

GENERAL NOTES

- SUBJECT PROPERTY ZONED RR-DEO IN ACCORDANCE WITH THE OCTOBER 6, 2013 COMPREHENSIVE ZONING PLAN.
- PROPERTY ADDRESS: 2955 E ROUTE 97, GLENWOOD, MARYLAND 21738.
- REFERENCE:
 - PARCEL 80: LIBER 2009 FOLIO 562
 - PARCEL 205: LIBER 6717 FOLIO 602
 - PARCEL 93, 204, 206: LIBER 6717 FOLIO 607
 - PARCEL 221/LOT 7: LIBER 1420 FOLIO 207
 - PARCEL 221/LOT 8: LIBER 1420 FOLIO 207
- PROPERTY AREAS:
 - PARCEL 80: 10.0936 AC
 - PARCEL 93: 15.0014 AC
 - PARCEL 204: 4.8815 AC
 - PARCEL 205: 1.0005 AC
 - PARCEL 206: 5.3409 AC
 - PARCEL 221/LOT 7: 3.7400 AC
 - PARCEL 221/LOT 8: 20.003 AC
 - TOTAL AREA: 60.080 AC
- THE BOUNDARY AND PLANIMETRIC DATA SHOWN FOR PARCELS 80, 93, 204, 205 AND 206 IS BASED ON A SURVEY PERFORMED BY SHANBERGER AND LANE IN MAY 2018. PARCELS 221 IS BASED ON HOWARD COUNTY GIS DATA FLOWN IN 2011.
- THE TOPOGRAPHY SHOWN HEREON IS BASED ON HOWARD COUNTY GIS DATA FLOWN IN 2011.
- PROPOSED USE: LANDSCAPING CONTRACTOR, MODULAR OFFICES, STORAGE CONTAINERS, AGRICULTURE AND RESIDENTIAL.
- DPZ FILE HISTORY:
 - BA CASE NO. 860-C - GREENHOUSE & GARDEN SHOP W/ 13 CONDITIONS, D&O DATED MAY 16, 1978 (ORIGINAL SPECIAL EXCEPTION CASE)
 - BA CASE NO. 83-09E - MODIFIED BA CASE NO. 860-C, D&O DATED JULY 14, 1983 (SUBSEQUENT CASE REVISED CONDITIONS OF APPROVAL FOR BA CASE NO. 860-C AND ADDED SE FOR RETAIL SALES OF ANTIQUES AND CRAFTS FROM HISTORIC BUILDING)
 - BA CASE NO. 19-018C TO EXPAND MODIFY AN EXISTING BUSINESS OF A LANDSCAPE CONTRACTOR AND TO USE MODULAR OFFICES AND SHIPPING CONTAINERS FOR OFFICE SPACE AND STORAGE.
- PARKING:
 - EXISTING CONDITIONS:
 - OFFICE SPACE = 3.3 SPACES PER 1,000 SF OF OFFICE SPACE, 1,215.13 SF x (3.3 / 1,000) = 4 SPACES.
 - RETAIL SPACE = 5 SPACES PER 1,000 SF OF RETAIL SPACE, 1,270.17 x (5 / 1,000) = 7
 - EXISTING SPACES: 50
 - PROPOSED SPACES: 45
 - FUTURE CONDITIONS:
 - FUTURE OFFICE SPACES: 5,340 OFFICE SPACE, 5,340 x (3.3 / 1,000) = 18 OFFICE EMPLOYEE PARKING INCLUDING 2 HANDICAP SPACES
 - TOTAL REQUIRED: 18
 - TOTAL PROVIDED: 43
- THE 52 SEASONAL EMPLOYEES CARPOOL AND UTILIZE THE PARKING ALONG ROXBURY MILL ROAD.
- PRIVATE WELL AND SEPTIC ARE USED FOR THIS SITE.
- THE SOILS SHOWN HAVE BEEN TAKEN FROM THE US DEPARTMENT OF AGRICULTURE, NATURAL RESOURCE CONSERVATION SERVICE, WEB SOIL SURVEY WEBSITE.
- EXISTING UTILITIES ARE LOCATED BY THE USE OF ANY OR ALL OF THE FOLLOWING: ROAD CONSTRUCTION PLANS, FIELD SURVEYS, PUBLIC WATER AND SEWER PLANS AND OTHER AVAILABLE RECORD DRAWINGS. APPROXIMATE LOCATION OF THE EXISTING UTILITIES ARE SHOWN FOR THE CONTRACTORS INFORMATION. CONTRACTOR SHALL LOCATE EXISTING UTILITIES WELL IN ADVANCE OF CONSTRUCTION ACTIVITIES AND TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO THE CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
- PRELIMINARY GEOTECHNICAL INFORMATION HAS BEEN TAKEN FROM THE US DEPARTMENT OF AGRICULTURE, NATURAL RESOURCE CONSERVATION SERVICE, WEB SOIL SURVEY WEBSITE AND FIELD INVESTIGATIONS. IF FUTURE INVESTIGATIONS SHOW UNSATISFACTORY SOIL CONDITIONS FOR ANY OF THE STORMWATER MANAGEMENT TREATMENTS SHOWN, EITHER UNDERDRAINS WILL BE PROVIDED OR A DIFFERENT PRACTICE WILL BE SUBSTITUTED.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL, WHICH IS BASED ON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENTS NUMBERS 21BA AND 21CB WERE USED FOR THIS PROJECT.
- NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF WETLANDS, STREAMS, OR THEIR REQUIRED BUFFERS, FLOODPLAIN AND FOREST CONSERVATION EASEMENT AREAS, UNLESS WAIVERS HAVE BEEN APPROVED OR ACTIVITIES HAVE BEEN DETERMINED ESSENTIAL BY THE DEPARTMENT OF PLANNING AND ZONING.
- A SIMPLIFIED FOREST STAND DELINEATION HAS BEEN COMPLETED AND NO FOREST EXIST IN THE LANDSCAPE USE AREA FOR THIS SITE. 100 YEAR FLOODPLAIN IS PRESENT ON SITE, AND THERE ARE STREAMS ON SITE. THERE ARE NO STEEP SLOPES AND NO CRITICAL HABITAT AREAS. THERE ARE NON-TIDAL WETLANDS ON SITE. NO RARE, THREATENED OR ENDANGERED SPECIES, OR THEIR HABITATS, WERE OBSERVED ON THE PROPERTY. A HISTORIC HOUSE IS ON SITE AND LISTED AS HO-1750 JUDGE WILLIAM MATHEWS HOUSE BY THE MARYLAND HISTORIC TRUST. NO CEMETERIES ARE KNOWN TO OCCUR ON THE PROPERTY. ALL STREAMS ON SITE ARE WITHIN THE USE III-P WATERSHED OF LITTLE CANTAIL CREEK IN THE BRIGHTON DAM DRAINAGE (02-13-11-08). ANY AND ALL FOREST CONSERVATION REQUIREMENTS WILL BE MET ON SITE BY REFORESTATION, AFFORESTATION AND OR RETENTION, AND WILL BE ADDRESSED AT THE SDP STAGE.
- THE 100 YEAR FLOODPLAIN SHOWN IS TAKEN FROM DIGITAL FLOOD INSURANCE RATE MAPS (DFIRM).
- LANDSCAPING WILL BE PROVIDED IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL AND THE CONDITIONAL USE CASE CONDITIONS AND WILL BE SHOWN AT THE SDP PHASE.

ENVIRONMENTAL CONCEPT PLAN

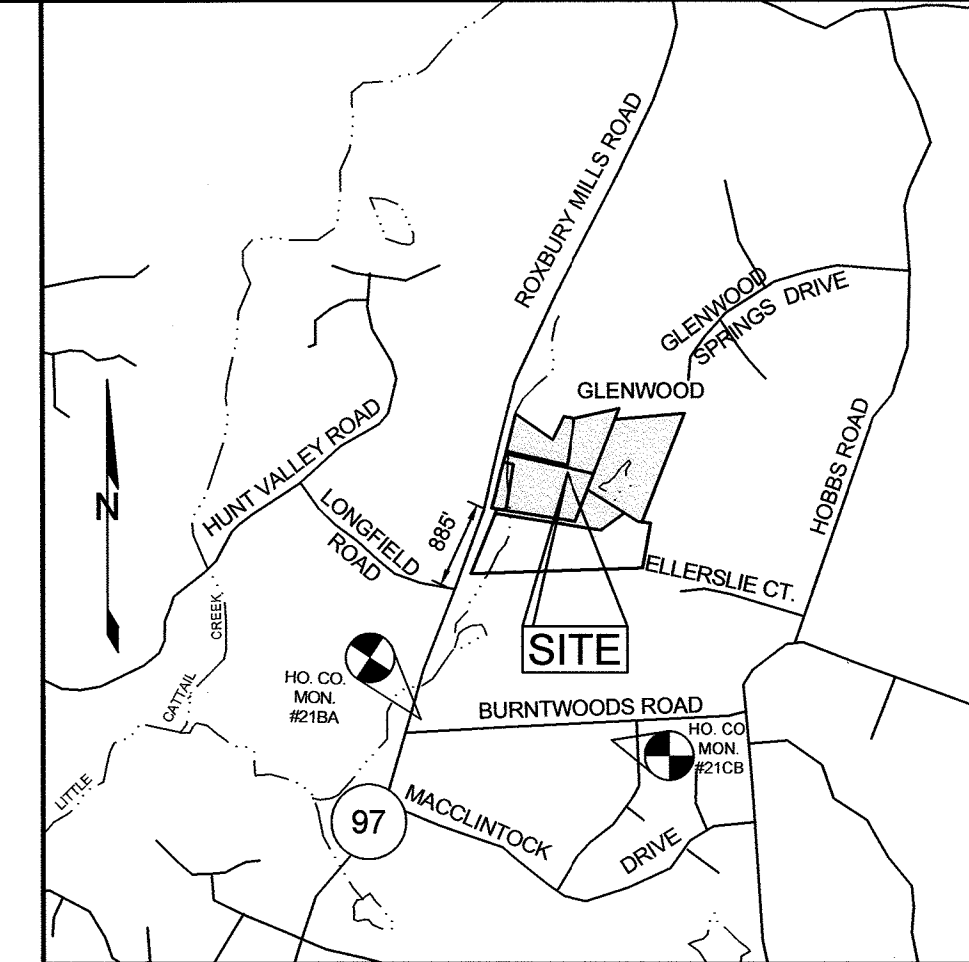
WH BOYER, INC.

TAX MAP 14 PARCELS 80, 93, 204, 205, 206, AND P/O 221

HOWARD COUNTY, MARYLAND

LEGEND

- EXISTING CONTOUR
- DIRECTION OF FLOW
- EXISTING TREELINE
- EXISTING BOLLARD
- EXISTING STORMPOUT
- EXISTING DOWN DRAIN MANHOLE
- EXISTING STORM DRAIN GRATE
- EXISTING SEWER MANHOLE
- EXISTING SEWER CLEANOUT
- EXISTING SIGN
- EXISTING METAL POST
- EXISTING METAL FENCE
- EXISTING WOOD FENCE
- SOIL BOUNDARY
- EXISTING GRAVEL
- EXISTING PAVING
- EXISTING TREE
- EXISTING WATER VALVE
- EXISTING SEWER CLEANOUT
- EXISTING UTILITY POLE
- EXISTING LIGHT POST
- EXISTING SPRINKLER
- EXISTING STRUCTURE IDENTIFIER
- OFF-SITE USE AREA AGREEMENT WITH ROSEBAR LOT 8
- AG USE
- LS USE
- TBR
- EXISTING SPECIMEN TREE



SITE ANALYSIS DATA SHEET

ENVIRONMENTAL AREA	SIZE OR USE
TOTAL PROJECT AREA	60.080 AC ±
ROW TO BE DEDICATED	0.0 AC ±
PROPOSED PROJECT AREA	1.9773 AC ±
ZONING DESIGNATION	RR-DEO
NUMBER OF UNITS ALLOWED	N/A
NUMBER OF UNITS PROPOSED	N/A
LIMIT OF DISTURBANCE	1.9773 AC ±
GREEN OPEN AREA (LAWN)	33.84 AC ±
PROPOSED IMPERVIOUS AREA	0.7807 AC ±
PROPOSED SITE USES	RESIDENTIAL
REQUIRED PARKING SPACES	18 SPACES
PROVIDED PARKING SPACES	43 SPACES
WETLANDS	2.2876 AC ±
WETLAND BUFFERS	0.7771 AC ±
FLOODPLAINS	4.6343 AC ±
FLOODPLAIN BUFFERS	1.9699 AC ±
EXISTING FOREST	0.77 AC ±
FOREST TO BE CLEARED	0.0 AC ±
FOREST TO REMAIN	0.77 AC ±
SLOPES GREATER THAN 15%	0.19 AC ±
SLOPES GREATER THAN 25%	0.0 AC ±
HIGHLY ERODIBLE SOILS	0.0 AC ±

- * NOTES:
- SOIL INFORMATION HAS BEEN TAKEN FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE, WEB SOIL SURVEY WEBSITE.
 - 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.

STORMWATER MANAGEMENT NOTES & DESIGN NARRATIVE

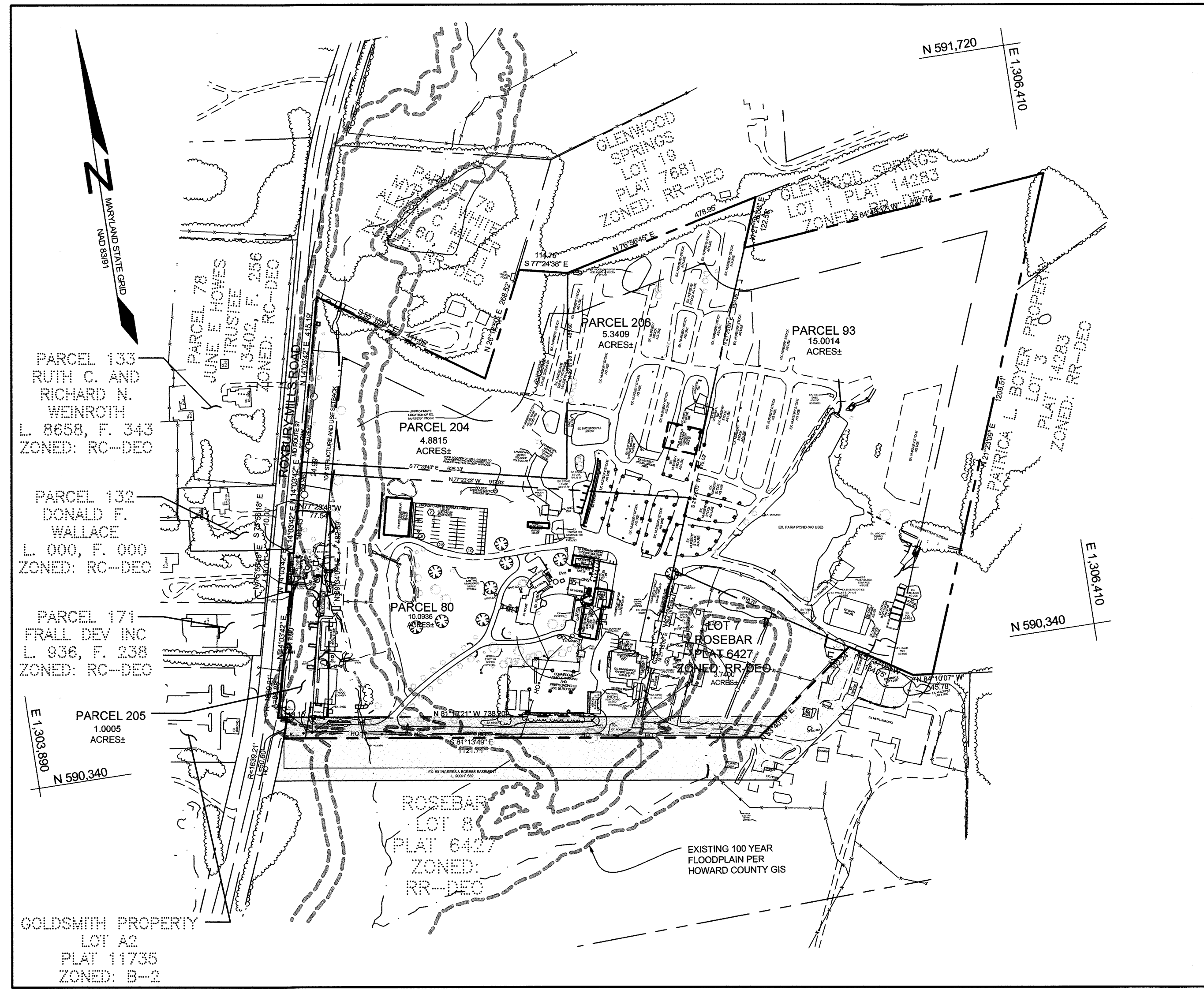
BELOW IS A LIST TO DESCRIBE THE STORMWATER MANAGEMENT REQUIREMENTS AND ACHIEVEMENTS FOR THE SITE PER THE 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUMES I AND II, AS AMENDED BY THE STORMWATER MANAGEMENT ACT OF 2007.

- ENVIRONMENTALLY SENSITIVE AREAS HAVE BEEN AVOIDED WHERE POSSIBLE. THE LIMIT OF DISTURBANCE AND ALL DEVELOPMENT ACTIVITY IS OUTSIDE OF THE 100 YEAR FLOODPLAIN, STREAM BUFFERS AND WETLAND AREAS.
- TO THE GREATEST EXTENT PRACTICABLE THE NATURAL FLOW PATTERNS OF THE SITE HAVE BEEN MAINTAINED.
- IMPERVIOUS AREAS HAVE BEEN REDUCED BY REMOVAL OF EXISTING IMPERVIOUS AREA AND REDUCING THE SIZE OF THE PROPOSED BUILDING WHEREVER POSSIBLE.
- A STABILIZED CONSTRUCTION ENTRANCE, SILT FENCES AND SUPER SILT FENCES ARE USED AS SEDIMENT AND EROSION CONTROL.
- THE STORMWATER MANAGEMENT OBLIGATIONS FOR THESE PARCELS WILL BE MET BY THE USE OF DRYWELLS (M-5) MICRO-BIORETENTION FACILITIES (M-6) AND NON-ROOFTOP DISCONNECTS (N-2.)

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

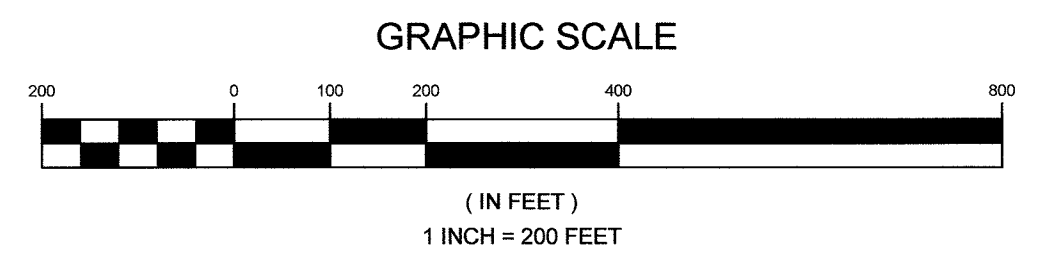
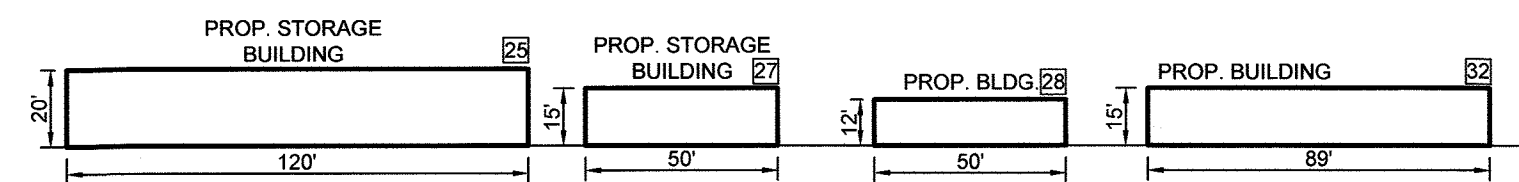
CHIEF, DEVELOPMENT ENGINEERING DIVISION: [Signature] 10-22-21 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT: [Signature] 10/19/21 DATE



STORMWATER MANAGEMENT PRACTICES

ADDRESS	MICRO-BIORETENTION M-6 (NUMBER)	DRYWELL M-5 (NUMBER)	NON-ROOFTOP DISCONNECT N-2 (Y/N)
2955 EAST ROUTE 97	2	2	Y



BENCHMARKS

NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
21BA	588,125.189	1,303,655.381	532.02	18.7' NE OF STOP SIGN, 42.5' SW OF POST @ PC 35.4' SW OF POST @ PT
21CB	588,188.046	1,306,716.711	589.83	57.6' NW OF ELECTRIC BOX, 4' SW OF BURNTWOODS ROAD EDGE OF PAVING

SHEET INDEX

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	EXISTING CONDITIONS, DEMOLITION PLAN AND SLOPE ANALYSIS
3	FOREST STAND DELINEATION PLAN
4	PROPOSED AND FUTURE CONDITIONS
5	CONCEPTUAL GRADING PLAN
6	SEDIMENT AND EROSION CONTROL PLAN
7	STORMWATER MANAGEMENT ESD DRAINAGE AREA MAP
8	STORMWATER MANAGEMENT DRAINAGE AREA MAP & DETAILS

COVER SHEET

W.H.BOYER, INC. LANDSCAPE SERVICES

2945-55 E ROUTE 97

TAX MAP 14 GRID 22 4TH ELECTION DISTRICT

PARCELS 80, 93, 204, 205, 206, P/O 221 HOWARD COUNTY, MARYLAND

SILL ENGINEERING GROUP, LLC

16005 Frederick Road, 2nd Floor
Woodbine, Maryland 21797
Phone: 443.325.5076
Fax: 410.696.2022
Email: info@sillengineering.com
Civil Engineering for Land Development

DESIGN BY: PS
DRAWN BY: JC
CHECKED BY: PS
SCALE: AS SHOWN
DATE: SEPTEMBER 21, 2021
PROJECT #: 17-065
SHEET #: 1 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. 32025, EXPIRATION DATE: JUNE 20, 2023



LEGEND

EXISTING CONTOUR	--- 382	EXISTING WATER VALVE	○
DIRECTION OF FLOW	→	EXISTING SEWER CLEANOUT	○
EXISTING TREELINE	~	EXISTING UTILITY POLE	○
EXISTING BOLLARD	●	EXISTING LIGHT POST	L.P. ⊗
EXISTING DOWNSPOUT	DS	EXISTING SPRINKLER	⊗
EXISTING STORM DRAIN MANHOLE	⊗	EXISTING STRUCTURE IDENTIFIER	12
EXISTING STORM DRAIN GRATE	⊗	OFF-SITE USE AREA AGREEMENT WITH ROSEBAR LOT 8	□
EXISTING SEWER MANHOLE	⊗	AGRICULTURE USE:	AG USE
EXISTING SEWER CLEANOUT	○	LANDSCAPING USE:	LS USE
EXISTING SIGN	MP	TO BE REMOVED	TBR
EXISTING METAL POST	MP	MODERATE SLOPES (15% TO 25%)	▨
EXISTING METAL FENCE	x x	EXISTING SPRINKLER	⊗
EXISTING WOOD FENCE		EXISTING BUILDING TO BE REMOVED	■
SOIL BOUNDARY	—+—+—+—		
EXISTING GRAVEL	---		
EXISTING PAVING	---		
EXISTING TREE	○		
EXISTING SPECIMEN TREE	○		

SOILS LEGEND

HYDROLOGIC SOIL GROUP 'C/D'	□
HYDROLOGIC SOIL GROUP 'C'	▨
HYDROLOGIC SOIL GROUP 'B'	▨
HYDROLOGIC SOIL GROUP 'B/D'	▨

SOILS LEGEND

SYMBOL	NAME / DESCRIPTION	GROUP	'K' FACTOR
BaA	BAILE SILT LOAM, 0 TO 3 PERCENT SLOPES	C/D	0.37
GgB	GLENELG LOAM, 3 TO 8 PERCENT SLOPES	B	0.20
GgC	GLENELG LOAM, 8 TO 15 PERCENT SLOPES	B	0.24
GnB	GLENVILLE-BAILE SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	0.43
Ha	HATBORO-CODORUS SILT LOAM, 0 TO 3 PERCENT SLOPES	B/D	0.37
MaC	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	0.24
MaD	MANOR LOAM, 15 TO 25 PERCENT SLOPES	B	0.24

NOTES:
 1) SOIL INFORMATION HAS BEEN TAKEN FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE; NATURAL RESOURCES CONSERVATION SERVICE; WEB SOIL SURVEY.
 2) 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.

PARCEL 78
JUNE E HOWES TRUSTEE
L. 13402, F. 256
ZONED: RC-DEO

PARCEL 133
RUTH C. AND
RICHARD N. WEINROTH
L. 8658, F. 343
ZONED: RC-DEO

PARCEL 132
DONALD F. WALLACE
L. 936, F. 238
ZONED: RC-DEO

PARCEL 171
FRALL DEV INC
L. 936, F. 238
ZONED: RC-DEO

PARCEL 224
LOT: A2
MMOMB LLC
L. 9048, F. 00001
ZONED: B-2

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

10-25-21
DATE

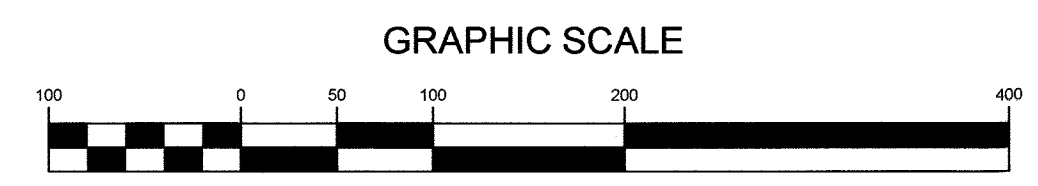
CHIEF, DEVELOPMENT ENGINEERING DIVISION

10/25/21
DATE

CHIEF, DIVISION OF LAND DEVELOPMENT

ROSEBAR
LOT 8
PLAT 6427
ZONED: RR-DEO

PLAN VIEW
SCALE: 1"=100'



OWNER/DEVELOPER

W.H. BOYER, INC
LANDSCAPE SERVICES
C/O EVAN S. DIAMOND
2955 E ROUTE 97
GLENWOOD, MARYLAND 21738
EMAIL: EDIAMOND@WHBOYER.COM
(410) 442 - 2100

NOTE:
FOR STRUCTURE CHART SEE PROPOSED & FUTURE CONDITIONS PLAN, SHEET 4.

EXISTING CONDITIONS AND DEMOLITION PLAN
 W.H. BOYER, INC.
 LANDSCAPE SERVICES
 2945-55 E ROUTE 97
 PARCELS 80, 93, 204, 205, 206, P/O 221
 4TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

		DESIGN BY: PS
		DRAWN BY: JC
16005 Frederick Road, 2nd Floor Woodhine, Maryland 21797 Phone: 443.325.5076 Fax: 410.696.2022 Email: info@sillengineering.com Civil Engineering for Land Development		CHECKED BY: PS
		SCALE: AS SHOWN
DATE: SEPTEMBER 21, 2021		PROJECT #: 17-085
SHEET #: 2 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. 32025, EXPIRATION DATE: JUNE 20, 2023



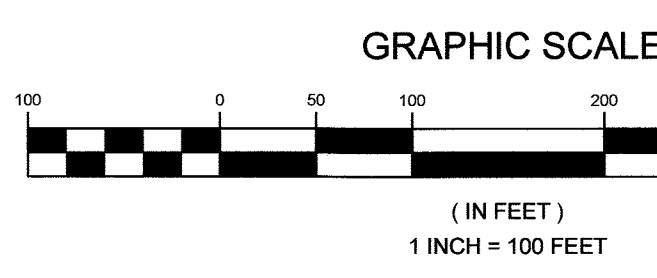
PLAN VIEW
SCALE: 1"=100'

EXISTING AND PROPOSED LANDSCAPE USE AREAS

KEY	LANDSCAPE USE	AREA(SF)
A	VEHICLE PARKING AND LOADING	15,793.15
B	EXISTING HISTORIC HOUSE/OFFICE	735.13
16	MAINTENANCE GARAGE	4,045.81
17	OFFICE	767.58
24	VEHICLE STORAGE	6,453.29
25	STORAGE BUILDING AND VEHICLE STORAGE	9,956.97
26	STORAGE BUILDING	1,647.15
B	PARKING	374.0
27	STORAGE BUILDING	1,200.0
28	MODULAR OFFICE TRAILER - TO BE RELOCATED TO THIS LOCATION	480.0
C	SNOW BLOW STORAGE	1,977.37
29	STORAGE BARN AND VEHICLE STORAGE	16,330.86
D	PARKING LOT	17,401.75
30,31	BARN AND SHIPPING CONTAINER STORAGE - FUTURE	14,400
32	MODULAR OFFICE - FUTURE	5,340
F	STONE STORAGE	2,154.97
G	LANDSCAPE STOCK STORAGE	2,348.44
H	LANDSCAPE STOCK STORAGE	6,114.97
	TOTAL AREA OF LANDSCAPE USE (SF)	106,321.44
	TOTAL AREA OF LANDSCAPE USE (ACRES)	2.44

SPECIMEN TREE TABLE

KEY	DBH	SPECIES	CRZ (FEET/ RADIUS)	AGE (YEARS)	REMARKS/CONDITION	RETAINED/REMOVED
ST-1	62"	SILVER MAPLE	93'	59+/-	FAIR, MULTI-STEMMED ABOVE BREAST HEIGH, 8 STEMS TOTAL	TO BE RETAINED
ST-2	30.5"	LINDEN	45.75'	29+/-	GOOD	TO BE RETAINED
ST-3	32"	SWEET GUM	48'	40+/-	GOOD	TO BE RETAINED
ST-4	34"	BLACK WALNUT	51'	73+/-	GOOD	TO BE RETAINED
ST-5	38"	WILLOW OAK	57'	50+/-	GOOD	TO BE RETAINED
ST-6	34"	WILLOW OAK	51'	44+/-	GOOD	TO BE RETAINED
ST-7	38"	PIN OAK	57'	150+/-	GOOD	TO BE RETAINED
ST-8	33"	PIN OAK	49.5'	90+/-	GOOD	TO BE RETAINED
ST-9	34"	PIN OAK	51'	105+/-	GOOD	TO BE RETAINED
ST-10	30"	PIGNOT HICKORY	45'	150+/-	GOOD	TO BE RETAINED



LEGEND

EXISTING CONTOUR	---	382	EXISTING WATER VALVE	○
DIRECTION OF FLOW	→		EXISTING SEWER CLEANOUT	○
EXISTING TREELINE	—●—		EXISTING UTILITY POLE	○
EXISTING BOLLARD	●		EXISTING LIGHT POST	L.P. ●
EXISTING DOWNSPOUT	DS		EXISTING SPRINKLER	●
EXISTING STORM DRAIN MANHOLE	⊕		EXISTING STRUCTURE IDENTIFIER	12
EXISTING STORM DRAIN GRATE	⊕		OFF-SITE USE AREA AGREEMENT WITH ROSEBAR LOT 8	□
EXISTING SEWER MANHOLE	⊕		AGRICULTURE USE: LANDSCAPING USE: TO BE REMOVED	AG USE LS USE TBR
EXISTING SEWER CLEANOUT	CO		EXISTING SPRINKLER	●
EXISTING SIGN	MP		EXISTING SPECIMEN TREE	ST-1
EXISTING METAL POST	MP			
EXISTING METAL FENCE	X-X			
EXISTING WOOD FENCE				
SOIL BOUNDARY	—●—			
EXISTING GRAVEL	---●---			
EXISTING PAVING	----			
EXISTING TREE	○			

FOREST CONSERVATION WORKSHEET FOR W.H. BOYER

Net Tract Area
 A. Total (Gross) Tract Area A = 60.06
 B. Area within 100-year Floodplain B = 1.00
 C. Other Deductions (Identify AREAS NOT IN LANDSCAPE USE) C = 56.60
 D. Net Tract Area D = 2.46

Land Use Category
 Insert the number "1" under the appropriate land use (limit to only one entry)

Rural LD	Rural MD	Resid.	Inst./	Retail/Inj/	Mixed Use/	PUD
0	1	0	0	0	0	0

 E. Afforestation Threshold (Net Tract Area x 15%) E = 0.40
 F. Reforestation Threshold (Net Tract Area x 20%) F = 0.50

Existing Forest Cover
 G. Existing Forest Cover within the Net Tract Area G = 0.00
 H. Area of Forest above Afforestation Threshold H = 0.00
 I. Area of Forest above Reforestation Threshold I = 0.00

Break Even Point
 J. Break Even Point J = 0.00
 K. Forest Clearing Permitted without Mitigation K = 0.00

Proposed Forest Clearing
 L. Total Area of Forest to be Cleared L = 0.00
 M. Total Area of Forest to be Retained M = 0.00

Planting Requirements Inside Watershed
 N. Reforestation for Clearing above the Reforestation Threshold N = 0.00
 P. Reforestation for Clearing below the Reforestation Threshold P = 0.00
 Q. Credit for Retention above the Reforestation Threshold Q = 0.00
 R. Total Reforestation Required R = 0.00
 S. Total Afforestation Required S = 0.40
 T. Total Reforestation and Afforestation Requirement T = 0.40
 U. 75% of Total Obligation (Retention + Planting) U = 0.30
 V. Planting Required Omit to meet 75% Obligation V = 0.30

Planting Requirements Outside Watershed
 W. Total Planting within Development Site Watershed W = 0.00
 X. Total Afforestation Required X = 0.40
 Y. Remaining Planting within Watershed for Reforestation Credit Y = 0.00
 Z. Reforestation for Clearing above the Reforestation Threshold Z = 0.00
 AA. Reforestation for Clearing below the Reforestation Threshold AA = 0.00
 BB. Credit for Retention above the Reforestation Threshold BB = 0.00
 CC. Total Reforestation Required CC = 0.00
 DD. Total Afforestation and Reforestation Requirement DD = 0.40

Date: 01/07/2021

SIMPLIFIED FOREST STAND DELINEATION/EXISTING CONDITION NARRATIVE

THE SUBJECT PROPERTY IS CURRENTLY UTILIZED FOR A VARIETY OF USES. THE PROPERTY INCLUDES SEVERAL RESIDENTIAL USES, COMMERCIAL/RETAIL USES, AGRICULTURAL USE AND LANDSCAPED BEDS. A STREAM SYSTEM FLOWS PARALLEL TO ROUTE 97, FLOWING FROM NORTH TO SOUTH. AREAS EAST OF THE STREAM ARE MAINTAINED FOR RESIDENTIAL, AGRICULTURAL AND LANDSCAPE USES. THREE EXISTING HOMES ARE PRESENT ON THE PROPERTY. EACH HOME HAS A SURROUNDING LAWN AREA, DRIVEWAYS AND ASSOCIATED RESIDENTIAL USE AREAS.

MUCH OF THE BALANCE OF THE SITE IS PRIMARILY UTILIZED FOR AGRICULTURAL USES ASSOCIATED WITH THE PRODUCTION OF NURSERY STOCK. THESE AREAS INCLUDE NURSERY FIELDS, STAGING/STORAGE AREAS, TOPSOIL STORAGE AREAS AND SEVERAL IRRIGATION PONDS.

SCATTERED AREAS WITHIN THE ACTIVE NURSERY PORTION OF THE PROPERTY HAVE BEEN IDENTIFIED AS LANDSCAPE USES. THESE AREAS ARE DEFINED BY THEIR PRIMARY FUNCTION IN SUPPORTING THE LANDSCAPE SERVICES PROVIDED BY THE W.H. BOYER LANDSCAPE SERVICES. LANDSCAPE USES INCLUDE EMPLOYEE PARKING, MATERIAL STORAGE, EQUIPMENT STORAGE, OFFICES, VEHICLE STORAGE, MAINTENANCE FACILITIES AND ACCESS AND STAGING AREAS.

THE PROPERTY HAS LIMITED NATURAL AREAS THAT HAVE NOT BEEN IMPACTED BY THE ACTIVE SITE USES. A SMALL PORTION OF THE PROPERTY, 0.8 ACRES, IN THE NORTH WEST CORNER OF THE SITE IS FORESTED. THIS FOREST COMMUNITY IS SURROUNDED BY OPEN FIELDS AND NURSERY FIELDS. SEVERAL STREAMS ARE PRESENT ON THE SITE. SEVERAL OF THE STREAMS HAVE BEEN DAMMED TO SUPPORT IRRIGATION PONDS PRESENT ON THE SITE. ALL OF THE STREAMS ON THE SITE ARE WITHIN THE USE III-P WATERSHED OF LITTLE CATTAL CREEK IN THE BRIGHTON DAM DRAINAGE (02-13-11-08).

FOREST CONSERVATION ACT COMPLIANCE

IT IS OUR UNDERSTANDING THAT PORTIONS OF THE PROPERTY ARE BEING PROPOSED TO OBTAIN CONDITIONAL USE APPROVAL FOR LANDSCAPE USES. THE PROPOSED SITE IMPROVEMENTS FOR THIS USE WILL BE SUBJECT TO THE FOREST CONSERVATION ACT. THE AREA DEFINED AS LANDSCAPE USE IS 2.4 ACRES. NO EXISTING FOREST IS PRESENT WITHIN THIS AREA AND THEREFORE IT WOULD BE SUBJECT TO THE AFFORESTATION REQUIREMENTS OF THE FCA.

- NOTES**
1. THE ASSESSMENT WAS PERFORMED TO DETERMINE THE NATURE AND EXTENT OF REGULATED RESOURCES WITHIN THE EXISTING/PROPOSED LANDSCAPE USE AREAS.
 2. WETLANDS, STREAMS AND BUFFERS ARE PRESENT ON THE SITE. NO NEW DEVELOPMENT IS PROPOSED WITHIN ANY OF THESE SITE CONSTRAINT AREAS. EXISTING PARKING AND MODULAR TRAILER PRESENT WITHIN A STREAM BUFFER WILL BE REMOVED AND STABILIZED. THE EXISTING OFFICE BUILDING/HOUSE (SITE KEY 8) IS WITHIN THE STREAM BUFFER.
 3. SPECIMEN TREES ARE PRESENT ON THE SITE. THE LOCATION SIZE AND CONDITION OF EACH TREE IS SHOWN HEREON. THE INTENT OF THE OWNER IS TO RETAIN THESE TREES DURING THE DEVELOPMENT PROCESS.
 4. NO RARE, THREATENED OR ENDANGERED SPECIES ARE KNOWN TO BE PRESENT ON THE SITE.
 5. 100 YEAR FLOODPLAIN IS PRESENT ON THE SITE.
 6. NO CEMETERIES ARE KNOWN TO OCCUR ON THE SITE. THE BUILDING AT 2945 ROXBURY MILLS ROAD (SITE KEY 8) IS LISTED AS HO-1750 JUDGE WILLIAM MATHEWS HOUSE BY THE MARYLAND HISTORIC TRUST.
 7. NO STEEP SLOPES ARE PRESENT ON THE SITE.
 8. NO FOREST IS PRESENT WITHIN THE EXISTING OR PROPOSED LANDSCAPE USE AREA HIGHLIGHTED ON THE PLAN. THE LANDSCAPE USE AREA TOTAL IS 2.4 ACRES OF THE SITE. THIS AREA WOULD GENERATE A 0.5 ACRE AFFORESTATION REQUIREMENT BASED ON THE EXISTING ZONING.
 9. ANY AND ALL FOREST CONSERVATION REQUIREMENTS WILL BE MET ON SITE.

NOTE:
FOR STRUCTURE CHART SEE PROPOSED & FUTURE CONDITIONS PLAN, SHEET 5.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 01/18/21

Joanne Carey, R.L.A. 4148
 MD DNR QUALIFIED PROFESSIONAL

OWNER/DEVELOPER
 W.H. BOYER, INC.
 LANDSCAPE SERVICES
 C/O EVAN S. DIAMOND
 2955 E ROUTE 97
 GLENWOOD, MARYLAND 21738
 EMAIL: EDAMOND@WHBOYER.COM
 (410) 442-2100

FOREST STAND DELINEATION PLAN
W.H. BOYER, INC.
LANDSCAPE SERVICES
 2945-55 E ROUTE 97
 TAX MAP 14 GRID 22
 4TH ELECTION DISTRICT
 PARCELS 80, 93, 204, 205, 206, PIO 221
 HOWARD COUNTY, MARYLAND

SILL ENGINEERING GROUP, LLC
 16605 Frederick Road, 2nd Floor
 Woodbine, Maryland 21797
 Phone: 443.325.5076
 Fax: 410.696.2022
 Email: info@sillengineering.com
 Civil Engineering for Land Development

DESIGN BY: PS
 DRAWN BY: JC
 CHECKED BY: PS
 SCALE: AS SHOWN
 DATE: SEPTEMBER 21, 2021
 PROJECT #: 17-065
 SHEET #: 3 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. 32025, EXPIRATION DATE: JUNE 20, 2023

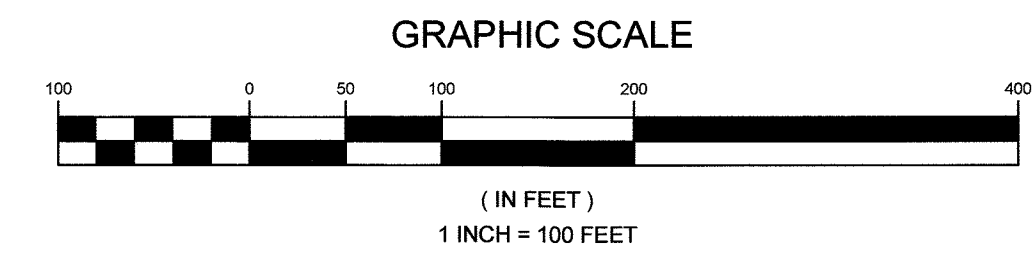
LEGEND

- EXISTING CONTOUR
- DIRECTION OF FLOW
- EXISTING TREELINE
- EXISTING BOLLARD
- EXISTING DOWNSPOUT
- EXISTING STORM DRAIN MANHOLE
- EXISTING STORM DRAIN GRATE
- EXISTING SEWER MANHOLE
- EXISTING SEWER CLEANOUT
- EXISTING SIGN
- EXISTING METAL POST
- EXISTING METAL FENCE
- EXISTING WOOD FENCE
- SOIL BOUNDARY
- EXISTING GRAVEL
- EXISTING PAVING
- EXISTING TREE
- EXISTING WATER VALVE
- EXISTING SEWER CLEANOUT
- EXISTING UTILITY POLE
- EXISTING LIGHT POST
- EXISTING SPRINKLER
- EXISTING STRUCTURE IDENTIFIER
- OFF-SITE USE AREA AGREEMENT WITH ROSEBAR LOT 8
- AGRICULTURE USE:
- LANDSCAPING USE:
- TO BE REMOVED
- EXISTING SPRINKLER
- EXISTING SPECIMEN TREE



PLAN VIEW
SCALE: 1"=100'

NUMBER	DESCRIPTION	USE	SIZE	HEIGHT	PREV. APPROV. UNDER BA #860-C	PROPOSED NEW USE	PHASE
1	EXISTING TRAILER	SNOWBALL STAND	151.94 SF	7'	-	-	N/A
2	EXISTING METAL SHED	SNOWBALL SUPPLIES	87.56 SF	7'	-	-	N/A
3	EXISTING WOOD BRIDGE	TO CROSS STREAM	10.26 FT x 8.54 FT	4'	YES	-	N/A
4	EXISTING WOOD CANOPY	SHADE FOR SNOWBALL CUSTOMERS	192.28 SF	10'	-	-	N/A
5	EXISTING BUILDING	RETAIL STORE	1270.17 SF	16'	-	-	N/A
6	EXISTING MODULAR BUILDING	OFFICE	596 SF	12'	-	-	N/A
7	EXISTING GAZEBO	OUTDOOR MEETINGS/LUNCH SALES	115.33 SF	12'	-	-	N/A
8	EXISTING HOUSE	OFFICE	735.13 SF	22'	YES	-	N/A
9	EXISTING SHED	TRASH CANS	119.31 SF	11'	-	-	N/A
10	EXISTING COLD FRAME	OVERWINTERING PLANTS	836.20 SF	9'	-	-	N/A
11	EXISTING COLD FRAME	OVERWINTERING PLANTS	833.54 SF	9'	-	-	N/A
12	EXISTING COLD FRAME	OVERWINTERING PLANTS	2107.44 SF	9'	-	-	N/A
13	EXISTING GAZEBO	LOOKS NOT USED	52.19 SF	9'	-	-	N/A
14	EXISTING HOUSE	HOME	3345.25 SF	15'	YES	-	N/A
15	EXISTING HOUSE	HOME	982.64 SF	14'	YES	-	N/A
16	EXISTING MAINTENANCE GARAGE	GARAGE	4035.81 SF	12'	-	-	N/A
17	MODULAR BUILDING	OFFICE	767.58 SF	11'	-	-	N/A
18	EXISTING HOUSE	HOME	2133.73 SF	14'	-	-	N/A
19	EXISTING GARAGE	GARAGE	357.42 SF	14'	-	-	N/A
20	EXISTING BUILDING	GARAGE	1095.66 SF	12'	-	-	N/A
21	EXISTING HORSE CANOPY	SHADE	133.7 SF	8'	-	-	N/A
22	EXISTING STABLE	STABLE	362.28 SF	10'	-	-	N/A
23	EXISTING CARPORT	EQUIPMENT	240.22 SF	9'	-	-	N/A
24	EXISTING SHED	MAINTENANCE EQUIPMENT	31.28 SF	8'	-	-	1
25	PROPOSED STORAGE BUILDING	STORAGE	4512.21 SF	13'	-	YES	1
26	EXISTING STORAGE BUILDING	FARM EQUIPMENT STORAGE	1647.15 SF	13'	-	-	N/A
27	PROPOSED STORAGE BUILDING	STORAGE	1200 SF	25'	-	YES	1
28	PROPOSED RELOCATED MODULAR OFFICE	OFFICE	596 SF	12'	-	YES	N/A
29	FUTURE BARN	RES. EQUIPMENT AND PROD.	9600 SF	25'	-	-	2
30	PROPOSED CONTAINER STORAGE	CONTAINER STORAGE	4800 SF	11'	-	YES	1
31	FUTURE BARN	NURSERY EQUIP. AND PROD.	9600 SF	25'	-	-	2
32	FUTURE MODULAR BUILDING	OFFICE	5340 SF	23'	-	YES	2
33	EXISTING WOOD BRIDGE	CROSS STREAM	5.16 FT x 19.83 FT	4'	YES	-	N/A
34	EXISTING WOOD BRIDGE	CROSS STREAM	8.52 FT x 20.61 FT	4'	YES	-	N/A
35	EXISTING WOOD BRIDGE	CROSS STREAM	5.64 FT x 19.43 FT	4'	YES	-	N/A
36	EXISTING BARN	STORAGE	5125.07 SF	23'	-	-	N/A
37	EXISTING WELL SHED	STORAGE	51.89 SF	9'	-	-	N/A
38	EXISTING SHED	STORAGE	100 SF	7'	-	-	N/A



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division
 DATE: 10/27/24
 Chief, Division of Land Development
 DATE: 10/15/24

OWNER/DEVELOPER
 W.H. BOYER, INC.
 LANDSCAPE SERVICES
 C/O EVAN S. DIAMOND
 2955 E ROUTE 97
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 (410)442-2100

PROPOSED & FUTURE CONDITIONS PLAN
W.H. BOYER, INC.
LANDSCAPE SERVICES
 2945-55 E ROUTE 97
 PARCELS 80, 93, 204, 205, 206, P/O 221
 4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TAX MAP 14 GRID 22
 4TH ELECTION DISTRICT

SILL ENGINEERING GROUP, LLC
 16905 Frederick Road, 2nd Floor
 Woodbine, Maryland 21797
 Phone: 443.325.5076
 Fax: 410.696.2022
 Email: info@sillengineering.com
 Civil Engineering for Land Development

DESIGN BY: PS
 DRAWN BY: JC
 CHECKED BY: PS
 SCALE: AS SHOWN
 DATE: SEPTEMBER 21, 2021
 PROJECT #: 17-065
 SHEET #: 4 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. 32025, EXPIRATION DATE: JUNE 20, 2023

SOILS LEGEND			
SYMBOL	NAME / DESCRIPTION	GROUP	'K' FACTOR
BaA	BAILE SILT LOAM, 0 TO 3 PERCENT SLOPES	C/D	0.37
GpB	GLENELG LOAM, 3 TO 8 PERCENT SLOPES	B	0.20
GpC	GLENELG LOAM, 8 TO 15 PERCENT SLOPES	B	0.24
GpB	GLENVILLE-BAILE SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	0.43
Hs	HATBORO-CODORUS SILT LOAM, 0 TO 3 PERCENT SLOPES	B/D	0.37
MaC	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	0.24
MaD	MANOR LOAM, 15 TO 25 PERCENT SLOPES	B	0.24

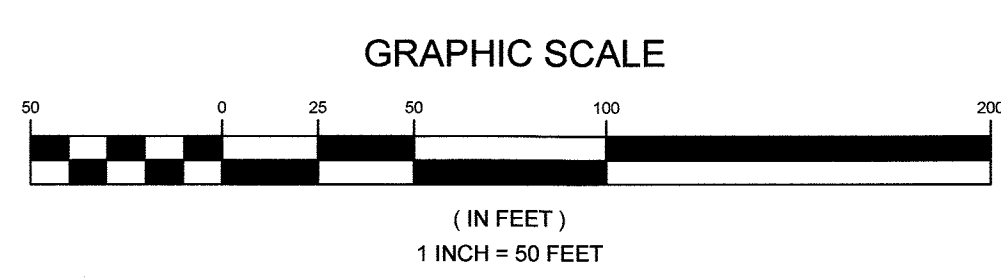
NOTES:
 1) SOIL INFORMATION HAS BEEN TAKEN FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE, WEB SOIL SURVEY.
 2) HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR 'K' GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT.

LEGEND	
EXISTING CONTOUR	
PROPOSED CONTOUR	
EXISTING SPOT ELEVATION	
PROPOSED SPOT ELEVATION	
DIRECTION OF FLOW	
EXISTING TREELINE	
PROPOSED TREELINE	
LIGHT POLES	
POST TOP	
OVERHEAD	
BOLLARD	
STABILIZED CONSTRUCTION ENTRANCE	
SILT FENCE	
SUPER SILT FENCE	
LIMIT OF DISTURBANCE	
EARTH DIKE	
EROSION CONTROL MATTING	
SOIL BOUNDARY	
RIP-RAP INFLOW PROTECTION	
EXISTING SPECIMEN TREE	



NOTE: WHERE THERE IS NO SCS PROVIDED, THE CONTRACTOR SHALL DESIGNATE THE CONSTRUCTION EQUIPMENT THAT SHALL BE ALLOWED WITHIN THE LOD. THIS EQUIPMENT SHALL BE KEPT WITHIN THE LOD UNTIL THE PROPOSED WORK IS COMPLETE AND SHALL HAVE TREADS/TIRES CLEANED PRIOR TO LEAVING THE LOD. THE METHOD OF CLEANING SHALL BE SPECIFIED BY THE CONTRACTOR. WASHING OF TREADS/TIRES REQUIRES AN APPROPRIATE SEDIMENT FILTERING PRACTICE OR CAPTURING DEVICE.

PLAN VIEW
SCALE: 1"=50'



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 10/22/21
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 10/18/21

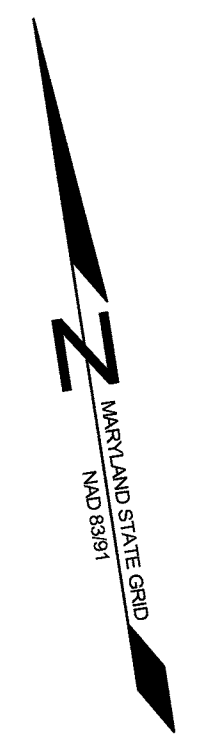
OWNER/DEVELOPER
 W.H. BOYER, INC.
 LANDSCAPE SERVICES
 C/O EVAN S. DIAMOND
 2355 E ROUTE 97
 GLENWOOD, MARYLAND 21738
 EMAIL: EDI@AMOND@WHBOYER.COM
 (410)442-2100

SEDIMENT AND EROSION CONTROL PLAN
W.H. BOYER, INC.
LANDSCAPE SERVICES
 2945-55 E ROUTE 97

TAX MAP 14 GRID 22 PARCELS 80, 93, 204, 205, 206, P/O 221
 4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

DESIGN BY: PS
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 CHECKED BY: PS
 SCALE: AS SHOWN
 DATE: SEPTEMBER 21, 2021
 PROJECT #: 17-065
 SHEET #: 6 of 8

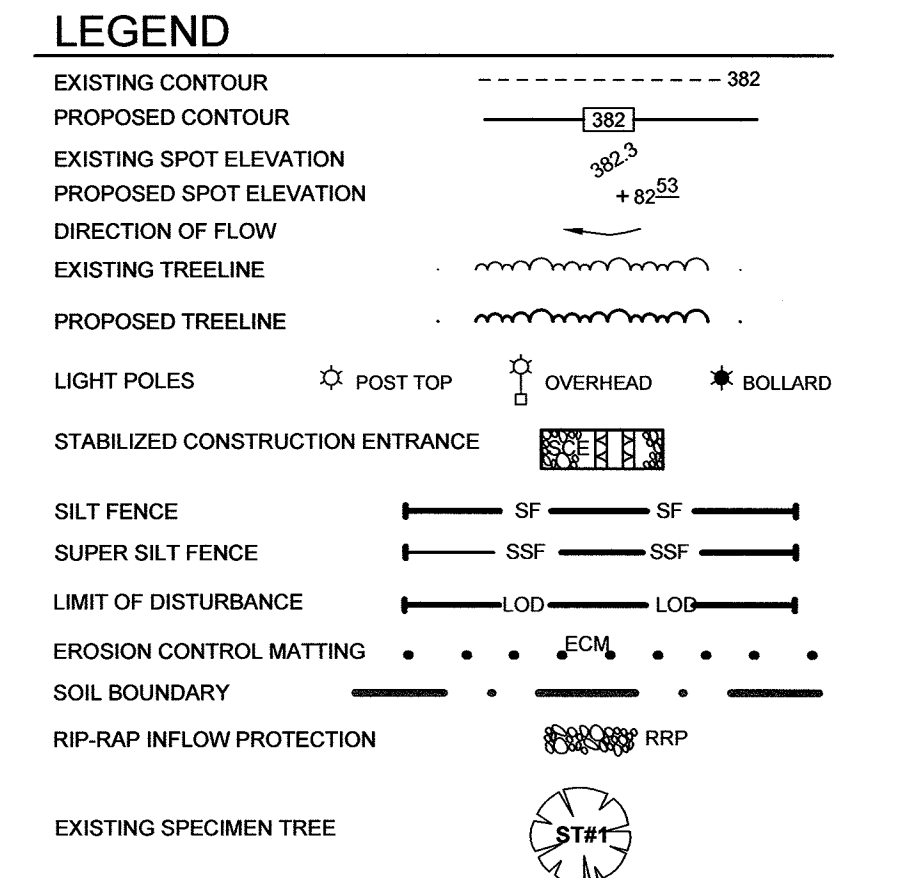
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PLAN VIEW
SCALE: 1"=50'

SOILS LEGEND			
SYMBOL	NAME / DESCRIPTION	GROUP	K' FACTOR
BaA	BAILE SILT LOAM, 0 TO 3 PERCENT SLOPES	C/D	0.37
GaB	GLENELG LOAM, 3 TO 8 PERCENT SLOPES	B	0.20
GaC	GLENELG LOAM, 8 TO 15 PERCENT SLOPES	B	0.24
GaB	GLENVILLE-BAILE SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	0.43
Ha	HATBORO-CODORUS SILT LOAM, 0 TO 3 PERCENT SLOPES	B/D	0.37
MaC	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	0.24
MaD	MANOR LOAM, 15 TO 25 PERCENT SLOPES	B	0.24

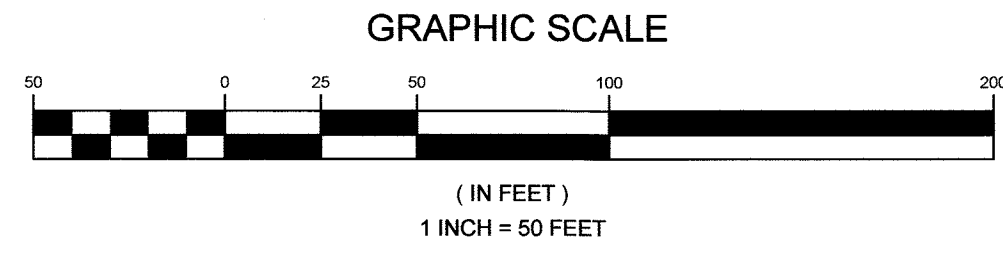
- NOTES:
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 - 2) HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR 'K' GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT.



SITE AREA TABLE *		
SITE AREAS	AREA (AC.)	IMPERVIOUS (AC.)
ESD 1	1.58	0.56
ESD 2	0.07	0.03
ESD 3	0.18	0.11
TOTAL	1.83	0.70

* SITE AREA EQUALS THE LIMIT OF DISTURBANCE

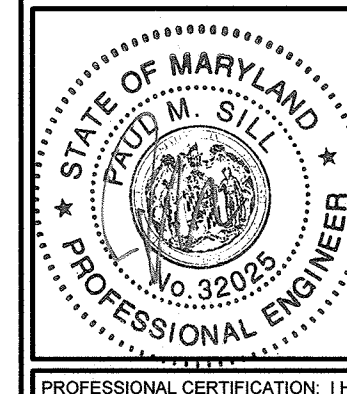
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 10-23-21
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 10/23/21



OWNER/DEVELOPER

W.H. BOYER, INC.
 LANDSCAPE SERVICES
 C/O EVAN S. DIAMOND
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 GLENWOOD, MARYLAND 21738
 EMAIL: EDIAMOND@WHBOYER.COM
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STORMWATER MANAGEMENT
 ESD DRAINAGE AREA MAP
 W.H. BOYER, INC.
 LANDSCAPE SERVICES
 2945-55 E ROUTE 97
 TAX MAP 14 GRID 22 PARCELS 80, 93, 204, 205, 206, P/O 221
 4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

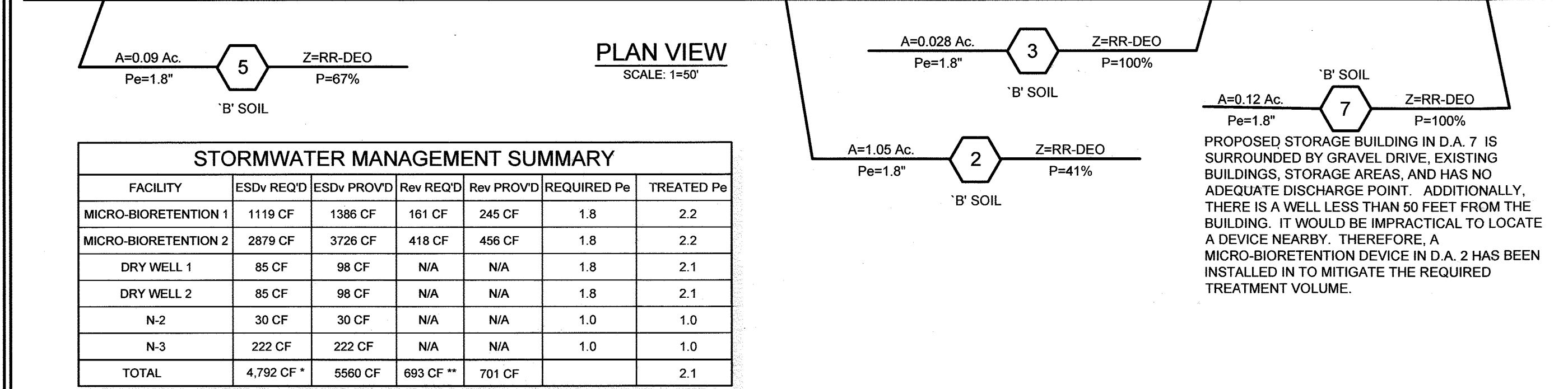
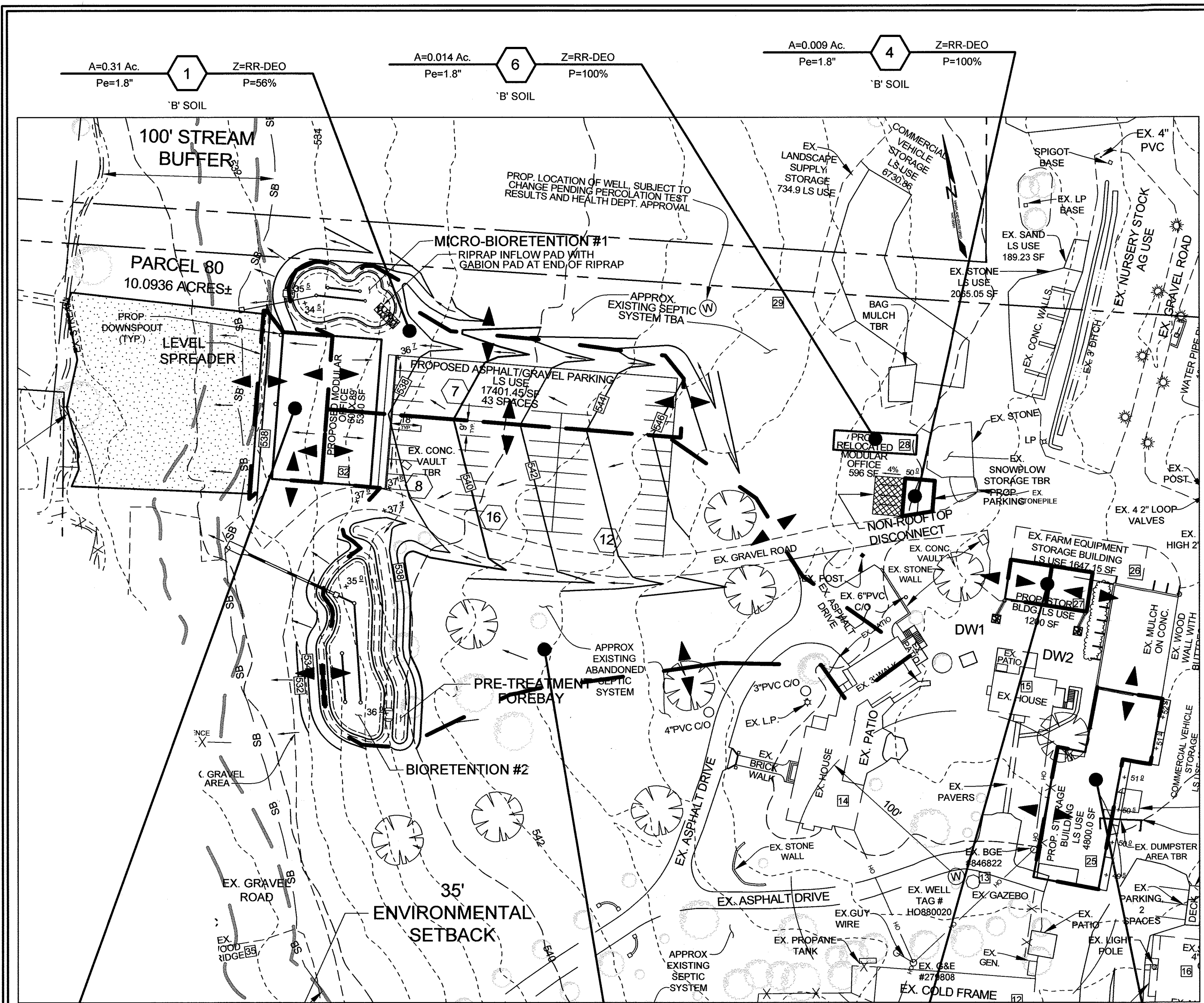


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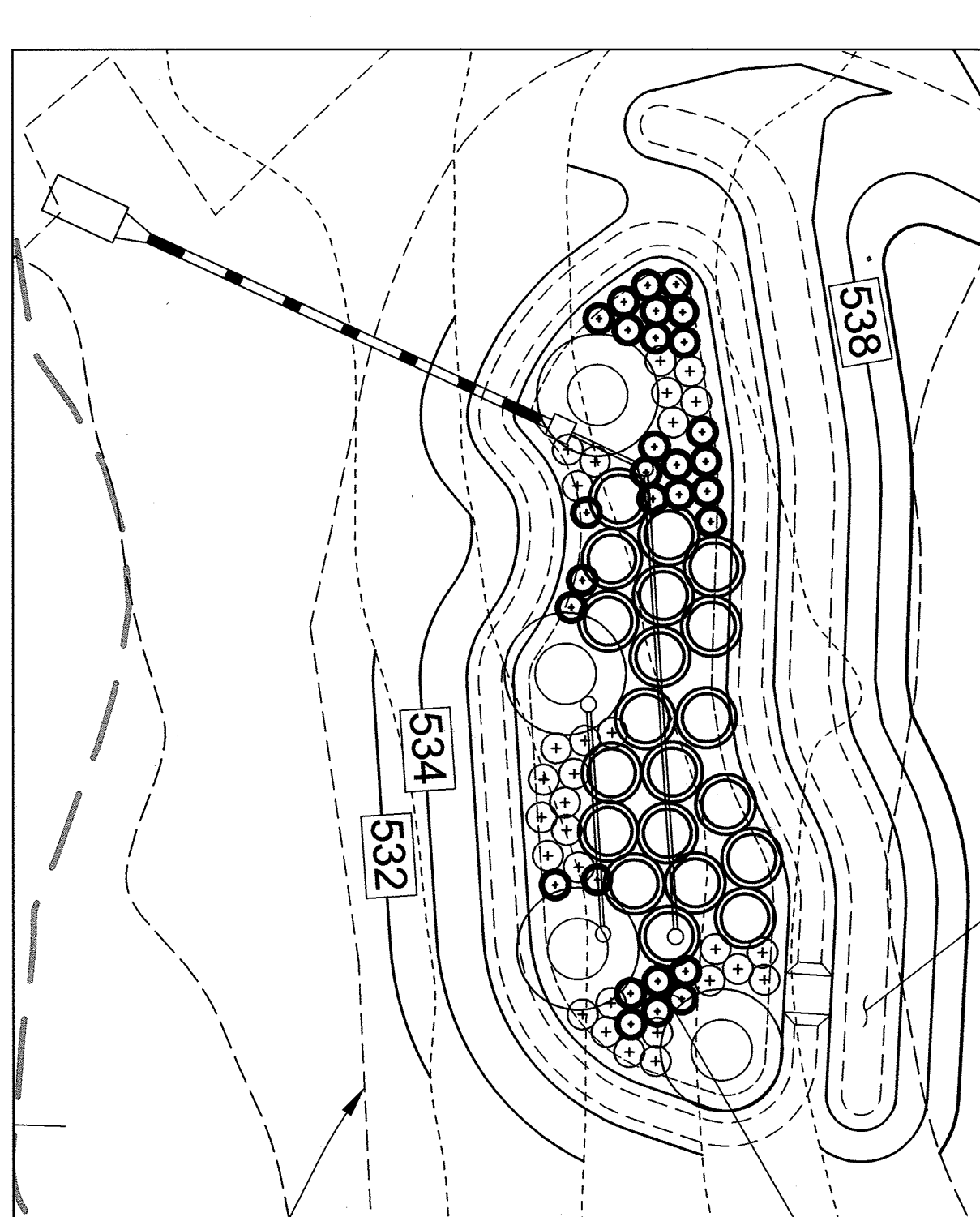
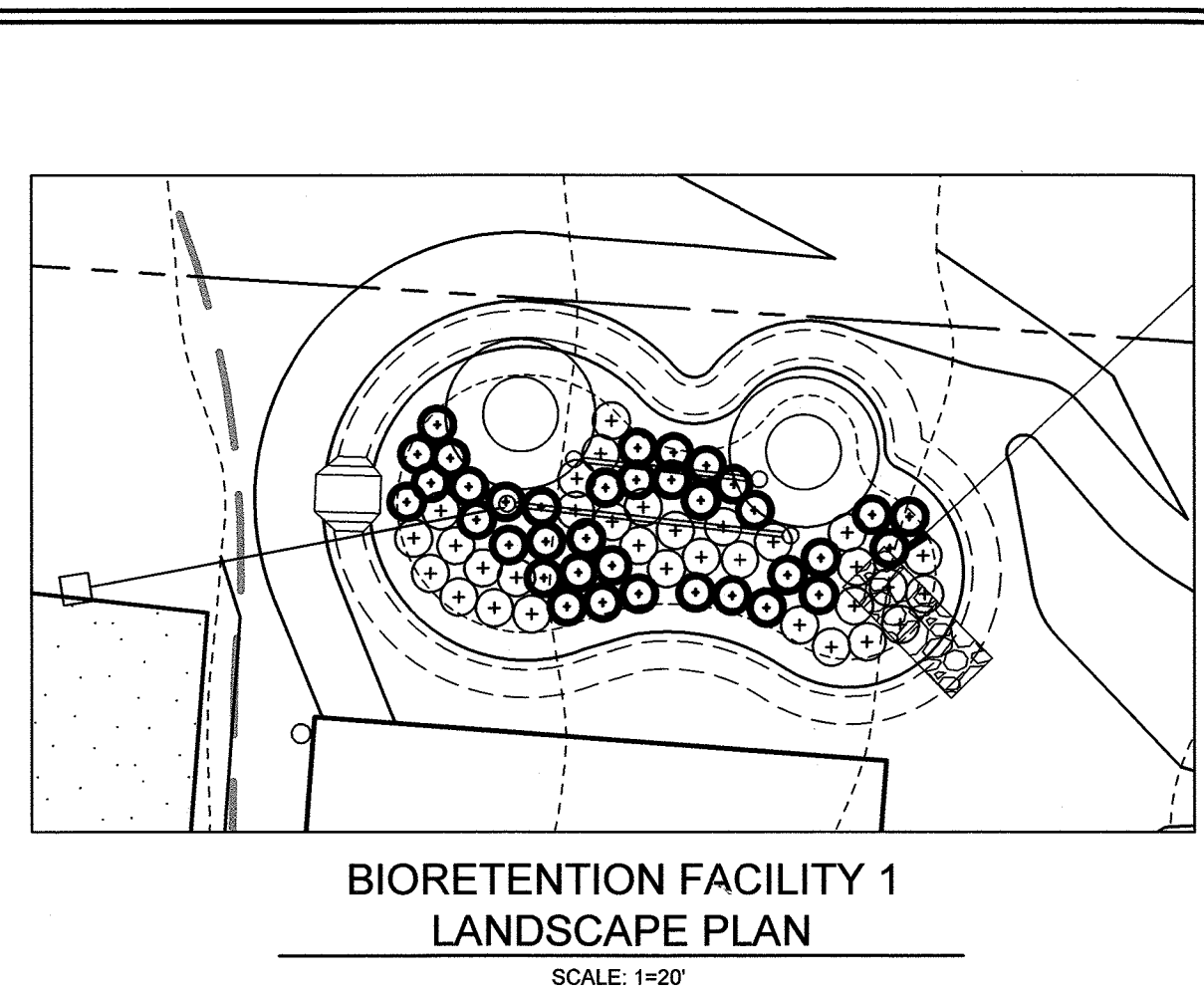
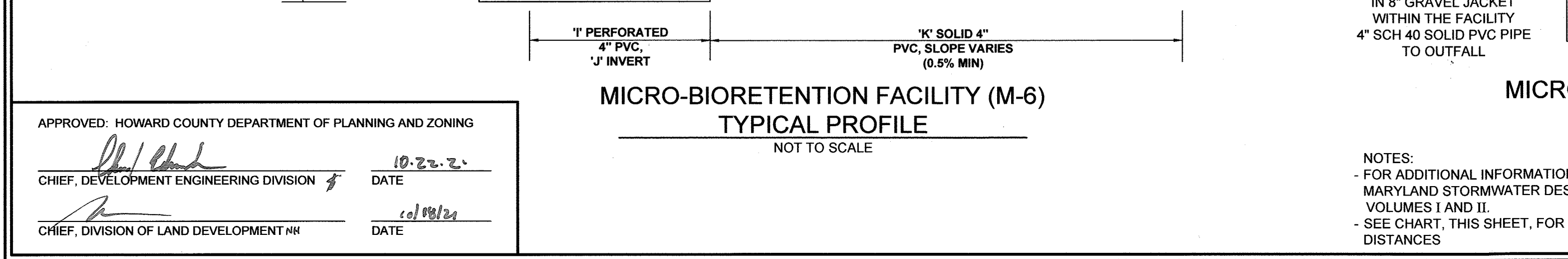
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 SHEET #: 7 of 8

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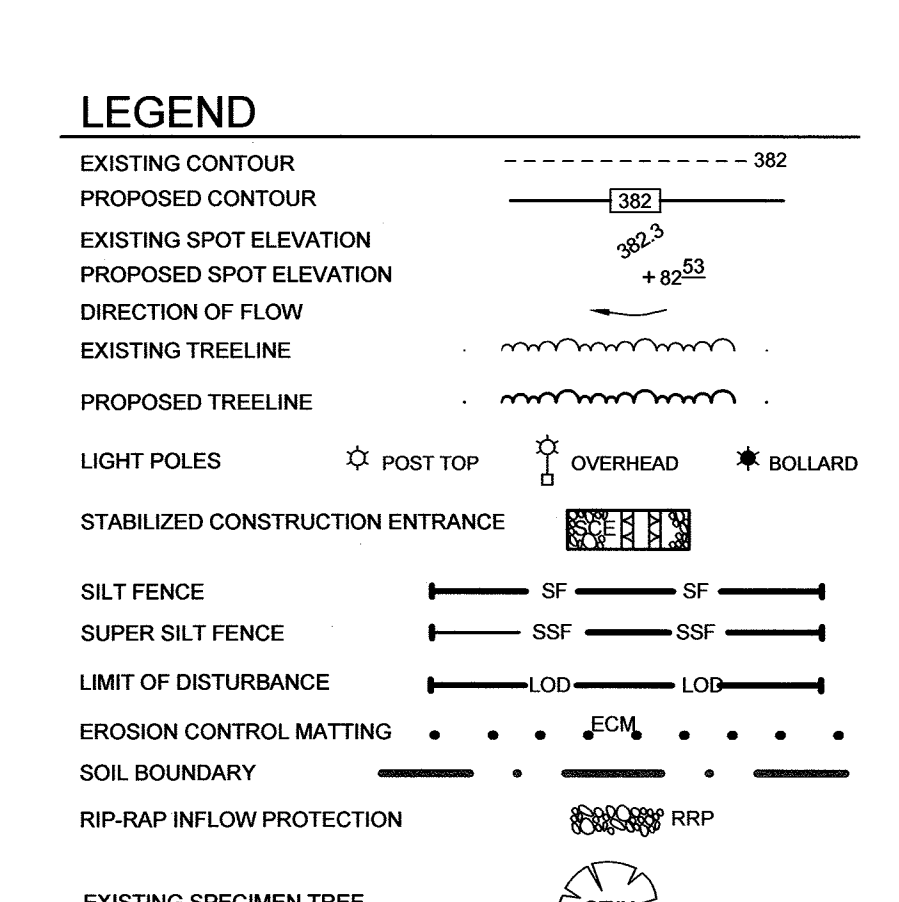


PER THE ENVIRONMENTAL SITE DESIGN, SITE REQUIREMENTS, THE REQUIRED ESDV IS 4,792 CF.
 PER THE RECHARGE VOLUME SITE REQUIREMENTS, THE REQUIRED REV IS 693 CF.

STORMWATER MANAGEMENT SUMMARY						
FACILITY	ESDV REQ'D	ESDV PROV'D	REV REQ'D	REV PROV'D	REQUIRED P _e	TREATED P _e
MICRO-BIORETENTION 1	1119 CF	1386 CF	161 CF	245 CF	1.8	2.2
MICRO-BIORETENTION 2	2879 CF	3726 CF	418 CF	456 CF	1.8	2.2
DRY WELL 1	85 CF	98 CF	N/A	N/A	1.8	2.1
DRY WELL 2	85 CF	98 CF	N/A	N/A	1.8	2.1
N-2	30 CF	30 CF	N/A	N/A	1.0	1.0
N-3	222 CF	222 CF	N/A	N/A	1.0	1.0
TOTAL	4,792 CF*	5560 CF	693 CF**	701 CF		2.1



MATERIALS SPECIFICATIONS FOR MICRO-BIORETENTION, RAIN GARDEN & LANDSCAPE INFILTRATION			
MATERIAL PLANTINGS	SPECIFICATION	SIZE	NOTES
PLANTING SOIL (2'-4" TO 4" DEEP)	LOAMY SAND (60% - 65%) & COMPOST (35%-40%) OR SANDY LOAM (30%), COARSE SAND (30%) & COMPOST (40%)	N/A	PLANTINGS ARE SITE-SPECIFIC. SEE PLANT LIST THIS SHEET. USDA SOIL TYPES LOAMY SAND OR SANDY LOAM; CLAY CONTENT < 5%
MULCH	SHREDDED HARDWOOD	N/A	AGED 6 MONTHS, MINIMUM. NO PINE OR WOOD CHIPS
ORGANIC CONTENT	MIN. 10% BY DRY WEIGHT (ASTM-D-2974)	N/A	
PEA GRAVEL DIAPHRAGM	PEA GRAVEL, ASTM-D-448	NO. 8 OR NO. 9 (1/8" TO 3/8")	
CURTAIN DRAIN (IF REQUIRED)	ORNAMENTAL STONE, WASHED COBBLES	STONE, 2" TO 5"	
GEOTEXTILE	AASHTO M-43	N/A	PE TYPE 1 NONWOVEN
UNDERDRAIN GRAVEL	F 758, TYPE PS 28 OR AASHTO M-278	NO. 57 OR NO. 6 AGGREGATE (3/8" TO 3/4")	
UNDERDRAIN PIPING	MSHA MX NO. 3; F _o = 3500 PSI @ 28 DAYS, NORMAL WEIGHT, AIR-ENTRAINED, REINFORCING TO MEET ASTM-515-60	4" TO 6" RIGID SCHEDULE 40 PVC OR SDR35	SLOTTED OR PERFORATED PIPE, 3/8" PERFOR. @ 6" ON CENTER, 4 HOLES PER ROW, MINIMUM OF 3" OF GRAVEL OVER PIPES; NOT NECESSARY UNDERNEATH PIPES. PERFORATED PIPE SHALL BE WRAPPED WITH 14" GALVANIZED HARDWARE CLOTH.
POURED IN PLACE CONCRETE (IF REQUIRED)			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 309 RIB; 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 GRAYSTONE (AASHTO) #10 ARE NOT ACCEPTABLE. NO CALCIUM CARBONATED OR DOLOMITIC SAND SUBSTITUTIONS ARE ACCEPTABLE. NO "ROCK DUST" CAN BE USED FOR SAND.



MICRO-BIORETENTION ELEVATIONS AND DIMENSIONS		
DESCRIPTION	BIO 1	BIO 2
'A' PONDING DEPTH	1'	1'
'B' TOP OF MULCH	534.60	535.00
'C' WSEL	535.60	536.00
'D' EMBANKMENT WIDTH	4'	4'
'E' SPILLWAY WIDTH	5'	N/A
'F' SPILLWAY LENGTH	5'	N/A
'G' FACILITY LENGTH	82'	105'
'H' FACILITY WIDTH (AVERAGE)	36.4'	22'
'I' PERFOR. UNDERDRAIN PIPE DIMENSION	4"	4"
'J' UNDERDRAIN PIPE INVERT	531.50	531.93
'K' SOLID UNDERDRAIN DIMENSION	4"	4"
'L' OUTFALL INVERT	531.33	530.30
'M' PERFOR. OVERFLOW PIPE DIMENSION	4"	4"
'N' OVERFLOW PIPE INVERT	531.50	530.30
'O' GRAVEL STORAGE DEPTH	3"	3"
'P' BOTTOM ELEVATION OF FACILITY	531.33	531.50
'Q' GRADE % OF OUTFALL PIPE	0.5%	0.5%

DRYWELL (M-5) DESIGN CHART			
DW#	VOLUME REQUIRED	VOLUME PROVIDED	SIZE WELLS
1	85 CF	98 CF	7.0' X 7.0' X 5' DEEP
2	85 CF	98 CF	7.0' X 7.0' X 5' DEEP

SOILS LEGEND			
SYMBOL	NAME / DESCRIPTION	GROUP	'K' FACTOR
Ba	BAILE SILT LOAM, 0 TO 3 PERCENT SLOPES	C/D	0.37
Gb	GLENELG LOAM, 3 TO 8 PERCENT SLOPES	B	0.20
Gc	GLENELG LOAM, 8 TO 15 PERCENT SLOPES	B	0.24
Gd	GLENVILLE-BAILE SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	0.43
H	HATBORO-ODOROUS SILT LOAM, 0 TO 3 PERCENT SLOPES	B/D	0.37
Mm	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	0.24
Md	MANOR LOAM, 15 TO 25 PERCENT SLOPES	B	0.24

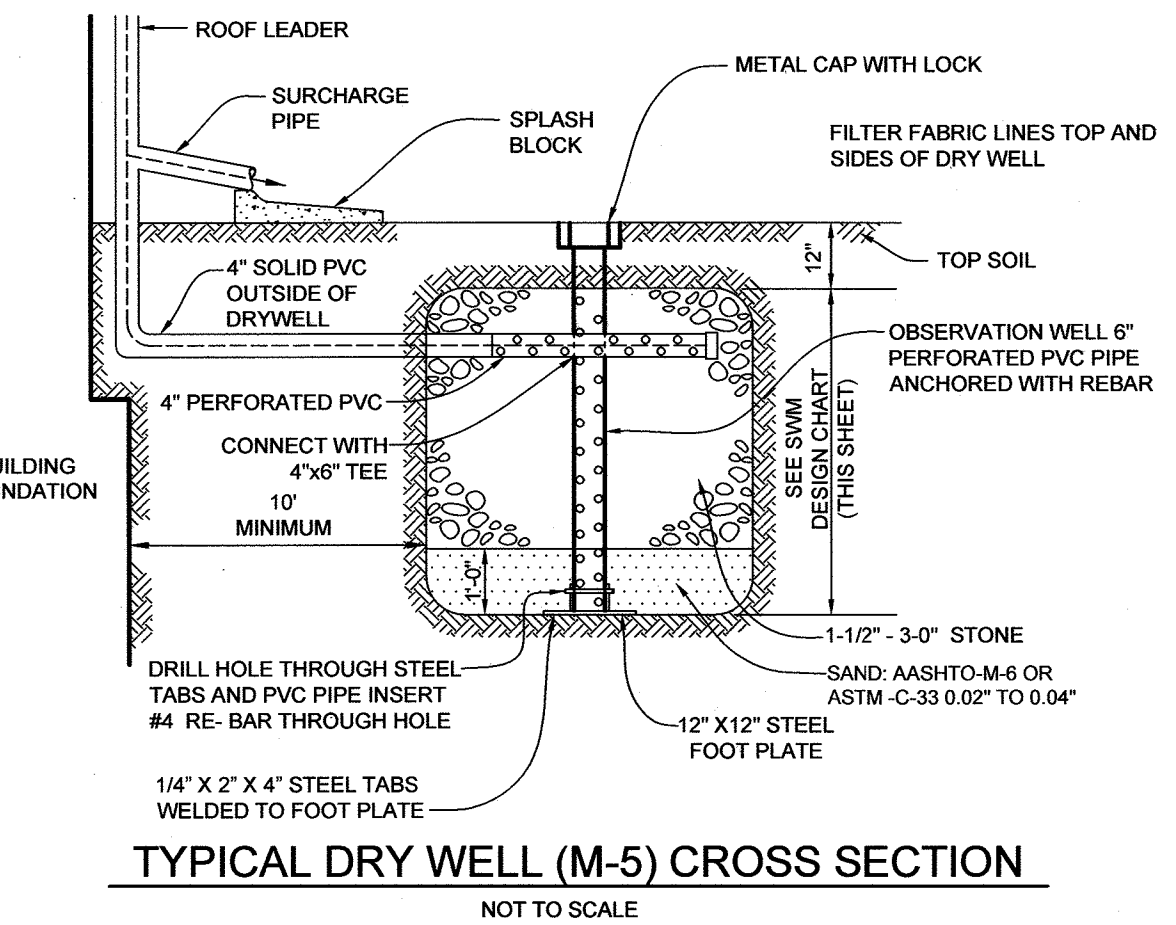
NOTES:
 1) SOIL INFORMATION HAS BEEN TAKEN FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE; NATURAL RESOURCE CONSERVATION SERVICE; WEB SOIL SURVEY.
 2) HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL EROSION FACTOR 'K' GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT.

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED MICRO-BIORETENTION FACILITIES (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 OR DISEASED VEGETATION CONSIDERED BEYOND TREATMENT. REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL. TREAT DISEASED PLANTS, 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 AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DRY WELLS (M-5)

- 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 CLOSED SO THAT IT DOES NOT DRAIN DOWN WITHIN THE 72 HOURS 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-6 MICRO-BIORETENTION PLANT LIST							
SHRUBS							
LEGEND	BOTANICAL NAME	COMMON NAME	SPACING	SIZE	REMARKS	QTY. BIO 1	QTY. BIO 2
○	HAMAMELIS X ARNOLD PROMISE	WITCH HAZEL ARNOLD PROMISE	AS SHOWN (MIN. 15" O.C.)	7 GAL.		2	4
○	ILEX VERTICILLATA	WINTERBERRY	AS SHOWN (MIN. 4" O.C.)	24"-36" HT.	TWO MALE FOR EVERY TWENTY PLANTS	0	20
○	ECHINCEA	PURPLE CONE FLOWER	2" O.C.	1 GAL.		36	29
○	RUBRIBECKIA	BLACK EYED SUSAN	2" O.C.	1 GAL.		32	29

NOTE: PLANT MATERIAL MUST COVER 50% OF THE MULCH AREA AT MATURE GROWTH.
 *INTERPERSE PLANTINGS THROUGHOUT BIORETENTION FILTER AREA
 BIO 1 - BIORETENTION AREA = 1,153 S.F. BIO 2 - BIORETENTION AREA = 2,281 S.F.

OWNER/DEVELOPER
 W.H. BOYER, INC.
 LANDSCAPE SERVICES
 C/O EVAN S. DIAMOND
 2855 E ROUTE 97
 GLENWOOD, MARYLAND 21738
 EMAIL: EDIAMDOND@WHBOYER.COM
 (410)442-2100

STORMWATER MANAGEMENT DRAINAGE AREA MAP & DETAILS
W.H. BOYER, INC.
LANDSCAPE SERVICES
 2945-55 E ROUTE 97
 TAX MAP 14 GRID 22 PARCELS 80, 93, 204, 205, 206, P/O 221
 4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

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 Email: info@sillengineering.com
 Civil Engineering for Land Development

DESIGN BY: PS
 DRAWN BY: JC
 CHECKED BY: PS
 SCALE: AS SHOWN
 DATE: SEPTEMBER 21, 2021
 PROJECT #: 17-055
 SHEET #: 8 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. 3209, EXPIRATION DATE: JUNE 29, 2023