

GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY STANDARDS AND SPECIFICATIONS. ALL WORK AND MATERIALS SHALL COMPLY WITH O.S.H.A. STANDARDS.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
- THE CONTRACTOR IS TO NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE DAYS BEFORE STARTING WORK ON THESE DRAWINGS:
 MISS UTILITY: 1-800-257-7777
 VERIZON: 1-800-743-0033
 BUREAU OF UTILITIES: 410-313-4900
 AT&T: 1-800-252-1133
 B.G.&E. (CONSTRUCTION SERVICES): 410-637-2713
 B.G.&E. (EMERGENCY): 410-635-0123
 STATE HIGHWAY ADMINISTRATION: 410-531-5533
 COLONIAL PIPELINE CO.: 410-795-1390
- SITE ANALYSIS:
 TOTAL PARCEL AREA: 1.12 AC.
 PRESENT ZONING: TOD
 USE OF STRUCTURE: NO STRUCTURE, INDUSTRIAL USE
 TOTAL BUILDING COVERAGE: 0 SF (0.00 AC. OR 0% OF GROSS AREA)
 PAVED PARKING LOT/AREA ON SITE: 35,428 SF (0.81 AC. OR 72.82% OF GROSS AREA)
 AREA OF LANDSCAPE ISLAND: 0 SF (0.00 AC. OR 0% OF GROSS AREA)
 AREA OF WETLAND AND BUFFERS: 0.00 AC.
 AREA OF STREAM AND BUFFERS: 0.00 AC.
 AREA OF EXISTING FOREST: 0.00 AC.
 AREA OF NRCS/MDC/ASDC STEEP SLOPES (20% OR GREATER): 0.00 AC.
 AREA OF STEEP SLOPES (25% OR GREATER): 0.00 AC.
 AREA OF ERODIBLE SOILS: 0.00 AC.
 AREA OF FLOODPLAIN: 0.00 AC.
 LIMIT OF DISTURBED AREA: 1.18 AC.
 CUT: 864 CY FILL: 0 CY
- PROJECT BACKGROUND:
 LOCATION : COLUMBIA, MD.; TAX MAP 37, BLOCK 23, PARCEL 276 (LOT 10) & PARCEL 280 (LOT 13)
 ZONING : TOD
 SUBDIVISION : N/A
 SECTION/AREA : N/A
 SITE AREA : 1.12 AC.
 SITE REFERENCES : L.9167/F.536, L.13691/F.175, ECP-18-020
- 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 START OF WORK.
- ANY DAMAGE TO PUBLIC RIGHT-OF-WAY PAVING, OR EXISTING UTILITIES WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY, PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
- EXISTING UTILITIES LOCATED FROM ROAD CONSTRUCTION PLANS, FIELD SURVEYS, PUBLIC WATER AND AND SEWER EXTENSION PLANS AND AVAILABLE RECORD DRAWINGS. APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN FOR THE CONTRACTOR'S INFORMATION. CONTRACTOR SHALL LOCATE EXISTING UTILITIES WELL IN ADVANCE OF CONSTRUCTION ACTIVITIES AND TAKE ANY NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
- TRAFFIC CONTROL DEVICES:
 A. THE R1-1 SIGN AND THE STREET NAME SIGN (SNS) ASSEMBLY FOR THIS DEVELOPMENT MUST BE INSTALLED BEFORE THE BASE PAVING IS COMPLETED.
 B. THE TRAFFIC CONTROL DEVICES SHOWN ON THE PLANS ARE APPROXIMATE AND MUST BE FIELD APPROVED BY HOWARD COUNTY TRAFFIC DIVISION (410-313-2430) PRIOR TO THE INSTALLATION OF ANY OF THE TRAFFIC CONTROL DEVICES.
 C. ALL TRAFFIC CONTROL DEVICES AND THEIR LOCATIONS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUMUTCD).
 D. ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT OF WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE POST (14 GAUGE) INSERTED IN TO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE)-3" LONG. THE ANCHOR SHALL NOT EXTEND MORE THAN TWO QUICK PUNCH HOLES ABOVE GROUND LEVEL. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
- ESTIMATES OF EARTHWORK QUANTITIES ARE PROVIDED SOLELY FOR THE PURPOSE OF CALCULATING FEES.
- SOIL COMPACTION SPECIFICATIONS, REQUIREMENTS, METHODS AND MATERIALS ARE TO BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE PROJECT GEOTECHNICAL ENGINEER. GEOTECHNICAL ENGINEER TO CONFIRM ACCEPTABILITY OF PROPOSED PAVING SECTION, BASED ON SOIL TEST PRIOR TO CONSTRUCTION.
- COORDINATES AND ELEVATIONS ARE BASED ON MARYLAND COORDINATE SYSTEM - NAD83(1991) AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS 4300 AND 4308.
- THE BOUNDARY SHOWN HEREON FOR LOT 10 HEREON IS BASED ON L.1730/F.146 AND PB 105/P.500. THE BOUNDARY SHOWN HEREON FOR LOT 13 IS BASED ON PB 105/P.500. FIELD VERIFICATION OF BOUNDARIES PREPARED BY VOGEL ENGINEERING+TIMMONS GROUP ON 05/03/19.
- THE EXISTING TOPOGRAPHY SHOWN HEREON IS BASED ON A TOPOGRAPHIC SURVEY PREPARED BY VOGEL ENGINEERING+TIMMONS GROUP, DATED 05/10/18 AND 05/03/19. SUPPLEMENTAL TOPOGRAPHY FROM HOWARD COUNTY GIS.
- THE SUBJECT PROPERTY IS ZONED TOD IN ACCORDANCE WITH THE 10/08/13 COMPREHENSIVE ZONING PLAN.
- THIS PROJECT IS SUBJECT TO COMPLIANCE WITH THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. DEVELOPMENT OR CONSTRUCTION ON THIS PROPERTY MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE SITE DEVELOPMENT PLAN, WAIVER PETITION APPLICATION OR BUILDING/GRADING PERMIT APPLICATIONS.
- A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT.
- TEST PIT REPORT PREPARED BY VOGEL ENGINEERING + TIMMONS GROUP, DATED 06/07/19.
- THE GEOTECHNICAL ENGINEER TO CONFIRM PAVING SECTION PRIOR TO CONSTRUCTION.
- ALL ELEVATIONS ARE TO FLOWLINE/BOTTOM OF CURB UNLESS OTHERWISE NOTED.
- ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
- ALL REINFORCED CONCRETE FOR STORM DRAIN STRUCTURES SHALL HAVE A MINIMUM OF 28 DAYS STRENGTH OF 3500 P.S.I.
- ALL STORMDRAIN PIPE BEDDING IS TO BE CLASS "C", AS REQUIRED BY AASHTO-180.
- PUBLIC SEWER AND WATER AVAILABLE THROUGH CONT. 24-1W-3.
- BINDER LANE IS CLASSIFIED AS A LOCAL ROAD AND DORSEY ROAD IS CLASSIFIED AS MAJOR COLLECTOR.
- THE ENVIRONMENTAL AND FOREST STAND DELINEATION REPORTS FOR LOT 10 AND LOT 13 WERE PREPARED BY ECO-SCIENCE PROFESSIONALS, INC., DATED DECEMBER 5, 2017.
- THERE IS NO STEEP SLOPES, WETLANDS, STREAMS, AND THEIR BUFFERS, SPECIMEN OR CHAMPION TREES WITHIN THE LIMITS OF DISTURBANCE.
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE, AND THE LANDSCAPE MANUAL.
- FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT FOR THIS SITE DEVELOPMENT PLAN IN THE AMOUNT OF \$5,250.00 FOR THE REQUIRED 16 SHADE TREES, 3 EVERGREEN TREES.
- THE FOREST CONSERVATION OBLIGATION FOR THIS PROJECT HAS BEEN SATISFIED BY A FEE-IN-LIEU PAYMENT IN THE AMOUNT OF \$10,890.00 (0.2 AC x 43,560 SF x \$1.25) FOR THE REQUIRED 0.2 ACRES OF AFFORESTATION.
- ANY EXISTING STREET TREES OUTSIDE OF THE LIMITS OF DISTURBANCE WHICH ARE DAMAGED OR DESTROYED DURING CONSTRUCTION WILL BE REPLACED BY THE CONTRACTOR.
- THERE ARE NO BURIAL GROUNDS, CEMETERIES OR HISTORIC STRUCTURES LOCATED ON THIS PROPERTY.
- THIS PROPERTY IS WITHIN THE METROPOLITAN DISTRICT.
- TRASH COLLECTION AND RECYCLABLES TO BE PRIVATE.
- STORMWATER MANAGEMENT FOR THIS PROJECT IS PROVIDED BY THE USE OF MICRO-SCALE PRACTICES IN ACCORDANCE WITH ENVIRONMENTAL SITE DESIGN CRITERIA. MICRO-SCALE PRACTICES INCLUDE 2 MICRO-BIORETENTION FACILITIES. THESE FACILITIES SHALL BE PRIVATELY OWNED AND MAINTAINED.
- IF ANY WELL OR SEPTIC COMPONENTS ARE FOUND DURING ANY STAGE OF THE DEMOLITION OR CONSTRUCTION THEY MUST BE PROPERLY ABANDONED WITH DOCUMENTATION OF THE ABANDONMENT SUBMITTED TO THE HEALTH DEPT.
- THE PRE-SUBMISSION COMMUNITY MEETING WAS HELD FOR THIS PROJECT ON DECEMBER 27, 2018 AT THE HOWARD COUNTY LIBRARY - ELKRIEGE BRANCH.

SITE DEVELOPMENT PLAN

O'DONNELL PROPERTIES

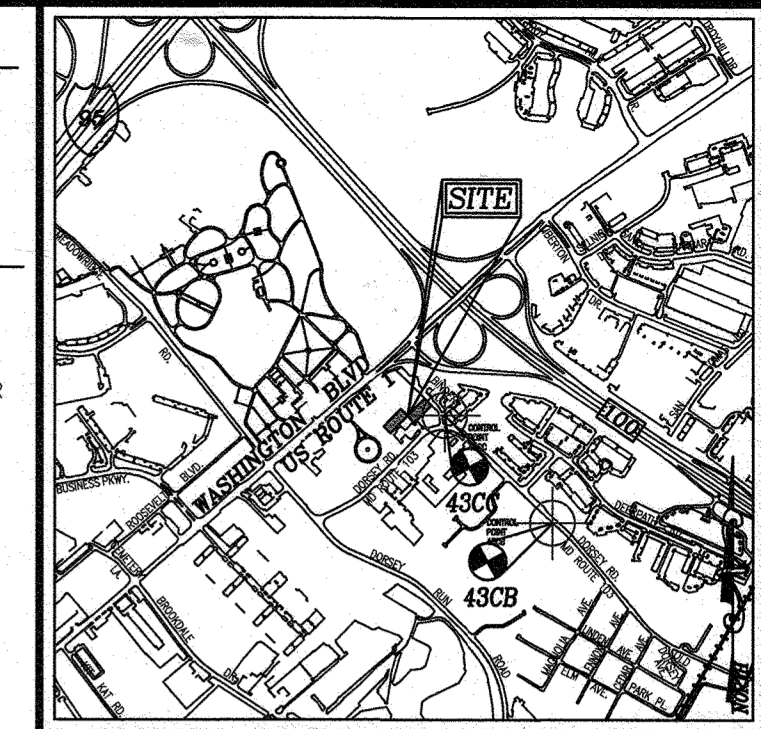
6718 & 6728 BINDER LANE

BENCHMARKS

BENCHMARK NO. 1: HOWARD COUNTY CONTROL #43CB
 N. 552084.214, E. 1382282.508 ELEV. = 144.435
 BENCHMARK NO. 2: HOWARD COUNTY CONTROL #43CC
 N. 553201.436, E. 1381152.910 ELEV. = 163.697

LEGEND

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- ADJACENT PROPERTY LINE
- EXISTING CURB AND GUTTER
- PROJECT AREA



VICINITY MAP
 SCALE: 1"=2000'
 ADC MAP COORDINATE: 35-45

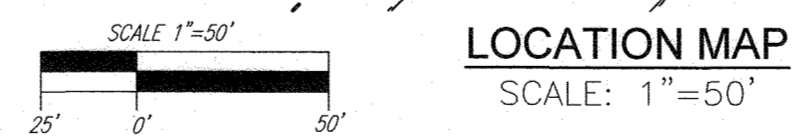


SHEET INDEX	
DESCRIPTION	SHEET NO.
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DEVELOPER
 O'DONNELL PROPERTIES LLC
 6724 BINDER LANE
 BALTIMORE, MD 21210
 (410) 796-7968

OWNER
 STEVEN F. O'DONNELL
 6724 BINDER LANE
 ELKRIEGE, MD. 21075
 (410) 796-7968

NO.	REVISION	DATE



STORMWATER MANAGEMENT INFORMATION						
LOT/PARCEL#	FACILITY NAME & NUMBER	PRACTICE TYPE (QUANTITY)	PUBLIC	PRIVATE	MAINTENANCE BY	NOTES
10	SWMF #1	M-5 Micro-Bioretentation	X		Owner	
13	SWMF #2	M-5 Micro-Bioretentation	X		Owner	

PARKING TABULATION:
 NO PARKING REQUIRED OR PROVIDED ON LOTS 10 & 13.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION *[Signature]* DATE: 3/31/21

CHIEF, DIVISION OF LAND DEVELOPMENT *[Signature]* DATE: 4/7/21

DIRECTOR *[Signature]* DATE: 4/7/21

ADDRESS CHART	
BUILDING NO.	STREET ADDRESS
6718 & 6728	BINDER LANE

PERMIT INFORMATION CHART					
SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL NUMBER	GRID NO.	ZONING	TAX MAP NO.
O'DONNELL PROPERTIES		PARCEL 276 LOT 10 PARCEL 280 LOT 13	23	TOD	37

PLAT OR L/F	GRID NO.	ZONING	TAX MAP NO.	ELECT. DIST.	CENSUS TR.
L.9167/F.536 L.13691/F.175	23	TOD	37	1ST	601203

SITE DEVELOPMENT PLAN

COVER SHEET

O'DONNELL PROPERTIES
 6718 & 6728 BINDER LANE
 ZONED: TOD
 L.9167/F.536 & L.13691/F.175

PARCEL 276, LOT 10
 PARCEL 280, LOT 13
 HOWARD COUNTY, MARYLAND

VOGEL ENGINEERING

TIMMONS GROUP
 3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
 P: 410.461.7656 F: 410.461.8951 www.timmons.com

PROFESSIONAL CERTIFICATE

DESIGN BY: DZE
 DRAWN BY: DZE/KG
 CHECKED BY: RHY
 DATE: JULY 2020
 SCALE: AS SHOWN
 W.O. NO.: 40908

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 19072, EXPIRATION DATE: 09-27-2022.

1 SHEET OF 7

CORRIDOR SQUARE LLC
 TM 37, PARCEL 452
 LOT 3
 L.16664/F.358
 ZONED: TOD
 USE: COMMERCIAL

ODONNELL PROPERTIES LLC
 TM 37, PARCEL 283
 LOTS 1, 2, 6 & 7
 L.16827/F.275
 ZONED: TOD
 USE: COMMERCIAL

ODONNELL PROPERTIES LLC
 TM 37, PARCEL 278
 LOTS 8 & 9
 L.16827/F.275
 ZONED: TOD
 USE: INDUSTRIAL

STEVEN F. O'DONNELL
 TM 37, PARCEL 277
 LOT 11
 L.13691/F.175
 ZONED: TOD
 USE: COMMERCIAL

CORRIDOR SQUARE LLC
 TM 37, PARCEL 452
 LOT 3
 L.16664/F.358
 ZONED: TOD
 USE: COMMERCIAL

ODONNELL PROPERTIES LLC
 TM 37, PARCEL 283
 LOTS 1, 2, 6 & 7
 L.16827/F.275
 ZONED: TOD
 USE: COMMERCIAL

ODONNELL PROPERTIES LLC
 TM 37, PARCEL 278
 LOTS 8 & 9
 L.16827/F.275
 ZONED: TOD
 USE: INDUSTRIAL

STEVEN F. O'DONNELL
 TM 37, PARCEL 277
 LOT 11
 L.13691/F.175
 ZONED: TOD
 USE: COMMERCIAL

MEMORIAL LLC
 C/O CHARLES LAGASSE
 TM 37, PARCEL 107, LOT 61
 L.16694/F.284
 PLAT# 105/500
 ZONED: TOD
 USE: COMMERCIAL

G AND G PROPERTIES, LLC
 TM 37, PARCEL 284
 LOTS 14 & 15
 L.4490/F.175
 ZONED: TOD
 USE: INDUSTRIAL

MEMORIAL LLC
 C/O CHARLES LAGASSE
 TM 37, PARCEL 107, LOT 63
 L.16694/F.284
 PLAT# 105/500
 ZONED: TOD
 USE: COMMERCIAL

MEMORIAL LLC
 C/O CHARLES LAGASSE
 TM 37, PARCEL 107, LOT 65
 L.16694/F.284

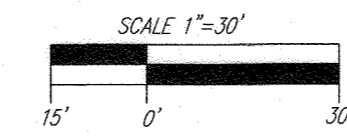
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION *[Signature]* 3-31-21 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT *[Signature]* 4/5/21 DATE

DIRECTOR *[Signature]* 4-7-21 DATE

LAYOUT PLAN
 SCALE: 1"=30'

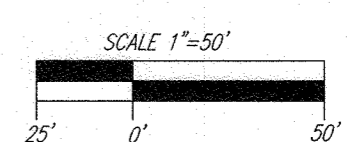


DEMO LEGEND:

EXISTING GRAVEL PAVING TO BE REMOVED

DEMOLITION PLAN

SCALE: 1"=50'



DEVELOPER
 O'DONNELL PROPERTIES, LLC
 5 LONGWOOD ROAD
 BALTIMORE, MD 21210
 (410) 796-7168

OWNER
 STEVEN F. O'DONNELL
 6724 BINDER LANE
 ELK RIDGE, MD 21075
 (410) 796-7968

LEGEND:

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- ADJACENT PROPERTY LINE
- EXISTING TREELINE PRIOR TO 2014 CLEARING
- EXISTING TREELINE AFTER 2014 CLEARING
- EXISTING CURB AND GUTTER
- EXISTING UTILITY POLE
- EXISTING MAILBOX
- EXISTING SIGN
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY LINE
- EXISTING CLEANOUT
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING FENCE
- PROPOSED STORMDRAIN
- PROPOSED STORMDRAIN INLET
- PROPOSED CURB
- MICRO-BIORETENTION
- EXISTING GRAVEL PAVING WITHIN PROPERTY TO REMAIN

NO.	REVISION	DATE

SITE DEVELOPMENT PLAN
 SITE LAYOUT AND DEMOLITION PLAN

O'DONNELL PROPERTIES
 6718 & 6728 BINDER LANE
 ZONED: TOD
 L9167/F.536 & L.13691/F.175

PARCEL 276, LOT 10
 PARCEL 280, LOT 13
 HOWARD COUNTY, MARYLAND

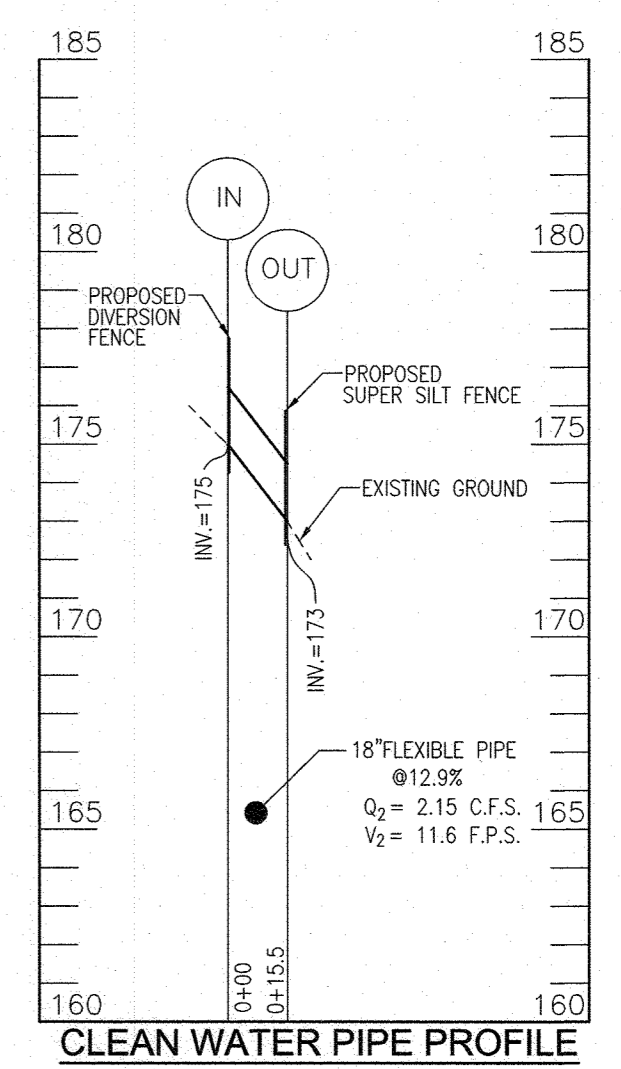
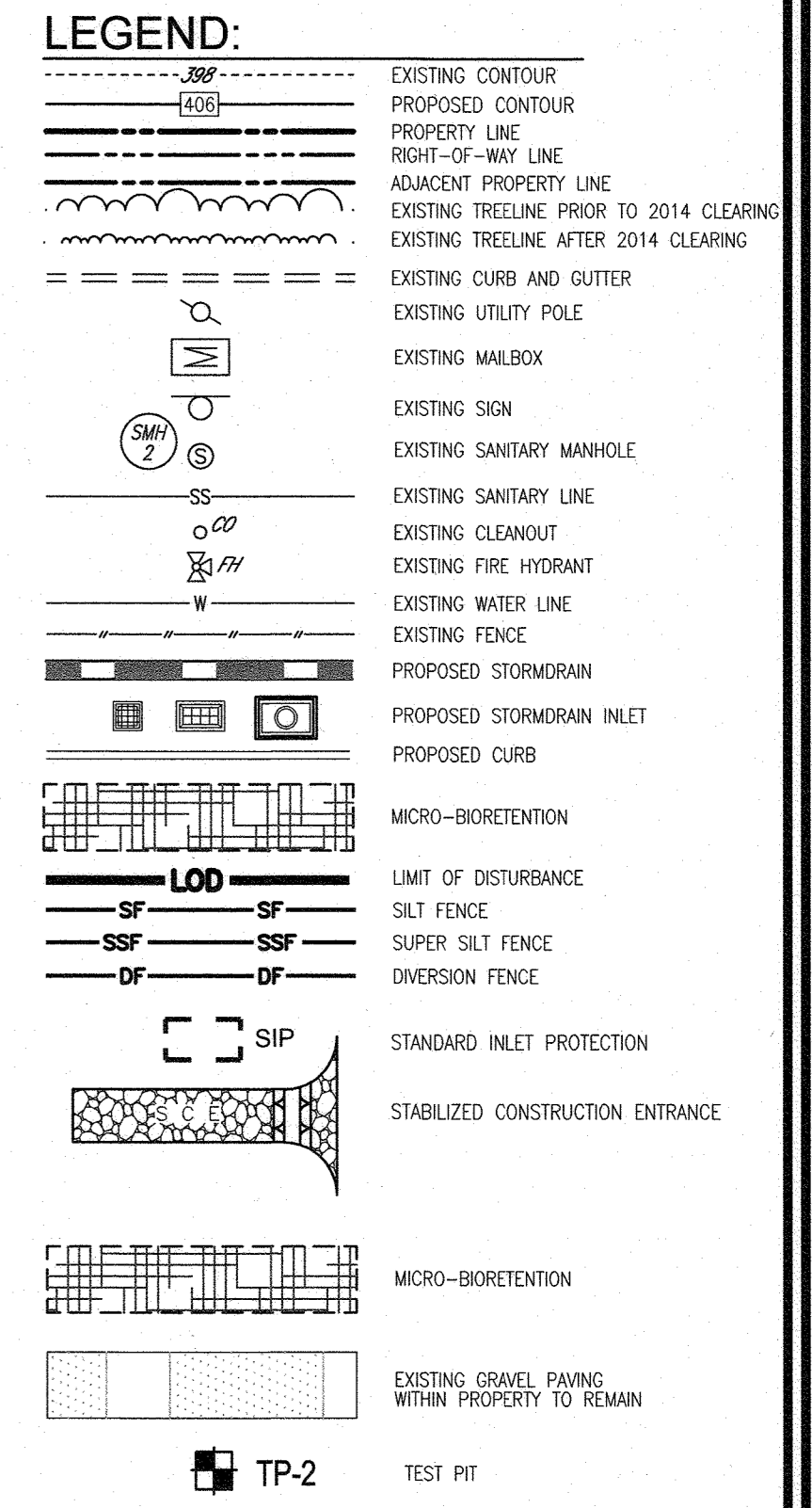
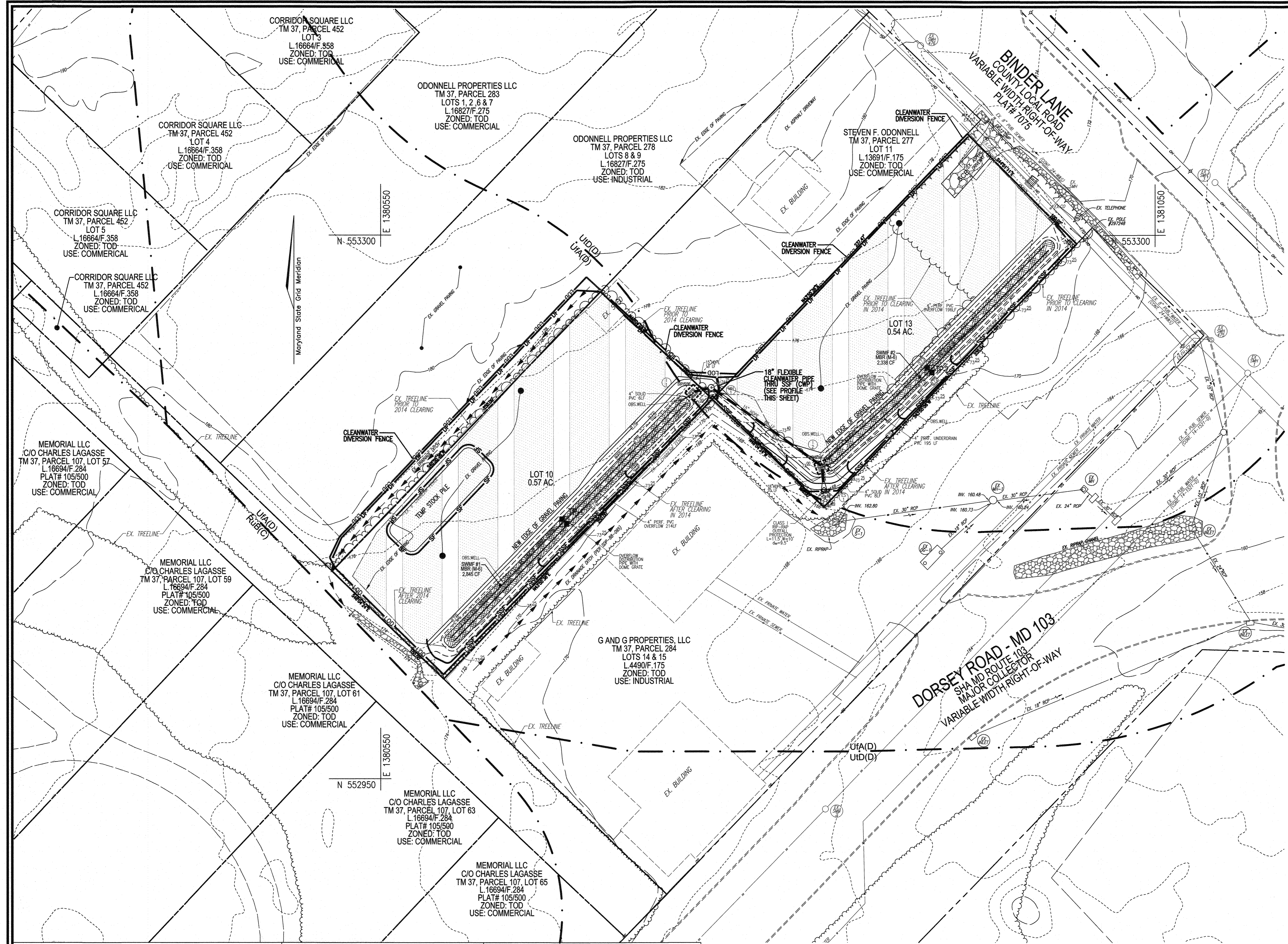
VOGEL ENGINEERING
 +
TIMMONS GROUP
 3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
 P: 410.461.7666 F: 410.461.8961 www.timmons.com

PROFESSIONAL CERTIFICATE

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. 16193, EXPIRATION DATE: 09-27-2022.

DESIGN BY: DZE
 DRAWN BY: DZE/KG
 CHECKED BY: RHY
 DATE: JULY 2020
 SCALE: AS SHOWN
 W.O. NO.: 40908

ROBERT H. VOGEL, PE No.16193



DEVELOPER
 O'DONNELL PROPERTIES, LLC
 5 LONGWOOD ROAD
 BALTIMORE, MD 21210
 (410) 746-7368

OWNER
 STEVEN F. O'DONNELL
 6724 BINDER LANE
 ELKFRIDGE, MD, 21075
 (410) 796-7968

NO.	REVISION	DATE

SITE DEVELOPMENT PLAN

GRADING, EROSION & SEDIMENT CONTROL PLAN

O'DONNELL PROPERTIES
 6718 & 6728 BINDER LANE
 ZONED: TOD
 L.9167/F.536 & L.13891/F.175

TAX MAP 37 GRID 23
 1ST ELECTION DISTRICT

PARCEL 276, LOT 10
 PARCEL 280, LOT 13
 HOWARD COUNTY, MARYLAND

VOGEL ENGINEERING

TIMMONS GROUP

3300 NORTH RIDGE ROAD, SUITE 110, ELLCOTT CITY, MD 21043
 P: 410.461.7656 F: 410.461.8961 www.timmons.com

PROFESSIONAL CERTIFICATE

DESIGN BY: DZE
 DRAWN BY: DZE/KG
 CHECKED BY: RHV
 DATE: JULY 2020
 SCALE: AS SHOWN
 W.O. NO.: 40908

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3 SHEET OF 7

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

John R. Vogels
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 3-31-21

John R. Vogels
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 4/5/21

John R. Vogels
 DIRECTOR
 DATE: 4-7-21

OWNER/DEVELOPER CERTIFICATION:
 I HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING AND MAINTAINING CONTROLS, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL OF EROSION AND SEDIMENT PRIOR TO BEGINNING THE PROJECT. I CERTIFY RIGHT-OF-ENTRY FOR PERIODIC ON-SITE EVALUATION BY HOWARD COUNTY, THE HOWARD SOIL CONSERVATION DISTRICT AND/OR MDE.

Steven F. O'Donnell
 O'DONNELL PROPERTIES
 PRINTED NAME & TITLE
 DATE: 11/20/2020

DESIGN CERTIFICATION:
 I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS, THAT IT REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

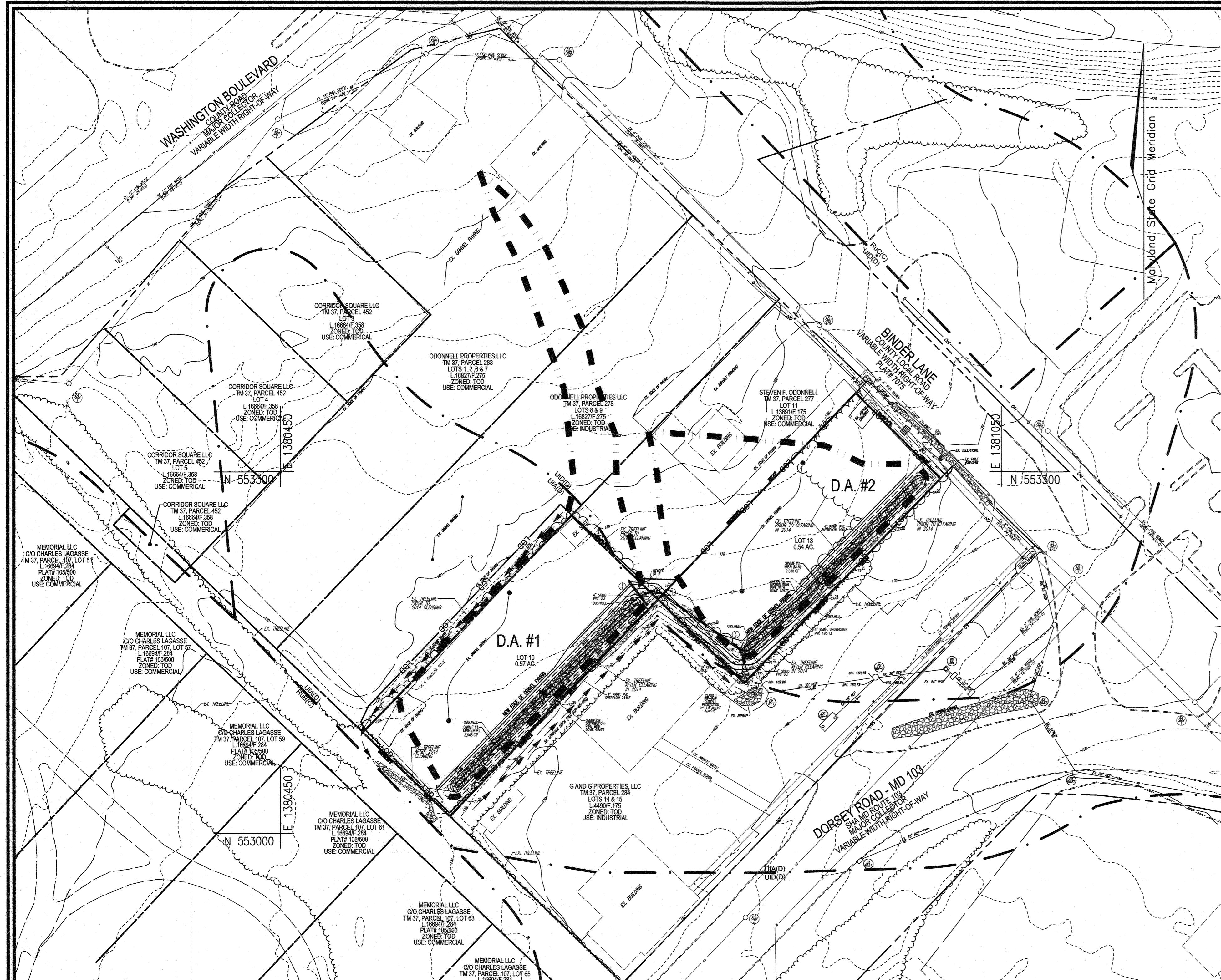
Robert H. Vogel
 ROBERT H. VOGEL
 PRINTED NAME
 DATE: 12-1-20
 MD REGISTRATION NO. 16193
 R.L.S., OR R.L.A. (circle one)

SCALE 1"=30'

PLAN VIEW
 SCALE: 1"=30'

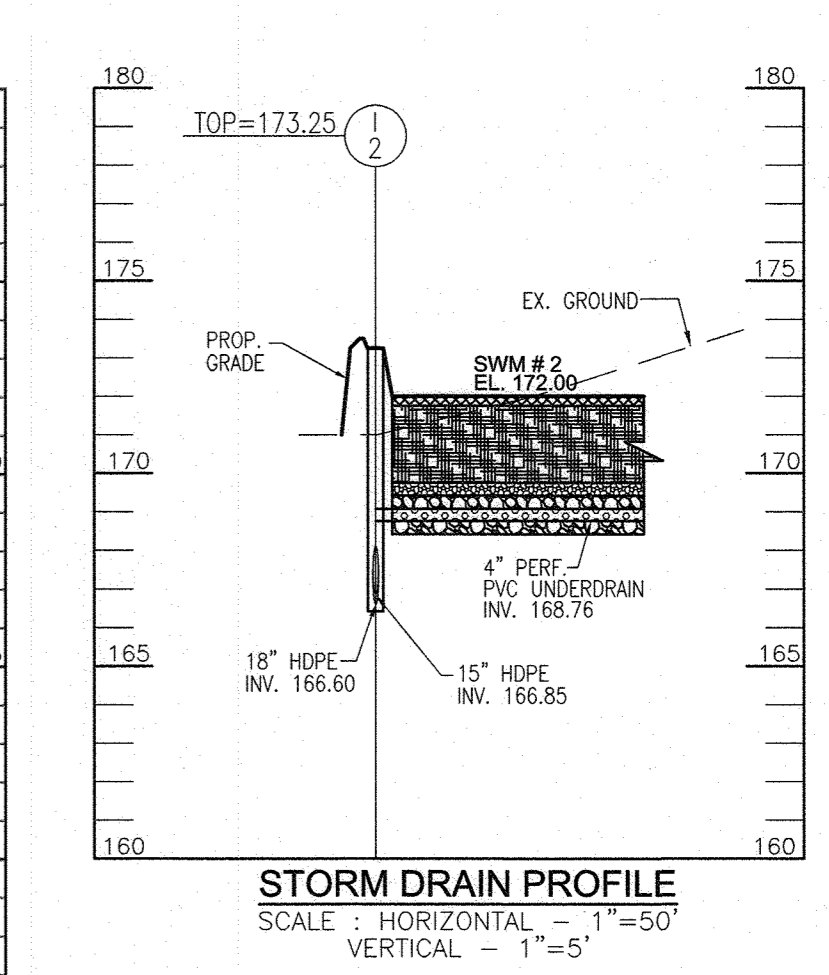
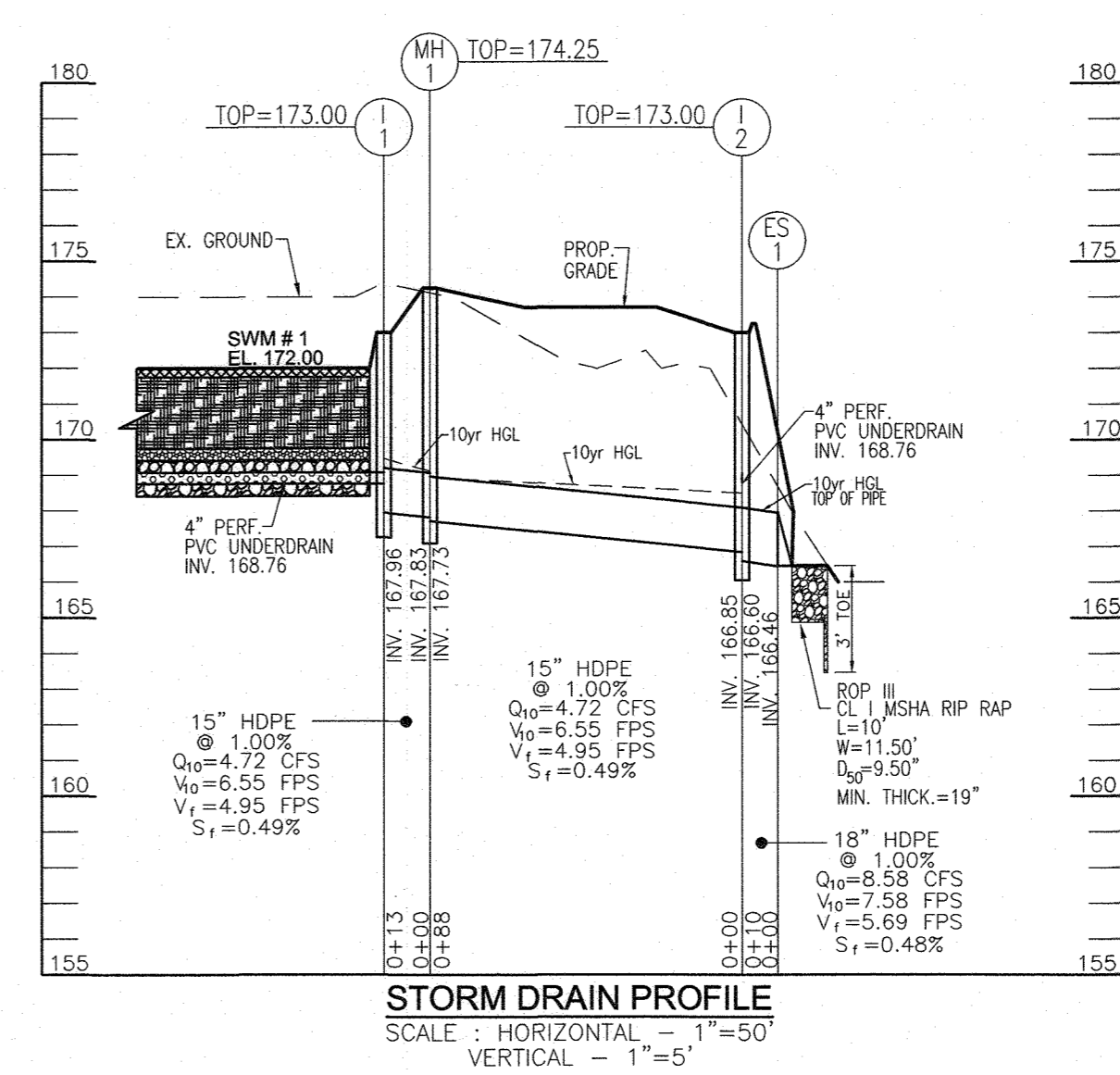
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

John R. Vogels
 DATE: 2/24/24
 HOWARD S.C.D.



LEGEND:

	EXISTING CONTOUR
	PROPOSED CONTOUR
	PROPERTY LINE
	RIGHT-OF-WAY LINE
	ADJACENT PROPERTY LINE
	EXISTING TREELINE PRIOR TO 2014 CLEARING
	EXISTING TREELINE AFTER 2014 CLEARING
	EXISTING CURB AND GUTTER
	EXISTING UTILITY POLE
	EXISTING MAILBOX
	EXISTING SIGN
	EXISTING SANITARY MANHOLE
	EXISTING SANITARY LINE
	EXISTING CLEANOUT
	EXISTING FIRE HYDRANT
	EXISTING WATER LINE
	EXISTING FENCE
	PROPOSED STORMDRAIN
	PROPOSED STORMDRAIN INLET
	PROPOSED CURB
	MICRO-BIORETENTION
	DRAINAGE AREA
	EXISTING GRAVEL PAVING
	TEST PIT



SOILS LEGEND
HOWARD COUNTY SOILS MAP #25

SYMBOL	NAME / DESCRIPTION	GROUP	K FACTOR	ERODIBLE
UFA	URBAN LAND - FALLSINGTON COMPLEX, 0 TO 2 PERCENT SLOPES	D	-	NO
UID	URBAN LAND - UDORTMENTS COMPLEX, 0 TO 15 PERCENT SLOPES	D	0.28	NO

STORMDRAIN DRAINAGE AREA PLAN
SCALE: 1"=50'

SD Drainage Area Chart

DRAINAGE AREA	AREA AC	C	IMP %
DA-1	0.73	0.76	83%
DA-2	0.59	0.79	88%

SOILS NOTE:
HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR K GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chad Elch
CHIEF, DEVELOPMENT ENGINEERING DIVISION 3-31-21
DATE

[Signature]
CHIEF, DIVISION OF LAND DEVELOPMENT 4/7/21
DATE

[Signature]
DIRECTOR 4-7-21
DATE

STRUCTURE SCHEDULE

STR #	TYPE	LOCATION	TOP ELEV	THROAT ELEV	INV. IN	INV. OUT	DETAIL	COMMENTS/REMARKS
ES-1	18" CONC. END SECTION	N= 553141.16 E= 1380835.81	167.96	167.96	-	166.46	HO. CO. STD. D-5.51	
MH-1	4'-0" STD. PRECAST MANHOLE	N= 553201.85 E= 1380763.41	174.25	-	167.83	167.73	HO. CO. STD. G-5.12	
I-1	TYPE 'S' INLET	N= 553198.28 E= 1380751.59	173.00	-	168.76	167.96	HO. CO. STD. D-4.24	
I-2	TYPE 'S' INLET	N= 553150.61 E= 1380834.66	173.00	-	168.76/166.85	166.60	HO. CO. STD. D-4.24	

1. TOP ELEVATIONS ARE TO CENTER TOP OF MANHOLE AND CENTER TOP OF GRATE

PIPE SCHEDULE

SIZE	TYPE / CLASS	TOTAL LENGTH
15	HDPE (SD)	101
18	HDPE (SD)	10
4"	PERF. PVC (SWM)	819
4"	SOLID PVC (SWM)	16

THE TOTAL LENGTH OF PIPE IS LINEAR FEET ONLY.
HDPE IS TO BE SMOOTH INTERIOR. CONTRACTOR SHALL INSTALL PIPE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

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5 LONGWOOD ROAD
BALTIMORE, MD 21210
(410) 796-7968

OWNER
STEVEN F. O'DONNELL
6724 BINDER LANE
ELK RIDGE, MD 21075
(410) 796-7968

NO.	REVISION	DATE

SITE DEVELOPMENT PLAN

**STORM DRAIN DRAINAGE AREA MAP;
STORM DRAIN PROFILES AND SOILS MAP**

O'DONNELL PROPERTIES
6718 & 6728 BINDER LANE
ZONED: TOD
L 9167/F.536 & L.13881/F.175

TAX MAP 37 GRID 23
1ST ELECTION DISTRICT

PARCEL 276, LOT 10
PARCEL 280, LOT 13
HOWARD COUNTY, MARYLAND

VOGEL ENGINEERING

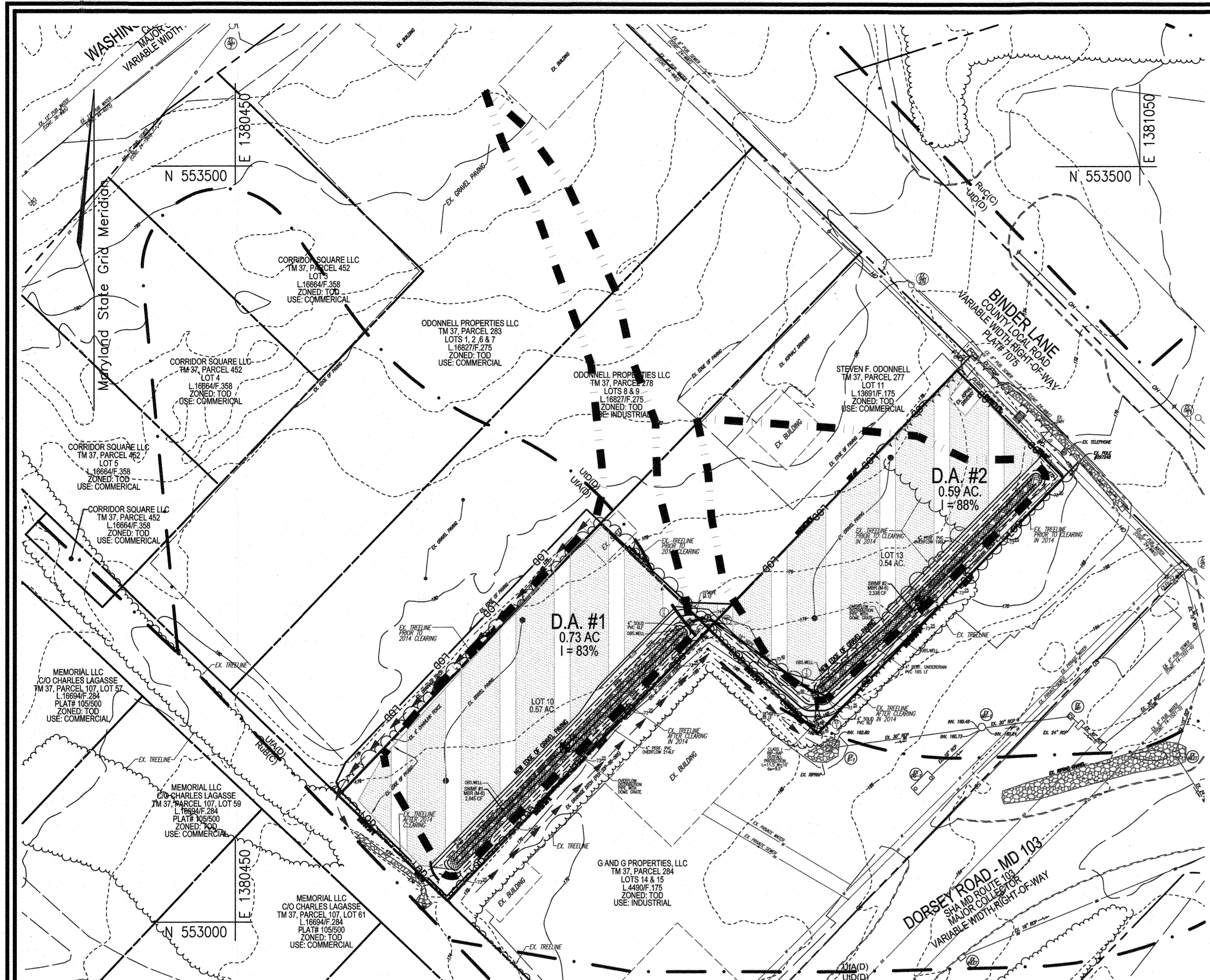
TIMMONS GROUP
3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
P: 410.461.7666 F: 410.461.8961 www.timmons.com

PROFESSIONAL CERTIFICATE

DESIGN BY: DZE
DRAWN BY: DZE/KG
CHECKED BY: RHY
DATE: JULY 2020
SCALE: AS SHOWN
W.O. NO.: 40908

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 AND 16193, EXPIRATION DATE: 09-27-2022.

5 SHEET OF 7



STORMWATER MANAGEMENT DRAINAGE AREA MAP
SCALE: 1"=50'

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

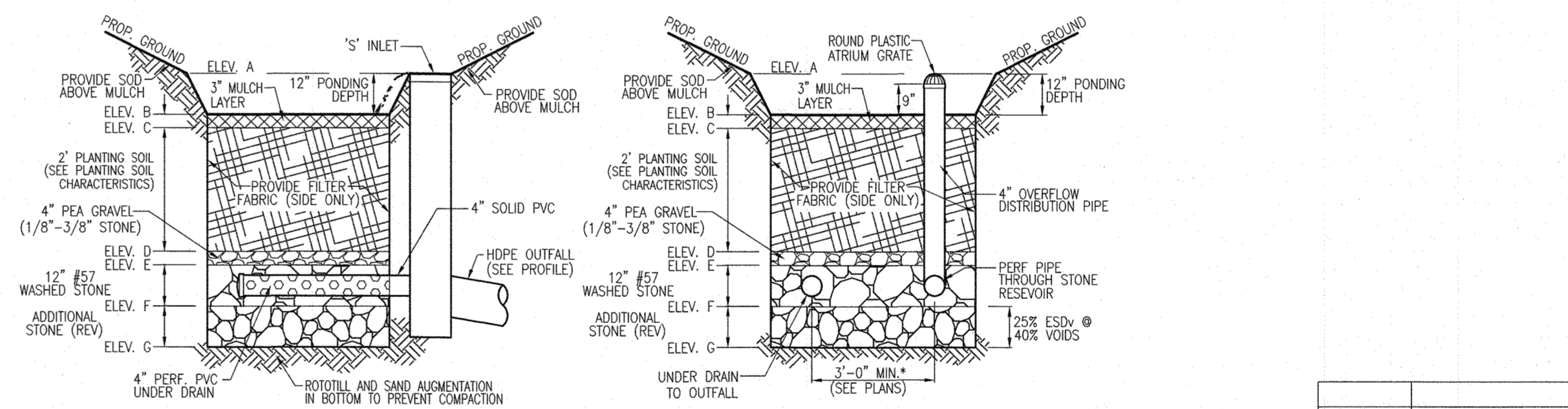
Material	Specification	Size	Notes
Plantings	see Appendix A, Table A.4	n/a	plantings are site-specific
Planting soil (2" to 4" deep)	loamy sand (60-65%) & compost (35-40%) or sandy loam (30%), coarse sand (30%) & compost (40%)	n/a	USDA soil type loamy sand or sandy loam; clay content < 5%
Organic content	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	AASHTO M-43	n/a	PE Type I 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 underdrain pipes. Perforated pipe shall be wrapped with 1/2-inch galvanized hardware cloth
Poured in place concrete (if required)	MSHA Mix No. 3; F _c = 3500 psi @ 28 days, normal weight, air-entrained; reinforcing to meet ASTM-616-60	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) must be 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 318.9.8.9; vertical loading: [H:10 or H:20]; allowable horizontal loading (based on soil pressures); and analysis of potential cracking
Sand	AASHTO-M-6 or ASTM-C-33	0.02" to 0.04"	Sand substitutions such as Diabase and Gynstone (AASHTO #10) are not acceptable. No calcium carbonate or dolomite sand substitutions are acceptable. No "rock dust" can be used for sand.

OPERATION AND MAINTENANCE SCHEDULE FOR LANDSCAPE INFILTRATION (M-3), MICRO-BIORETENTION (M-6), RAIN GARDENS (M-7), BIORETENTION SWALE (M-8), AND ENHANCED FILTERS (M-9)

1. 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, PRUNING, ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUME II, TABLE A-4.1 AND 2.
2. THE OWNER SHALL PERFORM A PLANT IN THE SPRING AND IN THE FALL OF EACH YEAR. DURING THE INSPECTION, THE OWNER SHALL REMOVE DEAD 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.
3. 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.
4. THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

ENVIRONMENTAL CONCEPT PLAN NOTES:

1. APPROVAL OF THIS SIMPLIFIED ECP DOES NOT CONSTITUTE AN APPROVAL OF ANY SUBSEQUENT AND ASSOCIATED BUILDING AND/OR GRADING PERMIT.
2. REVIEW OF THIS PLAN FOR COMPLETE COMPLIANCE WITH ZONING AND SUBDIVISION AND LAND DEVELOPMENT REGULATIONS SHALL OCCUR AT THE SITE DEVELOPMENT STAGE AND THEREFORE, THIS PLAN IS SUBJECT TO ADDITIONAL AND MORE DETAILED COMMENTS AS THE PLAN PROGRESSES THROUGH THE SITE DEVELOPMENT PROCESS.



MICRO-BIORETENTION (UNDERDRAIN) NOT TO SCALE

MICRO-BIORETENTION (OVERFLOW) NOT TO SCALE

MICROBIORETENTION NOTES:

1. ONLY THE SIDES OF MICROBIORETENTION ARE TO BE WRAPPED IN FILTER FABRIC. FILTER FABRIC BETWEEN LAYER OR AT THE BOTTOM OF THE MICROBIORETENTION WILL CAUSE THE MBR TO FAIL AND PERFORATED SHALL NOT BE INSTALLED.
2. PROVIDE 3" MINIMUM SPACING BETWEEN UNDER DRAIN AND PERFORATED PIPE THROUGH STONE RESERVOIR OR SPACE PIPE EQUALLY ACROSS BOTTOM FOR SMALL BIOS. (SEE PLANS)
3. PROVIDE 3" MINIMUM SPACING BETWEEN UNDER DRAIN AND PERFORATED PIPE THROUGH STONE RESERVOIR OR SPACE PIPE EQUALLY ACROSS BOTTOM FOR SMALL BIOS. (SEE PLANS)

MBR Facility	Ponding Depth (ft)	Ponding Elevation (ft)	Top of Mulch (ELEV. B)	Bottom of Mulch (ELEV. C)	Bottom of Plant Mix (ELEV. D)	Bottom of Pea Gravel (ELEV. E)	Depth of Stone (ft)	Invert of 4" Underdrain (ft)	Size of Overflow (ft)	Invert of 4" Overflow (ft)	Bottom of Stone (ft)	Depth of REV Stone (ft)	Bottom of REV Stone (ft)
SWMF #1	1.00	173.00	172.00	171.75	169.75	169.42	1.00	168.76	0.33	168.76	168.42	1.16	167.26
SWMF #2	1.00	173.00	172.00	171.75	169.75	169.42	1.00	168.76	0.33	168.76	168.42	1.16	167.26

DRAINAGE AREA #	TREATED AREA	FACILITY NUMBER	PERMEABLE PAVEMENT	ADD STONE	LANDSCAPE INFILTRATION	PERVIOUS SIDEWALK	BIO SWALE	GRAVEL TRENCH	MICRO BIO RETENTION	ADD STONE BELOW MICRO	ESDv VOLUME
1	31,885	SWMF#1	0	0	0	0	0	0	2,648	197	2,845
2	25,617	SWMF#2	0	0	0	0	0	0	2,176	162	2,338
TOTALS:	57,502	0	0	0	0	0	0	4,824	358	5,182	

TEST PIT TABLE

TEST PIT #	DEPTH	COMMENTS
1	7'	No Water Found, Small Rock Fragments Found
2	8'	No Water or Rock Found

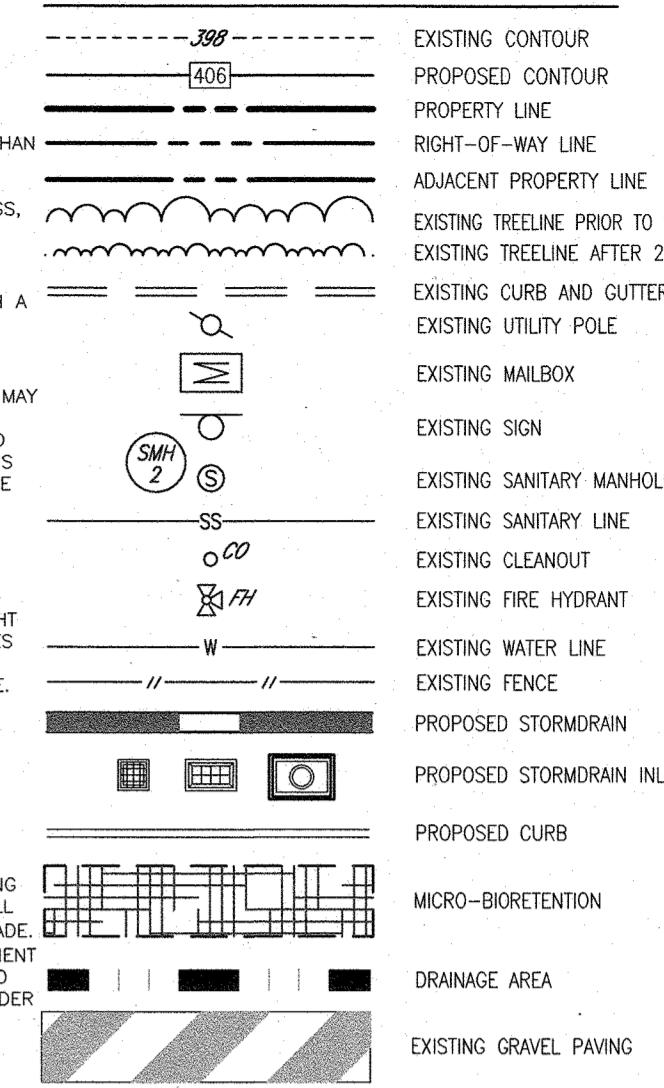
Target Site P _i	1.80														
Total Site ESDv Required:	5,158 c.f.														
ESDv=(PexRvxA)/12															
Rv=0.05+0.009KI															
Vmin=1.0" rainfall	(1.0x0.95xA)/12														
Vmax=1yr rainfall=2.6"	(2.6x0.95xA)/12														
PRACTICE	DA (SF)	PRACTICE	DA (AC)	PERV (SF)	PERV (AC)	PERV AREA	% IMPERV	MIN PRACTICE VOLUME (1")	TARGET SITE P _i VOLUME (1.8")	MAX PRACTICE VOLUME (2.6")	TOTAL PRACTICE VOLUME PROVIDED	CF	SF	REMARKS	
SWMF#1 MBR (M-6)	31,885	0.73	26.615	0.61	5,270	0.12	83	0.80	2,129	3,832	5,535	2,845	1,986	1,986	MICROSCALE MICRO-BIO RETENTION (M-6) Surface Area of MBR @ 1.0 ponding (75% above) Pi Provided: 662 1,986 Stone Below Underdrain (25%)* 0.83 x 0.4 (*includes REV requirement)
SWMF#1 MBR (M-6)	25,617	0.59	22,487	0.52	3,130	0.07	88	0.84	1,793	3,228	4,662	2,338	1,632	1,632	MICROSCALE MICRO-BIO RETENTION (M-6) Surface Area of MBR @ 1.0 ponding (75% above) Pi Provided: 544 1,632 Stone Below Underdrain (25%)* 0.83 x 0.4 (*includes REV requirement)
TOTALS	57,502	1.32	49,102	1.13	8,401	0.19	86				5,182	162	1,632	0.33 x 0.3	

Note: Each individual practice ESDv provided must be between the minimum of 1" rainfall and up to the maximum of 2.6" rainfall (1-year rainfall)

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

1. MATERIAL SPECIFICATIONS THE ALLOWABLE MATERIALS TO BE USED IN THESE PRACTICES ARE DETAILED IN TABLE B.4.1.
2. FILTERING MEDIA OR PLANTING SOIL THE SOIL SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR DUMPED WITHIN THE MICRO-BIORETENTION 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 15.06.01.05. 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 IN TO THE SOIL TO INCREASE OR DECREASE PH.
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 LOADER, THE CONTRACTOR SHOULD USE WIDE TRACK OR MARSH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TUFF TIRE TIRES. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE KEELS, 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 CHISEL PLOW, RIPPER, OR SUBSOILER. THESE TILLING OPERATIONS ARE TO REFRACTURE THE SOIL PROFILE THROUGH THE 12 INCH COMPACTION ZONE. SUBSTITUTE METHODS SHALL 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. WHEN 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 COZZE/CORNER WITH MARSH TRACKS.
4. PLANT MATERIAL RECOMMENDED PLANT MATERIAL FOR MICRO-BIORETENTION PRACTICES CAN BE FOUND IN APPENDIX A, SECTION A.2.3.
5. PLANT INSTALLATION COMPOST IS A BETTER ORGANIC MATERIAL SOURCE, IS LESS LIKELY TO FLOAT, AND SHOULD BE PLACED IN THE INVERT AND OTHER LOW AREAS. MULCH SHOULD BE PLACED IN SURROUNDING TO A UNIFORM THICKNESS OF 2" TO 3". SHREDDED OR CHIPPED HARDWOOD MULCH IS THE ONLY ACCEPTED MULCH. PINE MULCH AND WOOD CHIPS WILL FLOAT AND MOVE TO THE PERIMETER OF THE BIORETENTION AREA DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDDED CHIPPING MUST BE WELL AGED (6 TO 12 MONTHS) FOR ACCEPTANCE. ROOTSTOCK OF THE PLANT MATERIAL SHALL BE KEPT MOIST DURING TRANSPORT AND ON-SITE STORAGE. THE PLANT ROOT BALL SHOULD BE PLANTED SO 1/8TH OF THE BALL IS ABOVE FINAL GRADE SURFACE. THE DIAMETER OF THE PLANTING PIT SHALL BE AT LEAST SIX INCHES LARGER THAN THE DIAMETER OF THE PLANTING BALL. SET AND MAINTAIN THE PLANT STRAIGHT DURING THE ENTIRE PLANTING PROCESS. THOROUGHLY WATER GROUND BED COVER AFTER INSTALLATION. TREES SHALL BE BRACED USING 2" BY 2" STAKES ONLY AS NECESSARY AND FOR THE FIRST GROWING SEASON ONLY. STAKES ARE TO BE EQUALLY SPACED ON THE OUTSIDE OF THE TREE BALL. GRASSES AND LEGUME SEED SHOULD BE DRILLED INTO THE SOIL TO A DEPTH OF AT LEAST ONE INCH. GRASS AND LEGUME PLUSES 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, OR DEAD 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 OF HDPE).
 - * PERFORATIONS - IF PERFORATED PIPE IS USED, PERFORATIONS SHOULD BE 3/8" DIAMETER LOCATED 6" ON CENTER WITH A MINIMUM OF FOUR HOLES PER ROW. PIPE SHALL BE WRAPPED WITH A 1/4" (NO. 4 OR 4-A) 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 (1/8" TO 3/8" STONE) SHALL BE LOCATED BETWEEN THE FILTER MEDIA AND UNDERDRAIN TO PREVENT MIGRATION OF FINES IN TO THE UNDERDRAIN. THIS LAYER MAY BE CONSIDERED PART OF THE FILTER BED WHEN BED THICKNESS EXCEEDS 24".
 - * THIS 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.

LEGEND:



TP-2 TEST PIT

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SITE DEVELOPMENT PLAN

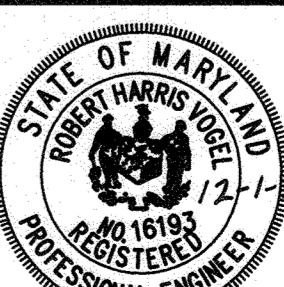
STORMWATER MANAGEMENT DRAINAGE AREA MAP AND SWM DETAILS

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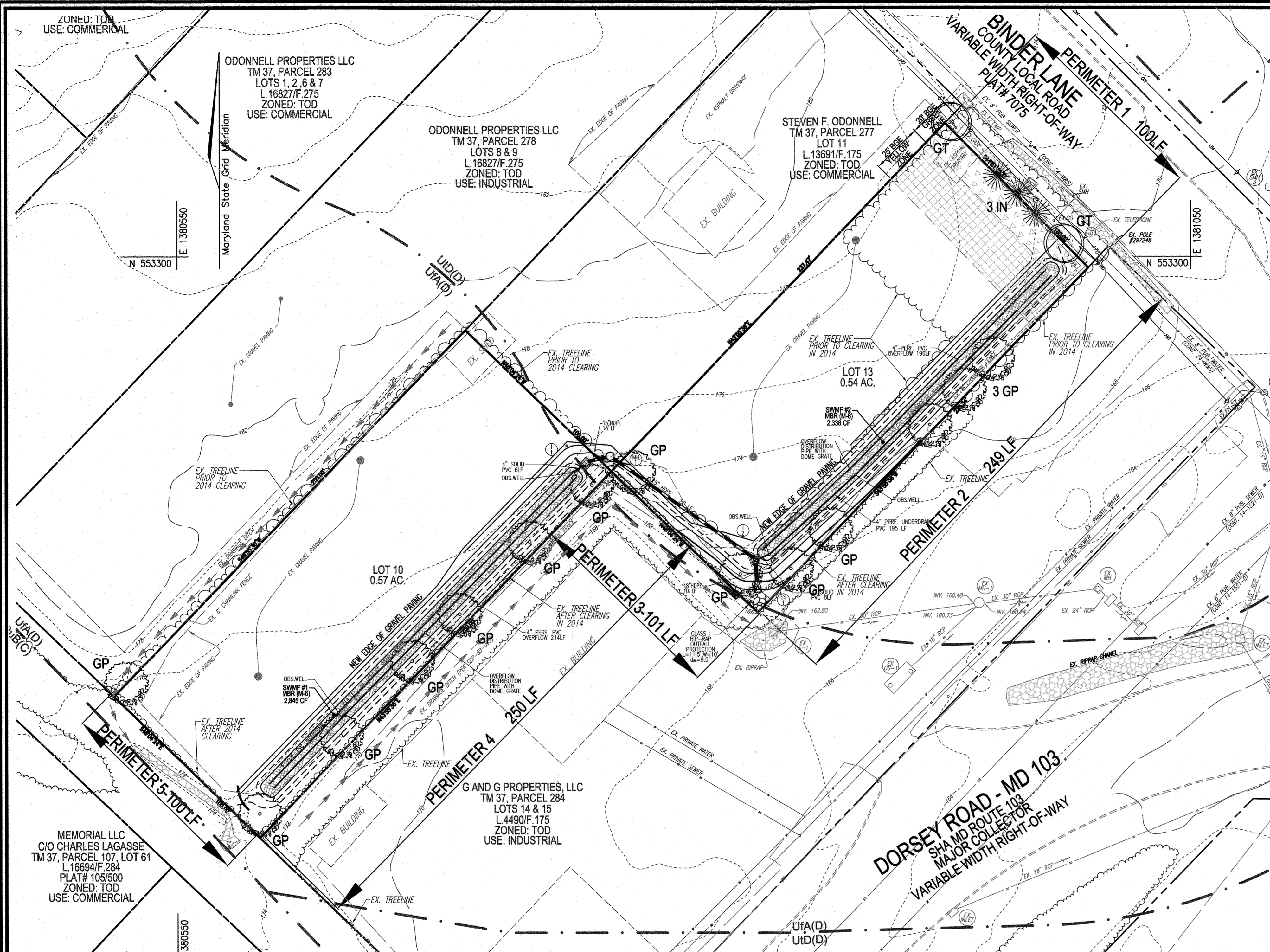


DESIGN BY:	DZE	PROFESSIONAL CERTIFICATE
DRAWN BY: <th>DZE/KG</th> <td>I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A duly LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193, EXPIRATION DATE: 09-27-2022.</td>	DZE/KG	I HEREBY 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. 16193, EXPIRATION DATE: 09-27-2022.
CHECKED BY: <th>RHW</th> <td></td>	RHW	
DATE: <td>JULY 2020</td> <td></td>	JULY 2020	
SCALE: <td>AS SHOWN</td> <td></td>	AS SHOWN	
W.O. NO.: <td>40908</td> <td></td>	40908	

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

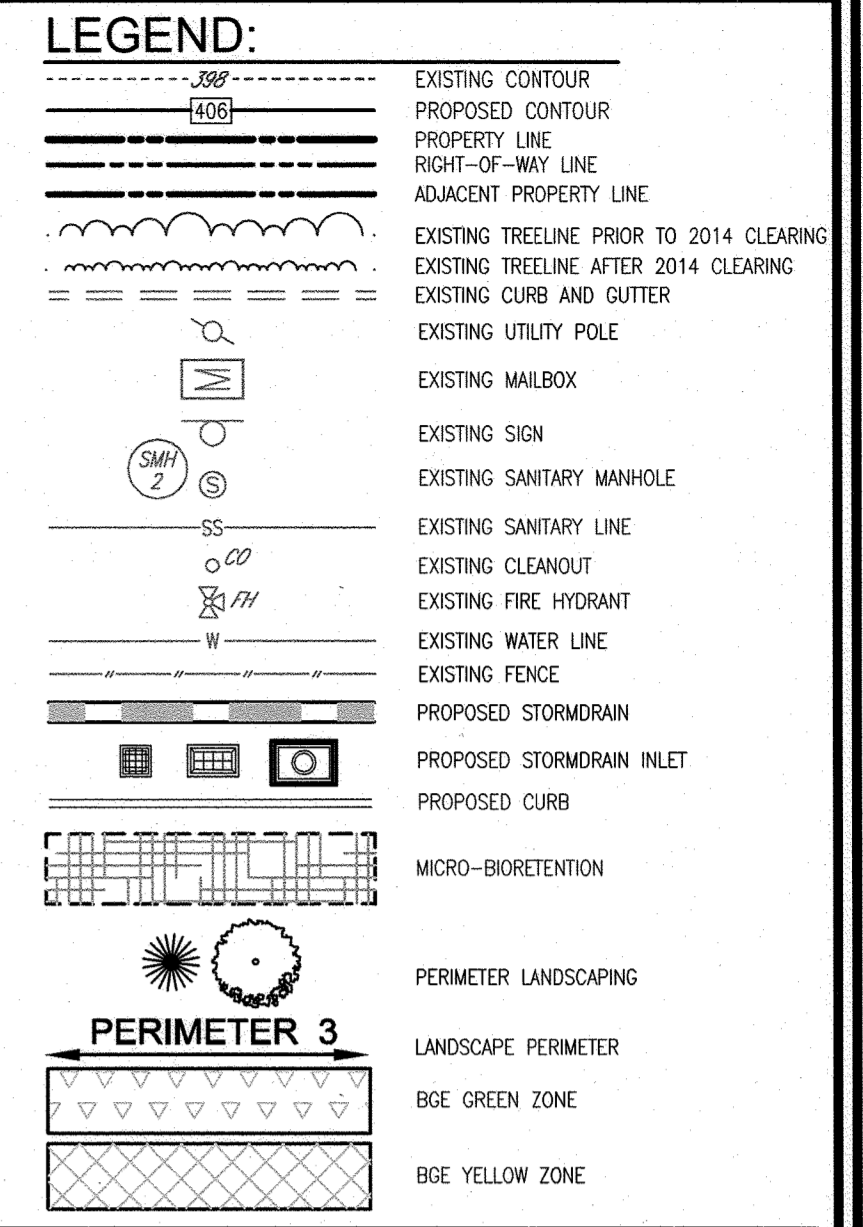
CHIEF, DEVELOPMENT ENGINEERING DIVISION
CHIEF, DIVISION OF LAND DEVELOPMENT
DIRECTOR

DATE: 3-31-21
DATE: 4-7-21
DATE: 4-7-21

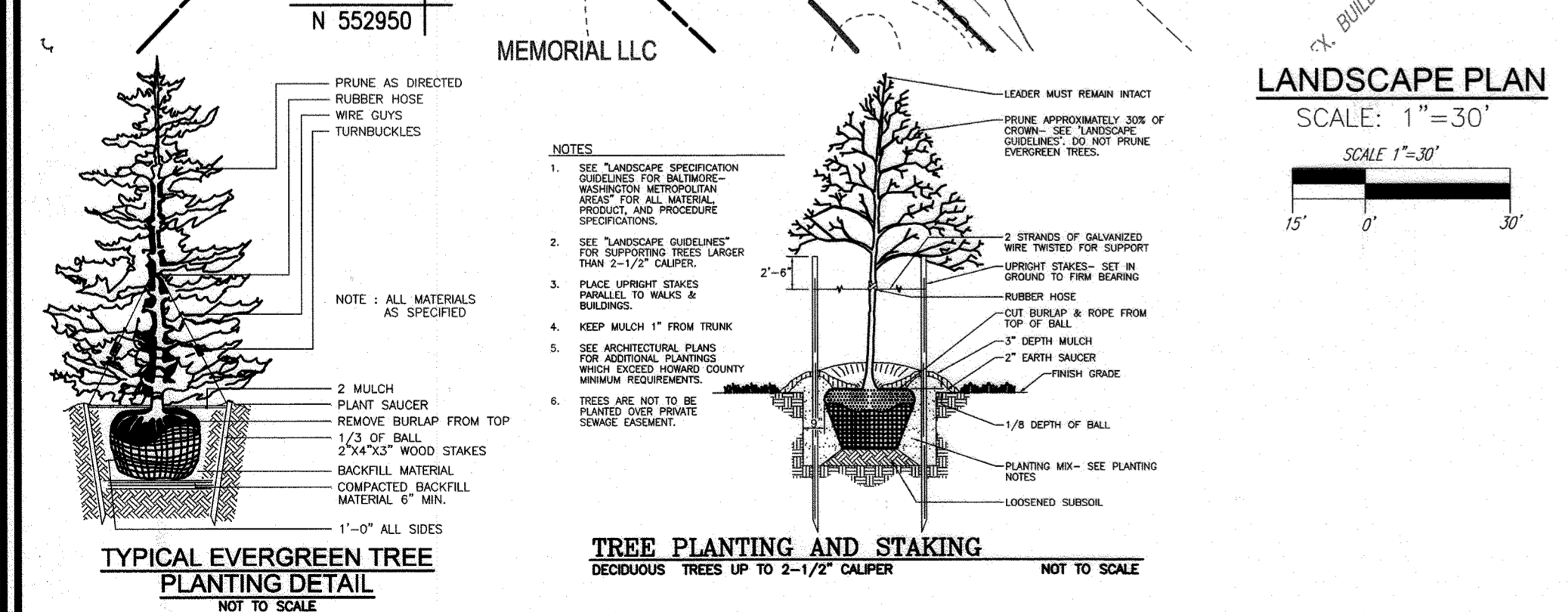
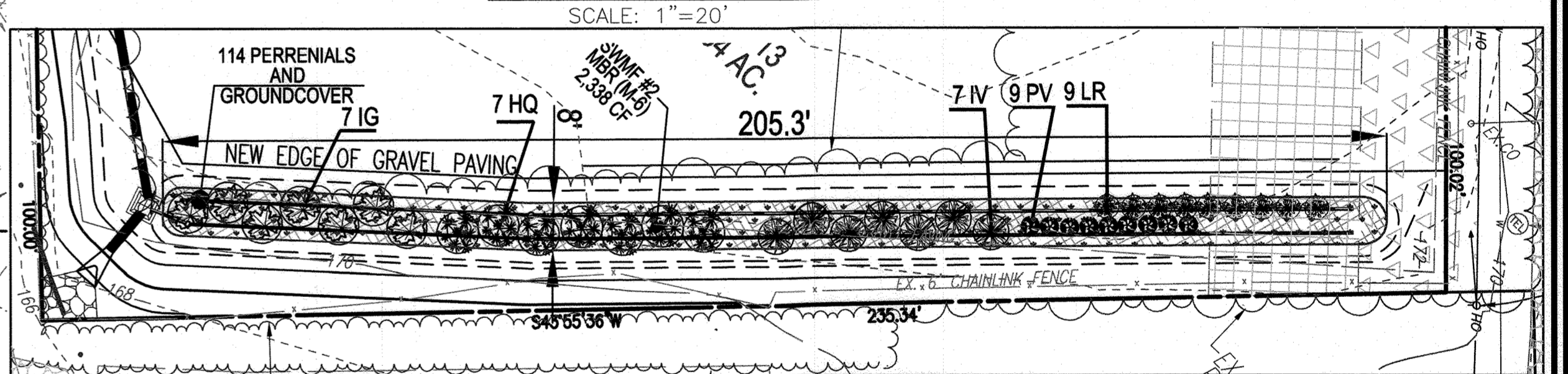
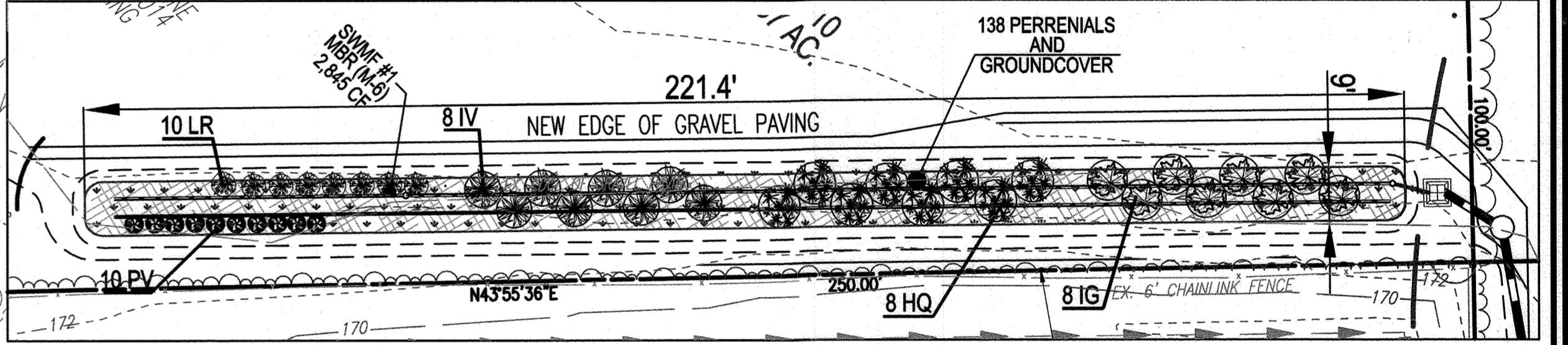


CATEGORY	PERIMETER LANDSCAPE EDGE					TOTAL
	1	2	3	4	5	
PERIMETER/FRONTAGE DESIGNATION	B	A	A	A	A	
LANDSCAPE TYPE	B	A	A	A	A	
LINEAR FEET OF ROADWAY	100	249	101	250	100	
FRONTAGE/PERIMETER						
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET DESCRIBE BELOW IF NEEDED)	NO	NO	NO	NO	NO	
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET DESCRIBE BELOW IF NEEDED)	NO	NO	NO	NO	NO	
BELOW IF NEEDED						
NUMBER OF PLANTS REQUIRED	1:50	2:160	5:160	2:160	5:160	2:16
SHADE TREES	1:40	3				3
EVERGREEN TREES						0
SHRUBS						
CREDIT FOR EX. INDIVIDUAL TREES						
SHADE TREES TO REMAIN						
EVERGREEN TREES TO REMAIN						
NUMBER OF PLANTS PROVIDED	2	5	2	5	2	16
SHADE TREES	3					3
EVERGREEN TREES						
OTHER TREES (2:1 SUBSTITUTION)						
SHRUBS (10:1 SUBSTITUTION)						

KEY	QUAN	BOTANICAL NAME	SIZE	CAT
GP	14	QUERCUS PALustris 'GREEN PILLAR'	2.5"-3" CAL	B & B
GT	2	GLEDISIA TRICANTHOS F. INERMIS 'IMPOLE'	2.5"-3" CAL	B & B
IN	3	ILEX 'NELLIE R. STEVENS'	5'-6" HGT.	B & B



MBR-RG #	LF	AREA	STEMS REQUIRED (0.0229)		PLANTINGS PROVIDED		PERENNIALS/GROUNDCOVER PROVIDED				
			IG	IV	HQ	LR	PV	BA	AG	TOTAL	
MBR-1	456	1965	46	44	8	8	30	30	69	69	138
MBR-2	421	1632	38	39	7	7	9	9	57	57	114
TOTALS	877	3617	84	83	15	15	39	39	126	126	252



Net Tract Area	Rate	Rate	Rate	Rate	Rate
A. Total (Gross) Tract Area	B. Area within 100-year Floodplain	C. Other Deductions (if any)	D. Net Tract Area	E. Afforestation Threshold	F. Reforestation Threshold
11.10	0.00	0.00	11.10	0.20	0.20

LANDSCAPE NOTES:

- AT THE TIME OF PLANT INSTALLATION, ALL SHRUBS AND TREES LISTED AND APPROVED ON THE LANDSCAPE PLAN SHALL COMPLY WITH THE PROPER HEIGHT REQUIREMENT IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATIONS OF THE REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THE APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL, OR DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO THE APPLICABLE PLANS.
- THE OWNER, TENANT AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.
- SHOULD ANY TREE BE DESIGNATED FOR PRESERVATION FOR WHICH LANDSCAPING CREDIT IS GIVEN, THE PRIOR TO RELEASE OF BONDS, THE OWNER WILL BE REQUIRED TO REPLACE THE TREE WITH THE EQUIVALENT SPECIES OR WITH A TREE WHICH WILL BEAT THE SAME HEIGHT, SPREAD, AND GROWTH CHARACTERISTICS. THE REPLACEMENT TREE MUST BE A MINIMUM OF 3 INCHES IN CALIPER AND INSTALLED AS REQUIRED IN THE HOWARD COUNTY LANDSCAPE MANUAL.
- CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO DIGGING.
- FINAL LOCATION OF PLANT MATERIAL MAY VARY TO MEET FINAL FIELD CONDITIONS. TREES SHALL NOT BE PLANTED IN THE BOTTOM OF DRAINAGE SWALES.
- CONTRACTOR SHALL VERIFY PLANT QUANTITIES PRIOR TO BIDDING. IF PLAN DIFFERS FROM LANDSCAPE SCHEDULE, THE PLAN SHALL GOVERN.

LEGEND KEY	QTY	BOTANICAL NAME/COMMON NAME	SIZE	REMARKS
IG	15	ILEX GLABRA 'SHAMROCK'	1 GALLON	
IV	15	ITEA VIRGINICA 'HENRY'S GARNETT'	1 GALLON	
HQ	15	HYDRANGEA QUERCIFOLIA	1 GALLON	
LR	19	LEUCOCEOCE RACEMOSA	1 GAL.	
PV	19	PANICUM VIRGATUM	1 GAL.	

GENERAL NOTES:

- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
- A FINANCIAL SURETY IN THE AMOUNT OF \$5,250 FOR THE PERIMETER LANDSCAPING (REQUIRED 1:50 SHADE TREES 4-8" DBH AND 3:160 EVERGREEN TREES 4-8" DBH) SHALL BE POSTED WITH THE DEVELOPER'S AGREEMENT, SURETY FOR THE PROPOSED LANDSCAPING IS TO BE BASED ON THE NUMBER OF PLANTINGS REQUIRED AND FOREST STAND DELINEATION REPORT PREPARED BY ECO-SCIENCE PROFESSIONALS, INC., DATED DECEMBER 5, 2017, THERE WERE NO ONSITE FOREST, WETLANDS OR STREAMS IDENTIFIED ON-SITE.
- THIS PLAN IS SUBJECT TO THE REVISED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. DEVELOPMENT OR CONSTRUCTION OF THESE LOTS MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE SITE DEVELOPMENT PLAN, WALKER PETITION, OR BUILDING AND GRADING PERMITS.
- THERE ARE NO BURIAL GROUNDS, CEMETERIES, OR HISTORIC STRUCTURES LOCATED ON THIS PROPERTY.
- NO LANDSCAPING TO BE INSTALLED WITHIN ANY PUBLIC EASEMENT FOR WATER, SEWER, OR STORMDRAIN.
- ANY EXISTING STREET TREES DAMAGED OR DESTROYED DURING

OWNER: STEVEN F. O'DONNELL, 6724 BINDER LANE, ELKRIOR, MD. 21075, (410) 796-7968

DEVELOPER: O'DONNELL PROPERTIES, LLC, 5 LONGWOOD ROAD, BALTIMORE, MD. 21210, (410) 796-7965

NO.	REVISION	DATE

SITE DEVELOPMENT PLAN
LANDSCAPE PLAN, NOTES AND DETAILS; AND FOREST CONSERVATION INFORMATION PLAN
O'DONNELL PROPERTIES
 6718 & 6728 BINDER LANE
 ZONED: TOD
 L 16694/F 284
 L 13691/F 175

VOGEL ENGINEERING
 3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043
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DESIGN BY: DZE
 DRAWN BY: DZE/KG
 CHECKED BY: RHY
 DATE: JULY 2020
 SCALE: AS SHOWN
 W.D. NO.: 40908

PROFESSIONAL CERTIFICATE
 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. 16193, EXPIRATION DATE: 09-27-2022

7 OF 7

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

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 CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE (1) YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE: 3-31-21
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE: 4/1/21
 DIRECTOR DATE: 4-7-21

SIGNATURE OF DEVELOPER DATE: 2/15/2023