

SHEET INDEX	
NO.	DESCRIPTION
1	EXISTING TOPOGRAPHY, SOILS AND LOT LAYOUT PLAN
2	LAYOUT, GRADING AND STORMWATER MANAGEMENT PLAN, NOTES AND DETAILS
3	LAYOUT, GRADING AND STORMWATER MANAGEMENT PLAN, NOTES AND DETAILS
4	SEDIMENT CONTROL PLAN, NOTES AND DETAILS

GENERAL NOTES

- SUBJECT PROPERTY ZONED R-20 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. 41EC AND 41FA WERE USED FOR THIS PROJECT.
- PROJECT BOUNDARY IS BASED ON A FIELD RUN BOUNDARY SURVEY PERFORMED BY BENCHMARK ENGINEERING, INC. IN OCTOBER, 2014. THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD SURVEY WITH 2 FOOT CONTOUR INTERVALS PREPARED BY BENCHMARK ENGINEERING, INC. PERFORMED MARCH 2015.
- THIS PROPERTY WAS ACCEPTED TO THE METROPOLITAN DISTRICT JANUARY 11, 2016; WATER AND SEWER ARE PUBLIC. CONTRACT #34-4000-D AND 34-4613-D.
- EXISTING UTILITIES ARE BASED ON FIELD SURVEY LOCATIONS, CONTRACT DRAWINGS AND HOWARD COUNTY GIS FOR OFFSITE UTILITIES. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- 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 ANY WORK.
- STORMWATER MANAGEMENT FOR THESE LOTS IS PROVIDED IN ACCORDANCE WITH THE STORMWATER MANAGEMENT ACT OF 2007 AS SHOWN ON F-16-049. ENVIRONMENTAL SITE DESIGN HAS BEEN IMPLEMENTED TO THE MAXIMUM EXTENT PRACTICAL BY THE USE OF ESD FACILITIES. ALL ESD PRACTICES SHALL BE PRIVATELY OWNED AND MAINTAINED, AND SHALL BE SUBJECT TO THE REQUIREMENTS AND RESTRICTION OF A RECORDED DECLARATION OF COVENANT.
- A NOISE STUDY HAS BEEN PREPARED BY THE MARS GROUP IN 2014 AND APPROVED UNDER F-16-049.
- TRAFFIC STUDY AND SPEED STUDY WERE PREPARED BY THE MARS GROUP IN APRIL, 2015 AND APPROVED UNDER F-16-049.
- THE FOREST STAND DELINEATION AND WETLAND DELINEATION WERE PERFORMED BY ECO-SCIENCE PROFESSIONALS, INC. IN APRIL, 2015 AND APPROVED UNDER F-16-049.
- THERE ARE NO HISTORIC STRUCTURES LOCATED ON THIS SITE.
- TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO CEMETERIES.
- PREVIOUS DPZ FILES: ECP-15-066, S-15-006, WP-16-009, WP-16-070, F-16-049.
- THIS PROJECT COMPLIED WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION WITH ON-SITE RETENTION AND OFF-SITE BANKING UNDER F-16-049. 1.24 ACRES ARE RETAINED ON-SITE AND THE REFORESTATION OBLIGATION OF 0.60 ACRES HAS BEEN MET WITHIN EXISTING FOREST BANKS. 0.21 ACRES WAS PLACED AT PARK OVERLOOK, F-13-093 AND 0.39 ACRES WAS PLACED AT TALLY PARCEL 2, USING A PORTION OF THE REMAINING FOREST ESTABLISHED FOR KINDLER OVERLOOK, F-03-007.
- THE FOREST CONSERVATION EASEMENT HAS BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION ACT. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT, HOWEVER FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.
- THERE ARE STEEP SLOPES (25% AND GREATER), WETLANDS, STREAMS AND THEIR BUFFERS, FLOODPLAIN AND FOREST CONSERVATION EASEMENT AREAS WITHIN THE OPEN SPACE AREA OF THE SITE, TO BE DEDICATED TO HOWARD COUNTY RECREATION AND PARKS. NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF STEEP SLOPES, WETLANDS, STREAM, FOREST CONSERVATION EASEMENTS OR THEIR REQUIRED BUFFERS.
- MHU REQUIREMENTS WILL BE ADDRESSED BY FEE-IN-LIEU.
- FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING WAS POSTED AS PART OF THE DPW GRADING PERMIT FOR FINAL PLAN F-16-049 IN THE AMOUNT OF \$2500 FOR 6 SHADE TREES, 1 EVERGREEN TREE AND TWO MITIGATION TREES.
- ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE DEVELOPER'S EXPENSE.
- SHC ELEVATIONS SHOWN ARE LOCATED AT THE PROPERTY LINE.
- THERE IS NO 100-YEAR FLOODPLAIN ON THIS PROJECT.
- WP-16-009 WAS APPROVED AUGUST 13, 2005 TO ALLOW THIS PROJECT TO WAIVE PRELIMINARY PLAN SUBMISSION AS SPECIFIED IN SECTION 16.146 AND PROCEED TO FINAL PLAT WITH SUPPLEMENTAL PLANS. THE WAIVER WAS SUBJECT TO SUBMISSION OF A FINAL PLAT APPLICATION ASSOCIATED WITH KINDLER OVERLOOK III WITHIN 4 MONTHS OF WAIVER APPROVAL, ON OR BEFORE DECEMBER 13, 2015.
- THE FOREST STAND DELINEATION AND WETLAND DELINEATION WERE PERFORMED BY ECO-SCIENCE PROFESSIONALS, INC. IN APRIL, 2015, AND THE REPORT WAS UPDATED JUNE 11, 2015.
- ALL WATER METERS SHALL BE SET OUTSIDE.
- UNLESS NOTED AS "PRIVATE", ALL EASEMENTS ARE PUBLIC.
- BRL INDICATES ZONING BUILDING RESTRICTION LINE, OTHER RESTRICTIONS MAY APPLY.
- IN ACCORDANCE WITH SECTION 128 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.
- FOR DRIVEWAY ENTRANCE DETAIL SEE HOWARD COUNTY STANDARD DETAILS R-6.5 AND R-6.6.
- NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE FLOODPLAIN, STREAMS, WETLANDS OR THEIR BUFFERS OR FOREST CONSERVATION EASEMENTS.
- THE OWNERS, TENANT AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED PERIMETER LANDSCAPING PLANT MATERIALS, WALLS SHOWN ON THIS PLAN, PER F-16-049. 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 REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.
- THE STAKING OF FOUNDATIONS PRIOR TO CONSTRUCTION TO ENSURE COMPLIANCE WITH REGULATORY BUILDING RESTRICTION LINES IS RECOMMENDED.
- THE BUILDER SHALL APPLY FOR BUILDING PERMITS FOR ALL LOTS AS SHOWN ON THIS SITE DEVELOPMENT PLAN WITHIN FIVE YEARS OF SIGNATURE APPROVAL OF THIS PLAN.
- THE 65 DBA NOISE CONTOUR LINE DRAWN ON THIS DEVELOPMENT PLAN IS ADVISORY AS REQUIRED BY THE HOWARD COUNTY DESIGN MANUAL, CHAPTER 5, REVISED FEBRUARY 1992, AND CANNOT BE CONSIDERED TO EXACTLY LOCATE THE 65DBA NOISE EXPOSURE. THE 65DBA NOISE LINE WAS ESTABLISHED BY HOWARD COUNTY TO ALERT DEVELOPERS, BUILDERS AND FUTURE RESIDENTS THAT AREAS BEYOND THIS THRESHOLD MAY EXCEED GENERALLY ACCEPTED NOISE LEVELS ESTABLISHED BY THE U.S. DEPT. OF HOUSING AND URBAN DEVELOPMENT.
- DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO INSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
 - WIDTH - 12' (14' 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.
- WP-16-070 WAS APPROVED JANUARY 4, 2016, TO SECTION 16.1205(c)(7) AND 16.1205(c)(10) TO ALLOW REMOVAL OF SPECIMEN TREE #1, SUBJECT TO THE FOLLOWING CONDITIONS:
 - WAIVER APPROVAL IS LIMITED TO THE REMOVAL OF SPECIMEN TREE #1. ANY PROPOSAL TO REMOVE OTHER SPECIMEN TREES WILL REQUIRE A NEW WAIVER REQUEST.
 - A PHOTOGRAPH OF THE AFFECTED TREE SHALL BE PROVIDED FOR THE OFFICIAL WAIVER FILE.
 - A MINIMUM OF 2 ADDITIONAL NATIVE 2-3" CALIPER TREES SHALL BE PROVIDED ON SITE AS PART OF THE MITIGATION FOR THE SPECIMEN TREE REMOVAL. THIS MITIGATION WILL BE ADDRESSED IN KINDLER OVERLOOK III AND WILL BE IN ADDITION TO ANY REQUIRED LANDSCAPE OR FOREST CONSERVATION PLANTINGS. THE MITIGATION WILL BE SHOWN ON THE LANDSCAPE PLAN AND SURETY FOR THE ADDITIONAL TREES WILL BE REQUIRED AS PART OF THE FINAL PLAN.
 - INDIVIDUAL TREE PROTECTIVE DEVICES (TREE FENCING) SHALL BE PLACED COMPLETELY AROUND SPECIMEN TREES #2, #3, #9 #9 AND SPECIMEN TREE #13 PRIOR TO ANY GRADING. THIS SHALL BE OBTAINED IN THE PRE-CONSTRUCTION MANAGEMENT OF THE FINAL FOREST CONSERVATION PLAN AND WITHIN THE SEQUENCED OF CONSTRUCTION PROVIDED ON THE FINAL CONSTRUCTION PLANS, F-16-049.
- THE PRESUBMISSION COMMUNITY MEETING WAS HELD MARCH 12 2015 AT THE EAST COLUMBIA LIBRARY BRANCH, 6600 CRADLEDOCK WAY, COLUMBIA, MD.
- NON-BUILDABLE BULK PARCEL A WAS TRANSFERRED TO THE OWNER OF PARCEL 313 BY A DEED RECORDED IN THE HOWARD COUNTY LAND RECORDS AT L 17399 F. 352 ON 1-20-2017.
- CELLAR SEWER SERVICE IS NOT PROVIDED TO LOTS 1,2,7 AND 7. A DESIGN MANUAL WAIVER WAS APPROVED DECEMBER 29, 2015, ALLOWING GRAVITY SERVICE FOR THESE LOTS TO THE FIRST FLOOR AND ABOVE, ONLY.

KINDLER OVERLOOK III

LOTS 1 THRU 8

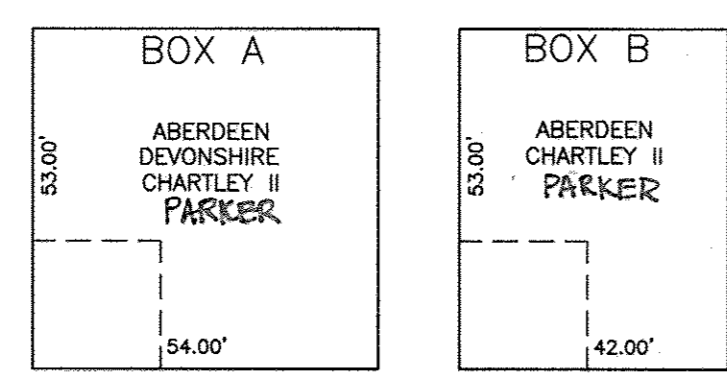
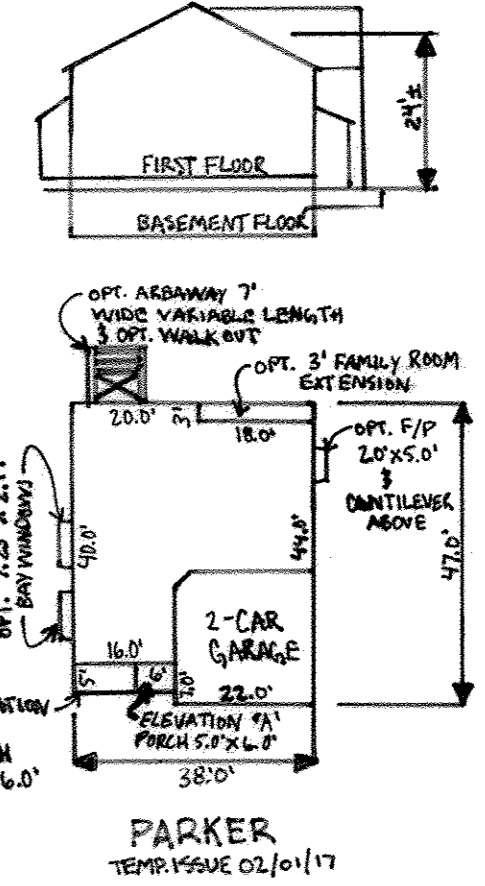
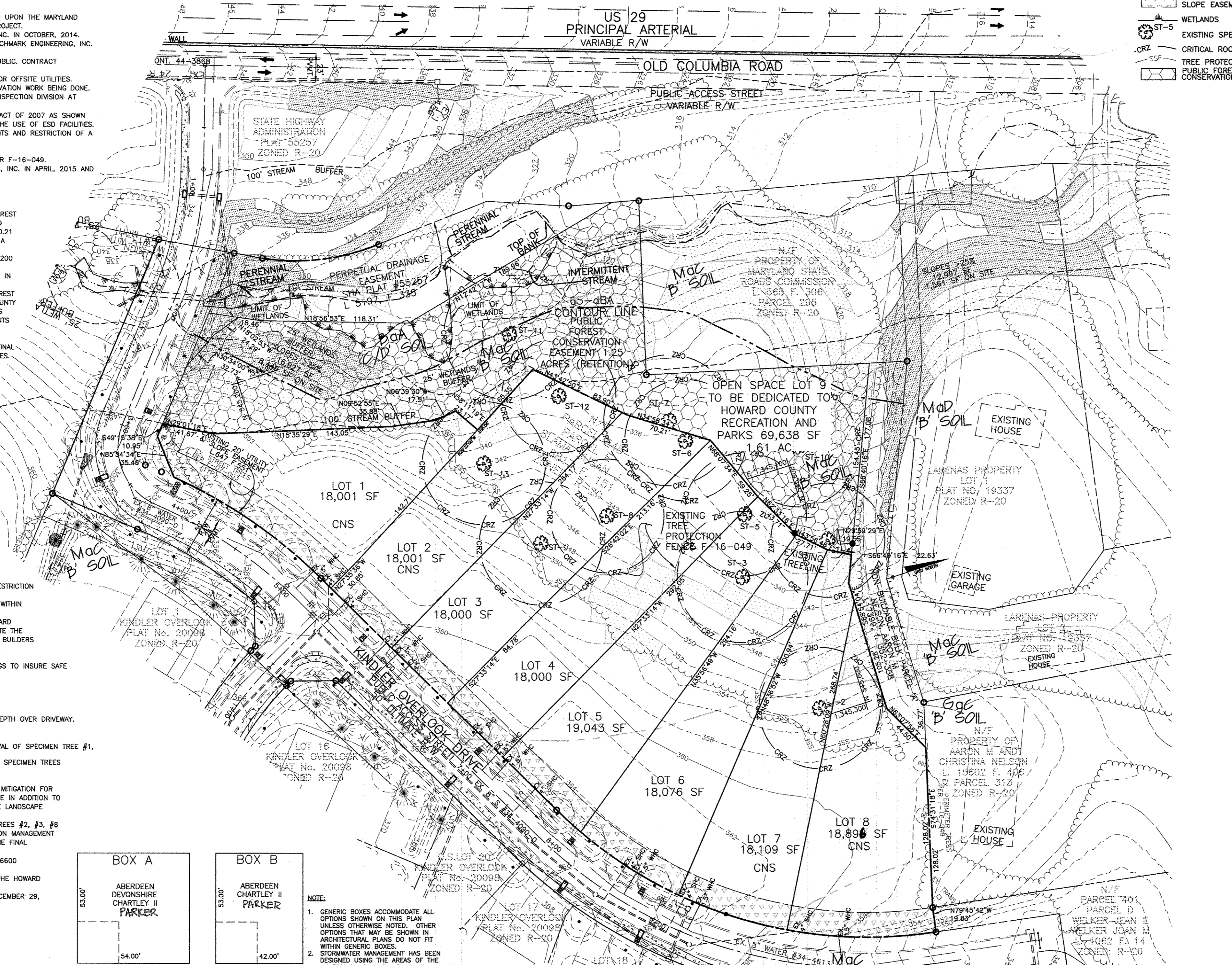
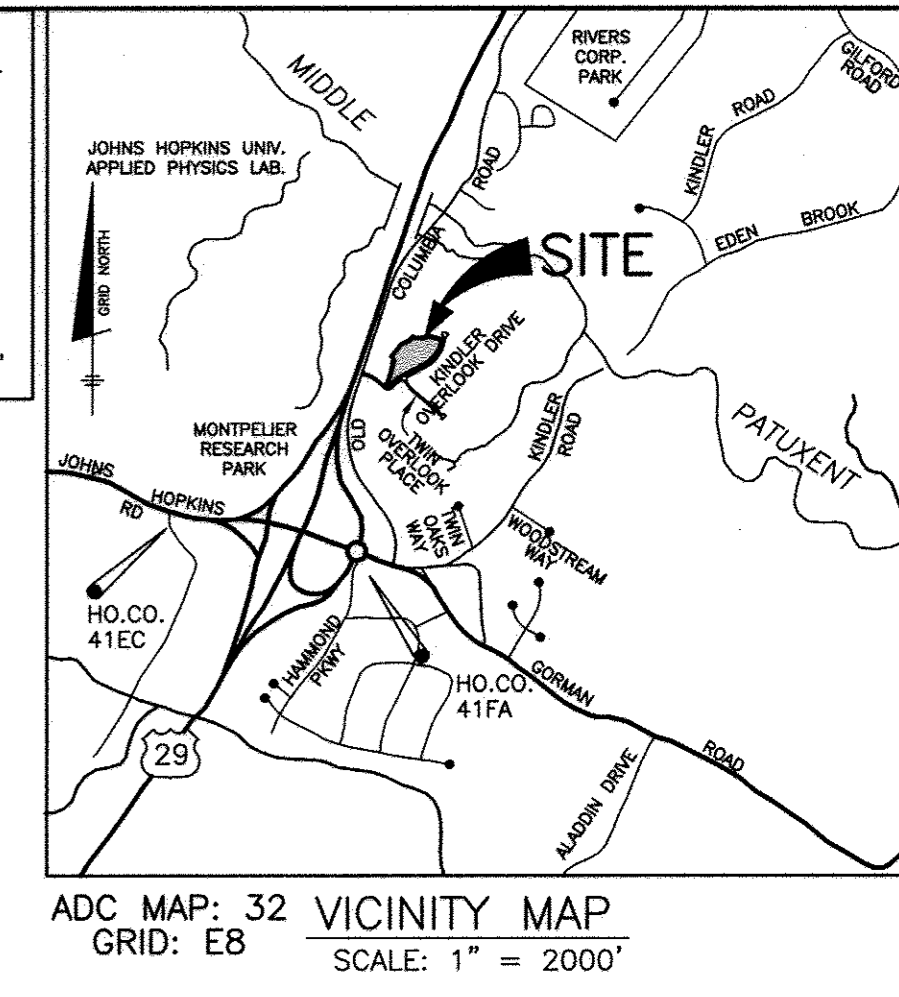
SITE DEVELOPMENT PLAN

LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- EXISTING TREELINE
- SOIL DELINEATION AND GROUP
- EXISTING TREES PER F-07-003 AND F-16-049
- SLOPES >25%
- SLOPES 15% - 25%
- EXIST. 20' UTILITY AND SLOPE EASEMENT
- WETLANDS
- EXISTING SPECIMEN TREE
- CRITICAL ROOT ZONE
- TREE PROTECTION FENCE
- PUBLIC FOREST CONSERVATION EASEMENT

BENCH MARKS--(NAD 83)

HO.CO. 41EC	ELEV. 430.34
STAMPED DISC SET ON TOP OF 3' DEEP COLUMN OF CONCRETE	
N 543,588.8040	E 1,342,628.7800
HO.CO. 41FA	ELEV. 407.60
STAMPED DISC SET ON TOP OF 3' DEEP COLUMN OF CONCRETE	
N 545210.7590'	E 1344786.9530'



SITE ANALYSIS DATA CHART

A) TOTAL PROJECT AREA	3.35 AC.
B) AREA OF THIS PLAN SUBMISSION	3.35 AC.
C) APPROXIMATE LIMIT OF DISTURBANCE	2.19 AC.
D) PRESENT ZONING:	R-20 RESIDENTIAL SINGLE FAMILY DETACHED UNITS
E) PROPOSED USE OF SITE:	RESIDENTIAL SINGLE FAMILY DETACHED UNITS
F) TOTAL NUMBER OF UNITS ALLOWED AS SHOWN ON FINAL PLAT(S)	8
G) TOTAL NUMBER OF UNITS PROPOSED	8
H) PROVIDED PARKING PER UNIT:	4 (2 GARAGE, 2 DRIVEWAY)
I) APPLICABLE DPZ FILE REFERENCES:	ECP-15-066, S-15-006, WP-16-009, WP-16-070, F-16-049
J) PROPOSED WATER AND SEWER SYSTEMS:	X PUBLIC PRIVATE

STORMWATER MANAGEMENT PRACTICES CHART

LOT NO.	ADDRESS	MICRO-BIORETENTION FACILITY (M-6)	DRY-WELLS (M-5)
1	7600 KINDLER OVERLOOK DRIVE	1	
2	7596 KINDLER OVERLOOK DRIVE	1	
3	7592 KINDLER OVERLOOK DRIVE	1	
4	7588 KINDLER OVERLOOK DRIVE	4	
5	7584 KINDLER OVERLOOK DRIVE	4	
6	7580 KINDLER OVERLOOK DRIVE	4	
7	7576 KINDLER OVERLOOK DRIVE	4	
8	7572 KINDLER OVERLOOK DRIVE	4	

ADDRESS CHART

LOT NO.	ADDRESS
1	7600 KINDLER OVERLOOK DRIVE
2	7596 KINDLER OVERLOOK DRIVE
3	7592 KINDLER OVERLOOK DRIVE
4	7588 KINDLER OVERLOOK DRIVE
5	7584 KINDLER OVERLOOK DRIVE
6	7580 KINDLER OVERLOOK DRIVE
7	7576 KINDLER OVERLOOK DRIVE
8	7572 KINDLER OVERLOOK DRIVE

SHC TABLE

LOT NO.	INVERT AT ESMT.	MCE
1	354.22	CNS
2	354.08	CNS
3	354.42	357.78
4	354.80	358.66
5	355.13	358.99
6	355.93	359.39
7	356.35	CNS
8	356.71	CNS

PERMIT INFORMATION CHART

SUBDIVISION NAME:	SECTION/AREA:	LOT/PARCEL#
KINDLER OVERLOOK III	N/A	LOTS 1-8
PLAT No.	GRID No.	ZONE
23988-23989	18	R-20
TAX MAP	ELECTION DISTRICT	CENSUS TRACT
41	6TH	6068.06

APPROVED FOR PUBLIC WATER AND PUBLIC SEWER SYSTEMS:
HOWARD COUNTY HEALTH DEPARTMENT

William M. Moore 2/23/17
HOWARD COUNTY HEALTH OFFICER

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Verde Land 2-23-17
CHIEF, DIVISION OF LAND DEVELOPMENT

Al Adams 2-10-17
CHIEF, DEVELOPMENT ENGINEERING DIVISION

William J. Fugle 2-24-17
DIRECTOR

Please note that all lots/residential units in this subdivision are subject to the MHU Fee-in-lieu requirement that is to be calculated and paid to the Department of Inspections, Licenses and Permits at the time of building permit issuance by the permit applicant.

NO.	DATE	REVISION
2	12/12/17	Revised SWM METHODS For Lots 4-8
1	3/16/17	REMOVE PINEHURST MODEL AND ADD PARKER MODEL

BENCHMARK ENGINEERING, INC.
ENGINEERS & LAND SURVEYORS & PLANNERS
8480 BALTIMORE NATIONAL PIKE & SUITE 315 A ELIJAH CITY, MARYLAND 21043
(P) 410-666-8644
WWW.BEI-CVLENDENGINEERING.COM

25 Jan 17
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. 28376, Expiration Date: 1-1-2019.

OWNER: DEVELOPMENT PARTNERS, LLC
11807 WOLLINGFORD CT
CLARKSVILLE, MARYLAND 21029
301-490-0388

PROJECT: KINDLER OVERLOOK III
LOTS 1-8

DEVELOPER: DEVELOPMENT PARTNERS, LLC
11807 WOLLINGFORD CT
CLARKSVILLE, MARYLAND 21029
301-490-0388

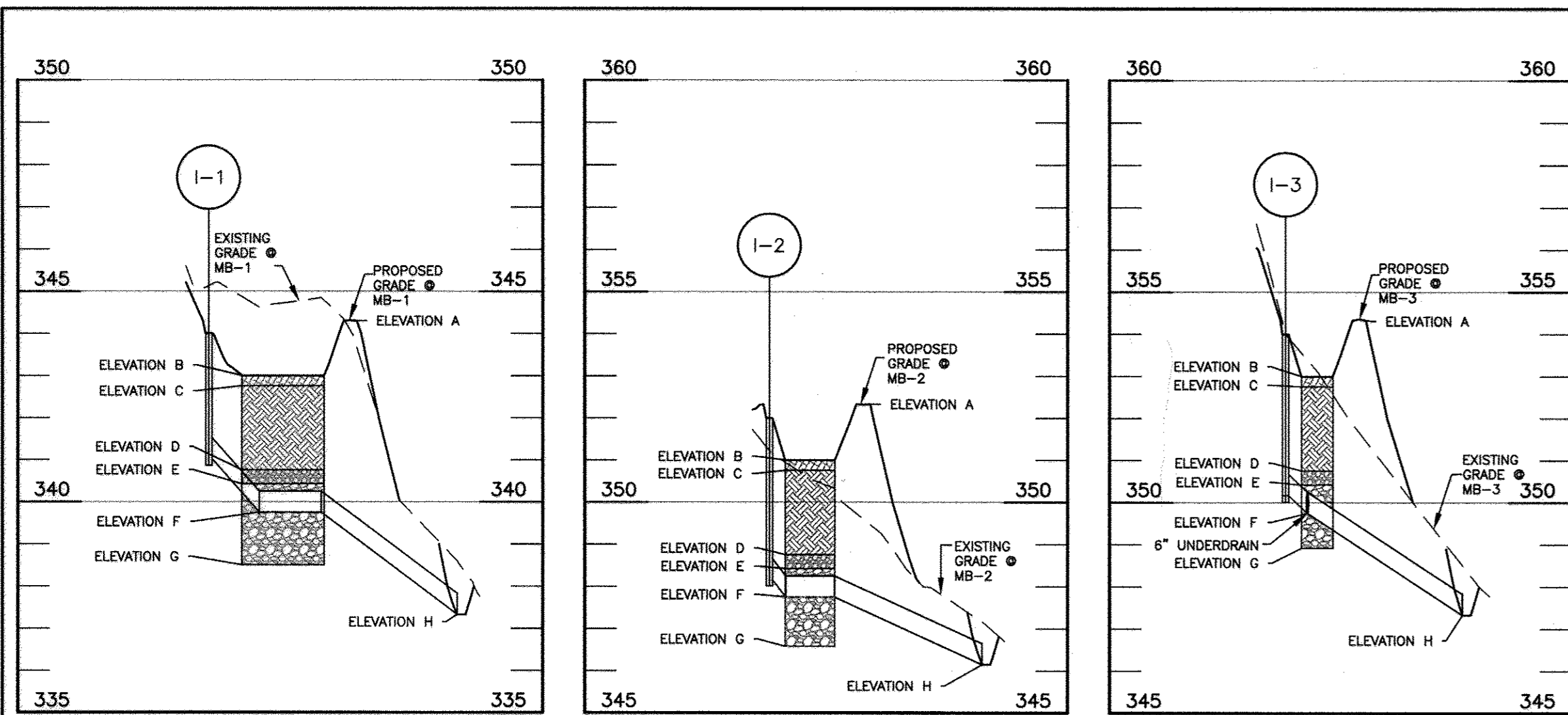
LOCATION: TAX MAP: 41 PARCEL: 245
GRID: 18 ZONED: R-20
6th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: EXISTING TOPOGRAPHY, SOILS AND LOT LAYOUT PLAN

DATE: JANUARY 2017 PROJECT NO: 2658

DESIGN: AAM DRAFT: AAM CHECK: CAM SCALE: AS SHOWN SHEET 1 OF 4

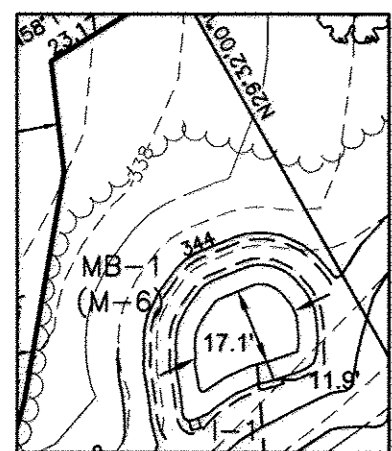
NOTE: STORMWATER DESIGN COMPUTATIONS MAY BE FOUND IN F-16-049.
DECLARATIONS OF COVENANTS WERE RECORDED SIMULTANEOUSLY WITH PLAT 23988 AND ARE VALID FOR THE ON-LOT FACILITIES AS SHOWN.



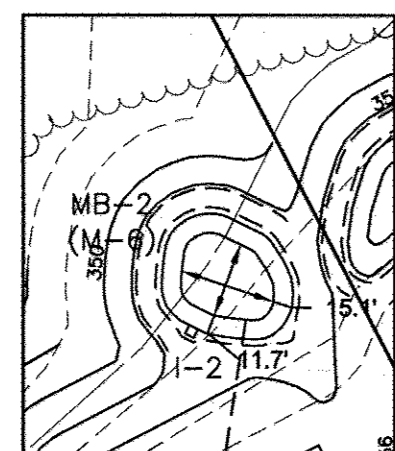
MB-1 PROFILE

MB-2 PROFILE

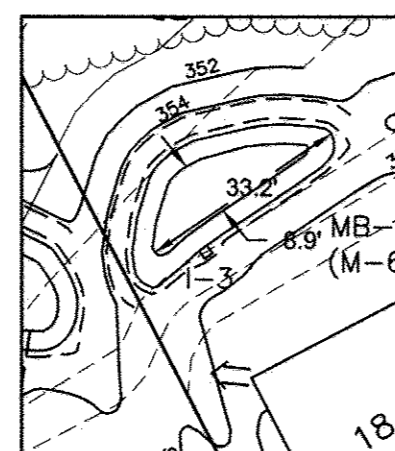
MB-3 PROFILE



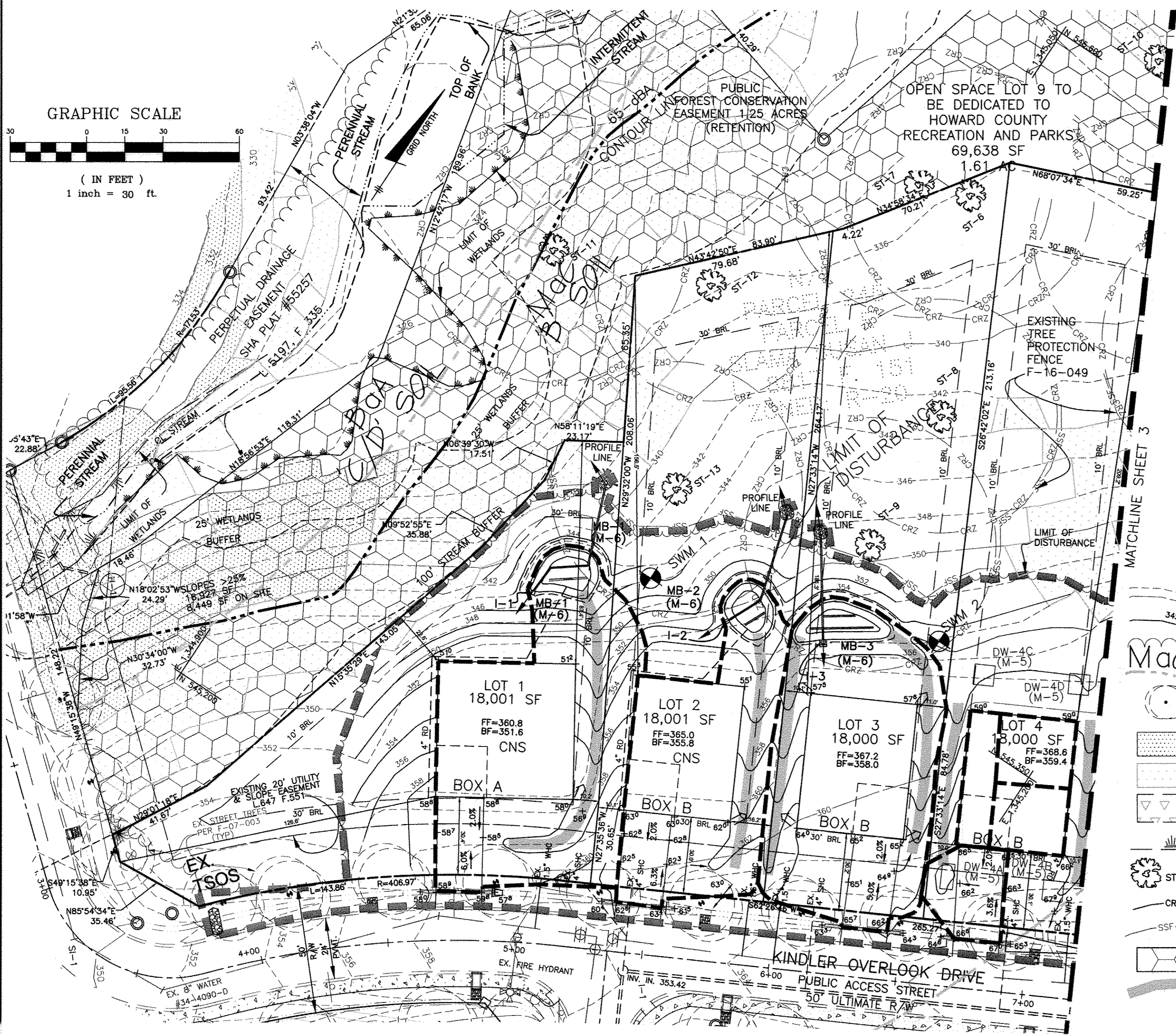
MB-1 DIMENSIONS
SCALE: 1" = 30'



MB-2 DIMENSIONS
SCALE: 1" = 30'



MB-3 DIMENSIONS
SCALE: 1" = 30'



- LEGEND**
- EXISTING CONTOURS
 - PROPOSED CONTOURS
 - EXISTING TREELINE
 - SOIL DELINEATION AND GROUP
 - EXISTING TREES PER F-07-003 AND F-16-049
 - SLOPES >25%
 - SLOPES 15% - 25%
 - WETLANDS
 - EXISTING SPECIMEN TREE
 - CRITICAL ROOT ZONE
 - TREE PROTECTION FENCE
 - PUBLIC FOREST CONSERVATION EASEMENT
 - EROSION CONTROL MATING

NDS TECHNICAL SPECIFICATIONS
WE PUT WATER IN ITS PLACE

18" ONE PIECE CATCH BASIN

Material: UV Protected High Density Polyethylene (HDPE)
Weight: 9.65 lbs
Colors: Black

- 18" One Piece Catch Basin with 2 Openings (1882) Includes 2 #1890 Reducer Rings
- 18" One Piece Catch Basin with 4 Openings (1884) Includes 4 #1890 Reducer Rings

Requires either #1206, #1242, #1245, #1266, #1888, or #1889 universal outlet to connect pipe

NDS TECHNICAL SPECIFICATIONS
WE PUT WATER IN ITS PLACE

8" RISER FOR 18" CATCH BASIN

Material: Styrene
Part #1815
Weight: 5.92 lbs
Colors: Black
Fits: Use with #1800, #1804, #1882, or #1884
Connections are soft tight, requires water proof silicone to make connections water tight

NDS TECHNICAL SPECIFICATIONS
WE PUT WATER IN ITS PLACE

18" EXPANDABLE CATCH BASIN

Material: Styrene
Weight: 16.00 lbs
Colors: Black

- 18" Expandable Catch Basin with 2 Openings (1800) Composed of 2 #1820, 2 #1822, 1 #1828 Includes 2 #1890 Reducer Rings
- 18" One Piece Catch Basin with 4 Openings (1804) Includes 4 #1890 Reducer Rings

Requires either #1206, #1242, #1245, #1266, #1888, or #1889 universal outlet to connect pipe
Connections are soft tight, require water proof silicone to make connections water tight

NDS TECHNICAL SPECIFICATIONS
WE PUT WATER IN ITS PLACE

18" x 18" Square Grate

Part #: 1810, 1811 and 1812
Material: (HDPE) High Density Polypropylene
Color: #1810 (Gray), #1811 (Black) and #1812 (Green)
Face Catch Basin #1882, #1884, #1804, #1804, #1816, #1816, #1830 and #1840
Grate Opening: 7/16"
Open Surface Area: 86.31 Sq. Inches
Head Pressure / Flow Rate: 1" = 375.40 GPM
UV Inhibitor: IZ* = 264.03 CFM
Weight Per Each: 7.71 lbs.
Made in USA.

Load Recommendation Guide

ADA Compliant

MICROBIORETENTION PLANTING SCHEDULE
(SPECIFIC NUMBER OF PLANTINGS SHALL BE DETERMINED WITH FINAL DESIGN AT PLOT PLAN PHASE)

- IRIS VERSICOLOR (IRIS)
- LOBELIA CARDINALIS CARDINAL FLOWER
- RUDBECKIA SUBTOMENTOSA - SWEET CONEFLOWER
- CALLUNA VULGARIS (HEATHER) (2 PER FACILITY)
- SALIX NIGRA (BLACK WILLOW) (1 PER FACILITY)

MICROBIORETENTION PLANTING DATA

- PLANTINGS WITHIN THE PONDING AREA OF THE MICRO-BIORETENTION FACILITY ARE TO BE OF A MEDIUM TO HIGH WATER TOLERANCE
- PLANTINGS ALONG THE PERIMETER (BERM) AREA OF THE MICRO-BIORETENTION FACILITY ARE TO BE OF A LOW TO MEDIUM WATER TOLERANCE
- AVOID PLANTINGS WITH EXCESSIVE ROOT MASS IN POND AREA OF THE MICRO-BIORETENTION FACILITY NEAR O.B. PIPE AND UNDERDRAIN.

LOT 4 DRYWELL FACILITIES SUMMARY

FACILITY	Drainage Area	Impervious	I (%)	Rv	ESDv (cf)	Depth	Porosity	Width	Length	Volume Stored	Pe Treated
DW-4A	1008	1008	100%	0.950	96.8	5.0	0.40	8	8	128	1.60
DW-4B	765	765	100%	0.950	72.7	5.0	0.40	8	8	128	2.11
DW-4C	666	666	100%	0.950	63.3	5.0	0.40	8	8	128	2.43
DW-4D	796	796	100%	0.950	75.6	5.0	0.40	10	5	100	1.59
TOTAL:											484 cf

BIORETENTION FACILITIES SUMMARY

FACILITY	Drainage Area	Impervious	I (%)	Rv	ESDv (cf)	75% ESDv (cf)	Volume Stored	Volume treated (V/0.75)	Pe Treated	Stone Storage	
MBR-1	8219	3533	43%	0.437	359.1	269.3	277 cf	369 cf	1.23	90.0	
MBR-2	5672	2773	49%	0.490	277.9	208.4	232 cf	309 cf	1.33	69.7	
MBR-3	7470	2780	37%	0.385	287.6	215.7	239 cf	318 cf	1.33	71.6	
TOTAL:											746.8 cf

ON-LOT BIORETENTION DIMENSIONS

FACILITY	DEPTH OF STONE BELOW PIPE (F TO G) (FT)	PLANTINGS								LINER				
		A	B	C	D	E	F	G	H					
MB-1	1.25	344.33	343.00	342.75	340.75	340.42	339.75	338.50	337.33	180	8	6	6	N/A
MB-2	1.17	352.33	351.00	350.75	348.75	348.42	347.75	346.50	345.33	149	7	5	5	N/A
MB-3	1.00	354.33	353.00	352.75	350.75	350.42	349.75	348.50	347.33	179	8	6	6	N/A

BIO-RETENTION DIMENSION LEGEND

FACILITY	NAME
A	TOP OF EMBANKMENT
B	TOP OF MULCH
C	TOP OF SOIL
D	TOP OF STONE FILTER
E	TOP OF STONE STORAGE
F	UNDERDRAIN INVERT
G	BOTTOM OF STONE
H	OUTFALL ELEVATION

MICRO-BIORETENTION DETAILS
NOT TO SCALE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

J. Marchant 1-17-18
CHIEF, DIVISION OF LAND DEVELOPMENT

[Signature] 1-16-18
CHIEF, DEVELOPMENT ENGINEERING DIVISION

[Signature] 1-18-18
DIRECTOR

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

STATE OF MARYLAND
PROFESSIONAL ENGINEER
No. 28375
1-1-18

Professional Certification: I 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. 28375, Expiration Date: 1-1-2019.

NO. DATE REVISION

1	12/12/17	REDLINE TO REVISE SWM METHODS ON LOTS 4-8. (SHEET REPLACEMENT)
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OWNER: DEVELOPMENT PARTNERS, LLC
11807 WOLLINGFORD CT
CLARKSVILLE, MARYLAND 21029
301-490-0388

PROJECT: REVISED SITE DEVELOPMENT PLAN
KINDLER OVERLOOK III
LOTS 1-8

DEVELOPER: DEVELOPMENT PARTNERS, LLC
11807 WOLLINGFORD CT
CLARKSVILLE, MARYLAND 21029
301-490-0388

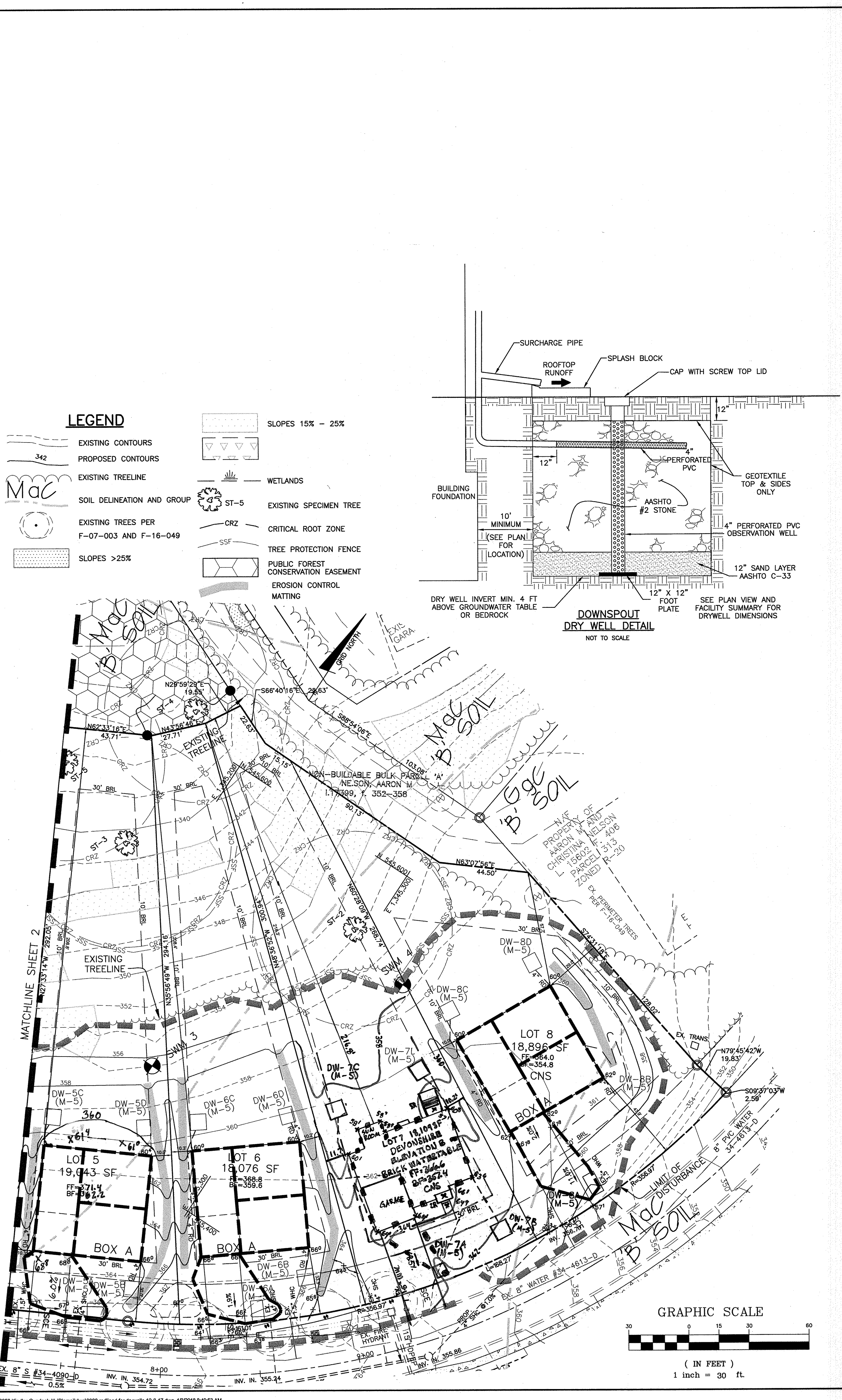
LOCATION: TAX MAP: 41 PARCEL: 245
GRID: 18 ZONED: R-20
8th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: LAYOUT, GRADING AND STORMWATER MANAGEMENT PLAN, NOTES AND DETAILS

DATE: SEPTEMBER, 2016 **PROJECT NO.:** 2658

DESIGN: AAM **DRAFT:** AAM **CHECK:** CAM **SCALE:** 1" = 30' **SHEET** 2 **OF** 4

SDP-17-012

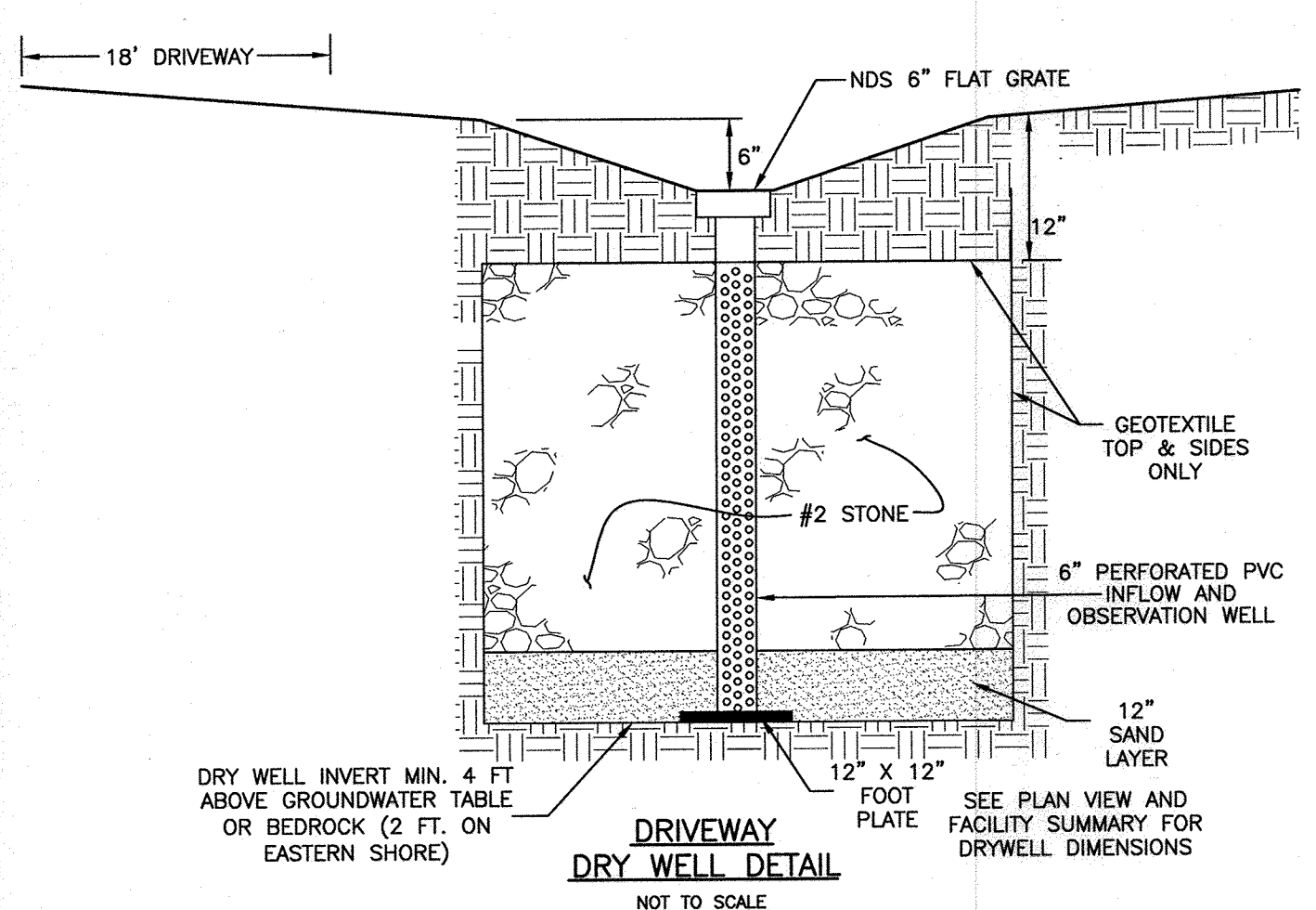
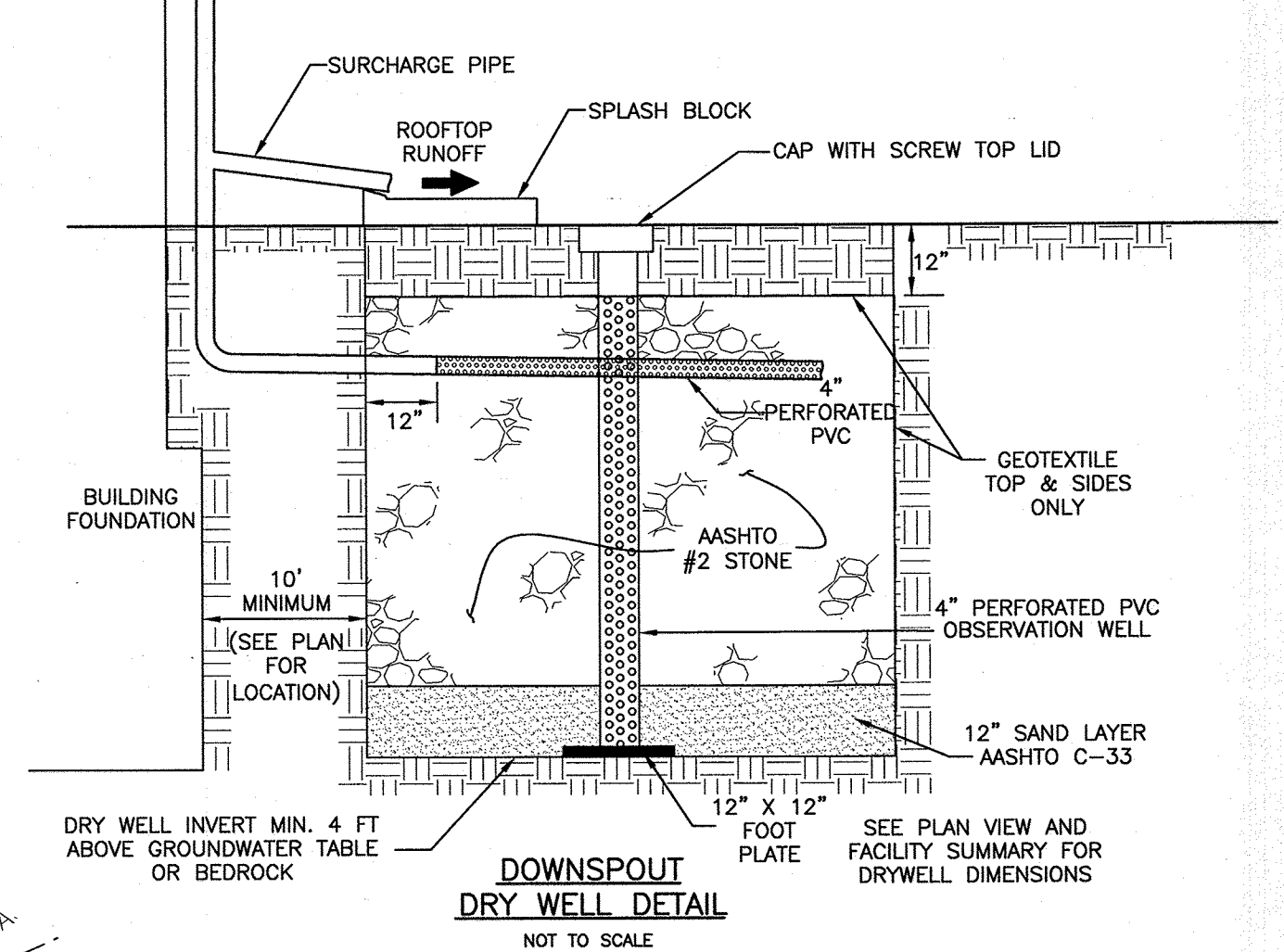


LOT 5 DRYWELL FACILITIES SUMMARY												
FACILITY	Drainage Area	Impervious	I (%)	Rv	ESDv (cf)	Depth	Porosity	Width	Length	Volume Stored	Pe Treated	
DW-5A	969	969	100%	0.950	92.1	5.0	0.40	8	8	128	1.67	
DW-5B	900	900	100%	0.950	85.5	5.0	0.40	8	8	128	1.80	
DW-5C	1062	1062	100%	0.950	100.9	5.0	0.40	8	8	128	1.52	
DW-5D	900	900	100%	0.950	85.5	5.0	0.40	8	7	112	1.57	
TOTAL:										496 cf		

LOT 6 DRYWELL FACILITIES SUMMARY												
FACILITY	Drainage Area	Impervious	I (%)	Rv	ESDv (cf)	Depth	Porosity	Width	Length	Volume Stored	Pe Treated	
DW-6A	995	995	100%	0.950	94.5	5.0	0.40	6	11	132	1.68	
DW-6B	900	900	100%	0.950	85.5	5.0	0.40	8	8	128	1.80	
DW-6C	1062	1062	100%	0.950	100.9	5.0	0.40	8	8	128	1.52	
DW-6D	900	900	100%	0.950	85.5	5.0	0.40	8	7	112	1.57	
TOTAL:										500 cf		

LOT 7 DRYWELL FACILITIES SUMMARY												
FACILITY	Drainage Area	Impervious	I (%)	Rv	ESDv (cf)	Depth	Porosity	Width	Length	Volume Stored	Pe Treated	
DW-7A	532	532	100%	0.950	50.5	5.0	0.40	7	7	98	2.33	
DW-7B	900	900	100%	0.950	85.5	5.0	0.40	8	8	128	1.80	
DW-7C	1062	1062	100%	0.950	100.9	5.0	0.40	8	8	128	1.52	
DW-7D	900	900	100%	0.950	85.5	5.0	0.40	8	8	128	1.80	
TOTAL:										482 cf		

LOT 8 DRYWELL FACILITIES SUMMARY												
FACILITY	Drainage Area	Impervious	I (%)	Rv	ESDv (cf)	Depth	Porosity	Width	Length	Volume Stored	Pe Treated	
DW-8A	962	962	100%	0.950	91.4	5.0	0.40	6	11	132	1.73	
DW-8B	900	900	100%	0.950	85.5	5.0	0.40	8	8	128	1.80	
DW-8C	1062	1062	100%	0.950	100.9	5.0	0.40	8	8	128	1.52	
DW-8D	900	900	100%	0.950	85.5	5.0	0.40	8	7	112	1.57	
TOTAL:										500 cf		



NDS, INC.
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SECTION

SECTION

NOTES:

- GRATE TO BE ATTACHED TO CATCH BASIN WITH SCREW PROVIDED AT TIME OF INSTALLATION.
- DO NOT USE OVER 3 RISERS WITH CATCH BASIN.
- INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
- DO NOT SCALE DRAWING.
- THIS DRAWING IS INTENDED FOR USE BY ARCHITECTS, ENGINEERS, CONTRACTORS, CONSULTANTS AND DESIGN PROFESSIONALS FOR PLANNING PURPOSES ONLY.
- ALL INFORMATION CONTAINED HEREIN WAS CURRENT AT THE TIME OF DEVELOPMENT BUT MUST BE REVIEWED AND APPROVED BY THE PRODUCT MANUFACTURER TO BE CONSIDERED ACCURATE.

SQUARE CATCH BASIN
18" SQUARE CATCH BASIN WITH RISER INSTALLATION FOR LANDSCAPE APPLICATIONS 1

REVISION DATE 8-24-2015

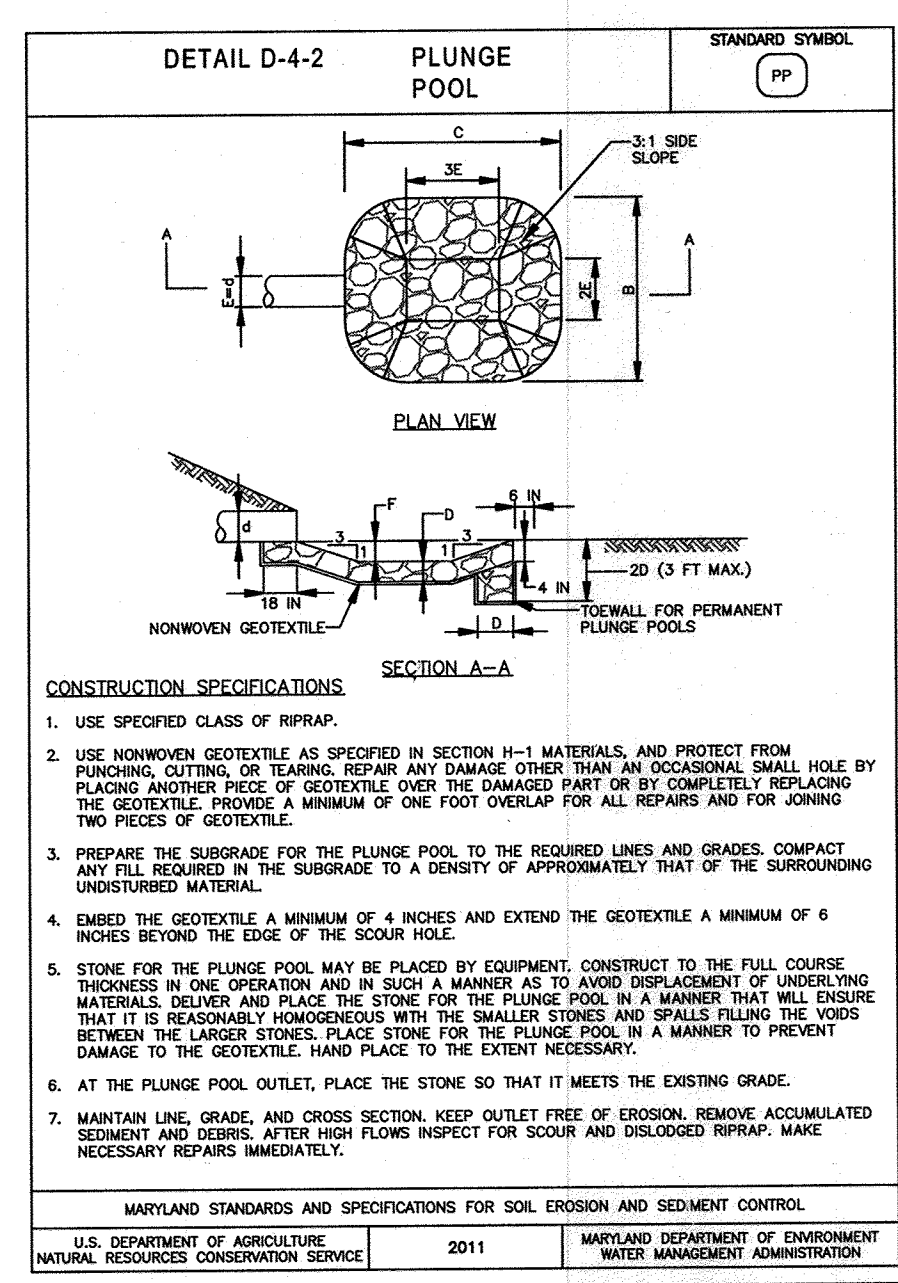
OPERATION AND MAINTENANCE SCHEDULE FOR MICRO-BIORETENTION (M-6)

THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING 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 BEFORE THE NEW LAYER IS APPLIED.
- THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

OPERATION & MAINTENANCE SCHEDULE FOR DRY WELLS (M-5)

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



APPROVED: DEPARTMENT OF PLANNING AND ZONING

J. Munch for KS 1-17-18
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Ch. Chelmer 1-16-18
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

W. J. J. J. 1-18-18
DIRECTOR DATE

NO.	DATE	REVISION
3	5/7/19	REDLINE TO UPDATE HOUSE AND GRADING ON LOT 7
2	7/12/18	REDLINE TO REVISE HOUSE ELEVATION AND GRADING ON LOT 5
1	12/12/17	REDLINE TO REVISE SWM METHODS ON LOTS 4-8. (SHEET REPLACEMENT)

BENCHMARK ENGINEERS & LAND SURVEYORS & PLANNERS		
ENGINEERING, INC. 6480 BALTIMORE NATIONAL PIKE & SUITE 315 & ELLICOTT CITY, MARYLAND 21043 (P) 410-485-6105 (F) 410-485-6644 www.bei-civilengineering.com		

OWNER: DEVELOPMENT PARTNERS, LLC 11807 WOLLINGFORD CT CLARKSVILLE, MARYLAND 21029 301-490-0388	PROJECT: REVISED SITE DEVELOPMENT PLAN KINDLER OVERLOOK III LOTS 1-8
DEVELOPER: DEVELOPMENT PARTNERS, LLC 11807 WOLLINGFORD CT CLARKSVILLE, MARYLAND 21029 301-490-0388	LOCATION: TAX MAP: 41 GRID: 18 8th ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DESIGN: AAM DRAFT: AAM CHECK: CAM	TITLE: LAYOUT, GRADING AND STORMWATER MANAGEMENT PLAN, NOTES AND DETAILS
DATE: SEPTEMBER, 2016	PROJECT NO. 2658
SCALE: 1" = 30'	SHEET 3 OF 4

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