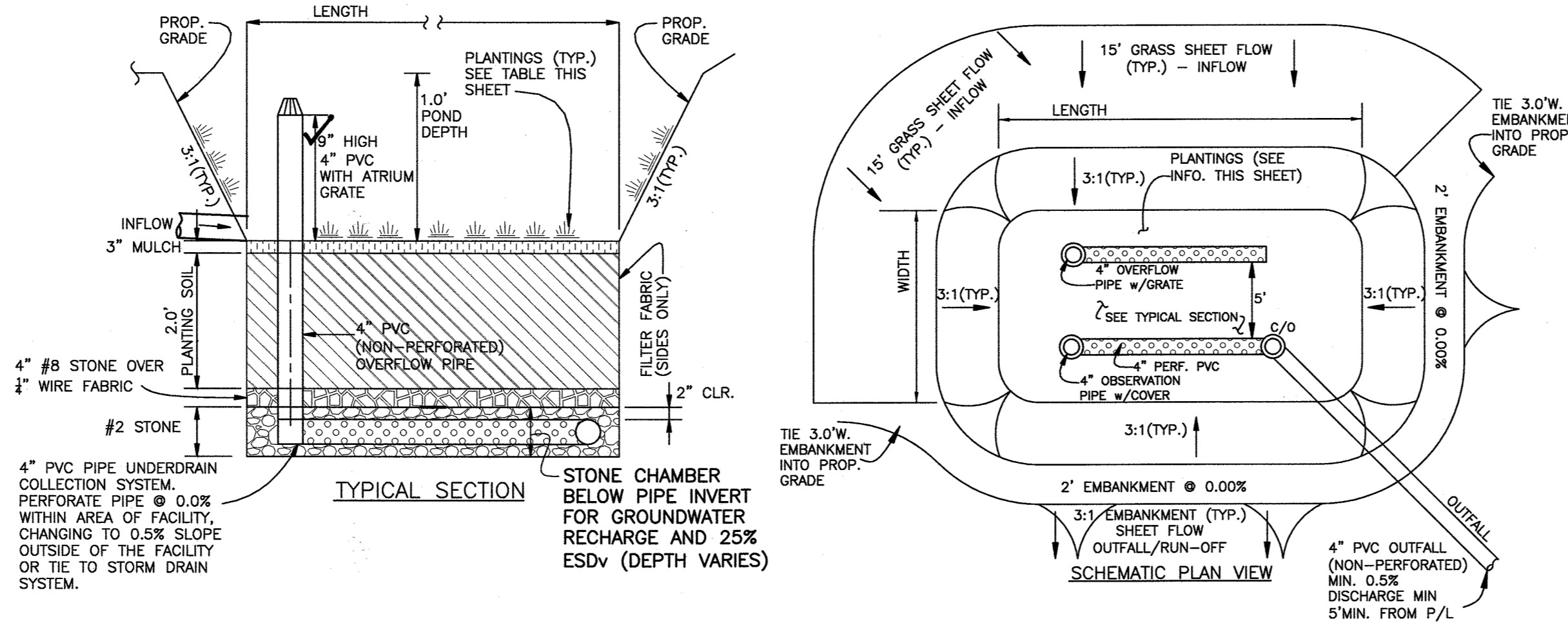
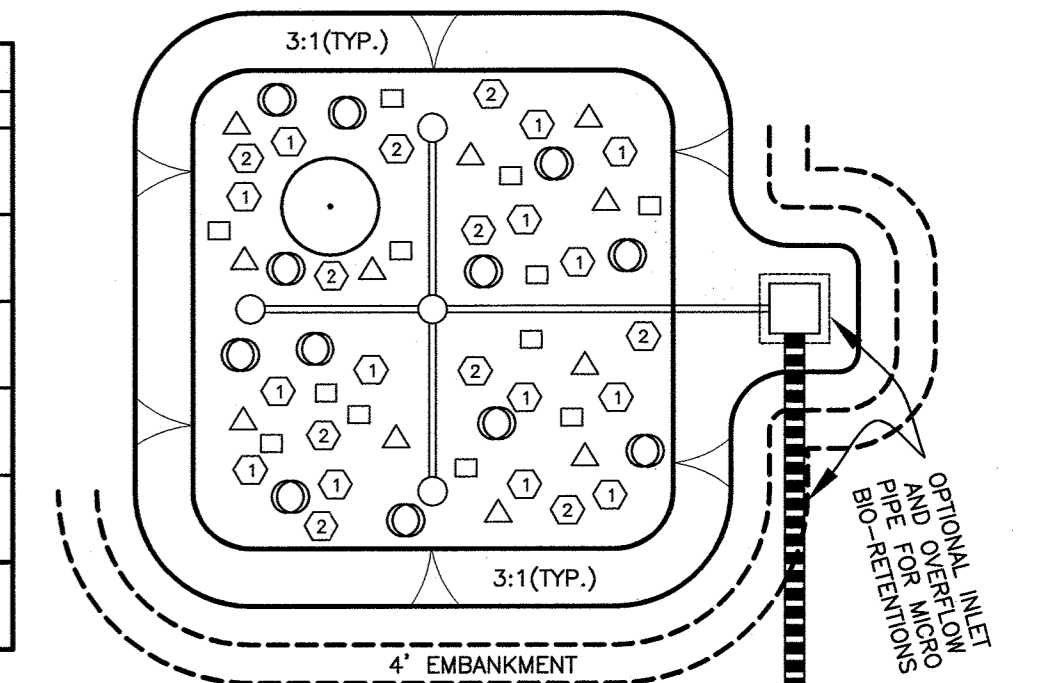
- The monitoring wells and structures shall be inspected on a quarterly basis and after every large storm event.
- Water levels and sediment build up in the monitoring wells shall be recorded over a period of several days to insure trench drainage.
- A log book shall be maintained to determine the rate at which the facility drains
- When the facility becomes clogged so that it does not drain down within the 72 hour time period, corrective action shall be taken.
- The maintenance log book shall be available to Howard County for inspection to insure compliance with operation and maintenance criteria.
- Once the performance characteristics of the infiltration facility have been verified, the monitoring schedule can be reduced to an annual basis unless the performance data indicates that a more frequent schedule is required.

**(M-3) Landscape Infiltration and (M-6) Micro Bio-Retention Landscaping Chart**

PLANT NAME	COMMON NAME	Surface Area TYPE	SIZE	MB #1	LI #1	LI #2	LI #3	TOTAL
				QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY
Ilex verticillata	Common Winterberry	shrub	2.5'-3' ht	815	122	196	200	1333
Lobelia cardinalis	Cardinal flower	perennial herbaceous plant	quart bulb	8	1	2	2	13
Lobelia siphilitica	Great Blue Lobelia	perennial herbaceous plant	quart bulb	54	8	13	13	89
Carex stricta	Upright Sedge	grass	quart bulb	54	8	13	13	89
Iris versicolor	Blue Water Iris	perennial herbaceous plant	quart bulb	54	8	13	13	89
Liatris spicata	Prairie Gay Feather	perennial herbaceous plant	quart bulb	54	8	13	13	89

**PLANTING LEGEND**

SYMBOL	NAME
①	LOBELIA CARDINALIS
②	LOBELIA SIPHILITICA
□	CAREX STRICTA
△	IRIS VERSICOLOR
○	LIATRIS SPICATA
●	ILEX VERTICILLATA

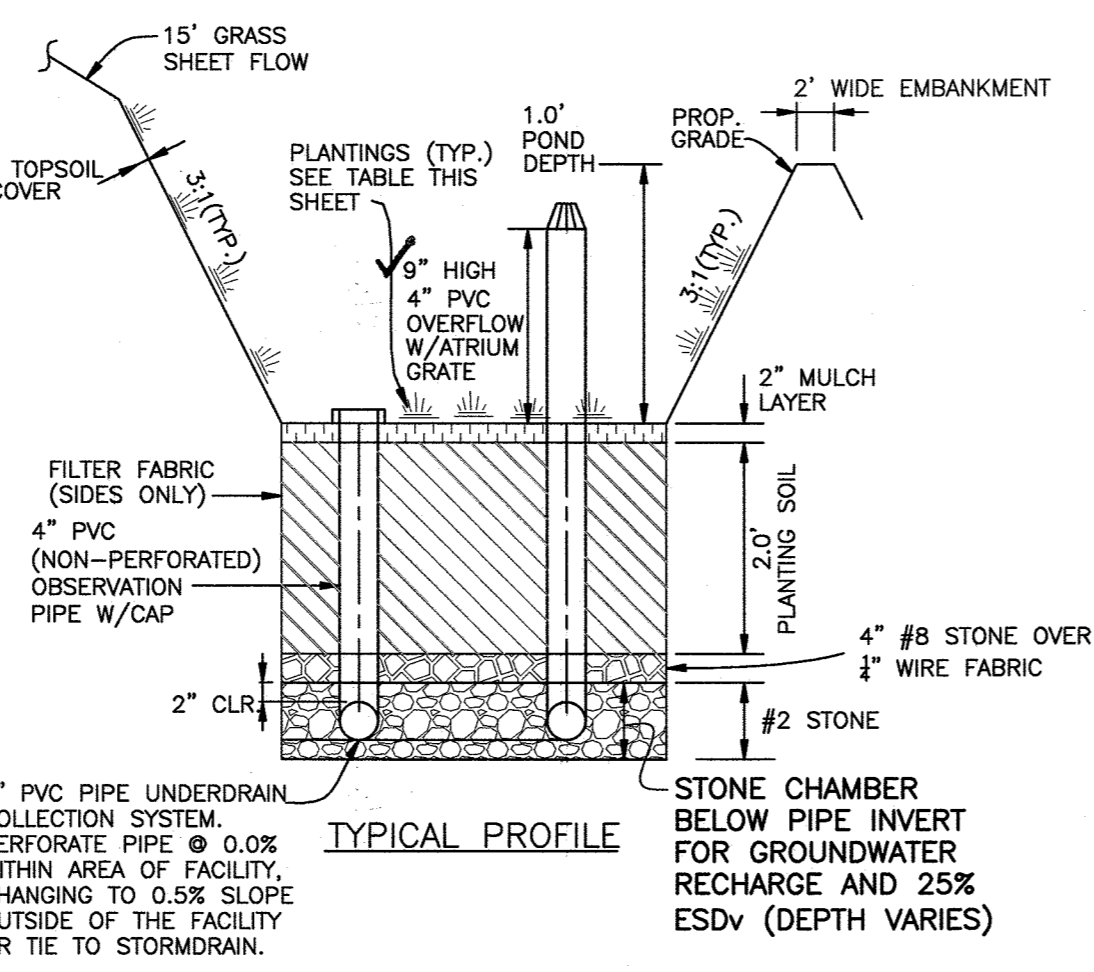


**UNDERDRAIN, OVERFLOW AND OUTFALL NOTES**

1. THE LAST CLEAN-OUT LOCATION WITHIN EACH MICRO-BIORETENTION FACILITY SHALL BE FITTED WITH A NON-CLOGGING SURFACE DRAIN (EXAMPLE: 4" ABS ROOF DRAIN W/CAST ALUMINUM DOME) AT THE POND SURFACE ELEVATION.
2. THE PVC WITHIN THE FACILITY SHALL BE PERFORATED.
3. THE UNDER-DRAIN AND PIPE TO OUTFALL SHALL BE INSTALLED TO A 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.

**TYPICAL MICRO-BIORETENTION DETAILS**

NOT TO SCALE



**"ON LOT SWMP'S WERE AS-BUILT" AS PART OF THE INDIVIDUAL GRADE CERTIFICATIONS FOR THOSE LOTS**

**SCHEMATIC PLANTING DETAIL FOR (M-3) AND (M-6) PRACTICES**

NOT TO SCALE

**AS-BUILT CERTIFICATION**  
I hereby certify, by my seal, that to the best of my knowledge and belief the facilities shown on this "AS-BUILT" Plan meet the Approved Plans and Specifications

Donald Mason, P.E. Date: 7/29/2018

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.

NO.	DATE	REVISION
1	4-16-2018	REMOVE MB #2, #3, AND #4 FROM LANDSCAPE CHART. ADD DRY WELLS #3-#8 TO DRY WELL CHART

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. 21443, Expiration Date: 12-21-2019.

**BENCHMARK ENGINEERING, INC.**  
8480 BALTIMORE NATIONAL PIKE & SUITE 315 ELLICOTT CITY, MARYLAND 21043  
(P) 410-465-8105 (F) 410-465-8644  
WWW.BE-CIVILENGINEERING.COM

**HILLTOP LANDING**  
LOTS 1-7 AND OPEN SPACE LOT 8  
A RESUBDIVISION OF CEDAR ACRES BLOCK A, LOT 12  
PLAT BOOK 4, FOLIO 11, 10932 HILLTOP LANE

TAX MAP: 35 - GRID: 11 - PARCEL: 41  
ZONED: R-SC  
ELECTION DISTRICT NO. 5 - HOWARD COUNTY, MARYLAND

**STORMWATER MANAGEMENT DETAILS**

OWNER: DEVELOPMENT PARTNERS LLC  
9693 GERWIG LANE, SUITE L  
COLUMBIA, MD 21046  
410-792-2565

DEVELOPER: DEVELOPMENT PARTNERS LLC  
9693 GERWIG LANE, SUITE L  
COLUMBIA, MD 21046  
410-792-2565

DATE: APRIL 16, 2018 BEI PROJECT NO. 2615  
SCALE: AS SHOWN SHEET 4 OF 8

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*Katherine* 5-24-18  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

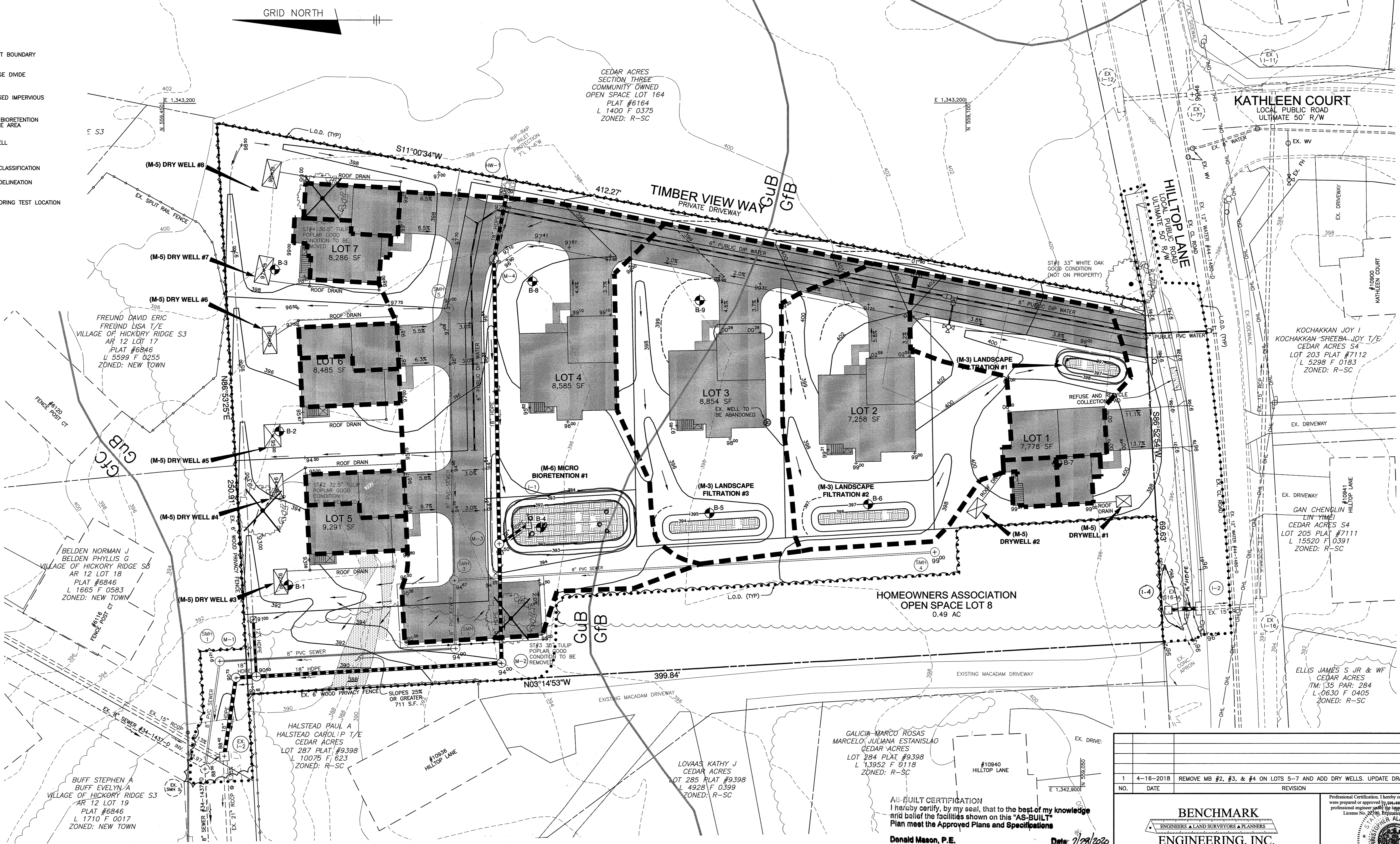
*Cheryl* 5-18-18  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

**THIS SHEET REPLACES PREVIOUS SHEET DATED MAY 2, 2017**



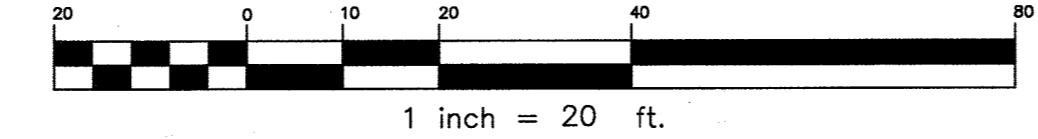
**LEGEND**

	PROJECT BOUNDARY
	DRAINAGE DIVIDE
	PROPOSED IMPERVIOUS
	MICRO-BIORETENTION SURFACE AREA
	DRY WELL
	SOILS CLASSIFICATION
	SOILS DELINEATION
	SOIL BORING TEST LOCATION



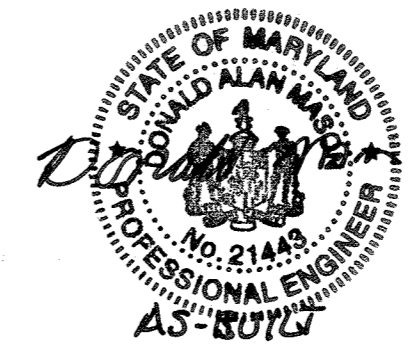
**NRCS SOILS CHART - HoCo Soils Map No. 17**

SYMBOL	HYDRIC	GROUP	Kw	MAP UNIT NAME
GfB	no	B	0.28	GLADSTONE-URBAN LAND COMPLEX, 0 TO 8 PERCENT SLOPES
GuB	no	C	0.43	GLENVILLE-URBAN LAND-UDORTMENTS COMPLEX, 0 TO 8 PERCENT SLOPES



**AS-BUILT CERTIFICATION**  
 I hereby certify, by my seal, that to the best of my knowledge and belief the facilities shown on this "AS-BUILT" Plan meet the Approved Plans and Specifications  
**Donald Mason, P.E.** Date: 7/28/2020

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
 License No. 21443 Expiration Date: 12-21-20



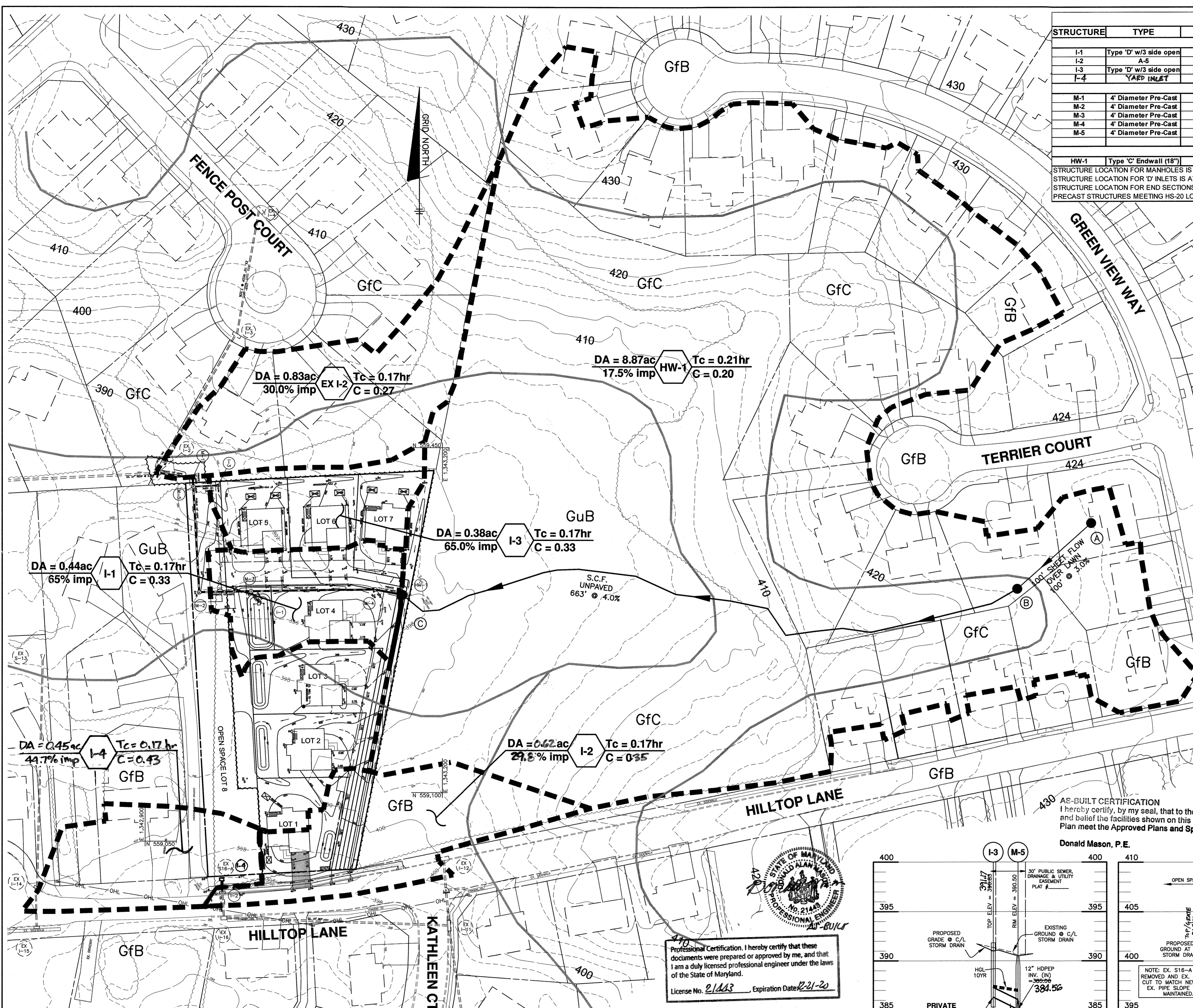
APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 [Signature] 5-24-18 DATE  
 [Signature] 5-18-18 DATE

"ON LOT SWMP'S WERE AS-BUILT" AS PART OF THE INDIVIDUAL GRADE CERTIFICATION FOR THOSE LOTS

THIS SHEET REPLACES PREVIOUS SHEET DATED MAY 2, 2017

1 4-16-2018 REMOVE MB #2, #3, & #4 ON LOTS 5-7 AND ADD DRY WELLS. UPDATE DRAINAGE AREAS.	
NO.	DATE REVISION
<b>BENCHMARK ENGINEERING, INC.</b> 6480 BALTIMORE NATIONAL PIKE SUITE 315 • ELLICOTT CITY, MARYLAND 21043 (P) 410-485-6105 (F) 410-485-8644 WWW.BE-CIVILENGINEERING.COM	
OWNER:	DEVELOPMENT PARTNERS LLC 9693 GERWIG LANE, SUITE L COLUMBIA, MD 21046 410-792-2565
DEVELOPER:	DEVELOPMENT PARTNERS LLC 9693 GERWIG LANE, SUITE L COLUMBIA, MD 21046 410-792-2565
<b>HILLTOP LANDING</b> LOTS 1-7 AND OPEN SPACE LOT 8 A RESUBDIVISION OF CEDAR ACRES BLOCK A, LOT 12 PLAT BOOK 4, FOLIO 11, 10932 HILLTOP LANE	
TAX MAP: 35 - GRID: 11 - PARCEL: 41 ZONED: R-SC ELECTION DISTRICT NO. 5 - HOWARD COUNTY, MARYLAND	
<b>ESD to the MEP STORMWATER MANAGEMENT DRAINAGE AREA MAP</b>	
DATE: APRIL 16, 2018	BEI PROJECT NO. 2615
DESIGN: DBT	DRAFT: DBT
SCALE: AS SHOWN	SHEET 5 OF 8



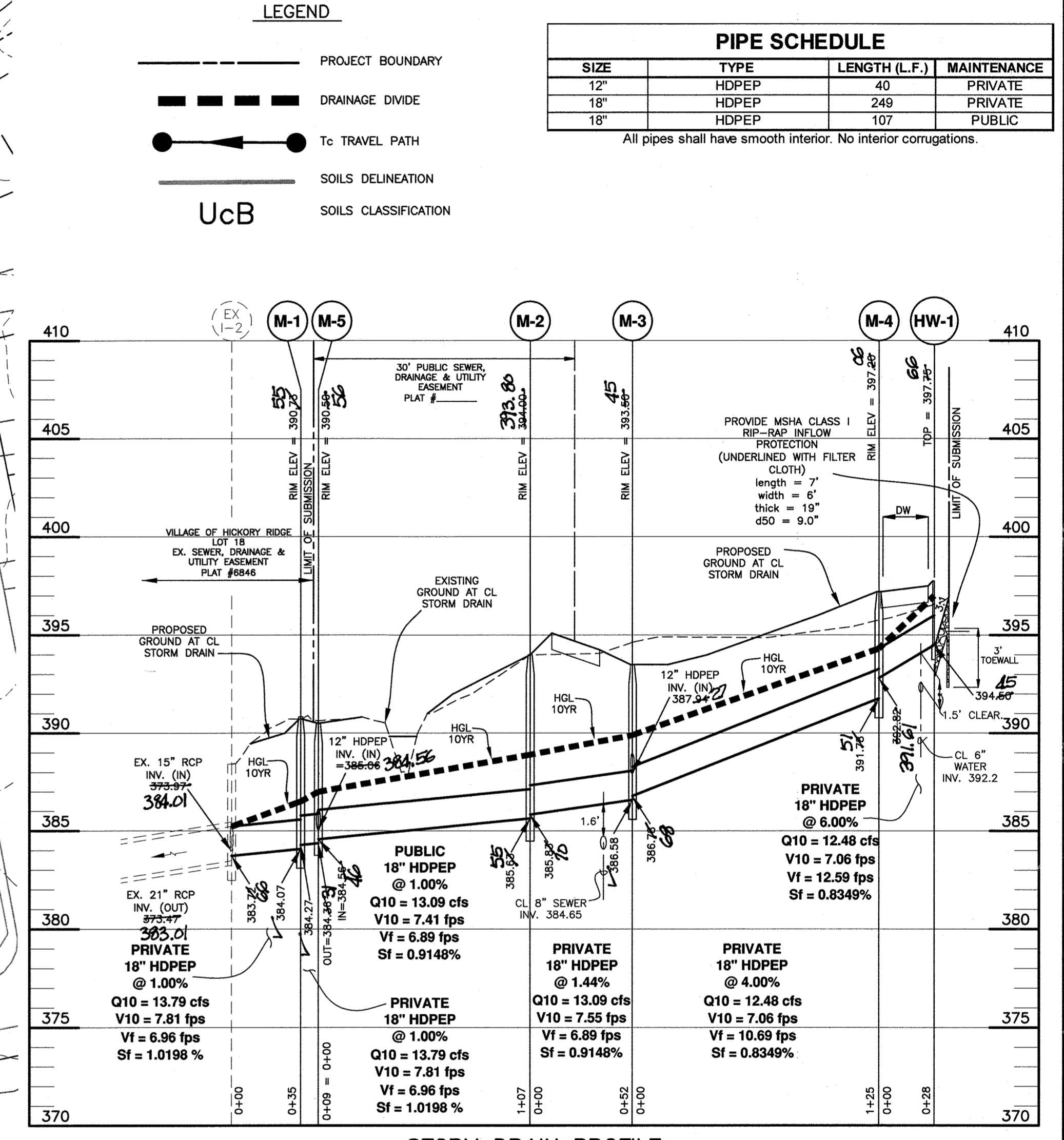


STRUCTURE SCHEDULE									
STRUCTURE	TYPE	LOCATION	INVERT IN	INVERT OUT	TOP ELEV.	THROAT ELEV.	STD. DETAIL	MAINTENANCE	
INLETS									
I-1	Type 'D' w/3 side open	N 559290.96 E 1343014.80	388.92 (4")	388.24 (12")	393.89	393.00	D-4.11	PRIVATE	
I-2	A-5	N 559996.91 E 1342978.09	362.85	392.66	397.07	396.47	D-4.02	PUBLIC	
I-3	Type 'D' w/3 side open	N 559410.92 E 1342971.01	-	-	386.48	391.17	D-4.11	PRIVATE	
I-4	YARD INLET	N 1342977.38 E 666111.48	-	-	392.44	396.73	D-4.14	PUBLIC	
MANHOLES									
M-1	4' Diameter Pre-Cast	N 559418.65 E 1342948.04	384.27 (18")	384.07 (18")	390.79	-	G-5.12	PRIVATE	
M-2	4' Diameter Pre-Cast	N 559354.02 E 1342951.70	385.38 (18")	385.43 (18")	396.00	-	G-5.12	PRIVATE	
M-3	4' Diameter Pre-Cast	N 559303.71 E 1343006.90	387.94 (12")	386.78 (18")	386.58	-	G-5.12	PRIVATE	
M-4	4' Diameter Pre-Cast	N 559306.02 E 1343131.92	392.82 (18")	391.78 (18")	397.28	-	G-5.12	PRIVATE	
M-5	4' Diameter Pre-Cast	N 559409.70 E 1342948.55	385.06 (12")	384.38 (18")	390.88	-	G-5.12	PRIVATE	
HEADWALLS/END SECTIONS									
HW-1	Type 'C' Endwall (18")	N 559300.62 E 1343169.6743	394.68	397.75	-	-	D-5.21 (w/mod. Height)	PRIVATE	

STRUCTURE LOCATION FOR MANHOLES IS AT THE CENTER OF THE MANHOLE RIM.  
 STRUCTURE LOCATION FOR 'D' INLETS IS AT THE CENTER OF THE TOP.  
 STRUCTURE LOCATION FOR END SECTIONS IS AT THE MIDPOINT OF THE END OF THE STRUCTURE.  
 PRECAST STRUCTURES MEETING HS-20 LOADING MAY BE USED.

PIPE SCHEDULE			
SIZE	TYPE	LENGTH (L.F.)	MAINTENANCE
12"	HDPEP	40	PRIVATE
18"	HDPEP	249	PRIVATE
18"	HDPEP	107	PUBLIC

All pipes shall have smooth interior. No interior corrugations.



STORM DRAIN PROFILE  
 SCALE: 1" = 50' HORZ., 1" = 5' VERT.

APPROVED: DEPARTMENT OF PUBLIC WORKS  
 CHIEF, BUREAU OF HIGHWAYS  
 DATE: 5/18/2018

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 5-24-18

APPROVED: CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 5-12-18

NRCS SOILS CHART - HoCo Soils Map No. 17			
SYMBOL	HYDRIC	GROUP	Kw
GfB	no	B	0.28
GuB	no	C	0.43

MAP UNIT NAME  
 GLADSTONE-URBAN LAND COMPLEX, 0 TO 8 PERCENT SLOPES  
 GLENVILLE-URBAN LAND-UDORTHTENTS COMPLEX, 0 TO 8 PERCENT SLOPES

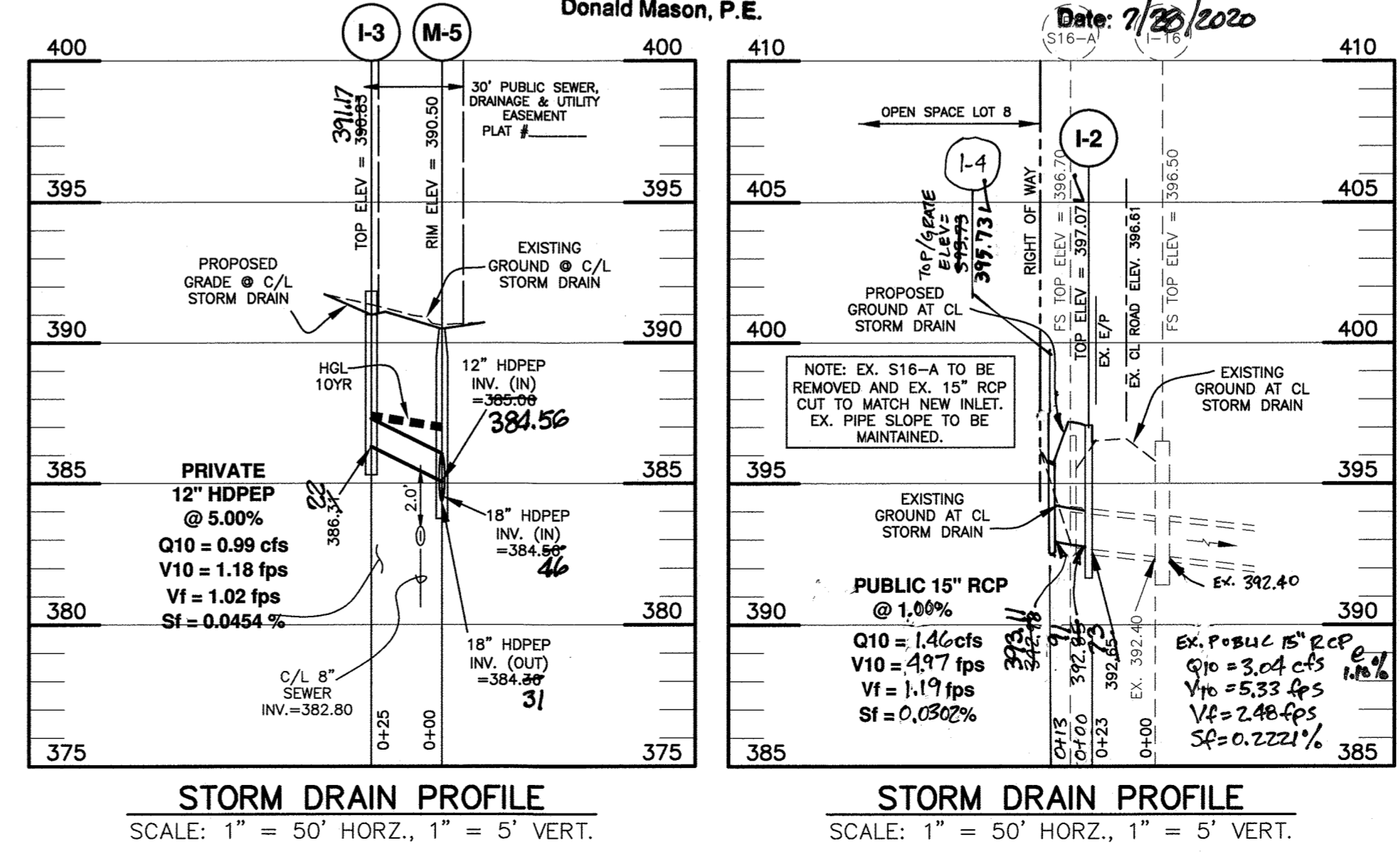
THIS SHEET REPLACES  
 PREVIOUS SHEET  
 DATED MAY 2, 2017

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. 21463 Expiration Date 12-21-20



AS-BUILT CERTIFICATION  
 I hereby certify, by my seal, that to the best of my knowledge and belief the facilities shown on this "AS-BUILT" Plan meet the Approved Plans and Specifications

Donald Mason, P.E. Date: 7/22/2020



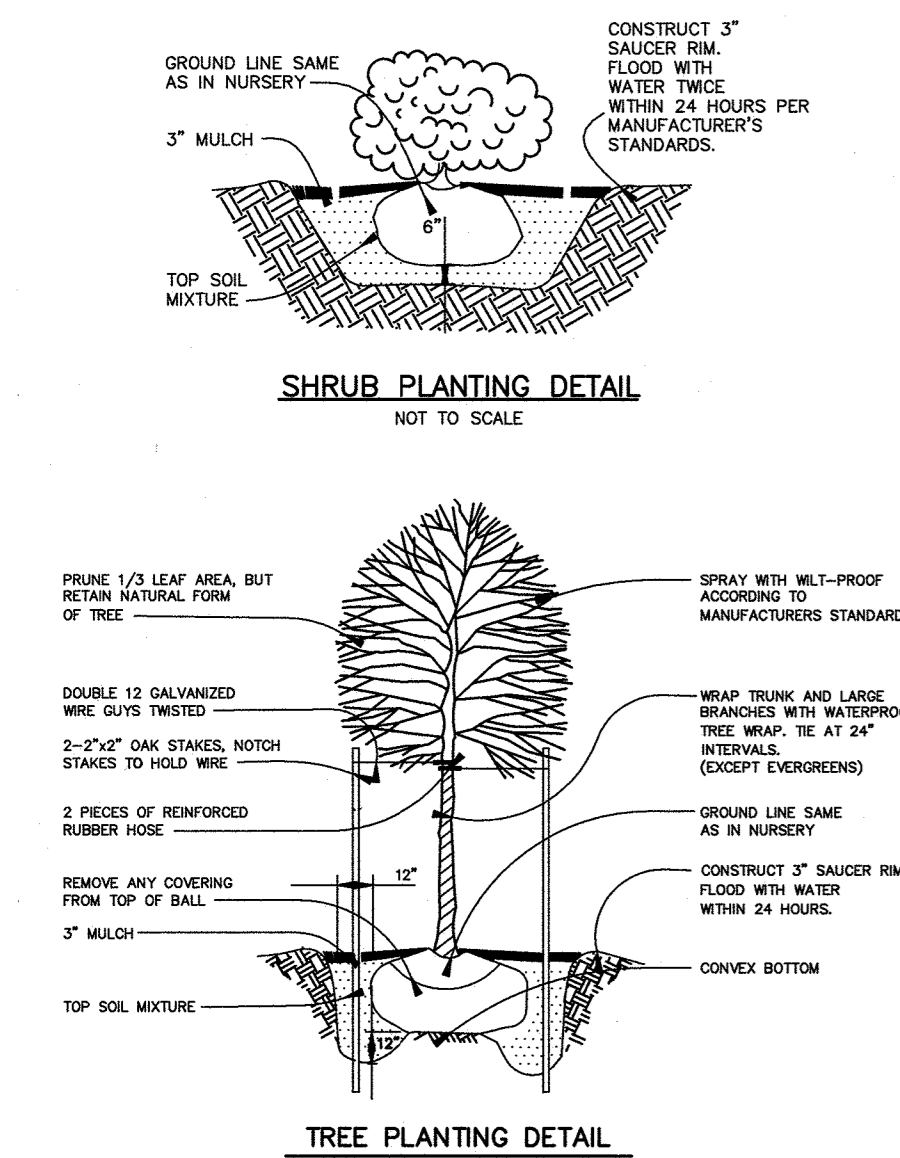
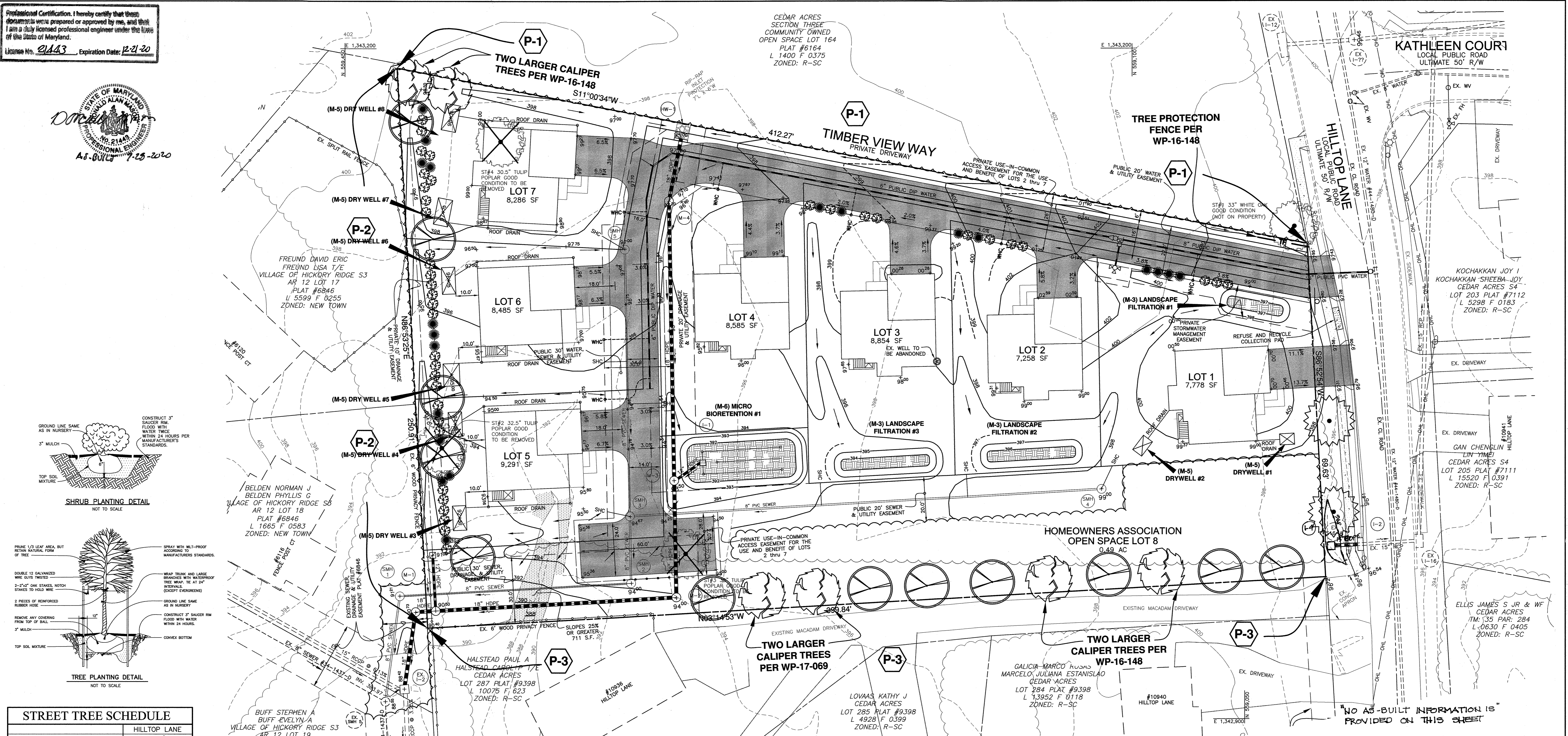
STORM DRAIN PROFILE  
 SCALE: 1" = 50' HORZ., 1" = 5' VERT.

STORM DRAIN PROFILE  
 SCALE: 1" = 50' HORZ., 1" = 5' VERT.

<p>1 4-16-2018 ADD I-3 AND M-5, ADD PROFILE, REVISE STRUCTURE SCHEDULE AND UPDATE DRAINAGE MAP ACCORDINGLY.</p>		
NO.	DATE	REVISION
<p><b>BENCHMARK ENGINEERING, INC.</b>        ENGINEERS &amp; LAND SURVEYORS &amp; PLANNERS        6480 BALTIMORE NATIONAL PIKE &amp; SUITE 315 &amp; ELLICOTT CITY, MARYLAND 21043        (P) 410-485-6105 (F) 410-485-8644        WWW.BEI-CIVILENGINEERING.COM</p>		
<p>OWNER:        DEVELOPMENT PARTNERS LLC        9693 GERWIG LANE, SUITE L        COLUMBIA, MD 21046        410-792-2565</p>		<p>HILLTOP LANDING        LOTS 1-7 AND OPEN SPACE LOT 8        A RESUBDIVISION OF CEDAR ACRES BLOCK A, LOT 12        PLAT BOOK 4, FOLIO 11, 10932 HILLTOP LANE</p>
<p>DEVELOPER:        DEVELOPMENT PARTNERS LLC        9693 GERWIG LANE, SUITE L        COLUMBIA, MD 21046        410-792-2565</p>		<p>TAX MAP: 35 - GRID: 11 - PARCEL: 41        ZONED: R-SC        ELECTION DISTRICT NO. 5 - HOWARD COUNTY, MARYLAND</p>
<p>STORM DRAIN DRAINAGE AREA MAP, PROFILES, &amp; DETAILS AND SOILS MAP</p>		
DATE: APRIL 16, 2018	BEI PROJECT NO. 2615	
DESIGN: DBT	DRAFT: DBT	SHEET 6 OF 8



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. 21443 Expiration Date: 12-21-20



STREET TREE SCHEDULE	
LINEAR FEET OF RIGHT-OF-WAY	HILLTOP LANE 69.6'
LINEAR FEET OF CREDIT	0
LINEAR FEET OF REQUIRED PLANTING	69.6'
REQUIREMENT	LARGE (2.5" cal) 1:40 LF
NUMBER OF TREES REQUIRED	2
NUMBER OF TREES PROVIDED	2

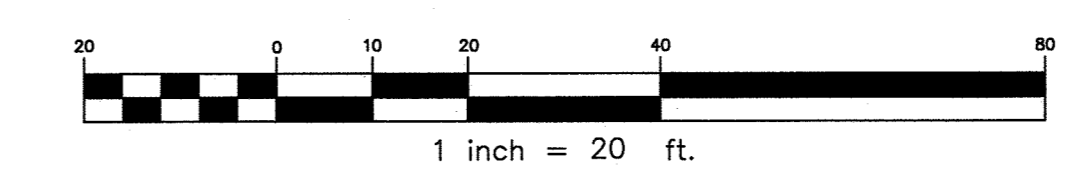
DEVELOPER'S/BUILDER'S CERTIFICATE  
 I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION OF A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE-YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.  
 Justin M. Boy 4/24/18  
 DEVELOPMENT PARTNERS, LLC

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 Kent Sheldahl 5-24-18  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 David Boyd 5-18-18  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

SCHEDULE A PERIMETER LANDSCAPE EDGE				TOTALS
CATEGORY	ADJACENT TO PERIM. PROPERTY ①	ADJACENT TO PERIM. PROPERTY ②	ADJACENT TO PERIM. PROPERTY ③	
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	412 LF	251 LF	400 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	412 LF	251 LF	400 LF	
SHADE TREES	7	4	7	24 ~
EVERGREEN TREES	0	0	0	0
OTHER TREES (2:1 SUBSTITUTE)	0	0	0	0
SHRUBS	0	0	0	0
NUMBER OF PLANTS PROVIDED				
SHADE TREES	1 ~	6 ~	11 ~	18 ~
EVERGREEN TREES	0	0	0	0
OTHER TREES (2:1 SUBSTITUTE)	0	0	0	0
SHRUBS (10:1 SUBSTITUTE)	60 ~	0	0	60

\*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-16-148 AND WP-17-069. (SEE PLAN VIEW FOR THESE LOCATIONS)  
 ^ OF THESE SHRUBS AND THE 1 SHADE TREE HAVE BEEN RELOCATED ALONG THE P-2 PERIMETER USING THE ALTERNATE COMPLIANCE SECTION OF THE LANDSCAPE MANUAL.

PERIMETER LANDSCAPE PLANTING LIST				
SYMBOL	QUANTITY	NAME	REMARKS	DESCRIPTION
	18	TILIA CORDATA 'GREENSPIRE' (Greenspire Littleleaf Linden)	2.5" - 3" cal.	SHADE TREES ALONG PERIMETER EDGES TO BE PROVIDED BY THE BUILDER.
	6	QUERCUS PHELLOS (Willow Oak)	3" min. dbh	SHADE TREES AS REQUIRED BY THE APPROVAL OF WP-16-148 AND WP-17-069
	2	ACER RUBRUM 'RED SUBSET' (Red Sunset Red Maple)	2.5" - 3" cal.	STREET TREES TO BE PLANTED ALONG HILLTOP LANE BY THE DEVELOPER
	40	PIERIS JAPONICA (Japanese Pieris)	2' - 2.5' hgt.	NEEDLE EVERGREEN SHRUBS PLANTED AROUND REFUSE PAD AND USE-IN-COMMON DRIVE TO BE PROVIDED BY THE BUILDER.
	20	ILEX X CRENATA (Compacta) Compact Japanese Holly	2' - 2.5' hgt.	NEEDLE EVERGREEN SHRUBS PLANTED AROUND REFUSE PAD AND USE-IN-COMMON DRIVE TO BE PROVIDED BY THE BUILDER.



THIS SHEET REPLACES PREVIOUS SHEET DATED MAY 2, 2017

LANDSCAPE NOTES:  
 1. 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.  
 2. AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS HEREWIT 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.  
 3. 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.  
 4. FINANCIAL SURETY IN THE AMOUNT OF \$7,200.00 FOR THE REQUIRED PERIMETER LANDSCAPING AND ADDITIONAL TREES PER THE APPROVAL OF WP-16-148 AND WP-17-069 SHALL BE POSTED AS PART OF THE DEVELOPERS AGREEMENT.

NOTE: SEE SHEET 4 FOR INTERNAL SWMF PLANTING

NO.	DATE	REVISION
1	4-16-2018	DELETE MB #2, #3, #4 ON LOTS 5-7 AND ADD DRY WELLS.

**BENCHMARK ENGINEERING, INC.**  
 ENGINEERS & LAND SURVEYORS & PLANNERS  
 8480 BALTIMORE NATIONAL PIKE SUITE 315 & ELLICOTT CITY, MARYLAND 21043  
 (P) 410-465-8105 (F) 410-465-8644  
 WWW.BE-ENGINEERING.COM

OWNER: DEVELOPMENT PARTNERS LLC  
 9693 GERWIG LANE, SUITE L COLUMBIA, MD 21046 410-792-2565

DEVELOPER: DEVELOPMENT PARTNERS LLC  
 9693 GERWIG LANE, SUITE L COLUMBIA, MD 21046 410-792-2565

**HILLTOP LANDING**  
 LOTS 1-7 AND OPEN SPACE LOT 8  
 A RESUBDIVISION OF CEDAR ACRES BLOCK A, LOT 12 PLAT BOOK 4, FOLIO 11, 10932 HILLTOP LANE

TAX MAP: 35 - GRID: 11 - PARCEL: 41  
 ZONED: R-SC  
 ELECTION DISTRICT NO. 5 - HOWARD COUNTY, MARYLAND

**SUPPLEMENTAL LANDSCAPE PLAN**

DATE: APRIL 16, 2018 BEI PROJECT NO. 2615  
 SCALE: AS SHOWN SHEET 7 OF 8



BORING LOG		GEOLAB, INC.	
Report No. 11/26/2014		Date: 11/26/2014	
Client: Development Partners, LLC		Project No. 114-132	
Project: Hilltop Landing		Location: See boring location plan	
Boring No. B-1 (1 of 1) Elev. 392.0 +/-		Location: S. Park	
Type of Boring: Hand Auger		Completed: 11/14/2014	
Elevation	Depth	DESCRIPTION OF MATERIALS (Classification)	REMARKS
392.0	0.0	Topsoil with root (organic) matter and organic soil	Boring was dry during drilling and at completion.
391.5	0.5	Brown clayey SILT with some fine sand, moist. (ML, USDA: Silt Loam)	
			Infiltration pipe was set at 4.70 feet.
			16.5
			23.0
			18.0
			14.7
			End of Boring

BORING LOG		GEOLAB, INC.	
Report No. 11/26/2014		Date: 11/26/2014	
Client: Development Partners, LLC		Project No. 114-132	
Project: Hilltop Landing		Location: See boring location plan	
Boring No. B-2 (1 of 1) Elev. 393.8 +/-		Location: S. Park	
Type of Boring: Hand Auger		Completed: 11/14/2014	
Elevation	Depth	DESCRIPTION OF MATERIALS (Classification)	REMARKS
393.8	0.0	Topsoil with root (organic) matter and organic soil	Boring was dry during drilling and at completion.
393.4	0.4	Tan to brown clayey SILT with some fine sand, moist. (ML, USDA: Silt Loam)	
			25.5
			18.0
			14.7
			End of Boring

BORING LOG		GEOLAB, INC.	
Report No. 11/26/2014		Date: 11/26/2014	
Client: Development Partners, LLC		Project No. 114-132	
Project: Hilltop Landing		Location: See boring location plan	
Boring No. B-3 (1 of 1) Elev. 395.7 +/-		Location: S. Park	
Type of Boring: Hand Auger		Completed: 11/14/2014	
Elevation	Depth	DESCRIPTION OF MATERIALS (Classification)	REMARKS
395.7	0.0	Topsoil with root (organic) matter and organic soil	Boring was dry during drilling and at completion.
394.4	1.3	Reddish-brown silty fine to medium SAND with little clay and trace fine gravel, moist. (SM, USDA: Loam)	
			25.5
			18.0
			14.7
			End of Boring

BORING LOG		GEOLAB, INC.	
Report No. 11/26/2014		Date: 11/26/2014	
Client: Development Partners, LLC		Project No. 114-132	
Project: Hilltop Landing		Location: See boring location plan	
Boring No. B-4 (1 of 1) Elev. 395.7 +/-		Location: S. Park	
Type of Boring: Hand Auger		Completed: 11/14/2014	
Elevation	Depth	DESCRIPTION OF MATERIALS (Classification)	REMARKS
395.7	0.0	Topsoil with root (organic) matter and organic soil	Boring was dry during drilling and at completion.
394.7	1.0	Reddish-brown sandy SILT with little fine sand, moist. (ML, USDA: Silt Loam)	
			11.6
			10.0
			End of Boring

BORING LOG		GEOLAB, INC.	
Report No. 11/26/2014		Date: 11/26/2014	
Client: Development Partners, LLC		Project No. 114-132	
Project: Hilltop Landing		Location: See boring location plan	
Boring No. B-5 (1 of 1) Elev. 398.2 +/-		Location: D. Rockwood	
Type of Boring: Hand Auger		Completed: 11/17/2014	
Elevation	Depth	DESCRIPTION OF MATERIALS (Classification)	REMARKS
398.2	0.0	Topsoil with root (organic) matter and organic soil	Boring was dry during drilling and at completion.
397.3	0.9	Reddish-brown sandy SILT with little clay, moist. (ML, USDA: Silt Loam)	
			14.5
			8.7
			End of Boring

BORING LOG		GEOLAB, INC.	
Report No. 11/26/2014		Date: 11/26/2014	
Client: Development Partners, LLC		Project No. 114-132	
Project: Hilltop Landing		Location: See boring location plan	
Boring No. B-6 (1 of 1) Elev. 399.0 +/-		Location: S. Park	
Type of Boring: Hand Auger		Completed: 11/14/2014	
Elevation	Depth	DESCRIPTION OF MATERIALS (Classification)	REMARKS
399.0	0.0	Topsoil with root (organic) matter and organic soil	Boring was dry during drilling and at completion.
398.7	0.3	Tan to light brown fine to medium SAND with little fine gravel and little silt and clay, moist. (SM, USDA: Sandy Loam)	
			9.6
			13.6
			16.4
			16.5
			End of Boring

BORING LOG		GEOLAB, INC.	
Report No. 11/26/2014		Date: 11/26/2014	
Client: Development Partners, LLC		Project No. 114-132	
Project: Hilltop Landing		Location: See boring location plan	
Boring No. B-7 (1 of 1) Elev. 398.3 +/-		Location: S. Park	
Type of Boring: Hand Auger		Completed: 11/14/2014	
Elevation	Depth	DESCRIPTION OF MATERIALS (Classification)	REMARKS
398.3	0.0	Topsoil with root (organic) matter and organic soil	Boring was dry during drilling and at completion.
397.7	0.6	Brown clayey SILT with some fine sand, moist. (ML, USDA: Silt Loam)	
			13.6
			18.8
			23.5
			End of Boring

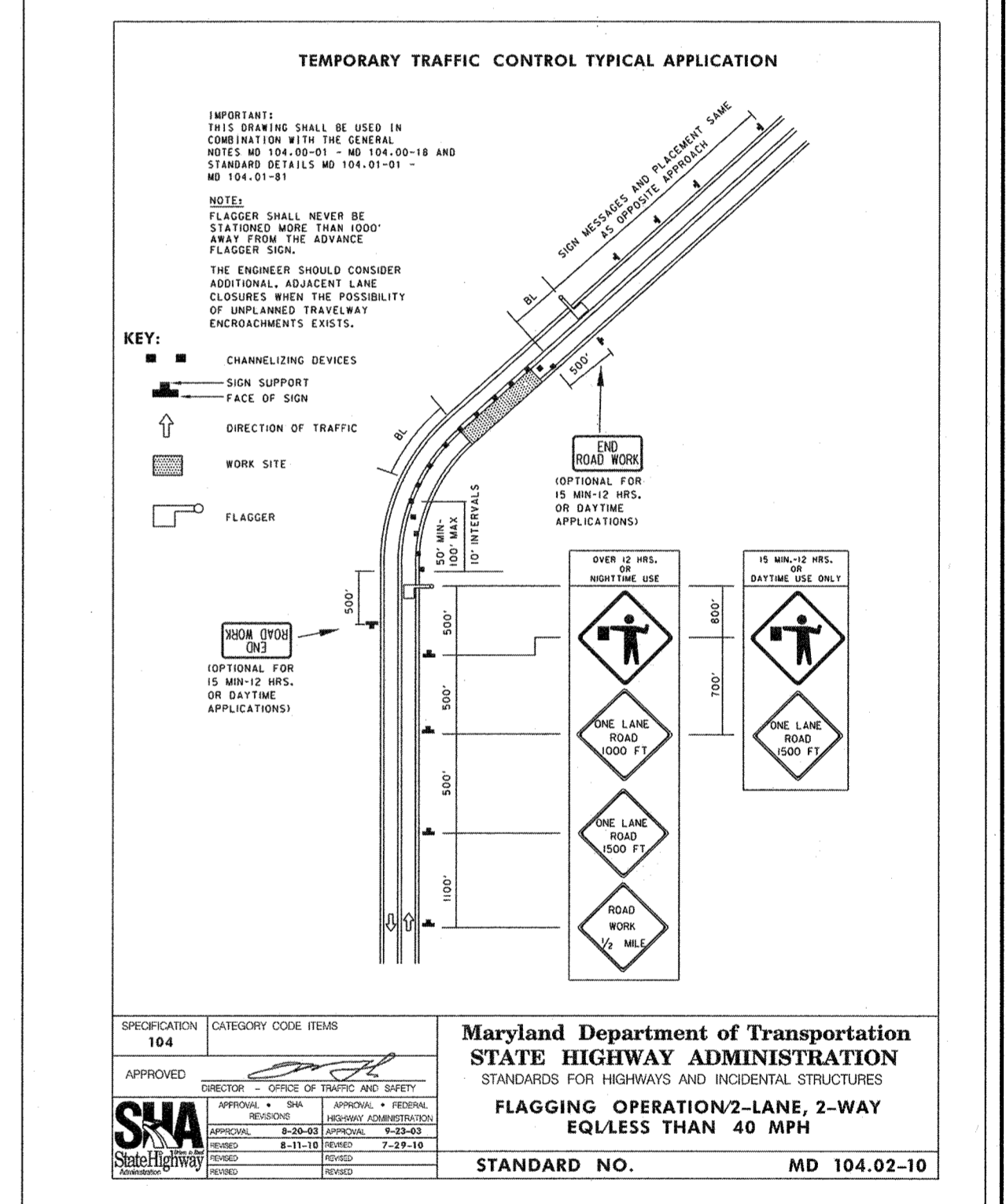
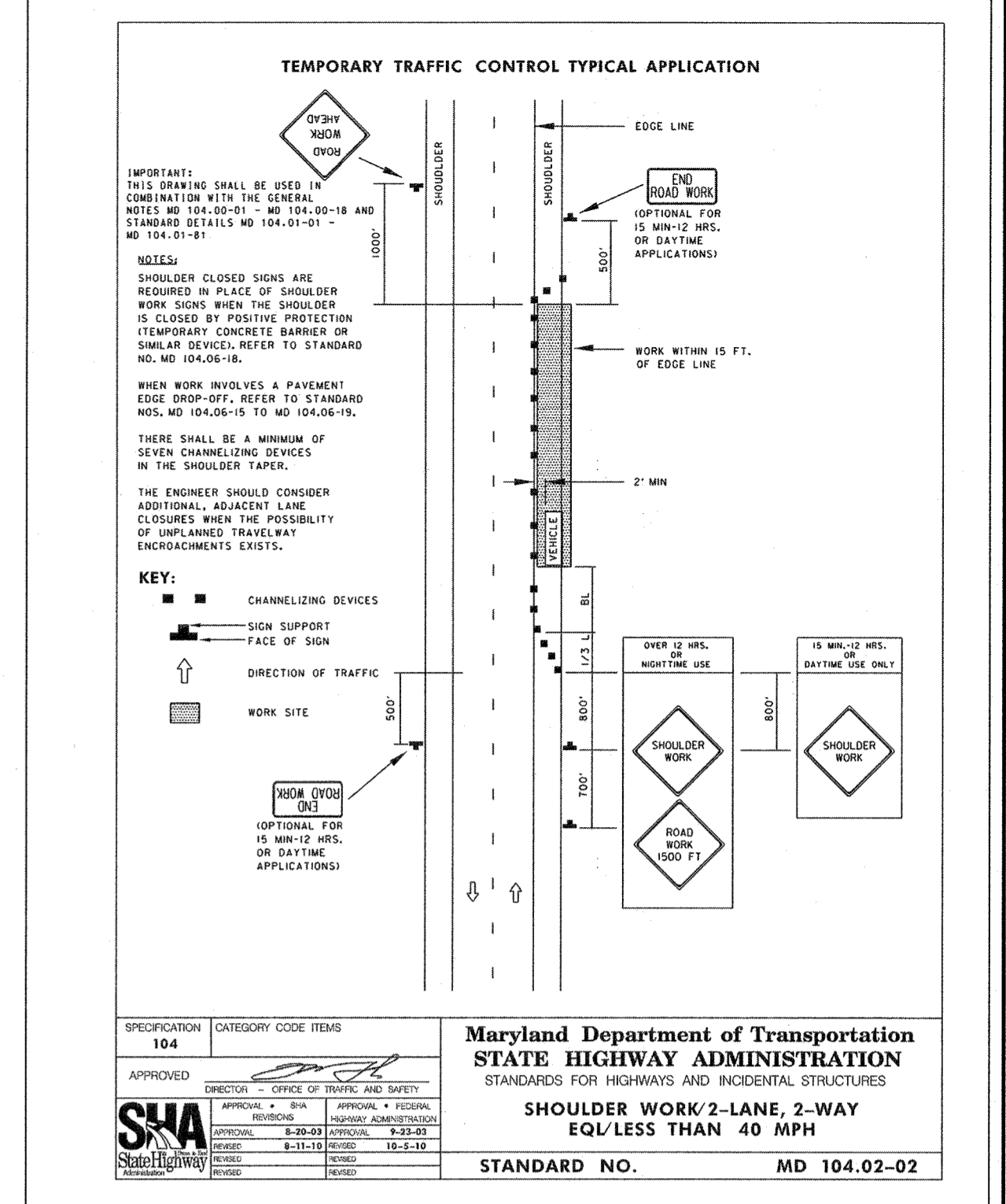
BORING LOG		GEOLAB, INC.	
Report No. 11/26/2014		Date: 11/26/2014	
Client: Development Partners, LLC		Project No. 114-132	
Project: Hilltop Landing		Location: See boring location plan	
Boring No. B-8 (1 of 1) Elev. 396.0 +/-		Location: S. Park	
Type of Boring: Hand Auger		Completed: 11/14/2014	
Elevation	Depth	DESCRIPTION OF MATERIALS (Classification)	REMARKS
396.0	0.0	Topsoil with root (organic) matter and organic soil	Boring was dry during drilling and at completion.
395.7	0.3	Tan to brown sandy SILT, moist. (ML, USDA: Silt Loam)	
			13.6
			18.8
			23.5
			End of Boring

BORING LOG		GEOLAB, INC.	
Report No. 11/26/2014		Date: 11/26/2014	
Client: Development Partners, LLC		Project No. 114-132	
Project: Hilltop Landing		Location: See boring location plan	
Boring No. B-9 (1 of 1) Elev. 398.0 +/-		Location: S. Park	
Type of Boring: Hand Auger		Completed: 11/14/2014	
Elevation	Depth	DESCRIPTION OF MATERIALS (Classification)	REMARKS
398.0	0.0	Topsoil with root (organic) matter and organic soil	Boring was dry during drilling and at completion.
397.5	0.5	Reddish-brown sandy SILT with trace fine gravel, moist. (ML, USDA: Silt Loam)	
			12.4
			28.9
			End of Boring

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*K. J. ...* 5-25-17  
CHIEF, DIVISION OF LAND DEVELOPMENT

*...* 5-19-17  
CHIEF, DEVELOPMENT ENGINEERING DIVISION



"NO AS-BUILT INFORMATION IS PROVIDED ON THIS SHEET"

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. 21443, Expiration Date: 12-31-20



NO. DATE REVISION

**BENCHMARK ENGINEERING, INC.**  
6480 BALTIMORE NATIONAL PIKE & SUITE 315 • ELICOTT 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. 15007, Expiration Date: 6-30-2017.

**HILLTOP LANDING**  
LOTS 1-7 AND OPEN SPACE LOT 8  
A RESUBDIVISION OF CEDAR ACRES BLOCK A, LOT 12  
PLAT BOOK 4, FOLIO 11, 10932 HILLTOP LANE

TAX MAP: 35 - GRID: 11 - PARCEL: 41  
ZONED: R-SC  
ELECTION DISTRICT NO. 5 - HOWARD COUNTY, MARYLAND

**SOIL BORING LOGS AND TRAFFIC CONTROL DETAILS**

OWNER: DEVELOPMENT PARTNERS, LLC  
9693 GERWIG LANE, SUITE L  
COLUMBIA, MD 21046  
410-792-2565

DEVELOPER: DEVELOPMENT PARTNERS, LLC  
9693 GERWIG LANE, SUITE L  
COLUMBIA, MD 21046  
410-792-2565

DATE: MAY 2, 2017 BEI PROJECT NO. 2615  
SCALE: AS SHOWN SHEET 8 OF 8