

HARBOR HALL COURTYARD IMPROVEMENTS **ISSUED FOR: 100% CONSTRUCTION DOCUMENTS**

GENERAL NOTES:

- 1. ALL PROPOSED GRADING AND EROSION CONTROL WORK TO BE CONSTRUCTED IN ACCORDANCE WITH THE MARYLAND DEPARTMENT OF THE ENVIRONMENT 2011 STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- THE EXISTING CONDITIONS FOR THIS PROJECT HAVE BEEN FIELD SURVEYED BY A. MORTON THOMAS AND ASSOCIATES, MAY 2023.
- THE LOCATION OF ALL UTILITIES SHOWN HEREON IS BASED ON FIELD SURVEY DATA AND RECORD DRAWING INFORMATION. THE UTILITY INFORMATION SHOWN IS NOT NECESSARILY COMPLETE AND THE GENERAL LOCATIONS SHOWN ARE TO BE CONSIDERED APPROXIMATE VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES WELL IN ADVANCE OF CONDUCTING ANY OPERATIONS WHICH COULD DAMAGE OR INTERRUPT THESE FACILITIES IN AREAS WHERE THE PROPOSED CONSTRUCTION MAY CONFLICT WITH EXISTING UTILITIES. TAKE NECESSARY PRECAUTIONS TO AVOID DAMAGE TO EXISTING UTILITIES. IF AN UNDERGROUND UTILITY IS DAMAGED, IMMEDIATELY NOTIFY THE OWNER. ANY DAMAGE SUSTAINED TO UTILITIES ABOVE OR BELOW GROUND IS TO BE REPAIRED IMMEDIATELY AT CONTRACTOR'S EXPENSE
- LOCATE "ALL PRIVATE" UNDERGROUND UTILITIES AND INFRASTRUCTURE INCLUDING BUT NOT LIMITED TO : PIPES, DRAINS, CABLE, ETC., IN ANY PROPOSED EXCAVATION AREA AND COORDINATE ANY DISRUPTIONS WITH THE UNIVERSITY PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- 5. VERIFY ALL DIMENSIONS AND CONDITIONS GIVEN ON THE DRAWINGS AND REPORT TO THE OWNER ANY ERROR OR INCONSISTENCY WITH THE ACTUAL CIRCUMSTANCES IN THE FIELD PRIOR TO COMMENCING WORK.
- 6. TAKE NOTE THAT THE UTILITIES IN THIS AREA MAY HAVE PORTIONS OF SHEETING AND SHORING USED TO FACILITATE THEIR CONSTRUCTION ABANDONED AND LEFT IN PLACE, WHICH MAY INTERFERE WITH THE NEW WORK. NOTIFY THE OWNER IMMEDIATELY IF THIS SITUATION OCCURS.
- 7. SCHEDULE ALL DEMOLITION ACTIVITIES AND REQUIRED UTILITY RELOCATION TO MINIMIZE SHUTDOWNS AND DISRUPTIONS TO THE UNIVERSITY OF MARYLAND BALTIMORE COUNTY CAMPUS. UNLESS OTHERWISE NOTED, ALL UTILITIES MUST REMAIN IN SERVICE THROUGHOUT THE DURATION OF THE PROJECT AND PROTECTED AND SUPPORTED AS REQUIRED. NOTIFY OWNER TWO WEEKS IN ADVANCE IF TEMPORARY SHUTDOWN/DISRUPTION OF UTILITIES IS REQUIRED.
- CONDUCT TEST PITS AS REQUIRED TO ESTABLISH THE CONDITION AND ELEVATION OF ALL 8. UTILITY AND STRUCTURES PRIOR TO FABRICATING ANY PIECES OR ORDERING ANY MATERIALS FOR THE UTILITY SYSTEMS.
- BASED UPON THE RESULTS OF THE TEST PITS. SUBMIT SKETCHES TO THE ENGINEER SHOWING 9 THE RECOMMENDATION REVISING THE DESIGN INVERT AND TOP ELEVATIONS AS REQUIRED TO AVOID ANY CONFLICTS WITH EXISTING UTILITY LINES AND OTHER FEATURES.
- 10. THE OWNER IS TO BE NOTIFIED IMMEDIATELY OF ANY AND ALL UTILITY INFORMATION, OMISSIONS AND ADDITIONS FOUND ON SITE. DAMAGE TO EXISTING UTILITIES IS TO BE FIXED IMMEDIATELY.
- 11. DEVELOP AND COORDINATE THE MAINTENANCE OF TRAFFIC AND ANY SIDEWALK AND ROAD CLOSURES WITH THE UNIVERSITY.

I/WE HEREBY CERTIFY THAT ALL CLEARING, GRADING, CONSTRUCTION, AND/OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OR EROSION AND SEDIMENT BEFORE BEGINNING THE PROJECT. I/WE HEREBY AUTHORIZE THE RIGHT OF ENTRY FOR PERIODIC ON-SITE EVALUATION BY APPROPRIATE INSPECTION AND ENFORCEMENT AUTHORITY OR THE STATE OF MARYLAND, DEPARTMENT OF THE ENVIRONMENT.

01/22/2024

RPC005511

DATE

RESPONSIBLE PERSONNEL CERT. NO.

CIVIL ENGINEERING/PRIME A. MORTON THOMAS AND ASSOCIATES 700 KING FARM BLVD, SUITE 300 ROCKVILLE, MD 20850 301-881-2545

ELECTRICAL ENGINEERING WFT ENGINEERING, INC. 1801 RESEARCH BLVD, SUITE 100 ROCKVILLE, MD 20850 301-230-0811

LANDSCAPE ARCHITECTURE FLOURA TEETER LANDSCAPE ARCHITECTS 800 N. CHARLES STREET, SUITE 300 BALTIMORE, MD 20201 410-528-8395

GEOTECHNICAL ENGINEERING KIM ENGINEERING 1550 CANTON CENTER DRIVE, SUITE K BALTIMORE, MD 21227 410-501-3669

COST ESTIMATING FORELLA GROUP, LLC 5180 PARKSTONE DR, SUITE 250 CHANTILLY, VA 20151 703-560-2200

UMBC PROJECT No.: 23-126 MDE NO. 24-SF-0026

OWNER'S / DEVELOPER'S CERTIFICATION

OWNER/DEVELOPER SIGNATURE

PHILLIP S. CHO, PROJECT MANAGER

PRINTED NAME AND TITLE

DESIGN CERTIFICATION:

I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, THE 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUMES I & II INCLUDING SUPPLEMENTS, THE ENVIRONMENT ARTICLE SECTIONS 4-101 THROUGH 116 AND SECTIONS 4-201 AND 215, AND THE CODE OF MARYLAND REGULATIONS (COMAR) 26.17.01 AND COMAR 26.17.02 FOR EROSION AND SEDIMENT CONTROL AND STORMWATER MANAGEMENT, RESPECTIVELY.

01/22/2024 DATE

Much C. Wychil

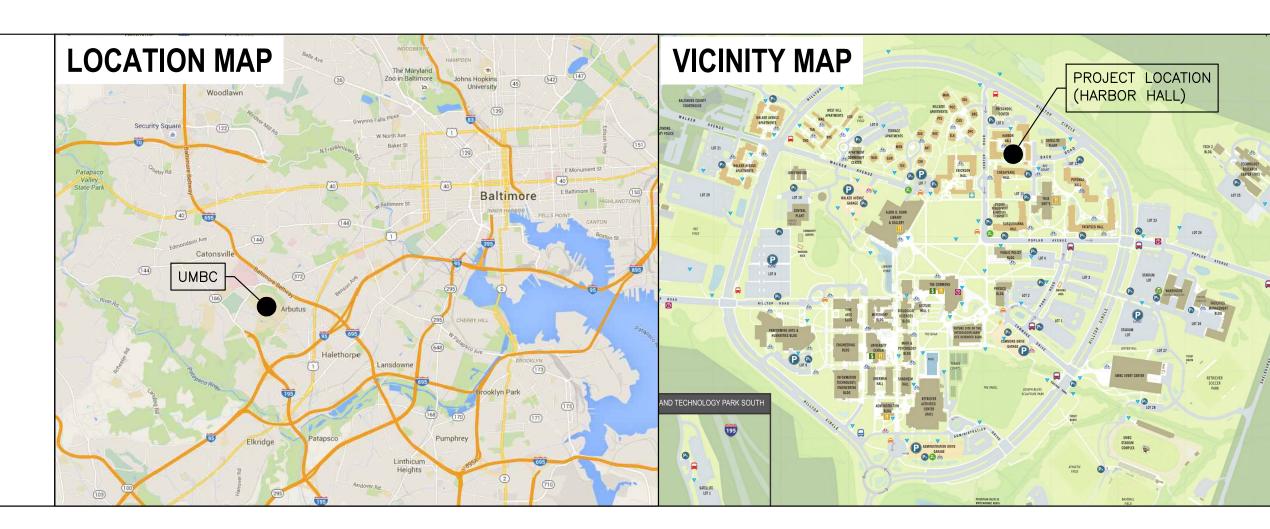
MD REGISTRATION NO. 32561

(P.E., R.L.S., R.L.A. OR R.A. (CIRCLE ONE)

MICHAEL WYCHULIS, P.E.

PRINTED NAME

DESIGNER'S SIGNATURE



UMBC Project No: 23-126 UMB Project No: XXXX ALE Project No: XXXX COLON Project No: XXXX COLON Project No: XXXX COLON Project No: XXXX COLON Project No: XXXX An DECENDATION THOMMS AND ASSOCIATES, INC. CONSULTANTS MONTON THOMMS AND ASSOCIATES, INC. CONSULTANTS Professional Carlification Date: 01/05/2023 01/05/2024 Date: Professional Carlification Date: 01/05/2023 100% CONSTRUCTION DOCUMENTS CONSULTANTS LANDSCAPE ARCHITECTURE Floure the laws of the State of Maryland, License ho: 32557, Explation Date: 01/05/2023 LANDSCAPE ARCHITECTURE Floure Tere LANDSCAPE ARCHITECTS ELECTRICAL ENGINEERING, INC. GEOTECHNICAL SERVICES COST ESTIMATING FOREING, INC. GEOTECHNICAL SERVICES COST ESTIMATING FOREING UNC. COST ESTIMATING FOREING UNC. EVENCHICAL SERVICES KEY PLAN	HARBOR HALL COURTYARD			
	UMB Project No.: A/E Project No.:	XXXX 17-0782.011		
REV DATE DESCRIPTION Image: Construction of the second s	CONSULTANTS Professional Certification. I were prepared or approved professional engineer under License No. <u>32561</u> , Expiration 100% CONSTRU CONSULTANTS LANDSCAPE ARCHITEC FLOURA TEETER LAND ELECTRICAL ENGINEER WFT ENGINEERING, INC.	TING ENGINEERS BOULEVARD, SUITE 300 //LLE, MD 20850 -2545 FAX (301) 881-0814 AMTENGINEERING.COM		
RECORD SET AS-BUILT / CONFORMING SET 02/12/2024 100% CONSTRUCTION SET	KIM ENGINEERING			
	KIM ENGINEERING COST ESTIMATING FORELLA GROUP, LLC	SES		

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STATE OF MARYLAND

BOARD OF PUBLIC WORKS

Wes Moore Brooke E. Lierman Dereck E. Davis

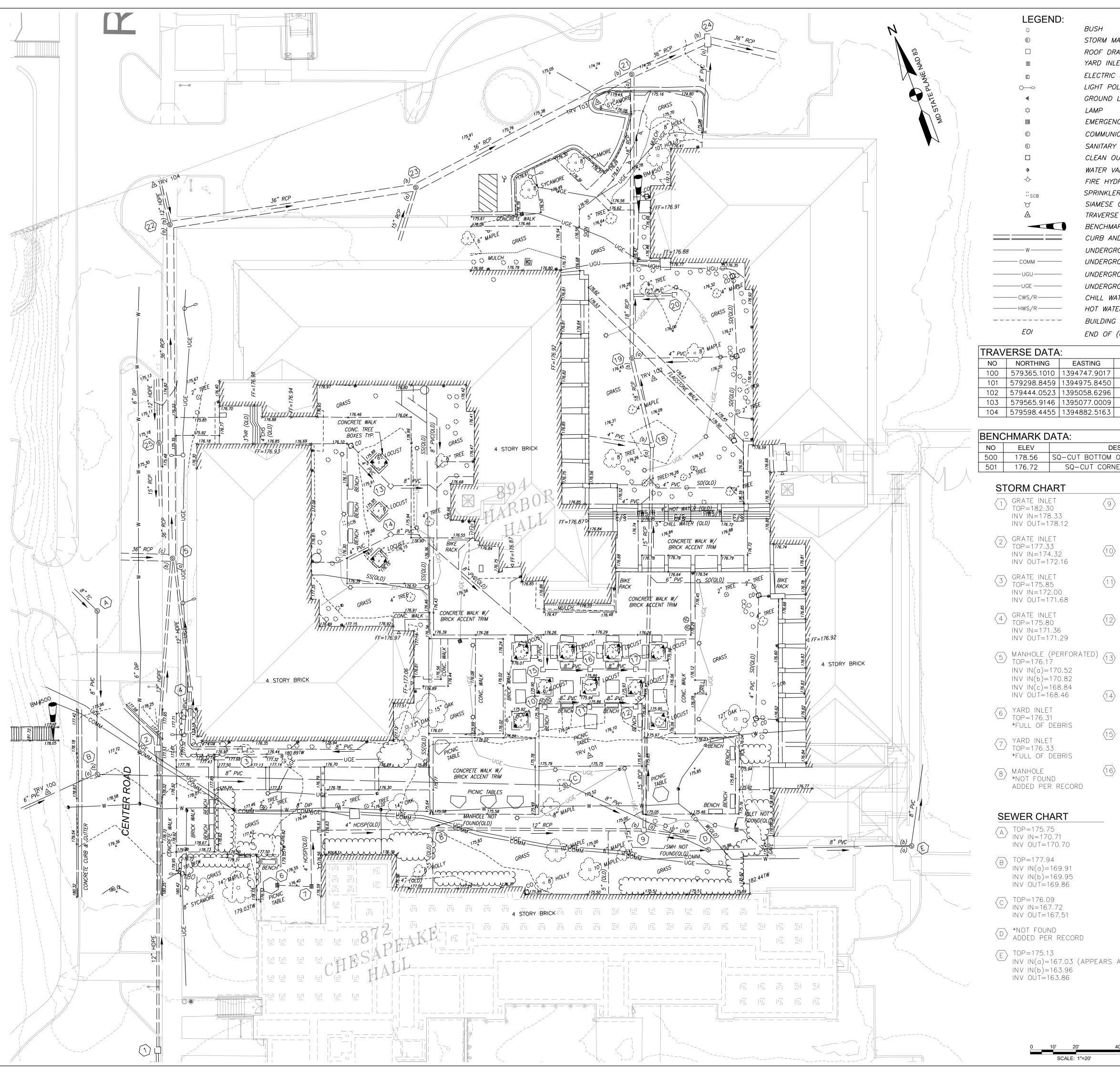
Governor Comptroller Treasurer

MARYLAND GENERAL ASSEMBLY

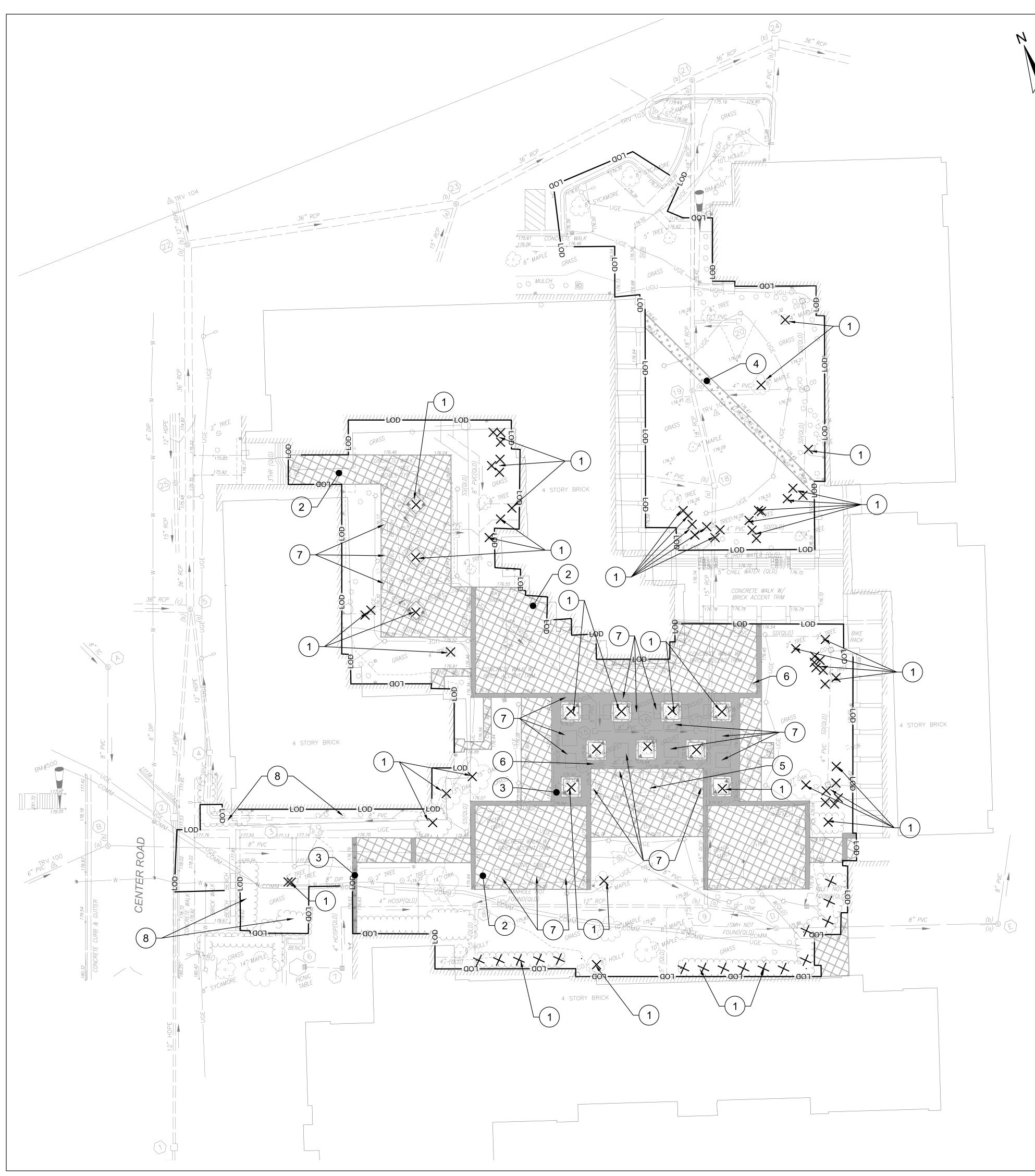
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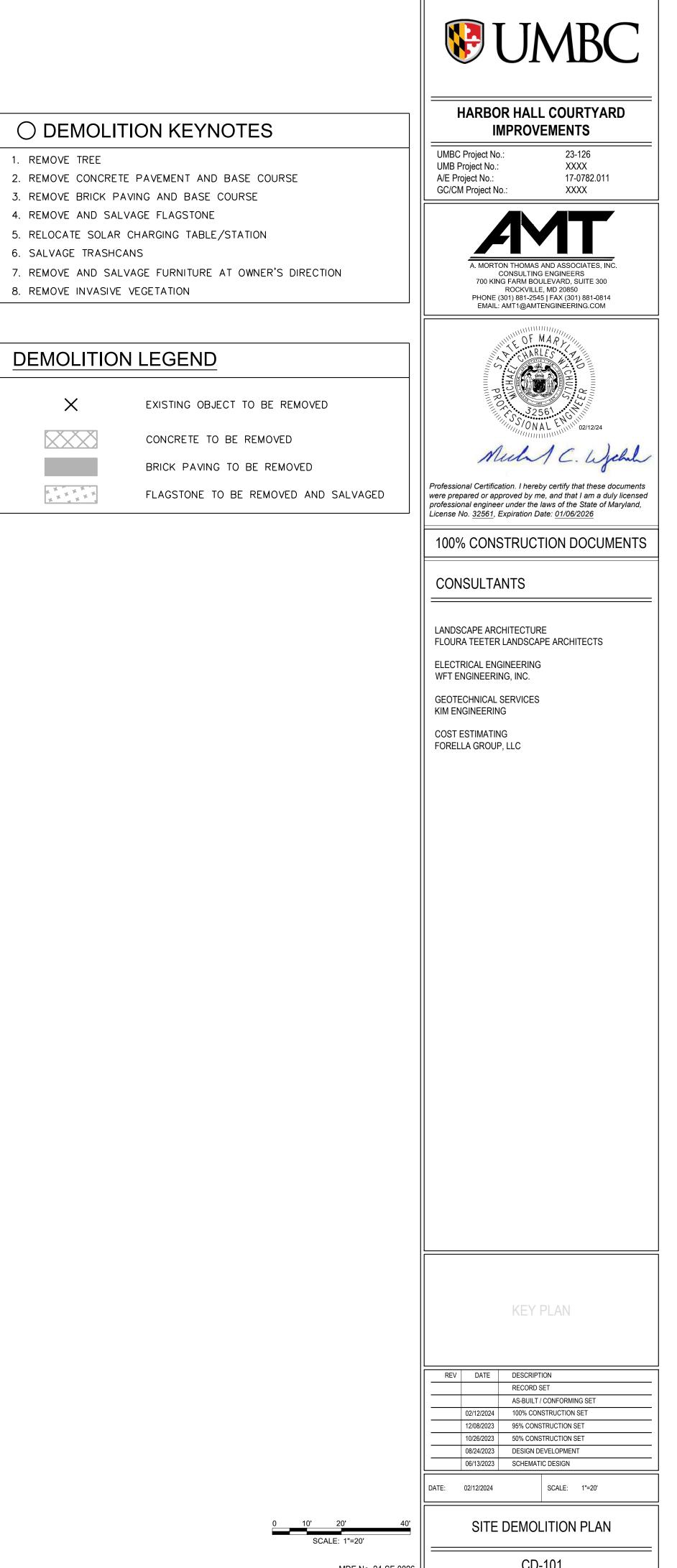
Senate President House Speaker

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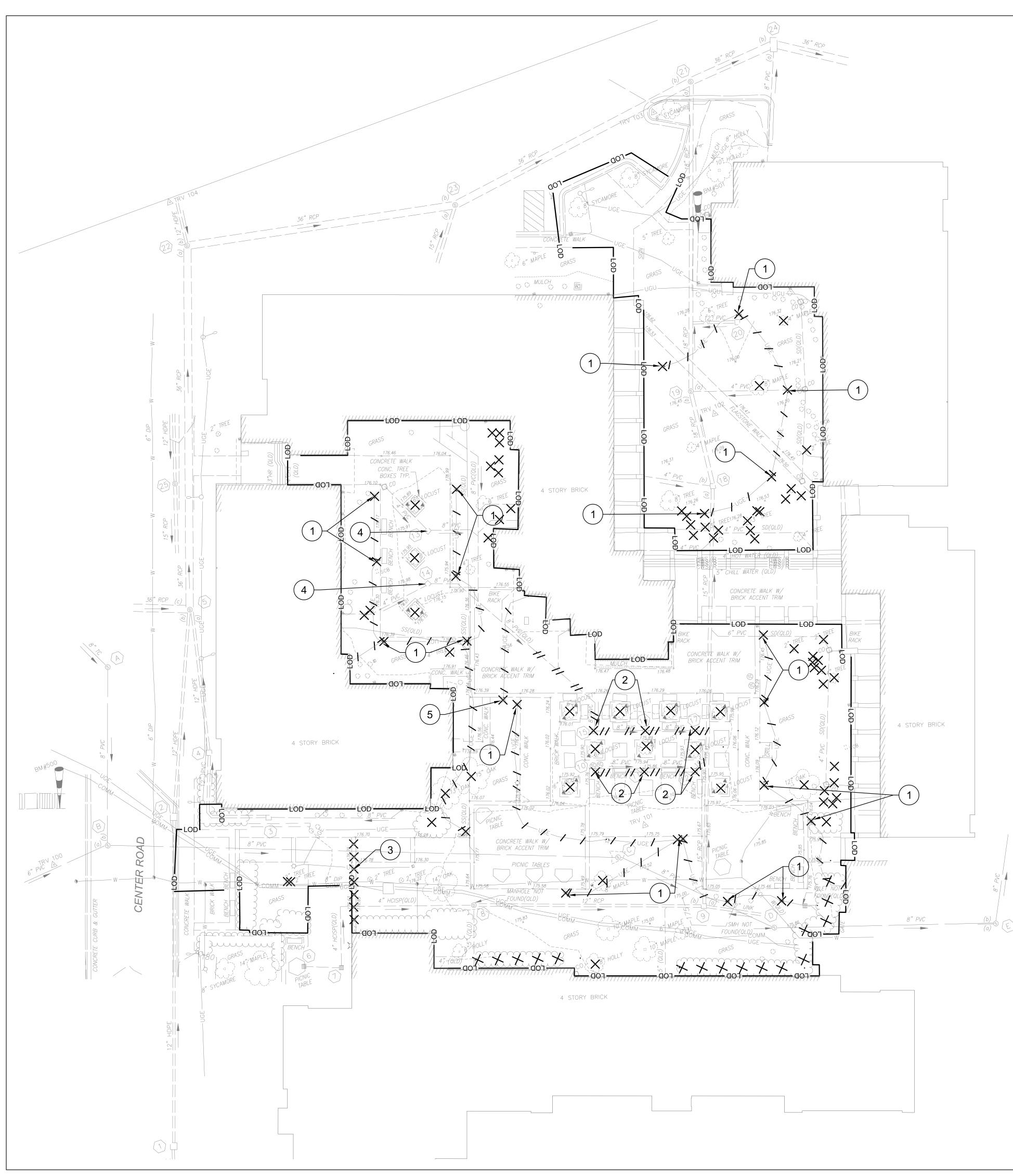
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 TOP=175.84 INV OUT=171.57 GRATE INLET TOP=175.86 INV IN=170.52 INV OUT=170.32 GRATE INLET TOP=175.89 INV IN=169.77 INV OUT=169.69 GRATE INLET TOP=175.62 INV IN=172.93 INV OUT=172.78 GRATE INLET TOP=175.74 INV IN=173.35 INV OUT=173.34 GRATE INLET TOP=175.72 INV IN=169.72 INV OUT=169.36 GRATE INLET TOP=175.82 INV IN=168.90 	 INV IN(a)=166 INV IN(b)=171. INV OUT=166.6 MANHOLE (PEFTOP=176.46 INV IN(a)=170 INV IN(b)=166 INV OUT=166.7 GRATE INLETTOP=175.83 INV OUT=171.0 MANHOLE (PEFTOP=174.54 INV IN(a)=165 INV IN(b)=165 INV IN(b)=165 INV IN(a)=164.7 MANHOLE (PEFTOP=176.24 INV IN(a)=167.2 INV IN(b)=172 INV OUT=175.51 INV IN(a)=168 INV IN(b)=168 INV IN(b)=166 	.73 CP=175 .74 INV IN=1 67 INV OUT RFORATED) .71 .46 14 03 RFORATED) .32 .10 79 RFORATED) .20 .56 23 RFORATED) .11 .07	5.24 70.86		
 TOP=175.84 INV OUT=171.57 GRATE INLET TOP=175.86 INV IN=170.52 INV OUT=170.32 GRATE INLET TOP=175.89 INV IN=169.77 INV OUT=169.69 GRATE INLET TOP=175.62 INV IN=172.93 INV OUT=172.78 GRATE INLET TOP=175.74 INV IN=173.35 INV OUT=173.34 GRATE INLET TOP=175.72 INV IN=169.72 INV OUT=169.36 GRATE INLET TOP=175.82 INV IN=168.90 INV OUT=168.77 	INV IN(a)=166 INV IN(b)=171. INV OUT=166.0 MANHOLE (PEF TOP=176.46 INV IN(a)=170 INV IN(b)=166 INV OUT=166.7 GRATE INLET TOP=175.83 INV OUT=171.0 MANHOLE (PEF TOP=174.54 INV IN(a)=165 INV IN(b)=165 INV OUT=164.7 MANHOLE (PEF TOP=176.24 INV IN(a)=167 INV IN(a)=167 INV IN(b)=172 INV OUT=167.2 MANHOLE (PEF TOP=175.51 INV IN(a)=168 INV IN(b)=166 INV OUT=166.0	.73 CP = 175 .74 INV IN = 1 67 INV OUT RFORATED) .71 .46 14 03 RFORATED) .32 .10 79 RFORATED) .20 .56 23 RFORATED) .11 .07 05	5.24 70.86		
 TOP=175.84 INV OUT=171.57 GRATE INLET TOP=175.86 INV IN=170.52 INV OUT=170.32 GRATE INLET TOP=175.89 INV IN=169.77 INV OUT=169.69 GRATE INLET TOP=175.62 INV IN=172.93 INV OUT=172.78 GRATE INLET TOP=175.74 INV IN=173.35 INV OUT=173.34 GRATE INLET TOP=175.72 INV IN=169.72 INV OUT=169.36 GRATE INLET TOP=175.82 INV IN=168.90 INV OUT=168.77 	 INV IN(a)=166 INV IN(b)=171. INV OUT=166.6 MANHOLE (PEFTOP=176.46 INV IN(a)=170 INV IN(b)=166 INV OUT=166.7 GRATE INLETTOP=175.83 INV OUT=171.0 MANHOLE (PEFTOP=174.54 INV IN(a)=165 INV IN(b)=165 INV IN(b)=165 INV IN(a)=164.7 MANHOLE (PEFTOP=176.24 INV IN(a)=167.2 INV IN(b)=172 INV OUT=175.51 INV IN(a)=168 INV IN(b)=168 INV IN(b)=166 	.73 CP = 175 .74 INV IN = 1 67 INV OUT RFORATED) .71 .46 14 03 RFORATED) .32 .10 79 RFORATED) .20 .56 23 RFORATED) .11 .07 05	5.24 70.86		
 TOP=175.84 INV OUT=171.57 GRATE INLET TOP=175.86 INV IN=170.52 INV OUT=170.32 GRATE INLET TOP=175.89 INV IN=169.77 INV OUT=169.69 GRATE INLET TOP=175.62 INV IN=172.93 INV OUT=172.78 GRATE INLET TOP=175.74 INV IN=173.35 INV OUT=173.34 GRATE INLET TOP=175.72 INV IN=169.72 INV OUT=169.36 GRATE INLET TOP=175.82 INV OUT=168.90 INV OUT=168.77 	INV IN(a)=166 INV IN(b)=171. INV OUT=166.6 MANHOLE (PEF TOP=176.46 INV IN(a)=170 INV IN(b)=166 INV OUT=166.7 GRATE INLET TOP=175.83 INV OUT=171.0 MANHOLE (PEF TOP=174.54 INV IN(a)=165 INV IN(b)=165 INV OUT=164.7 MANHOLE (PEF TOP=176.24 INV IN(a)=167 INV IN(b)=172 INV IN(b)=172 INV OUT=167.2 MANHOLE (PEF TOP=175.51 INV IN(a)=168 INV IN(a)=168 INV IN(b)=166 INV OUT=166.0	.73 CP = 175 .74 INV IN = 1 67 INV OUT RFORATED) .71 .46 14 03 RFORATED) .32 .10 79 RFORATED) .20 .56 23 RFORATED) .11 .07 05	5.24 70.86 =170.32		
 TOP=175.84 INV OUT=171.57 GRATE INLET TOP=175.86 INV IN=170.52 INV OUT=170.32 GRATE INLET TOP=175.89 INV IN=169.77 INV OUT=169.69 GRATE INLET TOP=175.62 INV IN=172.93 INV OUT=172.78 GRATE INLET TOP=175.74 INV IN=173.35 INV OUT=173.34 GRATE INLET TOP=175.72 INV IN=169.72 INV OUT=169.36 GRATE INLET TOP=175.82 INV OUT=168.77 GRATE INLET TOP=175.82 INV IN=168.90 INV OUT=168.77 	INV IN(a)=166 INV IN(b)=171. INV OUT=166.0 MANHOLE (PEF TOP=176.46 INV IN(a)=170 INV IN(b)=166 INV OUT=166.7 GRATE INLET TOP=175.83 INV OUT=171.0 MANHOLE (PEF TOP=174.54 INV IN(a)=165 INV IN(b)=165 INV IN(b)=165 INV OUT=164.7 MANHOLE (PEF TOP=176.24 INV IN(a)=167 INV IN(b)=172 INV OUT=167.2 MANHOLE (PEF TOP=175.51 INV IN(a)=168 INV IN(b)=166 INV OUT=166.0 RAL NOT	.73 .74 TOP=175 .74 INV IN=1 .67 INV OUT RFORATED) .71 .46 .46 .46 .46 .46 .46 .46 .46 .47 .71 .46 .46 .46 .46 .46 .46 .47 .71 .48 .71 .46 .46 .43 .71 .46 .46 .44 .71 .79 .79 RFORATED) .20 .56 .23 RFORATED) .11 .07 .05 ES .48 IARYLAND STATE PLANE	5.24 70.86 =170.32		
 TOP=175.84 INV OUT=171.57 GRATE INLET TOP=175.86 INV IN=170.52 INV OUT=170.32 GRATE INLET TOP=175.89 INV IN=169.77 INV OUT=169.69 GRATE INLET TOP=175.62 INV IN=172.93 INV OUT=172.78 GRATE INLET TOP=175.74 INV IN=173.35 INV OUT=173.34 GRATE INLET TOP=175.72 INV IN=169.72 INV OUT=169.36 GRATE INLET TOP=175.82 INV IN=168.90 INV OUT=168.77 GENE I. HORIZON VERTICA U.S SUF 	INV IN(a)=166 INV IN(b)=171. INV OUT=166.6 MANHOLE (PEF TOP=176.46 INV IN(a)=170 INV IN(b)=166 INV OUT=166.7 GRATE INLET TOP=175.83 INV OUT=171.0 MANHOLE (PEF TOP=174.54 INV IN(a)=165 INV IN(b)=165 INV IN(b)=165 INV OUT=164.7 MANHOLE (PEF TOP=176.24 INV IN(a)=167 INV IN(b)=172 INV OUT=167.2 MANHOLE (PEF TOP=175.51 INV IN(a)=168 INV IN(b)=166 INV OUT=166.0 RAL NOT	TOP=175 .74 INV IN=1 67 INV OUT RFORATED) .71 .46 14 03 RFORATED) .32 .10 79 RFORATED) .20 .56 23 RFORATED) .11 .07 05 ES IARYLAND STATE PLANE D 88	5.24 70.86 =170.32		
TOP=175.84 INV OUT=171.57 GRATE INLET TOP=175.86 INV IN=170.52 INV OUT=170.32 GRATE INLET TOP=175.89 INV IN=169.77 INV OUT=169.69 GRATE INLET TOP=175.62 INV IN=172.93 INV OUT=172.78 GRATE INLET TOP=175.74 INV IN=173.35 INV OUT=173.34 GRATE INLET TOP=175.72 INV OUT=169.36 GRATE INLET TOP=175.82 INV OUT=169.36 GRATE INLET TOP=175.82 INV IN=168.90 INV OUT=168.77 GRATE INLET TOP=168.77	INV IN(a)=166 INV IN(b)=171. INV OUT=166.0 MANHOLE (PEF TOP=176.46 INV IN(a)=170 INV IN(b)=166 INV OUT=166.0 GRATE INLET TOP=175.83 INV OUT=171.0 MANHOLE (PEF TOP=174.54 INV IN(a)=165 INV IN(b)=165 INV OUT=164.0 MANHOLE (PEF TOP=176.24 INV IN(a)=167 INV IN(a)=167 INV IN(b)=172 INV OUT=167.2 MANHOLE (PEF TOP=175.51 INV IN(a)=168 INV IN(b)=166 INV OUT=166.0 RAL NOT	.73 .74 TOP=175 .74 INV IN=1 .67 INV OUT RFORATED) .71 .46 .46 .46 .46 .46 .46 .46 .46 .46 .46 .46 .46 .46 .46 .46 .46 .47 .82 .79 .79 RFORATED) .20 .56 .23 RFORATED) .11 .07 .05 ES .11 .07 .56 .23 .71 .11 .07 .05 .11 .07 .55 .13 .32 .14 .32 .15 .32 .16 .32 .17 .32 .38 .33 .39 .34 .46 .46 .47 .46 .48 .46 .48 .46	5.24 70.86 =170.32 : NAD 83/2011	VELS	
TOP=175.84 INV OUT=171.57 GRATE INLET TOP=175.86 INV IN=170.52 INV OUT=170.32 GRATE INLET TOP=175.89 INV IN=169.77 INV OUT=169.69 GRATE INLET TOP=175.62 INV IN=172.93 INV OUT=172.78 GRATE INLET TOP=175.74 INV OUT=173.34 GRATE INLET TOP=175.72 INV OUT=169.36 GRATE INLET TOP=175.72 INV IN=169.72 INV OUT=168.77 GRATE INLET TOP=175.82 INV OUT=168.77 GRATE INLET TOP=175.82 INV OUT=168.77 GRATE INLET TOP=175.82 INV OUT=168.77 Jone Inv OUT=168.77	INV IN(a)=166 INV IN(b)=171. INV OUT=166.0 MANHOLE (PEF TOP=176.46 INV IN(a)=170 INV IN(b)=166 INV OUT=166.7 GRATE INLET TOP=175.83 INV OUT=171.0 MANHOLE (PEF TOP=174.54 INV IN(a)=165 INV IN(b)=165 INV IN(b)=165 INV IN(b)=167.2 MANHOLE (PEF TOP=176.24 INV IN(a)=167.2 MANHOLE (PEF TOP=175.51 INV IN(a)=167.2 MANHOLE (PEF TOP=175.51 INV IN(b)=172.2 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(b)=166 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(b)=166 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(b)=166 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(b)=168 INV IN(b)=168 INV IN(b)=168 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(b)=168 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(b)=168 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(b)=168 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(b)=168 INV IN(b)=168 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(b)=168 INV IN(b)=168 INV IN(b)=168 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(b)=168 INV IN(b)=168INV IN(b)=168 IN	.73 .74 TOP=175 .74 INV IN=1 .67 INV OUT RFORATED) .71 .46 .46 .46 .46 .46 .46 .46 .46 .46 .46 .46 .46 .46 .46 .46 .46 .47 .86 .48 .79 RFORATED) .20 .56 .23 RFORATED) .11 .07 .56 .23 .11 .07 .56 .23 .11 .07 .55 ES .11 .07 .55 D 88 .38 BSERVATIONS .38 OWN HEREON CONFORM .02 .38	5.24 70.86 =170.32 : NAD 83/2011 TO QUALITY LE AN EFFORT HA	S	KEY PLAN
TOP=175.84 INV OUT=171.57 GRATE INLET TOP=175.86 INV IN=170.52 INV OUT=170.32 GRATE INLET TOP=175.89 INV IN=169.77 INV OUT=169.69 GRATE INLET TOP=175.62 INV IN=172.93 INV OUT=172.78 GRATE INLET TOP=175.74 INV OUT=173.34 GRATE INLET TOP=175.72 INV OUT=169.36 GRATE INLET TOP=175.82 INV OUT=169.36 GRATE INLET TOP=175.82 INV OUT=168.90 INV OUT=168.77 GRATE INLET TOP=175.82 INV IN=168.90 INV OUT=168.77 GRATE INLET TOP=175.82 INV IN=168.90 INV OUT=168.77	INV IN(a)=166 INV IN(b)=171. INV OUT=166.0 MANHOLE (PEF TOP=176.46 INV IN(a)=170 INV IN(b)=166 INV OUT=166.7 GRATE INLET TOP=175.83 INV OUT=171.00 MANHOLE (PEF TOP=174.54 INV IN(a)=165 INV IN(b)=165 INV OUT=164.7 MANHOLE (PEF TOP=176.24 INV IN(a)=167 INV IN(a)=167 INV IN(b)=172 INV OUT=167.2 MANHOLE (PEF TOP=175.51 INV IN(a)=168 INV IN(b)=166 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(a)=168 INV IN(b)=165 INV IN(b)=166 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(a)=168 INV IN(b)=168 INV IN(b)=166 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(a)=168 INV IN(b)=166 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(a)=168 INV IN(b)=166 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(a)=168 INV IN(b)=168 INV IN(b)=168I	.73 .74 TOP=175 .74 INV IN=1 .67 INV OUT RFORATED) .71 .46 .46 .46 .46 .46 .46 .46 .46 .47 .71 .46 .46 .46 .46 .46 .46 .46 .46 .46 .46 .46 .46 .46 .46 .46 .46 .46 .46 .46 .46 .46 .46 .47 .71 .48 .79 RFORATED) .11 .07 .05 ES .11 .07 .05 ES .11 .07 .05 BARYLAND STATE PLANE D 88	5.24 70.86 =170.32 NAD 83/2011 TO QUALITY LE AN EFFORT HA ME UTILITIES MAY	S	KEY PLAN
TOP=175.84 INV OUT=171.57 GRATE INLET TOP=175.86 INV IN=170.52 INV OUT=170.32 GRATE INLET TOP=175.89 INV IN=169.77 INV OUT=169.69 GRATE INLET TOP=175.62 INV IN=172.93 INV OUT=172.78 GRATE INLET TOP=175.74 INV OUT=173.34 GRATE INLET TOP=175.72 INV OUT=169.36 GRATE INLET TOP=175.82 INV OUT=169.36 GRATE INLET TOP=175.82 INV OUT=168.90 INV OUT=168.77 GRATE INLET TOP=175.82 INV IN=168.90 INV OUT=168.77 GRATE INLET TOP=175.82 INV IN=168.90 INV OUT=168.77	INV IN(a)=166 INV IN(b)=171. INV OUT=166.0 MANHOLE (PEF TOP=176.46 INV IN(a)=170 INV IN(b)=166 INV OUT=166.0 GRATE INLET TOP=175.83 INV OUT=171.0 MANHOLE (PEF TOP=174.54 INV IN(a)=165 INV IN(b)=165 INV IN(b)=165 INV OUT=164.0 MANHOLE (PEF TOP=176.24 INV IN(a)=167 INV IN(b)=172 INV IN(b)=172 INV OUT=167.2 MANHOLE (PEF TOP=175.51 INV IN(a)=168 INV IN(b)=166 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(b)=166 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(b)=166 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(b)=168 INV IN	.73 .74 TOP=175 .74 INV IN=1 .67 INV OUT RFORATED) .71 .46 .46 .46 .46 .46 .46 .46 .46 .46 .46 .46 .46 .46 .46 .46 .46 .47 .87 .48 .79 RFORATED) .20 .56 .23 RFORATED) .11 .07 .56 .23 .11 .07 .56 .23 .11 .07 .55 ES .11 .07 .55 D 88 .38 BSERVATIONS .38 OWN HEREON CONFORM .02 .38	5.24 70.86 =170.32 NAD 83/2011 TO QUALITY LE AN EFFORT HA ME UTILITIES MAY	S	KEY PLAN
7 TOP=175.84 INV OUT=171.57 INV IN=170.52 INV IN=170.32 INV IN=170.52 INV OUT=170.32 INV IN=170.52 INV OUT=170.32 INV IN=170.52 INV OUT=175.89 INV IN=169.69 INV IN=169.77 INV OUT=169.69 INV IN=172.93 INV OUT=172.78 INV IN=172.93 INV OUT=173.34 INV IN=173.35 INV OUT=175.72 INV IN=169.72 INV OUT=169.36 INV OUT=169.36 INV OUT=168.77 INV OUT=168.77 INV OUT=168.77 INV OUT=168.77 INV OUT=168.77	INV IN(a)=166 INV IN(b)=171. INV OUT=166.0 MANHOLE (PEF TOP=176.46 INV IN(a)=170 INV IN(b)=166 INV OUT=166.7 GRATE INLET TOP=175.83 INV OUT=171.0 MANHOLE (PEF TOP=174.54 INV IN(a)=165 INV IN(b)=165 INV IN(b)=165 INV IN(b)=167.2 MANHOLE (PEF TOP=176.24 INV IN(a)=167.2 MANHOLE (PEF TOP=175.51 INV IN(b)=172.2 INV OUT=167.2 MANHOLE (PEF TOP=175.51 INV IN(b)=166 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(b)=166 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(b)=166 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(b)=168 INV IN(b)=168 INV IN(b)=168 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(b)=168 INV IN(b)=168 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(b)=168 INV IN(b)=168 INV IN(b)=168 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(c)=168 INV IN(c)=168INV IN(c)=168 IN	.73 .74 TOP=175 .74 INV IN=1 .67 INV OUT RFORATED) .71 .46 .46 .46 .46 .46 .46 .46 .46 .47 .71 .46 .46 .46 .46 .46 .46 .46 .46 .46 .46 .46 .46 .46 .46 .46 .46 .46 .46 .46 .46 .46 .46 .47 .71 .48 .79 RFORATED) .11 .07 .05 ES .11 .07 .05 ES .11 .07 .05 BARYLAND STATE PLANE D 88	5.24 70.86 =170.32 NAD 83/2011 TO QUALITY LE AN EFFORT HA IE UTILITIES MAN D ARE LABELED	S Ý BE	REV DATE DESCRIPTION
 TOP=175.84 INV OUT=171.57 GRATE INLET TOP=175.86 INV IN=170.52 INV OUT=170.32 GRATE INLET TOP=175.89 INV IN=169.77 INV OUT=169.69 GRATE INLET TOP=175.62 INV IN=172.93 INV OUT=172.78 GRATE INLET TOP=175.74 INV IN=169.72 INV OUT=169.36 GRATE INLET TOP=175.82 INV OUT=168.77 GRATE INLET TOP=175.82 INV IN=168.90 INV OUT=168.77 GENE I. HORIZON VERTICA U.S SUF BASED UTILITY AS DEFI BEEN M SHOWN ACCORD THE SUI "B" REF 	INV IN(a)=166 INV IN(b)=171. INV OUT=166.0 MANHOLE (PEF TOP=176.46 INV IN(a)=170 INV IN(b)=166 INV OUT=166.0 GRATE INLET TOP=175.83 INV OUT=171.00 MANHOLE (PEF TOP=174.54 INV IN(a)=165 INV IN(b)=165 INV OUT=164.0 MANHOLE (PEF TOP=176.24 INV IN(a)=167 INV IN(a)=167 INV IN(b)=172 INV OUT=167.0 MANHOLE (PEF TOP=175.51 INV IN(a)=168 INV IN(b)=166 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(c)=168 INV IN(b)=168 INV IN(b)=166 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(c)=168 INV IN(b)=168 INV IN(b)=168 INV IN(c)=168 INV IN(TOP=175 TOP=175 INV IN=1 INV OUT RFORATED) .71 .46 14 .71 .46 14 .71 .46 14 .73 RFORATED) .20 .56 23 RFORATED) .11 .07 05 ES IARYLAND STATE PLANE D 88 BSERVATIONS OWN HEREON CONFORM ICE STANDARD 38–02". UTILITY AT QL"B". SON "D" AS NECESSARY AN TIES DEPICTED HEREON EMOTELY SENSED INDIC/	5.24 70.86 =170.32 TO QUALITY LE AN EFFORT HA IE UTILITIES MAND D ARE LABELED AT QUALITY LE ATION OF THE	S ′ BE VEL	
 TOP=175.84 INV OUT=171.57 GRATE INLET TOP=175.86 INV IN=170.52 INV OUT=170.32 GRATE INLET TOP=175.89 INV IN=169.77 INV OUT=169.69 GRATE INLET TOP=175.62 INV IN=172.93 INV OUT=172.78 GRATE INLET TOP=175.74 INV IN=173.35 INV OUT=173.34 GRATE INLET TOP=175.72 INV IN=169.72 INV OUT=169.36 GRATE INLET TOP=175.82 INV OUT=168.77 GRATE INLET TOP=175.82 INV IN=168.90 INV OUT=168.77 GENE 1. HORIZON VERTICA U.S SUF BASED UTILITY AS DEFI BEEN M SHOWN ACCORD THE SU "B" REF 	INV IN(a)=166 INV IN(b)=171. INV OUT=166.0 MANHOLE (PEF TOP=176.46 INV IN(a)=170 INV IN(b)=166 INV OUT=166.0 GRATE INLET TOP=175.83 INV OUT=171.0 MANHOLE (PEF TOP=174.54 INV IN(a)=165 INV IN(b)=165 INV IN(b)=165 INV OUT=164.0 MANHOLE (PEF TOP=176.24 INV IN(a)=167 INV IN(b)=172 INV OUT=167.2 MANHOLE (PEF TOP=175.51 INV IN(a)=168 INV IN(b)=166 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(b)=166 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(b)=166 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(b)=168 INV IN(b)=168 INV IN(b)=166 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(b)=168 INV IN(b)=168INV IN(b)=168 INV IN(b)=	TOP=175 TOP=175 INV IN=1 INV OUT RFORATED) .71 .46 14 D3 RFORATED) .32 .10 79 RFORATED) .20 .56 23 RFORATED) .11 .07 05 ES IARYLAND STATE PLANE D 88 BSERVATIONS OWN HEREON CONFORM CE STANDARD 38–02". UTILITY AT QL"B". SON "D" AS NECESSARY AN TIES DEPICTED HEREON EMOTELY SENSED INDIC/ JTILITY PIPE SIZES AND	5.24 70.86 =170.32 TO QUALITY LE AN EFFORT HA ME UTILITIES MAN D ARE LABELED AT QUALITY LE ATION OF THE CONFIGURATION	S ′ BE VEL	REV DATE DESCRIPTION RECORD SET AS-BUILT / CONFORMING SET 02/12/2024 100% CONSTRUCTION SET
7 TOP=175.84 INV OUT=171.57 INV OUT=175.86 INV IN=170.52 INV OUT=170.32 (19) INV IN=170.52 INV OUT=170.32 (19) INV IN=170.52 INV OUT=170.32 (20) INV IN=169.77 INV OUT=169.69 (20) INV IN=169.77 INV OUT=169.69 (20) INV IN=169.72 INV IN=172.78 (21) INV IN=173.35 INV OUT=173.34 (22) INV IN=175.72 INV IN=169.72 INV OUT=169.36 (23) INV IN=169.72 INV OUT=168.77 (23) INV IN=168.90 INV OUT=168.77 (24) INV IN=168.90 INV OUT=168.77 (24) INV IN=168.90 INV OUT=168.77 (25) INV IN=168.90 INV OUT=168.77 (25) INV IN=168.90 INV OUT=168.77 (26) INV IN=168.90 INV OUT=168.77 (26) INV IN=168.90 INV OUT=168.71 (26) I	INV IN(a)=166 INV IN(b)=171. INV OUT=166.0 MANHOLE (PEF TOP=176.46 INV IN(a)=170 INV IN(b)=166 INV OUT=166.7 GRATE INLET TOP=175.83 INV OUT=171.0 MANHOLE (PEF TOP=174.54 INV IN(a)=165 INV IN(b)=165 INV IN(b)=165 INV OUT=164.7 MANHOLE (PEF TOP=176.24 INV IN(a)=167 INV IN(b)=172 INV OUT=167.2 MANHOLE (PEF TOP=175.51 INV IN(a)=168 INV IN(b)=166 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(b)=166 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(b)=168 INV IN(b)=168 INV IN(b)=166 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(b)=168 INV IN(b)=168 INV IN(b)=166 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(b)=168 INV IN(b)=168 INV IN(b)=168 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(c)=168 INV IN(c)=168INV IN(c)=168 INV IN(c)=168	TOP=175 TOP=175 INV IN=1 INV OUT RFORATED) .71 .46 14 .71 .46 14 .71 .46 14 .71 .46 14 .71 .46 14 .71 .46 14 .73 .71 .46 14 .73 .71 .46 14 .73 .71 .72 .73 .71 .72 .73 .71 .72 .72 .73 .71 .72 .72 .73 .72 .73 .71 .72 .72 .73 .72 .73 .73 .74 .74 .74 .74 .71 .71 .72 .72 .73 .75 .75 .75 .75 .75 .75 .75 .75	5.24 70.86 =170.32 TO QUALITY LE AN EFFORT HA ME UTILITIES MAY D ARE LABELED AT QUALITY LE ATION OF THE CONFIGURATION DRAWINGS AND CATION, SIZE AN	S ′BE VEL S (IF	REV DATE DESCRIPTION RECORD SET AS-BUILT / CONFORMING SET
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TOP=175.84 INV OUT=171.57 GRATE INLET TOP=175.86 INV IN=170.52 INV OUT=170.32 GRATE INLET TOP=175.89 INV IN=169.77 INV OUT=169.69 GRATE INLET TOP=175.62 INV IN=172.93 INV OUT=172.78 GRATE INLET TOP=175.74 INV IN=173.35 INV OUT=173.34 GRATE INLET TOP=175.72 INV OUT=169.72 INV OUT=169.36 GRATE INLET TOP=175.82 INV OUT=168.77 GRATE INLET TOP=175.82 INV OUT=168.77 INV OUT=168.77 GRATE INLET TOP=175.82 INV OUT=168.77 ABND.)	INV IN(a)=166 INV IN(b)=171. INV OUT=166.0 MANHOLE (PEF TOP=176.46 INV IN(a)=170 INV IN(b)=166 INV OUT=166.0 GRATE INLET TOP=175.83 INV OUT=171.00 MANHOLE (PEF TOP=174.54 INV IN(a)=165 INV IN(b)=165 INV OUT=164.0 MANHOLE (PEF TOP=176.24 INV IN(a)=167 INV IN(a)=167 INV IN(a)=167 INV IN(b)=172 INV OUT=167.0 MANHOLE (PEF TOP=175.51 INV IN(a)=168 INV IN(b)=166 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(a)=168 INV IN(b)=166 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(b)=166 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(b)=166 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(b)=166 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(b)=168 INV IN(b)=168 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(c)=168 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(c)=168 INV IN(b)=168 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(c)=168 INV IN(b)=168 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(c)=168 INV OUT=167.0 MANHOLE (PEF TOP=175.51 INV IN(c)=168 INV OUT=167.0 MANHOLE (PEF TOP=175.51 INV IN(c)=168 INV OUT=167.0 MANHOLE (PEF TOP=175.51 INV IN(c)=168 INV OUT=167.0 MANHOLE (PEF TOP=175.51 INV IN(c)=168 INV IN(c)=168 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(c)=168 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(c)=168 INV OUT=167.0 MANHOLE (PEF TOP=175.51 INV IN(c)=168 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(c)=168 INV IN(c)=160 INV IN(c)=168 INV I	TOP=175 TOP=175 INV OUT INV OUT RFORATED) .71 .46 14 .71 .46 14 .71 .46 14 .73 RFORATED) .20 .56 23 RFORATED) .11 .07 05 ES IARYLAND STATE PLANE D 88 BSERVATIONS OWN HEREON CONFORM .20 .56 23 RFORATED) .11 .07 05 ES IARYLAND STATE PLANE D 88 BSERVATIONS OWN HEREON CONFORM .22 .55 .23 .10 .20 .56 .23 RFORATED) .11 .07 05 ES IARYLAND STATE PLANE D 88 BSERVATIONS OWN HEREON CONFORM .22 .35 .37 .37 .37 .37 .37 .37 .37 .37	5.24 70.86 =170.32 TO QUALITY LE AN EFFORT HA IE UTILITIES MAN D ARE LABELED AT QUALITY LE ATION OF THE CONFIGURATION DRAWINGS AND CATION, SIZE AN BE DETERMINED	S Y BE VEL S (IF D	REV DATE DESCRIPTION RECORD SET AS-BUILT / CONFORMING SET 02/12/2024 100% CONSTRUCTION SET 12/08/2023 95% CONSTRUCTION SET 10/26/2023 50% CONSTRUCTION SET
TOP=175.84 INV OUT=171.57 GRATE INLET TOP=175.86 INV IN=170.52 INV OUT=170.32 GRATE INLET TOP=175.89 INV IN=169.77 INV OUT=169.69 GRATE INLET TOP=175.62 INV IN=172.93 INV OUT=172.78 GRATE INLET TOP=175.74 INV IN=173.35 INV OUT=173.34 GRATE INLET TOP=175.72 INV IN=169.72 INV OUT=169.36 GRATE INLET TOP=175.82 INV OUT=168.90 INV OUT=168.77 GRATE INLET TOP=175.82 INV IN=168.90 INV OUT=168.77 GRATE INLET TOP=175.82 INV OUT=168.77 ABND.) GRADD.)	INV IN(a)=166 INV IN(b)=171. INV OUT=166.0 MANHOLE (PEF TOP=176.46 INV IN(a)=170 INV IN(b)=166 INV OUT=166.7 GRATE INLET TOP=175.83 INV OUT=171.0 MANHOLE (PEF TOP=174.54 INV IN(a)=165 INV IN(b)=165 INV IN(b)=165 INV IN(b)=167 INV IN(c)=167.2 MANHOLE (PEF TOP=176.24 INV IN(c)=167.2 MANHOLE (PEF TOP=175.51 INV IN(c)=166 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(c)=168 INV IN(c)=166 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(c)=168 INV IN(c)=166 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(c)=168 INV IN(c)=168 INV IN(c)=166 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(c)=168 INV IN(c)=168 INV IN(c)=168 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(c)=168 INV IN(c)=168 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(c)=168 INV IN(c)=168	TOP=175 TOP=175 INV IN=1 INV OUT RFORATED) .71 .46 14 03 RFORATED) .32 .10 79 RFORATED) .20 .56 23 RFORATED) .11 .07 05 ES IARYLAND STATE PLANE D 88 BSERVATIONS OWN HEREON CONFORM CE STANDARD 38–02". UTILITY AT QL"B". SON "D" AS NECESSARY AN TIES DEPICTED HEREON EMOTELY SENSED INDIC/ JTILITY PIPE SIZES AND TAKEN FROM RECORD IN ENCE. THE ACTUAL LOC RFACE UTILITIES MUST OR OTHER QUALITY LEVE R SHOWN HEREON ADDE	5.24 70.86 =170.32 NAD 83/2011 TO QUALITY LE AN EFFORT HA ME UTILITIES MAY D ARE LABELED AT QUALITY LE ATION OF THE CONFIGURATION D ARE LABELED AT ON ATION AT A A A A A A A A A A A A A A A A A A	S Y BE VEL S (IF D ATION	REV DATE DESCRIPTION RECORD SET AS-BUILT / CONFORMING SET 02/12/2024 100% CONSTRUCTION SET 12/08/2023 95% CONSTRUCTION SET 10/26/2023 50% CONSTRUCTION SET 08/24/2023 DESIGN DEVELOPMENT
TOP=175.84 INV OUT=171.57 GRATE INLET TOP=175.86 INV IN=170.52 INV OUT=170.32 GRATE INLET TOP=175.89 INV IN=169.77 INV OUT=169.69 GRATE INLET TOP=175.62 INV IN=172.93 INV OUT=172.78 GRATE INLET TOP=175.74 INV IN=173.35 INV OUT=173.34 GRATE INLET TOP=175.72 INV IN=169.72 INV OUT=169.36 GRATE INLET TOP=175.82 INV OUT=168.90 INV OUT=168.77 GRATE INLET TOP=175.82 INV IN=168.90 INV OUT=168.77 GRATE INLET TOP=175.82 INV OUT=168.77 ABND.) GRADD.)	INV IN(a)=166 INV IN(b)=171. INV OUT=166.0 MANHOLE (PEF TOP=176.46 INV IN(a)=170 INV IN(b)=166 INV OUT=166.7 GRATE INLET TOP=175.83 INV OUT=171.0 MANHOLE (PEF TOP=174.54 INV IN(a)=165 INV IN(b)=165 INV IN(b)=165 INV IN(b)=167 INV IN(c)=167.2 MANHOLE (PEF TOP=176.24 INV IN(c)=167.2 MANHOLE (PEF TOP=175.51 INV IN(c)=166 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(c)=168 INV IN(c)=166 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(c)=168 INV IN(c)=166 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(c)=168 INV IN(c)=168 INV IN(c)=166 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(c)=168 INV IN(c)=168 INV IN(c)=168 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(c)=168 INV IN(c)=168 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(c)=168 INV IN(c)=168	TOP=175 TOP=175 INV IN=1 INV OUT RFORATED) .71 .46 14 .71 .46 14 .73 RFORATED) .32 .10 79 RFORATED) .20 .56 23 RFORATED) .11 .07 05 ES IARYLAND STATE PLANE D 88 BSERVATIONS OWN HEREON CONFORM CE STANDARD 38–02". UTILITY AT QL"B". SOM "D" AS NECESSARY AN TIES DEPICTED HEREON ENCE. THE ACTUAL LOC RFACE UTILITIES MUST OR OTHER QUALITY LEVE	5.24 70.86 =170.32 NAD 83/2011 TO QUALITY LE AN EFFORT HA ME UTILITIES MAY D ARE LABELED AT QUALITY LE ATION OF THE CONFIGURATION D ARE LABELED AT QUALITY LE ATION OF THE CONFIGURATION D ARE LABELED AT QUALITY LE ATION, SIZE AN BE DETERMINED EL "A" INVESTIGA	S Y BE VEL S (IF D ATION	REV DATE DESCRIPTION RECORD SET AS-BUILT / CONFORMING SET 02/12/2024 100% CONSTRUCTION SET 12/08/2023 95% CONSTRUCTION SET 10/26/2023 50% CONSTRUCTION SET 08/24/2023 DESIGN DEVELOPMENT 06/13/2023 SCHEMATIC DESIGN
TOP=175.84 INV OUT=171.57 GRATE INLET TOP=175.86 INV IN=170.52 INV OUT=170.32 GRATE INLET TOP=175.89 INV OUT=169.69 GRATE INLET TOP=175.62 INV IN=172.93 INV OUT=172.78 GRATE INLET TOP=175.74 INV OUT=173.34 GRATE INLET TOP=175.72 INV IN=169.72 INV OUT=169.36 GRATE INLET TOP=175.82 INV OUT=168.77 GRATE INLET TOP=175.82 INV IN=168.90 INV OUT=168.77 GRATE INLET TOP=175.82 INV IN=168.90 INV OUT=168.77 GRATE INLET TOP=175.82 INV IN=168.90 INV OUT=168.77 J. HORIZON VERTICA U.S SUF BASED J. HORIZON VERTICA U.S SUF J. HORIZON VERTICA U.S SUF J. HE SU BENON J. ABND.)	INV IN(a)=166 INV IN(b)=171. INV OUT=166.0 MANHOLE (PEF TOP=176.46 INV IN(a)=170 INV IN(b)=166 INV OUT=166.7 GRATE INLET TOP=175.83 INV OUT=171.0 MANHOLE (PEF TOP=174.54 INV IN(a)=165 INV IN(b)=165 INV IN(b)=165 INV IN(b)=167 INV IN(c)=167.2 MANHOLE (PEF TOP=176.24 INV IN(c)=167.2 MANHOLE (PEF TOP=175.51 INV IN(c)=166 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(c)=168 INV IN(c)=166 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(c)=168 INV IN(c)=166 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(c)=168 INV IN(c)=168 INV IN(c)=166 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(c)=168 INV IN(c)=168 INV IN(c)=168 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(c)=168 INV IN(c)=168 INV OUT=166.0 MANHOLE (PEF TOP=175.51 INV IN(c)=168 INV IN(c)=168	TOP=175 TOP=175 INV IN=1 INV OUT RFORATED) .71 .46 14 03 RFORATED) .32 .10 79 RFORATED) .20 .56 23 RFORATED) .11 .07 05 ES IARYLAND STATE PLANE D 88 BSERVATIONS OWN HEREON CONFORM CE STANDARD 38–02". UTILITY AT QL"B". SOM "D" AS NECESSARY AN TIES DEPICTED HEREON EMOTELY SENSED INDIC/ JTILITY PIPE SIZES AND TAKEN FROM RECORD I ENCE. THE ACTUAL LOC RFACE UTILITIES MUST OR OTHER QUALITY LEVE R SHOWN HEREON ADDE NTITLED "UMBC-Site_U	5.24 70.86 =170.32 NAD 83/2011 TO QUALITY LE AN EFFORT HA ME UTILITIES MAY D ARE LABELED AT QUALITY LE ATION OF THE CONFIGURATION D ARE LABELED AT QUALITY LE ATION OF THE CONFIGURATION D ARE LABELED AT QUALITY LE ATION, SIZE AN BE DETERMINED EL "A" INVESTIGA	S Y BE VEL S (IF D ATION	REV DATE DESCRIPTION RECORD SET AS-BUILT / CONFORMING SET 02/12/2024 100% CONSTRUCTION SET 12/08/2023 95% CONSTRUCTION SET 10/26/2023 50% CONSTRUCTION SET 08/24/2023 DESIGN DEVELOPMENT 06/13/2023 SCHEMATIC DESIGN
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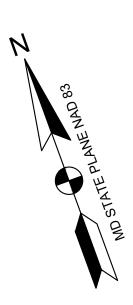




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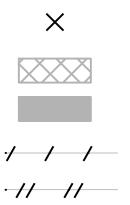


VMBC

○ UTILITY DEMOLITION KEYNOTES

- 1. REMOVE SITE LIGHT
- 2. REMOVE STORM DRAIN INLET
- 3. REMOVE BOLLARDS
- 4. REMOVE AND REPLACE STORM DRAIN INLET GRATE WITH ADA COMPLIANT GRATE
- 5. REMOVE AND REPLACE EMERGENCY PHONE, SEE SHEET EL-002

DEMOLITION LEGEND



EXISTING OBJECT TO BE REMOVED

CONCRETE TO BE REMOVED

BRICK PAVING TO BE REMOVED

·/ / / · ELECTRIC LINE TO BE REMOVED

·// // · STORM DRAIN PIPE TO BE REMOVED

HARBOR HALL COURTYARD **IMPROVEMENTS** UMBC Project No.: UMB Project No.: A/E Project No.: 23-126 XXXX 17-0782.011 GC/CM Project No.: XXXX A. MORTON THOMAS AND ASSOCIATES, INC A. MORTON THOMAS AND ASSOCIATES, INC. CONSULTING ENGINEERS 700 KING FARM BOULEVARD, SUITE 300 ROCKVILLE, MD 20850 PHONE (301) 881-2545 | FAX (301) 881-0814 EMAIL: AMT1@AMTENGINEERING.COM Mich C. Wychil 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. <u>32561</u>, Expiration Date: <u>01/06/2026</u> 100% CONSTRUCTION DOCUMENTS CONSULTANTS LANDSCAPE ARCHITECTURE FLOURA TEETER LANDSCAPE ARCHITECTS ELECTRICAL ENGINEERING WFT ENGINEERING, INC. GEOTECHNICAL SERVICES KIM ENGINEERING COST ESTIMATING FORELLA GROUP, LLC

KEY PLAN

	REV	DATE	DESCRIPTION		
			RECORD SET		
			AS-BUILT / CONFORMING SET		
		02/12/2024	100% CONSTRUCTION SET		
		12/08/2023	95% CONSTRUCTION SET		
		10/26/2023	50% CONSTRUCTION SET		
		08/24/2023	DESIGN DEVELOPMENT		
		06/13/2023	SCHEMATIC DESIGN		
DAT	TE:	02/12/2024	SCALE: 1"=20'		

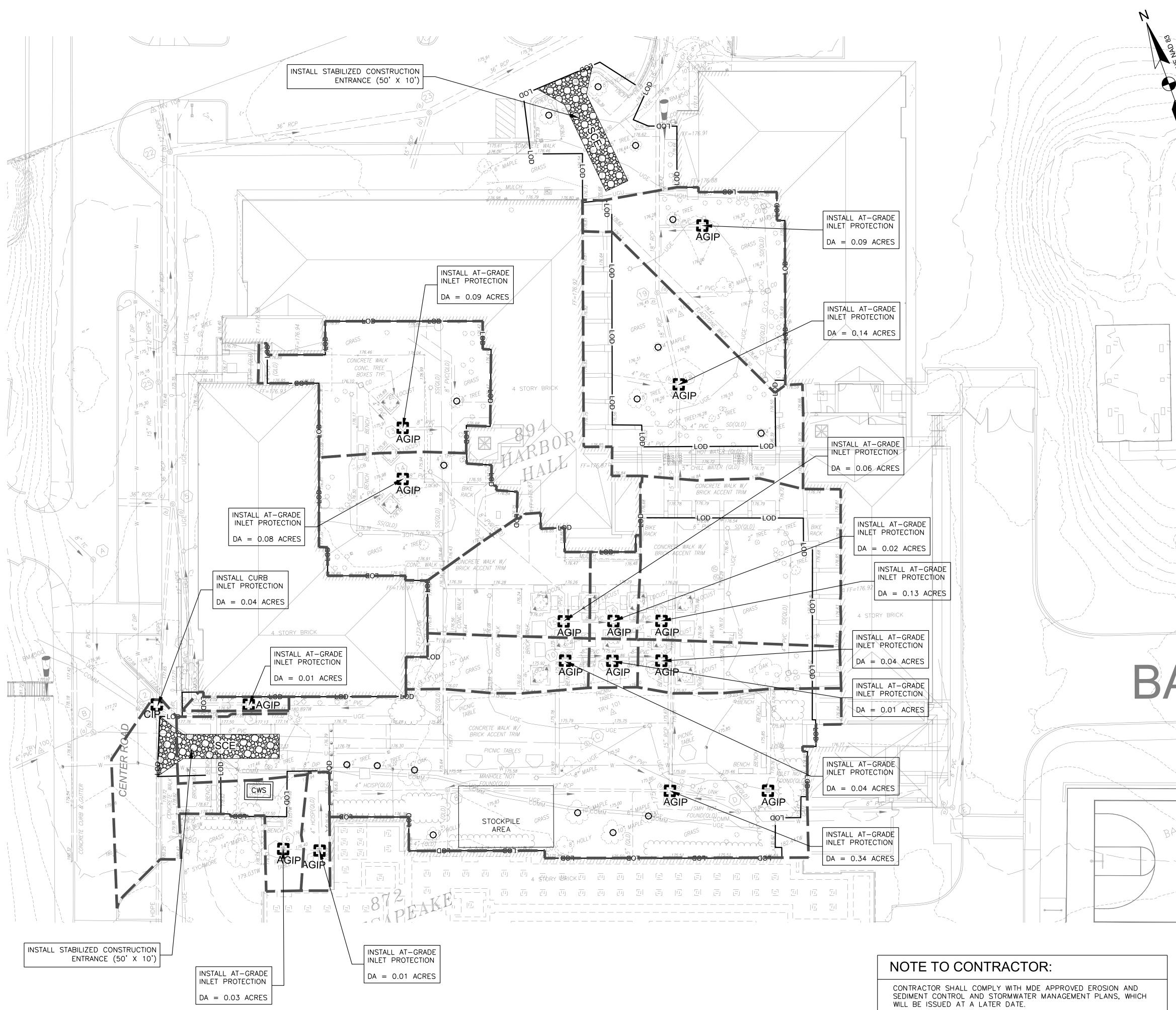
UTILITY DEMOLITION PLAN

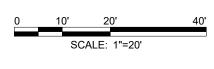
SCALE: 1"=20'

MDE No. 24-SF-0026

CD-102

NOTE TO CONTRACTOR: "EROSION AND SEDIMENT CONTROL SHALL BE STRICTLY ENFORCED" THIS PLAN IS FOR EROSION AND SEDIMENT CONTROL ONLY





EROSION/SEDIMENT CONTROL LEGEND

LOD	LIMITS OF DISTURBANCE
FL-18	FILTER LOG (TO BE USED AS SECONDARY MEASURES)
TP	TREE PROTECTION FENCE
	EROSION CONTROL DRAINAGE DIVIDE
	STABILIZED CONSTRUCTION ENTRANCE
	AT-GRADE INLET PROTECTION
CIP Г Л L J	CURB INLET PROTECTION
0	TREE PROTECTION
CWS	CONCRETE WASHOUT STRUCTURE

LEGEND NOTE:

PERIMETER CONTROLS ARE SHOWN OFFSET FROM THE LOD FOR ILLUSTRATIVE PURPOSES ONLY. THE PERIMETER CONTROLS SHOULD BE INSTALLED ALONG THE LOD.

DAILY STABILIZATION NOTE:

PROVIDE DAILY STABILIZATION WITH SOIL STABILIZATION MATTING AT THE END OF EACH WORK DAY FOR WORK PERFORMED WITHIN THE LOD IN THE COURTYARD.

STANDARD STABILIZATION NOTE:

FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:

- a. THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND
- b. SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING

EROSION CONTROL NOTES:

PROVIDE WATER FOR THE CONCRETE WASHOUT STRUCTURE.

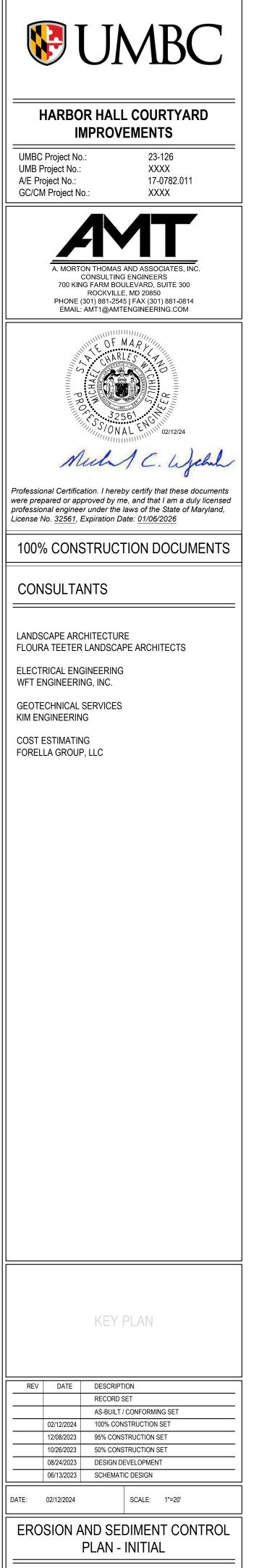
- ALL SOIL STOCKPILING SHALL BE WITHIN THE LOD AND ADHERE TO SPECIFICATIONS B-4-8 OF 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. ALL STOCKPILES SHALL BE PROTECTED TO ENSURE THEY ARE SUITABLE FOR REUSE. TOPSOIL SHALL BE STOCKPILED SEPARATELY.
- CLEAR ALL STREETS FREE OF SEDIMENT AT THE END OF EACH WORK DAY. ALL EFFORTS ARE TO BE MADE TO PREVENT SEDIMENT FROM GETTING ON THE STREETS. ALL SEDIMENT SPILLED, DROPPED OR TRACKED ONTO THE ROAD MUST BE REMOVED IMMEDIATELY BY VACUUMING, SCRAPING OR SWEEPING. WHEN WASHING WATER IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE THAT DRAINS TO AN APPROVED SEDIMENT CONTROL DEVICE.

SEQUENCE OF CONSTRUCTION: INITIAL PHASE – CE-101

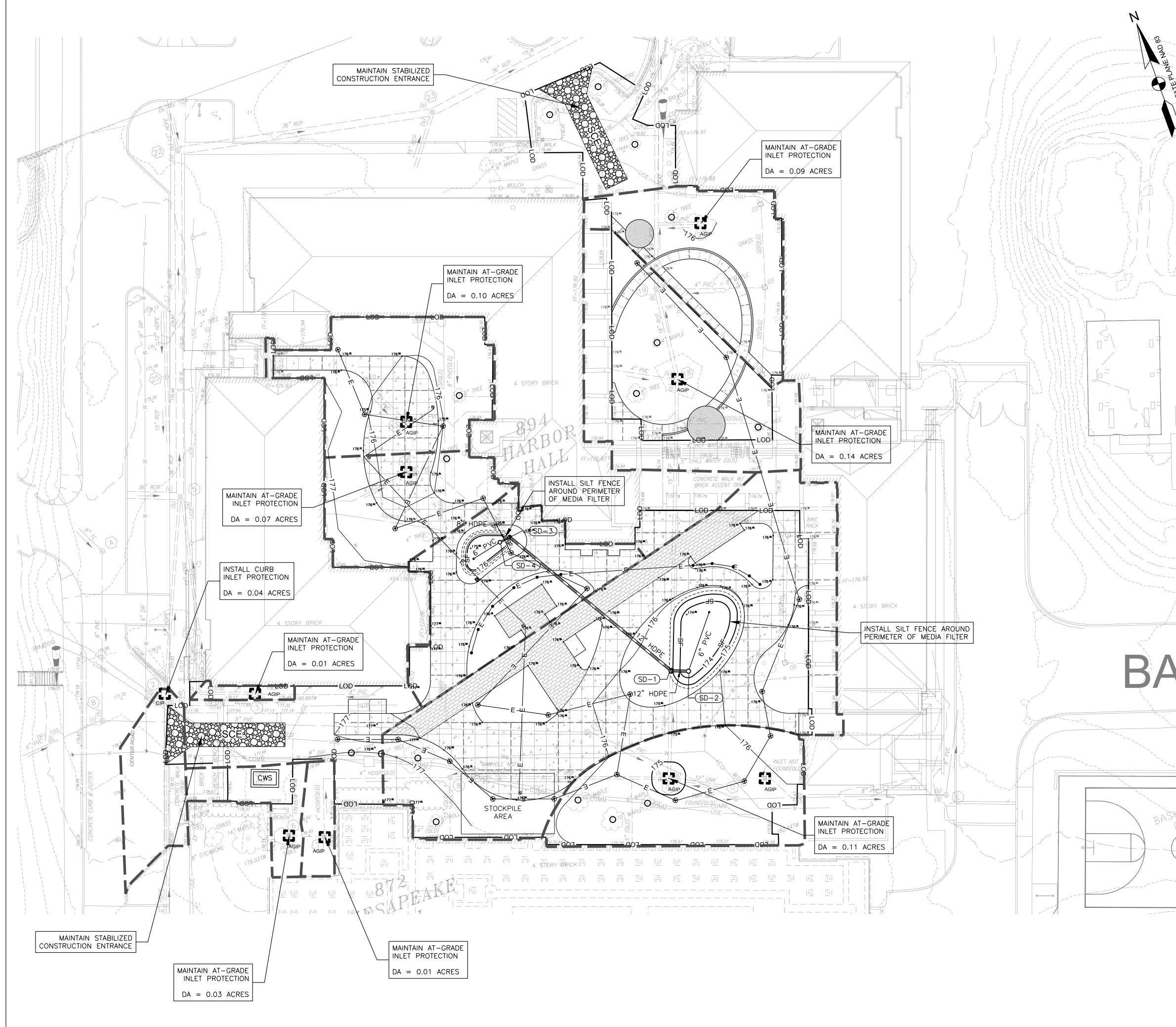
- NOTIFY THE WATER AND SCIENCE ADMINISTRATION (WSA) AT (410) 537-3510 SEVEN DAYS BEFORE COMMENCING ANY LAND DISTURBING ACTIVITIES AND SHALL HOLD A PRE-CONSTRUCTION MEETING BETWEEN PROJECT REPRESENTATIVES AND REPRESENTATIVES OF THE WSA, UNLESS WAIVED BY THE WSA.
- FIELD MARK THE LIMITS OF DISTURBANCE.
- INSTALL INLET PROTECTION MEASURES, STABILIZED CONSTRUCTION ENTRANCE, SILT FENCE, AND STEEL PLATES.
- ONCE ALL EROSION CONTROL MEASURES ARE INSTALLED, WITH THE 4 APPROVAL FROM THE INSPECTOR, BEGIN SITE DEMOLITION. ALL LAND DISTURBING WORK SHALL BE COMPLETED ON A SAME DAY STABILIZATION BASIS. SEE SAME DAY STABILIZATION NOTE. REMOVE EXISTING INLET CONTROLS AS STORM DRAIN STRUCTURES ARE REMOVED.

FINAL PHASE – CE-102

- BEGIN CONSTRUCTION OF SITE IMPROVEMENTS AND SITE UTILITIES. ONCE THE STABILIZATION OF CONTRIBUTING DRAINAGE AREAS OCCURS AND WITH MDE INSPECTOR ALLOWANCE, CONSTRUCT STORMWATER MANAGEMENT FACILITIES AND INSTALL SILT FENCE AROUND FILTER BED. COORDINATE ALL SWM AS-BUILT INSPECTIONS WITH THE CERTIFYING ENGINEER.
- PRIOR TO INSTALLATION OF FINAL LANDSCAPING, CONTRACTOR SHALL PROVIDE TOPOGRAPHIC SURVEY TO THE CERTIFYING ENGINEER FOR REVIEW AND ACCEPTANCE THAT THE FACILITIES HAS BEEN CONSTRUCTED IN ACCORDANCE WITH THE APPROVED PLANS. CONTRACTOR SHALL PREVENT SEDIMENT LADEN RUNOFF FROM ENTERING THE FACILITIES.
- WITH APPROVAL FROM OWNER THAT STORMWATER FACILITIES ARE 7. ACCEPTABLE. INSTALL FINAL SITE AND STORMWATER MANAGEMENT LANDSCAPING. NOTE ADJUSTMENTS MAY ARISE DURING THE MDE AS-BUILT REVIEW PROCESS.
- ONCE ALL AREAS ARE STABILIZED, WITH THE APPROVAL FROM THE 8 MDE INSPECTOR, REMOVE ALL SEDIMENT CONTROL MEASURES AND IMMEDIATELY STABILIZE THE AREAS DISTURBED BY THEIR REMOVAL
- PROVIDE AS-BUILT DOCUMENTATION TO MDE. PROJECT CANNOT BE 9 CLOSED OUT UNTIL MDE ISSUES THE AS-BUILT ACCEPTANCE FOR ALL STORMWATER MANAGEMENT FACILITIES.



CE-101



NOTE TO CONTRACTOR: "EROSION AND SEDIMENT CONTROL SHALL BE STRICTLY ENFORCED" THIS PLAN IS FOR EROSION AND SEDIMENT CONTROL ONLY

EROSION/SEDIMENT CONTROL LEGEND LOD LIMITS OF DISTURBANCE FL-18 FILTER LOG (TO BE USED AS SECONDARY MEASURES) TP TREE PROTECTION FENCE SF SILT FENCE EROSION CONTROL DRAINAGE DIVIDE STABILIZED CONSTRUCTION ENTRANCE AT-GRADE INLET PROTECTION CURB INLET PROTECTION O TREE PROTECTION CWS CONCRETE WASHOUT STRUCTURE		
FL-18 FILTER LOG (TO BE USED AS SECONDARY MEASURES) TP TREE PROTECTION FENCE SF SILT FENCE EROSION CONTROL DRAINAGE DIVIDE STABILIZED CONSTRUCTION ENTRANCE AGIP AT-GRADE INLET PROTECTION CURB INLET PROTECTION O TREE PROTECTION	EROSION/SEDIME	NT CONTROL LEGEND
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SF SILT FENCE EROSION CONTROL DRAINAGE DIVIDE STABILIZED CONSTRUCTION ENTRANCE AGIP CIP CURB INLET PROTECTION CURB INLET PROTECTION TREE PROTECTION	———— FL-18 ————	
EROSION CONTROL DRAINAGE DIVIDE STABILIZED CONSTRUCTION ENTRANCE AGIP I AT-GRADE INLET PROTECTION CURB INLET PROTECTION Image: Construction Image: Construction	TP	TREE PROTECTION FENCE
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C TREE PROTECTION		AT-GRADE INLET PROTECTION
		CURB INLET PROTECTION
CWS CONCRETE WASHOUT STRUCTURE	0	TREE PROTECTION
	CWS	CONCRETE WASHOUT STRUCTURE

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- b. SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING

EROSION CONTROL NOTES:

- 1. PROVIDE WATER FOR THE CONCRETE WASHOUT STRUCTURE.
- ALL SOIL STOCKPILING SHALL BE WITHIN THE LOD AND ADHERE TO SPECIFICATIONS B-4-8 OF 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. ALL STOCKPILES SHALL BE PROTECTED TO ENSURE THEY ARE SUITABLE FOR REUSE. TOPSOIL SHALL BE STOCKPILED SEPARATELY.
- CLEAR ALL STREETS FREE OF SEDIMENT AT THE END OF EACH WORK DAY. ALL EFFORTS ARE TO BE MADE TO PREVENT SEDIMENT FROM GETTING ON THE STREETS. ALL SEDIMENT SPILLED, DROPPED OR TRACKED ONTO THE ROAD MUST BE REMOVED IMMEDIATELY BY VACUUMING, SCRAPING OR SWEEPING. WHEN WASHING WATER IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE THAT DRAINS TO AN APPROVED SEDIMENT CONTROL DEVICE.

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MDE No. 24-SF-0026

CE-102

EROSION AND SEDIMENT CONTROL

PLAN - FINAL

EROSION AND SEDIMENT CONTROL GENERAL NOTES

- 1. THE CONTRACTOR SHALL NOTIFY MDE AT (410) 537-3510 SEVEN (7) DAYS BEFORE COMMENCING ANY LAND DISTURBING ACTIVITY AND, UNLESS WAIVED BY MDE, SHALL BE REQUIRED TO HOLD A PRE-CONSTRUCTION MEETING BETWEEN PROJECT REPRESENTATIVES AND A REPRESENTATIVE OF MDE.
- 2. THE CONTRACTOR SHALL NOTIFY MDE IN WRITING AND BY TELEPHONE AT THE FOLLOWING POINTS:
 - THE REQUIRED PRE-CONSTRUCTION MEETING. R FOLLOWING INSTALLATION OF SEDIMENT CONTROL MEASURES.
 - DURING THE INSTALLATION OF SEDIMENT BASINS (TO BE CONVERTED INTO PERMANENT STORMWATER MANAGEMENT STRUCTURES) AT THE REQUIRED INSPECTION POINTS (SEE INSPECTION CHECKLIST ON PLAN). NOTIFICATION PRIOR TO COMMENCING CONSTRUCTION OF EACH STEP IS MANDATORY.
 - PRIOR TO REMOVAL OR MODIFICATION OF ANY SEDIMENT CONTROL STRUCTURE(S). PRIOR TO REMOVAL OF ALL SEDIMENT CONTROL DEVICES.
 - PRIOR TO FINAL ACCEPTANCE.

3. THE PLAN APPROVAL LETTER, APPROVED EROSION AND SEDIMENT CONTROL PLANS, DAILY LOG BOOKS, AND TEST REPORTS SHALL BE AVAILABLE AT THE SITE FOR INSPECTION BY DULY AUTHORIZED OFFICIALS OF MDE AND THE AGENCY RESPONSIBLE FOR THE PROJECT

- 4. THE CONTRACTOR SHALL CONSTRUCT ALL EROSION AND SEDIMENT CONTROL MEASURES PER THE APPROVED PLAN AND CONSTRUCTION SEQUENCE AND SHALL HAVE THEM INSPECTED AND APPROVED BY THE MDE INSPECTOR PRIOR TO BEGINNING ANY OTHER LAND DISTURBANCES. MINOR SEDIMENT CONTROL DEVICE LOCATION ADJUSTMENTS MAY BE MADE IN THE FIELD WITH THE APPROVAL OF THE MDE INSPECTOR. THE CONTRACTOR SHALL ENSURE THAT ALL RUNOFF FROM DISTURBED AREAS IS DIRECTED TO THE SEDIMENT CONTROL DEVICES AND SHALL NOT REMOVE ANY EROSION OR SEDIMENT CONTROL MEASURE WITHOUT PRIOR PERMISSION FROM MDE INSPECTOR. THE CONTRACTOR SHALL OBTAIN PRIOR AGENCY AND MDE APPROVAL FOR MODIFICATIONS TO THE EROSION AND SEDIMENT CONTROL PLAN AND/OR SEQUENCE OF CONSTRUCTION.
- 5. THE MDE INSPECTOR HAS THE OPTION OF REQUIRING ADDITIONAL SAFETY OR SEDIMENT CONTROL MEASURES, IF DEEMED NECESSARY.
- 6. THE CONTRACTOR SHALL PROTECT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS TO PREVENT THE DEPOSITION OF MATERIALS ONTO PUBLIC ROADS. ALL MATERIALS DEPOSITED ONTO PUBLIC ROADS SHALL BE REMOVED IMMEDIATELY
- 7. THE CONTRACTOR SHALL INSPECT DAILY AND MAINTAIN CONTINUOUSLY IN AN EFFECTIVE OPERATING CONDITION ALL EROSION AND SEDIMENT CONTROL MEASURES UNTIL SUCH TIME AS THEY ARE REMOVED WITH PRIOR PERMISSION FROM THE MDE INSPECTOR.
- 8. EROSION AND SEDIMENT CONTROL FOR UTILITY CONSTRUCTION SHALL BE PROVIDED IN ACCORDANCE WITH APPROVED PLANS. UTILITY CONSTRUCTION SHALL ONLY BE FOR AREAS WITHIN THE DELINEATED LIMIT OF DISTURBANCE. CALL 'MISS UTILITY" AT 1-800-257-7777 48 HOURS PRIOR TO THE START OF WORK. WHEN SAME DAY STABILIZATION IS APPROVED: A. EXCAVATED TRENCH MATERIAL SHALL BE PLACED ON THE HIGH SIDE OF THE TRENCH. B. TRENCHES FOR UTILITY INSTALLATION SHALL BE BACKFILLED, COMPACTED, AND STABILIZED AT THE END OF EACH WORKING DAY.
- NO MORE TRENCH SHALL BE OPENED THAN CAN BE COMPLETED THE SAME DAY.
- 9. ALL WATER REMOVED FROM EXCAVATED AREAS SHALL BE PASSED THROUGH AN MDE APPROVED DEWATERING PRACTICE OR PUMPED TO A SEDIMENT TRAP OR BASIN PRIOR TO DISCHARGE TO A FUNCTIONAL STORM DRAIN SYSTEM OR TO STABLE GROUND SURFACE.
- 10. CONCRETE WASHOUT STRUCTURES SHALL BE USED WHEN CONCRETE TRUCKS, DRUMS, PUMPS, CHUTES, OR OTHER EQUIPMENT IS RINSED OR CLEANED ON-SITE.
- 11. CONSTRUCTION ACTIVITIES PRODUCING DUST SHALL IMPLEMENT CONTROL MEASURES TO AVOID THE SUSPENSION OF DUST PARTICLES AND/OR PREVENT DUST FROM BLOWING OFF-SITE OR TO AREAS WITHOUT TREATMENT
- 12. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A. THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND B. SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.
- 13. VEGETATIVE STABILIZATION SHALL BE PERFORMED IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. REFER TO APPROPRIATE SPECIFICATIONS FOR TEMPORARY SEEDING, PERMANENT SEEDING, MULCHING, SODDING, AND GROUND COVERS.
- 14. WHEN SEEDING, ALL DISTURBED AREAS WITH SLOPES FLATTER THAN 2:1 SHALL BE STABILIZED WITH 4 INCHES OF TOPSOIL, SEED, AND MULCH. ALL DISTURBED AREAS WITH SLOPES 2:1 OR STEEPER SHALL BE STABILIZED WITH MATTING OVER 2 INCHES OF TOPSOIL AND SEED.
- 15. ALL SEDIMENT BASINS, TRAP EMBANKMENTS AND SLOPES, PERIMETER DIKES, SWALES AND ALL DISTURBED SLOPES STEEPER OR EQUAL TO 3:1 SHALL BE STABILIZED WITH SEED AND ANCHORED STRAW MULCH, SOD, OR OTHER APPROVED STABILIZATION MEASURES, AS SOON AS POSSIBLE BUT NO LATER THAN THREE (3) CALENDAR DAYS AFTER ESTABLISHMENT. ALL AREAS DISTURBED OUTSIDE OF THE PERIMETER SEDIMENT CONTROL SYSTEM SHALL BE MINIMIZED. MAINTENANCE SHALL BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION.
- 16. PERMANENT SWALES OR OTHER POINTS OF CONCENTRATED WATER FLOW SHALL BE STABILIZED WITH SEED AND AN APPROVED EROSION CONTROL MATTING, SOD, RIP-RAP, OR OTHER APPROVED STABILIZATION MEASURES.
- 17. FOR STOCKPILE SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1), THE CONTRACTOR SHALL APPLY SEED AND ANCHORED STRAW MULCH, SOD, OR OTHER APPROVED STABILIZATION MEASURES TO THE FACE OF THE STOCKPILE WITHIN THREE (3) CALENDAR DAYS OF ACTIVITY HAVING CEASED ON THE RESPECTIVE FACE. FOR SLOPES 3:1 OR FLATTER, THE CONTRACTOR SHALL APPLY STABILIZATION MEASURES TO THE FACE OF THE STOCKPILE WITHIN SEVEN (7) CALENDAR DAYS OF ACTIVITY HAVING CEASED ON THE RESPECTIVE FACE. MAINTENANCE SHALL BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION.
- 18. FOR FINISHED GRADING, THE CONTRACTOR SHALL PROVIDE ADEQUATE GRADIENTS TO PREVENT WATER FROM PONDING FOR MORE THAN TWENTY-FOUR (24) HOURS AFTER THE END OF A RAINFALL EVENT. DRAINAGE COURSES AND SWALE FLOW AREAS MAY TAKE AS LONG AS FORTY-EIGHT (48) HOURS AFTER THE END OF A RAINFALL EVENT TO DRAIN. AREAS DESIGNED TO HAVE STANDING WATER SHALL NOT BE REQUIRED TO MEET THIS REQUIREMENT.
- 19. WHERE DEEMED APPROPRIATE BY THE ENGINEER OR INSPECTOR. SEDIMENT BASINS AND TRAPS MAY NEED TO BE SURROUNDED WITH AN APPROVED SAFETY FENCE. THE FENCE MUST CONFORM TO LOCAL ORDINANCES AND REGULATIONS. THE DEVELOPER OR OWNER SHALL CHECK WITH LOCAL BUILDING OFFICIALS ON APPLICABLE SAFETY REQUIREMENTS. WHERE SAFETY FENCE IS DEEMED APPROPRIATE AND LOCAL ORDINANCES DO NOT SPECIFY FENCING SIZES AND TYPES. THE FOLLOWING SHALL BE USED AS A MINIMUM STANDARD: THE SAFETY FENCE SHALL BE MADE OF WELDED WIRE AND AT LEAST 42 INCHES HIGH, HAVE POSTS SPACED NO FARTHER APART THAN 8 FEET, HAVE MESH OPENINGS NO GREATER THAN 2 INCHES IN WIDTH AND 4 INCHES IN HEIGHT WITH A MINIMUM OF 14 GAUGE WIRE. SAFETY FENCE SHALL BE MAINTAINED AND IN GOOD CONDITION AT ALL TIMES.
- 20. ALL SEDIMENT TRAP DEPTH DIMENSIONS ARE RELATIVE TO THE OUTLET ELEVATION. ALL TRAPS SHALL HAVE A STABLE OUTFALL. ALL TRAPS AND BASINS SHALL HAVE STABLE INFLOW POINTS.
- 21. SEDIMENT SHALL BE REMOVED AND THE TRAP OR BASIN RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE QUARTER OF THE TOTAL DEPTH OF THE TRAP OR BASIN. TOTAL DEPTH SHALL BE MEASURED FROM THE TRAP OR BASIN BOTTOM TO THE CREST OF THE OUTLET.
- 22. SEDIMENT REMOVED FROM TRAPS (AND BASINS) SHALL BE PLACED AND STABILIZED IN APPROVED AREAS, BUT NOT WITHIN A FLOODPLAIN, WETLAND OR TREE-SAVE AREA. WHEN PUMPING SEDIMENT LADEN WATER, THE DISCHARGE SHALL BE DIRECTED TO AN MDE APPROVED SEDIMENT TRAPPING DEVICE PRIOR TO RELEASE FROM THE SITE. A SUMP PIT MAY BE USED IF SEDIMENT TRAPS THEMSELVES ARE BEING PUMPED OUT.
- 23. PRIOR TO REMOVAL OF SEDIMENT CONTROL MEASURES, THE CONTRACTOR SHALL STABILIZE AND HAVE ESTABLISHED PERMANENT STABILIZATION FOR ALL CONTRIBUTORY DISTURBED AREAS USING SOD OR AN APPROVED PERMANENT SEED MIXTURE WITH REQUIRED SOIL AMENDMENTS AND AN APPROVED ANCHORED MULCH. WOOD FIBER MULCH MAY ONLY BE USED IN SEEDING SEASON WHERE THE SLOPE DOES NOT EXCEED 10% AND GRADING HAS BEEN DONE TO PROMOTE SHEET FLOW DRAINAGE. AREAS BROUGHT TO FINISHED GRADE DURING THE SEEDING SEASON SHALL BE PERMANENTLY STABILIZED AS SOON AS POSSIBLE, BUT NOT LATER THAN THREE (3) CALENDAR DAYS AFTER ESTABLISHMENT FOR SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1) AND SEVEN (7) CALENDAR DAYS FOR FLATTER SLOPES. WHEN PROPERTY IS BROUGHT TO FINISHED GRADE DURING THE MONTHS OF NOVEMBER THROUGH FEBRUARY, AND PERMANENT STABILIZATION IS FOUND TO BE IMPRACTICAL, TEMPORARY SEED AND ANCHORED STRAW MULCH SHALL BE APPLIED TO DISTURBED AREAS. THE FINAL PERMANENT STABILIZATION OF SUCH PROPERTY SHALL BE APPLIED BY MARCH 15 OR EARLIER IF GROUND AND WEATHER CONDITIONS ALLOW.
- 24. TEMPORARY SEDIMENT CONTROL DEVICES SHALL BE REMOVED WITH PERMISSION OF THE MDE INSPECTOR WITHIN THIRTY (30) CALENDAR DAYS FOLLOWING ESTABLISHMENT OF PERMANENT STABILIZATION IN ALL CONTRIBUTORY DRAINAGE AREAS. UPON REMOVAL OF SEDIMENT CONTROL DEVICES, THE AREA DISTURBED BY REMOVAL SHALL BE STABILIZED WITH TOPSOIL, SEED, AND MULCH, OR AS SPECIFIED, WITHIN 24 HOURS OF SAID REMOVAL. STORMWATER MANAGEMENT STRUCTURES USED TEMPORARILY FOR SEDIMENT CONTROL SHALL BE CONVERTED TO THE PERMANENT CONFIGURATION WITHIN THIS TIME PERIOD AS WELL
- 25. OFF-SITE SPOIL OR BORROW AREAS ON STATE OR FEDERAL PROPERTY SHALL HAVE PRIOR APPROVAL BY MDE AND OTHER APPLICABLE STATE, FEDERAL, AND LOCAL AGENCIES; OTHERWISE APPROVAL SHALL BE GRANTED BY THE LOCAL AUTHORITIES. ALL WASTE AND BORROW AREAS OFF-SITE SHALL BE PROTECTED BY SEDIMENT CONTROL MEASURES AND STABILIZED.

26. SITE INFORMATION:

- AREA DISTURBED TOTAL CUT
- _____ CUBIC YARDS TOTAL FILL
- CUBIC YARDS D. OFF-SITE WASTE / BORROW AREA LOCATION TO BE DETERMINED BY CONTRACTOR. AREA MUST HAVE ACTIVE SEDIMENT CONTROL PERMIT.

SECTION B-4: STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

NOTE: SEDIMENT CONTROL PRACTICES MUST REMAIN IN PLACE DURING GRADING, SEEDBED PREPARATION, SEEDING, MULCHING AND VEGETATIVE ESTABLISHMENT.

ADEQUATE VEGETATIVE ESTABLISHMENT

INSPECT SEEDED AREAS FOR VEGETATIVE ESTABLISHMENT AND MAKE NECESSARY REPAIRS, REPLACEMENTS AND RESEEDINGS WITHIN THE PLANTING SEASON.

1. ADEQUATE VEGETATIVE STABILIZATION REQUIRES 95% GROUNDCOVER.

2. IF AN AREA HAS LESS THAN 40% GROUNDCOVER, RESTABILIZE FOLLOWING THE ORIGINAL RECOMMENDATIONS FOR LIME, FERTILIZER, SEEDBED PREPARATION, AND SEEDING.

3. IF AN AREA HAS BETWEEN 40%-94% GROUNDCOVER, OVER-SEED AND FERTILIZE USING HALF OF THE RATES ORIGINALLY SPECIFIED

4. MAINTENANCE FERTILIZER RATES FOR PERMANENT SEEDING ARE SHOWN IN TABLE B.6.

SECTION B-4-1: STANDARDS AND SPECIFICATIONS FOR INCREMENTAL STABILIZATION

A. INCREMENTAL STABILIZATION - CUT SLOPES

1. EXCAVATE AND STABILIZE CUT SLOPES IN INCREMENTS NOT TO EXCEED 15 FEET IN HEIGHT. PREPARE SEEDBED AND APPLY SEED AND MULCH ON ALL CUT SLOPES AS THE WORK PROGRESSES.

2. CONSTRUCTION SEQUENCE EXAMPLE (REFER TO SECTION B-4-1, FIGURE B.1):

a. CONSTRUCT AND STABILIZE ALL TEMPORARY SWALES OR DIKES THAT WILL BE USED TO CONVEY RUNOFF AROUND THE EXCAVATION.

- b. PERFORM PHASE 1 EXCAVATION, PREPARE SEEDBED, AND STABILIZE.
- c. PERFORM PHASE 2 EXCAVATION, PREPARE SEEDBED AND STABILIZE. OVERSEED PHASE 1 AREAS AS NECESSARY.
- d. PERFORM FINAL PHASE EXCAVATION, PREPARE SEEDBED, AND STABILIZE. OVERSEED PREVIOUSLY SEEDED AREAS AS NECESSARY.

NOTE: ONCE EXCAVATION HAS BEGUN THE OPERATION SHOULD BE CONTINUOUS FROM GRUBBING THROUGH THE COMPLETION OF GRADING AND PLACEMENT OF TOPSOIL (IF REQUIRED) AND PERMANENT SEED AND MULCH. ANY INTERRUPTIONS IN THE OPERATION OR COMPLETING THE OPERATION OUT OF THE SEEDING SEASON WILL NECESSITATE THE APPLICATION OF TEMPORARY STABILIZATION.

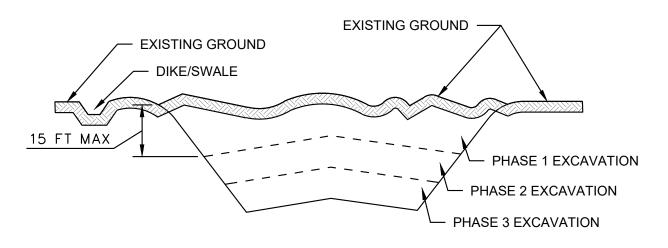


FIGURE B.1: INCREMENTAL STABILIZATION CUT

B. INCREMENTAL STABILIZATION - FILL SLOPES

1. CONSTRUCT AND STABILIZE FILL SLOPES IN INCREMENTS NOT TO EXCEED 15 FEET IN HEIGHT. PREPARE SEEDBED AND APPLY SEED AND MULCH ON ALL CUT SLOPES AS THE WORK PROGRESSES.

2. STABILIZE SLOPES IMMEDIATELY WHEN THE VERTICAL HEIGHT OF A LIFT REACHES 15 FEET, OR WHEN THE GRADING OPERATION CEASES AS PRESCRIBED IN THE PLANS.

3. AT THE END OF EACH DAY, INSTALL TEMPORARY WATER CONVEYANCE PRACTICE(S), AS NECESSARY, TO INTERCEPT SURFACE RUNOFF AND CONVEY IT DOWN THE SLOPE IN A NON-EROSIVE MANNER.

4. CONSTRUCTION SEQUENCE EXAMPLE (REFER TO SECTION B-4-1, FIGURE B.2):

- a. CONSTRUCT AND STABILIZE ALL TEMPORARY SWALES OR DIKES THAT WILL BE USED TO DIVERT RUNOFF AROUND THE FILL. CONSTRUCT SILT FENCE ON LOW SIDE OF FILL UNLESS OTHER METHODS SHOWN ON THE PLANS ADDRESS THIS AREA.
- b. AT THE END OF EACH DAY, INSTALL TEMPORARY WATER CONVEYANCE PRACTICE(S), AS NECESSARY, TO INTERCEPT SURFACE RUNOFF AND CONVEY IT DOWN THE SLOPE IN A NON-EROSIVE MANNER.
- c. PLACE PHASE 1 FILL, PREPARE SEEDBED, AND STABILIZE,
- d. PLACE PHASE 2 FILL, PREPARE SEEDBED AND STABILIZE.
- e. PLACE FINAL PHASE FILL, PREPARE SEEDBED, AND STABILIZE. OVERSEED PREVIOUSLY SEEDED AREAS AS NECESSARY.

NOTE: ONCE THE PLACEMENT OF FILL HAS BEGUN THE OPERATION SHOULD BE CONTINUOUS FROM GRUBBING THROUGH THE COMPLETION OF GRADING AND PLACEMENT OF TOPSOIL (IF REQUIRED) AND PERMANENT SEED AND MULCH. ANY INTERRUPTIONS IN THE OPERATION OR COMPLETING THE OPERATION OUT OF THE SEEDING SEASON WILL NECESSITATE THE APPLICATION OF TEMPORARY STABILIZATION.

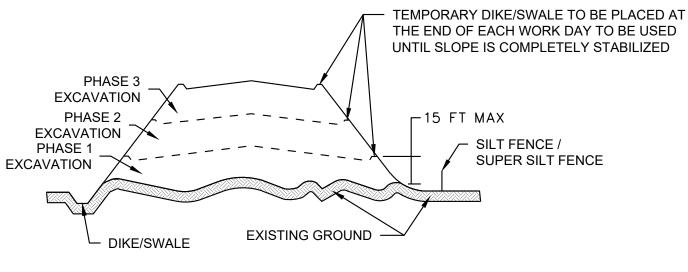


FIGURE B.2: INCREMENTAL STABILIZATION FILL

SECTION B-4-2: STDS & SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, & SOIL AMENDMENTS

- A. SOIL PREPARATION
- 1. TEMPORARY STABILIZATION
- b. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.
- MEANS.
- 2. PERMANENT STABILIZATION
- SOIL pH BETWEEN 6.0 AND 7.0.

- CONDITIONS.
- A SOIL TEST.
- UNNECESSARY ON NEWLY DISTURBED AREAS.
- B. TOPSOILING
 - SOIL GRADATION.
- USDA-NRCS.
- 3. TOPSOILING IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE: GROWTH.
- PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.

- - NATURAL TOPSOIL.
- 6. TOPSOIL APPLICATION
- FORMATION OF DEPRESSIONS OR WATER POCKETS.
- PROPER GRADING AND SEEDBED PREPARATION.
- C. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)
- TRADEMARK, AND WARRANTY OF THE PRODUCER.
- 100% WILL PASS THROUGH A #20 MESH SIEVE.
- DISKING OR OTHER SUITABLE MEANS.
- OF TOPSOIL.

NOTE TO CONTRACTOR: "EROSION AND SEDIMENT CONTROL SHALL BE STRICTLY ENFORCED" THIS PLAN IS FOR EROSION AND SEDIMENT CONTROL ONLY

a. SEEDBED PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3"-5" BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS DISC HARROWS, CHISEL PLOWS, OR RIPPERS MOUNTED ON CONSTRUCTION EQUIPMENT. AFTER THE SOIL IS LOOSENED, IT MUST NOT BE ROLLED OR DRAGGED SMOOTH, BUT LEFT IN THE ROUGHENED CONDITION. SLOPES 3:1 OR FLATTER SHOULD BE TRACKED WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE.

C. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3"-5" OF SOIL BY DISKING OR OTHER SUITABLE

a. A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT AREA:

• SOLUBLE SALTS LESS THAN 500 PARTS PER MILLION (PPM).

• SOIL CONTAINS LESS THAN 40% CLAY, BUT ENOUGH FINE GRAINED MATERIAL (>30% SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION: IF LOVEGRASS WILL BE PLANTED, THEN A SANDY SOIL (<30% SILT PLUS CLAY) WOULD BE ACCEPTABLE. SOIL CONTAINS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.

b. APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET THE ABOVE

c. GRADED AREAS MUST BE MAINTAINED IN A TRUE AND EVEN GRADE AS SPECIFIED ON THE APPROVED PLAN. THEN SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF $3^{"}-5"$.

d. APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF

e. MIX SOIL AMENDMENTS INTO THE TOP 3"-5" OF TOPSOIL BY DISKING OR OTHER SUITABLE MEANS. LAWN AREAS SHOULD BE RAKED TO SMOOTH THE SURFACE: REMOVE LARGE OBJECTS LIKE STONES AND BRANCHES, AND READY THE AREA FOR SEED APPLICATION. LOOSEN SURFACE SOIL BY DRAGGING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO ROUGHEN THE SURFACE WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDBED PREPARATION. TRACK SLOPES 3:1 OR FLATTER WITH TRACKED EQUIPMENT LEAVING THE SOIL IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE. LEAVING THE TOP $1^{"}-3"$ OF SOIL LOOSE AND FRIABLE. SEEDBED LOOSENING MAY NOT BE

1. TOPSOIL IS PLACED OVER PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION. THE PURPOSE IS TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW pH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE

2. TOPSOIL SALVAGED FROM AN EXISTING SITE MAY BE USED PROVIDED IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY

a. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE

b. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT

C. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.

d. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE

4. AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN. 5. TOPSOIL SPECIFICATIONS: SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA: a. TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1/2" IN DIAMETER.

b. TOPSOIL MUST BE FREE OF NOXIOUS PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACK GRASS, JOHNSON GRASS, NUT SEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.

c. TOPSOIL SUBSTITUTE OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF

a. EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED BY APPLYING TOPSOIL.

b. UNIFORMLY DISTRIBUTE TOPSOIL IN A 5"-8" LAYER AND LIGHTLY COMPACT TO A MINIMUM THICKNESS OF 4". SPREADING IS TO BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS MUST BE CORRECTED IN ORDER TO PREVENT THE

c. TOPSOIL MUST NOT BE PLACED IF THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO

1. SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS OVER 5 ACRES. SOIL ANALYSIS MAY BE PERFORMED BY THE UNIVERSITY OF MARYLAND OR A RECOGNIZED COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSIS. 2. FERTILIZERS SHALL BE UNIFORM IN COMPOSITION, FREE FLOWING, AND SUITABLE FOR ACCURATE APPLICATION BY APPROVED EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS SHALL BE DELIVERED TO THE SITE, FULLY LABELED ACCORDING TO APPLICABLE STATE FERTILIZER LAWS AND SHALL BEAR THE NAME, TRADE NAME OR

3. LIME MATERIALS SHALL BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED) WHICH CONTAINS AT LEAST 50% TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE SHALL BE GROUND TO SUCH FINENESS THAT AT LEAST 50% WILL PASS THROUGH A #100 MESH SIEVE, AND 98% TO

4. LIME AND FERTILIZER ARE TO BE EVENLY DISTRIBUTED AND INCORPORATED INTO THE TOP 3"-5" OF SOIL BY 5. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, SPREAD GROUND LIMESTONE

AT THE RATE OF 4-8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT

EARTHWORK NOTE

1. EARTHWORK QUANTITIES SHOWN HERE ON ARE APPROXIMATE AND ARE FOR MDE, THE REVIEWING AGENCY, USE ONLY. THE CONTRACTOR MUST MAKE HIS OWN DETERMINATION OF EARTHWORK QUANTITIES.

HARBOR HALL COURTYARD **IMPROVEMENTS** UMBC Project No.: 23-126 UMB Project No.: XXXX 17-0782.011 A/E Project No.: GC/CM Project No. XXXX MORTON THOMAS AND ASSOCIATES CONSULTING ENGINEERS 700 KING FARM BOULEVARD, SUITE 300 ROCKVILLE, MD 20850 PHONE (301) 881-2545 | FAX (301) 881-0814 EMAIL: AMT1@AMTENGINEERING.COM OF MAR 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. 32561, Expiration Date: 01/06/2026 100% CONSTRUCTION DOCUMENTS CONSULTANTS LANDSCAPE ARCHITECTURE FLOURA TEETER LANDSCAPE ARCHITECTS ELECTRICAL ENGINEERING WFT ENGINEERING, INC. GEOTECHNICAL SERVICES KIM ENGINEERING COST ESTIMATING FORELLA GROUP, LLC

REV	DATE	DESCRIPTION		
		RECORD SET		
		AS-BUILT / CONFORMING SET		
	02/12/2024	100% CONSTRUCTION SET		
	12/08/2023	95% CONSTRUCTION SET		
	10/26/2023	50% CONSTRUCTION SET		
	08/24/2023	DESIGN DEVELOPMENT		
	06/13/2023	SCHEMATIC DESIGN		
	00/10/2001			
DATE:	02/12/2024	SCALE: N.T.S.		

EROSION AND SEDIMENT CONTROL NOTES

CE-501

A. SE		B-4-3: STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING	$\frac{\text{SECTION B} - 4 - 4}{1. \text{ SELECT ONE }}$
		PECIFICATIONS	APPROPRIATE
	a.	ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED SHALL BE SUBJECT TO RE-TESTING BY A RECOGNIZED SEED LABORATORY. ALL SEED USED SHALL HAVE BEEN TESTED WITHIN THE 6 MONTHS IMMEDIATELY PRECEDING THE DATE OF SOWING SUCH MATERIAL ON ANY PROJECT. REFER TO TABLE B.4 REGARDING THE QUALITY OF SEED. SEED TAGS MUST BE AVAILABLE UPON REQUEST TO THE INSPECTOR TO VERIFY TYPE OF SEED AND SEEDING RATE.	 FOR SITES HA TESTING AGEN WHEN STABILI STRAW MULCH SEEDING SEAS
	b.	MULCH ALONE MAY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES ONLY IF THE GROUND IS FROZEN. THE APPROPRIATE SEEDING MIXTURE MUST BE APPLIED WHEN THE GROUND THAWS.	
	c.	INOCULANTS – THE INOCULANTS FOR TREATING LEGUME SEED IN THE SEED MIXTURES MUST BE A PURE CULTURE OF NITROGEN-FIXING BACTERIA PREPARED SPECIFICALLY FOR THE SPECIES. INOCULANTS MUST NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER. ADD FRESH INOCULANTS AS DIRECTED ON PACKAGE. USE FOUR TIMES THE RECOMMENDED RATE WHEN HYDROSEEDING. NOTE: IT IS VERY IMPORTANT TO KEEP INOCULANTS AS COOL AS POSSIBLE UNTIL USED. TEMPERATURES ABOVE 75 –	TABLE PLANT SPECIES
	d.	80 DEGREES FAHRENHEIT CAN WEAKEN BACTERIA AND MAKE INOCULANTS LESS EFFECTIVE. SOD OR SEED MUST NOT BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.	PLANT SPECIES
2.	AF	PPLICATION	ANNUAL RYE ((LOLIUM PEREN
	а.	DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS.	MULTIFLORUM
		 INCORPORATE SEED INTO SUBSOIL AT THE RATES PRESCRIBED ON THE TEMPORARY SEEDING TABLE B.1, PERMANENT SEEDING TABLE B.3, OR SITE-SPECIFIC SEEDING SUMMARIES. 	BARLEY (HORDEUM VUL OATS
		 APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION. ROLL THE SEEDED AREA WITH A WEIGHTED ROLLER TO PROVIDE GOOD SEED TO SOIL CONTACT. 	(AVENA SATIVA WHEAT (TRITICUM AES
	b.	DRILL OR CULTIPACKER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL.	CEREAL RYE (SECALE CERE)
		• CULTIPACKING SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST ¼" OF SOIL COVERING. SEEDBED MUST BE FIRM AFTER PLANTING.	WARM SEASON
		 APPLY SEED IN TWO DIRECTIONS PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION. 	FOXTAIL MILLE (SETARIA ITALI PEARL MILLET
	c.	HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER)	(PENNISETUM (
		 IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATES SHOULD NOT EXCEED THE FOLLOWING: NITROGEN – MAXIMUM OF 100 POUNDS PER ACRE TOTAL OF SOLUBLE NITROGEN; P205 (PHOSPHOROUS): 200 POUNDS/ACRE; K20 (POTASSIUM): 200 POUNDS/ACRE. 	FERTILIZER RA LIME RATE: 2
		 LIME – USE ONLY GROUND AGRICULTURAL LIMESTONE (UP TO 3 TONS PER ACRE MAY BE APPLIED BY HYDROSEEDING). NORMALLY, NOT MORE THAN 2 TONS ARE APPLIED BY HYDROSEEDING AT ANY ONE TIME. DO NOT USE BURNT OR HYDRATED LIME WHEN HYDROSEEDING. 	<u>NOTES</u>
		 MIX SEED AND FERTILIZER ON SITE AND SEEDING SHALL BE DONE IMMEDIATELY WITHOUT INTERRUPTION. 	1. SEEDING RATE ACTUAL PLAN PURITY, AS T
		• WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL.	SEEDING RATE
B. MU			PLANTED AS ABOVE FOR B PEARL MILLET
1.		JLCH MATERIALS (IN ORDER OF PREFERENCE)	PERMANENT S UNLESS PLAN
	α.	STRAW CONSISTING OF THOROUGHLY THRESHED WHEAT, RYE OR OAT STRAW, REASONABLY BRIGHT IN COLOR. STRAW IS TO BE FREE OF NOXIOUS WEED SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW AND NOT MUSTY, MOLDY, CAKED, DECAYED, OR EXCESSIVELY DUSTY. NOTE: USE ONLY STERILE STRAW MULCH IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED.	TEMPORARY S GERMINATION 残 OF THE RA
	b.	WOOD CELLULOSE FIBER MULCH (WCFM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE.	OATS ARE TH 2. FOR SANDY S
		 WCFM SHALL BE DYED GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WILL PROVIDE AN APPROPRIATE COLOR TO FACILITATE VISUAL INSPECTION OF THE UNIFORMLY SPREAD SLURRY. 	3. THE PLANTING REFLECT LOC
		• WCFM, INCLUDING DYE, SHALL CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS.	
		 WCFM SHALL BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE WOOD CELLULOSE FIBER MULCH WILL REMAIN IN UNIFORM SUSPENSION IN WATER UNDER AGITATION AND WILL BLEND WITH SEED, FERTILIZER, AND OTHER ADDITIVES TO FORM A HOMOGENOUS SLURRY. THE MULCH MATERIAL SHALL FORM A BLOTTER-LIKE GROUND COVER, ON APPLICATION, HAVING MOISTURE ABSORPTION AND PERCOLATION PROPERTIES AND SHALL COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL WITHOUT INHIBITING THE GROWTH OF THE GRASS SEEDINGS. 	<u>SECTION B-4-5:</u> A. SEED MIXTURES 1. GENERAL USE
		 WCFM SHALL CONTAIN NO ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE PHYTO-TOXIC. 	a. SELECT O b. ADDITIONA BANKS, O
		 WCFM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH TO APPROXIMATELY 10 mm., DIAMETER APPROXIMATELY 1 mm., pH RANGE OF 4.0 TO 8.5, ASH CONTENT OF 1.6% MAXIMUM, AND WATER HOLDING CAPACITY OF 90% MINIMUM. 	BE FOUNE c. FOR SITES
2.	AF	PLICATION	THE SOIL
	а.	APPLY MULCH TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING.	d. FOR AREA PER 1,000
	b.	WHEN STRAW MULCH IS USED, IT SHALL BE SPREAD OVER ALL SEEDED AREAS AT THE RATE OF 2 TONS/ACRE. MULCH SHALL BE APPLIED TO A UNIFORM LOOSE DEPTH OF 1"-2". APPLY MULCH TO ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT EXPOSED. WHEN USING A MULCH ANCHORING TOOL, INCREASE THE APPLICATION RATE TO 2.5 TONS/ACRE.	SOIL AMEI

- c. WOOD CELLULOSE FIBER USED AS A MULCH SHALL BE APPLIED AT A NET DRY WEIGHT OF 1,500 LBS. PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER TO ATTAIN A MIXTURE WITH A MAXIMUM OF 50 LBS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
- 3. ANCHORING
- a. PERFORM MULCH ANCHORING IMMEDIATELY FOLLOWING MULCH APPLICATION TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY PREFERENCE), DEPENDING UPON THE SIZE OF THE AREA AND EROSION HAZARD:
- A MULCH ANCHORING TOOL IS A TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE A MINIMUM OF 2". THIS PRACTICE IS MOST EFFECTIVE ON LARGE AREAS, BUT IS LIMITED TO FLATTER SLOPES WHERE EQUIPMENT CAN OPERATE SAFELY. IF USED ON SLOPING LAND, THIS PRACTICE SHOULD FOLLOW THE CONTOUR.
- WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. APPLY THE FIBER BINDER AT A NET DRY WEIGHT OF 750 LBS./ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER AT A MAXIMUM OF 50 LBS. OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
- SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRO-TACK), DCA-70, PETROSET, TERRA TAX II, TERRA TACK A R OR OTHER APPROVED EQUAL MAY BE USED. FOLLOW APPLICATION RATES AS SPECIFIED BY THE MANUFACTURER. APPLICATION OF LIQUID BINDERS NEEDS TO BE HEAVIER AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS. USE OF ASPHALT BINDERS IS STRICTLY PROHIBITED.
- LIGHTWEIGHT PLASTIC NETTING MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. NETTING IS USUALLY AVAILABLE IN ROLLS 4 TO 15 FEET WIDE AND 300 TO 3,000 FEET LONG.

STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

OR MORE OF THE SPECIES OR SEED MIXTURES LISTED IN TABLE B.1 FOR THE PLANT HARDINESS ZONE.

AVING SOIL TESTS PERFORMED, USE AND SHOW THE RECOMMENDED RATES BY THE NCY. SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY SEEDING.

IZATION IS REQUIRED OUTSIDE OF A SEEDING SEASON, APPLY SEED AND MULCH OR ALONE AS PRESCRIBED IN SECTION B-4-3.A.1.b AND MAINTAIN UNTIL THE NEXT SON.

B.1: TEMPORARY SEEDING FOR SITE STABILIZATION

SPECIES	SEEDING RATES		SEEDING DEPTH	RECMMENDED SEEDING DATES HARDINESS	
SPECIES	LB/AC	LB/1000 SF	(INCHES)	ZONE <u>7A</u>	
EASON GRASSES					
. RYE GRASS PERENNE SSP. .ORUM	40	1.0	0.5	FEB 15 TO APRIL 30, AUG 15 TO NOV 30	
UM VULGARE)	96	2.2	1.0	FEB 15 TO APRIL 30, AUG 15 TO NOV 30	
SATIVA)	72	1.7	1.0	FEB 15 TO APRIL 30, AUG 15 TO NOV 30	
JM AESTIVUM)	120	2.8	1.0	FEB 15 TO APRIL 30, AUG 15 TO NOV 30	
RYE E CEREALE)	112	2.8	1.0	FEB 15 TO APRIL 30, AUG 15 TO DEC 15	
EASON GRASSES					
. MILLET A ITALICA)	30	0.7	0.5	MAY 1 TO AUG 14	
MILLET ETUM GLAUCUM)	20	0.5	0.5	MAY 1 TO AUG 14	
ZER RATE: (10–20–20): 436 LB/AC (10LB/1000 SF) ATE: 2 TONS/AC (90 LB/1000 SF)					

ES FOR THE WARM-SEASON GRASSES ARE IN POUNDS OF PURE LIVE SEED (PLS). ITING RATES SHALL BE ADJUSTED TO REFLECT PERCENT SEED GERMINATION AND ESTED. ADJUSTMENTS ARE USUALLY NOT NEEDED FOR THE COOL-SEASON GRASSES.

ES LISTED ABOVE ARE FOR TEMPORARY SEEDINGS, WHEN PLANTED ALONE. WHEN A NURSE CROP WITH PERMANENT SEED MIXES, USE 1/3 OF THE SEEDING RATE LISTED BARLEY, OATS, AND WHEAT. FOR SMALLER-SEEDED GRASSES (ANNUAL RYEGRASS, FOXTAIL MILLET), DO NOT EXCEED MORE THAN 5% (BY WEIGHT) OF THE OVERALL SEEDING MIX. CEREAL RYE GENERALLY SHOULD NOT BE USED AS A NURSE CROP. ITING WILL OCCUR IN VERY LATE FALL BEYOND THE SEEDING DATES FOR OTHER SEEDINGS. CEREAL RYE HAS ALLELOPATHIC PROPERTIES THAT INHIBIT THE AND GROWTH OF OTHER PLANTS. IF IT MUST BE USED AS A NURSE CROP, SEED AT ATE LISTED ABOVE.

IE RECOMMENDED NURSE CROP FOR WARM-SEASON GRASSES.

SOILS, PLANT SEEDS AT TWICE THE DEPTH LISTED ABOVE.

DATES LISTED ARE AVERAGES FOR EACH ZONE AND MAY REQUIRE ADJUSTMENT TO AL CONDITIONS, ESPECIALLY NEAR THE BOUNDARIES OF THE ZONE.

STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

NE OR MORE MIXTURES LISTED IN TABLE B.2 BELOW.

AL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES. STREAM OR DUNES OR FOR SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT MAY IN USDA-NRCS TECHNICAL FIELD OFFICE GUIDE, SECTION 342 - CRITICAL AREA PLANTING.

HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW THE RATES RECOMMENDED BY TESTING AGENCY.

AS RECEIVING LOW MAINTENANCE, APPLY UREA FORM FERTILIZER (46-0-0) AT 3½ POUNDS SQUARE FEET (150 POUNDS PER ACRE) AT THE TIME OF SEEDING IN ADDITION TO THE NDMENTS SHOWN IN THE PERMANENT SEEDING SUMMARY.

	TABLE B.2: PERM	MANENT SEE	DING FOR SIT	TE STAB	ILIZA		N	
HAR	DINESS ZONE: <u>7A</u>	_	-		FE		ZER R/ 20-20	
NO.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS	N	P ₂ 0 ₅	K₂ 0	LIME RATE
					-B/AC /1000 SF	_B/AC /1000 SF	_B/AC /1000 SF	LB/AC /1000 SF
	TALL FESCUE (LOLIUM ARUNDINACEUM)	60	FEB 15 TO APR	$\frac{1}{4}$ " - $\frac{1}{2}$ "	45 L 0 LB/	90 I 0 LB,	90 90	45 L 1.0 LB/
9	KENTUCKY BLUEGRASS (POA PRATENSIS)	40	AUG 15 TO OCT 31	$\frac{1}{4}$ " - $\frac{1}{2}$ "	1	5	2.	—
	PERENNIAL RYEGRASS (LOLIUM PERENNE)	20	NOV 1 TO NOV 30*	$\frac{1}{4}$ " - $\frac{1}{2}$ "				
	*FREQUENT FREEZING AND	THAWING OF WE	ET SOILS MAY RE	SULT IN F	ROST	HEA	VING C)F

MATERIALS PLANTED IN THE LATE FALL, IF PLANTS HAVE NOT SUFFICIENTLY ROOTED IN PLACE.

- 2. TURFGRASS MIXTURES
 - RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE.

 - MIXTURE BY WEIGHT.
 - 10%-35% OF THE MIXTURE BY WEIGHT.

NOTE: CHOOSE CERTIFIED MATERIAL. CERTIFIED MATERIAL IS THE BEST GUARANTEE OF CULTIVARS PURITY. THE CERTIFICATION PROGRAM OF THE MARYLAND DEPARTMENT OF AGRICULTURE, TURF AND SEED SECTION PROVIDES A RELIABLE MEANS OF CONSUMER PROTECTION AND ASSURES A PURE GENETIC LINE.

- c. IDEAL TIMES OF SEEDING

- B. SOD: TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER).
- 1. GENERAL SPECIFICATIONS
 - FOREMAN AND INSPECTOR.
- WILL NOT BE ACCEPTABLE.
- d. SOD SHALL NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL.
- 2. SOD INSTALLATION
 - IMMEDIATELY PRIOR TO LAYING THE SOD.
- WOULD CAUSE AIR DRYING OF THE ROOTS.
- BETWEEN SOD ROOTS AND THE UNDERLYING SOIL SURFACE.
- ANY PIECE OF SOD WITHIN EIGHT HOURS.
- 3. SOD MAINTENANCE
- WILTING.

C. DO NOT MOW UNTIL THE SOD IS FIRMLY ROOTED. NO MORE THAN 1/3 OF THE GRASS LEAF MUST BE REMOVED BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. MAINTAIN A GRASS HEIGHT OF AT LEAST 3" UNLESS OTHERWISE SPECIFIED. SECTION H-5: STANDARDS AND SPECIFICATIONS FOR DUST CONTROL

MULCHES: SEE SECTION B-4-2 SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS, SECTION B-4-3 SEEDING AND MULCHING, AND SECTION B-4-4- TEMPORARY STABILIZATION. MULCH MUST BE ANCHORED TO PREVENT BLOWING.

- 2. <u>VEGETATIVE COVER:</u> SEE SECTION B-4-1 TEMPORARY STABILIZATION.
- EFFECT.
- THAT RUNOFF OCCURS.
- CONTROL AIR CURRENTS AND SOIL BLOWING.

NOTE TO CONTRACTOR: "EROSION AND SEDIMENT CONTROL SHALL BE STRICTLY ENFORCED" THIS PLAN IS FOR EROSION AND SEDIMENT CONTROL ONLY

a. AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL

b. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW BASED ON THE SITE CONDITIONS OR PURPOSE.

 KENTUCKY BLUEGRASS – FULL SUN MIXTURE – FOR USE IN AREAS THAT RECEIVE INTENSIVE MANAGEMENT. IRRIGATION REQUIRED IN THE AREAS OF CENTRAL MARYLAND AND THE EASTERN SHORE. RECOMMENDED CERTIFIED KENTUCKY BLUEGRASS CULTIVARS SEEDING RATE: 1.5 TO 2.0 POUNDS/1000 SQUARE FEET. A MINIMUM OF THREE BLUEGRASS CULTIVARS SHOULD BE CHOSEN, RANGING FROM A MINIMUM OF 10% TO A MAXIMUM OF 35% OF THE

• KENTUCKY BLUEGRASS/PERENNIAL RYE - FULL SUN MIXTURE - FOR USE IN FULL SUN AREAS WHERE RAPID ESTABLISHMENT IS NECESSARY AND WHEN TURF WILL RECEIVE MEDIUM TO INTENSIVE MANAGEMENT. CERTIFIED PERENNIAL RYEGRASS CULTIVARS/CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 2 POUNDS MIXTURE/1000 SQUARE FEET. A MINIMUM OF 3 KENTUCKY BLUEGRASS CULTIVARS MUST BE CHOSEN, WITH EACH CULTIVAR RANGING FROM

• TALL FESCUE/KENTUCKY BLUEGRASS - FULL SUN MIXTURE - FOR USE IN DROUGHT PRONE AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MANAGEMENT IN FULL SUN TO MEDIUM SHADE. RECOMMENDED MIXTURE INCLUDES: CERTIFIED TALL FESCUE CULTIVARS 95%-100%; CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 0-5%. SEEDING RATE: 5 TO 8 POUNDS/1000 SQUARE FEET. ONE OR MORE CULTIVARS MAY BE BLENDED.

 KENTUCKY BLUEGRASS/FINE FESCUE – SHADE MIXTURE – FOR USE IN AREAS WITH SHADE IN BLUEGRASS LAWNS. FOR ESTABLISHMENT IN HIGH QUALITY, INTENSIVELY MANAGED TURF AREA. MIXTURE INCLUDES: CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 30-40% AND CERTIFIED FINE FESCUE AND 60-75%. SEEDING RATE: 1-1/2 TO 3 POUNDS/1000 SQUARE FEET. A MINIMUM OF 3 KENTUCKY BLUEGRASS CULTIVARS MUST BE CHOSEN. WITH EACH CULTIVAR RANGING FROM A MINIMUM OF 10% TO A MAXIMUM OF 35% OF THE MIXTURE BY WEIGHT.

NOTE: TURFGRASS VARIETIES FROM THOSE LISTED IN THE MOST CURRENT UNIVERSITY OF MARYLAND PUBLICATION, AGRONOMY MEMO #77, "TURFGRASS CULTIVAR RECOMMENDATIONS FOR MARYLAND."

• WESTERN MD: MARCH 15-JUNE 1; AUGUST 1-OCTOBER 1 (HARDINESS ZONES: 5b, 6a)

• CENTRAL MD: MARCH 1-MAY 15; AUGUST 15-OCTOBER 15 (HARDINESS ZONE: 6b)

• SOUTHERN MD, EASTERN SHORE: MARCH 1-MAY 15, AUGUST 15-OCTOBER 15 (HARDINESS ZONES: 7a, 7b)

d. TILL AREAS AS TO RECEIVE SEED BY DISKING OR OTHER APPROVED METHODS TO A DEPTH OF 2"-4", LEVEL AND RAKE THE AREAS TO PREPARE A PROPER SEEDBED. REMOVE STONES AND DEBRIS OVER 1/2" IN DIAMETER. THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASSES WILL POSE NO DIFFICULTY.

e. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH (1/2"-1" EVERY 3 TO 4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ABNORMALLY DRY OR HOT SEASON, OR ON ADVERSE SITES.

O. CLASS OF TURFGRASS MUST BE MARYLAND STATE CERTIFIED. SOD LABELS SHALL BE MADE AVAILABLE TO THE JOB

b. SOD SHALL BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4", PLUS OR MINUS 1/4", AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS MUST EXCLUDE TOP GROWTH AND THATCH. BROKEN PADS AND TORN OR UNEVEN ENDS

C. STANDARD SIZE SECTIONS OF SOD SHALL BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP ON THE UPPER 10 PERCENT OF THE SECTION.

e. SOD SHALL BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOD NOT TRANSPLANTED WITHIN THIS PERIOD SHALL BE APPROVED BY AN AGRONOMIST OR SOIL SCIENTIST PRIOR TO ITS INSTALLATION.

a. DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSOIL, LIGHTLY IRRIGATE THE SUBSOIL

b. LAY THE FIRST ROW OF SOD IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO AND TIGHTLY WEDGED AGAINST EACH OTHER. STAGGER LATERAL JOINTS TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH

C. WHEREVER POSSIBLE, LAY SOD WITH THE LONG EDGES PARALLEL TO THE CONTOUR AND WITH STAGGERING JOINTS. ROLL AND TAMP, PEG OR OTHERWISE SECURE THE SOD TO PREVENT SLIPPAGE ON SLOPES. ENSURE SOLID CONTACT EXISTS

d. WATER SOD IMMEDIATELY FOLLOWING ROLLING OR TAMPING UNTIL THE UNDERSIDE OF THE NEW SOD PAD AND SOIL SURFACE BELOW THE SOD ARE THOROUGHLY WET. COMPLETE THE OPERATIONS OF LAYING, TAMPING, AND IRRIGATING FOR

a. IN THE ABSENCE OF ADEQUATE RAINFALL, WATER DAILY DURING THE FIRST WEEK OR AS OFTEN AND SUFFICIENTLY AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF 4". WATER SOD DURING THE HEAT OF THE DAY TO PREVENT

b. AFTER THE FIRST WEEK, SOD WATERING IS REQUIRED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE CONTENT.

3. TILLAGE: TILL TO ROUGHEN SURFACE AND BRING CLODS TO THE SURFACE. BEGIN PLOWING ON WINDWARD SIDE OF SITE. CHISEL-TYPE PLOWS SPACED ABOUT 12" APART, SPRING-TOOTHED HARROWS, AND SIMILAR PLOWS ARE EXAMPLES OF EQUIPMENT THAT MAY PRODUCE THE DESIRED

4. IRRIGATION: SPRINKLE SITE WITH WATER UNTIL THE SURFACE IS MOIST. REPEAT AS NEEDED. THE SITE MUST NOT BE IRRIGATED TO THE POINT

5. BARRIERS :: SOLID BOARD FENCES, SILT FENCES, SNOW FENCES, BURLAP FENCES, STRAW BALES, AND SIMILAR MATERIAL CAN BE USED TO

6. CHEMICAL TREATMENT: USE OF CHEMICAL TREATMENT REQUIRES APPROVAL BY THE APPROPRIATE PLAN REVIEW AUTHORITY.

MDE No. 24-SF-0026

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	M Project No	D.: XXXX		
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	C	G FARM BOULEVARD, SUITE 300 ROCKVILLE, MD 20850		
	PHONE (: EMAIL:	301) 881-2545 FAX (301) 881-0814 AMT1@AMTENGINEERING.COM		
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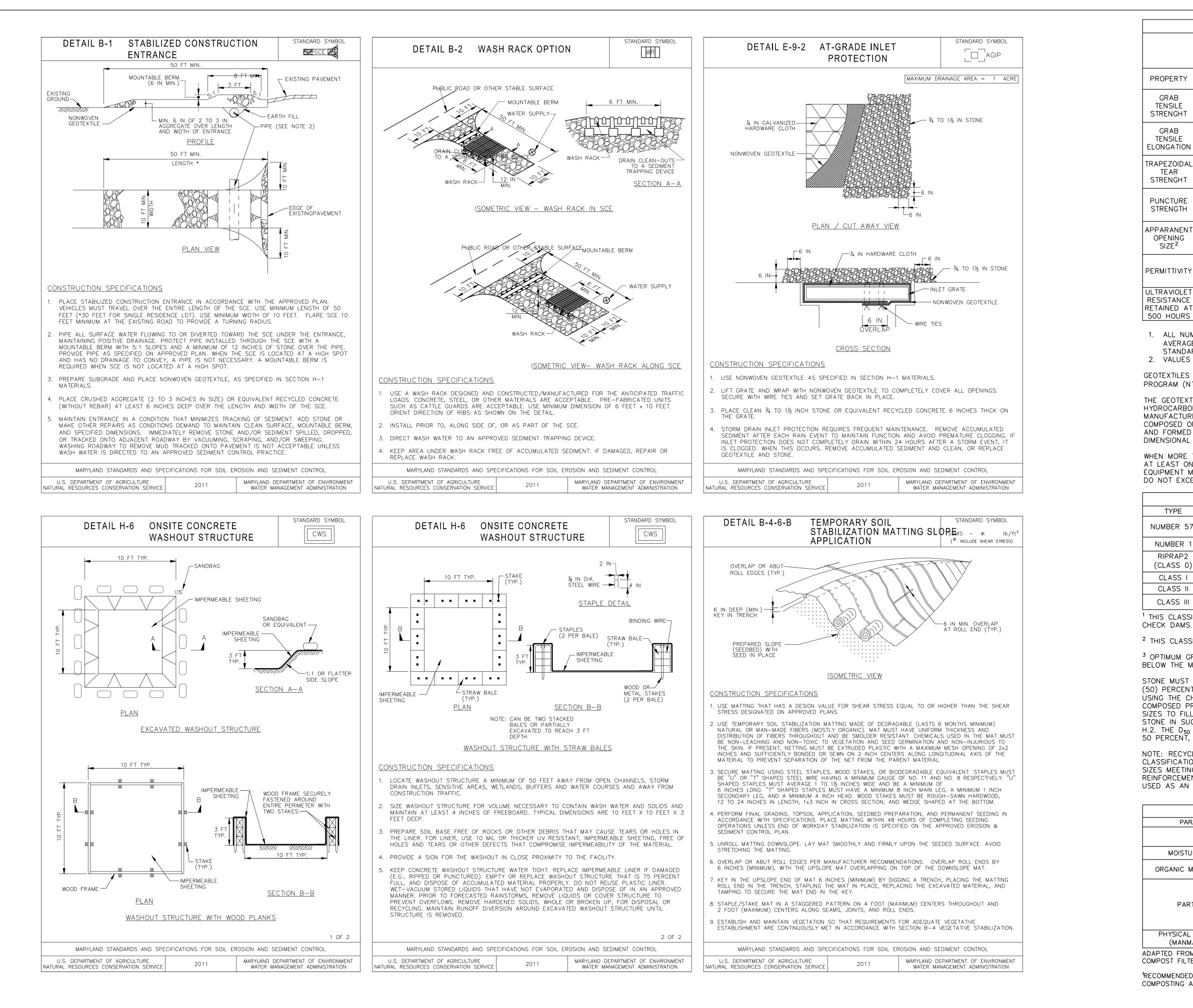


	TABLE H.1: GEOTEXTILE FABRICS							
			SLIT FILM EXTILE	WOVEN MONOFILAMENT GEOTEXTILE		NONWOVEN GEOTEXTILE		
			MINIM	UM AVERA	GE ROLL V	ALUE ¹		
ERTY	TEST METHOD	MD	CD	MD	CD	MD	CD	
AB SILE IGH T	ASTM D-4632	200 LB	200 LB	370 LB	250 LB	200 LB	200 LB	
AB SILE A TION	ASTM D-4632	15%	10%	15%	15%	50%	50%	
OIDAL AR IGH T	ASTM D-4533	75 LB	75 LB	100 LB	60 LB	80 LB	80 LB	
IURE IGTH	ASTM D-6241	450	LB	900	LB	450	LB	
ANENT IING E ²	ASTM D-4751	U.S. SIEVE 30 (0.59 mm)		U.S. SIEVE 70 (0.21 mm)		U.S. SIEVE 70 (0.21 mm)		
τινιτγ	ASTM D-4491	0.05 SEC ⁻¹		0.28 SEC ⁻¹		1.1 SEC ⁻¹		
IOLET ANCE D AT OURS	ASTM D-4355	70% ST	RENGTH	70% ST	RENGTH	70% STRENGTH		

1. ALL NUMERIC VALUES EXCEPT APPARENT OPENING SIZE (AOS) REPRESENT MINIMUM AVERAGE ROLL VALUES (MARV). MARV IS CACLULATED AS THE TYPICAL MINUS TWO STANDARD DEVIATIONS. MD IS MACHINE DIRECTION; CD IS CROSS DIRECTION. 2. VALUES FOR AOS REPRESENT THE AVERAGE OPENING SIZE.

GEOTEXTILES MUST BE EVALUATED BY THE NATIONAL TRANSPORTATION PRODUCT EVALUATION PROGRAM (NTPEP) AND CONFORM TO THE VALUES IN TABLE H.1.

THE GEOTEXTILE MUST BE INERT TO COMMONLY ENCOUNTERED CHEMICALS AND HYDROCARBONS AND MUST BE ROT AND MILDEW RESISTANT. THE GEOTEXTILE MUST BE MANUFACTURED FROM FIBERS CONSISTING OF LONG CHAIN SYNTHETIC POLYMERS AND COMPOSED OF A MINIMUM OF 95 PERCENT BY WEIGHT OF POLYOLEFINS OR POLYESTERS, AND FORMED INTO A STABLE NETWORK SO THE FILAMENTS OR YARNS RETAIN THEIR DIMENSIONAL STABILITY RELATIVE TO EACH OTHER, INCLUDING SELVAGES.

WHEN MORE THAN ONE SECTION OF GEOTEXTILE IS NECESSARY, OVERLAP THE SECTIONS BY AT LEAST ONE FOOT. THE GEOTEXTILE MUST BE PULLED TAUT OVER THE APPLIED SURFACE. EQUIPMENT MUST NOT RUN OVER EXPOSED FABRIC. WHEN PLACING RIPRAP ON GEOTEXTILE, DO NOT EXCEED A ONE FOOT DROP HEIGHT.

TABLE H.2 STONE SIZE							
′PE	SIZE RANGE	D ₅₀	D ₁₀₀	AASHTO	MIDSIZE WEIGHT ³		
ER 57 ¹	3/8 to 1 ½ inch	½ in	1 ½ in	M-43	N/A		
BER 1	2 to 3 inch	2 ½ in	3 in	M-43	N/A		
RAP2 SS 0)	4 to 7 inch	5 ½ in	7 in	N/A	N/A		
SS I	N/A	9 ½ in	15 in	N/A	40 LB		
SS II	N/A	16 in	24 in	N/A	200 LB		
SS III	N/A	23 in	34 in	N/A	600 LB		

¹ THIS CLASSIFICATION IS TO BE USED ON THE UPSTREAM FACE OF STONE OUTLETS AND

² THIS CLASSIFICATION IS TO BE USED FOR GABIONS.

³ OPTIMUM GRADATION IS 50 PERCENT OF THE STONE BEING ABOVE AND 50 PERCENT BELOW THE MIDSIZE.

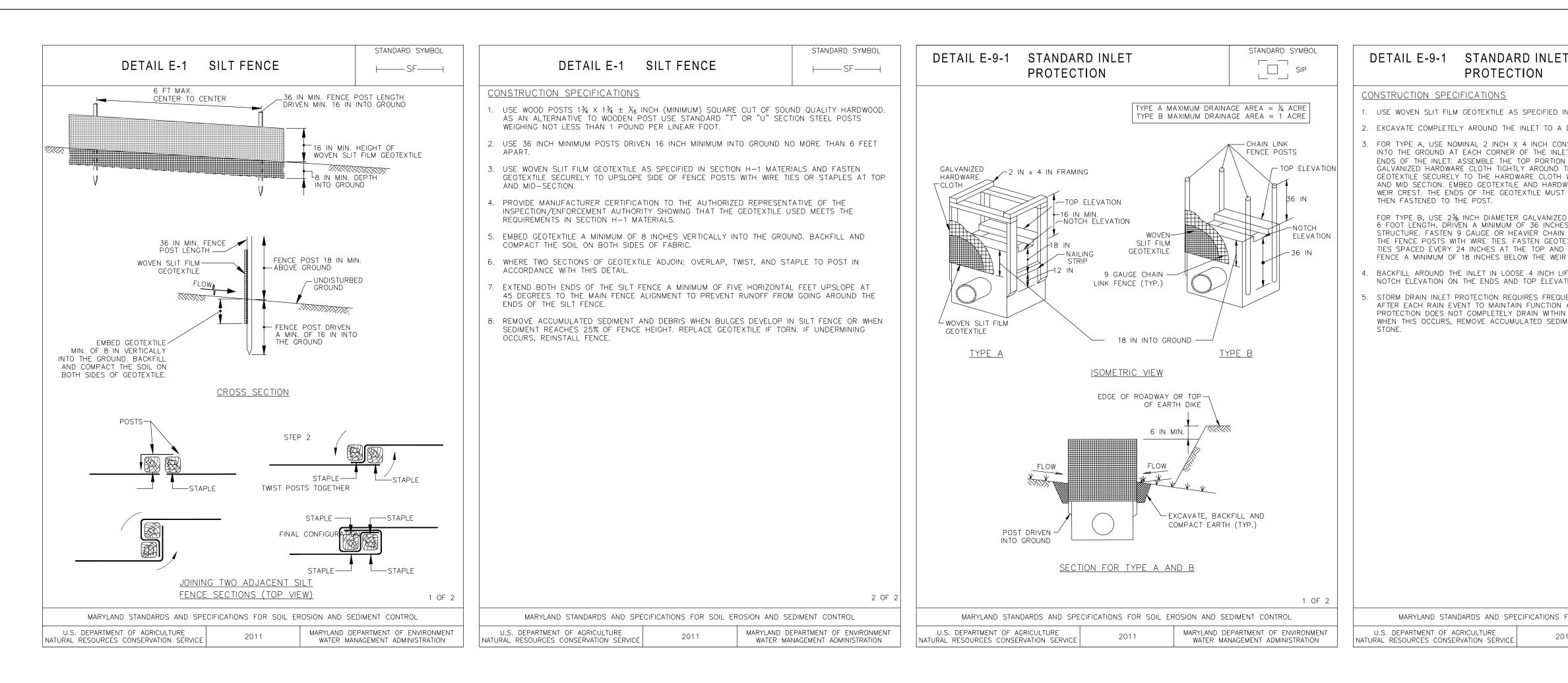
STONE MUST BE COMPOSED OF A WELL GRADED MIXTURE OF STONE SIZED SO THAT FIFTY (50) PERCENT OF THE PIECES BY WEIGHT ARE LARGER THAN THE SIZE DETERMINED BY USING THE CHARTS. A WELL GRADED MIXTURE, AS USED HEREIN, IS DEFINED AS A MIXTURE COMPOSED PRIMARILY OF LARGER STONE SIZES BUT WITH A SUFFICIENT MIXTURE OF OTHER SIZES TO FILL THE SMALLER VOIDS BETWEEN THE STONES. THE DIAMETER OF THE LARGEST STONE IN SUCH A MIXTURE MUST NOT EXCEED THE RESPECTIVE D100 SELECTED FROM TABLE H.2. THE D50 REFERS TO THE MEDIAN DIAMETER OF THE STONE. THIS IS THE SIZE FOR WHICH 50 PERCENT, BY WEIGHT, WILL BE SMALLER AND 50 PERCENT WILL BE LARGER.

NOTE: RECYCLED CONCRETE EQUIVALENT MAY BE SUBSTITUTED FOR ALL STONE CLASSIFICATIONS FOR TEMPORARY CONTROL MEASURES ONLY. CONCRETE BROKEN INTO THE SIZES MEETING THE APPROPRIATE CLASSIFICATION, CONTAINING NO STEEL REINFORCEMENT, AND HAVING A MINIMUM DENSITY OF 150 POUNDS PER CUBIC FOOT MAY BE USED AS AN EQUIVALENT.

	TABLE H.3 COMPOST
PARAMETERS ¹	ACCEPTABLE RANGE
рН	5.0 – 8.5
OISTURE CONTENT	30% – 60%, WET WEIGHT BASIS
NIC MATTER CONTENT	25% – 65%, DRY WEIGHT BASIS
PARTICLE SIZE	% PASSING A SELECTED MESH SIZE, DRY WEIGHT BASIS 3 IN (75mm), 100% PASSING 1 IN (25mm), 90–100% PASSING 0.75 IN (19mm), 70–100% PASSING 0.25 IN (6.4mm), 30–60% PASSING 0.04 IN (1mm), 30% MIN. PASSING
SICAL CONTAMINENTS MANMADE INERTS)	<1% DRY WEIGHT BASIS
FROM AASHTO STANDAR FILTER PARAMETERS.	DS SPECS FOR COMPOST FILTER SOCKS AND EPA EXAMPLE

RECOMMENDED TEST METHODOLOGIES ARE PROVIDED IN TEST METHODS FOR THE EXAMINATION OF COMPOSTING AND COMPOST (TMEC, THE U.S COMPOSTING COUNCIL).

	R HALL COURTYARD
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GC/CM Project No	
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C	ON THOMAS AND ASSOCIATES, INC. CONSULTING ENGINEERS G FARM BOULEVARD, SUITE 300 ROCKVILLE, MD 20850
	801) 881-2545 FAX (301) 881-0814 AMT1@AMTENGINEERING.COM
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vere prepared or app professional engineer	tion. I hereby certify that these documents roved by me, and that I am a duly license r under the laws of the State of Maryland, Expiration Date: <u>01/06/2026</u>
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			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. <u>32561</u> , Expiration Date: <u>01/06/2026</u>
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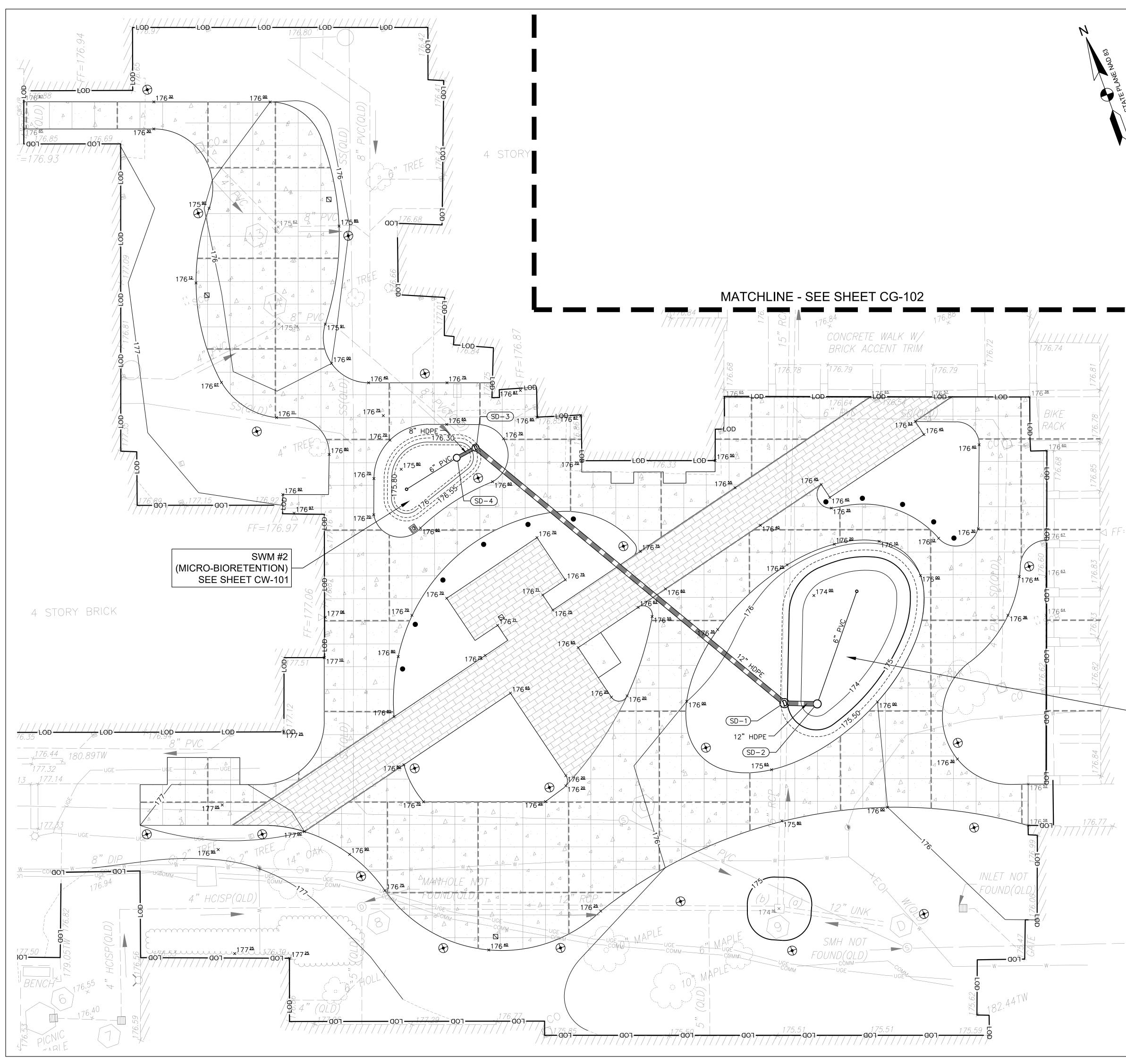
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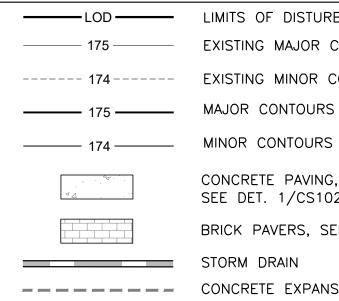
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06/13/2023 SCHEMATIC DESIGN

DATE: 02/12/2024



GRADING AND DRAINAGE LEGEND



LIMITS OF DISTURBANCE EXISTING MAJOR CONTOURS ----- 174----- EXISTING MINOR CONTOURS _____ MINOR CONTOURS CONCRETE PAVING, SEE DET. 1/CS102

BRICK PAVERS, SEE SHEET L-100 ---- CONCRETE EXPANSION JOINT

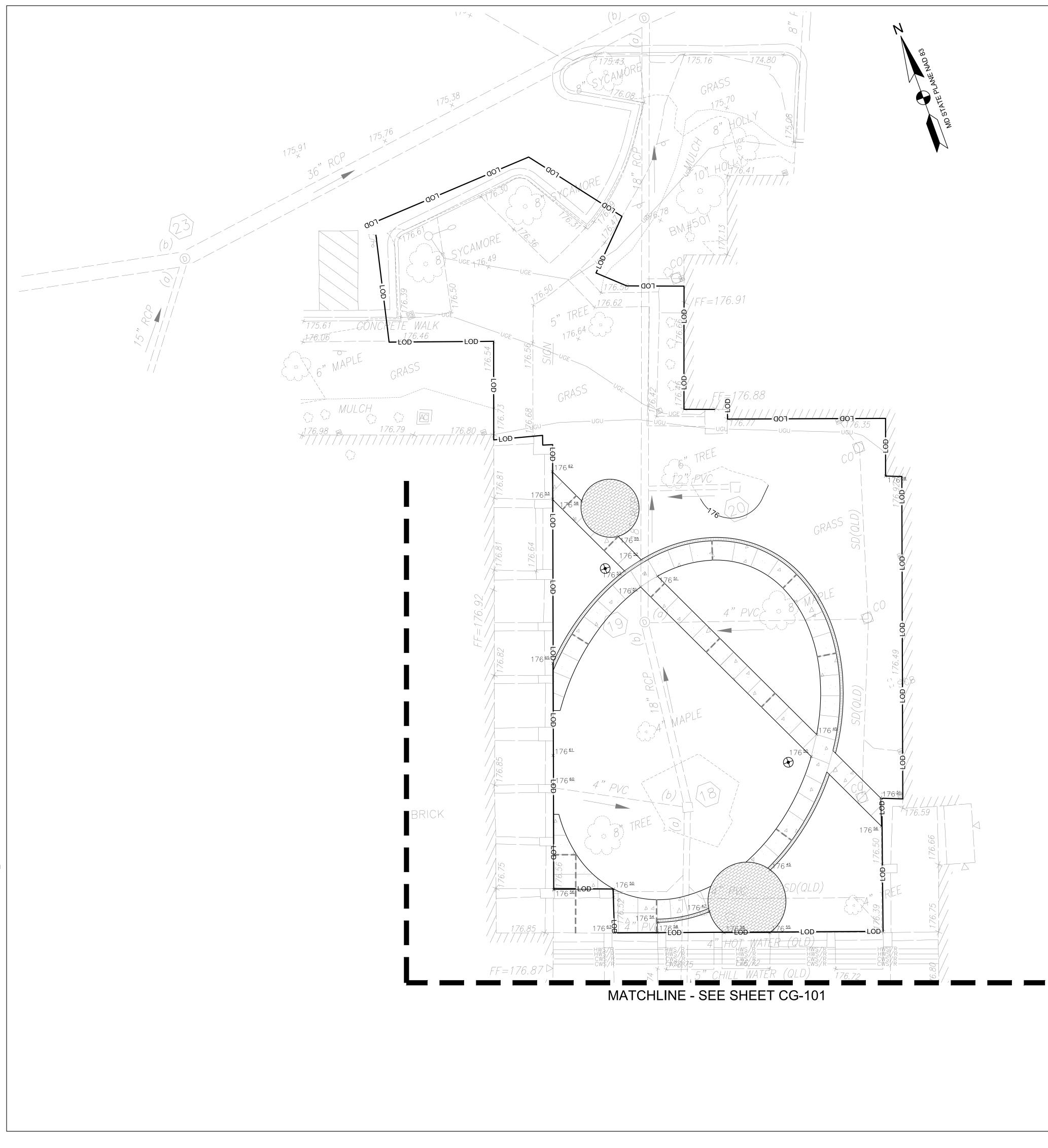


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GRADING AND DRAINAGE LEGEND

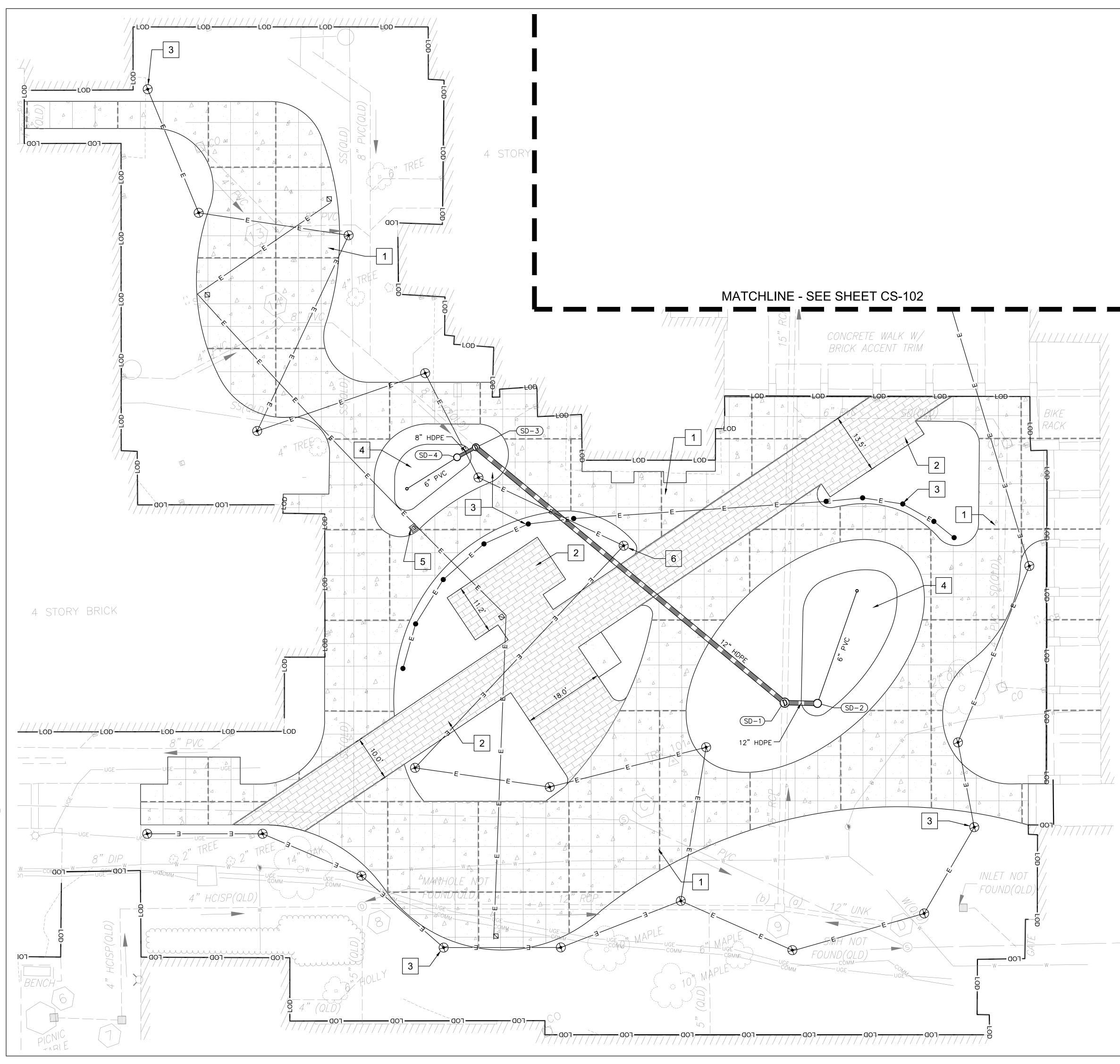
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174	EXISTING MINOR CONTOURS
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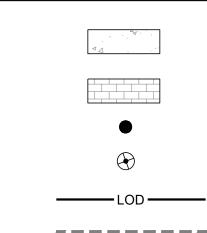
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SITE KEYNOTES

- 1. CONCRETE PAVEMENT (SEE DET. 1/CS102)
- 2. BRICK PAVEMENT (SEE SHEET L-100)
- 3. SITE LIGHTING (SEE SHEET EL-002)
- 4. MICRO-BIORETENTION FACILITY
- 5. EMERGENCY PHONE STATION (SEE EL-002)
- 6. POLE-MOUNTED POWER RECEPTACLE (SEE EL-002)

SITE LEGEND



CONCRETE PAVING, SEE DET. 1/CS102

BRICK PAVERS, SEE SHEET L-100 BOLLARD LIGHTS, SEE SHEET EL-004 POLE LIGHTS, SEE SHEET EL-004 LIMITS OF DISTURBANCE CONCRETE EXPANSION JOINT



HARBOR HALL COURTYARD IMPROVEMENTS

UMBC Project No .: UMB Project No .: A/E Project No.: GC/CM Project No.:

23-126 XXXX 17-0782.011 XXXX





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. <u>32561</u>, Expiration Date: <u>01/06/2026</u>

100% CONSTRUCTION DOCUMENTS

CONSULTANTS

LANDSCAPE ARCHITECTURE FLOURA TEETER LANDSCAPE ARCHITECTS

ELECTRICAL ENGINEERING WFT ENGINEERING, INC.

GEOTECHNICAL SERVICES KIM ENGINEERING

COST ESTIMATING FORELLA GROUP, LLC

KEY PLAN

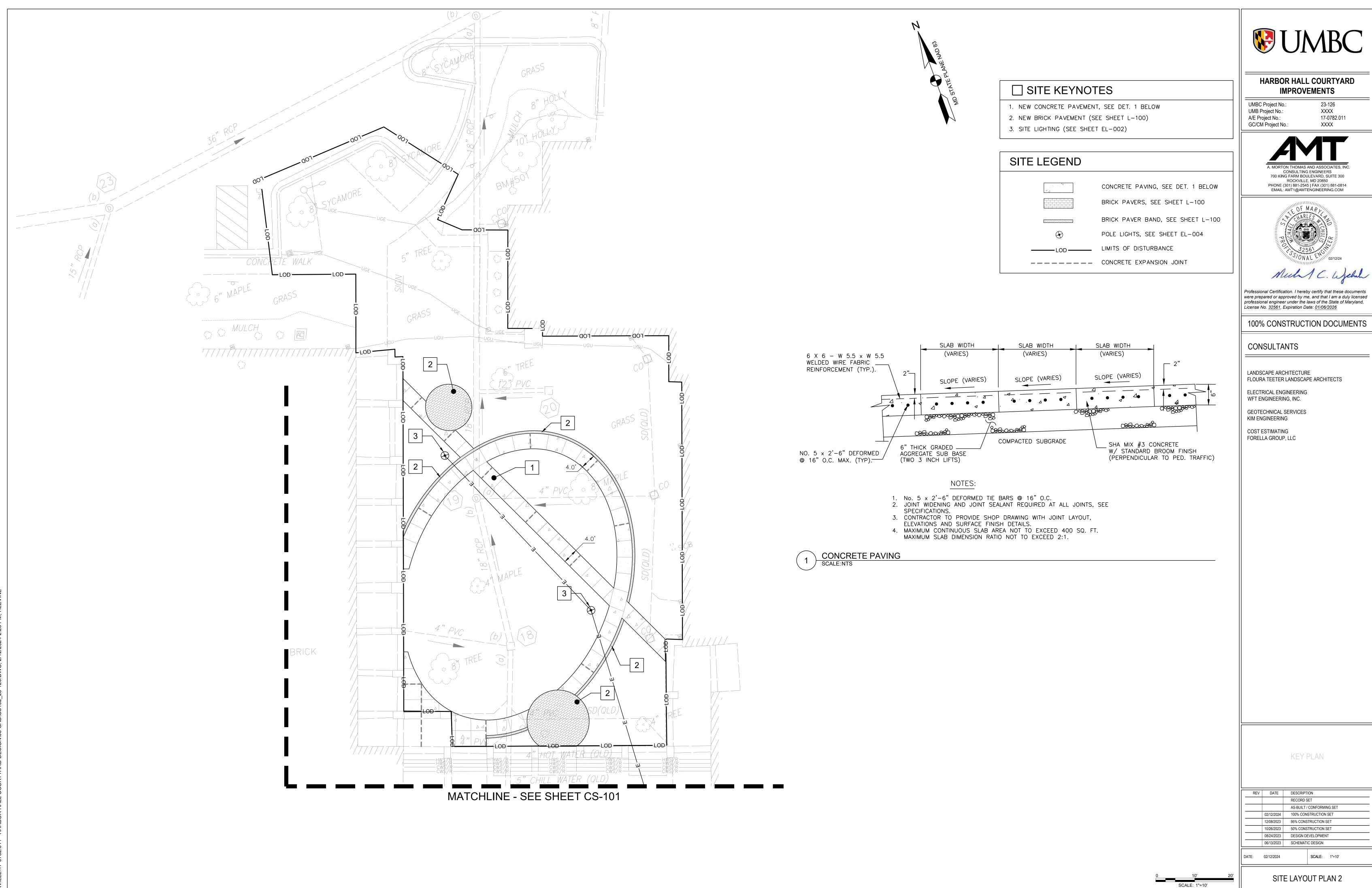
	REV	DATE	DESCRIPTION
			RECORD SET
			AS-BUILT / CONFORMING SET
		02/12/2024	100% CONSTRUCTION SET
		12/08/2023	95% CONSTRUCTION SET
		10/26/2023	50% CONSTRUCTION SET
		08/24/2023	DESIGN DEVELOPMENT
		06/13/2023	SCHEMATIC DESIGN
D	ATE:	02/12/2024	SCALE: 1"=10'

SITE LAYOUT PLAN

SCALE: 1"=10

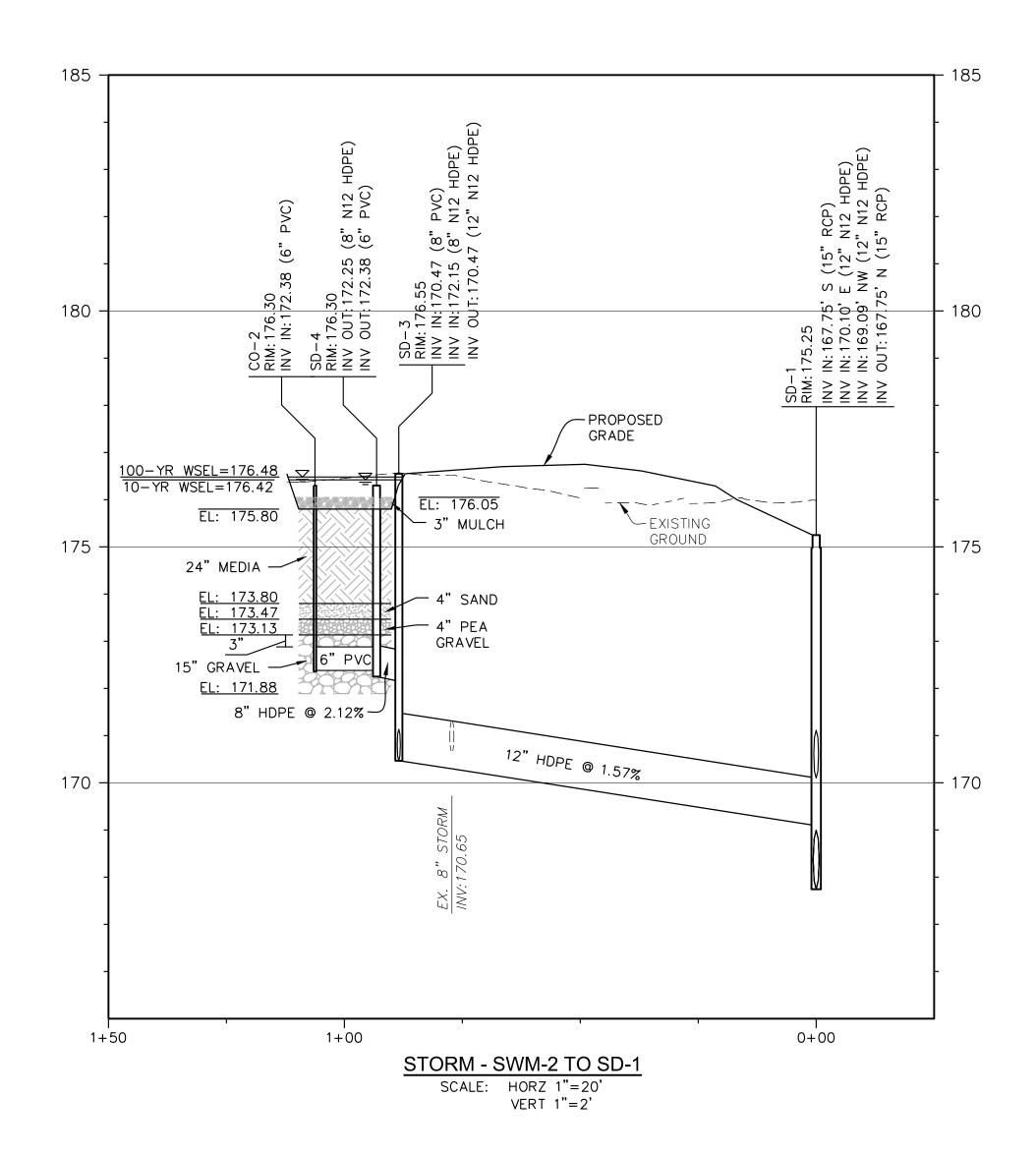
MDE No. 24-SF-0026

CS-101

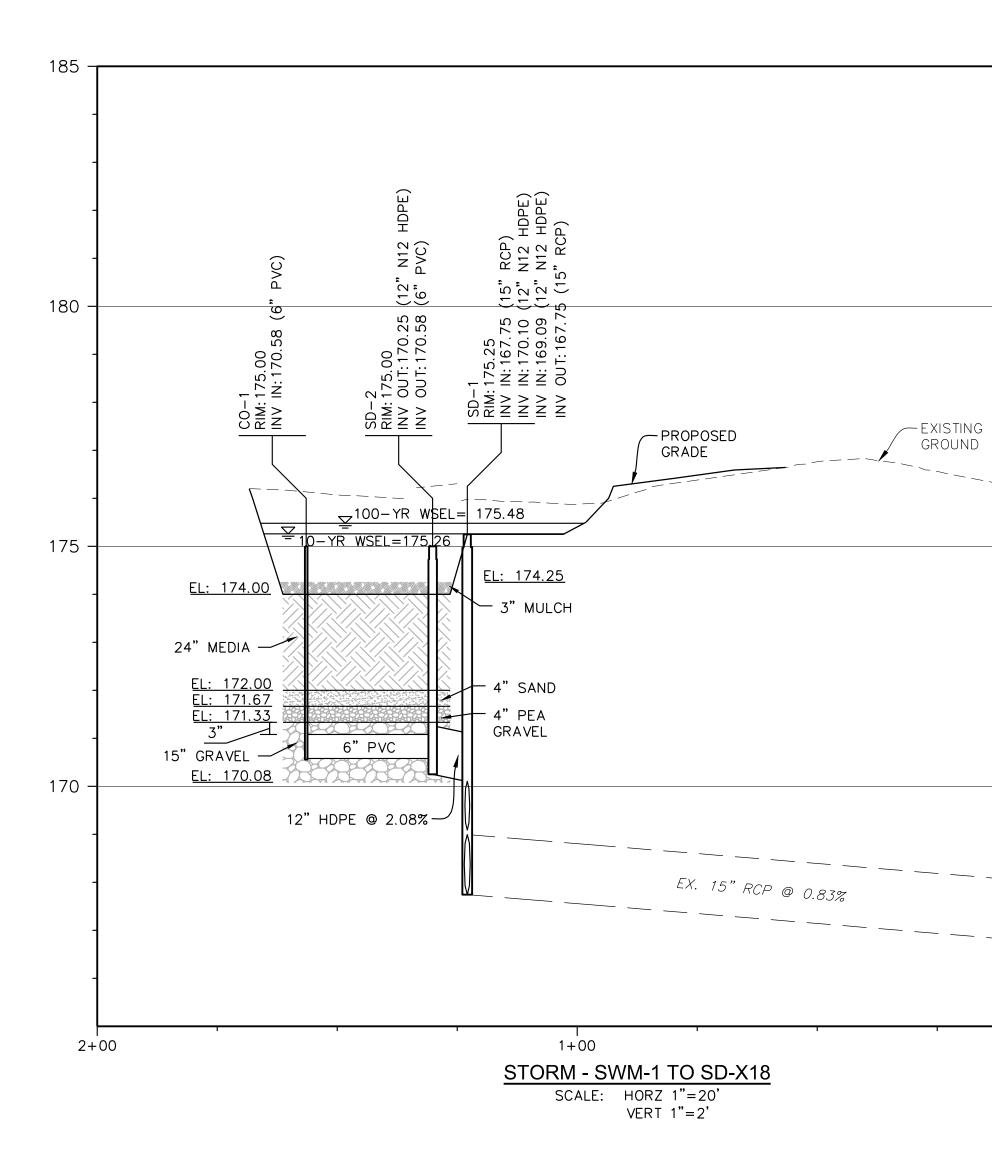


MDE No. 24-SF-0026

CS-102



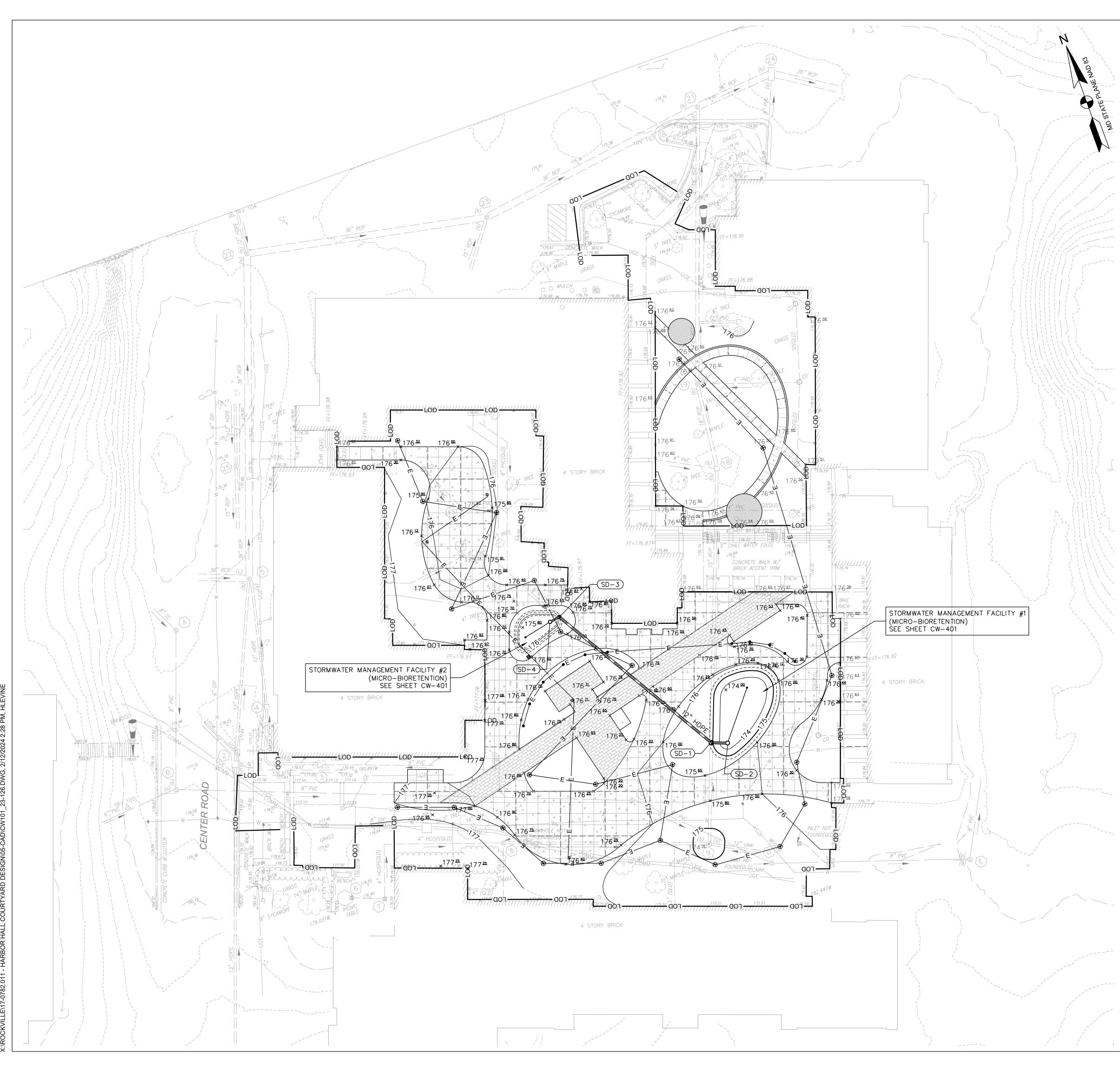
X:\ROCKVILLE\17-0782.011 - HARBOR HALL COURTYARD DESIGN\05-CAD\CG201_23-126.DWG, 2/12/2024 2:28 PM, HLEV



		W UMBC
		HARBOR HALL COURTYARD IMPROVEMENTS UMBC Project No.: 23-126 UMB Project No.: XXXX A/E Project No.: 17-0782.011 COCM Desired Model XXXX
		GC/CM Project No.: XXXX A. MORTON THOMAS AND ASSOCIATES, INC. CONSULTING ENGINEERS 700 KING FARM BOULEVARD, SUITE 300 ROCKVILLE, MD 20850 PHONE (301) 881-2545 FAX (301) 881-0814 EMAIL: AMT1@AMTENGINEERING.COM
		Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. <u>32561</u> , Expiration Date: <u>01/06/2026</u>
		100% CONSTRUCTION DOCUMENTS
		CONSULTANTS
185		LANDSCAPE ARCHITECTURE FLOURA TEETER LANDSCAPE ARCHITECTS ELECTRICAL ENGINEERING WFT ENGINEERING, INC. GEOTECHNICAL SERVICES KIM ENGINEERING COST ESTIMATING FORELLA GROUP, LLC
180		
175		
170		
		KEY PLAN
		REV DATE DESCRIPTION RECORD SET AS-BUILT / CONFORMING SET 02/12/2024 100% CONSTRUCTION SET 12/08/2023 95% CONSTRUCTION SET 10/26/2023 50% CONSTRUCTION SET 08/24/2023 DESIGN DEVELOPMENT
		08/24/2023 DESIGN DEVELOPMENT 06/13/2023 SCHEMATIC DESIGN DATE: 02/12/2024
	0 10' 20' 40' SCALE: 1"=20'	STORM DRAIN PROFILES
	MDE No. 24-SF-0026	CG-201

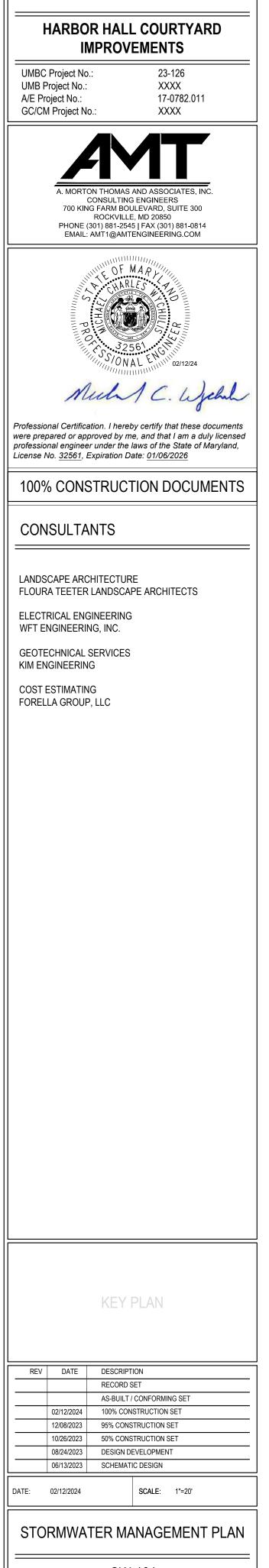
SD-X18 RIM: 175.64 INV IN: 166.73' S (15" RCP) INV IN: 171.74' NW (4" PVC) INV OUT: 166.67' N (18" RCP)

0+00



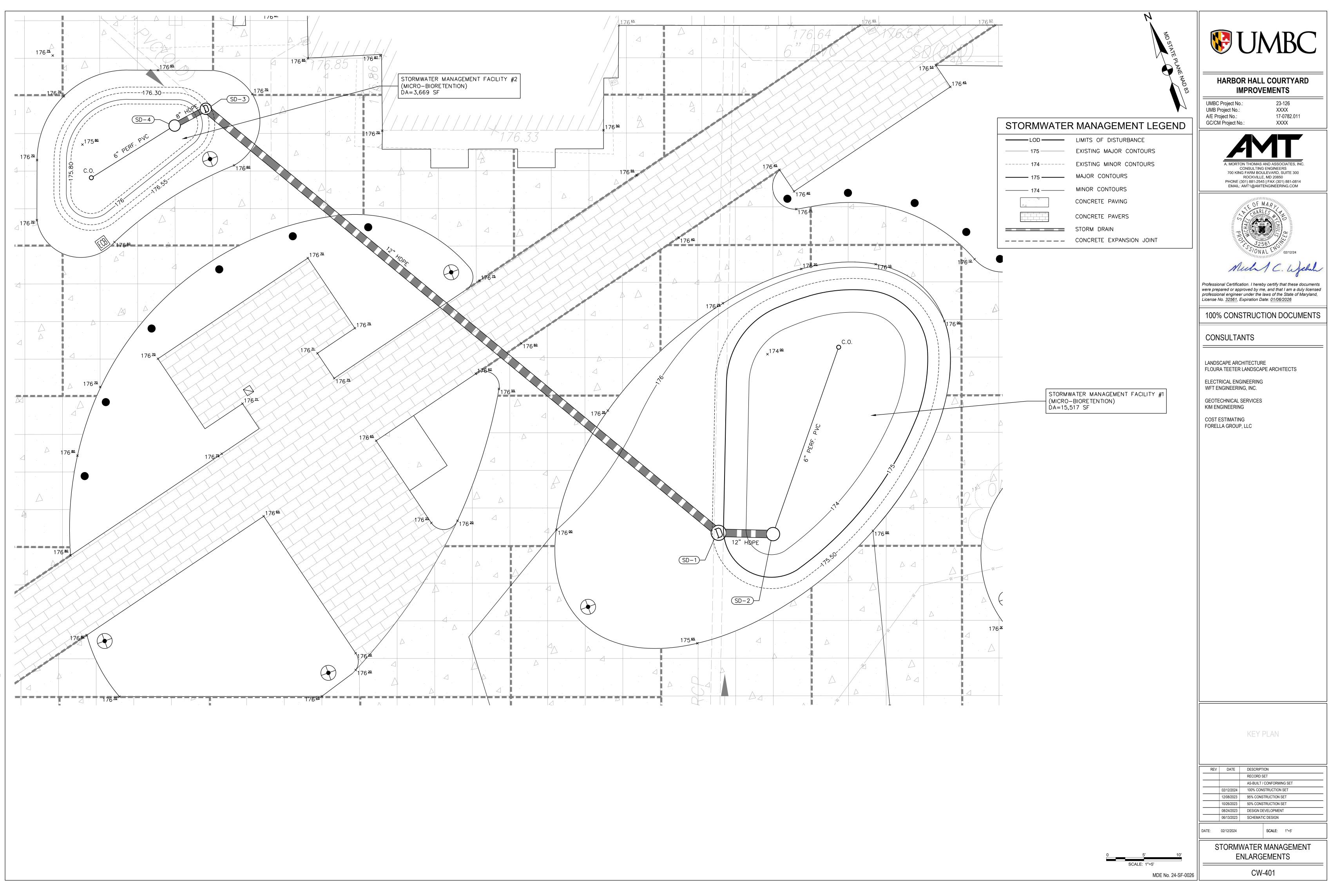
STORMWATER MA	STORMWATER MANAGEMENT LEGEND				
LOD	LIMITS OF DISTURBANCE				
175	EXISTING MAJOR CONTOURS				
174	EXISTING MINOR CONTOURS				
175	MAJOR CONTOURS				
174	MINOR CONTOURS				
<i>₹</i> ∆	CONCRETE PAVING				
	6"x24"x2" BRICK PAVERS				
	4"x8"x2" BRICK PAVERS				
	SINGLE 4"x8"x2" BRICK PAVERS				
	STORM DRAIN				
	CONCRETE EXPANSION JOINT				

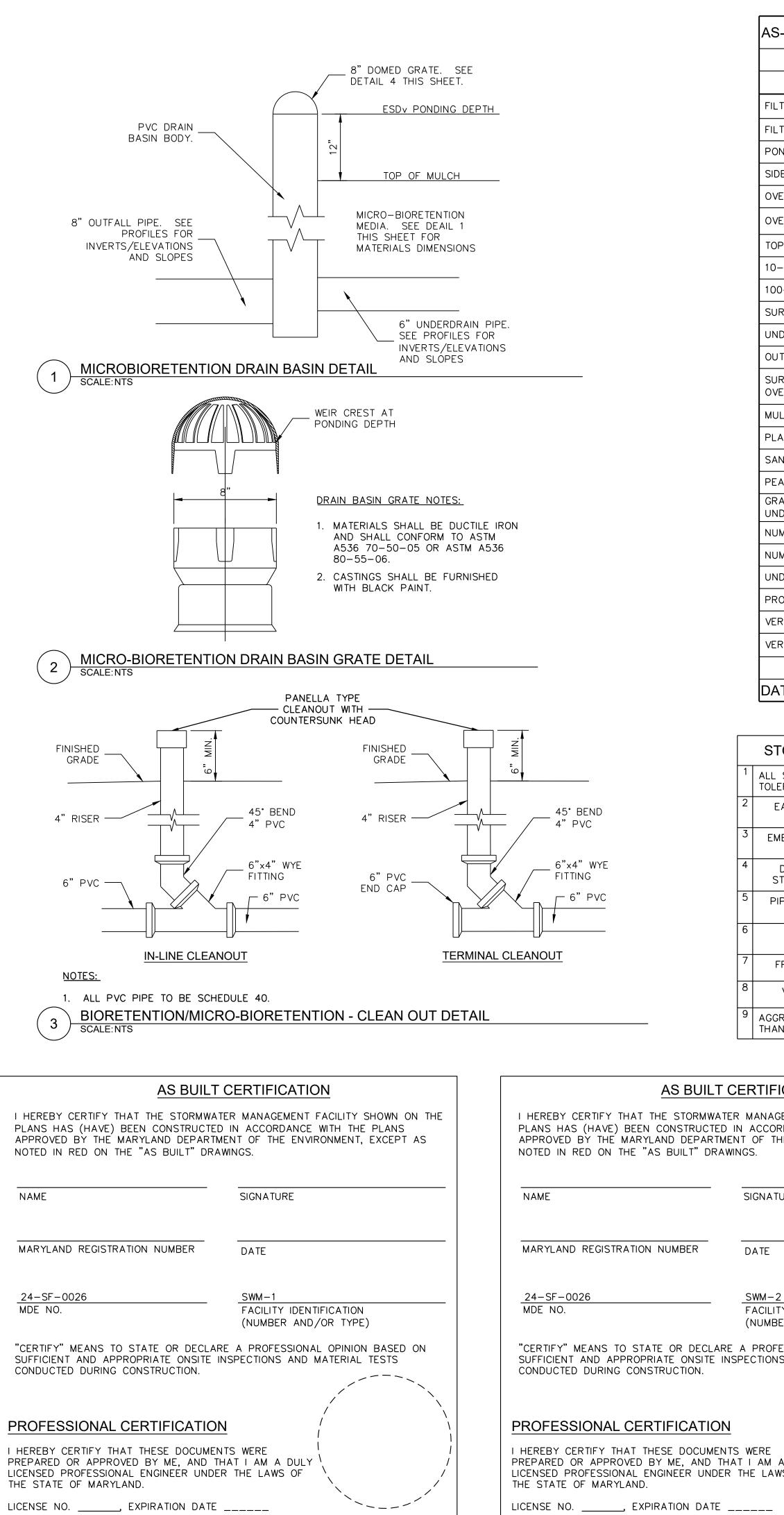




SCALE: 1"=20' MDE No. 24-SF-0026

CW-101





TYPE OF FACILITY: MICRO-BIORETENTION	SWM	-1	SWM	-2		1	F
MDE # 24-SF-0026	DESIGN	*AS-BUILT	DESIGN	*AS-BUILT			1 F
FILTER BED (L×W) / SURFACE AREA (SF)	35 X 21 / 491		20 X 11 / 160				
FILTER BED SURFACE ELEVATION	174.00		175.80				
PONDING DEPTH (IN)	12		6			2	5
SIDE SLOPES/GRADING	3: 1		3:1				1
OVER FLOW ELEVATION (ESD PONDING DEPTH)	175.00		176.30				
OVERFLOW WIER/SIZE	12" NYLOPLAST		12" NYLOPLAST				5
TOP OF EMBANKMENT	175.50		176.55			3	
10-YEAR FREEBOARD (FT)	175.26		176.42				F
100-YEAR FREEBOARD (FT)	175.48		176.48				
SURFACE STORAGE VOLUME (CF)	636		101				
UNDERDRAIN PIPE SIZE/ELEVATION	6" / 170.58		6" / 172.38			4	
OUTLET PIPE SIZE/ELEVATION	12" / 170.25		8" / 172.25				
SURFACE VOLUME (FILTER BED SURFACE ELEVATION TO OVERFLOW FLOW ELEVATION) (CF)	636		101				F
MULCH THICKNESS (IN)	3		3				
PLANTING MEDIA THICKNESS (IN)	24		24				
SAND THICKNESS (IN)	4		4				
PEA GRAVEL THICKNESS (IN)	4		4			5	
GRAVEL LAYER THICKNESS (IN)/THICKNESS BELOW UNDERDRAIN (IN)	15		15				
NUMBER OF CLEANOUTS	1		1				V
NUMBER OF OBSERVATION WELLS	1		1				
UNDERDRAIN LENGTH (LF)	26		13			6	
PROVIDE COMPOSITION CERTIFICATION OF FILTER MEDIA							F
VERIFY GEOTEXTILE (SIDES ONLY)						7	
VERIFY PLANTING (SPECIES, NUMBER AND HEALTH)					-		I N F
					11		

ORMWATER MANGEMENT	CONSTRUCTION	TOLERANCES

L STORMWATER LERANCES:	MANAGEMENT FACILITIES SHALL BE BUILT WITH THE SPECIFIED
EARTHWORK	ELEVATIONS WITHIN 3 INCHES OF ELEVATIONS SPECIFIED IN THE CONTRACT DOCUMENTS.
MBANKMENTS	EMBANKMENTS, CLAY CORES AND CUT-OFF TRENCHES. ELEVATIONS NOT LESS THAN THE VALUES SPECIFIED.
DRAINAGE STRUCTURES	ELEVATIONS WITHIN 1.2 INCHES (0.1 FEET) OF THE VALUES SPECIFIED.
PIPE INVERTS	ELEVATIONS WITH 1.2 INCHES (0.1 FEET) OF THE VALUES SPECIFIED.
RIPRAP	RIPRAP. DIMENSIONS WITHIN 3 INCHES OF DIMENSIONS SPECIFIED.
FREEBOARD	FREEBOARD. NOT LESS THAN THE VALUES SPECIFIED.
VOLUMES	VOLUMES. NOT LESS THAN THE VALUES SPECIFIED.
GREGATE, SAND, AN THE VALUES	BIORETENTION SOIL MIX AND MULCH THICKNESS. NOT LESS SPECIFIED.

ICATION	
GEMENT FACILITY SHOWN ON THE ORDANCE WITH THE PLANS THE ENVIRONMENT, EXCEPT AS	
TURE	
· 2	
ITY IDENTIFICATION BER AND/OR TYPE)	
FESSIONAL OPINION BASED ON NS AND MATERIAL TESTS	
A DULY	

THE CERTIFYING END	GINEER	STORMWATER MANGEMENT AS-BUILT CERTIFICATION REQUIREMENTS	
SWM-2		PROVIDE LAND SURVEYOR QUALIFICATIONS FOR REVIEW AND APPROVAL. PROVIDE DOCUMENTATION VIA PHOTOGRAPHS THAT ALL ELEVATIONS, DIMENSIONS, AND THICKNESS OF INSTALLED MATERIALS MEET	WHBC
DESIGN *AS-	S-BUILT	THE DESIGN REQUIREMENTS INDICATED ON THE AS-BUILT DATA TABLE FOR THE MICRIOBIORETENTION FACILITY SHOWN ON THIS SHEET FOR UNDERDRAIN GRAVEL, PEA GRAVEL, SAND, BSM AND MULCH	
20 X 11 / 160		LAYERS. SUBMIT COPIES OF ALL DELIVERY TICKETS FOR THE MICROBIORETENTION CONSTRUCTION MATERIALS TO SMITHSONIAN AND THE CERTIFYING ENGINEER.	
175.80			HARBOR HALL COURTYARD IMPROVEMENTS
6		² SUBITTALS REQUIRED:	UMBC Project No.: 23-126
3:1		1. QUALIFICATION DATA: FOR INSTALLER, TESTING AGENCY. 2. MATERIAL AND PRODUCT CERTIFICATES: FOR EACH TYPE OF MATERIAL AND PRODUCT USED.	UMB Project No.: XXXX A/E Project No.: 17-0782.011
176.30		3. MATERIAL TEST REPORTS: FOR EACH MATERIAL USED, BY A QUALIFIED TESTING AGENCY.4. FIELD QUALITY-CONTROL REPORTS.	GC/CM Project No.: XXXX
12" NYLOPLAST		5. DAILY PHOTOGRAPHS OF SWM CONSTRUCTION PROGRESS.	
176.55		³ NOTIFY SMITHSONIAN AND THE CERTIFYING ENGINEER AT LEAST 72 HOURS IN ADVANCE OF THE FOLLOWING STAGES OF CONSTRUCTION FOR THE STORMWATER MANAGEMENT FACILITY(S):	
176.42		A. DURING EXCAVATION TO SUBGRADE AND PLACEMENT AND BACKFILL OF UNDERDRAIN SYSTEMS.	A. MORTON THOMAS AND ASSOCIATES, INC. CONSULTING ENGINEERS
176.48		B. DURING PLACEMENT OF FILTER MEDIA INCLUDING THE SAND AND PEA GRAVEL LAYERS. C. DURING CONSTRUCTION OF APPURTENANT CONVEYANCE.	700 KING FARM BOULEVARD, SUITE 300 ROCKVILLE, MD 20850 PHONE (301) 881-2545 FAX (301) 881-0814
101		D. UPON COMPLETION OF FINAL GRADING AND ESTABLISHMENT OF PERMANENT STABILIZATION.	EMAIL: AMT1@AMTENGINEERING.COM
6" / 172.38		4 PRIOR TO THE INSTALLATION OF FINAL LANDSCAPING, HIRE A PROFESSIONAL LAND SURVEYOR	OF MAR
8" / 172.25		REGISTERED AND LICENSED IN THE STATE OF MARYLAND TO CONDUCT A TOPOGRAPHIC SURVEY OF THE STORMWATER MANAGEMENT FACILITY AND STORM DRAINAGE SYSTEM. PROVIDE THE SURVEY IN	
101		AUTOCAD FORMAT TO LEIDOS AND THE CERTIFYING ENGINEER. THE SURVEY SHALL INCLUDE THE FACILITY AND 20' FEET BEYOND IT'S PERIMETER AND BE IN THE COORDINATE SYSTEM INDICATED ON	E S S I MAN
3		THE DRAWINGS AND CONTAIN SUFFICIENT INFORMATION TO VALIDATE THE DESIGN INFORMATION SHOWN ON THIS PLAN. THE CERTIFYING ENGINEER WILL CONDUCT A REVIEW OF THE SURVEY AND DETERMINE IF ANY CORRECTIVE MEASURES ARE REQUIRED TO BRING THE FACILITY INTO COMPLIANCE WITH THE	32561C
24		APPROVED PLANS. COMPLETE ANY CORRECTIVE MEASURES AND INCORPORATE THOSE CHANGES INTO THE TOPOGRAPHIC SURVEY. PROVIDE AN AN UPDATED SURVEY FILE IN AUTOCAD FORMAT TO	100 NAL 02/12/24
4		SMITHSONIAN AND THE CERTIFYING ENGINEER.	Mich C. Wychil
4		5 WITH APPROVAL FROM SMITHSONIAN AND THE CERTIFYING ENGINEER THAT THE AS-BUILT SURVEY	Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed
15		CONFIRMS COMPLIANCE WITH THE APPROVED PLANS, THE CONTRACTOR SHALL INSTALL FINAL STORMWATER MANAGEMENT STABILIZATION AND PLANTINGS. PROVIDE 72 HOUR NOTIFICATION TO	professional engineer under the laws of the State of Maryland, License No. <u>32561</u> , Expiration Date: <u>01/06/2026</u>
1		SMITHSONIAN, CERTIFYING ENGINEER AND LANDSCAPE ARCHITECT FOR WHEN THE PLANT LOCATIONS WILL BE STAKED OUT AS INDICATED ON THE LANDSCAPE PLANS. THE CERTIFYING ENGINEER AND	100% CONSTRUCTION DOCUMENTS
1		LANDSCAPE ARCHITECT WILL CONFIRM THE INSTALLED PLANTINGS LOCATIONS.	
13		ONCE PLANTINGS ARE INSTALLED, THE CERTIFYING ENGINEER WILL SUBMIT THE AS-BUILT PLAN TO THE MDE FOR REVIEW AND APPROVAL. THE CONTRACTOR SHALL MAINTAIN THE STORMWATER MANAGEMENT FACILITY(S) IN ACCORDANCE WITH THE SPECIFICATIONS.	CONSULTANTS
		7 THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR MAINTENANCE OF ALL STORMWATER-RELATED	LANDSCAPE ARCHITECTURE
		FACILITIES UNTIL THE MARYLAND DEPARTMENT OF THE ENVIRONMENT CONDUCTS THE CLOSEOUT INSPECTION AND RELEASES THE PERMIT. THE CONTRACTOR SHALL ALSO PERFORM ANY REQUIRED	FLOURA TEETER LANDSCAPE ARCHITECTS
		MAINTENANCE TO THE FACILITY TO ENSURE FULL FUNCTIONALITY, AND ANY FINAL REQUIRED PUNCH-LIST ITEMS AS REQUIRED BY OWNER, PRIOR TO FINAL OWNER ACCEPTANCE OF THE FACILITY.	ELECTRICAL ENGINEERING WFT ENGINEERING, INC.
			GEOTECHNICAL SERVICES
	J		KIM ENGINEERING
		MAINTENANCE SCHEDULE FOR MICRO-BIORETENTION	COST ESTIMATING FORELLA GROUP, LLC
INSPECTION ITEM		INSPECTION REQUIREMENTS REMEDIAL ACTION	
DEBRIS AND TRASH	SH I	CHECK FOR TRASH AND DEBRIS IN FACILITY INCLUDING INLETS, OUTLETS, CONVEYANCE SYSTEMS, AND AREA AROUND FACILITY. REMOVE ALL TRASH AND DEBRIS AND DISPOSE IN AN ACCEPTABLE MANNER. UNCLOG ALL OPENINGS	
PLANT COMPOSITION AND) HEALTH	COMPARE PLANT COMPOSITION WITH APPROVED PLANS. CHECK FOR INVASIVE SPECIES OR WEEDS. CUECK FOR INVASIVE SPECIES OR WEEDS. CUECK FOR DEAD OF DYNAG VECTATION	
		CHECK FOR DEAD OR DYING VEGETATION.	
VEGETATIVE COVER	R	CHECK FOR CHANNELIZING, EROSION, AND BARE SPOTS. CHECK FOR VEGETATION BLOCKING INLET AND OUTLET. REMOVE OR CUT BACK VEGETATION AROUND INLET AND OUTLET STRUCTURES. MOW SIDE SLOPES WHEN GRASS EXCEEDS 12 INCHES IN HEIGHT, BUT DO NOT MOW FILTER BED. REMOVE GRASS CLIPPINGS. RE-SEED OR RE-PLANT IN ACCORDANCE WITH APPROVED LANDSCAPING PLANS.	
MULCH LAYER		CHECK MULCH FOR ADEQUATE COVER, SEDIMENT ACCUMULATION OF DISCOLOBATION ACCUMULATION OF DISCOLOBATION CHECK MULCH FOR ADEQUATE COVER, SEDIMENT	
WULUN LAIEK		ACCUMULATION, OR DISCOLORATION.	
		SEASONAL INSPECTION AND AFTER A MAJOR STORM	
DEWATERING	1	CHECK PONDING LEVEL, SURFACE STORAGE MUST DEWATER WITHIN 48 HOURS OF RAINFALL. NOTICEABLE ODORS, STAINED WATER ON THE FILTER SURFACE OR AT THE OUTLET, OR THE PRESENCE OF ALGAE OR AQUATIC VEGETATION ARE INDICATORS OF ANAEROBIC CONDITIONS AND INADEQUATE DEWATERING OF THE FACILITY.	
		CHECK INLETS FULTER RED. OUTLETS AND SIDE RE-GRADING MAY BE REQUIRED WHEN CONCENTRATED FLOW	
EROSION	5	CHECK INLETS, FILTER BED, OUTLETS, AND SIDE SLOPES FOR EROSION, RILLS, GULLIES, AND RUNOFF CHANNELIZATION. CHANELIZATION. C	
SEDIMENT ACCUMULAT	TION	CHECK FOR ACCUMULATED SEDIMENT IN CONVEYANCE SYSTEMS AND ON FILTER BED. CHECK FOR CLOGGED OPENINGS. OF ALL SEDIMENT IN AN ACCEPTABLE LOCATION.	
BLOCKAGES		CHECK OVERFLOW INLET (RISER), PIPING, AND UNDERDRAIN FOR BLOCKAGES. CHECK OBSERVATION WELLS FOR WATER LEVEL.	KEY PLAN
		ANNUAL INSPECTION	REV DATE DESCRIPTION
MAINTENANCE ACCES	ESS	CHECK FOR ACCESSIBILITY TO FACILITY. PREVENT EXCESSIVE VEGETATIVE GROWTH, EROSION, AND OBSTRUCTIONS ON ACCESS WAY.	RECORD SET AS-BUILT / CONFORMING SET
FLOW CONVEYANCE SY	YSTEM	CHECK OVERFLOW INLET, PIPING, AND BYPASS FOR MISALIGNMENTS, BREAKAGE, AND BLOCKAGE REPAIR ANY BROKEN OR FAULTY PIPING. CLEAR OUT ANY BLOCKAGES.	02/12/2024 100% CONSTRUCTION SET 12/08/2023 95% CONSTRUCTION SET 10/26/2023 50% CONSTRUCTION SET
STRUCTURAL COMPONE		CHECK FOR EVIDENCE OF STRUCTURAL DETERIORATION, SPALLING, OR CRACKING. INLET AND OUTLET STRUCTURES AS WELL AS RIPRAP OUTFALLS MUST BE IN GOOD CONDITION. REPAIR TO GOOD CONDITION ACCORDING TO SPECIFICATIONS ON THE APPROVED PLANS	08/24/2023 DESIGN DEVELOPMENT 06/13/2023 SCHEMATIC DESIGN DATE: 02/12/2024 SCALE: N.T.S.
OVERALL FUNCTION OF F	FACILITY	CHECK THAT PRACTICE IS FUNCTIONING AS DESIGNED REPAIR TO GOOD CONDITION ACCORDING TO SPECIFICATIONS ON THE APPROVED PLANS	STORMWATER MANAGEMENT NOTES
	I		 CW-501

CW-501

			SAND, FURNISHED MENDMENTS. NO O'			MI
BE USED.					TH 0 77 0D	MATERIAL
			SAND THAT CONFOR BY WEIGHT OF AN			PLANTING SOIL
	EYSTONE, CALCAR					ORGANIC CONTENT
	TOPSOIL. REFER 1 MULCH. HARDWOOD		HALL BE THE BAR	AND WO	D OF HARDWOOD	MULCH
TREES THAT LESS. HARD	IS MILLED AND SO WOOD MULCH SHAL	CREENED T _L BE AGE	TO A UNIFORM PAR D FOR 6 MONTHS NO FOREIGN MATEI	TICLE SIZE DR LONGER	OF 2 IN. OR	PEA GRAVEL DIAPHRAGM
(4) AMENDMENTS	S. REFER TO SPEC	IFICATIONS	. LIMESTONE, SULF	JR, AND IF		CURTAIN DRAIN
MAY BE USE	D TO ADJUST PH	OF B2W' L	NO OTHER AMENDM	ENIS SHAL	L BE USED.	GEOTEXTILE
(b) COMPOSITION. BSM BIORETENTION SOI		1 TO THE I	REQUIREMENTS IN (COMPOSITIO	N —	GRAVEL (UNDERDRAINS AN INFILTRATION BERMS)
. <u>STORAGE</u> . FURNISHED FACILITY OR IT SHALL IN A STOCKPILE.						
. <u>APPROVAL</u> . TESTS SH BIORENTENTION SOIL		D AND AP	PROVAL WILL BE G	RANTED BE	FORE	UNDERDRAIN PIPING
. <u>CERTIFICATION AND D</u> BIORETENTION SOIL M				THAT THE	FURNISHED	
TEST PROPERTY WEEDS	TEST METHOD		TENTION SOIL TEST V OF SEED AND VIAB	/ALUE LE PLANT	SPECIES WHEN	
WEEDS			INSPE	CTED		
DEBRIS			SERVABLE CONTEN [®] , CRUSHED GRAVE			POURED IN PLACE CONCRE
						(IF REQUIRED)
HARDWOOD MULCH		20% 0	F LOOSE VOLUME (OF BSM WH	EN INSPECTED	(IF REQUIRED)
HARDWOOD MULCH	 T-88	20% 0	F LOOSE VOLUME (PARTICLE	DF BSM WH	EN INSPECTED	(IF REQUIRED)
HARDWOOD MULCH		20% 0 SIZE	PARTICLE mm	DF BSM WH	EN INSPECTED MAXIMUM	(IF REQUIRED)
			PARTICLE			(IF REQUIRED)
HARDWOOD MULCH		SIZE	PARTICLE mm	MINIMUM	MAXIMUM 94 20 COMBINED SILT CLAY	(IF REQUIRED)
		SIZE SAND	PARTICLE mm 2.0 - 0.050	MINIMUM 79 4	MAXIMUM 94 20 COMBINED	
		SIZE SAND SILT	PARTICLE mm 2.0 - 0.050 0.050 - 0.002	MINIMUM 79 4 1	MAXIMUM 94 20 COMBINED SILT CLAY	
TEXTURE ANALYSIS	T-88 ASTM D4972 T-267	SIZE SAND SILT	PARTICLE mm 2.0 - 0.050 0.050 - 0.002 LESS THAN 0.002	MINIMUM 79 4 1 7 TO 7.4	MAXIMUM 94 20 COMBINED SILT CLAY 21	
TEXTURE ANALYSIS SOIL pH	T-88 ASTM D4972	SIZE SAND SILT CLAY	PARTICLE mm 2.0 - 0.050 0.050 - 0.002 LESS THAN 0.002 pH OF 5. MINIMUM 1.5 PER 500 PPM (0.78 mm	MINIMUM 79 4 1 7 TO 7.4 CENT BY V hos/cm)	MAXIMUM 94 20 COMBINED SILT CLAY 10 21 /EIGHT OR LESS	(IF REQUIRED)
TEXTURE ANALYSIS SOIL pH ORGANIC MATTER	T-88 ASTM D4972 T-267 EC 1:2	SIZE SAND SILT CLAY CLAY 5 TOPS CONCE HEAI INDUSTRI	PARTICLE mm 2.0 - 0.050 0.050 - 0.002 LESS THAN 0.002 pH OF 5. MINIMUM 1.5 PER	MINIMUM 79 4 1 7 TO 7.4 CENT BY V hos/cm) NTAIN SUE RE HARMF Y, OR PLA 5 ASH, SLA 5 SHALL NO	MAXIMUM 94 20 COMBINED SILT CLAY 21 10 /EIGHT OR LESS 3STANCES IN UL TO HUMAN NT GROWTH. AG, RAW SLUDGE,	

TEXTURE, AND NOT DERIVED FROM THE PROJECT. PRODUCERS SHALL BE INCLUDED IN THE QUALIFIED PRODUCTS LIST MAINTAINED BY THE MARYLAND STATE HIGHWAY ADMINISTRATION FOR FURNISHED TOPSOIL.

COMPOSITION. FURNISHED TOPSOIL SHALL CONFORM TO THE FOLLOWING (a)

COMPOSITION - FURNISHED TOPSOIL

TEST PROPERTY	TEST METHOD		TEST VALUE			
WEEDS		FREE OF LIVE STEMS OR ROOTS OF SHATTERCANE, JOHNSONGRASS, CANADA THISTLE, BULL THISTLE, PLUMELESS THISTLE, MUSK THISTLE, COMMON REED AND JAPANESE KNOTWEED AS WELL AS LIVE STEMS AND ROOTS OF BERMUDAGRASS, QUACKGRASS, AND YELLOW NUTSEDGE. WHEN INSPECTED BEFORE TRANSPORTATION.				
DEBRIS			SHED GRAVEL O		ENT, CONCRETE, ASPHALT, JCTION DEBRIS WHEN	
		SI	EVE SIZE	PASSING E	BY WEIGHT MINIMUM %	
GRADING ANALYSIS	R-58		2 IN.		100	
ORADING ANALISIS	K 30		NO. 4	90		
			NO. 10	80		
		SIZE	mm	MINIMUM	MAXIMUM	
	T-88	SAND	2.0 - 0.050	20	75	
TEXTURE ANALYSIS		SILT	0.050 - 0.002	COMBINED SILT AND	75	
		CLAY	LESS THAN 0.002	CLAY 25	30	
SOIL pH	ASTM D4972		рН	OF 6.1 TO 7	.4	
ORGANIC MATTER	T-267		4.0 TO 8	B.0% OM BY	WEIGHT	
NUTRIENT CONTENT		APPLY FERTILIZER FOR NITROGEN REQUIREMENT AND OPTIMUM FERTILITY INDEX VALUES (FIV) FOR PHOSPHOROUS AND POTASSIUM				
SOLUBLE SALTS	EC 1:2 (V:V)	500 PPM (0.78 mm hos/cm) OR LESS				
HARMFUL MATERIALS		CONCEN WATER	QUALITY, OR P S ASH, SLAG, R	ARE HARMFU LANT GROWTH	JL TO HUMAN HEALTH, H. INDUSTRIAL WASTE OR SIMILAR MATERIALS	

	MATERIAL FOR ND INTER-CELI	
P	ORTLAND C	EMENT
MIX NO.	SPECIFIED ACCEPTANCE COMPRESSIVE STRENGTH (PSI)	COMPRES STRENG TEST AC (DAYS)
2		
3	3500	28

GEOTEXTILE SPECIFICATIONS FOR STORMWATER MANAGEMENT FACILITIES

MARYLAND APPLICATION CLASS		TYPE OF GEOTEXTILE	GRAB STRENGTH Ib	PUNCTURE STRENGTH LB	PERMITTIVITY sec-1	APPARENT OPENING SIZE, MAX mm	TRAPEZOID TEAR STRENGTH*** Ib
			D4632	D6241	D4491	D4751	D4533
	TYPE	NONWOVEN	160	310	0.50	0.43	55
SD	I	WOVEN, MONOFILAMENT	250	495	0.50	0.43	90
50	TYPE	NONWOVEN	160	310	0.20	0.25	55
	II	WOVEN, MONOFILAMENT	250	495	0.20	0.25	90
	TYPE	NONWOVEN	200	430	0.70	0.43	80
		WOVEN, MONOFILAMENT	250	620	0.70	0.43	90
PE	TYPE	NONWOVEN	200	310	0.20	0.25	55
	II	WOVEN, MONOFILAMENT	250	495	0.20	0.25	90
	TYPE	NONWOVEN	200	220	0.10	0.22	40
	==	WOVEN, MONOFILAMENT	250	370	0.10	0.22	70
s		NONWOVEN	160	310	0.20	0.30	80
	L	WOVEN	250	495	0.20	0.30	90

CLASSES, EXCEPT CLASS F. WHICH SHALL BE 70 PERCENT (D4355). ***MACHINE DIRECTION

	CRO-BIORETENTION CONSTRUCTION SPECIFICATIONS							
	SPECIFICATION	SIZE	NOTES SEE SPECIFICATIONS, THIS SHEET.					
			SEE SPECIFICATIONS, THIS SHEET.					
	SHREDDED HARDWOOD		AGED 6 MONTHS, MINIMUM; NO PINE OR WOOD CHIPS					
	PEA GRAVEL: ASTM D-448	NO. 8 OR NO. 9 (1/8" TO 3/8")						
	ORNAMENTAL STONE: WASHED COBBLES	STONE: 2" TO 5"						
			PE TYPE 1 NONWOVEN					
1D	ASTM M-43	NO. 57 OR NO. 6 AGGREGATE (3/8" to 3/4")						
	F 758, TYPE PS 28 OR AASHTO M-278	6" RIGID SCHEDULE 40 PVC -OR-SDR35	PERFORATED PIPE; 3/8" PERF. @ 6" ON CENTER, 4 HOLES PER ROW; MINIMUM OF 3" OF GRAVEL OVER PIPES; NOT NECESSARY UNDERNEATH PIPES. PERFORATED PIPE SHALL BE WRAPPED WITH ¼-INCH GALVANIZED HARDWARE CLOTH					
TE	MSHA MIX NO. 3; F'C = 3500 PSI @ 28 DAYS, NORMAL WEIGHT, AIR-ENTRAINED; REINFORCING TO MEET ASTM-615-60	N/A	ON-SITE TESTING OF POURED-IN-PLACE CONCRETE REQUIRED: 28 DAY STRENGTH AND SLUMP TEST; ALL CONCRETE DESIGN (CAST-IN-PLACE OR PRE-CAST) NOT USING PREVIOUSLY APPROVED STATE OR LOCAL STANDARDS REQUIRES DESIGN DRAWINGS SEALED AND APPROVED BY A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE STATE OF MARYLAND - DESIGN TO INCLUDE MEETING ACI CODE 350.R/89; VERTICAL LOADING [H-10 OR H-20]; ALLOWABLE HORIZONTAL LOADING (BASED ON SOIL PRESSURES); AND ANALYSIS OF POTENTIAL CRACKING					
	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.					
TER	UNIFIED SOIL CLASSIFICATION GC, SC, CH, OR CL	AT LEAST 30% OF THE MATERIAL MUST PASS THE #200 SIEVE	THE MINIMUM REQUIRED DENSITY SHALL NOT BE LESS THAN 95% OF MAXIMUM DRY DENSITY WITH A MOISTURE CONTENT WITHIN ±2% OF THE OPTIMUM. ALL COMPACTION IS TO BE DETERMINED BY AASHTO METHOD T-99 (STANDARD PROCTOR). BERMS SHOULD HAVE 4" THICK OUTER TOPSOIL LAYER TO SUPPORT VEGETATION OF THE QUALITY REQUIRED TO PREVENT EROSION.					

r co	NCRETE	MIXTUR	ES - MA	RYLAND S	STATE HIC	GHWAY	SPECIF	ICATIONS
SSIVE GTH AGE S)	STANDARD DEVIATION (PSI)	CRITICAL VALUE (PSI)	MINIMUM CEMENT FACTOR (LB/CY)	COURSE AGGREGATE SIZE M 43 / M 195	MAX WATER/ CEMENT RATIO (BY WEIGHT)	SLUMP RANGE (INCHES)	TOTAL AIR CONTENT %	CONCRETE TEMPERATURE (°F)
	525	3600	580	57,67	0.5	2-5	5-8	50-95

NOTE 1: ALL PROPERTY VALUES IN THE ABOVE TABLE ARE BASED ON MINIMUM AVERAGE ROLL VALUES IN THE WEAKEST PRINCIPAL DIRECTION EXCEPT FOR APPARENT OPENING SIZE. NOTE 2: THE ULTRAVIOLET STABILITY SHALL BE 50 PERCENT AFTER 500 HRS OF EXPOSURE FOR ALL

*15 PERCENT ELONGATION FOR SILT FENCE AND MONOFILAMENT WOVEN GEOTEXTILE IN MACHINE DIRECTION. **THIS IS A MINIMUM APPARENT OPENING SIZE, NOT A MAXIMUM.

MICRO-BIORETENTION CONSTRUCTION REQUIREMENTS

- SEDIMENT FROM ENTERING SWM FILTRATION FACILITIES DURING CONSTRUCTION.
- TIRES.
- FOLLOWS.
- (a) TILL TO A MINIMUM DEPTH OF 8 IN. TO LOOSEN SOIL. PRIOR TO THE PLACEMENT OF THE LINER.
- GEOTEXTILE ON THE BOTTOM OF THE EXCAVATED AREA.
- INDICATED.
- 7. MISCELLANEOUS STRUCTURES. FURNISH AND INSTALL AS INDICATED.
- AGGREGATE. REMOVE CONTAMINATED AGGREGATE AND REPLACE WITH CLEAN AGGREGATE.
- CONNECTIONS. PROVIDE A COUNTER-SUNK SCREW CAP ON THE EXPOSED ENDS.

- CONTAMINATED BSM AND REPLACE WITH UNCONTAMINATED BSM.
- 14. <u>CHECK DAMS</u> (IF INDICATED). (b) CONCRETE CHECK DAMS, FURNISH AND INSTALL CONCRETE CHECK DAMS AS SPECIFIED.
- 15. SOIL STABILIZATION MATTING (SSM). INSTALL AT SHOWN ON THE DRAWINGS.
- OTHER THAN HAND HELD WITHIN THE BSM FOOTPRINT.
- (a) TURFGRASS ESTABLISHMENT. PER LANDSCAPE PLANS AND SPECIFICATIONS.
- (c) TURFGRASS SOD ESTABLISHMENT. PER LANDSCAPE PLANS AND SPECIFICATIONS.

- (b) TREES, SHRUB, AND PERENNIALS IN BSM. DO NOT APPLY COMPOST OR OTHER SOIL AMENDMENTS TO BACKFILL SOIL OR TO PLANTING BEDS.
 - OTHER PLANT MATERIALS ARE INSTALLED IN BSM.
- (c) SEEDED OR SODDED BSM. DO NOT APPLY COMPOST OR OTHER SOIL AMENDMENTS.

BIORETENTION SOIL MIX TABLE 1 – FERTILIZER APPLICATION RATES FERTILIZER

20-16-12 (83% UF WITH MAP AND SOP) = 0.052 LBS PER SY(200 LBS PER ACRE) 14-14-14 POLYMER COATED OR GRANULAR = 0.062 LBS PER SY (275 LBS PER ACRE)

- STABILIZATION MATTING OR SOD IS INSTALLED.
- 18. SHREDDED HARDWOOD BARK (SHB) MULCH. AS INDICATED.
- CONTRACT DOCUMENTS.

1. SITE PROTECTION. PRIOR TO CONSTRUCTING SWM FILTRATION FACILITIES, ENSURE THAT THE SWM FACILITY SITE AREAS ARE PROTECTED FROM VEHICULAR TRAFFIC AND IS NOT USED FOR EROSION AND SEDIMENT CONTROLS, STOCKPILES OR EQUIPMENT STORAGE.

2. SITE PREPARATION. UNLESS FACILITIES ARE OFF-LINE AND WILL RECEIVE NO RUNOFF, CONSTRUCT FACILITIES ONLY AFTER ALL SURROUNDING AND ADJACENT AREAS ARE PERMANENTLY STABILIZED. DIVERT FLOW FROM ENTERING THE SWM FILTRATION FACILITY AREAS UNLESS SAME-DAY STABILIZATION IS SPECIFIED FOR THE SWM FILTRATION FACILITY LOCATION. PREVENT TRASH, DEBRIS AND

3. SCHEDULE. PERFORM SWM FILTRATION FACILITY ACTIVITIES DURING DRY WEATHER AND WHEN SOIL MOISTURE CONDITIONS ARE SUITABLE AND UNLESS THE FACILITY IS OFF-LINE OR FLOW DIVERSIONS ARE IN PLACE. ONLY WORK WITH SOIL THAT IS FRIABLE AND NOT IN A MUDDY OR FROZEN CONDITION. CEASE OPERATIONS WHEN SOIL AND OVERALL CONDITIONS ARE OTHERWISE UNSUITABLE.

4. EXCAVATION. USE METHODS OF EXCAVATION THAT MINIMIZE COMPACTION OF THE UNDERLYING SOILS. WHERE FEASIBLE. OPERATE EQUIPMENT FROM LOCATIONS ADJACENT TO SWM FILTRATION FACILITIES RATHER THAN WITHIN THE FACILITY AREA. USE ONLY WIDE-TRACK OR MARSH-TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TURF-TYPE TIRES TO EXCAVATE, GRADE, AND PLACE MATERIALS. DO NOT USE EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS, OR HIGH-PRESSURE

5. EXCAVATION AREA BOTTOM PREPARATION. ONLY WORK WITH SOIL THAT IS FRIABLE AND NOT IN A MUDDY OR FROZEN CONDITION. WHEN PRESENT, REMOVE ANY STANDING WATER FROM THE EXCAVATION AREA. PREPARE THE BOTTOM OF THE EXCAVATED AREA AS

(b) IF IMPEMEABLE LINER IS INDICATED ON THE BOTTOM AND SIDES OF THE FACILITY, TILLING OF THE SOIL IS NOT REQUIRED. ANY SHARP OBJECTS SUCH AS STONES, ROOTS OR OTHER DELETOUIS MATERIALS SHALL BE REMOVED FROM THE EXCAVATED AREA

6. GEOTEXTILE (IF INDICATED). PLACE TIGHTLY AGAINST THE VERTICAL SIDES OF THE EXCAVATION AREA, PULLING TIGHT TO ELIMINATE WRINKLES AND FOLDS AND PIN SECURELY. ELIMINATE ANY VOIDS BETWEEN THE GEOTEXTILE AND THE UNDERLYING SOIL AND AVOID WRINKLING AND FOLDING THE GEOTEXTILE. MAINTAIN A MINIMUM 12 IN. OVERLAP AT THE GEOTEXTILE JOINT ENDS OR BREAKS. PIN LONGITUDINAL JOINTS, OVERLAPS AND EDGES SECURELY WITH PINS SPACED NO GREATER THAN 10 FT ON CENTER. DO NOT PLACE

6. IMPERMEABLE LINER (IF INDICATED). PLACE TIGHTLY AGAINST THE VERTICAL SIDES OF THE EXCAVATION AREA, PULLING TIGHT TO ELIMINATE WRINKLES AND FOLDS AND PIN SECURELY. ELIMINATE ANY VOIDS BETWEEN THE LINER AND THE UNDERLYING SOIL AND AVOID WRINKLING AND FOLDING THE LINER. INSTALL PER LINER MANUFACTURER'S RECOMMENDATIONS. INSTALL LINER TO ELEVATIONS

8. AGGREGATE. PLACE AGGREGATE IN LAYERS AS SPECIFIED. PREVENT SOIL, FINES, AND OTHER DEBRIS FROM CONTAMINATING THE

9. SUBDRAIN PIPE. CAP THE ENDS OF ALL SUBDRAIN PIPE NOT TERMINATING IN A CLEANOUT, VENT, OR DRAINAGE STRUCTURE UNLESS OTHERWISE SPECIFIED. ENSURE PERFORATIONS ARE PLACED ON THE BOTTOM OF THE HORIZONTAL SUBDRAIN PIPE RUNS.

(a) <u>CLEANOUTS</u>. INSTALL SOLID-WALL PIPE VERTICALLY AND CONNECT TO HORIZONTAL SUBDRAIN WITH APPROVED MANUFACTURED

(b) VENTS (IF INDICATED). INSTALL SOLID-WALL PIPE VERTICALLY AND CONNECT TO THE HORIZONTAL SUBDRAIN WITH APPROVED MANUFACTURED CONNECTIONS. PROVIDE A VENTILATED SCREW CAP ON THE EXPOSED ENDS. VENTILATION HOLES OR SLOTS SHALL BE NO LARGER THAN 1/4 IN. IN DIAMETER OR WIDTH. THE SUM TOTAL AREA OF THE OPENINGS SHALL BE NO LESS THAN 1 IN2. ENSURE THAT THE VENTILATION OPENINGS ARE ABOVE THE MAXIMUM SPECIFIED WATER SURFACE ELEVATION.

(c) OBSERVATION WELLS. USE PERFORATED AND SOLID-WALL PIPE. PLACE THE GEOTEXTILE SOCK OVER THE PERFORATED PIPE PORTION AND SECURE AT BOTH ENDS. PROVIDE A SCREW CAP ON THE EXPOSED END EXTENDING 2 IN. ABOVE THE SURFACE. WHEN A CONCRETE COLLAR IS SPECIFIED, ENSURE THE TOP OF THE WELL IS FLUSH WITH THE SURFACE OF THE CONCRETE COLLAR

10. PEA GRAVEL. PLACE PEA GRAVEL IN HORIZONTAL LAYERS AS SPECIFIED. PREVENT SOIL, FINES, AND OTHER DEBRIS FROM CONTAMINATING THE PEA GRAVEL. REMOVE CONTAMINATED AGGREGATE AND REPLACE WITH CLEAN AGGREGATE.

11. COARSE SAND, PLACE COARSE SAND IN HORIZONTAL LAYERS NOT EXCEEDING 12 IN. AFTER EACH LIFT, SPREAD THE COARSE SAND TO PROVIDE A UNIFORM SURFACE THEN SPRAY OR SPRINKLE WATER TO SATURATE THE LIFT UNTIL WATER FLOWS FROM THE SUBDRAIN OUTLET. USE AN APPROPRIATE SEDIMENT CONTROL DEVICE TO CAPTURE ANY DISCHARGED SEDIMENT-LADEN WATER FROM THE SUBDRAIN OUTLET. PLACE, SPREAD, AND WATER COARSE SAND TO UNIFORM SURFACE TRUE TO DEPTH, LINE, CROSS SECTION AND ELEVATION TO ENSURE THE COMPLETED WORK IS AS SPECIFIED AFTER SETTLEMENT. PREVENT SOIL, FINES AND OTHER DEBRIS FROM CONTAMINATING THE COARSE SAND. REMOVE CONTAMINATED COARSE SAND AND REPLACE WITH CLEAN COARSE SAND.

12. BIORETENTION SOIL MIX (BSM). PLACE BSM IN HORIZONTAL LAYERS NOT EXCEEDING 12 IN. AFTER EACH LIFT, SPREAD THE BSM TO PROVIDE A UNIFORM SURFACE AND SPRAY OR SPRINKLE WATER TO SATURATE THE ENTIRE AREA OF BSM UNTIL WATER FLOWS FROM THE SUBDRAIN OUTLET. USE AN APPROVED SEDIMENT CONTROL DEVICE TO CAPTURE ANY DISCHARGE SEDIMENT-LADEN WATER. PLACE. SPREAD, AND WATER BSM TO UNIFORM SURFACE TRUE TO DEPTH, LINE, CROSS SECTION AND ELEVATION TO ENSURE THE COMPLETED WORK IS AS SPECIFIED AFTER SETTLEMENT. PREVENT SOIL, FINES, AND OTHER DEBRIS FROM CONTAMINATING THE BSM. REMOVE

13. TOPSOIL, PLACE TOPSOIL AS SPECIFIED. DO NOT BLEND TOPSOIL INTO BSM WHEN TOPSOIL IS PLACED ON TOP OF BSM.

(a) TOPSOIL CHECK DAMS. CONSTRUCT TOPSOIL CHECK DAMS TO THE DIMENSIONS, GRADES, AND DEPTHS SPECIFIED.

16. VEGETATION INSTALLATION AND ESTABLISHMENT. UNLESS FACILITIES ARE OFF-LINE OR FLOW DIVERSIONS ARE IN PLACE, INSTALL SEED, SOD. TREES. SHRUBS. PERENNIALS. AND ANNUALS WITHIN SWM FILTRATION FACILITY AREAS IMMEDIATELY AFTER FINAL GRADING. IN THE EVENT THAT VEGETATION CANNOT BE INSTALLED AND ESTABLISHED DUE TO TIME-OF-YEAR OR WEATHER RESTRICTIONS. KEEP DIVERSION CONTROLS IN PLACE UNTIL SUCH TIME THAT PERMANENT VEGETATION MAY BE ESTABLISHED. DO NOT USE MACHINERY

(b) MEADOW ESTABLISHMENT AND WILDFLOWER SEEDING. PER LANDSCAPE PLANS AND SPECIFICATIONS.

(d) TREE, SHRUBS AND PERENNIAL INSTALLATION AND ESTABLISHMENT. PER LANDSCAPE PLANS AND SPECIFICATIONS.

(e) ANNUALS & BULB INSTALLATION AND ESTABLISHMENT. PER LANDSCAPE PLANS AND SPECIFICATIONS.

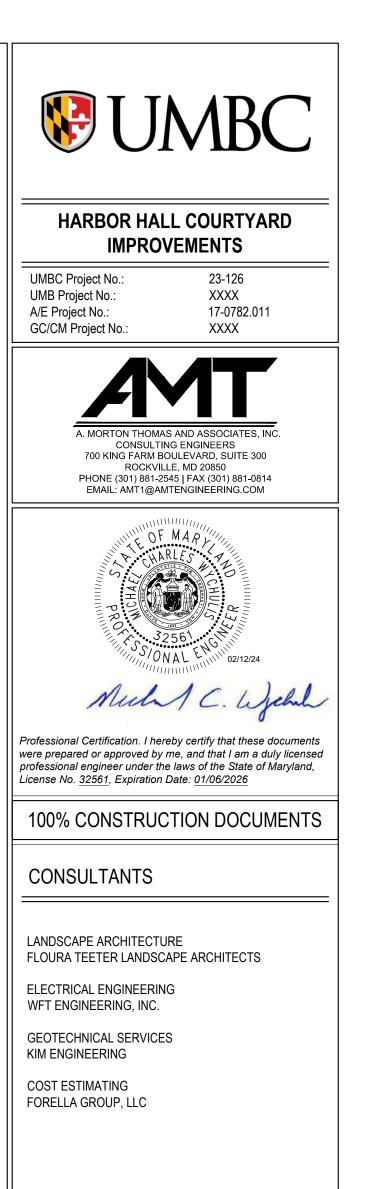
17. SOIL AMENDMENTS AND FERTILIZER, APPLY PER THE SPECIFICATIONS, USE THE FOLLOWING FOR PLANT MATERIALS INSTALLED IN BSM. (a) NON-VEGETATED BSM. DO NOT APPLY COMPOST, OTHER SOIL AMENDMENTS, OR FERTILIZER TO NON-VEGETATED BSM.

APPLY FERTILIZER TO EACH PLANTING PIT PER THE SPECIFICATIONS WHEN TREES, SHRUBS, PERENNIALS, PERENNIAL PLUGS, OR

UNIFORMLY APPLY EITHER OF THE FERTILIZERS IN TABLE 1 AT THE RATE SPECIFIED OVER THE INSTALLED SURFACE OF THE BSM WHEN BSM WILL BE PERMANENTLY VEGETATED WITH TURFGRASS ESTABLISHMENT, SHRUB SEEDING ESTABLISHMENT, MEADOW ESTABLISHMENT, TURFGRASS SOD ESTABLISHMENT, OR OTHER SEEDED OR SODDED VEGETATION ESTABLISHMENT AS SPECIFIED.

(d) FERTILIZER. RAKE FERTILIZER THAT IS BROADCAST OVER THE SURFACE OF THE BSM FOR SEEDING OR SODDING TO A DEPTH OF 1/8 IN. TO 1/2 IN. RAKING MAY BE PERFORMED AS PART OF SEEDING OR SODDING OPERATIONS. COMPLETE RAKING BEFORE SOIL

19. INSPECTION AND SWM FACILITY AS-BUILT CERTIFICATION. INSPECT AND DOCUMENT EACH STEP OF CONSTRUCTION OF SWM FILTRATION FACILITIES AND COMPLETE THE APPLICABLE CHECKLISTS AND FURNISH THE SWM FACILITY AS-BUILT CERTIFICATION ACCORDING TO THE



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	REV	DATE	DESCRIPTION	•
			RECORD SET	
			AS-BUILT / CONFORMING SET	
		02/12/2024	100% CONSTRUCTION SET	
		12/08/2023	95% CONSTRUCTION SET	
		10/26/2023	50% CONSTRUCTION SET	
		08/24/2023	DESIGN DEVELOPMENT	
		06/13/2023	SCHEMATIC DESIGN	
D	ATE:	02/12/2024	SCALE: N.T.S.	

STORMWATER MANAGEMENT NOTES 2



SCALE: 1"=30'

PROPERTY INFORMATION: (PROJECT LIMITS) PARCEL NUMBER: 1372 ACCOUNT NUMBER: 160005752 LIBER/FOLIO: N/A / N/A TAX MAP: 0101

NARRATIVE:

THE SITE IS BOUNDED BY THE CLEAR SPRING WATER RESERVOIR TO THE NORTH AND EAST, AND UNIVERSITY DEVELOPMENT TO THE SOUTH AND WEST. THE SITE CONSISTS OF A COURTYARD BETWEEN TWO UNIVERSITY RESIDENCE HALLS.

GENERAL NOTES:

MDE WATERSHED NUMBER: 02130906

1. THE TOPOGRAPHY SHOWN ON THIS PLAN WITHIN THE WORK AREA IS FROM FIELD SURVEY COMPLETED BY AMT (FEBRURARY 2023) AND COUNTY GIS. 2. THERE ARE NO FLOODPLAINS ON THIS SITE.

3. THE SOURCE OF THE PROPERTY BOUNDARIES ON THIS PLAN IS BASED ON FIELD SURVEY COMPLETED BY AMT (FEBRUARY 2023) 4. IN A LETTER DATED 07-10-2023, AMT RECEIVED CONFIRMATION FROM THE

MARYLAND DEPARTMENT OF NATURAL RESOURCES NATURAL HERITAGE PROGRAM THAT THERE ARE NO KNOWN RARE, THREATENED, OR ENDANGERED SPECIES

6. THERE ARE NO SPECIMEN TREES LOCATED ON THE SUBJECT PROPERTY. THERE ARE NO SPECIMEN TREES LOCATED WITHIN 100' OF THE SUBJECT PROPERTY. THE TREE SURVEY WAS COMPLETED THROUGH FIELD INVESTIGATION.

SUMMARY TABLE (PROJECT LIMITS)

EXISTING FOREST
WETLANDS
FORESTED WETLANDS
STREAM BUFFER
FORESTED STREAM BUFFER
100 YEAR FLOODPLAIN
FORESTED 100 YEAR FLOODPLAIN
LINEAR EXTENTS OF STREAMS
AVERAGE WIDTH OF STREAM BUFFER

	MAPPED SOIL TYPES		
SYMBOL	DESCRIPTION	HYDRIC	HIGHLY ERODIBLE
Ur	Urban Land, 0 to 8 percent slopes	No	No

SOIL DESCRIPTIONS: (MAJOR COMPONENTS ONLY)

Ur—Urban Land, 0-8% SLOPES: GENERATED BRIEF SOIL DESCRIPTIONS ARE CREATED FOR MAJOR SOIL COMPONENTS. THE URBAN LAND IS A MISCELLANEOUS AREA.

LEGEND:

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STORM MANHOLE ROOF DRAIN YARD INLET ELECTRIC JUNCTION BOX LIGHT POLE GROUND LIGHT LAMP EMERGENCY CALL BOX COMMUNICATION MANHOLE SANITARY SEWER MANHOLE CLEAN OUT WATER VALVE

FIRE HYDRANT SPRINKLER CONTROL BOX SIAMESE CONNECTION STORMWATER UTILITY UNKNOWN UTILITY TRAVERSE BENCHMARK CURB AND GUTTER UNDERGROUND WATERLINE PAINT UNDERGROUND COMMUNICATION LINE PAINT UNDERGROUND UNKNOWN LINE PAINT UNDERGROUND ELECTRIC PAINT CHILL WATER SERVICE AND RETURN LINE HOT WATER SERVICE AND RETURN LINE BUILDING OVERHANG END OF (QLB) INFORMATION SOIL TYPE EXISTING 1' CONTOUR

EXISTING 5' CONTOUR STORMWATER UTILITY

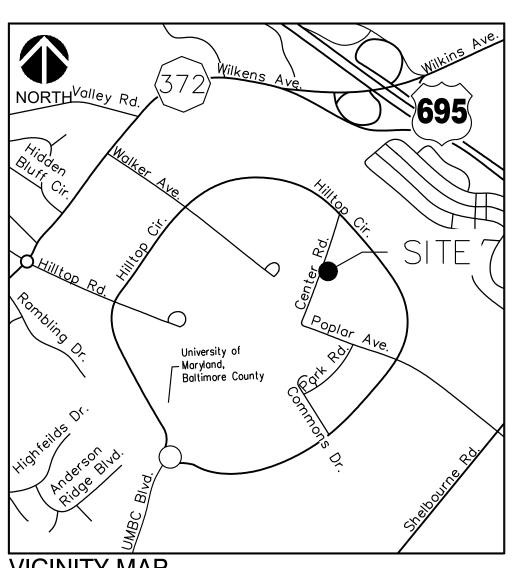
EXISTING BUILDING

T25

EX. TREE AND CRITICAL ROOT ZONE

NO.	COMMON NAME	SCIENTIFIC NAME	D.B.H (INCHES)	CRZ RADIUS (FEET)	CONDITION RATING	CONDITION COMMENTS
T01	Serviceberry	Amelanchier arborea	7	10.50	GOOD/AVG.	3, 2.5, 3, 2.5, 1, 2, 2, 1, 1.5: English ivy on lower trunk
T02	Serviceberry	Amelanchier arborea	6	9.00	GOOD/AVG.	2.5, 2, 2, 2, 2.5, 2.5, 1, 1.5, 1.5, 1.5 English ivy on true
T03	Serviceberry	Amelanchier arborea	8	12.00	GOOD/AVG.	1.5, 2, 1.5, 2, 1, 2.5, 3, 1: English ivy on lower trunk
T04	Willow oak	#N/A	16	24.00	GOOD/AVG.	Crowded, some dead branches
T05	Red maple	Acer rubrum	7	10.50	GOOD/AVG.	English ivy on trunk
T06	Saucer magnolia	Magnolia x soulangear	8	12.00	GOOD/AVG.	3.5, 4, 6 epicormic growth
T07	Saucer magnolia	Magnolia x soulangear		6.00	GOOD/AVG.	2.5, 2.5 shaded canopy
T08	Saucer magnolia	Magnolia x soulangear	5	7.50	AVG/POOR	2.5, 2.5, 4 in decline
T09	Honeylocust	Gleditsia triacanthos	6	9.00	POOR	Limited soil volume, in decline
T10	Honeylocust	Gleditsia triacanthos	6	9.00	POOR	Limited soil volume, in decline
T11	Honeylocust	Gleditsia triacanthos	5	7.50	POOR	Limited soil volume, in decline
T12	Honeylocust	Gleditsia triacanthos	6	9.00	POOR	Limited soil volume, in decline
T13	Honeylocust	Gleditsia triacanthos	6.5	9.75	POOR	Limited soil volume, in decline
T14	Honeylocust	Gleditsia triacanthos	7	10.50	POOR	Limited soil volume, in decline
T15	Honeylocust	Gleditsia triacanthos	6	9.00	POOR	Limited soil volume, in decline
T16	Honeylocust	Gleditsia triacanthos	8	12.00	AVG.	Limited soil volume, in decline
T17	Honeylocust	Gleditsia triacanthos	6.5	9.75	POOR	Limited soil volume, in decline
T18	Serviceberry	Amelanchier arborea	3	4.50	GOOD/AVG.	English ivy on trunk
T19	Serviceberry	Amelanchier arborea	5	7.50	GOOD/AVG.	3, 1.5, 1.5, 3.5 English ivy on trunk
T20	Black gum	Nyssa sylvatica	8	12.00	AVG.	Stunted growth, die back
T21	Serviceberry	Amelanchier arborea	4	6.00	GOOD/AVG.	1.5, 1, 2, 2, 2, 1 English ivy at base
S7-08	Sugar maple	Acer saccharum	15.5	23.25	AVG.	English ivy on trunk, wound in upper trunk
S7-09	London planetree	Platanus x acerifolia	7.5	11.25	GOOD/AVG.	Crowded canopy, epicormic growth
S7-15	Willow oak	Quercus phellos	16	24.00	GOOD/AVG.	English ivy at base
	Burford Holly	Ilex cornuta 'Burfordii'	11	16.50	AVG.	6, 8, 5 english ivy at base
	Burford Holly	Ilex cornuta 'Burfordii'	9	13.50	GOOD/AVG.	4, 8, 2.5 English ivy at base
	Red maple	Acer rubrum	9.5	14.25	GOOD/AVG.	English ivy at base
	Red maple	Acer rubrum	9.5	14.25	GOOD/AVG.	English ivy on trunk
	Red maple	Acer rubrum	8.5	12.75	GOOD/AVG.	Tip die back
	Honeylocust	Gleditsia triacanthos	6	9.00	POOR	Limited soil volume, in decline
	Willow oak	Quercus phellos	12	18.00	AVG.	Epicormic growth
	Saucer magnolia	Magnolia x soulangear		13.50	GOOD	4, 4, 4.5, 3, 3, 1, 1, 1
S7-32	Saucer magnolia	Magnolia x soulangear		15.00	GOOD/AVG.	5, 6.5, 1, 1.5, 4, 4, english ivy on trunk
	Saucer magnolia	Magnolia x soulangear		12.00	GOOD/AVG.	4.5, 4.5, 4.5, 1, 1 English ivy on trunk
	Honeylocust	Gleditsia triacanthos	6	9.00	POOR	Limited soil volume, in decline
	Norway maple	Acer platanoides	5	7.50	GOOD	'Crimson King'
	Honeylocust	Gleditsia triacanthos	6	9.00	POOR	Limited soil volume, in decline
	Willow oak	Quercus phellos Acer rubrum	11.5	17.25	GOOD GOOD/AVG.	Come tin die beek
	Red maple		5	7.50		Some tip die back
	Saucer magnolia	Magnolia x soulangear Acer rubrum	5 7	7.50 10.50	GOOD/AVG. GOOD/AVG.	1.5, 1.5, 5 english ivy at base
	Red maple					Some tip die back
S8-17	Japanese maple	Acer palmatum	6	9.00 9.75	GOOD	4,5 Stupted growth
	Black gum Black gum	Nyssa sylvatica	6.5 6.5	9.75 9.75	AVG. AVG.	Stunted growth
	-	Nyssa sylvatica Ilex x attenuata	6.5 7.5	9.75 11.25	GOOD	Stunted growth, insect eating leaves
	Foster's holly					
	Foster's holly	llex x attenuata	9	13.50	GOOD	4.5, 6
S8-23	London planetree	Platanus x acerifolia	5.5	8.25	AVG/POOR	Epicormic growth, dead branch, in decline
	London planetree	Platanus x acerifolia	5	7.50	POOR	In decline
S8-25	London planetree	Platanus x acerifolia	5.5	8.25	AVG/POOR	In decline
S8-26	London planetree	Platanus x acerifolia	5.5	8.25	AVG/POOR	In decline
* BOL	D DENOTES S	PECIMEN TREE				

0.00 ACRES	
0.00 ACRES	
0 LF	
0 FEET	



VICINITY MAP

STEEP SLOPES (15% OR GREATER)

TREE TABLE

VMBC HARBOR HALL COURTYARD **IMPROVEMENTS** UMBC Project No.: 23-126 UMB Project No .: XXXX A/E Project No.: 17-0782.011 XXXX GC/CM Project No.: A. MORTON THOMAS AND ASSOCIATES. IN CONSULTING ENGINEERS 700 KING FARM BOULEVARD, SUITE 300 ROCKVILLE, MD 20850 PHONE (301) 881-2545 | FAX (301) 881-0814 EMAIL: AMT1@AMTENGINEERING.COM PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 3381, EXPIRATION DATE 10/22/2024 100% CONSTRUCTION DOCUMENTS CONSULTANTS LANDSCAPE ARCHITECTURE FLOURA TEETER LANDSCAPE ARCHITECTS ELECTRICAL ENGINEERING WFT ENGINEERING, INC. GEOTECHNICAL SERVICES KIM ENGINEERING COST ESTIMATING FORELLA GROUP, LLC

> KEY PLAN REV DATE DESCRIPTION RECORD SET AS-BUILT / CONFORMING SET 02/12/2024 100% CONSTRUCTION SET 12/08/2023 95% CONSTRUCTION SET 10/26/2023 50% CONSTRUCTION SET 08/24/2023 DESIGN DEVELOPMENT 06/13/2023 SCHEMATIC DESIGN

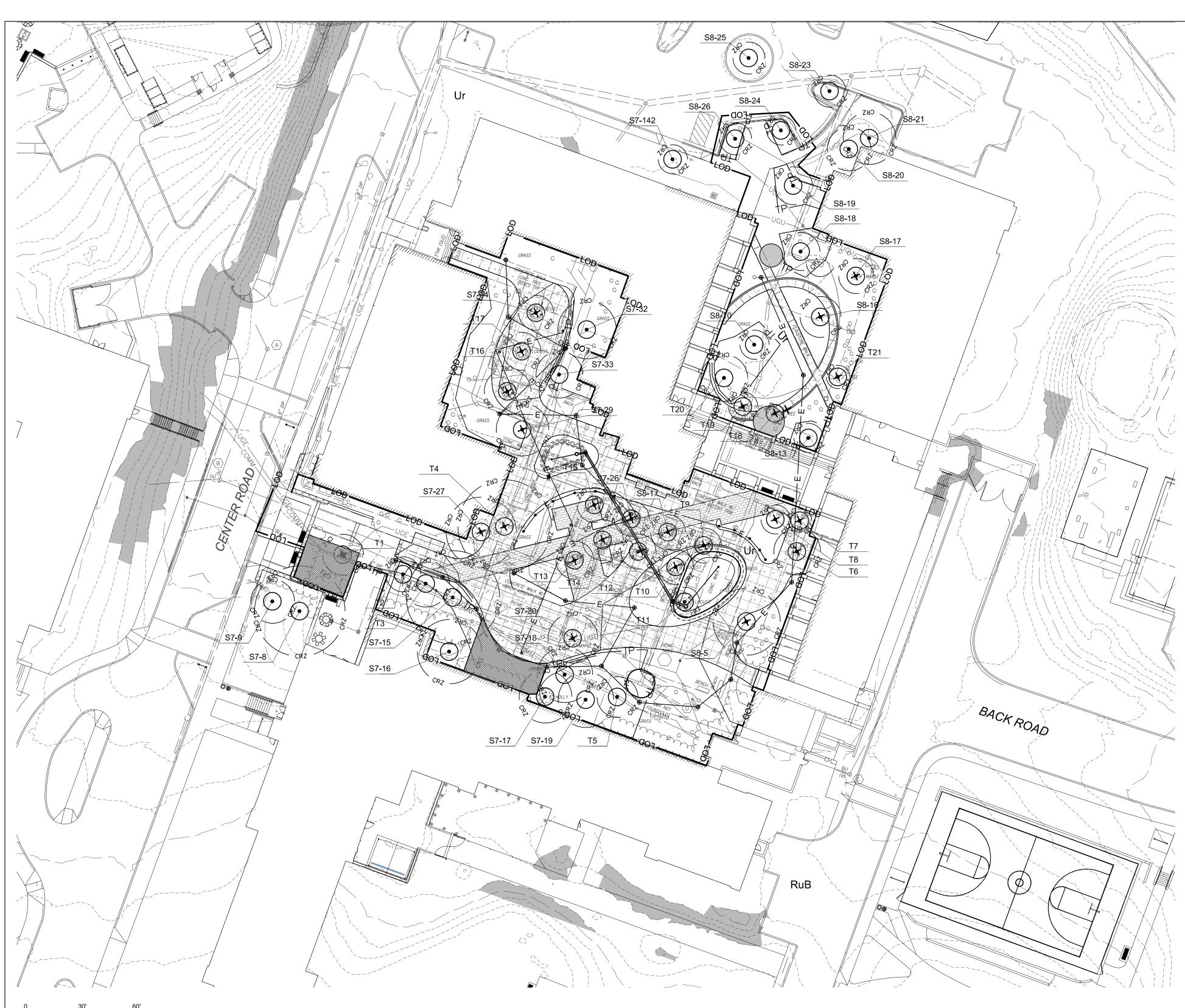
MDE No. 24-SF-0026

DATE: 02/12/2024

LN-101

FOREST STAND DELINEATION

SCALE: ZZZZ



SCALE: 1"=30'

PROPERTY INFORMATION: (PROJECT LIMITS) PARCEL NUMBER: 1372 ACCOUNT NUMBER: 160005752 LIBER/FOLIO: N/A / N/A TAX MAP: 0101 MDE WATERSHED NUMBER: 02130906

NARRATIVE:

THE SITE IS BOUNDED BY THE CLEAR SPRING WATER RESERVOIR TO THE NORTH AND EAST, AND UNIVERSITY DEVELOPMENT TO THE SOUTH AND WEST. THE SITE CONSISTS OF A COURTYARD BETWEEN TWO UNIVERSITY RESIDENCE HALLS.

GENERAL NOTES:

1. THE TOPOGRAPHY SHOWN ON THIS PLAN WITHIN THE WORK AREA IS FROM FIELD SURVEY COMPLETED BY AMT (FEBRURARY 2023) AND COUNTY GIS. 2. THERE ARE NO FLOODPLAINS ON THIS SITE.

3. THE SOURCE OF THE PROPERTY BOUNDARIES ON THIS PLAN IS BASED ON FIELD SURVEY COMPLETED BY AMT (FEBRUARY 2023)

4. IN A LETTER DATED 07-10-2023, AMT RECEIVED CONFIRMATION FROM THE MARYLAND DEPARTMENT OF NATURAL RESOURCES NATURAL HERITAGE PROGRAM THAT THERE ARE NO KNOWN RARE, THREATENED, OR ENDANGERED SPECIES

6. THERE ARE NO SPECIMEN TREES LOCATED ON THE SUBJECT PROPERTY. THERE ARE NO SPECIMEN TREES LOCATED WITHIN 100' OF THE SUBJECT PROPERTY. THE TREE SURVEY WAS COMPLETED THROUGH FIELD INVESTIGATION.

SUMMARY TABLE (PROJECT LIMITS)

EX	(ISTING FOREST
WE	ETLANDS
FO	RESTED WETLANDS
ST	REAM BUFFER
FO	RESTED STREAM BUFFER
10	0 YEAR FLOODPLAIN
FO	RESTED 100 YEAR FLOODPLAIN
LIN	NEAR EXTENTS OF STREAMS
A٧	/ERAGE WIDTH OF STREAM BUFFER

	MAPPED SOIL TYPES		
SYMBOL	DESCRIPTION	HYDRIC	HIGHLY ERODIBLE
Ur	Urban Land, 0 to 8 percent slopes	No	No

SOIL DESCRIPTIONS: (MAJOR COMPONENTS ONLY)

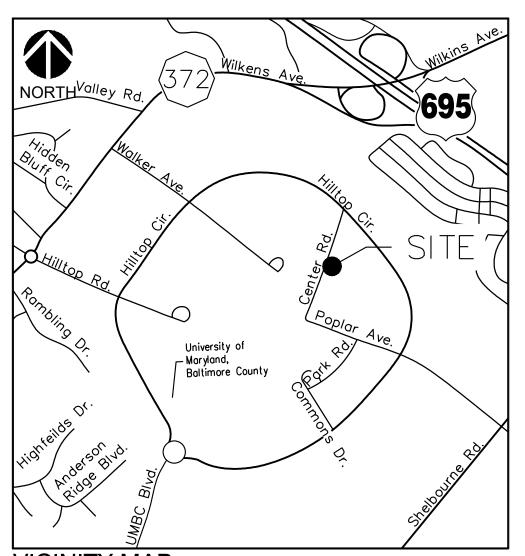
Ur—Urban Land, 0-8% SLOPES: GENERATED BRIEF SOIL DESCRIPTIONS ARE CREATED FOR MAJOR SOIL COMPONENTS. THE URBAN LAND IS A MISCELLANEOUS AREA.

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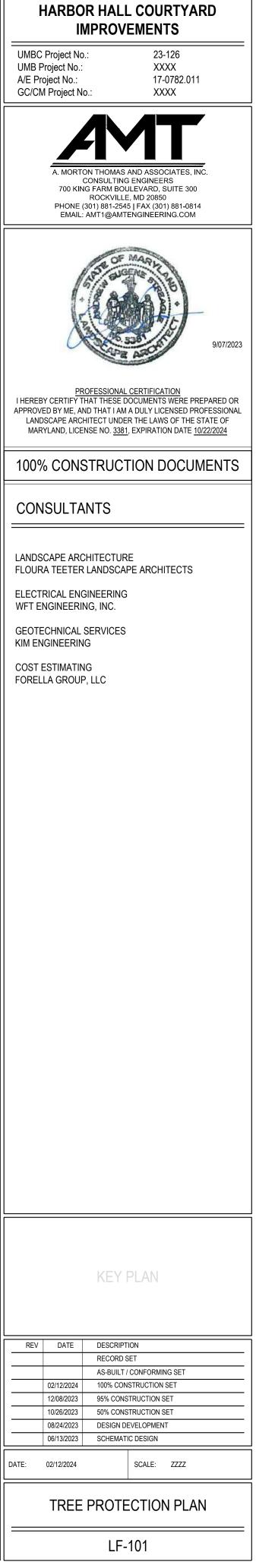
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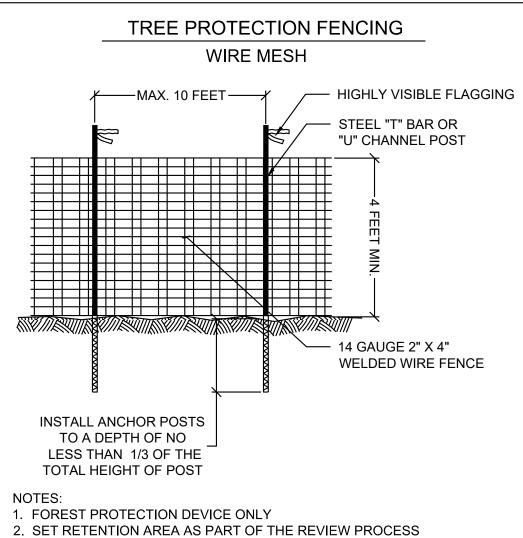
	LEGEND:							
	Ø	STORM MANHO	ιE			TP	TREE PROTECTION FENCE	
		ROOF DRAIN YARD INLET			_		ROOT PRUNING	
	E	ELECTRIC JUNC	CTION BO	X			MULCH MAT	
	\frown	LIGHT POLE						
	∢	GROUND LIGHT LAMP						HARBOR HALL COURTYARD IMPROVEMENTS
	ф Ю	EMERGENCY C	ALL BOX					
	©	COMMUNICATIO	ON MANH	OLE				UMBC Project No.: 23-126 UMB Project No.: XXXX A/E Project No.: 17-0782.011
	s 	SANITARY SEW CLEAN OUT	ER MANH	IOLE				GC/CM Project No.: XXXX
	•	WATER VALVE						
	-¢-	FIRE HYDRANT						
	:: _{scв} У	SPRINKLER CO		XC				A. MORTON THOMAS AND ASSOCIATES, INC.
	$\langle \# \rangle$	SIAMESE CONN STORMWATER						CONSULTING ENGINEERS 700 KING FARM BOULEVARD, SUITE 300 ROCKVILLE, MD 20850
	0		_ITY					PHONE (301) 881-2545 FAX (301) 881-0814 EMAIL: AMT1@AMTENGINEERING.COM
		TRAVERSE BENCHMARK						
		CURB AND GUT	TER					AR OF MARINE
	w	UNDERGROUNI						S A A B
	— COMM ————	UNDERGROUNI						A AND ALL
	—UGE ———	UNDERGROUNI			• •			9/07/2023
	-CWS/R	CHILL WATER S	_	-				Antonio Antonio
	— HWS/R	HOT WATER SE BUILDING OVEF		ND RETURN L	INE			PROFESSIONAL CERTIFICATION
	ΕΟΙ	END OF (QLB) I		ΓΙΟΝ				APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF
	Ur	SOIL TYPE						MARYLAND, LICENSE NO. <u>3381</u> , EXPIRATION DATE <u>10/22/2024</u>
		EXISTING 1' CO						100% CONSTRUCTION DOCUMENTS
		EXISTING 5' CO STORMWATER						
		OTORIMWATER	OTILITY					CONSULTANTS
		EXISTING BUILD	JING					
								LANDSCAPE ARCHITECTURE FLOURA TEETER LANDSCAPE ARCHITECTS
		STEEP SLOPES	; (15% OR	GREATER)				ELECTRICAL ENGINEERING
/	CRZ							WFT ENGINEERING, INC.
(EX. TREE AND (CRITICAL	ROOT ZONE				GEOTECHNICAL SERVICES KIM ENGINEERING
Ċ,	∠ ² ² T25	5						COST ESTIMATING
								FORELLA GROUP, LLC
				TREE T	ABLE			
NO.		SCIENTIFIC NAME		CRZ RADIUS	CONDITION	CONDI	TION COMMENTS	
NO.			D.B.H (INCHES)	CRZ RADIUS (FEET)	CONDITION RATING		TION COMMENTS	
T01 T02	Serviceberry Serviceberry	Amelanchier arborea Amelanchier arborea	(INCHES) 7 6	CRZ RADIUS (FEET) 10.50 9.00	Condition Rating Good/AVG. Good/AVG.	3, 2.5, 3, 2.5, 1, 2, 2, 2.5, 2, 2, 2, 2.5, 2.5, 1	1, 1.5: English ivy on lower trunk 1, 1.5, 1.5, 1.5 English ivy on trun	
T01 T02 T03 T04	Serviceberry Serviceberry Serviceberry Willow oak	Amelanchier arborea Amelanchier arborea Amelanchier arborea #N/A	(INCHES) 7 6 8 16	CRZ RADIUS (FEET) 10.50 9.00 12.00 24.00	Condition Rating Good/AVG. Good/AVG. Good/AVG. Good/AVG.	3, 2.5, 3, 2.5, 1, 2, 2, 2.5, 2, 2, 2, 2, 2.5, 2.5, 1 1.5, 2, 1.5, 2, 1, 2.5, 3 Crowded, some dead	1, 1.5: English ivy on lower trunk 1, 1.5, 1.5, 1.5 English ivy on trun 3, 1: English ivy on lower trunk	
T01 T02 T03	Serviceberry Serviceberry Serviceberry	Amelanchier arborea Amelanchier arborea Amelanchier arborea	(INCHES) 7 6 8 16 7	CRZ RADIUS (FEET) 10.50 9.00 12.00	Condition Rating Good/AVG. Good/AVG. Good/AVG.	3, 2.5, 3, 2.5, 1, 2, 2, 2.5, 2, 2, 2, 2.5, 2.5, 1 1.5, 2, 1.5, 2, 1, 2.5, 3	1, 1.5: English ivy on lower trunk 1, 1.5, 1.5, 1.5 English ivy on trun 3, 1: English ivy on lower trunk branches	
T01 T02 T03 T04 T05 T06 T07	Serviceberry Serviceberry Serviceberry Willow oak Red maple Saucer magnolia Saucer magnolia	Amelanchier arborea Amelanchier arborea Amelanchier arborea #N/A Acer rubrum Magnolia x soulangear Magnolia x soulangear	(INCHES) 7 6 8 16 7 8 8 4	CRZ RADIUS (FEET) 10.50 9.00 12.00 24.00 10.50 12.00 6.00	Condition Rating Good/AVG. Good/AVG. Good/AVG. Good/AVG. Good/AVG. Good/AVG.	3, 2.5, 3, 2.5, 1, 2, 2, 2.5, 2, 2, 2, 2.5, 2.5, 1 1.5, 2, 1.5, 2, 1, 2.5, 3 Crowded, some dead English ivy on trunk 3.5, 4, 6 epicormic gro 2.5, 2.5 shaded canop	1, 1.5: English ivy on lower trunk 1, 1.5, 1.5, 1.5 English ivy on trun 3, 1: English ivy on lower trunk branches	
T01 T02 T03 T04 T05 T06 T07 T08 T09	Serviceberry Serviceberry Serviceberry Willow oak Red maple Saucer magnolia Saucer magnolia Saucer magnolia Honeylocust	Amelanchier arborea Amelanchier arborea Amelanchier arborea #N/A Acer rubrum Magnolia x soulangear Magnolia x soulangear Gleditsia triacanthos	(INCHES) 7 6 8 16 7 8 4 5 5 6	CRZ RADIUS (FEET) 10.50 9.00 12.00 24.00 10.50 12.00 6.00 7.50 9.00	Condition Rating Good/AVG. Good/AVG. Good/AVG. Good/AVG. Good/AVG. Good/AVG. AVG/Poor Poor	3, 2.5, 3, 2.5, 1, 2, 2, 2.5, 2, 2, 2, 2, 2.5, 2.5, 1 1.5, 2, 1.5, 2, 1, 2.5, 3 Crowded, some dead English ivy on trunk 3.5, 4, 6 epicormic gro 2.5, 2.5 shaded canop 2.5, 2.5, 4 in decline Limited soil volume, in	1, 1.5: English ivy on lower trunk 1, 1.5, 1.5, 1.5 English ivy on trun 3, 1: English ivy on lower trunk branches owth by	
T01 T02 T03 T04 T05 T06 T07 T08 T09 T10 T11	Serviceberry Serviceberry Serviceberry Willow oak Red maple Saucer magnolia Saucer magnolia Saucer magnolia Honeylocust Honeylocust Honeylocust	Amelanchier arborea Amelanchier arborea Amelanchier arborea #N/A Acer rubrum Magnolia x soulangear Magnolia x soulangear Gleditsia triacanthos Gleditsia triacanthos	(INCHES) 7 6 8 16 7 8 4 5 6 6 6 5	CRZ RADIUS (FEET) 10.50 9.00 12.00 24.00 10.50 12.00 6.00 7.50 9.00 9.00 7.50	CONDITION RATING GOOD/AVG. GOOD/AVG. GOOD/AVG. GOOD/AVG. GOOD/AVG. GOOD/AVG. GOOD/AVG. AVG/POOR POOR POOR POOR	3, 2.5, 3, 2.5, 1, 2, 2, 2.5, 2, 2, 2, 2.5, 2.5, 1 1.5, 2, 1.5, 2, 1, 2.5, 3 Crowded, some dead English ivy on trunk 3.5, 4, 6 epicormic gro 2.5, 2.5 shaded canop 2.5, 2.5, 4 in decline Limited soil volume, in Limited soil volume, in	1, 1.5: English ivy on lower trunk 1, 1.5, 1.5, 1.5 English ivy on trun 3, 1: English ivy on lower trunk branches owth oy n decline n decline n decline	
T01 T02 T03 T04 T05 T06 T07 T08 T09 T10 T11 T112	Serviceberry Serviceberry Serviceberry Willow oak Red maple Saucer magnolia Saucer magnolia Saucer magnolia Honeylocust Honeylocust	Amelanchier arborea Amelanchier arborea Amelanchier arborea #N/A Acer rubrum Magnolia x soulangear Magnolia x soulangear Magnolia x soulangear Gleditsia triacanthos Gleditsia triacanthos	(INCHES) 7 6 8 16 7 8 4 5 6 6 6	CRZ RADIUS (FEET) 10.50 9.00 12.00 24.00 10.50 12.00 6.00 7.50 9.00 9.00	Condition Rating Good/AVG. Good/AVG. Good/AVG. Good/AVG. Good/AVG. Good/AVG. AVG/POOR POOR POOR	3, 2.5, 3, 2.5, 1, 2, 2, 2.5, 2, 2, 2, 2.5, 2.5, 1 1.5, 2, 1.5, 2, 1, 2.5, 3 Crowded, some dead English ivy on trunk 3.5, 4, 6 epicormic gro 2.5, 2.5 shaded canop 2.5, 2.5, 4 in decline Limited soil volume, in Limited soil volume, in	1, 1.5: English ivy on lower trunk 1, 1.5, 1.5, 1.5 English ivy on trun 3, 1: English ivy on lower trunk branches owth by n decline n decline n decline n decline	
T01 T02 T03 T04 T05 T06 T07 T08 T09 T10 T11 T12 T13 T14	Serviceberry Serviceberry Serviceberry Willow oak Red maple Saucer magnolia Saucer magnolia Saucer magnolia Honeylocust Honeylocust Honeylocust Honeylocust Honeylocust Honeylocust	Amelanchier arborea Amelanchier arborea Amelanchier arborea #N/A Acer rubrum Magnolia x soulangear Magnolia x soulangear Gleditsia triacanthos Gleditsia triacanthos Gleditsia triacanthos Gleditsia triacanthos Gleditsia triacanthos Gleditsia triacanthos	(INCHES) 7 6 8 16 7 8 4 5 6 6 6 5 6 6 5 6 5 6 7	CRZ RADIUS (FEET) 10.50 9.00 12.00 24.00 10.50 9.00 7.50 9.00 7.50 9.00 9.00 9.00 9.00 9.00 9.75 10.50	CONDITION RATING GOOD/AVG. GOOD/AVG. GOOD/AVG. GOOD/AVG. GOOD/AVG. GOOD/AVG. GOOD/AVG. GOOD/AVG. AVG/POOR POOR POOR POOR POOR POOR POOR POOR	3, 2.5, 3, 2.5, 1, 2, 2, 2.5, 2, 2, 2, 2, 5, 2.5, 1 1.5, 2, 1.5, 2, 1, 2.5, 3 Crowded, some dead English ivy on trunk 3.5, 4, 6 epicormic gro 2.5, 2.5 shaded canop 2.5, 2.5, 4 in decline Limited soil volume, in Limited soil volume, in	1, 1.5: English ivy on lower trunk 1, 1.5, 1.5, 1.5 English ivy on trun 3, 1: English ivy on lower trunk branches owth oy n decline n decline n decline n decline n decline n decline n decline	
T01 T02 T03 T04 T05 T06 T07 T08 T09 T10 T11 T12 T13 T14 T15 T16	Serviceberry Serviceberry Serviceberry Willow oak Red maple Saucer magnolia Saucer magnolia Saucer magnolia Honeylocust Honeylocust Honeylocust Honeylocust Honeylocust Honeylocust Honeylocust Honeylocust Honeylocust	Amelanchier arborea Amelanchier arborea Amelanchier arborea #N/A Acer rubrum Magnolia x soulangear Magnolia x soulangear Gleditsia triacanthos Gleditsia triacanthos Gleditsia triacanthos Gleditsia triacanthos Gleditsia triacanthos Gleditsia triacanthos Gleditsia triacanthos Gleditsia triacanthos Gleditsia triacanthos	(INCHES) 7 6 8 16 7 8 4 5 6 6 5 6 6 5 6 6 5 6 5 7 6 8	CRZ RADIUS (FEET) 10.50 9.00 12.00 24.00 10.50 12.00 6.00 7.50 9.00 7.50 9.00 9.00 9.00 9.00 9.00 9.00 9.00 9.00 9.00 9.00 9.00 9.00 9.00 9.00 9.00 9.00 9.00 9.00 9.00 10.50 9.00 12.00	CONDITION RATING GOOD/AVG. GOOD/AVG. GOOD/AVG. GOOD/AVG. GOOD/AVG. GOOD/AVG. GOOD/AVG. GOOD/AVG. AVG/POOR POOR POOR POOR POOR POOR POOR POOR	3, 2.5, 3, 2.5, 1, 2, 2, 2.5, 2, 2, 2, 2.5, 2.5, 1 1.5, 2, 1.5, 2, 1, 2.5, 3 Crowded, some dead English ivy on trunk 3.5, 4, 6 epicormic gro 2.5, 2.5 shaded canop 2.5, 2.5, 4 in decline Limited soil volume, in Limited soil volume, in	1, 1.5: English ivy on lower trunk 1, 1.5, 1.5, 1.5 English ivy on trun 3, 1: English ivy on lower trunk branches owth oy n decline n decline n decline n decline n decline n decline n decline n decline n decline n decline	
T01 T02 T03 T04 T05 T06 T07 T08 T09 T10 T11 T12 T13 T14 T15 T16 T17	Serviceberry Serviceberry Serviceberry Willow oak Red maple Saucer magnolia Saucer magnolia Saucer magnolia Honeylocust Honeylocust Honeylocust Honeylocust Honeylocust Honeylocust Honeylocust Honeylocust	Amelanchier arborea Amelanchier arborea Amelanchier arborea #N/A Acer rubrum Magnolia x soulangear Magnolia x soulangear Gleditsia triacanthos Gleditsia triacanthos Gleditsia triacanthos Gleditsia triacanthos Gleditsia triacanthos Gleditsia triacanthos Gleditsia triacanthos Gleditsia triacanthos	(INCHES) 7 6 8 16 7 8 4 5 6 5 6 5 6 5 6 5 6 5 6 5 6 5 6 5 6 5	CRZ RADIUS (FEET) 10.50 9.00 12.00 24.00 10.50 9.00 7.50 9.00 7.50 9.00 7.50 9.00 7.50 9.00 7.50 9.00 7.50 9.00 7.50 9.00 9.75 10.50 9.00 12.00 9.75 4.50	CONDITION RATING GOOD/AVG. GOOD/AVG. GOOD/AVG. GOOD/AVG. GOOD/AVG. GOOD/AVG. GOOD/AVG. AVG/POOR POOR POOR POOR POOR POOR POOR POOR	3, 2.5, 3, 2.5, 1, 2, 2, 2.5, 2, 2, 2, 2, 2.5, 2.5, 1 1.5, 2, 1.5, 2, 1, 2.5, 3 Crowded, some dead English ivy on trunk 3.5, 4, 6 epicormic gro 2.5, 2.5 shaded canop 2.5, 2.5, 4 in decline Limited soil volume, in Limited soil volume, in	1, 1.5: English ivy on lower trunk 1, 1.5, 1.5, 1.5 English ivy on trun 3, 1: English ivy on lower trunk branches owth oy n decline n decline n decline n decline n decline n decline n decline n decline n decline n decline	
T01 T02 T03 T04 T05 T06 T07 T08 T09 T10 T11 T12 T13 T14 T15 T16 T17 T18 T19	Serviceberry Serviceberry Serviceberry Willow oak Red maple Saucer magnolia Saucer magnolia Saucer magnolia Saucer magnolia Honeylocust Honeylocust Honeylocust Honeylocust Honeylocust Honeylocust Honeylocust Honeylocust Honeylocust Honeylocust	Amelanchier arborea Amelanchier arborea Amelanchier arborea #N/A Acer rubrum Magnolia x soulangear Magnolia x soulangear Gleditsia triacanthos Gleditsia triacanthos Gleditsia triacanthos Gleditsia triacanthos Gleditsia triacanthos Gleditsia triacanthos Gleditsia triacanthos Gleditsia triacanthos Gleditsia triacanthos Gleditsia triacanthos	(INCHES) 7 6 8 16 7 8 4 5 6 6 5 6 6 5 6 6 5 6 5 6 7 6 8 8 8 6.5	CRZ RADIUS (FEET) 10.50 9.00 12.00 24.00 10.50 9.00 7.50 9.00 9.00 7.50 9.00 9.00 9.00 9.00 9.00 9.75 10.50 9.00 12.00 9.75	CONDITION RATING GOOD/AVG. GOOD/AVG. GOOD/AVG. GOOD/AVG. GOOD/AVG. GOOD/AVG. GOOD/AVG. GOOD/AVG. AVG/POOR POOR POOR POOR POOR POOR POOR POOR	3, 2.5, 3, 2.5, 1, 2, 2, 2.5, 2, 2, 2, 2.5, 2.5, 1 1.5, 2, 1.5, 2, 1, 2.5, 3 Crowded, some dead English ivy on trunk 3.5, 4, 6 epicormic gro 2.5, 2.5 shaded canop 2.5, 2.5, 4 in decline Limited soil volume, in Limited soil volume, in	1, 1.5: English ivy on lower trunk 1, 1.5, 1.5, 1.5 English ivy on trun 3, 1: English ivy on lower trunk branches owth oy n decline n decline	
T01 T02 T03 T04 T05 T06 T07 T08 T09 T10 T11 T12 T13 T14 T15 T16 T17 T18 T19 T20 T21	Serviceberry Serviceberry Serviceberry Willow oak Red maple Saucer magnolia Saucer magnolia Saucer magnolia Saucer magnolia Saucer magnolia Honeylocust Honeylocust Honeylocust Honeylocust Honeylocust Honeylocust Honeylocust Honeylocust Honeylocust Honeylocust Serviceberry Black gum Serviceberry	Amelanchier arboreaAmelanchier arboreaAmelanchier arborea#N/AAcer rubrumMagnolia x soulangearMagnolia x soulangearMagnolia x soulangearGleditsia triacanthosGleditsia triacanthosAmelanchier arboreaAmelanchier arboreaNyssa sylvaticaAmelanchier arborea	(INCHES) 7 6 8 16 7 8 4 5 6 6 5 6 5 6 5 6 5 6 5 6 5 7 6 8 6.5 7 6 8 6.5 3 5 8 8 4	CRZ RADIUS (FEET) 10.50 9.00 12.00 24.00 10.50 12.00 6.00 7.50 9.00 7.50 9.00 9.00 7.50 9.00 9.75 10.50 9.00 9.75 10.50 9.00 12.00 9.75 4.50 7.50 12.00 6.00	CONDITION RATING GOOD/AVG. GOOD/AVG. GOOD/AVG. GOOD/AVG. GOOD/AVG. GOOD/AVG. GOOD/AVG. AVG/POOR POOR POOR POOR POOR POOR POOR POOR	3, 2.5, 3, 2.5, 1, 2, 2, 2.5, 2, 2, 2, 2.5, 2.5, 1 1.5, 2, 1.5, 2, 1, 2.5, 3 Crowded, some dead English ivy on trunk 3.5, 4, 6 epicormic gro 2.5, 2.5 shaded canop 2.5, 2.5, 4 in decline Limited soil volume, in Limited soil volume, in Stunted growth, die ba 1.5, 1, 2, 2, 2, 1 Englis	1, 1.5: English ivy on lower trunk 1, 1.5, 1.5, 1.5 English ivy on trun 3, 1: English ivy on lower trunk branches owth oy n decline n decline	
T01 T02 T03 T04 T05 T06 T07 T08 T09 T10 T11 T12 T13 T14 T15 T16 T17 T18 T19 T20 T21 S7-08 S7-09	Serviceberry Serviceberry Serviceberry Willow oak Red maple Saucer magnolia Saucer magnolia Saucer magnolia Saucer magnolia Saucer magnolia Saucer magnolia Honeylocust Honeylocust Honeylocust Honeylocust Honeylocust Honeylocust Honeylocust Honeylocust Honeylocust Honeylocust Serviceberry Serviceberry Black gum Serviceberry Sugar maple London planetree	Amelanchier arboreaAmelanchier arboreaAmelanchier arborea#N/AAcer rubrumMagnolia x soulangearMagnolia x soulangearMagnolia x soulangearGleditsia triacanthosGleditsia triacanthosAmelanchier arboreaNyssa sylvaticaAmelanchier arboreaAcer saccharumPlatanus x acerifolia	(INCHES) 7 6 8 16 7 8 4 5 6 6 5 6 6 5 6 6 5 6 6 5 6 6 5 6 6 5 6 8 6 5 7 6 8 6 5 7 6 8 6 5 7 5 8 8 6.5 3 5 8 8 4 15.5 7.5	CRZ RADIUS (FEET) 10.50 9.00 12.00 24.00 10.50 12.00 6.00 7.50 9.00 9.00 9.00 9.00 9.00 9.00 9.00 9.75 10.50 9.00 9.75 10.50 9.00 12.00 6.00 23.25 11.25	CONDITION RATING GOOD/AVG. GOOD/AVG. GOOD/AVG. GOOD/AVG. GOOD/AVG. GOOD/AVG. AVG/POOR POOR POOR POOR POOR POOR POOR POOR	3, 2.5, 3, 2.5, 1, 2, 2, 2.5, 2, 2, 2, 2, 5, 2.5, 1 1.5, 2, 1.5, 2, 1, 2.5, 3 Crowded, some dead English ivy on trunk 3.5, 4, 6 epicormic gro 2.5, 2.5 shaded canop 2.5, 2.5, 4 in decline Limited soil volume, in Limited soil volume, in Stunted growth, die ba 1.5, 1, 2, 2, 2, 1 English English ivy on trunk, w Crowded canopy, epic	1, 1.5: English ivy on lower trunk 1, 1.5, 1.5, 1.5 English ivy on trun 3, 1: English ivy on lower trunk branches owth oy n decline n decline	
T01 T02 T03 T04 T05 T06 T07 T08 T09 T10 T11 T12 T13 T14 T15 T16 T17 T18 T19 T20 T21 S7-08 S7-09 S7-15	Serviceberry Serviceberry Serviceberry Willow oak Red maple Saucer magnolia Saucer magnolia Saucer magnolia Saucer magnolia Saucer magnolia Honeylocust Honeylocust Honeylocust Honeylocust Honeylocust Honeylocust Honeylocust Honeylocust Honeylocust Honeylocust Serviceberry Serviceberry Black gum Serviceberry Sugar maple	Amelanchier arboreaAmelanchier arboreaAmelanchier arborea#N/AAcer rubrumMagnolia x soulangearMagnolia x soulangearMagnolia x soulangearGleditsia triacanthosGleditsia triacanthosAmelanchier arboreaAyssa sylvaticaAmelanchier arboreaAcer saccharum	(INCHES) 7 6 8 16 7 8 4 5 6 6 5 6 6 5 6 6 5 6 6 5 6 6 5 6 8 6 5 7 6 8 6 5 7 6 8 6 5 7 8 8 6.5 3 5 8 8 4 15.5	CRZ RADIUS (FEET) 10.50 9.00 12.00 24.00 10.50 9.00 12.00 6.00 7.50 9.00 9.00 9.00 9.00 9.00 9.00 9.75 10.50 9.00 9.75 10.50 9.00 12.00 9.75 4.50 7.50 12.00 6.00 23.25	CONDITION RATING GOOD/AVG. GOOD/AVG. GOOD/AVG. GOOD/AVG. GOOD/AVG. GOOD/AVG. AVG/POOR POOR POOR POOR POOR POOR POOR POOR	3, 2.5, 3, 2.5, 1, 2, 2, 2.5, 2, 2, 2, 2.5, 2.5, 1 1.5, 2, 1.5, 2, 1, 2.5, 3 Crowded, some dead English ivy on trunk 3.5, 4, 6 epicormic gro 2.5, 2.5 shaded canop 2.5, 2.5, 4 in decline Limited soil volume, in Limited soil volume, in English ivy on trunk	1, 1.5: English ivy on lower trunk 1, 1.5, 1.5, 1.5 English ivy on trun 3, 1: English ivy on lower trunk branches owth oy n decline n decline	
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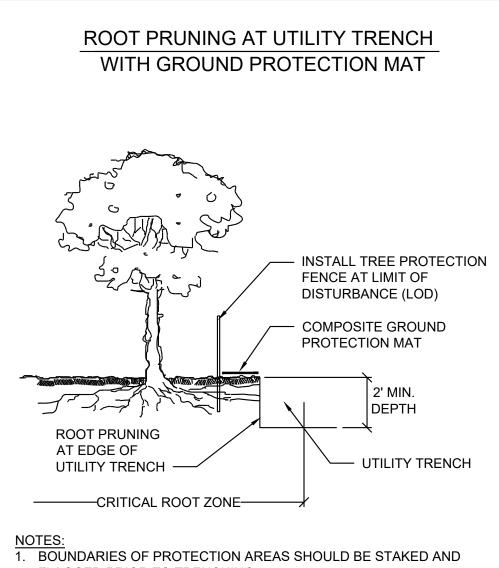


VICINITY MAP SCALE 1''=4000'

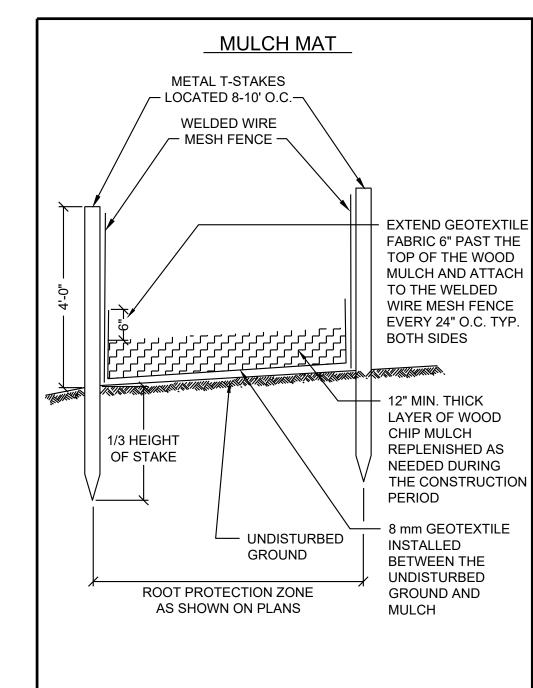




- 3. STAKE & FLAG THE BOUNDARIES OF RETENTION AREA PRIOR TO INSTALLATION OF DEVICE 4. AVOID INJURY TO ROOTS WHEN PLACING POSTS FOR THE SIGNS.
- 5. PROTECTIVE SIGNAGE IS REQUIRED
- 6. MAINTAIN THE DEVICE THROUGHOUT CONSTRUCTION.
- 7. ALTERNATIVE TREE PROTECTION DEVICES (IN LIEU OF WIRE MESH): SUPER SILT FENCE OR 3 STRANDS OF SMOOTH 12 GAUGE WIRE. ATTACH HIGHLY VISIBLE FLAGGING TO WIRES @ 12" O.C. NOT TO SCALE

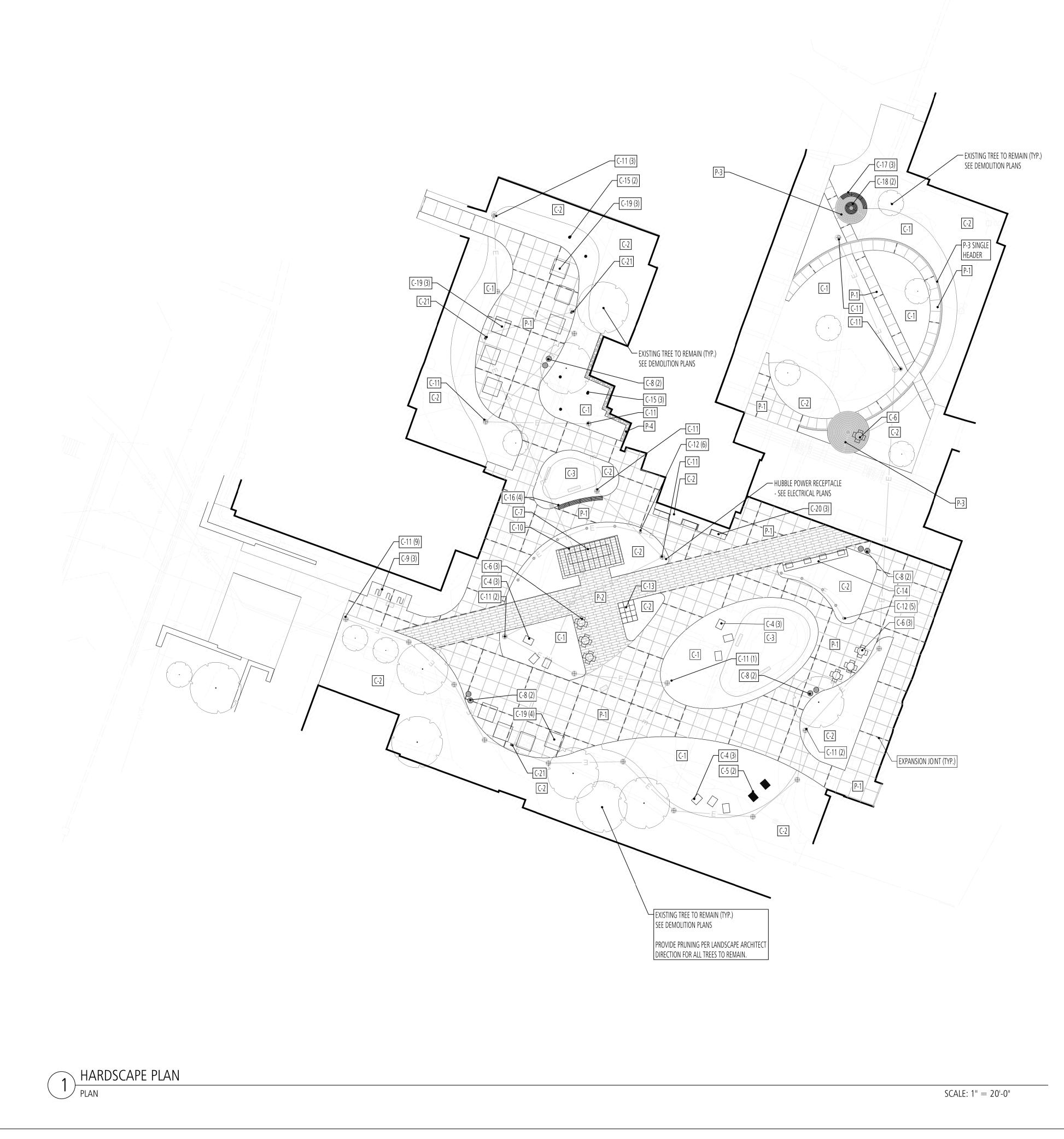


- FLAGGED PRIOR TO TRENCHING 2. EXACT LOCATION OF TRENCH SHOULD BE IDENTIFIED.
- 3. ROOTS SHOULD BE CLEANLY CUT USING VIBRATORY KNIFE OR OTHER ACCEPTABLE EQUIPMENT.



TR	EE PROTECTION NOTES
1.	MULCH MAT IS REQUIRED AS NOTED, WHERE ANY FOOT OR VEHICLE TRAFFIC, OR MATERIAL STORAGE OCCURS.
2.	NO CONSTRUCTION EQUIPMENT PARKING, MATERIALS STORAGE, FOOT TRAFFIC, OR VEHICULAR TRAFFIC IS ALLOWED INSIDE OF TREE PROTECTION AREAS.
3.	

VMBC							
HARBOR HALL COURTYARD IMPROVEMENTS							
A/E Project No.: GC/CM Project No	.:	17-0782 XXXX	.011				
C 700 KINC PHONE (3	N THOMAS AND ONSULTING EN 6 FARM BOULE ROCKVILLE, M 01) 881-2545 F MMT1@AMTENC	IGINEERS /ARD, SUITE D 20850 /AX (301) 881-	300 -0814				
	No. of the second secon	St. State - La	12/07/2023				
PRC I HEREBY CERTIFY TH APPROVED BY ME, ANI LANDSCAPE ARCH MARYLAND, LICEN	D THAT I AM A D ITECT UNDER TI	JMENTS WER ULY LICENSEI HE LAWS OF T	D PROFESSIONAL THE STATE OF				
100% CONS	TRUCTIO	ON DOC	UMENTS				
CONSULTAI	NTS						
CONSULTANTS LANDSCAPE ARCHITECTURE FLOURA TEETER LANDSCAPE ARCHITECTS ELECTRICAL ENGINEERING WIT ENGINEERING, INC. GEOTECHNICAL SERVICES KIM ENGINEERING FORELLA GROUP, LLC							
	KEY PL	AN					
REV DATE	DESCRIPTION						
02/12/2024	RECORD SET AS-BUILT / COI 100% CONSTR	NFORMING SET	·				
12/08/2023 10/26/2023 08/24/2023	95% CONSTRU 50% CONSTRU DESIGN DEVE	CTION SET					
06/13/2023	SCHEMATIC D	ESIGN	,				
DATE: 02/12/2024							
IREE PI	ROTECTI	UN DE	IAILS				



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KEYNOTES:

	CONSTRUC	CTION NOTES	
SYMBOL	DESCRIPTION	NOTES	REFERENCE
C-1	LAWN	TURF SOD	5/L-201
C-2	PLANTING BED		4/L-201
C-3	MICRO-BIORETENTION SWM FACILITY	SEE CIVIL DRAWINGS	
C-4	ADIRONDACK CHAIR	SEE SPECIFICATIONS	1/L-301
C-5	VANG CHAIR	SEE SPECIFICATIONS	2/L-301
C-6	MOVEABLE TABLE, AND CHAIRS	SEE SPECIFICATIONS	
C-7	HIGH TOP TABLE AND STOOLS	SEE SPECIFICATIONS	
C-8	TRASH AND RECYCLING RECEPTACLE	SHOWN AS PAIR - SEE	
		SPECIFICATIONS	
C-9	BIKE RACKS	SEE SPECIFICATIONS	5/L-301
C-10	PERGOLA	SEE SPECIFICATIONS	3/L-301
C-11	POLE LIGHT	SEE ELECTRICAL DRAWINGS	
C-12	BOLLARD LIGHT	SEE ELECTRICAL DRAWINGS	
C-13	PLATFORM SEATING		1/L-300
C-14	GRILL STATION		3+4/L-300
C-15	HAMMOCK POLE		4/L-301
C-16	CURVED BENCH (LARGE)	SEE SPECIFICATIONS	
C-17	CURVED BENCH (MEDIUM)	SEE SPECIFICATIONS	
C-18	CURVED BENCH (SMALL)	SEE SPECIFICATIONS	
C-19	UMBRELLA TABLE, AND CHAIRS	SEE SPECIFICATIONS	
C-20	BENCH	SALVAGE AND REUSE	
C-21	CHARGING STATION	SEE SPECIFICATIONS	
	PAVEME	INT NOTES	
SYMBOL	PAVER TYPE	NOTES	REFERENCE
P-1	CONCRETE SIDEWALK	SCORE AS SHOWN	SEE CIVIL DWGS
P-2	CONCRETE PAVERS A	6" x 24" x 2" HANOVER	1/L-302
		PREST BRICK	4.04.000
P-3	CONCRETE PAVER B	HANOVER APPIAN CIRCLE BRICK	1+2/L-302
P-4	MOW STRIP	18" AGGREGATE WITH	6/L-301
		BINDER - SEE	
		SPECIFICATIONS	

GENERAL LANDSCAPE NOTES:

1. FIELD VERIFY SITE CONDITIONS PRIOR TO THE START OF ANY WORK. REPORT ANY DISCREPANCIES IMMEDIATELY.

- 2. CONTACT THE ARCHITECT IMMEDIATELY UPON FINDING ANY UNFORESEEN CONDITIONS.
- 3. MAINTAIN POSITIVE DRAINAGE FROM BUILDINGS THROUGHOUT CONSTRUCTION.

4. REMOVE AND DISPOSE OF ANY WASTE FROM THE SITE. 5. PROVIDE MOCK UPS OF CONCRETE FINISHES AND PAVING ASSEMBLIES PRIOR TO COMPLETE INSTALLATION.

- APPROVED MOCK UPS MAY BE USED IN COMPLETED PROJECT IF UNDAMAGED THROUGHOUT CONSTRUCTION.
- 6. EXISTING CONCRETE TO ABUT PROPOSED CONCRETE SAW-CUT TO A SMOOTH EDGE AND GROUND FLUSH.
- 7. PROVIDE EXPANSION JOINT WHERE PROPOSED CONCRETE ABUTS EXISTING HARDSCAPE, BUILDING, WALL, OR OTHER RIGID SURFACE.
- 8. REMOVE, TRANSPORT, AND STORE EXISTING SITE FURNITURE NOT REUSED BY DIRECTION OF UNIVERSITY.

EXISTING SITE ELEMENTS:

HARBOR HALL EXISTING SITE ELEMENTS						
ТҮРЕ	QUANTITY	INTENT				
TRASH RECEPTACLE	3	(3) SALVAGE AND REUSE ONSITE				
RECYCLE RECEPTACLE	2	(2) SALVAGE AND REUSE ONSITE				
BACKED BENCH	13	(3) SALVAGE AND REUSE ONSITE / (10) SALVAGE AND STORE				
BACKLESS BENCH	4	(4) SALVAGE AND STORE				
TABLE CHAIR COMBO (COMPOSITE)	18	(18) DISCARD				
TABLE CHAIR COMBO (METAL)	4	(4) SALVAGE AND STORE				
TABLE CHAIR COMBO (METAL w/ UMBRELLA)	1	(1) SALVAGE AND STORE				
TABLE CHAIR COMBO (SOLAR TABLE)	1	(1) DISCARD				
BICYCLE RACK	3	(3) DISCARD				



HARBOR COURTYARD IMPROVEMENTS

UMBC Project No.: A/E Project No.:

20-103 17-0782.004



A. MORTON THOMAS AND ASSOCIATES, INC. CONSULTING ENGINEERS 700 KING FARM BOULEVARD, SUITE 300 ROCKVILLE, MD 20850 PHONE (301) 881-2545 | FAX (301) 881-0814 EMAIL: AMT1@AMTENGINEERING.COM



PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 1093, EXPIRATION DATE 07/26/24

100% CONSTRUCTION DOCUMENTS

CONSULTANTS

LANDSCAPE ARCHITECTURE FLOURA TEETER LANDSCAPE ARCHITECTS

ELECTRICAL ENGINEERING WFT ENGINEERING, INC.

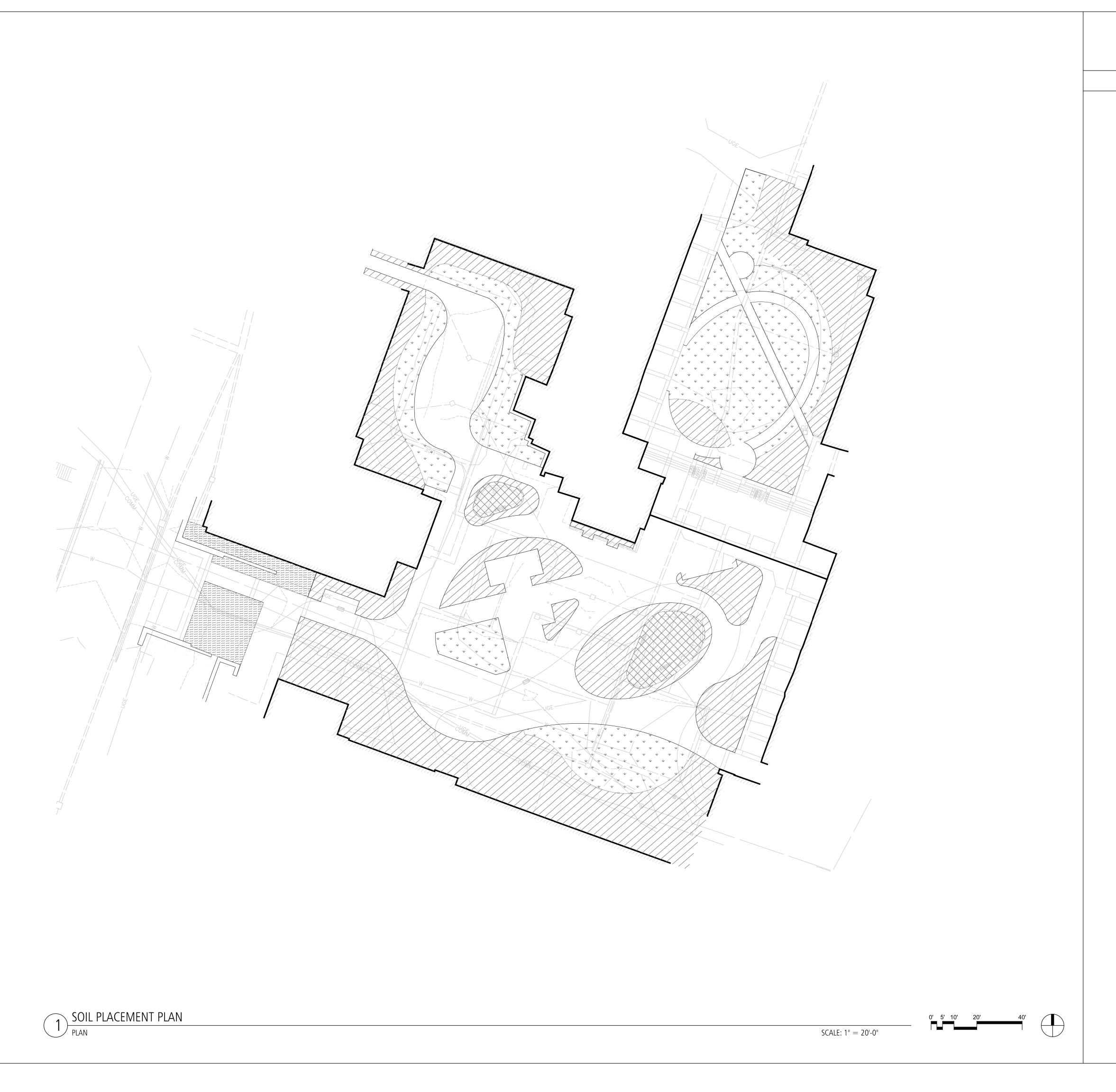
STRUCTURAL ENGINEERING CARROLL ENGINEERING

GEOTECHNICAL SERVICES KIM ENGINEERING

COST ESTIMATING FORELLA GROUP, LLC

	REV	DATE	DESCRIPTION			
-			RECORD S	GET		
			AS BUILT / CONFORMING SET			
-		02/12/2024	100% CONSTRUCTION SET			
-		12/08/2024	95% CONSTRUCTION SET			
-		10/26/2024	50% CONSTRUCTION SET			
_		08/24/2024	DESIGN DEVELOPMENT			
		06/13/2024	SCHEMATIC DESIGN			
D	ATE:	02/12/2024		SCALE: 1"=20'		
	HARDSCAPE PLAN					

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	VMBC
PLANTING SOILS KEY:	
	HARBOR COURTYARD IMPROVEMENTS
	UMBC Project No.: 20-103 A/E Project No.: 17-0782.004
BIORETENTION SOIL - SEE CIVIL DRAWINGS	AMT
PLANTING AREA SOIL - MINIMUM 12" DEPTH	A. MORTON THOMAS AND ASSOCIATES, INC. CONSULTING ENGINEERS 700 KING FARM BOULEVARD, SUITE 300 ROCKVILLE, MD 20850 PHONE (301) 881-2545 FAX (301) 881-0814
TURF/LAWN SOIL - 6" DEPTH	EMAIL: AMT1@AMTENGINEERING.COM
INFILL PLANTING - AMEND SOIL IN INDIVIDUAL PLANTING PITS	This wonder and the second sec
	PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. <u>1093</u> , EXPIRATION DATE <u>07/26/24</u>
	100% CONSTRUCTION DOCUMENTS
	CONSULTANTS
	LANDSCAPE ARCHITECTURE FLOURA TEETER LANDSCAPE ARCHITECTS
	ELECTRICAL ENGINEERING WFT ENGINEERING, INC.
	STRUCTURAL ENGINEERING CARROLL ENGINEERING
	GEOTECHNICAL SERVICES KIM ENGINEERING
	COST ESTIMATING FORELLA GROUP, LLC

REV	DATE	DESCRIPTION		
		RECORD SET		
		AS BUILT / CONFORMING SET		
	02/12/2024	100% CONSTRUCTION SET		
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	08/24/2024	DESIGN DEVELOPMENT		
	06/13/2024	SCHEMATIC DESIGN		
DATE:	02/12/2024	SCALE: 1"=20'		
	SOIL	PLACEMENT PLAN		
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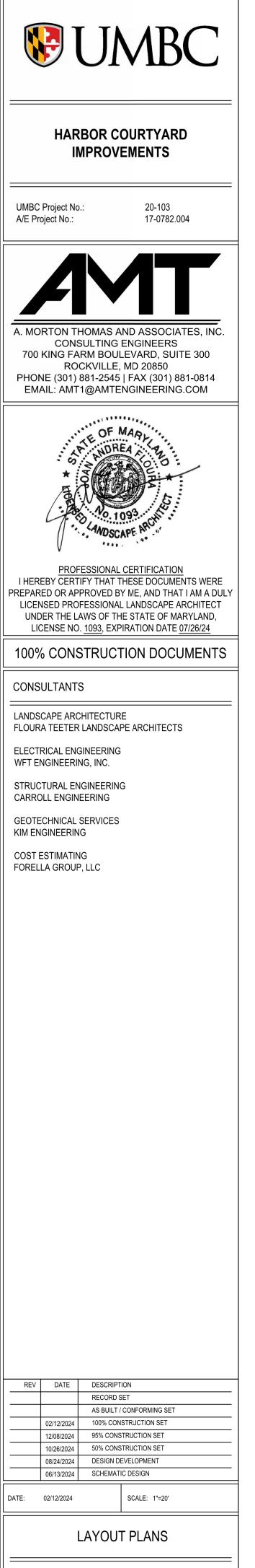


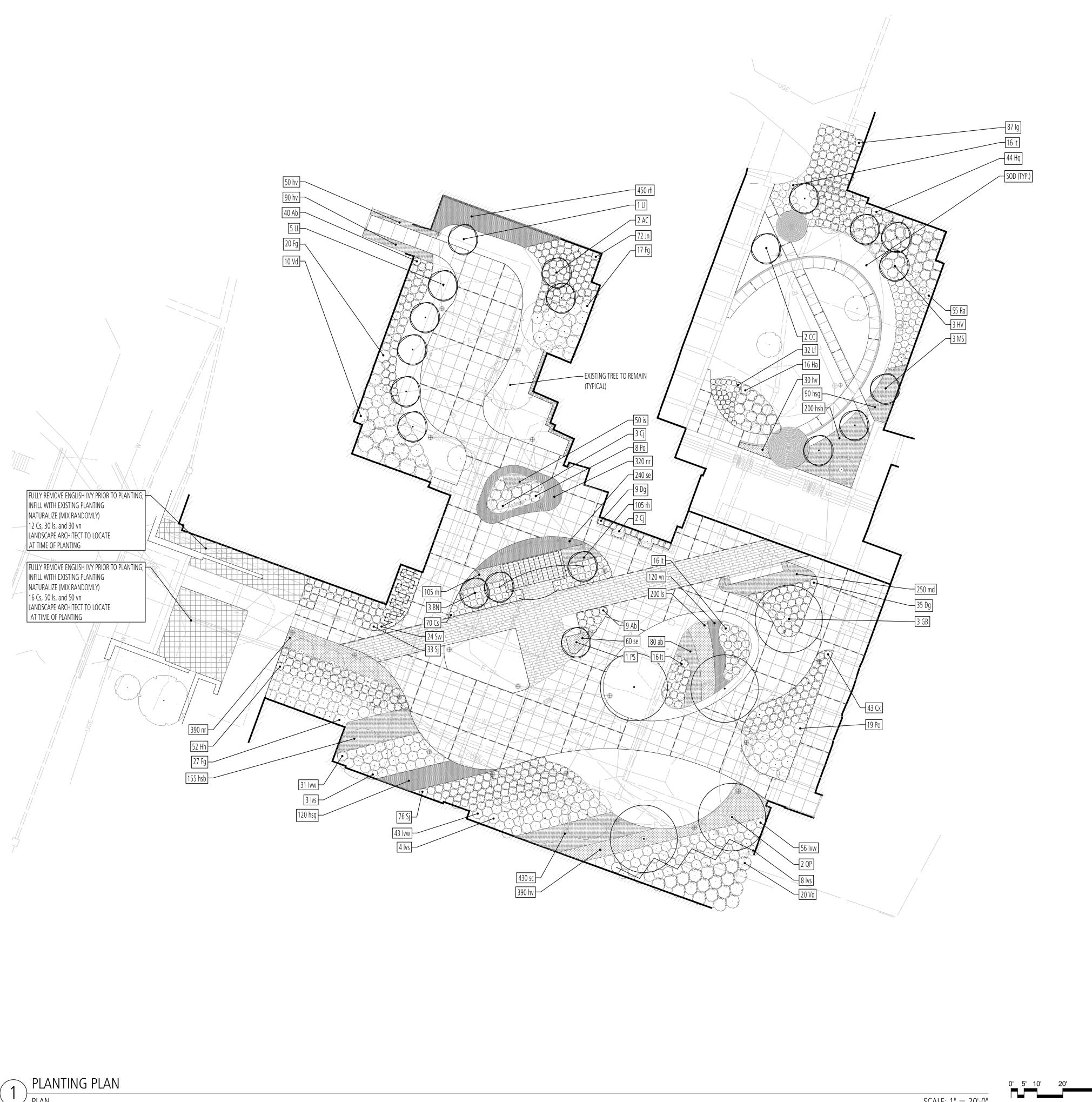


GENERAL LANDSCAPE NOTES:

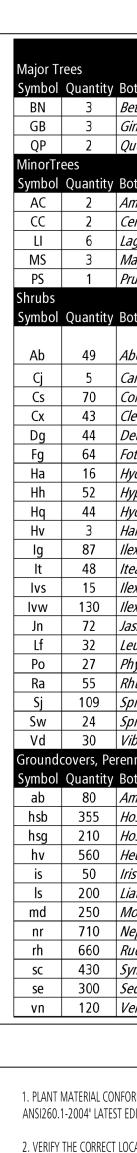
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7. PROVIDE EXPANSION JOINT WHERE PROPOSED CONCRETE ABUTS EXISTING HARDSCAPE, BUILDING, WALL, OR OTHER RIGID SURFACE.





PLAN



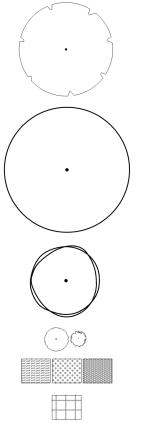
ENTIRELY THE PLANTING BED.

THE DESIGN TEAM BEFORE INSTALLATION.

NOTED.

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LEGEND:



EXISTING TREE TO REMAIN

MAJOR TREE

MINOR TREE

SHRUBS

PERENNIALS & ORNAMENTAL GRASSES

INFILL PLANTING

PLANT SCHEDULE:

PLANT SCHEDULE							
otanical Name	Common Name	Size	Root	Spacing/Notes			
<i>etula nigra</i> 'Duraheat'	River Birch	12' Ht.	B&B	3-5 stems			
inkgo biloba	Ginkgo	3" Cal.	B&B				
uercus phellos 'Hightower'	Columnar Willow Oak	3" Cal.	B&B	High branching; 7' BTH			
otanical Name	Common Name	Size	Note				
melanchier canadensis	Serviceberry	6' Ht.	B&B	3-5 stems			
ercis canadensis	Eastern Redbud	8' ht.	CG / B&B				
agerstroemia indica 'Natchez'	Natchez Crape Myrtle	8' Ht.	B&B	3-5 stems			
lagnolia $ imes$ soulangeana	Saucer Magnolia	2" Cal.	B&B	2-2 2161112			
<i>runus serrulata</i> 'Snow Goose'	Snow Goose Flowering Cherry	2" Cal. 2" Cal.	CG / B&B	Matched			
unus serrulata sitow Goose				Matcheu			
otanical Name	Common Name	Size	Note				
<i>belia grandiflora</i> 'Kaleidescope'	Kaleidescope Abelia	18" Ht.	CC / R&R	Full and heavy			
	·						
amellia japonica 'Greensboro Red'	Camellia	36" Ht.	-	Full and heavy			
ornus sericea 'Arctic Fire'	Arctic Fire Red Twig Dogwood	24" Ht.		Full and heavy			
lethra 'Sixteen Candles'	Sixteen Candles Summersweet	24" Ht.		Full and heavy			
eutzia gracilis	Slender Deutzia	24" Ht.		Full and heavy			
othergilla gardenii	Dwarf fothergilla	24" Ht.	-	Full and heavy			
vdrangea arborescens 'Haas Halo'	Smooth Hydrangea	36" Ht.		Full and heavy			
<i>pericum</i> 'Hidcote'	St. John's Wort	18" Ht.	-	Full and heavy			
<i>ydrangea quercifolia</i> 'Pee Wee'	Oakleaf Hydrangea	18" Ht.		Full and heavy			
amamelis virginiana	Witchhazel	36" Ht.		Full and heavy			
ex glabra	Inkberry Holly	24" Ht.		Full and heavy			
ea virginica 'Henry's Garnet'	Virginia Sweetspire	24" Ht.		Full and heavy			
ex verticillata 'Southern Gentleman'	Winterberry (malle)	36" Ht.		Full and heavy			
ex verticillata 'Winter Gold'	Winterberry (female)	36" Ht.		Full and heavy			
sminum nudiflorum	Winter Jasmine	36" Ht.		Full and heavy			
eucothoe fontanesiana 'Zeblid'	Scarletta Drooping Laurel	18" Ht.		Full and heavy			
<i>hysocarpus opulifolius '</i> Little Devil'	Ninebark	36" Ht.	-	Full and heavy			
hus aromatica 'Gro-Low'	Fragrant Sumac	2' Spr.		Full and heavy			
<i>pirea japonica '</i> Firelight'	Firelight Spirea	2' Spr.		Full and heavy			
<i>pirea japonica "</i> Walbuma'	Walbuma Spirea	18" Spr.	-	Full and heavy			
<i>iburnum dentatum</i> nnials and Grasses	Arrowwod Viburnum	36" Ht.	CG / B&B	Full and heavy			
otanical Name	Common Name	Size	Note				
<i>msonia '</i> Blue Ice'	Blue Star	#SP4	CG	15" O.C.			
<i>osta sp.</i> 'Blue Angel'	Blue Angel Hosta	#1	CG	18" O.C.			
osta sp. 'Gold Standard'	Gold Standard Hosta	#1	CG	18" O.C.			
euchera villosa 'Autumn Bride'	Hairy Alumroot	#1	CG	15" O.C.			
is cristata	Short Dwarf Crested Iris	#SP4	CG	12" O.C.			
atris spicata	Blazing Star	#1	CG	12" O.C.			
<i>Ionarda didyma '</i> Jacob Cline '	Jacob Cline Bee Balm	#1	CG	12" O.C.			
epeta racemosa 'Walker's Low'	Walker's Low Catmint	#1	CG	12" O.C.			
udbeckia hirta	Black Eyed Susan	#SP4	CG	12" O.C.			
/mphyotrichum cordifolium 'Avondale'	Blue Wood Aster	#1	CG	12" O.C.			
mpnyourchain coranonain Avonuale		41	CG	12" O.C.			
edum 'Autumn Joy'	Stonecrop	#1		12 0.0.			

1. PLANT MATERIAL CONFORMS TO THE SIZES GIVEN IN THE PLANT SCHEDULE AND NURSERY GROWN IN ACCORDANCE WITH THE "AMERICAN STANDARDS FOR NURSERY STOCK, ANSI260.1-2004" LATEST EDITION PREPARED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, 230 SOUTHERN BUILDING, WASHINGTON, D.C. 20005.

2. VERIFY THE CORRECT LOCATION OF ANY EXISTING UTILITIES WHICH ARE UNDERGROUND, PRIOR TO PLANT INSTALLATION.

3. MULCH ALL PLANT BEDS WITH A MINIMUM OF 2" AND A MAXIMUM OF 3" LAYER OF MULCH WITHIN TWO DAYS AFTER PLANTING. WITH SHREDDED HARDWOOD BARK COVERING

4. GUARANTEE THAT ALL PLANTS REMAIN ALIVE AND HEALTHY FOR A PERIOD OF ONE FULL YEAR AFTER INITIAL ACCEPTANCE. ANY REPLACEMENT PLANTS, REQUIREMENTS, ETC. AND METHOD OF PLACING COMPLIES WITH THE REQUIREMENTS SPECIFIED HEREIN, WITHIN THE SPECIFICATIONS, AND ON THE DRAWINGS.

5. AMEND EXISTING SOIL IN PLANTING BED AREAS TO A MINIMUM DEPTH OF 12" PER THE SOIL PLACEMENT SPECIFICATIONS.

6. PLANT MATERIAL AVAILABILITY MAY VARY AT THE TIME OF CONSTRUCTION. ANY SUBSTITUTIONS ARE TO BE OF EQUIVALENT TYPE AND SIZE (OR LARGER), AND MUST BE APPROVED BY

7. WHERE THE CONDITION EXISTS THAT THE BALLED AND BURLAPPED TREES ARE DELIVERED IN WIRE BASKETS, REMOVE WIRE BASKETS ENTIRELY.

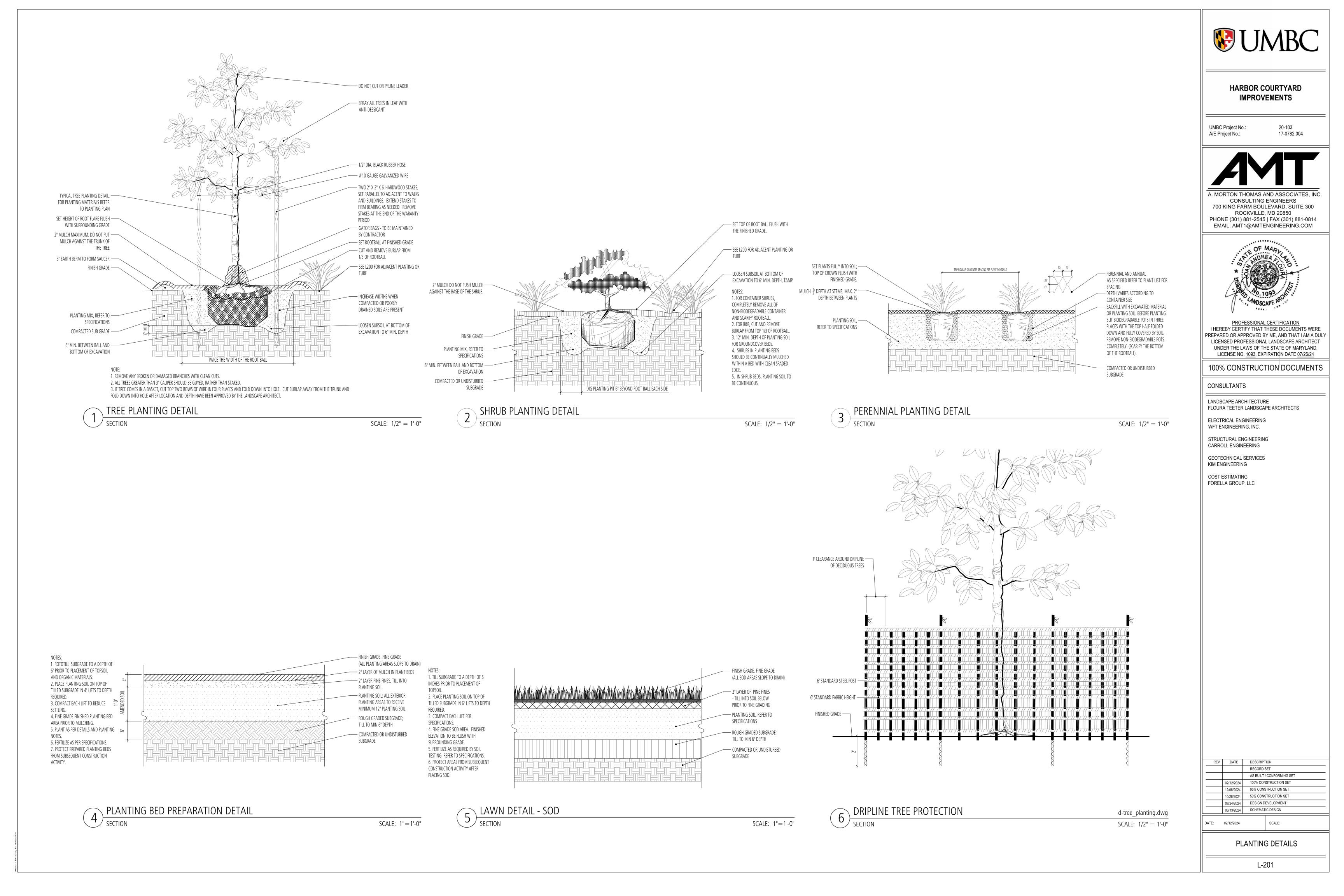
8. ANY DAMAGE TO THE EXISTING UTILITIES, BUILDINGS, PAVING, CURBS, WALLS, VEGETATION AND ANY OTHER EXISTING FEATURES NOT DESIGNATED FOR REMOVAL ON THESE PLANS, REPAIR, OR REPLACE TO PREVIOUS CONDITION OR REPLACED. ALL AREAS DISTURBED DURING CONSTRUCTION ARE TO BE SODDED PER THE PLANS AND SPECIFICATION UNLESS OTHERWISE

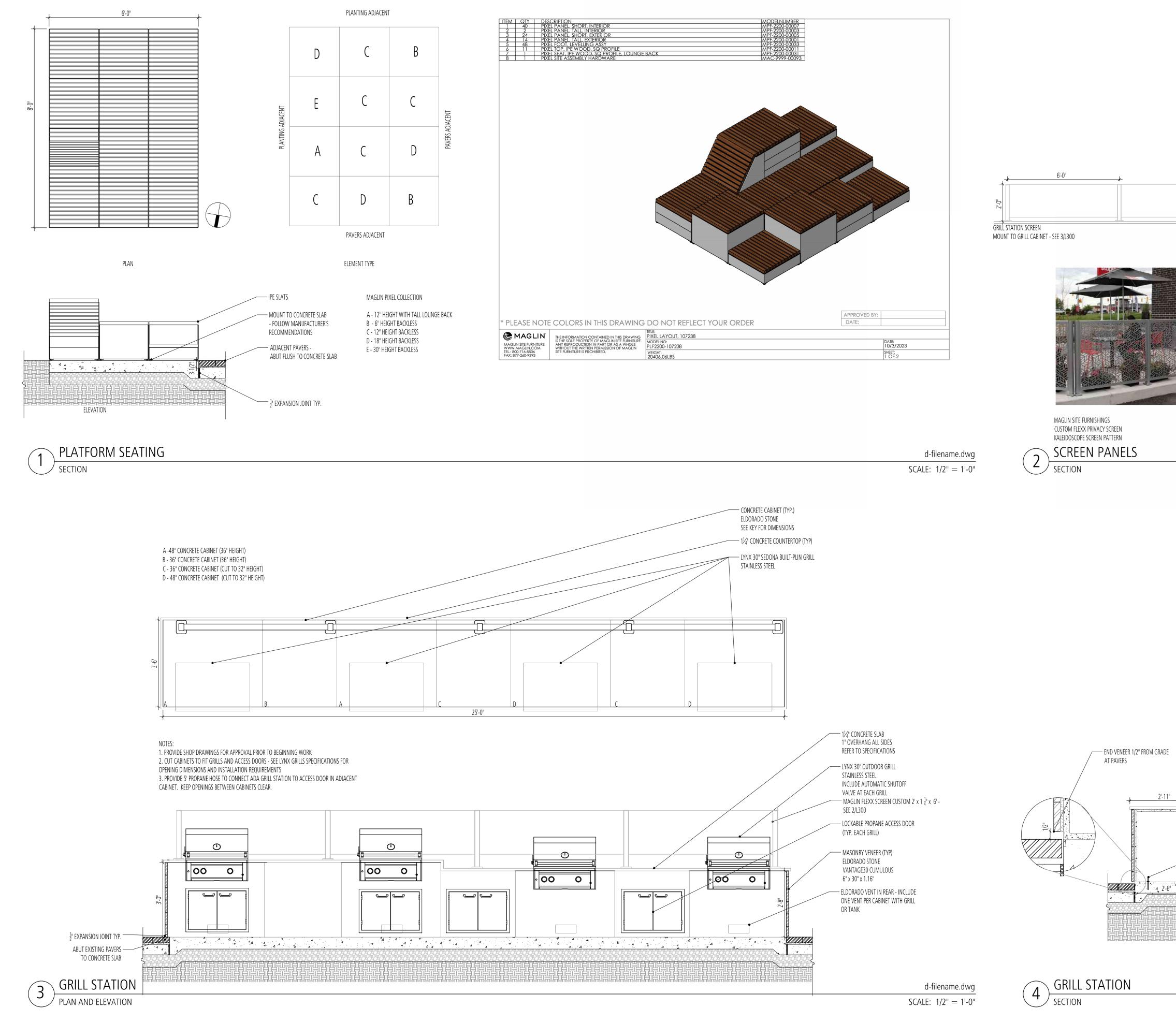
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	* 100 M	NO.1	MARL EA COURA 093 APE ARC	10 × 10
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				OCUMENTS
CONS	ULTANTS	}		
	CAPE ARC A TEETER			TECTS
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SCALE: 1"=20' DATE: 02/12/2024

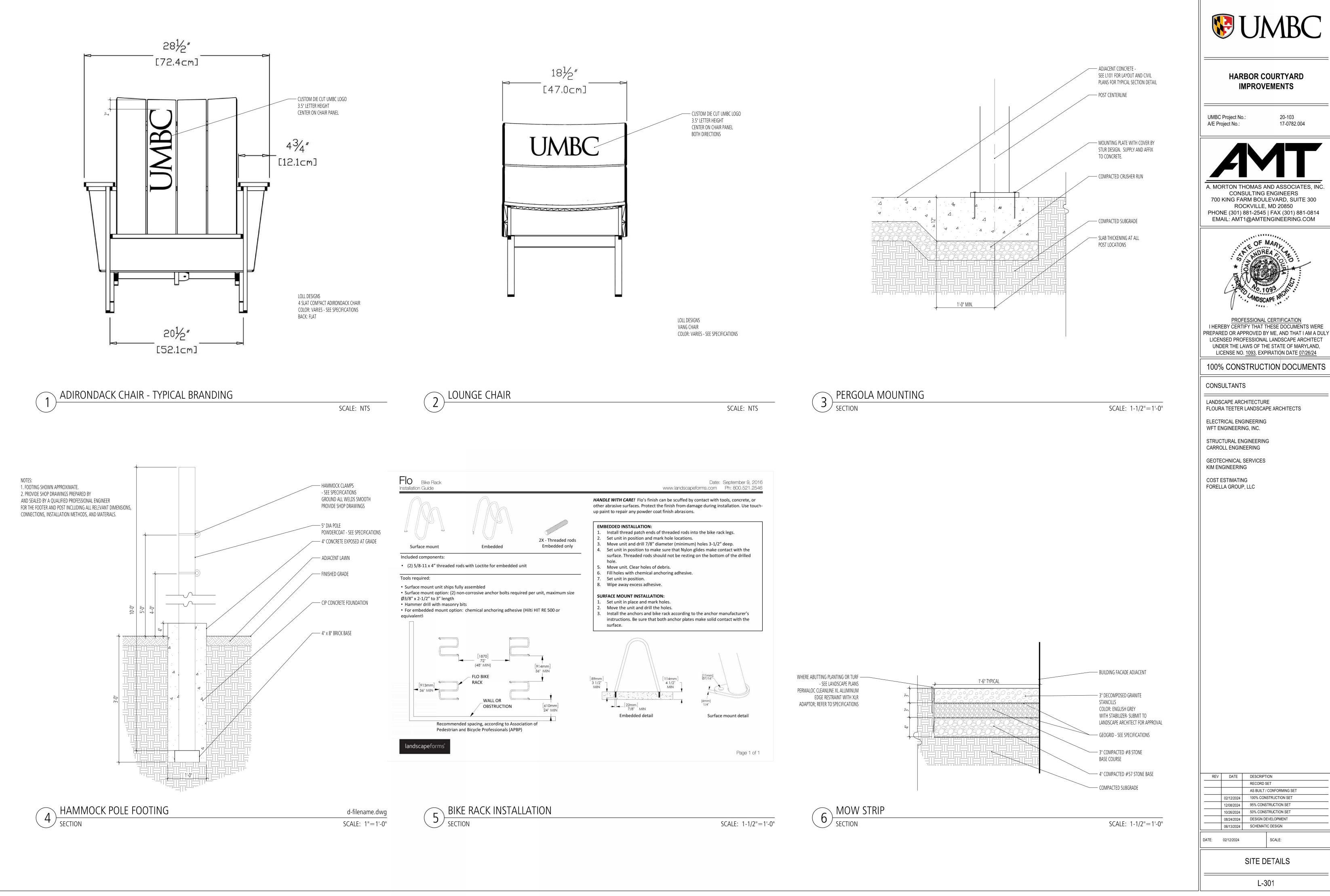
PLANTING PLAN

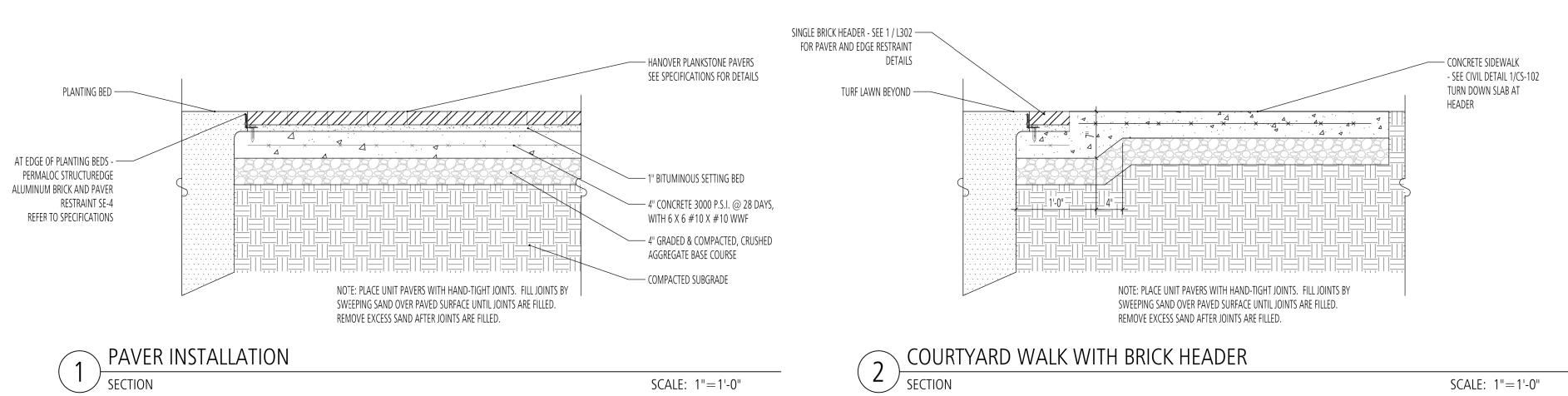
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		Se Ul	MBC	
		HARBOR COURTYA		
		IBC Project No.: Project No.:	20-103 17-0782.004	
EXTEND COLUMN TO M ADA GRILL CABINET - S 2 1/2 " x 2 1/2 " POSTS 3 1/2 " x 3 1/2	E 1/L300			
	70 PH	CONSULTING 00 KING FARM BOU ROCKVILLE	LEVARD, SUITE 300 , MD 20850 FAX (301) 881-0814	
	PREP LIC	PARED OR APPROVED B CENSED PROFESSIONA JNDER THE LAWS OF TH	HESE DOCUMENTS WERE Y ME, AND THAT I AM A DULY L LANDSCAPE ARCHITECT IE STATE OF MARYLAND,	
			PIRATION DATE <u>07/26/24</u>	
		NSULTANTS		
	FLO	IDSCAPE ARCHITECTUR DURA TEETER LANDSCA	PE ARCHITECTS	
JCAL		CTRICAL ENGINEERING T ENGINEERING, INC.	i	
		RUCTURAL ENGINEERIN RROLL ENGINEERING	G	
		DTECHNICAL SERVICES ENGINEERING		
		RELLA GROUP, LLC		
/ 1" OVERHANG ALL				
¹ " MORTAR (TYP.)	אועבא			
MASONRY VENEEL ELDORADO STONE				
VANTAGE30 CUM 6" x 30" x 1.16"				
ANCHOR CABINET				
- FOLLOW MANUF/ SPECIFICATIONS	,CTURER'S			
VENT EACH GRILL	ABINET			
END VENEER 4" FRO AT LAWN	JM GRADE			
SECTION				
		EV DATE DESCRIPT		
		AS BUILT / 02/12/2024 100% CON	CONFORMING SET	
	fileneses dure	10/26/2024 50% CONS	STRUCTION SET STRUCTION SET EVELOPMENT	
	-filename.dwg : 1/2" = 1'-0"	06/13/2024 SCHEMAT	IC DESIGN	
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		L-3	800	





VMBC									
HARBOR COURTYARD IMPROVEMENTS									
	Project No oject No.:).:		D-103 7-0782.004					
AMORTON THOMAS AND ASSOCIATES, INC. CONSULTING ENGINEERS 700 KING FARM BOULEVARD, SUITE 300 ROCKVILLE, MD 20850 PHONE (301) 881-2614 EMAIL: AMT1@AMTENGINEERING.COM									
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DATE:	02/12/2024		SCALE:						
		SITE D	ETAIL	S					
		L-3	02	L-302					

LIGHTING FIXTURE SCHEDULE

FIXT. TYPE	FIXT. ID	DESCRIPTION	MFGR.	CATALOG NO.	LAMPS	TYPE	VOLTS	NO. WATTS	MTG.	F
A		PEDESTRIAN POLE LIGHT	LUMINIS	EC811-XM4527ML1W65 WITH PAA412-CS-FS POLE	4000K LED INCLUDED	LED	208	60	GROUND	UMBC C NOBEL #CM-31
В		LIGHTED BOLLARD	FORMS + SURFACES	HELIO BOLLARD LBLHO-603	4000K LED INCLUDED	LED	208	14	GROUND	UMBC C NOBEL (#CM-31

NOTES:

1. ALL LIGHTING FIXTURES SHALL BE APPROVED BY THE ENGINEER AND UMBC PRIOR TO ORDERING AND INSTALLATION. REFER TO LANDSCAPE DRAWINGS FOR ADDITIONAL INFORMATION

2. REFER TO FIXTURE SPECIFICATION FOR FABRICATION AND MOUNTING DETAILS.

3. PROVIDE ALL CONDUIT, WIRING, LAMPS, DRIVERS, TRANSFORMERS, CONTACTORS AND CONTROL CONNECTIONS AS REQUIRED FOR A COMPLETE AND OPERATIONAL LIGHTING SYSTEM.

4. PROVIDE HOUSE SIDE SHIELD FOR TYPE A FIXTURES AS INDICATED ON PLANS

(E) RGC					Р	AN	IELE	BOAF	RD S	C	HED	ULE	SEC	TION 1				
		VOLTAGE PHASE WIRE			NEUTRAL		AIC		MAIN		FEED THRU LUGS		MOUNTING	ENCLO	้วรบ	RE		
		208Y/120V	3	4	100%		22K	225A MLO		NO		SURFACE	NEM	1A 1				
CIR.# TYPE	DESCRIPTION	WIRE SIZE	COND. SIZE	NOTE	C.B. AMP	Р	LOAD (KVA)	PHASE	LOAD (KVA)	Р	C.B. AMP	NOTE	COND. SIZE	WIRE SIZE	DESCRIPTION	N	ТҮРЕ	CIR.#
1	(E) LTG: EXTERIOR			1	20	1		A		1	20	1			(E) REC: 117,117A	3,119		2
3	(E) LTG: 119			1	20	1		В		1	20	1			(E) REC: 117,11	19		4
5	(E)LTG:117,117B,1R1,1R2			1	20	1		С		1	20	1			(E) REC: 1V2,1V3,11	16,118		6
7	(E) LTG: EXTERIOR			1	20	1		Α		1	20	4	3/4''	2#12+1#12G	(E) LIGHTING CONTA	ACTOR	\square	8
9	(E) LTG: EXTERIOR			1	20	1		В		2	20	1			(E) LTG: STREE	T	\square	10
11	(E) LTG: STREET			1	20	2		С		^						- 1		12
13	(E) EIG. SIREET					2		A		2	20	1			(E) LTG: STREE	т		14
15	(N) LTG: COURTYARD	2#8+1#8G	1"	4	20	2		В										16
17		2#011#00	•			2		С		1	20	1			(E) REC: MAIN ELE	CRM		18
19	(N) LTG: COURTYARD	2#8+1#8G	1"	4	20	20 2		A		1	20	4	1"	2# 8 +1#8G	(N) REC: OUTSIE			20
21						2		В		1	20	4	1"	2# 8 +1#8G	(N) REC: OUTSIE			22
23	(E) REC: 117B RANGE			1	50	2		С		1	20	4	1"	2#8+1#8G	(N) REC: OUTSIE	DE		24
25	(L) NEG. HYBINANGE					2		Α		1	20	1			SPARE			26
27	(E) REC: KITCHEN			1	20	1		В		1	20	1			(E) REC: WATER CC	OOLER		28
29	(E) LTG CORRIDOR			1	20	1		С		2	20	1			(E) ROOM 118, BB-6	BB-7		30 32
31	(E) REC: KITCHEN			1	20	1		Α		2						, 00 7		
33	(E) REC: KITCHEN			1	20	1		В		2	20	1			(E) LTG: COURTY/	ARD		34
35	NEWCOURTYARD							С		2					BACK ROAD			36
37	EVENTRECEPTACLE	4#4+1#4	2"	3	50	3		Α		1	20	4			(E) LTG: COURTY	ard		38
39								В		1	20	4			(E) LTG: COURTY	ARD		40
41	SPARE			1	20	1		С		1	20	4			(E) LTG: COURTY	ARD		42
2. RE-l 3. PRO	: GTING LOAD TO REMAIN. JSE AVAILABLE SPARE CIR MDE NEW CIRCUIT BREAK CUIT BREAKER MADE SPAR	ER IN E XI STING	SPACE.		EXISTING	G TYF	PE.											

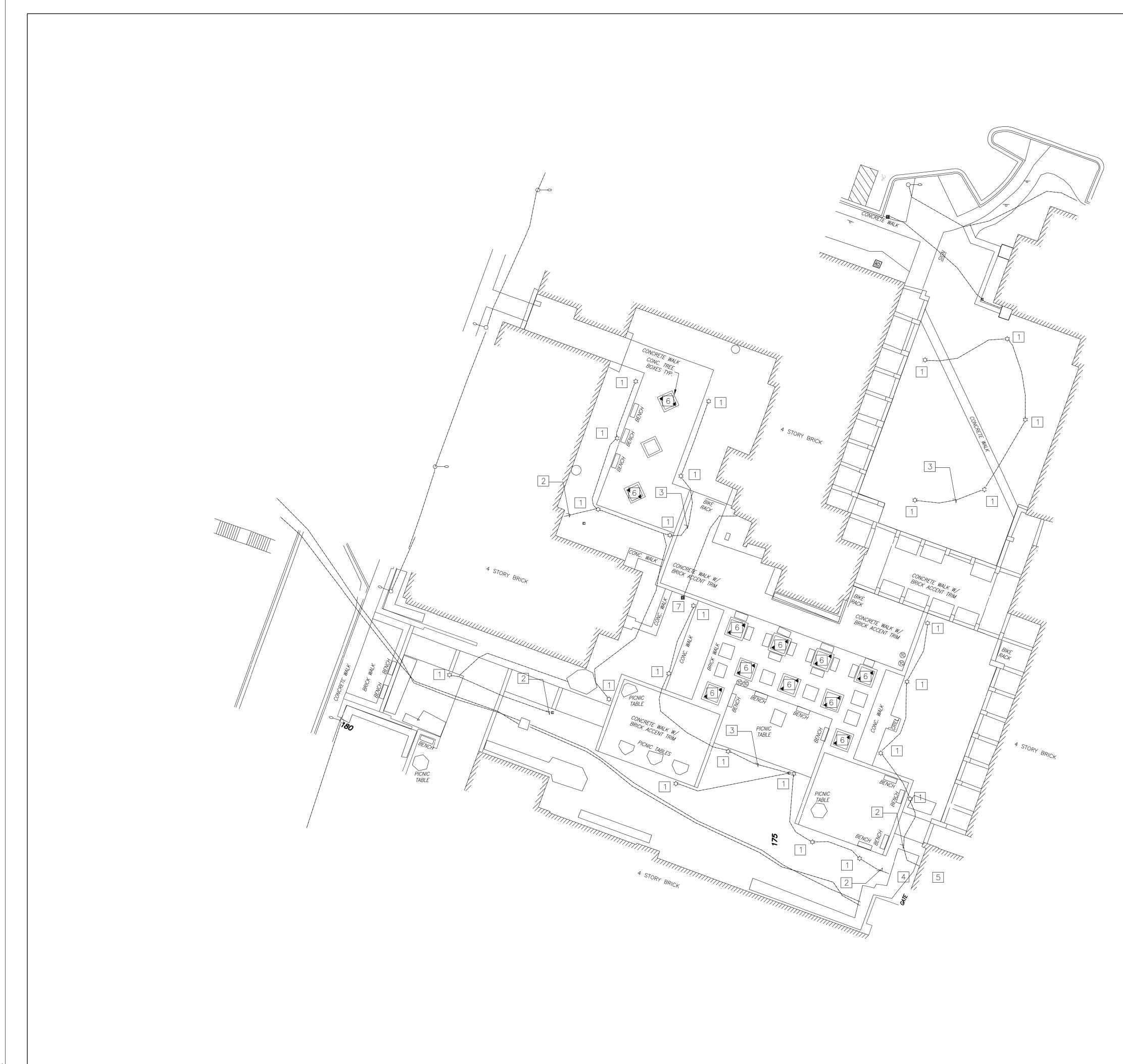
REMARKS
CHAMPANE AKZO L COLOR 317–SEMI
CHAMPANE AKZO _ COLOR 317-SEMI

	ABBREVIATIONS	
AFF	ABOVE FINISHED FLOOR	
AS	ABOVE SLAB	
CL	CENTERLINE	
E	EXISTING TO REMAIN	
E.C.	EMPTY CONDUIT	
E.G.	EQUIPMENT GROUND	
R	RELOCATED, SHOWN IN NEW LOCATION	
ER	EXISTING TO BE RELOCATED	
Х	EXISTING TO BE REMOVED	
G	GROUND	
GFCI	GROUND FAULT CIRCUIT INTERRUPTOR	
IG	ISOLATED GROUND	
Ν	NEW	
No.	NUMBER	
Ρ	POLE	
PNL	PANEL	
U.O.N.	UNLESS OTHERWISE NOTED	
V	VOLTS	
VIF	VERIFY IN FIELD	
W	WIRE	
Ø	PHASE	
N.I.C.	NOT IN CONTRACT	
GFI	GROUND FAULT CIRCUIT INTERRUPTER	

	E
SYMBOL	DESCRIPTION
L8-4,5	HOMERUN TO PANELBO INDICATES NUMBER OF ADJACENT TO ARROWH CIRCUIT NUMBERS. TIC QUANTITY OF N₀. 8 CO IN CIRCUITRY INDICATE WITH NO TICK MARKS REFER TO PANEL SCHO
E	ELECTRIC MANHOLE
(\top)	TELECOMMUNICATIONS MA
Φ	DUPLEX RECEPTACLE -
	LED POLE MOUNTE
- -	LED BOLLARD L
TH	TELECOMMUNICATIONS H
ΗH	ELECTRIC HANDHOLE
PP	ELECTRIC POWER PEDES
Τ	LOW VOLTAGE LIGHTING
E	ELECTRIC PULLBOX
	ELECTRIC PANELBOARD
J	ELECTRIC CONNECTION

ARD - NUMBER OF ARROWIEADS CREQUES, NUMERAL AND LETERS SADICTORS (F) CHECK MARK MARKS IN CREQUITY INDICATE NUMBERS IN CREQUITY INDICATE REQUENT CONDUCTOR, CREQUITY (REQUENT CONDUCTOR, CREQUITY (REQUENT) (REQUENT CONDUCTOR, CREQUITY (REQUENT CONDUCTOR, CREQUITY (REQUENT) (REQUENT CONDUCTOR, CREQUITY (REQUENT) (REQUENT CONDUCTOR, CREQUITY (REQUENT) (REQUENT) (REQUENT CONDUCTOR, CREQUITY (REQUENT) (REQ	LECTRICAL SYMBOLS	MTG. HT. TO Q OF DEVICE U.O.N
NEMA 5–20R, GFI WITH IN-USE WEATHERPROOF COVER D PEDESTRIAN LIGHTS, GHT INDHOLE AL IRANSFORMER IN ELECTRIC HANDHOLE	MARKS IN CIRCULERY INDICALE	
D PEDESTRIAN LIGHTS, GHT INDHOLE AL IRANSFORMER IN ELECTRIC HANDHOLE	IHOLE	
GHT NDHOLE AL TRANSFORMER IN ELECTRIC HANDHOLE	NEMA 5–20R, GFI WITH IN–USE WEATHERPROOF COVER	
NDHOLE AL TRANSFORMER IN ELECTRIC HANDHOLE) PEDESTRIAN LIGHTS,	
AL TRANSFORMER IN ELECTRIC HANDHOLE	GHT	
TRANSFORMER IN ELECTRIC HANDHOLE	NDHOLE	
TRANSFORMER IN ELECTRIC HANDHOLE		
	AL	
O SITE FURNISHINGS, 120V, 20A, UNLESS NOTED OTHERWISE	RANSFORMER IN ELECTRIC HANDHOLE	
O SITE FURNISHINGS, 120V, 20A. UNLESS NOTED OTHERWISE		
	D SITE FURNISHINGS, 120V, 20A, UNLESS NOTED OTHERWISE	

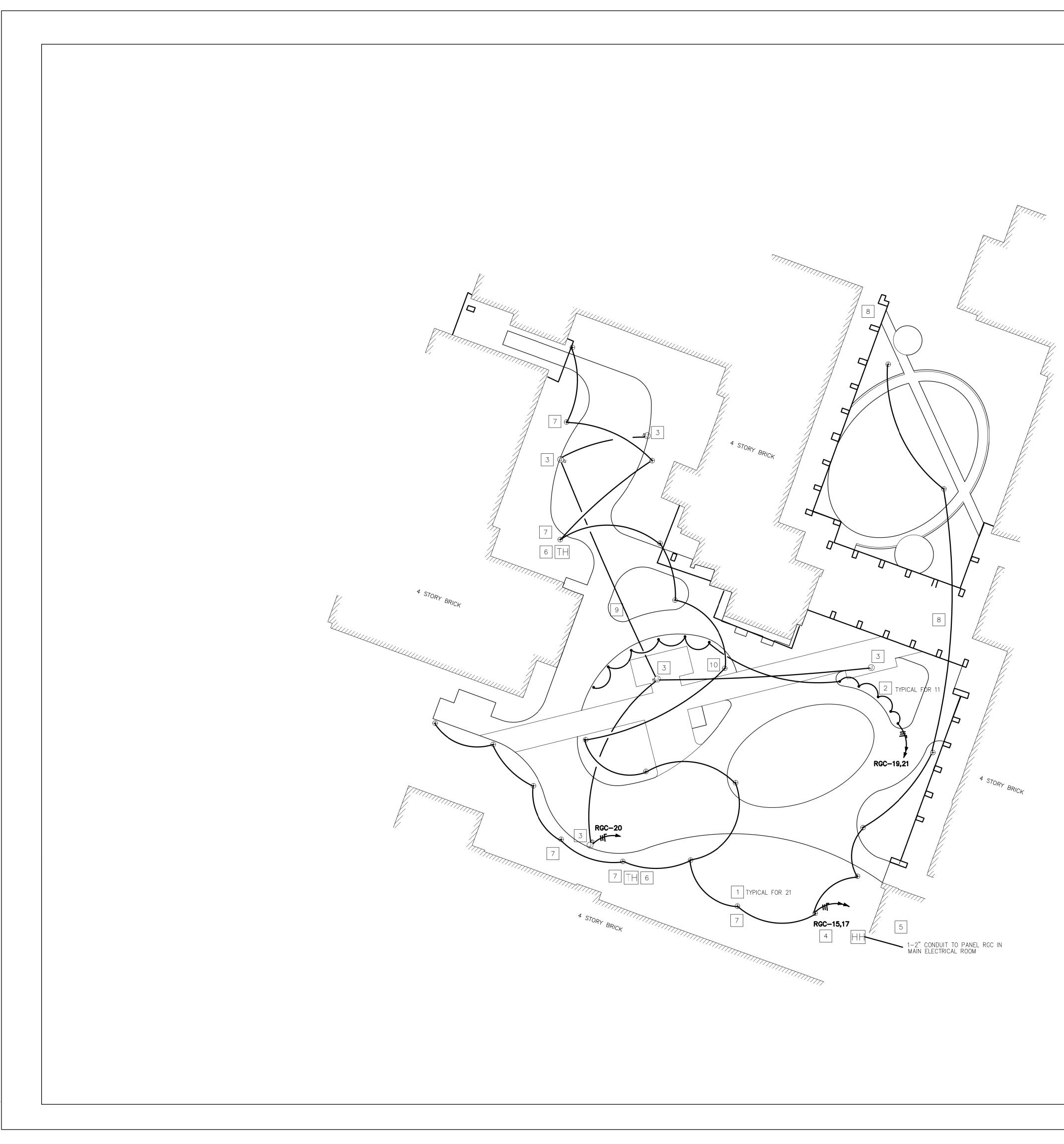
	IMPROV	EMEN	TS	
UMBC Project N A/E Project No.:	0.:		126 0782.004	
700 KING F	SULTING ARM BOU OCKVILLE 881-2545	ENGINE LEVARD MD 208 FAX (3	ERS , SUITE 30 50 601) 881-08)0 314
I HEREBY CER PREPARED OR AF LICENSED PROFI OF THE STATE	PPROVED B ESSIONAL E E OF MARYI	THESE DO Y ME, AN NGINEEF AND, LIC	CUMENTS V C THAT I AM C UNDER THE ENSE NO. <u>20</u>	A DU E LAW
100% CON	STRUC			NTS
CONSULTANT	S			
KIM ENGINEERI COST ESTIMATI FORELLA GROU	NG			
REV DATE	DESCRIPT RECORD AS-BUILT		NG SET	

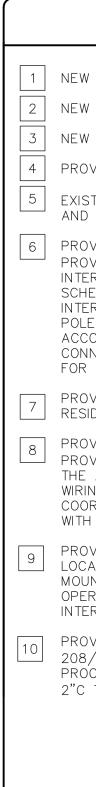


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	C Project No. Project No.:		23-12 17-07	6 82.004
700 PHC	CONS 0 KING FAI ROO	OLTING RM BOUL CKVILLE, 381-2545	ENGINEEI .EVARD, 8 MD 20850 FAX (301	SUITE 300) 1) 881-0814
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PREPA LICEN	REBY CERTI RED OR APP SED PROFES THE STATE	IFY THAT T PROVED B' SSIONAL E OF MARYL	Y ME, AND T NGINEER U	JMENTS WERE FHAT I AM A DU NDER THE LAW ISE NO. <u>20021</u> ,
100	% CONS	STRUCT	ION DO	CUMENTS
CON	SULTANTS	3		
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REV	/ DATE	DESCRIPT	ON	
		RECORD S		SET
	/ DATE D2/12/2024 12/08/2023 10/26/2024 10/26/2023 10/26/2023 10/26/2023 10/26/202	RECORD S AS-BUILT / 100% CON 95% CONS	ET	T
	02/12/2024	RECORD S AS-BUILT / 100% CON 95% CONS 50% CONS	ET CONFORMING S STRUCTION SE ^T TRUCTION SET TRUCTION SET EVELOPMENT	T
REV	02/12/2024 12/08/2023 10/26/2023 08/24/2023	RECORD S AS-BUILT / 100% CON 95% CONS 50% CONS DESIGN DE	ET CONFORMING S STRUCTION SE ^T TRUCTION SET TRUCTION SET EVELOPMENT	Τ

NOTES

- 1 EXISTING POLE LIGHTS AND BASES TO BE REMOVED.
- 2 EXISTING WIRING FOR COURTYARD LIGHTING TO BE REMOVED BACK TO SOURCE PANEL. MAINTAIN CONTINUITY OF EXISTING CIRCUITS TO REMAIN. PATCH EXISTING PENETRATIONS THROUGH BUILDING ENVELOPE.
- 3 EXISTING SITE LIGHTING WIRING & CONDUIT TO BE REMOVED, TYPICAL. COORDINATE WITH CIVIL AND LANDSCAPE WORK.
- 4 ALL OF THE NEW SITE LIGHTING WILL BE FED FROM THIS AREA. REMOVE EXISTING CONDUITS BACK TO BUILDING WALL TO ACCOMMODATE CIVIL AND LANDSCAPE.
- 5 LOCATION OF EXISTING ELECTRICAL PANEL AND SITE LIGHTING CONTROLS.
- 6 EXISTING GROUND MOUNTED LIGHTS TO BE REMOVED.
- 7 EXISTING EMERGENCY CALL BOX TO BE REMOVED. REFER TO NEW WORK DRAWING FOR LOCATION OF NEW CALL BOX.





VMBC
HARBOR COURTYARD IMPROVEMENTS
UMBC Project No.: 23-126 A/E Project No.: 17-0782.004
A. MORTON THOMAS AND ASSOCIATES, INC.
CONSULTING ENGINEERS 700 KING FARM BOULEVARD, SUITE 300 ROCKVILLE, MD 20850 PHONE (301) 881-2545 FAX (301) 881-0814 EMAIL: AMT1@AMTENGINEERING.COM
BORTERS OF MARY CHART
PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 20021, EXPIRATION DATE 04/24/25
100% CONSTRUCTION DOCUMENTS
CONSULTANTS
LANDSCAPE ARCHITECTURE FLOURA TEETER LANDSCAPE ARCHITECTS
ELECTRICAL ENGINEERING WFT ENGINEERING, INC.
GEOTECHNICAL SERVICES KIM ENGINEERING
COST ESTIMATING FORELLA GROUP, LLC

Ν	0	TES
IN	U	ILC

1NEW PEDESTRIAN POLE LIGHTS AND CONCRETE BASES, TYPICAL.2NEW LIGHTED BOLLARD AND APPROVED BASE, TYPICAL.

3 NEW 120V, 20A CONNECTION TO SITE FURNITURE AND FURNISHINGS.
4 PROVIDE ELECTRICAL HANDHOLE FOR HOMERUNS TO PANEL.

5 EXISTING PANEL RGC, 208/120V SERVING NEW COURTYARD POWER AND LIGHTING BRANCH CIRCUITS

6 PROVIDE WIFI ACCESS POINT MOUNTED TO NEW LIGHTING POLE. PROVIDE IT HANDHOLE WITH 1.5" CONDUIT FROM THE CLOSEST INTERIOR IT CLOSET TO THE HANDHOLE. CONDUIT SHALL BE SCHEDULE 40 PVC DIRECT BURIED ON EXTERIOR AND EMT ON INTERIOR. COORDINATE CONDUIT ROUTING FROM HANDHOLE TO SITE POLE FOUNDATIONS TO ENSURE THAT POLE BASE CAN ACCOMMODATE REQUIRED CONDUITS. PROVIDE WIRING AND POE CONNECTIONS FOR PROPER OPERATION. COORDINATE WITH UMBC FOR ALL REQUIREMENTS FOR INTERFACING WITH EXISTING SYSTEMS.

7 PROVIDE HOUSE-SIDE SHIELD FOR FIXTURE ADJACENT TO RESIDENTIAL ROOM.

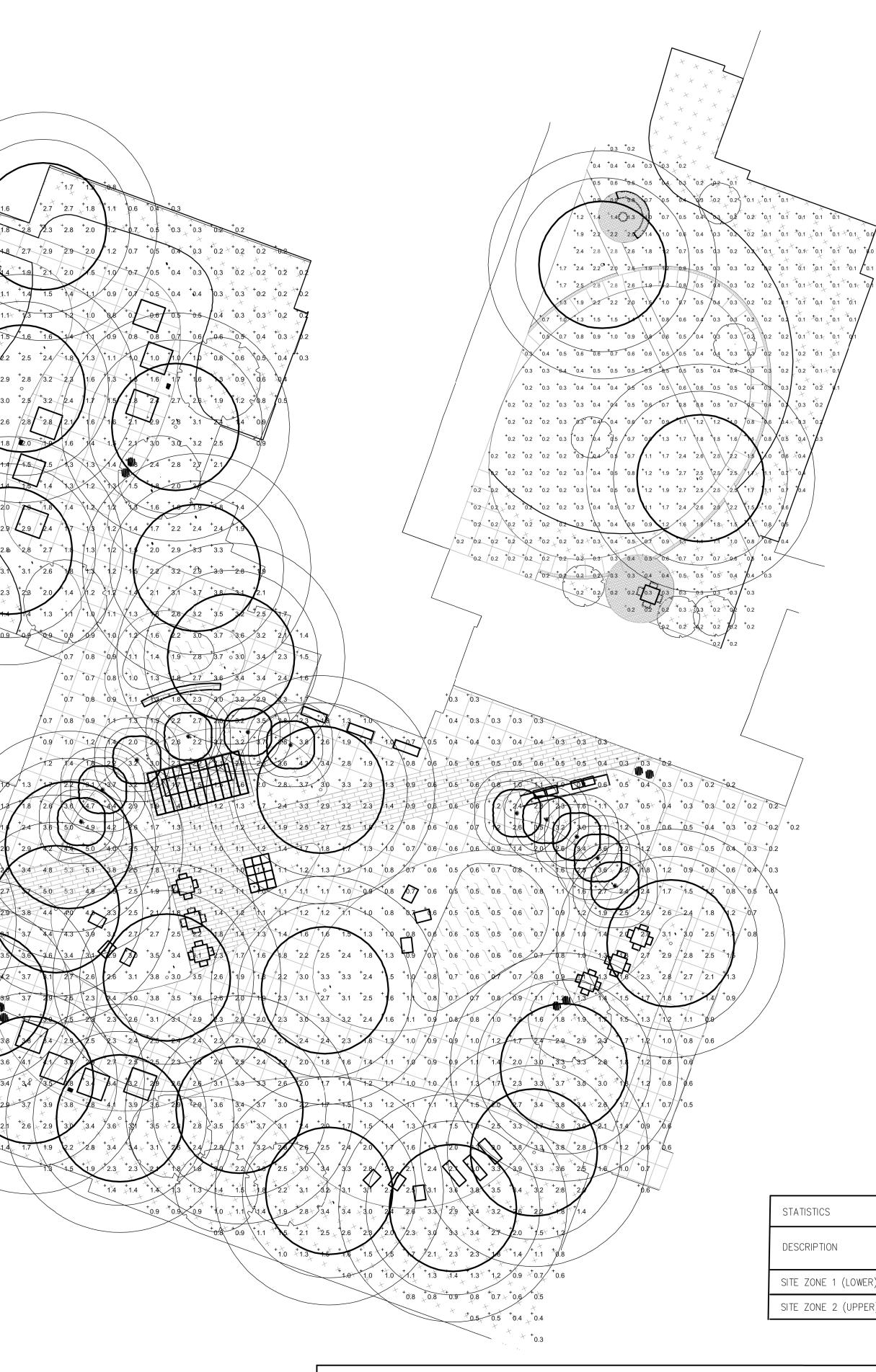
8 PROVIDE WI-FI ACCESS POINT AT CEILING OF EXISTING BREEZEWAY. PROVIDE 1.5" CONDUIT FROM THE CLOSEST INTERIOR IT CLOSET TO THE ACCESS POINT. CONDUIT SHALL BE EMT ON INTERIOR. PROVIDE WIRING AND POE CONNECTIONS FOR PROPER OPERATION. COORDINATE WITH UMBC FOR ALL REQUIREMENTS FOR INTERFACING WITH EXISTING SYSTEMS.

9 PROVIDE NEW EMERGENCY CALLBOX TO REPLACE EXISTING IN NEW LOCATION, CODE BLUE CB1-S SERIES WITH OVERHEAD CAMERA MOUNT. PROVIDE WIRING AND POE CONNECTIONS FOR PROPER OPERATION. COORDINATE WITH UMBC FOR ALL REQUIREMENTS FOR INTERFACING WITH EXISTING SYSTEMS.

PROVIDE HUBBELL POWER RECEPTACLE, MODEL CS6369, 50A, 208/120V, 3 POLE. 4 WIRE RECEPTACLE IN LOCKABLE, WEATHER PROOF ENCLOSURE ON NEW LIGHTING POLE. PROVIDE 4#4 +1#4G IN 2"C TO 50A, 3 POLE CB IN PANEL RP-2

			SITE PLAN
DATE:	02/12/2024		SCALE: 1"=20'
	06/13/2023	SCHEMAT	IC DESIGN
	08/24/2023	DESIGN D	EVELOPMENT
	10/26/2023	50% CONS	STRUCTION SET
	12/08/2023	95% CONS	STRUCTION SET
	02/12/2024	100% CON	ISTRUCTION SET
		AS-BUILT	CONFORMING SET
		RECORD	SET
REV	DATE	DESCRIPT	ION

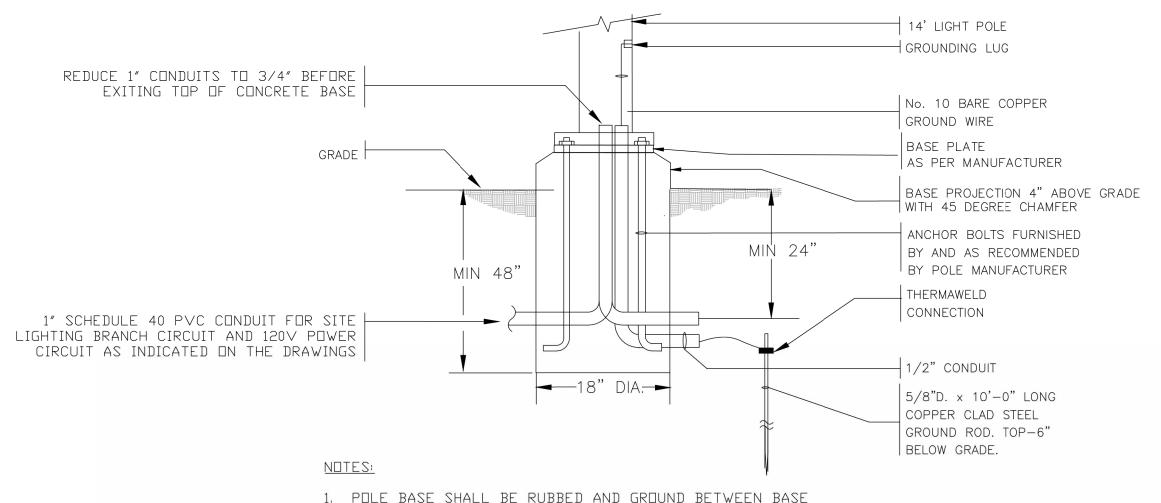
⁺0.1 ⁺0.1 ⁺0.1 ⁺0.2 ⁺0.3 ⁺0.1 ⁺0.1 ⁺0.2 ⁺0.2 ⁺0.3 ⁺0.1 ⁺0.1 ⁺0.2 ⁺0.3 ⁺0.4 +0.2 +0.3 1.4 ⁺1.6 ⁺2.6 ⁺2.8 ⁺2.7 ⁺1.5⁺2.5⁺3.1⁺3.1⁺2.6⁻ 0.6 0.9 ⁺0.1 ⁺0.2 ⁺0.2 ⁺0.2 ⁺0.3 $^{+}0.1$ $^{+}0.2$ $^{+}0.2$ $^{+}0.3$ $^{+}0.4$ $^{+}0.4$ $^{+}0.5$ $^{+}0.5$ $^{+}0.2$ $^{+}0.3$ $^{+}0.4$ $^{+}0.5$ $^{+}0.6$ $^{+}0.8$ $^{+}$



SCHEDULE											
SYMBOL	LABEL	QTY	MANUFACTURER	CATALOG NUMBER	DESCRIPTION	LAMP	NUMBER LAMPS	FILENAME	LUMENS PER LAMP	LLF	WATTAGE
\bigcirc	A	21	LUMINIS CANADA INC.	EC811-L1W65	ECLIPSE MAXI EC811 WITH DISH		1	EC811-L1W65.IES	4554	1	60.11
\bigcirc	В	11	FORMS+SURFACES	LBRIN-LED	RINCON BOLLARD	14W CUSTOM LIGHT ENGINE, CREE XHB LED, 3000K/4000K	128	LBRIN_LED_NS.IES	12	1	13.85

VMBC
HARBOR COURTYARD IMPROVEMENTS
UMBC Project No.: 23-126 A/E Project No.: 17-0782.004
A. MORTON THOMAS AND ASSOCIATES, INC. CONSULTING ENGINEERS 700 KING FARM BOULEVARD, SUITE 300 ROCKVILLE, MD 20850 PHONE (301) 881-2545 FAX (301) 881-0814 EMAIL: AMT1@AMTENGINEERING.COM
BO NO. 20021 BO NO
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. 20021, EXPIRATION DATE 04/24/25
100% CONSTRUCTION DOCUMENTS
LANDSCAPE ARCHITECTURE FLOURA TEETER LANDSCAPE ARCHITECTS ELECTRICAL ENGINEERING WFT ENGINEERING, INC. GEOTECHNICAL SERVICES KIM ENGINEERING COST ESTIMATING FORELLA GROUP, LLC
REV DATE DESCRIPTION
RECORD SET AS-BUILT / CONFORMING SET 02/12/2024 100% CONSTRUCTION SET
12/08/2023 95% CONSTRUCTION SET 10/26/2023 50% CONSTRUCTION SET 08/24/2023 DESIGN DEVELOPMENT
06/13/2023 SCHEMATIC DESIGN DATE: 02/12/2024 SCALE: 1"=20'
LIGHTING CALCULATION - NEW
еморк ЕL-003

	SYMBOL	AVG	MAX	MIN	MAX/MIN	AVG/MIN
ER)	+	1.8 FC	5.3 FC	0.1 FC	53:1	18.1
ER)	+	0.7 FC	2.8 FC	0.1 FC	28:1	7:1



- POLE BASE SHALL BE RUBBED AND GROUND BETWEEN BASE AND LEVELING PLATE.
 FINAL DEPTH AND DIAMETER OF POLE BASE SHALL BE APPROVED BY STRUCTURAL ENGINEER PRIOR TO COMMENCEMENT OF WORK.

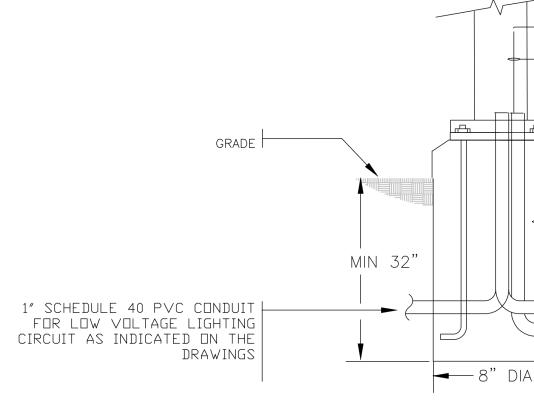


POLE BASE DETAIL FOR POLE LIGHT NOT TO SCALE





EXISTING SITE LIGHTING CONTROLS NOT TO SCALE





NOTE: PITCH TO DRAIN WEE



DIRECT NOT TO SCALE

			₿U	MBC	
	BOLLARD GROUNDING LUG No. 10 BARE COPPER GROUND WIRE		HARBOR COURTYARD IMPROVEMENTS		
	BASE PLATE AS PER MANUFACTURER		UMBC Project No.: A/E Project No.:	23-126 17-0782.004	
MIN 24"	BASE PROJECTION 4" ABOVE GRADE WITH 45 DEGREE CHAMFER ANCHOR BOLTS FURNISHED BY AND AS RECOMMENDED BY BOLLARD MANUFACTURER THERMAWELD CONNECTION		A. MORTON THOMAS CONSULTING 700 KING FARM BOU ROCKVILLE PHONE (301) 881-2548 EMAIL: AMT1@AMTI	ILEVARD, SUITE 300 5, MD 20850 5 FAX (301) 881-0814	
A	5/8"D. x 10'-0" LONG COPPER CLAD STEEL GROUND ROD. TOP-6" BELOW GRADE.		I HEREBY CERTIFY THAT PREPARED OR APPROVED I	L CERTIFICATION THESE DOCUMENTS WERE BY ME, AND THAT I AM A DULY	
			OF THE STATE OF MARY EXPIRATION	ENGINEER UNDER THE LAWS 'LAND, LICENSE NO. <u>20021,</u> DATE <u>04/24/25</u>	
			CONSULTANTS	TION DOCUMENTS	
			LANDSCAPE ARCHITECTU FLOURA TEETER LANDSCA ELECTRICAL ENGINEERING WFT ENGINEERING, INC. GEOTECHNICAL SERVICES KIM ENGINEERING COST ESTIMATING FORELLA GROUP, LLC	APE ARCHITECTS	
FINISHED GRADE /OR FINISHED CONCRETI	E OF ETC. ELOW GRADE				
AND WIRING.					
SURROUNDING	CONDUITS				
BURIED SITE LIGHTING	G CONDUITS				
			02/12/2024 100% CO 12/08/2023 95% CON 10/26/2023 50% CON 08/24/2023 DESIGN		
			DATE: 02/12/2024	SCALE: NTS	
			EL·	-004	